



Message Reference, Volume 2



Message Reference, Volume 2

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Chapter 1. Introduction to Messages

It is assumed that you are familiar with the functions of the operating system where DB2[®] is installed. You can use the information contained in the following chapters to identify an error or problem and resolve the problem by using the appropriate recovery action. This information can also be used to understand where messages are generated and logged.

Message Structure

Message help describes the cause of a message and describes any action you should take in response to the message.

Message identifiers consist of a three character message prefix, followed by a four or five digit message number, followed by a single letter suffix. For example, *SQL1042C*. For a list of message prefixes, see “Invoking message help” on page 2 and “Other DB2 Messages” on page 3. The single letter suffix describes the severity of the error message.

In general, message identifiers ending with a *C* are for severe messages; those ending with an *E* indicate urgent messages; those ending with an *N* indicate error messages; those ending with a *W* indicate warning messages; and those ending with an *I* indicate informational message.

For ADM messages, message identifiers ending with a *C* indicate severe messages; those ending with an *E* indicate urgent messages; those ending with a *W* indicate important messages; and those ending with an *I* indicate informational messages.

For SQL messages, message identifiers ending with a *C* indicate critical system errors; those ending with an *N* indicate error messages; those ending with a *W* indicate warning or informational messages.

Some messages include tokens, sometimes also called message variables. When a message containing tokens is generated by DB2, each token is replaced by a value specific to the error condition that was encountered, to help the user diagnose the cause of the error message. For example, the DB2 message *SQL0107N* is as follows:

- from the command line processor:
SQL0107N The name "*<name>*" is too long. The maximum length is "*<length>*".
- from the DB2 information center:
SQL0107N The name *name* is too long. The maximum length is *length*.

This message includes the two tokens "*<name>*" and "*<length>*". When this message is generated at runtime, the message tokens would be replaced by the actual name of the object that caused the error, and the maximum length allowed for that type of object, respectively.

In some cases a token is not applicable for a specific instance of an error, and the value **N* is returned instead, for example:

SQL20416N The value provided ("**N*") could not be converted to a security label. Labels for the security policy with a policy ID of "1" should be "8" characters long. The value is "0" characters long. *SQLSTATE=23523*

Invoking message help

The following DB2 messages are accessible from the command line processor:

Prefix Description

ADM	messages generated by many DB2 components. These messages are written in the Administration Notification log file and are intended to provide additional information to System Administrators.
AMI	messages generated by MQ Application Messaging Interface
ASN	messages generated by DB2 Replication
CCA	messages generated by the Configuration Assistant
CLI	messages generated by Call Level Interface
DBA	messages generated by the Database Administration tools
DBI	messages generated by installation and configuration
DBT	messages generated by the Database tools
DB2	messages generated by the command line processor
DQP	messages generated by Query Patroller
EAS	messages generated by the Embedded Application Server
EXP	messages generated by the Explain utility
GSE	messages generated by the DB2 Spatial Extender
LIC	messages generated by the DB2 license manager
SQL	messages generated by the database manager when a warning or error condition has been detected
SQL	messages generated by the database manager when a warning or error condition has been detected
XMR	messages generated by the XML Metadata Repository.

To invoke message help, open the command line processor and enter:

```
? XXXnnnnn
```

where *XXX* represents a valid message prefix and *nnnnn* represents a valid message number.

The message text associated with a given SQLSTATE value can be retrieved by issuing:

```
? nnnnn
```

or

```
? nn
```

where *nnnnn* is a five digit SQLSTATE (alphanumeric) and *nn* is the two digit SQLSTATE class code (first two digits of the SQLSTATE value).

Note: The message identifier accepted as a parameter of the **db2** command is not case sensitive. Also, the single letter suffix is optional and is ignored.

Therefore, the following commands will produce the same result:

- ? SQL0000N
- ? sql0000
- ? SQL0000w

To invoke message help on the command line of a UNIX[®] based system, enter:

```
db2 "? XXXnnnnn"
```

where *XXX* represents a valid message prefix
and *nnnnn* represents a valid message number.

If the message text is too long for your screen, use the following command (on Unix-based systems and others which support 'more'):

```
db2 "? XXXnnnnn" | more
```

Other DB2 Messages

Some DB2 components return messages that are not available online or are not described in this manual. Some of the message prefixes may include:

AUD messages generated by the DB2 Audit facility.

DIA diagnostics messages generated by many DB2 components. These messages are written in the diagnostics log file `db2diag.log`, and are intended to provide additional information for users and DB2 service personnel when investigating errors.

GOV messages generated by the DB2 governor utility.

In most cases, these messages provide sufficient information to determine the cause of the warning or error. For more information on the command or utility that generated the messages, please refer to the appropriate manual where the command or utility is documented.

Important message updates

It is possible that important, late changes or additions are made to the product error messages that could not be included in the documentation. If this happens, the updates can be found in a DB2 Service technote located at the following location: Message updates technote.

Other Message Sources

When running other programs on the system, you may receive messages with prefixes other than those mentioned in this reference.

For information on these messages, refer to the information available for that program product.

Related concepts:

- "Introduction to problem determination" in *Troubleshooting Guide*

Related reference:

- Chapter 3, "SQLSTATE Messages," on page 563

Chapter 2. SQL Messages

Each message has a message identifier that consists of a prefix (SQL) and a message number. Messages are listed in numeric sequence based upon the message number.

There are three SQL message types: notification, warning, and critical. Message identifiers ending with an *N* are error messages. Those ending with a *W* indicate warning or informational messages. Message identifiers ending with a *C* indicate critical system errors.

The message number is also referred to as the *SQLCODE*. The *SQLCODE* is passed to the application as a positive or negative number, depending on its message type (*N*, *W*, or *C*). *N* and *C* yield negative values whereas *W* yields a positive value.

DB2 returns the *SQLCODE* to the application and the application can get the message associated with the *SQLCODE*.

DB2 also returns an *SQLSTATE* value for conditions that could be the result of an SQL statement. *SQLSTATE* values are listed in *SQLSTATE* messages. Some *SQLCODE* values have associated *SQLSTATE* values. *SQLSTATE* values associated with a given *SQLCODE* (if applicable) have been documented with each message.

Variable parameters for SQL messages are shown as descriptive names.

SQL0000 - SQL0099

SQL0000W Statement processing was successful.

Explanation: The SQL statement executed successfully, unless a warning condition occurred.

User response: Check *SQLWARN0* to ensure that it is blank. If it is blank, the statement executed successfully. If it is not blank, a warning condition exists. Check the other warning indicators to determine the particular warning condition. For example, if *SQLWARN1* is not blank, a string was truncated.

sqlcode: 0

sqlstate: 00000, 01003, 01004, 01503, 01504, 01506, 01509, 01517

SQL0001N Binding or precompilation did not complete successfully.

Explanation: For reasons specified in the previous messages, the bind or precompile request was unsuccessful.

No package is created.

User response: Refer to the messages in the message file. Resubmit the command.

If installing the sample database, drop it and install the sample database again.

SQL0002N The bind file name is not valid.

Explanation: For reasons specified in the previous messages, the bind file name cannot be used as specified.

No package is created.

User response: Refer to the messages in the message file. Resubmit the command.

If installing the sample database, drop it and install the sample database again.

SQL0003N The database name is not valid.

Explanation: For reasons specified in the previous messages, the database name cannot be used as specified.

No package is created.

User response: Refer to the messages in the message file. Resubmit the command.

SQL0004N The password is not valid.

Explanation: The password contains characters that are not valid or the password is too long.

No package is created.

User response: Resubmit the command with a valid password.

SQL0005N The message file name is not valid.

Explanation: For reasons specified in the previous messages, the message file name cannot be used as specified.

No package is created.

User response: Refer to the messages in the message file. Check the name of the message file. Check the attributes of the message file if it exists. Resubmit the command.

SQL0006N The datetime format parameter is not valid.

Explanation: The value of the datetime format parameter is not in the valid range of 0 through 3.

No package is created.

User response: Resubmit the command with a valid format parameter.

SQL0007N The character *character* following *text* is not valid.

Explanation: The specified *character* is not a valid character in SQL statements. The *text* field indicates the 20 characters of the SQL statement that preceded the character that is not valid.

Federated system users: some data sources do not provide the appropriate values for the *character* and *text* message tokens. In these cases, *character* and *text* will have the following format: "<data source>:UNKNOWN", indicating that the actual values for the specified data source are unknown.

The statement cannot be processed.

User response: Remove or replace the character that is not valid.

sqlcode: -7

sqlstate: 42601

SQL0008N The token *token* found in a host variable declaration is not valid.

Explanation: A host variable declaration has invalid syntax. The precompiler cannot identify the host variable.

The statement cannot be processed. None of the host variables declared in the statement (up to the semicolon) are accepted.

User response: Examine the syntax of the host variable declaration.

SQL0009W An attempt to override a precompiler option was ignored.

Explanation: An attempt was made to override a precompiler option.

The option is ignored.

User response: Ensure that all precompiler options are specified correctly.

SQL0010N The string constant beginning with *string* does not have an ending string delimiter.

Explanation: The statement contains a string constant, beginning with *string*, that is not terminated properly.

The statement cannot be processed.

User response: Examine the statement for missing apostrophes in the indicated string constant.

sqlcode: -10

sqlstate: 42603

SQL0011N The comment is not terminated.

Explanation: The comment is not terminated properly. The statement cannot be processed.

User response: Examine the statement for a missing or extra comment delimiter in the indicated comment.

SQL0012W Correlation without qualification has occurred for the column *column*.

Explanation: The named column occurs in a SELECT statement, is not explicitly qualified, and occurs in a table specified in the FROM clause of an outer select. Consequently, the reference to the column in the SELECT statement has been taken to be an outer reference and correlation will occur.

The statement was processed under the assumption that correlation was intended.

User response: Ensure that correlation was intended. It is a good practice to explicitly qualify intended outer references.

sqlcode: +12

sqlstate: 01545

SQL0013N An empty delimited identifier is not valid.

Explanation: During precompilation, either a cursor name, statement name, database name, or authorization ID, specified as an empty string, was found. This is not

valid. The statement cannot be processed.

User response: Provide a valid cursor name, statement name, database name, or authorization ID.

SQL0014N The source file name is not valid.

Explanation: The source file name specified in the call to the precompiler contains invalid characters or the pointer to the source file name is invalid.

No package was created.

User response: Ensure that the source file name is correct.

SQL0015N The host variable data type *token-1* is not valid. Use *token-2* instead.

Explanation: If the WCHARTYPE CONVERT precompile option is in effect then the graphic host variable must be declared with the data type 'wchar_t', not 'sqldbchar'.

If the WCHARTYPE NOCONVERT precompile option is in effect (the default) and 'wchar_t' is defined as a 4-byte integer on this platform, then the graphic host variable must be declared with the data type 'sqldbchar', not 'wchar_t'.

User response: Replace the current data type of the host variable with the data type specified in the message.

SQL0017N A RETURN statement must be specified and executed in an SQL function or method.

Explanation: The SQL function or method either does not contain a RETURN statement, or the function or method did not end with the execution of a RETURN statement.

User response: Ensure the function or method executes a RETURN statement.

sqlcode: -17

sqlstate: 42632

SQL0020W Bind or precompile option(s) (name or value) *option-name(s)* are not supported by the target database and will be ignored.

Explanation: This warning is returned in the following situations:

- one or more options that were specified at precompile/bind time are not supported by the target DBMS
- the option value(s) of one or more options that were specified at precompile/bind time are not supported by the target DBMS

The unsupported options/values will be ignored.

Note that the option names in the message correspond to terms used by DB2 UWO.

Enter "db2 ? bind" or "db2 ? prep" for a list of options supported by DB2 UWO.

User response: Ensure the specification of bind or precompile *option-name(s)* or the associated option value(s) was intended while connected to this DBMS.

SQL0021W Invalid precompiler option *option* is ignored.

Explanation: The option specified in the message is not a valid precompiler option.

The option is ignored.

User response: Ensure that all precompiler options are specified correctly.

SQL0022W Duplicate precompiler option *option* is ignored.

Explanation: The precompiler option *option* is a duplicate.

The option is ignored.

User response: Ensure that all precompiler options are specified only once.

SQL0023N The database name is not valid.

Explanation: The specified database name is not a valid name.

Precompilation is terminated.

User response: Ensure that the database name is spelled correctly and follows the rules for short identifiers.

SQL0024N A database name was not specified.

Explanation: No database name was provided to proceed with precompilation.

Precompilation is terminated.

User response: Provide a database name.

SQL0025W Binding or precompilation completed with warnings.

Explanation: Binding or precompilation succeeded, but warnings were issued. A package and/or bindfile was created as requested in the command.

User response: Refer to the messages in the message file. If necessary, correct the problems and resubmit the command.

SQL0026N The password is not valid.

Explanation: The specified password is not a valid password.

Precompilation is terminated.

User response: Ensure that the password provided follows the rules for valid passwords.

SQL0028C The release number of the bind file is not valid.

Explanation: The release number of the bind file is not compatible with the release number of the installed version of the database manager.

The bind file cannot be used with the current version of the database manager. The command cannot be processed.

User response: If possible, repeat the precompile process with the current database manager. Otherwise, use only bind files created with a compatible release level of the database manager.

SQL0029N INTO clause required.

Explanation: Non-cursor SELECT or VALUES statements embedded in an application program must have an INTO clause to denote where the results of the statement are to be placed. Dynamic SELECT statements do not permit the INTO clause.

User response: Add the INTO clause to the SELECT or VALUES statement and precompile the application program again.

sqlcode: -29

sqlstate: 42601

SQL0030N A source file name was not specified.

Explanation: A source file name was not provided to proceed with precompilation.

Precompilation is terminated.

User response: Specify a source file name.

SQL0031C File *name* could not be opened.

Explanation: The file *name* is required but could not be opened.

Precompilation is terminated.

User response: Ensure that the file name specified is correct and exists in the file system, and that the file permissions are correct.

If installing the sample database, drop it and install the sample database again. If the error continues, reinstall the database manager and then install the sample database.

SQL0032C Unable to use file *name*.

Explanation: While reading or writing file *name*, an error was encountered.

Precompilation is terminated.

User response: Retry the precompilation.

SQL0033N *name* is not a valid bind file.

Explanation: The bind file *name* specified is not a bind file.

Binding is terminated.

User response: Ensure that the correct file name was specified.

SQL0034N A bind file name was not specified.

Explanation: No bind file name was specified to proceed with binding.

Binding is terminated.

User response: Provide a bind file name.

SQL0035N The file *name* cannot be opened.

Explanation: The message file *name* could not be opened.

Binding or precompilation has been terminated.

User response: Ensure that the system can access the file.

SQL0036N The syntax of the file name *name* is not valid.

Explanation: If the file is input to the precompiler, it must have an extension with the correct extension for the language being used. If the file is input to the binder, it must have an extension of *.bnd*. Also, a fully resolved file name which is over the platform maximum length will cause this error.

Precompilation or binding is terminated.

User response: Ensure that the specified file name is correct.

SQL0037W The syntax of the message file *name* is not valid.

Explanation: The message file name *name* is not syntactically correct for this function.

The system redirects the output to the standard output device.

User response: Ensure that the specified file name is correct.

SQL0038W The bind option **SQLERROR CONTINUE** has been activated since it is required when binding this DB2-supplied list file to DB2/MVS, SQL/DS, or OS/400.

Explanation: The **SQLERROR CONTINUE** bind option is required when binding the following DB2-supplied list files:

- ddcsmvs.lst
- ddcsvm.lst
- ddcsvse.lst
- ddcs400.lst

This option instructs a DRDA server to create a package even if there are SQL statements in a bind file which it considers invalid. Since not all of the DRDA servers support all of the SQL statements contained in the DB2-supplied bind files, the **SQLERROR CONTINUE** bind option must be used to guarantee that packages are created for all of the bind files in the list file.

User response: No response is necessary. The required bind option, **SQLERROR CONTINUE**, has been specified for you. To avoid receiving this warning in the future specify the **SQLERROR CONTINUE** bind option.

SQL0039N The binder did not finish processing because the bind file is not valid.

Explanation: The binder could not process the bind file. The bind file may not be valid because the bind file contents were altered accidentally.

The bind file is not processed.

User response: If possible, repeat the precompile process to create a new bind file. Otherwise, obtain a new copy of the bind file.

SQL0040N An error occurred on one or more bind files in the list *name*. The following files were not bound: *list*.

Explanation: For reasons specified in the previous messages in the message file, one or more bind files were not bound. The list of files that were not bound is composed of digits, starting from 1, that indicate the relative position of the unbound files in the list file. *name* does not include the path specification of the list file.

Only the first 20 bind files in error are listed in the message. If there were more than 20 bind files in error, ellipses (...) are inserted after the last bind file name in the list.

One or more packages were not created.

User response: Refer to the messages in the message

file. Check the list file to verify that it contains valid names. Resubmit the command.

SQL0041N No attempt was made to bind the files following file number *number* in list *name* because a fatal error occurred which terminated processing.

Explanation: Some errors encountered during the binding process are considered fatal (that is, system errors, memory errors). If one of these errors occurs while processing a file in a list file, processing terminates. No attempt is made to bind the remaining files in the list file.

Such an error occurred while binding the specified bind file in the list. Note that the digit used to identify the bind file indicates the relative position of the file in the list file.

User response: Refer to the other messages which accompanied this one to resolve the errors which occurred. Resubmit the command.

SQL0051N The space required to hold all SQL statements for a single program has exceeded its allowed maximum.

Explanation: The space required by all SQL statements in the program cannot fit into the column **SECT_INFO** in **SYSIBM.SYSPLAN**.

Precompilation is terminated.

User response: Either simplify the program, or split the program into smaller, separate programs, or do both.

SQL0053W No SQL statements were found in the program.

Explanation: The specified source file contains no SQL statements.

If binding, an empty package is created.

User response: Ensure that you are precompiling or binding the correct program.

SQL0055N Source input file is empty.

Explanation: The program source input file contained no data.

Precompilation is terminated.

User response: Ensure that the correct input file was specified.

SQL0056N An SQLSTATE or SQLCODE variable declaration is in a nested compound statement.

Explanation: An SQLSTATE or SQLCODE variable declaration is in a nested compound statement instead of the outermost compound statement in the SQL routine.

The statement cannot be processed.

User response: Declare the SQLSTATE and SQLCODE variables only in the outermost compound statement of the SQL routine.

sqlcode: -56

sqlstate: 42630

SQL0057N A RETURN statement in an SQL function or method must include a return value.

Explanation: A RETURN statement is specified in the SQL function or method without specifying a value to return.

The statement cannot be processed.

User response: Specify a value on the RETURN statement.

sqlcode: -57

sqlstate: 42631

SQL0058N The data type of the RETURN statement value in an SQL procedure must be INTEGER.

Explanation: A RETURN statement is specified in the SQL procedure with a value or expression that is not of the INTEGER data type.

The statement cannot be processed.

User response: Specify a value on the RETURN statement that has a data type of INTEGER.

sqlcode: -58

sqlstate: 428F2

SQL0060W The *name* precompiler is in progress.

Explanation: This message is written to the standard output device when the precompiler begins processing. The token *name* refers to the particular language precompiler which was invoked.

Processing continues.

User response: No action is required.

SQL0061W The binder is in progress.

Explanation: This message is written to the standard output device when the binder begins processing.

Processing continues.

User response: No action is required.

SQL0062W Starting INCLUDE of file *name*.

Explanation: An INCLUDE statement has been encountered. The precompiler is now processing the INCLUDE file.

User response: No action is required.

SQL0063W Completed INCLUDE of file *name*.

Explanation: The precompiler has completed processing the INCLUDE file. It will resume processing the file which contained the INCLUDE statement.

User response: No action is required.

SQL0064N File *name* directly or indirectly INCLUDEs itself.

Explanation: A cyclic INCLUDE has been encountered. A precompiler input file cannot INCLUDE itself, nor be INCLUDED by a file it INCLUDEs.

The specified file is not INCLUDED.

User response: Check the nesting of the INCLUDE files, and remove any cycles.

SQL0065N An unexpected end-of-line was encountered in a host variable declaration.

Explanation: A host variable declaration has an invalid syntax. An end-of-line was encountered before the declaration was complete.

The statement cannot be processed.

User response: Examine the syntax of the host variable declaration.

SQL0078N Parameter names must be specified for routine *routine-name*.

Explanation: The routine *routine-name* does not have parameter names specified for all parameters. When the routine is defined with LANGUAGE SQL or SQLMACRO a parameter name is required for each parameter defined.

The statement cannot be processed.

User response: Ensure that each defined parameter includes a parameter name.

sqlcode: -78

sqlstate: 42629

SQL0079N The Schema name for the declared global temporary table or index *name* must be **SESSION**, not *schema-name*.

Explanation: The schema name *name* for a declared temporary table or an index on a declared global temporary table must be **SESSION**. The statement is specifying an explicit schema-name of *schema-name* for the declared global temporary table or index on a declared global temporary table. This is not allowed.

The statement cannot be processed.

User response: Change the statement in one of the following ways:

- Change the schema name to **SESSION**.
- Remove the schema name and let DB2 use the default value, **SESSION**.

sqlcode: -79

sqlstate: 428EK

SQL0081N **SQLCODE** *sqlcode* returned during precompilation/bind.

Explanation: While precompiling or binding the program, an unexpected **SQLCODE** *sqlcode* was returned from the database manager.

The statement cannot be processed.

User response: Inspect the **SQLCODE** to determine the problem and take the appropriate action.

SQL0082C An error has occurred which has terminated processing.

Explanation: A previous, non-SQL error has caused processing to terminate.

Precompile/bind/rebind is terminated. No package was created.

User response: Correct the situation that caused the previous error and retry the operation.

SQL0083C A memory allocation error has occurred.

Explanation: During processing, there was not enough memory to continue processing.

User response: Possible solutions include:

- Ensure that your system has sufficient real and virtual memory.
- Remove background processes.

If you continue to receive this message after attempting the suggested solutions, contact IBM Customer Support.

SQL0084N An **EXECUTE IMMEDIATE** statement contains a **SELECT** or **VALUES** statement.

Explanation: A **SELECT** or **VALUES** statement was used in an **EXECUTE IMMEDIATE** statement.

The statement cannot be processed.

User response: The implied function is not supported. Prepare the **SELECT** or **VALUES** statement. Then use **OPEN**, **FETCH**, and **CLOSE**.

sqlcode: -84

sqlstate: 42612

SQL0085N The statement name *name* is already defined.

Explanation: A previous **DECLARE** statement already used the statement name specified in the current **DECLARE** statement.

The current **DECLARE** statement is not processed. The previous **DECLARE** statement retains use of the statement name.

User response: Use a different name for the statement.

SQL0086C A memory allocation error has occurred.

Explanation: During processing, there was not enough memory to continue processing.

User response: Possible solutions include:

- Verify that your system has the required memory.
- Remove background processes.

SQL0087N Host variable *name* is a structure used where structure references are not permitted.

Explanation: When a structure reference is used in an SQL statement, it is treated as if a comma-separated list of its component fields had been used instead. Since a list of host variables is not permitted in SQL statements such as **PREPARE**, neither is a reference to a structure with multiple fields.

User response: Replace the structure reference with an atomic host variable, or with a fully qualified structure field name.

SQL0088N Host variable *name* is ambiguous.

Explanation: Host variable *name* cannot be uniquely identified. More than one host variable with the same qualification can be found.

The statement cannot be processed.

User response: Qualify the host variable further, or rename it if it is already fully qualified.

SQL0089N Processing ended after 100 errors were found.

Explanation: The precompiler or binder quits processing after 100 errors were found.

User response: Fix the errors indicated in the message log and resubmit the command.

SQL0091W Precompilation or binding was ended with *number-1* errors and *number-2* warnings.

Explanation: The precompilation or binding has terminated with the stated number of warnings and errors.

Precompilation or binding is terminated.

User response: If warnings or errors occurred, correct the program, if necessary, and retry the precompilation or binding.

SQL0092N No package was created because of previous errors.

Explanation: Because of previous errors, no package was created.

User response: Correct the errors and retry the precompilation or bind.

SQL0093N The end-of-input was encountered before the statement terminator for EXEC SQL.

Explanation: While processing an SQL statement, the end of source was encountered before the statement terminated.

Precompilation is terminated.

User response: Ensure that the SQL statement terminates properly.

SQL0100 - SQL0199

SQL0100W No row was found for FETCH, UPDATE or DELETE; or the result of a query is an empty table.

Explanation: One of the following conditions is true:

- No row was found that meets the search conditions specified in an UPDATE or DELETE statement.
- The result of a SELECT statement was an empty table.
- A FETCH statement was executed when the cursor was positioned after the last row of the result table.
- The result of the SELECT used in an INSERT statement is empty.

No data was retrieved, updated, or deleted.

SQL0094N Binding was ended because of user interrupt request.

Explanation: Binding was terminated because the user may have pressed the interrupt key sequence.

Processing is terminated. No package is created.

User response: Resubmit the bind, if needed.

If installing the sample database, drop it and install the sample database again.

SQL0095N No bind file was created because of previous errors.

Explanation: Because of previous errors, no bind file was created.

No bind file is created.

User response: Correct the errors and retry the precompilation.

SQL0097N Variables or parameters of LONG VARCHAR or LONG VARGRAPHIC data types are not supported in SQL routines.

Explanation: SQL routines (procedures, functions or methods) do not support variables or parameters of LONG VARCHAR or LONG VARGRAPHIC data types.

User response: Do not use variables or parameters of LONG VARCHAR or LONG VARGRAPHIC data types in SQL routines. For LONG VARCHAR, use VARCHAR with an explicit length. For LONG VARGRAPHIC, use VARGRAPHIC with an explicit length.

sqlcode: -97

sqlstate: 42601

User response: No action is required. Processing can continue.

sqlcode: +100

sqlstate: 02000

SQL0101N The statement is too long or too complex.

Explanation: The statement could not be processed because it exceeds a system limit for either length or complexity, or because too many constraints or triggers are involved.

If the statement is one that creates or modifies a packed description, the new packed description may be too

large for its corresponding column in the system catalogs.

Federated system users should also check to see if the statement:

- Exceeds either a federated server system limit or a data source system limit for length or complexity.
- Violates some other data source specific limit.

The statement cannot be processed.

Note: Where character data conversions are performed for applications and databases running under different codepages, the result of the conversion is exceeding the length limit.

User response: Either:

- Break the statement up into shorter or less complex SQL statements.
- Increase the size of the statement heap (stmtheap) in the database configuration file.
- Reduce the number of check or referential constraints involved in the statement or reduce the number of indexes on foreign keys.
- Reduce the number of triggers involved in the statement.
- Federated system users: determine which data source is failing the statement (see the problem determination guide for procedures to follow to identify the failing data source) and determine the cause of the rejection. If the rejection is coming from the federated server, increase the size of the statement heap (stmtheap) in the database configuration file.

sqlcode: -101

sqlstate: 54001

SQL0102N The string constant beginning with *string* is too long.

Explanation: One of the following has occurred:

- The comment in the COMMENT ON statement is greater than 254 bytes.
- The application server name specified in the SQL CONNECT statement is greater than 18 characters.
- The string constant beginning with *string* has a length greater than 32672 bytes. Character strings with lengths greater than 32672 bytes or graphic strings with lengths greater than 16336 characters can be specified only through assignment from host variables. Note that other servers in the DB2 family of products may specify a different size limit for character strings. Consult the documentation for the appropriate DB2 product for details.
- In an XQuery expression, a string literal beginning with *string* has a length greater than 32672 bytes. The limit is determined on the string literal encoded in

UTF-8. A string with length greater than 32672 bytes can only be specified in an XQuery expression using XML values from the database through the XQuery functions that access data or through an XQuery variable assigned a value using SQL/XML functions like XMLQUERY, XMLEXISTS, or XMLTABLE.

- Federated system users: the data source-specific limits must not be exceeded in a pass-through session. For example, a character literal larger than 254 bytes included in a statement sent to DB2 for OS/390 in a pass-through session would cause this error.

It may be that data conversion is occurring and the resultant string is too long. For connections between applications and databases running under different codepages, string constants are converted from the application codepage to the database codepage. In certain situations, graphic string constants may be further converted from the database codepage to a UCS-2 (UNICODE) encoding, for example when the database has been created with an EUC codepage. This means that it is possible to have a resultant string which is longer than the input string.

The statement cannot be processed.

User response: For Comment on Table or Comment on Column, reduce the size of the comment. For the SQL CONNECT statement, reduce the length of the application server name. For other string constants, the requested function is not available interactively. For an error occurring in the context of a non-CONNECT SQL statement embedded in an application program, assign the long string to a host variable and substitute that variable for the string literal in the SQL statement.

Federated system users: for a pass-through session, determine what data source is causing the error (see the problem determination guide for the failing data sources). Examine the SQL dialect for that data source to determine which specific limit has been exceeded, and adjust the failing statement as needed.

sqlcode: -102

sqlstate: 54002

SQL0103N The numeric literal *literal* is not valid.

Explanation: The indicated *literal* begins with a digit but is not a valid integer, decimal, or floating point literal.

Federated system users: a data source-specific literal representation error has occurred in a pass-through session.

The statement cannot be processed.

User response: Correct the invalid numeric literal. Federated system users, if the error occurred in a pass-through session, determine what data source is causing the error (see the problem determination guide

for the failing data sources). Examine the SQL dialect for that data source to determine which literal representation rule has been violated, and adjust the failing statement as needed.

sqlcode: -103

sqlstate: 42604

SQL0104N An unexpected token *token* was found following *text*. Expected tokens may include: *token-list*.

Explanation: A syntax error in the SQL statement or the input command string for the SYSPROC.ADMIN_CMD procedure was detected at the specified token following the text *text*. The *text* field indicates the 20 characters of the SQL statement or the input command string for the SYSPROC.ADMIN_CMD procedure that preceded the token that is not valid.

As an aid, a partial list of valid tokens is provided in the SQLERRM field of the SQLCA as *token-list*. This list assumes the statement is correct to that point.

The statement cannot be processed.

User response: Examine and correct the statement in the area of the specified token.

sqlcode: -104

sqlstate: 42601

SQL0105N The string constant beginning with *string* is not valid.

Explanation: The statement contains a string constant beginning with *string* that is not valid.

The statement cannot be processed.

User response: Specify the correct format of the string constant. Check for graphic string, paired delimiters, and an even number of bytes within the string.

Federated system users, see the problem determination guide to determine which data source is causing the error.

sqlcode: -105

sqlstate: 42604

SQL0106N SQL statement begins properly but is incomplete.

Explanation: The SQL statement was correct up to the point where no more input was found. This may be caused by failure to properly end a literal. String literals need a final quote mark.

Processing of this SQL statement has ended.

User response: Check that the statement has all the necessary parts to complete the desired function and that all clauses are complete.

For PL/I: Check that the SQL statement is complete before the semicolon. For Assembler: Check that the continuation rules are properly followed. (A nonblank character must be in column 72, and continued lines must start in column 16 or beyond.)

For COBOL: Check that the SQL statement is complete before END-EXEC.

sqlcode: -106

sqlstate: 42601, 42603

SQL0107N The name *name* is too long. The maximum length is *length*.

Explanation: The name returned as *name* is too long. The maximum length permitted for names of that type is indicated by *length*.

The names for constraints can be a maximum length of 18 bytes. The names for columns can be a maximum length of 30 bytes. The names for indexes, savepoints, tables, views and aliases can be a maximum length of 128 bytes. Argument names used in an XMLQUERY, XMLEXISTS and XMLTABLE expression can be a maximum length of 128 bytes. (The maximum length does not include any escape characters, if present.)

SQL variable names, condition names and labels in SQL routines must not exceed 64 bytes in length.

A maximum of 30 bytes is permitted for a schema name (object qualifier), with the exception of user-defined types, which allow a maximum of 8 bytes for a schema name.

Host variable names must not exceed 255 bytes in length.

For the SQL CONNECT statement, an application server name of up to 18 characters in length will be accepted at precompilation time. However, at runtime, an application server name which is greater than 8 characters in length will cause an error.

Also, a password of up to 18 characters in length and an authorization ID of up to 30 characters in length will be accepted in the SQL CONNECT statement.

A package version identifier must not exceed 64 bytes in length.

Federated system users: if in a pass-through session, a data source-specific limit might have been exceeded.

The names for indexes, index specifications, UDFs, methods and specific names can be a maximum length of 128 bytes when converted to the UTF-8 codepage.

The statement cannot be processed.

Note: Where character data conversions are performed for applications and databases running under different codepages, the result of the conversion is exceeding the length limit.

User response: Choose a shorter name or correct the spelling of the object name.

Federated system users: for a pass-through session, determine what data source is causing the error (see the problem determination guide for the failing data sources). Examine the SQL dialect for that data source to determine which specific limit has been exceeded, and adjust the failing statement as needed.

sqlcode: -107

sqlstate: 42622

SQL0108N The name *name* has the wrong number of qualifiers.

Explanation: The name *name* is improperly qualified.

The object given the name *name* can only have one qualifier.

A column name is qualified with a table name, which is either qualified or unqualified, or a correlation name. In some contexts, a column name requires a table name qualifier.

The statement cannot be processed.

User response: Ensure that the name for the object is qualified correctly.

sqlcode: -108

sqlstate: 42601

SQL0109N The *clause* clause is not allowed.

Explanation: The indicated clause is not allowed in the context where it appears in the SQL statement or command.

- A subquery, an INSERT statement, or a CREATE VIEW statement cannot have INTO, ORDER BY, or FOR UPDATE clauses.
- An embedded SELECT statement cannot have ORDER BY or FOR UPDATE clauses.
- An embedded SELECT statement cannot contain a set operator except in a subquery.
- SELECT or VALUES statements used in cursor declarations cannot have an INTO clause.
- A RAISE_ERROR function can only be used as a select list item if it is cast to some data type using the CAST specification.
- The USE AND KEEP clause cannot be used with a query that:
 - invokes an SQL function or SQL method that was not created with the INHERIT ISOLATION LEVEL WITH LOCK REQUEST clause
 - may invoke a trigger
 - modifies a parent or child table requiring a referential integrity check

– requires incremental maintenance of a materialized query table

- The INITIALSIZE clause is not valid for system managed space (SMS) or database managed space (DMS) table spaces.
- The AUTORESIZE, INCREASESIZE and MAXSIZE clauses are not valid for system managed space (SMS) table spaces or for database managed space (DMS) table spaces that are defined to use raw device containers.
- The AUTORESIZE, INITIALSIZE, INCREASESIZE and MAXSIZE clauses are not valid for temporary table spaces that are created using automatic storage.
- The INCREASESIZE and MAXSIZE clauses are not valid for table spaces that do not have auto-resize enabled.
- The ADD, ADD TO STRIPE SET, and BEGIN NEW STRIPE SET clauses cannot be used to add raw device containers to table spaces that have auto-resize enabled.
- Federated system users: In a pass-through session, a data source-specific restriction might have been violated.
- A CREATE INDEX statement cannot have PARTITIONED or NOT PARTITIONED when creating an index on a non-partitioned table.

The statement cannot be processed.

User response: Correct the SQL statement or command by removing the clause.

Federated system users: For a pass-through session, determine what data source is causing the error (see the problem determination guide for the failing data sources). Examine the SQL dialect for that data source to determine which specific restriction has been violated, and adjust the failing statement as needed.

sqlcode: -109

sqlstate: 42601

SQL0110N *string* is an invalid hexadecimal constant.

Explanation: The hexadecimal constant *string* is invalid. The problem is one of the following:

- An invalid hexadecimal digit was specified. Only '0 to 9', 'A to F', and 'a to f' are allowed.
- An uneven number of hexadecimal digits was specified.
- More than 8000 hexadecimal digits were specified.

User response: Correct the constant and resubmit the statement.

sqlcode: -110

sqlstate: 42606

SQL0111N The column function *name* does not include a column name.

Explanation: The specification of the column function *name* (AVG, MIN, MAX, SUM, or COUNT(DISTINCT)) was not specified correctly because such functions must include a column name in the operand.

The statement cannot be processed.

User response: Specify a column name in the expression that is the operand to the column function.

NOTE: This error is only applicable to releases of DB2 prior to Version 2.

sqlcode: -111

sqlstate: 42901

SQL0112N The operand of the column function *name* includes a column function, a scalar fullselect, or a subquery.

Explanation: The operand of a column function cannot include:

- a column function
- a scalar fullselect
- a subquery
- an XMLQUERY or XMLEXISTS expression except as an operand of an XMLAGG column function.

In a SELECT list, the operand of an arithmetic operator cannot be a column function that includes the DISTINCT keyword.

The statement cannot be processed.

User response: Correct the use of the column function to eliminate the invalid expression and try again.

sqlcode: -112

sqlstate: 42607

SQL0113N *identifier* contains a character that is not allowed or does not contain any characters.

Explanation: An SQL-variable-name, parameter-name or condition-name *identifier* contains an invalid character. Only characters that are valid for an SQL ordinary identifier are allowed. Note that because the identifier is delimited, folding is not performed and uppercase and lowercase letters are treated as distinct from each other.

User response: Correct the identifier and resubmit the statement.

sqlcode: -113

sqlstate: 42601

SQL0117N The number of values assigned is not the same as the number of specified or implied columns.

Explanation:

- The number of insert values in the value list of the INSERT statement is not the same as the number of columns specified or implied. If no column list is specified, a column list that includes all columns of the table or view is implied.
- The number of values on the right hand side of an assignment in a SET transition-variable statement or SET clause of an UPDATE statement does not match the number of columns on the left hand side.

The statement cannot be processed.

User response: Correct the statement to specify one value for each of the specified or implied columns.

sqlcode: -117

sqlstate: 42802

SQL0118N The table or view that is the target of the INSERT, DELETE, or UPDATE statement is also specified in a FROM clause.

Explanation: The table or view specified as the target of an INSERT, DELETE, or UPDATE statement also appears in the FROM clause of a subquery within the statement.

The table or view that is the target of an INSERT, UPDATE, or DELETE cannot also be used to supply the values to be inserted or to qualify the rows to be inserted, updated, or deleted.

The statement cannot be processed.

This message is only applicable to Version 1.2 servers and earlier, and hosts accessed through DB2 Connect.

User response: The implied function is not supported. To attempt to obtain the desired result, create a temporary copy of the object table or view and address the subselect to that copy.

sqlcode: -118

sqlstate: 42902

SQL0119N An expression starting with *expression-start* specified in a SELECT clause, HAVING clause, or ORDER BY clause is not specified in the GROUP BY clause or it is in a SELECT clause, HAVING clause, or ORDER BY clause with a column function and no GROUP BY clause is specified.

Explanation: The SELECT statement has one of the following errors:

- The identified expression and a column function are contained in the SELECT clause, HAVING clause, or ORDER BY clause but there is no GROUP BY clause
- The identified expression is contained in the SELECT clause, HAVING CLAUSE, or ORDER BY clause but is not in the GROUP BY clause.

The identified expression is an expression that starts with *expression-start*. The expression may be a single column name.

If the NODENUMBER or PARTITION functions are specified in the HAVING clause, then all partitioning key columns of the underlying table are considered to be in the HAVING clause.

The statement cannot be processed.

User response: Correct the statement by including the expression in the GROUP BY clause that are in the SELECT clause, HAVING clause, or ORDER BY clause or by removing the column function from the SELECT statement.

sqlcode: -119

sqlstate: 42803

SQL0120N Invalid use of an aggregate function or OLAP function.

Explanation: An aggregate function or OLAP function can only be used in the select list of a fullselect, the having clause, or, with restrictions, in a WHERE clause or GROUP BY clause.

A WHERE clause can contain an aggregate function or OLAP function only if that clause appears within a subquery of a HAVING clause and the argument of the function is a correlated reference to a group.

A GROUP BY clause can contain an aggregate function or OLAP function only if the argument of the function is a correlated reference to a column in a different subselect than the one containing the GROUP BY clause.

An OLAP function cannot be used within the argument list of an XMLQUERY or XMLEXISTS expression.

The statement cannot be processed.

User response: Change the statement so that the aggregate function or OLAP function is not used or used only where it is supported.

sqlcode: -120

sqlstate: 42903

SQL0121N The target name *name* is specified more than once for assignment in the same SQL statement.

Explanation: The same target name *name* is specified more than once as an OUT or INOUT argument of a CALL statement, or in the list of columns of an INSERT statement, the left hand side of assignments in the SET clause of an UPDATE statement, or the left hand side of the assignment statement. The target name identifies a column, SQL parameter, SQL variable, or new transition variable.

Note that this error may occur when updating or inserting into a view where more than one column of the view is based on the same column of a base table.

The statement cannot be processed.

User response: Correct the syntax of the statement so each column name is specified only once.

sqlcode: -121

sqlstate: 42701

SQL0122N A SELECT statement with no GROUP BY clause contains a column name and a column function in the SELECT clause, or a column name is contained in the SELECT clause but not in the GROUP BY clause.

Explanation: The SELECT statement has one of the following errors:

- A column name and a column function are contained in the SELECT clause but there is no GROUP BY clause.
- A column name is contained in the SELECT clause but not in the GROUP BY clause.

The column may be contained in a scalar function.

If the NODENUMBER or PARTITION functions are specified in the SELECT clause, then all partitioning key columns of the underlying table are considered to be in the SELECT clause.

The statement cannot be processed.

User response: Correct the statement by including the columns in the GROUP BY clause that are in the SELECT clause or by removing the columns from the SELECT clause.

sqlcode: -122

sqlstate: 42803

SQL0123N The parameter in position *n* in the function *name* must be a constant or a keyword.

Explanation: The parameter in position *n* in the function *name* is not a constant when it is required to be a constant or a keyword when it is required to be a keyword.

User response: Ensure that each argument of the function conforms to the definition of the corresponding parameter.

sqlcode: -123

sqlstate: 42601

SQL0125N The column number in the ORDER BY clause is either less than one or greater than the number of columns in the result table.

Explanation: The ORDER BY clause in the statement contains a column number that is either less than 1 or greater than the number of columns in the result table (the number of items in the SELECT clause).

The statement cannot be processed.

User response: Correct the syntax of the ORDER BY clause so each column identifier properly identifies a column of the result table.

sqlcode: -125

sqlstate: 42805

SQL0127N DISTINCT is specified more than once.

Explanation: The DISTINCT qualifier cannot be used:

- In both the SELECT clause and a column function
- In two or more column functions in the same SELECT statement.

The statement cannot be processed.

User response: This error is only applicable to releases of DB2 prior to DB2 Version 2 and hosts accessed through DB2 Connect.

sqlcode: -127

sqlstate: 42905

SQL0129N The statement contains too many table names.

Explanation: The SQL statement contains too many table names. A single SQL statement can reference up to 255 tables. Each table in any view referenced is included in this limit.

The statement cannot be processed.

User response: Break the SQL statement into two or

more simple statements with 255 or fewer table references.

This message is applicable to hosts accessed through DB2 Connect.

sqlcode: -129

sqlstate: 54004

SQL0130N The ESCAPE clause is not a single character, or the pattern string contains an invalid occurrence of the escape character.

Explanation: The escape character must be a single character no more than two bytes in length. It can only appear in the pattern string if it is followed by itself, a percent sign, or an underscore. For more information about the ESCAPE clause on the LIKE predicate, refer to the *SQL Reference*.

User response: Correct the pattern string or the escape character accordingly.

sqlcode: -130

sqlstate: 22019, 22025

SQL0131N The operands of a LIKE predicate have incompatible data types.

Explanation: If the expression to the left of a LIKE or NOT LIKE is of type character, the expression to the right must be of type character.

If the expression to the left is of type graphic, the expression to the right must be of type graphic.

If the expression to the left is of type BLOB, the expression to the right must be of type BLOB.

The statement cannot be processed.

User response: Correct the expressions of the LIKE predicate to be the same data type.

sqlcode: -131

sqlstate: 42818

SQL0132N A LIKE predicate or POSSTR scalar function is not valid because the first operand is not a string expression or the second operand is not a string. A LOCATE or POSITION scalar function is not valid because the first operand is not a string or the second operand is not a string expression.

Explanation: A LIKE predicate or POSSTR scalar function appearing in the statement is not valid because either the first operand is not a string expression or the second operand is not a string. A LOCATE scalar function or POSITION scalar function appearing in the statement is not valid because either

the first operand is not a string or the second operand is not a string expression.

The operand appearing to the left of a LIKE or NOT LIKE predicate, the second operand of LOCATE, the second operand of POSITION, or the first operand of POSSTR must be a string expression. The value appearing to the right of the predicate, the first operand of LOCATE, the first operand of POSITION, or the second operand of POSSTR can be one of:

- a constant
- a special register
- a host variable
- for LOCATE and POSITION only, a column reference
- a scalar function whose operands are any of the above
- an expression concatenating any of the above

with the restrictions that:

- no element in the expression can be of type LONG VARCHAR, CLOB, LONG VARGRAPHIC, or DBCLOB. In addition it cannot be a BLOB file reference variable.
- the actual length of the expression cannot be more than 4000 bytes.

A LIKE predicate, LOCATE scalar function, POSITION scalar function, or POSSTR scalar function cannot be used with DATE, TIME, or TIMESTAMP.

The statement cannot be processed.

User response: Check and correct the syntax of LIKE, LOCATE, POSITION, or POSSTR.

sqlcode: -132

sqlstate: 42824

SQL0134N Improper use of a string column, host variable, constant, or function *name*.

Explanation: The use of the string *name* is not permitted.

An expression resulting in a CLOB, DBCLOB, BLOB, LONG VARCHAR, or LONG VARGRAPHIC data type is not permitted in:

- A SELECT DISTINCT statement
- A GROUP BY clause
- An ORDER BY clause
- A column function with DISTINCT
- A SELECT or VALUES statement of a set operator other than UNION ALL.

Federated system users: in a pass-through session, a data source-specific restriction can cause this error. See the SQL Reference documentation for the failing data sources.

The statement cannot be processed.

User response: The requested operation on the string is not supported.

sqlcode: -134

sqlstate: 42907

SQL0135N The input for a long string column in an INSERT statement or UPDATE statement must be from a host variable or be the keyword NULL.

Explanation: The UPDATE or INSERT is using constants, column names, or subqueries where it should be using NULL or a host variable.

A long string column is either a LONG VARCHAR, LONG VARGRAPHIC, VARCHAR(*n*) where *n* is greater than 254 but less than or equal to 32767, or VARGRAPHIC(*n*) where *n* is greater than 127 but less than or equal to 16383.

User response: Refer to the DB2 for VM Application Programming manual for information on the use of long strings. Correct the statement. Try again.

sqlcode: -135

sqlstate: 56033

SQL0137N The length resulting from operation is greater than *maximum-value*.

Explanation: The result of concatenating the given operands was longer than what is supported by the result type.

Character string results are limited to 32,700 bytes unless one of the operands is a CLOB and then the limit is 2 gigabytes.

Graphic string results are limited to 16,350 characters unless one of the operands is a DBCLOB and then the limit is 1,073,741,823 (1 less than 1 gigabyte) double byte characters.

Binary string results (operands are BLOB) are limited to 2 gigabytes.

User response: Ensure that the sum of the lengths of the operands does not exceed the supported maximum and try the operation again.

sqlcode: -137

sqlstate: 54006

SQL0138N The second or third argument of the SUBSTR or SUBSTRING function is out of range.

Explanation: One of the following conditions exists:

- The value of the second argument of the SUBSTR or SUBSTRING function is less than 1 or greater than M.
- The value of the third argument of the SUBSTR or SUBSTRING function is an integer constant 0 or an expression whose value is less than 0 or greater than M-N+1.

M is the length of the first argument, if it is of fixed length, or M is the maximum length of the first argument, if it is of varying-length. N is the value of the second argument.

The statement cannot be executed.

User response: Ensure that the second and third arguments of the SUBSTR or SUBSTRING function have legal values according to the above rules.

sqlcode: -138

sqlstate: 22011

SQL0139W A redundant clause appears in the specification for column *column*.

Explanation: The clause in the column specification is redundant.

The statement was processed successfully, but the redundant clause was ignored.

User response: Correct the column specification.

sqlcode: +139

sqlstate: 01589

SQL0142N The SQL statement is not supported.

Explanation: An embedded SQL statement that may be valid for other IBM relational database products is not supported by the database manager.

Federated system users: check to see if an SQL statement was directed at a data source that does not support the SQL statement.

The statement cannot be processed.

User response: Change the syntax of the SQL statement or remove the statement from the program.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the SQL dialect for that data source.

SQL0143W The SQL statement is not supported; invalid syntax is ignored.

Explanation: An embedded SQL statement that may be valid for other IBM relational database products is

understood but is not supported by the database manager.

The statement may produce inconsistent or unwanted results.

User response: Change the syntax of the SQL statement or remove the statement from the program.

SQL0150N The target fullselect, view, typed table, materialized query table, or staging table in the INSERT, DELETE, UPDATE, or MERGE statement is a target for which the requested operation is not permitted.

Explanation: The fullselect, view, typed table, materialized query table, or staging table named in the INSERT, UPDATE, DELETE, or MERGE statement is defined so that the requested insert, update, or delete operation cannot be performed.

A view or a fullselect is read only if the SELECT statement of the view or the fullselect contains any of the following:

- A DISTINCT keyword
- A column function in the select list
- A GROUP BY or HAVING clause
- A FROM clause that identifies one of the following:
 - More than one table or view
 - A read-only view (READONLY column of SYSCAT.SYSVIEWS is set to 'Y')
- A set operator (other than UNION ALL).
- Federated system users: a data source specific limitation that causes the view not to be updatable

Note that these conditions do not apply to subqueries of the SELECT statement or of the fullselect.

A view that directly or indirectly contains a WHERE clause that references a subquery or a routine defined with NOT DETERMINISTIC or EXTERNAL ACTION cannot be used as the target of a MERGE statement.

A view defined with the WITH ROW MOVEMENT clause cannot be used as the target of a MERGE statement that includes an update operation.

You cannot insert rows directly into a typed table defined on a structured type that is not instatiable. Subtables of this table may allow inserts.

In general, system maintained materialized query tables and staging tables do not allow the insert, update or delete operations.

The statement cannot be processed.

User response: The requested function cannot be performed on the fullselect, view, system maintained

materialized query table, or staging table.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the object definition and the update restrictions for that data source.

sqlcode: -150

sqlstate: 42807

SQL0151N The column *name* cannot be updated.

Explanation: The specified column cannot be updated because one of the following was attempted.

- the object table is a view, and the specified column is derived from a scalar function, expression, keyword, constant, or column of a view where that column cannot be updated.
- the specified column is a non-updatable column of a system catalog, or a column explicitly marked as READ ONLY.

Federated system users should check to see if some other data source specific limitation prevents the column from being updated.

The statement cannot be processed.

User response: If the specified column is derived from a scalar function, expression, keyword, or non updatable column, omit the column from the set clause of the update or the column of the insert. For a list of updatable catalogs (and the updatable columns) see the *SQL Reference*.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide) and examine the object definition and the update restrictions for that data source.

sqlcode: -151

sqlstate: 42808

SQL0152N Constraint *constraint-name* is a *actual-constraint-type* constraint instead of a *expected-constraint-type* constraint.

Explanation: An attempt was made to alter or drop constraint *constraint-name*, but it is defined as a *expected-constraint-type* constraint, not as the specified *actual-constraint-type* constraint.

User response: Verify the name and type of constraint to be altered or dropped.

sqlcode: -152

sqlstate: 42809

SQL0153N The statement does not include a required column list.

Explanation: A column list must be specified in a CREATE VIEW statement, a common table expression or in a CREATE TABLE statement containing an as-subquery-clause when:

- any element of the SELECT list in the fullselect is other than a column name and is not named using the AS clause.
- any two elements are the same column name that were not renamed using the AS clause.

The statement cannot be processed.

User response: Provide a column name list in the CREATE VIEW statement, common table expression, CREATE TABLE statement, or name the columns in the SELECT list of the fullselect using the AS clause.

sqlcode: -153

sqlstate: 42908

SQL0155N A trigger transition table cannot be modified.

Explanation: The trigger includes a REFERENCING clause with an OLD_TABLE or NEW_TABLE identified. A DELETE, INSERT or UPDATE triggered SQL statement has used the name specified as the OLD_TABLE or NEW_TABLE as the table to modify.

User response: Remove the DELETE, INSERT or UPDATE triggered SQL statement from the triggered action or change the name of the transition table so that it does not conflict with the table you are attempting to modify.

sqlcode: -155

sqlstate: 42807

SQL0156N The name used for this operation is not a table.

Explanation: The SQL statements ALTER TABLE, DROP TABLE, SET INTEGRITY, CREATE TRIGGER, CREATE INDEX, LOCK TABLE, and RENAME TABLE are applicable only to tables, not to views. The RUNSTATS and LOAD utilities are also applicable only to tables, not to views.

Federated system users: Some utilities and statements are not supported in a federated environment. See the Administration Guide for more information.

The statement or utility cannot be processed.

User response: Verify that the correct table name is specified in the statement. If an alias name was supplied, ensure that the alias resolves to a table.

Federated system users: Verify that the object is not a nickname.

sqlcode: -156

sqlstate: 42809

SQL0157N *name* is not allowed in a FOREIGN KEY clause because it does not identify a base table.

Explanation: The object *name* was identified in a FOREIGN KEY clause of a CREATE or ALTER TABLE statement. A FOREIGN KEY clause must identify a base table.

The statement cannot be processed. The specified table is not created or altered.

User response: Correct the statement to specify a base table name in the FOREIGN KEY clause.

If an alias name was supplied, ensure that the alias resolves to a base table.

sqlcode: -157

sqlstate: 42810

SQL0158N The number of columns specified for *name* is not the same as the number of columns in the result table.

Explanation: The identifier *name* could identify:

- a view named in a CREATE VIEW statement
- a table name of a common table expression
- a correlation name of a nested table expression
- a materialized query table named in a CREATE TABLE or ALTER TABLE statement
- a function named in a CREATE FUNCTION statement
- a method named in a CREATE METHOD statement.
- a staging table name in a CREATE STAGING TABLE statement

The number of column names specified must be equal to the number of columns in the result table of the associated fullselect. If *name* is a staging table and the associated materialized query table has group by clause, the number of column names specified must be 2 more than the number of columns in the materialized query table for which the staging table is being defined. If the associated materialized query table has no group by clause, the number of column names specified must be 3 more than the number of columns in the materialized query table.

The statement cannot be processed.

User response: Correct the syntax so that the list of column names defined for *name* specify a name for each column of the result table.

sqlcode: -158

sqlstate: 42811

SQL0159N The statement references *object* which identifies a(n) *object-type* rather than a(n) *expected-object-type*.

Explanation: The object *object* specified as part of the statement or command refers to an object of type *object-type* instead of the expected type *expected-object-type*.

The type of the object provided with the statement or command must match the type identified by *expected-object-type*. For example, if the statement is DROP ALIAS *PBIRD.T1*, then *PBIRD.T1* must be an alias name. If the *object-type* is TABLE, then it is possible that the type of table is incorrect for the statement issued.

User response: Change the statement or command to properly match the type of object identified by *expected-object-type*.

sqlcode: -159

sqlstate: 42809

SQL0160N The WITH CHECK OPTION clause is not valid for the specified view.

Explanation: The WITH CHECK OPTION clause cannot be used in a view definition if:

- The view is defined as read only. The view is read only if the SELECT statement contains any of the following. (Note that these conditions do not apply to subqueries of the SELECT statement.)
 - A DISTINCT keyword
 - A column function in the selected list
 - A GROUP BY or HAVING clause
 - A FROM clause that identifies either:
 - More than one table or view
 - A read-only view
 - A set operator (other than UNION ALL).
- The SELECT statement in the CREATE VIEW statement includes a subquery (except for specific statistic columns of some catalog tables).
- A view on which the specified view definition is dependent has an INSTEAD OF trigger defined.
- A view on which the specified view definition is dependent contains a text search function.

Federated system users: the WITH CHECK option is not supported on views that reference updatable nicknames.

The statement cannot be processed. The specified view was not created.

User response: Remove the WITH CHECK OPTION clause or change the view definition so it conforms to the rules above.

sqlcode: -160

sqlstate: 42813

SQL0161N The resulting row of the insert or update operation does not conform to the view definition.

Explanation: The WITH CHECK OPTION clause was specified in the view definition that is the object of the insert or update operation or a FROM clause specified an insert or update operation with a view as the target. Consequently, all attempts to insert or update rows in that view are checked to ensure that the results conform to the view definition.

If the insert or update operation that target a view is in a FROM clause, the insert or update operation is always processed as if the view had been defined WITH CHECK OPTION.

The statement cannot be processed. No inserts or updates are performed, and the contents of the view and underlying base table remain unchanged.

User response: Examine the view definition to determine why the requested insert or update operation was rejected. Note that this may be a data-dependent condition.

Requested insert or update operation may be trying to put out of range value(s) in the target column(s). For system catalog updates, see the *SQL Reference* for valid ranges of values in various updatable columns of catalogs.

Federated system users, if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide) and examine the object definition and the view definition for that data source.

sqlcode: -161

sqlstate: 44000

SQL0170N The number of arguments for function *name* is incorrect.

Explanation: The specified scalar function *name* has either too few or too many arguments.

The statement cannot be processed.

User response: Ensure that the correct number of arguments is specified for the scalar function.

sqlcode: -170

sqlstate: 42605

SQL0171N The data type, length or value of argument *n* of routine *name* is incorrect.

Explanation: The data type, length or value of argument *n* of routine *name* is incorrect.

The statement cannot be processed.

User response: Ensure the arguments of the routine conform to the rules of the routine.

sqlcode: -171

sqlstate: 42815

SQL0172N *name* is not a valid function name.

Explanation: The SQL statement includes an unknown scalar function.

The statement cannot be processed.

User response: Ensure that you correctly spell the function name.

sqlcode: -172

sqlstate: 42601

SQL0176N The second, third or fourth argument of the TRANSLATE scalar function is incorrect.

Explanation: The statement is not correct for one or more of the following reasons:

- The translate scalar function does not allow replacement of a character by another character which is encoded using a different number of bytes. For example, a single-byte character cannot be replaced with a double-byte character nor can a double-byte character be replaced with a single-byte character.
- The second and third arguments of the translate scalar function must end with correctly formed characters.
- The fourth argument of the translate scalar function must be a correctly formed single-byte character if the first argument is CHAR or VARCHAR.
- The fourth argument of the translate scalar function must be a correctly formed double-byte character if the first argument is GRAPHIC or VARGRAPHIC.

The statement cannot be processed.

User response: Ensure that the second, third, and fourth arguments of the translate scalar function have correct values.

sqlcode: -176

sqlstate: 42815

SQL0180N The syntax of the string representation of a datetime value is incorrect.

Explanation: The string representation of a date, time, or timestamp value does not conform to the syntax for the specified or implied data type.

The statement cannot be processed.

User response: Ensure that the syntax of the date, time, or timestamp value conforms to the syntax for its

data type. If the string is not intended to be a date, time, or timestamp value, ensure that when used, it does not imply that data type.

Federated system users: the problem might be due to a date/time representation problem at the data source. If the reason is unknown, isolate the problem to the data source failing the request Troubleshooting Guide and examine the date/time representation restrictions for that data source.

sqlcode: -180

sqlstate: 22007

SQL0181N The string representation of a datetime value is out of range.

Explanation: The string representation of a date, time or timestamp value contains a value that is out of range.

This error could be caused by accessing a datetime value from an application using a territory code whose datetime format is different than the one used by the application that created it. For example, a string datetime value stored in the format dd/mm/yyyy will not be valid when read by an application expecting its format to be mm/dd/yyyy.

The correct ranges for date, time, or timestamp values are as follows:

- 0001 to 9999 for years.
- 1 to 12 for months.
- 1 to 31 for days when the month is 1, 3, 5, 7, 8, 10, and 12.
- 1 to 30 for days when the month is 4, 6, 9, 11.
- 1 to 28 for days when the month is 2 in a non-leap year.
- 1 to 29 for days when the month is 2 in a leap year.
- 0 to 24 for hours. If the hour is 24, the other parts of the time are 0. If the format is USA, the hour cannot be greater than 12.
- 0 to 59 for minutes.
- 0 to 59 for seconds.
- 0 to 999999 for microseconds.
- 001 to 365 for the day portion of a Julian calendar date when the year is not a leap year.
- 001 to 366 for the day portion of a Julian calendar date when the year is a leap year.

Federated system users: the problem might be due to a date/time representation problem at the data source. Refer to the data source's documentation for the ranges for date and time values at the data source. If the reason is unknown, isolate the problem to the data source failing the request (see the Troubleshooting Guide) and examine the date/time representation restrictions for that data source.

The statement cannot be processed.

User response: Ensure that the value is within the valid range, and the application's datetime format is the same as the string value.

sqlcode: -181

sqlstate: 22007

SQL0182N An expression with a datetime value or a labeled duration is not valid.

Explanation: The specified expression contains an improperly used date, time, or timestamp value or labeled duration.

The statement cannot be processed.

User response: Examine the SQL statement to determine the cause of the problem and correct the statement.

sqlcode: -182

sqlstate: 42816

SQL0183N A datetime arithmetic operation or datetime scalar function has a result that is not within the valid range of dates.

Explanation: The result of an arithmetic operation is a date or timestamp duration which is outside the range 0001-01-01 through 9999-12-31.

The statement cannot be executed.

User response: Examine the SQL statement to determine the cause of the problem. If the problem is data-dependent, examine the data processed when the error occurred.

sqlcode: -183

sqlstate: 22008

SQL0187N A reference to a current date/time special register is invalid.

Explanation: An error indication from the operating system was detected while retrieving date/time information.

User response: Ensure that the system TOD clock and timezone settings are correct.

sqlcode: -187

sqlstate: 22506

SQL0190N ALTER TABLE *table-name* specified attributes for column *column-name* that are not compatible with the existing column.

Explanation: The attributes specified in the ALTER COLUMN clause for the column *column-name* of the

table *table-name* in an ALTER TABLE statement are not compatible with the attributes of the existing column. The error was returned for one of the following reasons.

- If a SET DATA TYPE clause is specified for an existing column:
 - the data type is not one that can be altered
 - the length of the column is greater than the length specified in the clause
 - the data type cannot be changed to the new data type
 - the current data type is SYSPROC.DB2SECURITYLABEL, which cannot be changed
 - the data type cannot be altered to SYSPROC.DB2SECURITYLABEL
- If a SET EXPRESSION clause is specified, the existing column
 - is not defined as generated using an expression.
 - is part of a table partitioning key.
- If the DROP COLUMN SECURITY option is specified, the column is not already protected by a security label.
- If DROP DEFAULT is specified, the column is not defined with default attributes.
- If DROP IDENTITY is specified, the column is not defined as an identity column.
- If DROP EXPRESSION is specified, the column is not defined with a generation expression.
- If SET DEFAULT is specified, the column is already defined with another form of generation (identity or expression) and there is no corresponding DROP in the same statement.
- If SET GENERATED ALWAYS AS (expression) is specified, the column is already defined with a form of generation (default, identity, or expression) and there is no corresponding DROP in the same statement.
- If SET GENERATED ALWAYS AS IDENTITY or SET GENERATED BY DEFAULT AS IDENTITY is specified, the column is already defined with a form of generation (default, identity, or expression) and there is no corresponding DROP in the same statement.
- If SET GENERATED ALWAYS or SET GENERATED BY DEFAULT is specified, the column is not an identity column.

The statement cannot be processed.

User response: Make the attributes specified compatible with the existing column, remove the attribute specification, or specify a different column name.

sqlcode: -190

sqlstate: 42837

SQL0191N Error occurred because of a fragmented MBCS character.

Explanation: Possible causes:

1. User data contained an improperly formed multi-byte character. For example, the first byte of a DBCS character was found, but the second character was not.
2. A scalar function, such as SUBSTR or POSSTR has truncated a multi-bytes string incorrectly. For these functions, start and length values must be correct in terms of bytes, in the context of the database code page. For a Unicode database, a common cause of this could be that the start or length for a UTF-8 string are incorrect.
3. A scalar function such as TRANSLATE has may have changed the multi-byte string.

Federated system users: this situation can also be detected by the data source.

User response:

1. Correct the input data and try again.
2. Change the start and length values such that when characters are converted to the database code page, the multi-byte characters are not truncated incorrectly.
3. Correct the TRANSLATE in error.

Federated system users: if the data is correct, isolate the problem to the data source failing the request (see the Troubleshooting Guide) and examine the DBCS restrictions of that data source. If the data appears to be correct, contact IBM service for assistance.

sqlcode: -191

sqlstate: 22504

SQL0193N In an ALTER TABLE statement, the column *column-name* has been specified as NOT NULL and either the DEFAULT clause was not specified or was specified as DEFAULT NULL.

Explanation: When new columns are added to a table that already exists, a value must be assigned to that new column for all existing rows. By default, the null value is assigned. However, since the column has been defined as NOT NULL, a default value other than null must be defined.

User response: Either remove the NOT NULL restriction on the column or provide a default value other than null for the column.

sqlcode: -193

sqlstate: 42601

SQL0195N Last column of *table-name* cannot be dropped.

Explanation: An attempt was made to drop one or more columns using an ALTER TABLE statement. The columns cannot be dropped from table *table-name* because at least one of the existing columns must be preserved when altering a table.

User response: Ensure table *table-name* will have at least one column once the ALTER statement is complete. Either remove the DROP of one of the columns and try the request again, or, if all of the columns should be removed, drop the table and create it again.

sqlcode: -195

sqlstate: 42814

SQL0196N Column *column-name* in *table-name* cannot be dropped. Reason code = *reason-code*.

Explanation: An attempt was made to drop column *column-name*. See the reason code for an explanation of why the column cannot be dropped.

- 1 The column cannot be dropped because it is part of the multi-node distribution key, table partitioning key, or MDC organizing dimension.
- 2 The column cannot be dropped, because a system generated column is dependent on it.
- 3 A column of type SYSPROC.DB2SECURITYLABEL cannot be dropped.

User response:

- 1 The column cannot be dropped until the key or dimensions of the table are changed.
- 2 Change the generation expression of the dependent column.
- 3 Drop and recreate the table without creating the column of type SYSPROC.DB2SECURITYLABEL

sqlcode: -196

sqlstate: 42817

SQL0197N A qualified column name is not allowed in the ORDER BY clause.

Explanation: The ORDER BY clause of a fullselect that

includes a set operator (UNION, EXCEPT, INTERSECT) cannot have qualified column names.

User response: Ensure that all column names in the ORDER BY clause are unqualified.

sqlcode: -197

sqlstate: 42877

SQL0198N The statement string of the PREPARE or EXECUTE IMMEDIATE statement is blank or empty.

Explanation: The host variable that was the object of the PREPARE or EXECUTE IMMEDIATE statement either contained all blanks or was an empty string.

The PREPARE or EXECUTE IMMEDIATE could not be completed.

User response: Correct the logic of the program to ensure that a valid SQL statement is provided in the operand of the PREPARE or EXECUTE IMMEDIATE statement before it is executed.

sqlcode: -198

sqlstate: 42617

SQL0199N The use of reserved word *keyword* following *text* is not valid. Expected tokens may include: *token-list*.

Explanation: A syntax error in the SQL statement was detected at the point in the statement when the reserved word *keyword* appears following *text*. The *text* field indicates the 20 characters of the SQL statement that preceded the reserved word. Clauses in the statement may be in the wrong order.

As an aid to the programmer, a partial list of valid tokens is provided in the SQLERRM field of the SQLCA as *token-list*. This list assumes the statement is correct to that point.

The statement cannot be processed.

User response: Examine the statement in the keyword area. Add a colon or SQL delimiter, if missing. Verify that the clauses are in the correct order. If the reserved word identified in the messages is listed as a reserved word, make the word a delimited identifier.

NOTE: This error is only applicable to releases of DB2 prior to Version 2.

sqlcode: -199

sqlstate: 42601

SQL0200 - SQL0299

SQL0203N A reference to column *name* is ambiguous.

Explanation: The column *name* is used in the statement and there is more than one possible column to which it could refer. This could be the result of:

- two tables specified in a FROM clause that have columns with the same name
- the ORDER BY clause refers to a name that applies to more than one column in the select list
- a reference to a column from the subject table in a CREATE TRIGGER statement does not use the correlation name to indicate if it refers to the old or new transition variable.

The column name needs further information to establish which of the possible table columns it is.

The statement cannot be processed.

User response: Add a qualifier to the column name. The qualifier is the table name or correlation name. A column may need to be renamed in the select list.

sqlcode: -203

sqlstate: 42702

SQL0204N *name* is an undefined name.

Explanation: This error is caused by one of the following:

- The object identified by *name* is not defined in the database.
- The data partition identified by *name* is not defined on the table.
- A data type is being used. This error can occur for the following reasons:
 - If *name* is qualified, then a data type with this name does not exist in the database.
 - If *name* is unqualified, then the user's function path does not contain the schema to which the desired data type belongs.
 - The data type does not exist in the database with a create timestamp earlier than the time the package was bound (applies to static statements).
 - If the data type is in the UNDER clause of a CREATE TYPE statement, the type name may be the same as the type being defined, which is not valid.
- A function is being referenced in one of:
 - a DROP FUNCTION statement
 - a COMMENT ON FUNCTION statement
 - the SOURCE clause of a CREATE FUNCTION statement

If *name* is qualified, then the function does not exist. If *name* is unqualified, then a function of this name does not exist in any schema of the current function path. Note that a function cannot be sourced on the COALESCE, NULLIF, or VALUE built-in functions.
- The element named "name" is used on the right side of the UNDER clause in CREATE SECURITY LABEL

COMPONENT statement but has not yet been defined as being ROOT or being UNDER some other element

- One of the following scalar functions specified a security policy identified by "name" which is not defined in the database.
 - SECLABEL
 - SECLABEL_TO_CHAR
 - SECLABEL_BY_NAME

This return code can be generated for any type of database object.

Federated system users: the object identified by *name* is not defined in the database or *name* is not a nickname in a DROP NICKNAME statement.

Some data sources do not provide the appropriate values for *name*. In these cases, the message token will have the following format: "OBJECT:<data source> TABLE/VIEW", indicating that the actual value for the specified data source is unknown.

The statement cannot be processed.

User response: Ensure that the object name (including any required qualifiers) is correctly specified in the SQL statement and it exists. If the name refers to a data partition, query the catalog table SYSCAT.DATAPARTITIONS to find the names of all the data partitions for a table. For missing data type or function in SOURCE clause, it may be that the object does not exist, OR it may be that the object does exist in some schema, but the schema is not present in your function path. For the CREATE SECURITY LABEL COMPONENT statement, make sure that each element is specified as either ROOT or as the child in an UNDER clause before specifying it as the parent in an UNDER clause. For the scalar functions SECLABEL, SECLABEL_TO_CHAR or SECLABEL_BY_NAME, ensure that a valid security policy was specified for the argument security-policy-name.

Federated system users: if the statement is DROP NICKNAME, make sure the object is actually a nickname. The object might not exist in the federated database or at the data source. Verify the existence of the federated database objects (if any) and the data source objects (if any).

sqlcode: -204

sqlstate: 42704

SQL0205N Column or attribute *name* is not defined in *object-name*.

Explanation: If *object-name* is a table or view, then *name* is a column that is not defined in *object-name*. If *object-name* is a structured type, then *name* is an attribute that is not defined in *object-name*.

Federated system users: *object-name* could refer to a nickname.

The statement cannot be processed.

User response: If *object-name* is a table or view, verify that the column and table or view names (including any required qualifiers) are specified correctly in the SQL statement. If *object-name* is a structured type, verify that the attribute and type names (including any required qualifiers) are specified correctly in the SQL statement.

Also, if you receive this error during a REORG or an IMPORT, the column names in the index may violate the database manager naming rules as defined in the *Administration Guide*.

sqlcode: -205

sqlstate: 42703

SQL0206N *name is not valid in the context where it is used.*

Explanation: This error can occur in the following cases:

- For an INSERT or UPDATE statement, the specified column is not a column of the table, or view that was specified as the object of the insert or update.
- For a SELECT or DELETE statement, the specified column is not a column of any of the tables or views identified in a FROM clause in the statement.
- For an ORDER BY clause, the specified column is a correlated column reference in a subselect, which is not allowed.
- For a CREATE TRIGGER, CREATE METHOD or CREATE FUNCTION statement:
 - The reference *name* does not resolve to the name of a column, local variable or transition variable.
 - The condition name *name* specified in the SIGNAL statement has not been declared.
- For a CREATE TRIGGER statement:
 - A reference is made to a column of the subject table without using an OLD or NEW correlation name.
 - The left hand side of an assignment in the SET transition-variable statement in the triggered action specifies an old transition variable where only a new transition variable is supported.
- For a CREATE FUNCTION statement with a PREDICATES clause:
 - The RETURN statement of the SQL function references a variable that is not a parameter or other variable that is in the scope of the RETURN statement.
 - The FILTER USING clause references a variable that is not a parameter name or an expression name in the WHEN clause.

- The search target in an index exploitation rule does not match some parameter name of the function that is being created.
- A search argument in an index exploitation rule does not match either an expression name in the EXPRESSION AS clause or a parameter name of the function being created.
- For a CREATE INDEX EXTENSION statement, the RANGE THROUGH clause or the FILTER USING clause references a variable that is not a parameter name that can be used in the clause.

The statement cannot be processed.

User response: Verify that the names are specified correctly in the SQL statement. For a SELECT statement, ensure that all the required tables are named in the FROM clause. For a subselect in an ORDER BY clause, ensure that there are no correlated column references. If a correlation name is used for a table, verify that subsequent references use the correlation name and not the table name.

For a CREATE TRIGGER statement, ensure that only new transition variables are specified on the left hand side of assignments in the SET transition-variable statement and that any reference to columns of the subject table have a correlation name specified.

sqlcode: -206

sqlstate: 42703

SQL0207N *A column name is not allowed in the ORDER BY clause of a SELECT statement used with a set operator.*

Explanation: A SELECT statement with a set operator contains an ORDER BY clause, which specifies column names. In this case, the list of columns in the ORDER BY clause must contain only integers.

The statement cannot be processed.

User response: Specify only integers in the list of columns in the ORDER BY clause.

NOTE: This error is only applicable to releases of DB2 prior to Version 2 and hosts accessed through DB2 Connect.

sqlcode: -207

sqlstate: 42706

SQL0208N *The ORDER BY clause is not valid because column *name* is not part of the result table.*

Explanation: The statement is not valid because a column *name* specified in the ORDER BY list is not specified in the SELECT list and is not in the result table. Only columns in the result table can be used to order that result when the fullselect of the

select-statement is not a subselect.

The statement cannot be processed.

User response: To correct the syntax of the statement, either add the specified column to the result table or delete it from the ORDER BY clause.

sqlcode: -208

sqlstate: 42707

SQL0212N *name is a duplicate table designator or is specified more than once in the REFERENCING clause of a trigger definition.*

Explanation: The exposed table, view, alias, or correlation name specified by *name* is identical to another exposed table, view, alias, or correlation name in the same FROM clause.

If the statement is a CREATE TRIGGER, the REFERENCING clause may have specified the same name as the subject table or may have the same name for more than one of the OLD or NEW correlation names or the NEW_TABLE or OLD_TABLE identifiers.

The statement cannot be processed.

User response: Rewrite the FROM clause of the SELECT statement. Associate correlation names with table, view, or alias names so no exposed table, view, alias, or correlation name is identical to any other exposed table, view, alias, or correlation name in the FROM clause.

For a CREATE TRIGGER statement, change the names in the REFERENCING clause so that there are no duplicates.

sqlcode: -212

sqlstate: 42712

SQL0214N *An expression in the ORDER BY clause in the following position, or starting with expression-start-or-order-by-position in the clause-type clause is not valid. Reason code = reason-code.*

Explanation: The expression identified by the first part of the expression *expression-start-or-order-by-position* in the *clause-type* clause is not valid for the reason specified by the *reason-code* as follows:

- 1 The fullselect of the select-statement is not a subselect. Expressions are not allowed in the ORDER BY clause for this type of select-statement. This reason code occurs only when *clause-type* is ORDER BY.
- 2 DISTINCT is specified in the select clause and the expression cannot be matched exactly with

an expression in the select list. This reason code occurs only when *clause-type* is ORDER BY.

- 3 Grouping is caused by the presence of a column function in the ORDER BY clause. This reason code occurs only when *clause-type* is ORDER BY.
- 4 Expression in a GROUP BY clause cannot include a scalar-fullselect. This reason code occurs only when *clause-type* is GROUP BY.
- 5 The left side of a dereference operator in a GROUP BY clause cannot be a variant function. This reason code occurs only when *clause-type* is GROUP BY.
- 6 Expression in an ORDER BY clause cannot include an XMLQUERY or XMLEXISTS. This reason code occurs only when *clause-type* is ORDER BY.
- 7 Expression in a GROUP BY clause cannot include an XMLQUERY or XMLEXISTS. This reason code occurs only when *clause-type* is GROUP BY.

The statement cannot be processed.

User response: Modify the select-statement based on the reason specified by the *reason-code* as follows:

- 1 Remove the expression from the ORDER BY clause. If attempting to reference a column of the result, change the sort key to the simple-integer or simple-column-name form.
- 2 Remove DISTINCT from the select clause or change the sort key to the simple-integer or simple-column-name form.
- 3 Add a GROUP BY clause or remove the column function from the ORDER BY clause.
- 4 Remove any scalar-fullselect from the GROUP BY clause. If grouping is desired on a column of the result that is based on a scalar-fullselect use a nested table expression or a common table expression to first provide a result table with the expression as a column of the result.
- 5 Remove any variant function from the left side of the dereference operators in the GROUP BY clause.
- 6 Remove any XMLQUERY or XMLEXISTS expression from the ORDER BY clause. If ordering is desired on a column of the result that is based on an XMLQUERY or XMLEXISTS expression, use a nested table expression or a common table expression to first provide a result table with the expression as a column of the result.
- 7 Remove any XMLQUERY or XMLEXISTS expression from the GROUP BY clause. If

grouping is desired on a column of the result that is based on an XMLQUERY or XMLEXISTS expression, use a nested table expression or a common table expression to first provide a result table with the expression as a column of the result.

sqlcode: -214

sqlstate: 42822

SQL0216N The number of elements on each side of a predicate operator does not match. Predicate operator is *predicate-operator*.

Explanation: A predicate includes a list of elements on the right or left side (or both sides) of the predicate operator. The number of elements must be the same on both sides. These elements may appear in a list of expressions enclosed in parentheses or as elements of a select list in a fullselect.

The statement cannot be processed.

User response: Correct the predicate with mismatched number of elements on each side of the predicate operator.

sqlcode: -216

sqlstate: 428C4

SQL0217W The statement was not executed as only Explain information requests are being processed.

Explanation: The current value of one of the Explain special registers has been set to EXPLAIN. This value allows dynamic SQL statements to be prepared and explained but prevents any dynamic statement from being executed.

User response: Change the value of the appropriate Explain special register to a setting other than EXPLAIN by issuing the appropriate SET statement from the interface or application that is encountering this condition.

sqlcode: +217

sqlstate: 01604

SQL0219N The required Explain table *name* does not exist.

Explanation: The Explain facility has been invoked but was unable to find the required Explain table *name*. The Explain tables must be created prior to invoking Explain.

User response: Create the required Explain tables. The SQL Data Definition Language statements needed to create the Explain tables are available in the file called EXPLAIN.DDL in the misc directory under sqllib.

sqlcode: -219

sqlstate: 42704

SQL0220N The Explain table *name*, column *name2* does not have the proper definition or is missing.

Explanation: The Explain facility has been invoked but the Explain table *name* did not have the expected definition. The definition could be incorrect due to:

- Incorrect number of columns defined (if *name2* is numeric)
- Incorrect data type assigned to columns (if *name2* is a column name).
- Incorrect CCSID for the table.

User response: Correct the definitions of the specified Explain table. The SQL Data Definition Language statements needed to create the Explain tables are available in the file called EXPLAIN.DDL in the misc directory under sqllib.

sqlcode: -220

sqlstate: 55002

SQL0222N Operation was attempted against a hole using cursor *cursor-name*.

Explanation: If the SQLSTATE is 24510, then an error occurred. A positioned update or delete was attempted with cursor *cursor-name*, which is defined as SENSITIVE STATIC, and the current row has been identified as either a delete hole or update hole. A hole occurred when DB2 tried to update or delete a row in the database corresponding to the current row of the result table for cursor *cursor-name* and the corresponding row of the underlying table no longer exists.

If the SQLSTATE is 02502, then this is a warning. A delete hole or update hole has been detected while processing a fetch for cursor *cursor-name*. A hole occurred when DB2 tried to refetch a row from the database corresponding to the current row of the result table for cursor *cursor-name* and the corresponding row of the underlying table no longer exists. No data is returned.

A delete hole occurs when the corresponding row of the underlying table has been deleted.

An update hole occurs when the corresponding row of the underlying table has been updated in the underlying table such that the updated row no longer satisfies the search condition specified in the SELECT statement of the cursor.

The statement cannot be processed. The cursor remains positioned on the hole.

User response: Issue a FETCH statement to position the cursor on a row that is not a hole.

sqlcode: -222

sqlstate: 02502, 24510

SQL0224N The result table does not agree with the base table using cursor *cursor-name*.

Explanation: A positioned UPDATE or DELETE was attempted using cursor *cursor-name*, defined as SENSITIVE STATIC, on a row where the column values in the result table do not match the current values in the base table row. The rows do not match because the row of the base table was updated between the time it was fetched into the result table and the time the positioned UPDATE or DELETE was processed.

The statement cannot be processed. The cursor position is unchanged.

User response: Change isolation levels so that the base table row cannot be updated again during the cursor operation, or change the application to do a FETCH INSENSITIVE and try the positioned UPDATE or DELETE again.

sqlcode: -224

sqlstate: 24512

SQL0225N FETCH statement for cursor *cursor-name* is not valid because the cursor is not defined as SCROLL.

Explanation: A FETCH statement for non-scrollable cursor *cursor-name* been specified with one of the following scrollable cursor keywords: PRIOR, FIRST, LAST, BEFORE, AFTER, CURRENT, ABSOLUTE or RELATIVE. Only NEXT can be specified for non-scrollable cursors. No data is fetched.

The statement cannot be processed. The cursor position is unchanged.

User response: Change the FETCH statement to remove the current fetch orientation keyword, such as PRIOR or FIRST, and replace it with NEXT. Alternatively, change the definition of the cursor to be scrollable.

sqlcode: -225

sqlstate: 42872

SQL0227N FETCH NEXT, PRIOR, CURRENT or RELATIVE is not allowed because cursor *cursor-name* has an unknown position (*sqlcode*, *sqlstate*).

Explanation: The cursor position for *cursor-name* is unknown. A previous multiple row FETCH for cursor *cursor-name* resulted in an error (SQLCODE *sqlcode*, SQLSTATE *sqlstate*) in the middle of processing multiple retrieved rows. One or more of the requested rows could not be returned to the program following the error, leaving the position of the cursor unknown.

If an indicator structure had been provided on the previous multiple row FETCH, a positive SQLCODE would have been returned and all of the retrieved rows could have been returned to the application program.

The statement cannot be processed. The cursor position is unchanged.

User response: Close and reopen the cursor to reset the position. For scrollable cursors, you can change the FETCH statement to specify one of the other fetch orientations, such as FIRST, LAST, BEFORE, AFTER or ABSOLUTE, to establish a valid cursor position and fetch a row of data.

sqlcode: -227

sqlstate: 24513

SQL0228N FOR UPDATE clause specified for read-only cursor *cursor-name*.

Explanation: Cursor *cursor-name* is defined as INSENSITIVE SCROLL, but the corresponding SELECT statement contains a FOR UPDATE clause.

The statement cannot be processed.

User response: To define a read-only cursor, specify INSENSITIVE on DECLARE CURSOR, but do not specify the FOR UPDATE clause as part of the SELECT statement of the cursor.

sqlcode: -228

sqlstate: 42620

SQL0231W Current position of cursor *cursor-name* is not valid for FETCH of the current row.

Explanation: A FETCH CURRENT or FETCH RELATIVE 0 statement was issued for scrollable cursor *cursor-name*. The operation is not valid, because the cursor is not positioned on a row of the result table. A FETCH of the current row is not allowed following a FETCH BEFORE or FETCH AFTER statement, or following a FETCH statement that resulted in SQLCODE +100.

The statement cannot be processed. The cursor position is unchanged.

User response: Ensure that the cursor is positioned on a row of the result table before attempting to fetch the current row.

sqlcode: +231

sqlstate: 02000

SQL0236W SQLDA has only provided *integer1* SQLVAR entries. *integer2* SQLVAR entries are required for *integer3* columns. No SQLVAR entries have been set.

Explanation: The value of the SQLN field of the

SQLDA should be at least as large as the number of columns in the result set.

The database manager has not set any SQLVAR entries (and the SQLDOUBLED flag has been set to "off" (i.e. to the space character)).

User response: Increase the value of the SQLN field in the SQLDA to the value indicated in the message (making sure the SQLDA is large enough to support that amount) and resubmit the statement.

sqlcode: +236

sqlstate: 01005

SQL0237W SQLDA has only provided *integer1* SQLVAR entries. Since at least one of the columns being described is a distinct type, *integer2* SQLVAR entries should have been specified. None of the Secondary SQLVAR entries have been set.

Explanation: Since at least one of the columns in the result set is a distinct type, space should be provided for twice as many SQLVAR entries as the number of columns in the result set. The database manager has only set the Base SQLVAR entries (and the SQLDOUBLED flag has been set off (i.e. to the space character)).

User response: If there is no need for the additional information about the distinct type(s) in the result set, then no action is required. If the distinct type information is needed, the value of the SQLN field in the SQLDA should be increased to the value indicated in the message (after making sure that the SQLDA is large enough to support that amount) and the statement should be resubmitted.

sqlcode: +237

sqlstate: 01594

SQL0238W SQLDA has only provided *integer1* SQLVAR entries. Since at least one of the columns being described is a LOB or structured type, *integer2* SQLVAR entries are required for *integer3* columns. No SQLVAR entries have been set.

Explanation: Since at least one of the columns in the result set is a LOB or structured type, space must be provided for twice as many SQLVAR entries as the number of columns in the result set. Note also that one or more of the columns in the result set may be a distinct type.

The database manager has not set any SQLVAR entries (and the SQLDOUBLED flag has been set off (i.e. to the space character)).

User response: Increase the value of the SQLN field in the SQLDA to the value indicated in the message (after

making sure that the SQLDA is large enough to support that amount) and resubmit the statement.

sqlcode: +238

sqlstate: 01005

SQL0239W SQLDA has only provided *integer1* SQLVAR entries. Since at least one of the columns being described is a distinct type or reference type, *integer2* SQLVAR entries are required for *integer3* columns. No SQLVAR entries have been set.

Explanation: If any of the columns in the result set is a distinct type or reference type, then space should be provided for twice as many SQLVAR entries as the number of columns in the result set.

The database manager has not set any SQLVAR entries (and the SQLDOUBLED flag has been set off (i.e. to the space character)).

User response: If the distinct type or reference type information is needed, the value of the SQLN field in the SQLDA should be increased to the value indicated in the message (after making sure the SQLDA is large enough to support that amount) and the statement should be resubmitted. If there is no need for the additional information about the distinct type(s) or reference type(s) in the result set, then it is possible to resubmit the statement only providing enough SQLVAR entries to accommodate the number of columns in the result set.

sqlcode: +239

sqlstate: 01005

SQL0242N The object named *object-name* of type *object-type* was specified more than once in the list of objects.

Explanation: In a list of object names of type *object-type*, the object named *object-name* was specified more than once. The operation of the statement cannot be performed on the object more than once.

User response: Correct the duplicated object in the list removing duplicate occurrences.

sqlcode: -242

sqlstate: 42713

SQL0243N SENSITIVE cursor *cursor-name* cannot be defined for the specified SELECT statement.

Explanation: Cursor *cursor-name* is defined as SENSITIVE, but the content of the SELECT statement requires DB2 to build a temporary result table of the cursor, and DB2 cannot guarantee that changes made outside this cursor will be visible. This situation occurs

when the content of the query makes the result table read-only. For example, if the query includes a join, the result table is read-only. In these cases, the cursor must be defined as INSENSITIVE or ASENSITIVE.

The statement cannot be processed.

User response: Either change the content of the query to yield a result table that is not read-only, or change the type of the cursor to INSENSITIVE or ASENSITIVE.

sqlcode: -243

sqlstate: 36001

SQL0244N SENSITIVITY *sensitivity* specified on FETCH is not valid for cursor *cursor-name*.

Explanation: The sensitivity option *sensitivity* specified on FETCH conflicts with the sensitivity option in effect for cursor *cursor-name*. The following list shows what can be specified on FETCH:

**DECLARE CURSOR
FETCH Statement**

INSENSITIVE	INSENSITIVE
SENSITIVE STATIC	SENSITIVE or INSENSITIVE
SENSITIVE DYNAMIC	SENSITIVE
SENSITIVE	SENSITIVE
ASENSITIVE	INSENSITIVE or SENSITIVE (depending on the effective sensitivity of the cursor)

In the case of a non-scrollable cursor, a sensitivity option cannot be specified.

The statement cannot be processed.

User response: Change or remove the sensitivity option specified on FETCH.

sqlcode: -244

sqlstate: 428F4

SQL0257N Raw DEVICE containers are not supported.

Explanation: An attempt was made to use DEVICE containers but one of the following conditions is true:

- Raw DEVICES are not currently supported on this platform.
- Raw DEVICE containers cannot be specified via the SET TABLESPACE CONTAINERS command for auto-resize table spaces.

User response: If creating a table space then use FILE containers or system-managed table spaces instead. If specifying a SET TABLESPACE CONTAINERS command then use FILE containers instead.

sqlcode: -257

sqlstate: 42994

SQL0258N Container operations cannot be performed while a rebalance of the table space is pending or in progress.

Explanation: One of the following conditions is true:

1. An ALTER TABLESPACE statement involving container operations has previously been issued by this application or another and has yet to be committed.
2. An ALTER TABLESPACE statement involving container operations has been issued and committed and the table space is currently being rebalanced.

User response:

1. If possible, roll back the uncommitted unit of work and issue a single ALTER TABLESPACE statement to perform all of the container operations. Otherwise, wait until the rebalance has completed and then try the operation again. Note that pages cannot both be added to and removed from a table space in the same ALTER TABLESPACE statement.
2. Wait until the rebalance has completed and then try the operation again.

sqlcode: -258

sqlstate: 55041

SQL0259N Container map for table space is too complicated.

Explanation: The map structure keeps a record of how the table space address space is mapped to the various containers. If this gets too complicated, it does not fit in the table space file.

User response: The table space may need to be rebalanced to more evenly distribute the data among the containers. This may simplify the mapping.

If this does not work, try making as many containers as possible the same size. Existing container sizes can be changed by backing up the table space and then using the database administration utility to change the containers. Restore the table space to the new containers.

sqlcode: -259

sqlstate: 54037

SQL0260N Column *column-name* cannot belong to either the distribution key or the table partitioning key because it is either a LONG column, DATALINK column, XML column, or structured type column.

Explanation: Neither the distribution key nor the table

partitioning key can have a LONG-type column, DATALINK column, XML column, or structured type column.

The statement cannot be processed.

User response: Do not use LONG columns, DATALINK columns, XML columns, or structured type columns for either the distribution key or the table partitioning key.

If the table is distributed and only has LONG columns, DATALINK columns, XML columns, or structured type columns, either add a column that can be used for the distribution key to the table, or define the table without a distribution key in a single-partition database partition group. If the table is partitioned and only has LONG columns, DATALINK columns or structured type columns, either add a column that can be used for the partitioning key of the table, or define a non-partitioned table.

sqlcode: -260

sqlstate: 42962

SQL0262N Table *table-name* cannot be created in the database partition group *group-name* because no column exists that can be used as the partitioning key.

Explanation: The table *table-name* cannot be created in a database partition group. The table must have at least one column that can be used as the partitioning key. Columns of the following data types cannot be used in a partitioning key:

- LONG VARCHAR, LONG VARGRAPHIC, BLOB, CLOB, DBCLOB
- DATALINK
- Structured type
- A user-defined data type based on any of the above data types

The statement cannot be processed.

User response: Either create the table with one or more columns that can be used in a partitioning key, or create the table in a single database partition group.

sqlcode: -262

sqlstate: 428A2

SQL0263N Node range from *node-number-1* to *node-number-2* is not valid. Second node number must be greater than or equal to first node number.

Explanation: The specified node range is not valid.

The statement cannot be processed.

User response: Correct the node range in the statement, then try the request again.

sqlcode: -263

sqlstate: 428A9

SQL0264N Partitioning key cannot be added or dropped because table resides in a table space defined on the multi-node nodegroup *name*.

Explanation: You can only add or drop a partitioning key on a table in a single database partition group.

The statement cannot be processed.

User response: Do one of the following and try the request again:

- Define an identical table with a partitioning key.
- Redistribute the database partition group to a single database partition group.

sqlcode: -264

sqlstate: 55037

SQL0265N Node *node-number* is a duplicate node.

Explanation: For the CREATE NODEGROUP statement, a node can only appear once in the ON NODES clause.

For the CREATE TABLESPACE and ALTER TABLESPACE statement, a node can appear only once and in only one ON NODES clause.

For the ALTER NODEGROUP statement or REDISTRIBUTE NODEGROUP command, one of the following occurred:

- The node appeared more than once in the ADD NODES or the DROP NODES clause.
- The node appeared in both the ADD NODES and the DROP NODES clause.
- The node to be added is already a member of the database partition group.

The statement cannot be processed.

User response: Ensure that the database partition names or database partition numbers in the ON NODES, ADD NODES, or DROP NODES clause are unique. For the CREATE TABLESPACE and ALTER TABLESPACE statements, ensure that a node appears in no more than one ON NODES clause.

In addition, for the ALTER NODEGROUP statement or REDISTRIBUTE NODEGROUP command:

- Do not specify a node in both the ADD NODES and the DROP NODES clause.
- Remove the node from the ADD NODES clause if the node is already defined in the database partition group.

sqlcode: -265

sqlstate: 42728

SQL0266N Node *node-number* is not defined.

Explanation: The node *node-number* is not valid for one of the following reasons:

- the node number is not in the valid range of 0 to 999
- the node is not in the node configuration file
- the node is not part of the database partition group, therefore the requested operation cannot be processed.

The statement cannot be processed.

User response: Depending on the condition:

- issue the statement, command or API with node numbers in the valid range.
- follow the procedure to add a node to the system.
- remove the node from the specified nodes in the statement, command or API.

sqlcode: -266

sqlstate: 42729

SQL0268N *operation* cannot be performed while the database partition group is being redistributed.

Explanation: One of the following applies, as indicated by *operation*:

- The database partition group is being redistributed and it cannot be altered, dropped or redistributed again until the current operation is complete.
- The partitioning key of a table cannot be dropped while the database partition group of the table is being redistributed.
- New objects cannot be created because REDISTRIBUTE is dropping all of the old database partitions in this database partition group.
- New columns cannot be added through ALTER TABLE, because REDISTRIBUTE is dropping all of the old database partitions in this database partition group.

The statement cannot be processed.

User response: Wait until the redistribution is complete, then try the request again.

sqlcode: -268

sqlstate: 55038

SQL0269N Database contains maximum number of partitioning maps.

Explanation: Because the database contains the maximum number of partitioning maps (32,768), you cannot create a new database partition group, alter a

database partition group, or redistribute an existing one.

The statement cannot be processed.

User response: Drop one or more database partition group in the database.

Note: Dropping a database partition group drops all database objects such as table spaces, tables and views that reside in the database partition group.

sqlcode: -269

sqlstate: 54033

SQL0270N Function not supported (Reason code = *reason-code*).

Explanation: The statement cannot be processed because it violates a restriction as indicated by the following reason code:

- 1 The primary key, each unique constraint, and each unique index must contain all distribution columns of the table (columns may appear in any order).
- 2 Update of the distribution key column value is not supported.
- 3 A foreign key cannot include any nullable distribution key columns when defined with ON DELETE SET NULL. This is a special case of reason code 2 since defining such a constraint would result in attempting to update a distribution key column.
- 4 A table defined using a multipartition nodegroup or a single-partition nodegroup on other than the catalog partition does not support DATA CAPTURE CHANGES.
- 5 Views created with the WITH CHECK OPTION clause should not use functions (or reference views that use functions) that:
 - are non-deterministic
 - have side effects
 - are related to the placement of data (for example nodenumber or partition functions).

These functions must also not be present within referenced views if the new view is created with the CASCADED check option.

- 6 A transform cannot be defined for a user-defined distinct type.
- 7 Long fields can only be defined using a table space with a page size that is 4K. A LARGE TABLESPACE can only be created using a 4K page size.
- 8 Structured types are not supported as columns

- of a table or structured type attribute data types prior to DB2 Version 7.1.
- 9 Triggers are not supported on typed tables.
- 10 A single default table space cannot be selected since the table has one or more LOB columns which must be placed in a table space with a 4K page size and the row size or number of columns in the table requires a table space with an 8K page size.
- 11 A typed table or typed view cannot be created using a structured type that has no attributes.
- 12 The type of a source key parameter must be a user-defined structured type or a distinct type that is not sourced on LOB, DATALINK, XML, LONG VARCHAR, or LONG VARGRAPHIC.
- 13 Check constraints cannot be defined on a typed table or the WITH CHECK OPTION clause cannot be specified on a typed view.
- 14 Referential constraints cannot be defined on a typed table or to a parent table that is a typed table.
- 15 A default value cannot be defined for reference type columns.
- 16 A reference data type or structured data type cannot be used as a parameter data type or a returns data type of a user defined function prior to DB2 Version 7.1. Otherwise, a scoped reference data type cannot be used as a parameter data type or returns data type of a routine. A structured type cannot be used as a return column of a table or row function.
- 17 The SET INTEGRITY statement cannot be used for a typed table.
- 18 Column level UPDATE and REFERENCES privileges cannot be granted on a typed table or typed view.
- 19 A specific default value must be specified when defining a default for a column of a typed table.
- 20 ALTER TABLE is not supported for a materialized query table.
- 21 A column cannot be dropped or have its length, data type, or nullability altered on a table which is a base table for a materialized query table.
- 22 Materialized query tables cannot be defined in a CREATE SCHEMA statement.
- 23 REPLICATED can only be specified for a materialized query table defined with REFRESH DEFERRED.
- 24 The triggered-action in a BEFORE trigger cannot reference a materialized query table defined with REFRESH IMMEDIATE.
- 25 Only one materialized query table can be specified for a SET INTEGRITY statement.
- 26 The nodegroup being redistributed contains at least one replicated materialized query table.
- 27 Replicated materialized query tables cannot be defined on a table that does not have a unique index existing on one or more columns that make up the replicated materialized query table.
- 28 A typed table or materialized query table cannot be renamed.
- 29 FOR EXCEPTION clause cannot be specified with a materialized query table in the SET INTEGRITY statement.
- 30 Typed tables and typed views cannot be defined in a CREATE SCHEMA statement.
- 31 A distribution key cannot be defined with more than 500 columns.
- 32 A table defined using a multipartition nodegroup or a single-partition nodegroup on other than the catalog partition does not support DATALINK columns defined with FILE LINK CONTROL.
- 33 An underlying table of a materialized query table defined with REFRESH IMMEDIATE cannot be the child of a referential constraint with cascading effect (that is, with option ON DELETE CASCADE or ON DELETE SET NULL).
- 34 The underlying object relational feature is not supported in the current release.
- 35 A sequence or an identity column cannot be created in a multi-node database environment in a version 7 database.
- 36 Database activation of a multi-node database is not allowed if sequences or identity columns exist in a version 7 database.
- 38 An index using an index extension is not supported in a multiple partition nodegroup prior to DB2 Version 8.1 FixPak 6.
- 39 Nicknames or OLE DB table functions cannot be referenced directly or indirectly in the body of an SQL function or SQL method.
- 40 The function IDENTITY_VAL_LOCAL cannot be used in a trigger or SQL function.
- 41 An SQL variable statement assigns to both a local variable and a transition variable. This is not supported.
- 42 The execution of a trigger, method or function using SQL control statements and the

- execution of a dynamic compound statement in a multi-node database is not allowed.
- 43 One or more of the options you have requested is currently not supported.
- 44 The following EXPLAIN MODES are not supported in MPP, SMP, and Data Joiner:
- COUNT CARDINALITIES
 - COMPARE CARDINALITIES
 - ESTIMATE CARDINALITIES
- 45 APPEND mode is not supported for multi-dimensionally clustered (MDC) tables.
- 46 INPLACE table reorganization is not supported for multi-dimensionally clustered (MDC) tables.
- 47 Index extensions are not supported for multi-dimensionally clustered (MDC) tables.
- 48 Changes to the dimension specification of a multi-dimensionally clustered (MDC) table are not supported.
- 49 Clustering Indexes are not supported for multi-dimensionally clustered (MDC) tables.
- 50 A user defined temporary table cannot be a multi-dimensionally clustered (MDC) table.
- 51 CREATE PROCEDURE with LANGUAGE SQL from a non-catalog database partition is not supported.
- 52 The expression of a generated column cannot be modified or added to a column that was not generated using an expression if that column is a distribution key column or was used in the ORGANIZE BY clause, the PARTITION BY clause, or the DISTRIBUTE BY clause.
- 53 A column with a LONG VARCHAR, LONG VARGRAPHIC, DATALINK, LOB, XML type, distinct type on any of these types, or structured type cannot be specified in the select-list of a scrollable cursor.
- 54 INPLACE table reorganization is not supported for the specified System Catalog table.
- 55 Federated database system support and concentrator feature cannot be active at the same time.
- 56 Online index reorganization is not supported for spatial indexes in ALLOW WRITE mode.
- 57 Online index reorganization is supported on multi-dimensionally clustered (MDC) tables in ALLOW WRITE mode only when the CLEANUP ONLY option is specified.
- 58 For a Version 8 database: The XML data type can only be used as a transient data type and cannot be stored in the database nor returned to an application.
- 59 A function or method that contains SQL statements cannot be used in a parallel environment.
- 60 The ALTER TABLE ALTER COLUMN SET INLINE LENGTH statement is not allowed because there is an object of type VIEW, either typed or untyped, that depends on the typed table.
- 61 Text search function cannot be used in the expression for check constraints or generated columns.
- 62 The WITH CHECK OPTION clause cannot be used with views which reference text search functions directly or depend on other views referencing text search functions.
- 63 A column with a LOB type, distinct type on a LOB type, or structured type cannot be specified in the select-list of an insensitive scrollable cursor.
- 64 Federated processing is not supported on this platform.
- 65 Altering the nickname local type from the current type to the specified type is not allowed.
- 66 Built-in transform group SYSSTRUCT is not supported.
- 67 Nickname or view on nicknames cannot be specified as target in the MERGE statement.
- 68 In a partitioned database, the maximum number of distinct NEXT VALUE expressions supported in an SQL statement is 55.
- 69 Delete from view would cause a descendent table to be delete-connected via multiple paths to two or more tables that appear in the view definition. Either a check constraint or trigger defined on the descendent table needs to be fired according to the final result which is not guaranteed.
- 70 The column length cannot be altered on a table which is a base table of a view enabled for query optimization.
- 71 CALL statement cannot be used in a trigger, a SQL function, a SQL method or a dynamic compound statement in a parallel environment.
- 72 A nullable column cannot be changed to become an identity column.
- 73 Backup images in a partitioned database environment are not allowed to include logs.

- 74 Updating a status field in the recovery history file by timestamp is not allowed.
- 75 Automatic statistics profiling is not supported on a multiple database partition system, on a system where SMP is enabled, or on a federated system.
- 83 The statement cannot be processed because DATA CAPTURE CHANGES and COMPRESS YES are not compatible.
- 84 Partitioned databases cannot be enabled for automatic storage.
- 85 Partitions cannot be added to a single-partition database that is enabled for automatic storage.
- 87 The following types of tables cannot be defined as partitioned tables: typed tables, staging tables, user temporary tables, range clustered tables.
- 88 The REORG INDEXES or REORG TABLE command is not supported on a partitioned table in ALLOW WRITE or ALLOW READ modes (except when CLEANUP ONLY is specified for REORG INDEXES).
- 89 REORG INDEX is not supported on a non-partitioned table.
- 90 PARTITIONED cannot be specified on CREATE INDEX since partitioned indexes are not supported.
- 91 The statement cannot be processed because DATA CAPTURE CHANGES is not supported for a table that has a compression dictionary.
- 92 Detaching from a table that is the parent of an enforced referential integrity constraint is not allowed.
- 93 Detaching a partition is not allowed for partitions that contain data that was appended using LOAD INSERT, and that have dependent materialized query tables or dependent staging tables that have not been incrementally refreshed with respect to the appended data.
- 95 A table, with an attached partition whose integrity has not been verified yet, cannot be altered to a materialized query table.
- 97 Alter of this data type is not supported for an element of the multi-node distribution key, data distribution key, or MDC organizing dimension.
- 98 Altering the type of an identity column is not supported.
- 99 An alter table set data type changed the external UDF used by a check constraint.
- 100 Drop column, and alter nullability is not allowed on any table with data capture on.
- 101 LOAD is not supported on a table with type 1 indexes in a large tablespace.
- 102 A security policy cannot be added to a typed table.
- 103 Online index reorganization in ALLOW WRITE mode is not supported for tables with XML columns.
- 104 Inplace table REORG is not allowed if an index on an XML column is defined on the table.
- 105 REORG INDEX is only supported for block indexes in CLEANUP ONLY mode.
- 106 Attaching a partition to a materialized query table is not supported.
- 107 Duplicate Cursor cannot be opened. More than 65533 instances of this cursor have been opened since the first instance was opened at this nesting level.
- User response:** The action corresponding to the reason code is:
- 1 Correct the CREATE TABLE, ALTER TABLE or CREATE UNIQUE INDEX statement.
- 2 Do not attempt to update the distribution key columns for a multipartition table or consider deleting and then inserting the row with the new values in the distribution columns.
- 3 Make the distribution key column not nullable, specify a different ON DELETE action, or change the distribution key of the table so that the foreign does not include any columns of the distribution key.
- 4 Either specify DATA CAPTURE NONE or ensure that the table is placed in a table space on a single-partition nodegroup that specifies the catalog partition.
- 5 Do not use the WITH CHECK OPTION clause or remove the function or view from the view definition.
- 6 Transforms are automatic for user-defined distinct types. Use the CREATE TRANSFORM statement for user-defined structured types only.
- 7 Use a table space with 4K page size for any table that includes long fields. If using DMS table spaces, long fields can be placed in a table space with 4K page size with other table or index data in table spaces with a different page size. When defining a LARGE TABLESPACE, use PAGESIZE 4K.
- 8 For servers prior to DB2 Version 7.1, ensure

- that no column data types are structured types in the CREATE TABLE statement or ALTER TYPE ADD COLUMN statement. Ensure that no attribute data types are structured types in the CREATE TYPE statement or ALTER TYPE ADD ATTRIBUTE statement.
- 9 Do not define triggers on typed tables.
 - 10 Either reduce the row size or number of columns in the table or specify 2 table spaces such that the long data is in a table space with a 4K page size and the base data is in a table space with an 8K page size.
 - 11 When creating a typed table or typed view, specify a structured type that has at least one attribute defined.
 - 12 For the type of a source key parameter, use only a user-defined structured type or a distinct type that is not sourced on LOB, DATALINK, XML, LONG VARCHAR, or LONG VARGRAPHIC.
 - 13 In a CREATE TABLE or ALTER TABLE statement for a typed table, do not specify check constraints. In a CREATE VIEW statement of a typed view, do not specify the WITH CHECK OPTION clause.
 - 14 Do not specify referential constraints involving typed tables in a CREATE TABLE or ALTER TABLE statement.
 - 15 Do not specify a DEFAULT clause for a column with a reference data type in a CREATE TABLE or ALTER TABLE statement.
 - 16 For servers prior to DB2 Version 7.1, do not specify a structured type parameter or returns type when creating a user defined function. Otherwise, do not specify a scoped reference type as a parameter or returns type. Do not specify a structured type as a return column of a table or row function.
 - 17 Do not specify a typed table in the SET INTEGRITY statement.
 - 18 Do not include specific column names when granting REFERENCES or UPDATE privileges on a typed table or typed view.
 - 19 Include a specific value when specifying the DEFAULT clause on a column of a typed table.
 - 20 Drop the materialized query table and recreate it with the desired attributes.
 - 21 To drop or alter a column in a table that is a base table for a materialized query table, perform the following steps:
 1. Drop the dependent materialized query table or tables.
 2. Drop the column of the base table, or alter the length, data type, or nullability of this column.
 3. Re-create the materialized query table or tables.
 - 22 Issue the CREATE SUMMARY TABLE statement outside of the CREATE SCHEMA statement.
 - 23 Either remove the REPLICATED specification or ensure that REFRESH DEFERRED is specified for the materialized query table definition.
 - 24 Remove the reference to the materialized query table in the triggered-action in the BEFORE trigger.
 - 25 Issue separate SET INTEGRITY IMMEDIATE CHECKED statements for each materialized query table.
 - 26 Drop all replicated materialized query tables in the nodegroup and then issue the REDISTRIBUTE NODEGROUP command again. Recreate the replicated materialized query table(s).
 - 27 Ensure that a subset of the columns defined for the materialized query table also are the set of columns that make up a unique index on the base table.
 - 28 A typed table or materialized query table name can only be changed by dropping the table and creating it again with the new name. Dropping the table may have implications on other objects that depend on the table and the privileges on the table are lost.
 - 29 Remove the FOR EXCEPTION clause from the SET INTEGRITY statement.
 - 30 Issue the CREATE statement for the typed view or typed table outside of the CREATE SCHEMA statement.
 - 31 Reduce the number of columns in the distribution key.
 - 32 Either specify NO LINK CONTROL for the DATALINK column or ensure that the table is placed in a table space on a single-partition nodegroup that specifies the catalog partition. If redistributing to a multiple-partition nodegroup, the table needs to be dropped to continue with the redistribute.
 - Do not define a referential constraint with cascading effect (that is, with option ON DELETE CASCADE or ON DELETE SET NULL) with an underlying table of a materialized query table defined with REFRESH IMMEDIATE as the child, or
 - 33

- do not define a REFRESH IMMEDIATE materialized query table whose underlying table is the child of a referential constraint with cascading effect (that is, with option ON DELETE CASCADE or ON DELETE SET NULL).
- 34 The error can be corrected by removing the use of any unsupported object relational features.
- 35 Do not create or remove the “GENERATED [ALWAYS | BY DEFAULT] AS IDENTITY ...” attribute.
- 36 Drop the new node(s) to go back to a single node configuration. If more nodes are required, then the sequences or tables with identity columns need to be dropped before new nodes are added.
- 38 An index using an index extension cannot be created on a table in a multiple partition nodegroup. A nodegroup cannot become a multiple partition nodegroup while an index using an index extension exists on a table in the nodegroup. Either drop any such indexes and add the partition to the nodegroup, in which case the indexes cannot be re-created, or leave the nodegroup unchanged.
- 39 Remove the reference to a nickname or OLE DB table function or remove the reference to the object that indirectly references one of these.
- 40 Remove the invocation of the IDENTITY_VAL_LOCAL function from the trigger definition or the SQL function definition.
- 41 Split the assignment into two separate statements. One statement must only assign values to SQL variables, while the other statement must assign values only to transition variables.
- 42 Drop the new node or nodes to return to a single node configuration. If more nodes are required, then the triggers, functions or methods containing control statements must be dropped.
- 43 Please reissue the runstats command and set the unsupported option off.
- 44 These EXPLAIN modes cannot be used in SMP, MPP, and Data Joiner. If possible, try to run the query in serial mode. Otherwise, setting the EXPLAIN mode to YES or EXPLAIN will provide the same information except for the actual cardinalities.
- 45 Do not specify the APPEND clause in an ALTER TABLE statement for multi-dimensionally clustered (MDC) tables.
- 46 Reissue the REORG command without specifying the INPLACE option.
- 47 Do not specify the EXTENSION clause in a CREATE INDEX statement for multi-dimensionally clustered (MDC) tables.
- 48 Drop the multi-dimensionally clustered (MDC) table and recreate it with the modified dimension specification.
- 49 Do not specify the CLUSTER clause in a CREATE INDEX statement for multi-dimensionally clustered (MDC) tables.
- 50 Do not specify the ORGANIZE BY clause in a CREATE TABLE statement for declared global temporary tables.
- 51 Issue the CREATE PROCEDURE with LANGUAGE SQL from the catalog database partition.
- 52 Do not modify or add the expression to existing column . To change the composition of the PARTITIONING KEY, ORGANIZE BY clause, the PARTITION BY clause, the DISTRIBUTE BY clause or the generating expression of any of its members that are generated columns, the table must be dropped and created again, then repopulated.
- 53 Modify the select-list of the scrollable cursor to not include a column with these types.
- 54 Reissue the REORG command without specifying the INPLACE option.
- 55 Turn off concentrator or federated database system support. Turn off concentrator by setting the database manager parameter MAX_CONNECTIONS to be less than or equal to MAX_COORDAGENTS. Turn off federated database system support by setting the FEDERATED parameter in the database manager configuration to NO.
- 56 Reissue the REORG INDEXES command and specify ALLOW NONE or ALLOW READ.
- 57 Reissue the REORG INDEXES command and specify ALLOW NONE or ALLOW READ.
- 58 For a Version 8 database: Input the XML data to one of the functions that accept XML input (ultimately XMLSERIALIZE) and store the output of the function in the database or return it to the application.
- 59 In a parallel environment, only use functions and methods defined with the NO SQL option.
- 60 Drop the views that depend on the typed table. Reissue the ALTER TABLE ALTER COLUMN SET INLINE LENGTH statement on the typed table and recreate the views that were dropped.

- 61 Do not use the text search function in the expression for check constraints or generated columns. Use the LIKE function instead of CONTAINS, if possible.
- 62 Do not specify the WITH CHECK OPTION clause on this view.
- 63 Modify the select-list of the scrollable cursor to not include a column with these types.
- 64 Do not attempt federated processing on this platform.
- 65 Do not attempt to alter the nickname local type from the current type to the specified type.
- 66 Do not specify SYSSTRUCT as a transform group.
- 67 Do not specify nickname or view on nicknames as target in the MERGE statement.
- 68 Reduce the number of distinct NEXT VALUE expressions in the statement, or change to a non-partitioned database.
- 69 Do not delete from view.
- 70 Disable the views enabled for query optimization, alter the column length of the base table and then enable the views for query optimization.
- 71 In a parallel environment, do not use CALL statement in a trigger, a SQL function, a SQL method or a dynamic compound statement.
- 72 The column cannot become an identity column while it is nullable. To make this change, the table must be dropped and created again with a not null column, then re-populated. Adding a new column as the identity column could also be considered.
- 73 Issue the BACKUP command without specifying the INCLUDE LOGS option.
- 74 Update the status field in the recovery history file by EID only.
- 75 Disable automatic statistics profiling for this database by setting the database configuration parameters AUTO_STATS_PROF and AUTO_PROF_UPD to OFF.
- Or change the system to one that is on a single database partition, where SMP is not enabled, and that is not federated.
- 83 If both DATA CAPTURE CHANGES and COMPRESS YES are being specified, you must only specify one of them. If one of DATA CAPTURE CHANGES or COMPRESS YES is being specified, you must not specify it as the other is already in effect on the table.
- 84 Alter the CREATE DATABASE command such that automatic storage is not being enabled.
- 85 Do not attempt to add partitions to a single-partition database this is enabled for automatic storage.
- 87 Create the table as a non-partitioned table.
- 88 Either reissue the REORG INDEXES or REORG TABLE command using the default or ALLOW NO ACCESS mode, or if REORG INDEXES was specified, consider using the REORG INDEX command for online reorganization of individual indexes on a partitioned table.
- 89 All indexes for a non-partitioned table can be reorganized using the REORG INDEXES ALL command.
- 90 Create a non-partitioned index by using the default or by explicitly specifying NOT PARTITIONED on CREATE INDEX.
- 91 Do not specify DATA CAPTURE CHANGES for this table.
- 92 Drop the referential constraint with the statement:

```
ALTER TABLE 'child-table'
    DROP CONSTRAINT ...
```

Alternatively, alter the child table in the foreign key relationship so the foreign key constraint is not enforced:

```
ALTER TABLE 'child-table'
    ALTER FOREIGN KEY ... NOT ENFORCED
```

Note: The failing detach statement was executed from the parent table in the foreign key constraint, while the constraint enforcement is executed on the child table. These two tables are distinct unless the foreign key constraint is self referential. Next, resubmit the ALTER TABLE ... DETACH PARTITION statement. You can now alter the child table to enforce the foreign key constraint:

```
ALTER TABLE 'child-table'
    ALTER FOREIGN KEY ... ENFORCED
```

This will recheck the tables to assure that the foreign key relationship still holds.

93 Issue the SET INTEGRITY statement with the IMMEDIATE CHECKED option to maintain the dependent materialized query tables or dependent staging tables with respect to the data that was appended using LOAD INSERT.

95 Issue the SET INTEGRITY statement with the IMMEDIATE CHECKED option on the table to verify the integrity of the attached partition.

- 97 The column data type cannot be altered.
- 98 Drop the identity attribute, alter the type, then re-enable the identity attribute.
- 99 Drop the check constraint, and then re-issue the alter.
- 100 To alter nullability, or drop the column you must disable data capture.
- 101 Use the REORG INDEXES command with the CONVERT option to convert existing indexes on the table to type 2 indexes before issuing the LOAD.
- 102 Do not add a security policy to a typed table.
- 103 Reissue the REORG INDEXES command and specify ALLOW READ ACCESS or ALLOW NO ACCESS.
- 104 Remove the INPLACE option and reissue the REORG TABLE command.
- 105 Reissue the REORG INDEX command specifying CLEANUP ONLY or issue REORG INDEXES ALL to reorganize all indexes (including the block indexes) for the table.
- 106 Issue the ALTER TABLE statement to drop the materialized query attribute from the table before attempting to attach a partition to the table.
- 107 Close all instances of this cursor at this nesting level.

sqlcode: -270

sqlstate: 42997

SQL0271N Index file for table with fid *fid* is either missing, or is not valid.

Explanation: The index file for the table with fid *fid* is required during processing. The file is either missing, or it is not valid.

The statement cannot be processed, and the application is still connected to the database. This condition does not affect other statements that do not use the index on this table.

User response: Ensure that all users are disconnected from the database, then issue the RESTART DATABASE command on all nodes. Then try the request again.

The index (or indexes) is re-created when the database is restarted.

sqlcode: -271

sqlstate: 58004

SQL0276N Connection to database *name* cannot be made because it is in the restore pending state.

Explanation: The database must be restored before a connection can be done.

No connection was made.

User response: Restore the database, then issue the CONNECT statement again.

sqlcode: -276

sqlstate: 08004

SQL0279N The database connection has been terminated during COMMIT or ROLLBACK processing. The transaction could be in doubt. Reason code = *reason-code*.

Explanation: Commit processing encountered an error. The transaction has been put in the commit state, but the commit processing may not have completed. The application's database connection has been terminated.

The cause of the error is indicated by the *reason-code*:

- 1 A node or data source involved in the transaction has failed.
- 2 Commit was rejected on one for the nodes. Check the administration notification log for details.

User response: Determine the cause of the error. It may be necessary to contact the system administrator for assistance since the most common cause of the error is node failure or connection failure. The RESTART DATABASE command will complete the commit processing for this transaction.

sqlcode: -279

sqlstate: 08007

SQL0280W View, trigger or materialized query table *name* has replaced an existing inoperative view, trigger or materialized query table.

Explanation: An existing inoperative view, trigger or materialized query table *name* was replaced by:

- the new view definition as a result of a CREATE VIEW statement
- the new trigger definition as a result of a CREATE TRIGGER statement
- the new materialized query table definition as a result of a CREATE SUMMARY TABLE statement.

User response: None required.

sqlcode: +280

sqlstate: 01595

SQL0281N Table space *tablespace-name* cannot be altered with additional containers because it is a system managed table space.

Explanation: Additional containers cannot be added to a system managed table space. The exception to this is when a database partition group was modified to add a node without table spaces, then containers can be added once on the new node using the ALTER TABLESPACE command. In general, the table space must be managed by the database in order to add additional containers.

The statement cannot be processed.

User response: To add more containers to a system managed table space, drop and recreate the table space with more containers, ensuring that each container is of the same size and less than the container size limit, or change to a DMS table space.

sqlcode: -281

sqlstate: 42921

SQL0282N Table space *tablespace-name* cannot be dropped because at least one of the tables in it, *table-name*, has one or more of its parts in another table space.

Explanation: A table in the specified table space does not contain all of its parts in that table space. If more than one table spaces are specified, then a table in one of the specified table spaces does not contain all of its parts in the list. The base table, indexes, or long data may be in another table space, so dropping the table space(s) will not completely drop the table. This would leave the table in an inconsistent state and therefore the table space(s) cannot be dropped.

User response: Ensure that all objects contained in table space *tablespace-name* contain all their parts in this table space before attempting to drop it, or include those table spaces containing the parts in the list to be dropped.

This may require dropping the table *table-name* before dropping the table space.

sqlcode: -282

sqlstate: 55024

SQL0283N System temporary table space *tablespace-name* cannot be dropped because it is the only system temporary table space with a *page-size* page size in the database.

Explanation: A database must contain at least one system temporary table space with the same page size as the page size of the catalog tablespace. Dropping table space *tablespace-name* would remove the last

system temporary tablespace with a *page-size* page size from the database.

User response: Ensure there will be another system temporary table space with a *page-size* page size in the database before attempting to drop this table space.

sqlcode: -283

sqlstate: 55026

SQL0284N The table was not created because the table space *tablespace-name* following the clause *clause* is a *tablespace-type* table space.

Explanation: The CREATE TABLE or DECLARE GLOBAL TEMPORARY TABLE statement specified a table space named *tablespace-name* following the clause *clause* that is not a valid type of table space for this clause.

This can occur in the following situations:

- For regular tables, *tablespace-name* was specified on the IN clause and the table space is not a REGULAR or LARGE table space.
- For declared temporary tables, *tablespace-name* was specified on the IN clause and the table space is not a USER TEMPORARY table space.
- *tablespace-name* was specified on the LONG IN clause and the table space is not a LARGE, managed by database table space.
- *tablespace-name* was specified on the INDEX IN clause and the table space is not a REGULAR or LARGE, managed by database, table space.

User response: Correct the CREATE TABLE statement to specify a table space with the correct type for the *clause* clause.

sqlcode: -284

sqlstate: 42838

SQL0285N The indexes and/or long columns for table *table-name* cannot be assigned to separate table spaces because the primary table space *tablespace-name* is a system managed table space.

Explanation: If the primary table space is a system managed table space, all table parts must be contained in that table space. A table can have parts in separate table spaces only if the primary table space, index table space and long table space are database managed table spaces.

User response: Either specify a database managed table space for the primary table space, or do not assign the table parts to another table space.

sqlcode: -285

sqlstate: 42839

SQL0286N A default table space could not be found with a pagesize of at least *pagesize* that authorization ID *user-name* is authorized to use.

Explanation: The CREATE TABLE or DECLARE GLOBAL TEMPORARY TABLE statement did not specify a table space, and a table space of the right type (USER TEMPORARY for declared temporary table) with sufficient page size (at least *pagesize*), over which authorization ID *user-name* has USE privilege, could not be found.

Sufficient page size for a table is determined by either the byte count of the row or the number of columns.

User response: Ensure the existence of a table space of the correct type (REGULAR or USER TEMPORARY) with a page size of at least *pagesize* and that authorization ID *user-name* has USE privilege on this table space.

sqlcode: -286

sqlstate: 42727

SQL0287N SYSCATSPACE cannot be used for user objects.

Explanation: The CREATE TABLE or GRANT USE OF TABLESPACE statement specified a table space named SYSCATSPACE which is reserved for catalog tables.

User response: Specify a different table space name.

sqlcode: -287

sqlstate: 42838

SQL0288N A large table space cannot be defined using MANAGED BY SYSTEM.

Explanation: The table space being defined is for use with large objects and long strings. These can only be stored in table spaces that are defined in database managed space. Thus a large table space cannot be defined to use system managed space.

User response: Remove the keyword LARGE or change to MANAGED BY DATABASE in the CREATE TABLESPACE statement.

sqlcode: -288

sqlstate: 42613

SQL0289N Unable to allocate new pages in table space *tablespace-name*.

Explanation: One of the following conditions is true on one or more database partitions:

- 1 One of the containers assigned to this SMS table space has reached the maximum file size. This is the likely cause of the error.

- 2 All the containers assigned to this DMS table space are full. This is the likely cause of the error.
- 3 A rebalance is in progress, but has not progressed far enough to enable the newly added space to be used.
- 4 A redirected restore is being done to containers that are too small.
- 5 A rollforward is being done following a redirected restore and all the containers assigned to this tablespace are full.
- 6 A rollforward skipping add containers is being done and all the containers assigned to this tablespace are full.
- 7 An attempt was made to create a table space with less than 5 usable extents.
- 8 An auto-resize table space has reached its maximum size and all of the containers are full. Alternately, there is not enough space between the current size and the maximum size for containers to be extended or added so an automatic increase in space is not possible.
- 9 An automatic storage table space is being created with a value for initial size that does not result in an equal distribution of container space. As a result, a higher value is being used but this value is larger than the maximum size specified.
- 10 A DMS table space enabled for auto-resize has not reached its maximum size but one of the file systems on which the containers exists is full and the container cannot grow.
- 11 A DMS table space enabled for auto-resize has not reached its maximum size and the file systems on which the table space resides are not full. However, a container operation (or a subsequent rebalance) is in progress and the auto-resize capability is suspended until it is complete.

User response: Perform the action corresponding to the cause of the error:

- 1 Either switch to a DMS TABLESPACE or recreate the SMS TABLESPACE with more directories (PATHs) such that: (number of directories) >= (max tablesize / maxfilesize). Note that maximum file size is operating system dependent.
- 2 Add new container(s) to the DMS table space and try the operation again, after the rebalancer has made the new pages available for use.
- 3 Wait for the rebalancer to finish.

- 4 Perform the redirected restore again to larger containers.
- 5 Perform the redirected restore again to larger containers.
- 6 Perform the rollforward again allowing add containers, or perform a redirected restore to larger containers.
- 7 Resubmit the CREATE TABLESPACE statement, ensuring that the table space has at least 5 usable extents.
- 8 Increase the maximum size for the table space.
- 9 Reduce the initial size or increase the maximum size for the table space.
- 10 Add a new stripe set of containers to the table space. Existing containers will no longer grow, only those new containers in the last range of the table space are extended when an automatic resize occurs.
- 11 Wait for the operation and subsequent rebalance to complete.

sqlcode: -289

sqlstate: 57011

SQL0290N Table space access is not allowed.

Explanation: A process attempted to access a table space which is in an invalid state for which the intended access is not allowed.

- If the table space is in a quiesced state, only processes which also hold the table space in a quiesced state are allowed access to the table space.
- If the table space is in any other state, only the process which is performing the action specified is allowed access to the table space.
- A system or user temporary table space cannot be dropped which contains active system or declared temporary tables.
- The SET CONTAINER api cannot be used to set the container list unless the table space is in a "restore pending" state.

User response: Possible actions include:

- If the table space is in a quiesced state, attempt to acquire a quiesced share or quiesced update state on the table space. Or, attempt to quiesce reset the table space.
- If the table space is in any other state, wait until the table space has returned to normal state before attempting to access the table space.

Refer to the Administration Guide for further information about the table space states.

sqlcode: -290

sqlstate: 55039

SQL0291N State transition not allowed on table space.

Explanation: An attempt was made to change the state of a table space. Either the new state is not compatible with the current state of the table space, or an attempt was made to turn off a particular state and the table space was not in that state.

User response: Table space states change when a backup is taken, the load completes, the rollforward completes, etc., depending on the current state of the table spaces. Refer to the systems administration guide for further information about the table space states.

sqlcode: -291

sqlstate: 55039

SQL0292N An internal database file could not be created.

Explanation: An internal database file could not be created.

User response: Check that the directory containing the file is accessible (for example, mounted) and writeable by the database instance owner.

sqlcode: -292

sqlstate: 57047

SQL0293N Error accessing a table space container.

Explanation: This error may be caused by one of the following conditions:

- A container (directory, file or raw device) was not found.
- A container is not tagged as being owned by the proper table space.
- A container tag is corrupt.

This error can be returned during database startup and during the processing of the ALTER TABLESPACE SQL statement.

User response: Try the following actions:

1. Check that the directory, file, or device exists and that the file system is mounted (if it is on a separate file system). Containers must be readable and writable by the database instance owner.
2. If you have a recent backup, try restoring the table space or database. If that fails because of the bad container and the container is not a DEVICE type, try manually removing the container first.

If the error was returned from the processing of an ALTER TABLESPACE SQL statement with the SWITCH

ONLINE option, then re-issue the statement after correcting the problem as described above.

If the error persists, call your IBM service representative.

sqlcode: -293

sqlstate: 57048

SQL0294N The container is already in use.

Explanation: Table space containers may not be shared. The possible causes of this error include the following.

- A CREATE TABLESPACE or ALTER TABLESPACE statement included a container that is already in use by another table space.
- A CREATE TABLESPACE or ALTER TABLESPACE statement included a container from a table space that has been dropped but the drop statement has not been committed.
- An ALTER DATABASE PARTITION statement used to add a database partition used the containers of a LIKE database partition that is on the same physical database partition. These containers would therefore already be in use.
- A CREATE TABLESPACE or ALTER TABLESPACE statement is attempting to use the same container on more than one logical database partition on a single physical database partition. The same containers cannot be used for more than one database partition on the same physical database partition.
- An ADD DATABASE PARTITION command or API used the containers from the system temporary table spaces of a LIKE database partition that is on the same physical database partition. These containers would therefore already be in use.
- A CREATE TABLESPACE statement, ALTER TABLESPACE statement, or CREATE DATABASE command included a DMS container from another database that no longer exists but was not dropped properly. The container is not actually in use but it is tagged as being in use. Therefore, DB2 will not allow it to be used until it is untagged. However, it is very important to verify that the container is not in use by the same database or another database when untagging it. If the container is in use when you untag it, the database(s) involved will be corrupted.

User response: Ensure the containers are unique.

- For the CREATE or ALTER TABLESPACE statement, specify a different container for the table space.
- For the CREATE or ALTER TABLESPACE statement including a container from a dropped table space, try again after the drop statement is committed or specify a different container.
- For the ALTER DATABASE PARTITION statement, reissue the statement using the WITHOUT

TABLESPACES clause, and then use the ALTER TABLESPACE statement to create unique containers for the new database partition.

- For CREATE or ALTER TABLESPACE statements where the environment includes more than one logical database partition on a physical database partition, ensure that the same containers are not specified for such logical database partition.
- For an ADD DATABASE PARTITION command or API, reissue the statement using the WITHOUT TABLESPACES clause, and then use the ALTER TABLESPACE statement to create unique containers at the new database partition for the system temporary table spaces.
- If you are trying to use a DMS container that belonged to a database that no longer exists but was not dropped properly, then the db2untag utility can be used to remove the DB2 container tag from it. When this tag is removed DB2 considers the container to be free and the container can be used in a CREATE TABLESPACE statement, ALTER TABLESPACE statement, or CREATE DATABASE command.

NOTE: Use extreme caution with db2untag. If you issue a db2untag command against a container that is still in use by a database, then both the database that originally used the container and the database that is now using the container will be corrupted.

sqlcode: -294

sqlstate: 42730

SQL0295N The combined length for all container names for the table space is too long.

Explanation: The total space required to store the list of containers exceeds the space allotted for this table space in the table space file.

User response: Try one or more of the following:

- Use symbolic links, mounted file systems, etc. to shorten the new container names.
- Back up the table space and then use the database administration utility to reduce the number and/or name lengths of the containers. Restore the table space to the new containers.

sqlcode: -295

sqlstate: 54034

SQL0296N Table space limit exceeded.

Explanation: This database contains the maximum number of table spaces. No more can be created.

User response: Delete table spaces that are not being used any more. Combine small table spaces by moving all data into one of them and deleting the other.

sqlcode: -296

sqlstate: 54035

SQL0297N Path name for container or storage path is too long.

Explanation: One of the following conditions is true:

- The full path specifying the container name exceeds the maximum length allowed (254 characters). If the container was specified as a path relative to the database directory, the concatenation of these two values must not exceed the maximum length. Details can be found in the administration notification log.
- The storage path exceeds the maximum length allowed (175 characters).

User response: Shorten the path length.

sqlcode: -297

sqlstate: 54036

SQL0298N Bad container path.

Explanation: The container path violates one of the following requirements:

- Container paths must be valid fully-qualified absolute paths or valid relative paths. The latter are interpreted relative to the database directory.
- For EXTEND, REDUCE, RESIZE and DROP operations, the specified container path must exist.
- The path must be read/write accessible to the instance id (check file permissions on UNIX-based systems).
- Containers must be of the type specified in the command (directory, file or device).
- Containers (directories) in system managed table spaces must be empty when designated as containers and must not be nested underneath other containers.
- The containers for one database must not be located underneath the directory of another database, and

they may not be underneath any directory that appears to be for another database. This rules out any directory of the form SQLnnnnn, where 'n' is any digit.

- The container must be within the file size limit for the operating system.
- Containers (files) for dropped database managed table spaces can only be reused as containers (directories) for system managed table spaces after all agents terminate and vice versa.
- During a redirected restore, an SMS container was specified for a DMS table space or a DMS container was specified for an SMS table space.
- The specified type of the container for an EXTEND, REDUCE, RESIZE, or DROP operation does not match the type of the container (FILE or DEVICE) that was specified when the container was created.

This message will also be returned if any other unexpected error occurred which prevents DB2 from accessing the container.

User response: Specify another container location or change the container to make it acceptable to DB2 (such as changing file permissions) and try again.

sqlcode: -298

sqlstate: 428B2

SQL0299N Container is already assigned to the table space.

Explanation: The container that you are attempting to add has already been assigned to the table space.

User response: Choose another container and try again.

sqlcode: -299

sqlstate: 42731

SQL0300 - SQL0399

SQL0301N The value of input host variable or parameter number *number* cannot be used because of its data type.

Explanation: A host variable or parameter in position *number* could not be used as specified in the statement because its data type is incompatible with the intended use of its value.

This error can occur as a result of specifying an incorrect host variable or an incorrect SQLTYPE value in a SQLDA on an EXECUTE or OPEN statement. In the case of a user-defined structured type, the associated built-in type of the host variable or SQLTYPE might not be compatible with the parameter of the TO SQL transform function defined in the

transform group for the statement. In the case of performing an implicit or explicit cast between character and graphic data types, this error indicates that such a cast was attempted with a non-Unicode character or graphic string.

The statement cannot be processed.

User response: Verify that the data types of all host variables in the statement are compatible with the manner in which they are used.

sqlcode: -301

sqlstate: 07006

SQL0302N The value of a host variable in the EXECUTE or OPEN statement is too large for its corresponding use.

Explanation: The value of an input host variable was found to be too large for its use in the SELECT, VALUES, or prepared statement. One of the following occurred:

- The corresponding host variable or parameter marker used in the SQL statement is defined as string, but the input host variable contains a string that is too long.
- The corresponding host variable or parameter marker used in the SQL statement is defined as numeric, but the input host variable contains a numeric value that is too large.
- The terminating NUL character is missing from the C language NUL-terminated character string host variable.
- Federated system users: in a pass-through session, a data source-specific restriction might have been violated.

This error occurs as a result of specifying either an incorrect host variable or an incorrect SQLLEN value in an SQLDA on an EXECUTE or OPEN statement.

The statement cannot be processed.

User response: Ensure that the input host variable value is the correct type and length. If the input host variables supply values to parameter markers, match values with the implied data type and length of the parameter marker.

Federated system users: for a pass-through session, determine what data source is causing the error (see the problem determination guide for procedures to follow to identify the failing data source). Examine the SQL dialect for that data source to determine which specific restriction has been violated, and adjust the failing statement as needed.

sqlcode: -302

sqlstate: 22001, 22003

SQL0303N A value cannot be assigned to a host variable in the SELECT, VALUES, or FETCH statement because the data types are not compatible.

Explanation: An embedded SELECT or VALUES statement selects into a host variable, but the data type of the variable is not compatible with the data type of the corresponding SELECT-list or VALUES-list element. Both must be numeric, character, or graphic. For a user-defined data type, the host variable might be defined with an associated built-in data type that is not compatible with the result type of the FROM SQL transform function defined in the transform group for the statement. For example, if the data type of the

column is date or time, the data type of the variable must be character with an appropriate minimum length.

The statement cannot be processed.

User response: Verify that the table definitions are current and that the host variable has the correct data type. For a user-defined data type, verify that the associated built-in type of the host variable is compatible with the result type of the FROM SQL transform function defined in the transform group for the statement.

sqlcode: -303

sqlstate: 42806

SQL0304N A value cannot be assigned to a host variable because the value is not within the range of the host variable's data type.

Explanation: A FETCH, VALUES, or SELECT into a host variable list failed because the host variable was not large enough to hold the retrieved value.

The statement cannot be processed. No data was retrieved.

User response: Verify that table definitions are current and that the host variable has the correct data type. For the ranges of SQL data types, refer to the *SQL Reference*.

Federated system users: for the ranges of data types that are returned from a data source, refer to the documentation for that data source.

sqlcode: -304

sqlstate: 22001, 22003

SQL0305N The NULL value cannot be assigned to a host variable in the SELECT or FETCH statement because no indicator variable is specified.

Explanation: A FETCH or embedded SELECT or VALUES operation resulted in the retrieval of a NULL value to be inserted into a host variable for which no indicator variable was provided. An indicator variable must be supplied if a column can return a NULL value.

The statement cannot be processed. No data was retrieved.

User response: Examine the definition of the FETCH or SELECT object table or the elements of the VALUES list. Correct the program to provide indicator variables for all host variables where NULL values from those columns can be retrieved.

sqlcode: -305

sqlstate: 22002

SQL0306N The host variable *name* is undefined.

Explanation: The host variable *name* is not declared in any DECLARE SECTION.

The statement cannot be processed.

User response: Ensure that the host variable is declared and the name spelled correctly.

SQL0307N The host variable *name* is already defined.

Explanation: The host variable *name* has already been declared in a DECLARE SECTION.

The definition is ignored. The previous definition is used.

User response: Ensure that the host variable name is spelled correctly and the name is defined only once for each program.

SQL0308N The limit on the number of host variables has been reached.

Explanation: The limit on the number of host variables is dependent on how many will fit in the HOST_VARS column of SYSPLAN. This limit has been reached.

The remaining variable declarations are ignored.

User response: Either simplify the program, split the program into smaller, separate programs, or do both.

SQL0309N The value of a host variable in the OPEN statement is NULL, but its corresponding use cannot be NULL.

Explanation: The value of an input host variable was found to be NULL but the corresponding use in the SELECT, VALUES, or prepared statement did not specify an indicator variable.

The statement cannot be processed.

User response: Ensure you need a USING clause. Otherwise, ensure an indicator variable is specified only if required.

sqlcode: -309

sqlstate: 07002

SQL0310N SQL statement contains too many host variables.

Explanation: The maximum number of host variables was exceeded in the statement.

The statement cannot be processed.

User response: Ensure the statement has fewer host variables or is less complex.

SQL0311N The length of string host variable number *var-number* is negative or greater than the maximum.

Explanation: When evaluated, the length specification for the string host variable, whose entry in the SQLDA is indicated by <var-number> (based at 1), was negative or greater than the maximum defined for that host variable.

The statement cannot be processed.

User response: Correct the program to ensure that the lengths of all string host variables are not negative or that they are not greater than the maximum allowed length.

sqlcode: -311

sqlstate: 22501

SQL0312N The host variable *host-name* is used in a dynamic SQL statement, a view definition, or a trigger definition.

Explanation: The host variable *host-name* appears in the SQL statement, but host variables are not allowed in dynamic SQL statements, in the SELECT statement of a view definition, or in the triggered action of a trigger definition.

The statement cannot be processed.

User response: Use parameter markers (?) instead of host variables for dynamic SQL statements. Do not use host variables and parameter markers in view or trigger definitions.

sqlcode: -312

sqlstate: 42618

SQL0313N The number of host variables in the EXECUTE or OPEN statement is not equal to the number of values required.

Explanation: The number of host variables specified in the EXECUTE or OPEN statement does not equal the number of host variables required for the parameter markers (?) appearing in the SQL statement.

User response: Correct the application program so the number of host variables specified in the EXECUTE or OPEN statement is correct for the parameter markers in the SQL statement.

sqlcode: -313

sqlstate: 07001, 07004

SQL0314N The host variable *name* is incorrectly declared.

Explanation: The host variable *name* is not declared correctly for one of the following reasons:

- The type specified is not one that is supported.

- The length specification is 0, negative, or too large.
- An initializer is used.
- An incorrect syntax is specified.

The variable remains undefined.

User response: Ensure that you correctly specify only the declarations the database manager supports.

SQL0315N The host variable is incorrectly declared.

Explanation: The host variable is not declared correctly for one of the following reasons:

- The type specified is not one that is supported.
- The length specification is 0, negative or too large.
- An incorrect syntax is specified.

The variable remains undefined.

User response: Ensure that you correctly specify only the declarations the database manager supports.

SQL0317N No END DECLARE SECTION was found after a BEGIN DECLARE SECTION.

Explanation: The end of input was reached during processing of a DECLARE SECTION.

Precompilation is terminated.

User response: Add an END DECLARE SECTION statement to end a DECLARE SECTION.

SQL0318N An END DECLARE SECTION was found without a previous BEGIN DECLARE SECTION.

Explanation: An END DECLARE SECTION statement was found, but there was no previous BEGIN DECLARE SECTION.

The statement cannot be processed.

User response: Enter a BEGIN DECLARE SECTION before an END DECLARE SECTION.

SQL0324N The usage variable name is the wrong type.

Explanation: Either the INDICATOR variable *name* is not a small integer or the STATEMENT variable *name* is not a character data type.

The statement cannot be processed.

User response: Ensure that the variable is the correct type and is specified correctly.

SQL0327N The row cannot be inserted into table *table-name* because it is outside the bounds of the defined data partition ranges.

Explanation: If the operation is an insert or an update, the value of the table partitioning key for the row is not within range of values for any defined data partition. If the operation is altering a table to become a range-partitioned table, then there exists one or more rows in the table with a table partitioning key value that is not within the range of values for any defined data partition.

The statement cannot be processed.

User response: For an insert or update operation, ensure that the table partitioning key columns are within the specified ranges for the data partitions of the table. An additional data partition may need to be added to the table. If altering a table to become a range-partitioned table, ensure that the necessary ranges are specified to allow all of the data in the table to be within a range of a data partition.

sqlcode: -327

sqlstate: 22525

SQL0330N A string cannot be used because it cannot be processed. Reason code=*reason code*. Code point=*code-point*. Host variable position=*position-number*.

Explanation: A string cannot be processed because a translation error occurred during the translation of a string to a different coded character set. The type of error is indicated by the *reason-code*:

- 8 Length exception (for example, expansion required for PC MIXED data exceeds the maximum length of the string).
- 12 Invalid code point (for example, use of the ERRORBYTE option of SYSSTRINGS).
- 16 Form exception (for example, invalid MIXED data).
- 20 Conversion procedure error (for example, an exit on a z/OS server set the length control field of the string to an invalid value).
- 24 Single byte character found in string contained in a wchar_t host variable.

If the *reason-code* is 12, *code-point* is the invalid code point. Otherwise, *code-point* is either blank or an additional reason code returned by an exit. If the string is the value of an input host variable, the *position-number* is the ordinality of the variable in the SQLDA. If the string is not the value of a host variable, the *position-number* is blank.

The statement cannot be processed.

User response: Take one of the following actions based on the reason-code:

- 8 Extend the maximum length of the host variable to allow for the expansion that occurs when the string is converted.
- 12 Either change the convert table to accept the code-point or the data to eliminate the code-point.
- 16 If the string is described as MIXED data, either change its description or the string to conform to the rules for well-formed mixed data.
- 20 Correct the conversion procedure.
- 24 Delete the single byte character from the graphic string.

sqlcode: -330

sqlstate: 22021

SQL0330N A string cannot be used because it cannot be converted. Reason *reason-code*, Character *code-point*, Host Variable *position-number*.

Explanation: A translation error occurred during the translation of a string to a different coded character set.

The type of error is indicated by the *reason-code*:

- 8 Length exception (for example, expansion required for PC MIXED data exceeds the maximum length of the string).
- 12 Invalid code point (for example, use of the ERRORBYTE option of SYSSTRINGS).
- 16 Form exception (for example, invalid MIXED data).
- 20 Conversion procedure error (for example, an exit set the length control field of the string to an invalid value).
- 24 SBCS character found in string contained in a wchar_t host variable.

If the *reason-code* is 12, *code-point* is the invalid code point. Otherwise, *code-point* is either blank or an additional *reason-code* returned by an exit. If the string is the value of an input host variable, the *position-number* is the ordinality of the variable in the SQLDA. If the string is not the value of a host variable, the *position-number* is blank.

The statement cannot be executed.

User response: Take one of the following actions based on the *reason-code*.

- If the *reason-code* is 8, extend the maximum length of the host variable to allow for the expansion that occurs when the string is converted.

- If the *reason-code* is 12, either change the convert table to accept the *code-point* or the data to eliminate the *code-point*.
- If the *reason-code* is 16 and the string is described as MIXED data, either change its description or the string to conform to the rules for well-formed mixed data.
- If the *reason-code* is 20, correct the conversion procedure.
- If the *reason-code* is 24, delete the SBCS character from the graphic string.

sqlcode: -330

sqlstate: 22021

SQL0332N Character conversion from the source code page *source-code-page* to the target code page *target-code-page* is not supported.

Explanation: The operation failed because there is no code page conversion between the *source-code-page* and *target-code-page*. This may be due to one of the following reasons:

1. The character repertoires of the source code page and the target code page are incompatible, and therefore may cause character loss and corruption when converting between the source and target code pages.
2. This specific code page conversion is not supported.

Some of the possible operations that can cause this error include:

- Connecting a client to a database where the client's code page is different from the database code page.
- Executing an SQL statement where the client's code page is different from the database code page.
- Importing or exporting a WSF or IXF file where the file's code page is different from the database code page.
- Federated system users: the data source does not support the specified code page conversion.

User response:

1. Make the source and target code pages compatible with each other. Search the DB2 information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using the phrase "Code set Territory code" for compatibility of the supported DB2 code pages. To set the client's code page compatible with the database code page:
 - On Unix platforms, set the LANG, LC_CTYPE or LC_ALL environment variable to a locale whose code page is compatible with the database code page. Consult the platform documentation to see the valid locale names and the code page associated with each of them.

- On Windows platforms, set the DB2CODEPAGE registry variable to override the client's code page with a value compatible with the database code page.

2. For database manager code page support, search the DB2 information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using the phrase "Code set Territory code". For federated system users, see the Federated Systems Guide for data source code page. If the source and target code pages are compatible, then DB2 currently does not support this particular code page conversion. Contact your technical service representative to determine if such support can be added.

DB2 UDB for iSeries users should be aware that character or graphic columns with CCSID 65535 are not supported. Character or graphic columns with CCSID 65535 must be converted to a supported CCSID (using CAST) before they can be accessed using DB2 Connect.

sqlcode: -332

sqlstate: 57017

SQL0334N **Overflow occurred while performing conversion from codepage *source* to codepage *target*. The maximum size of the target area was *max-len*. The source string length was *source-len* and its hexadecimal representation was *string*.**

Explanation: During the execution of the SQL statement, a code page conversion operation has resulted in a string that is longer than the maximum size of the target object.

User response: Modify the data to avoid the overflow condition, depending on the circumstances, by:

- decreasing the length of the source string or increasing the size of the target object (please refer to the note below),
- altering the operation,
- casting the encrypted data value to a VARCHAR string with a larger number of bytes before using it in a decryption function, or
- ensuring that the application codepage and the database codepage are the same. This eliminates the need for codepage conversions for most connections.

Note: Automatic promotion of character or graphic string data types will not occur as part of character conversion. If the resultant string length exceeds the maximum length of the data type of the source string then an overflow has occurred. To correct this situation either change the data type of the source string or use data type casting to allow for an increase in the string length due to conversion.

sqlcode: -334

sqlstate: 22524

SQL0336N **The scale of the decimal number must be zero.**

Explanation: The decimal number is used in a context where the scale must be zero. This can occur when a decimal number is specified in a CREATE or ALTER SEQUENCE statement for START WITH, INCREMENT, MINVALUE, MAXVALUE or RESTART WITH.

The statement cannot be processed.

User response: Change the decimal number to remove any non-zero digits from the right side of the decimal delimiter.

sqlcode: -336

sqlstate: 428FA

SQL0338N **An ON clause associated with a JOIN operator or in a MERGE statement is not valid.**

Explanation: An ON clause associated with a JOIN operator or in a MERGE statement is not valid for one of the following reasons.

- The ON clause cannot include any subqueries.
- Column references in an ON clause must only reference columns of tables that are in the scope of the ON clause.
- Scalar fullselects are not allowed in the expressions of an ON clause.
- A function referenced in an ON clause of a full outer join must be deterministic and have no external action.
- A dereference operation (->) cannot be used.
- A SQL function or SQL method cannot be used.
- The ON clause cannot include an XMLQUERY or XMLEXISTS expression.

The statement cannot be processed.

User response: Correct the ON clause to reference appropriate columns or delete any subqueries or scalar fullselects. Remove any dereference operations, SQL functions, or SQL methods from the ON clause.

If using full outer join ensure that all functions in the ON clause are deterministic and have no external action.

sqlcode: -338

sqlstate: 42972

SQL0340N The common table expression *name* has the same identifier as another occurrence of a common table expression definition within the same statement.

Explanation: The common table expression name *name* is used in the definition of more than one common table expressions in the statement. The name used to describe a common table expression must be unique within the same statement.

The statement cannot be processed.

User response: Change the name of one of the common table expressions.

sqlcode: -340

sqlstate: 42726

SQL0341N A cyclic reference exists between the common table expressions *name1* and *name2*.

Explanation: The common table expression *name1* refers to *name2* in a FROM clause within its fullselect and *name2* refers to *name1* in a FROM clause within its fullselects. Such forms of cyclic references are not allowed.

The statement cannot be processed.

User response: Remove the cyclic reference from one of the common table expressions.

sqlcode: -341

sqlstate: 42835

SQL0342N The common table expression *name* cannot use SELECT DISTINCT and must use UNION ALL because it is recursive.

Explanation: There are two possible explanations:

- A fullselect within the common table expression *name* cannot start with SELECT DISTINCT because the common table expression is recursive.
- A fullselect within the common table expression *name* specified UNION instead of UNION ALL as required for recursive common table expressions.

The statement cannot be processed.

User response: Remove the keyword DISTINCT from the common table expression, add the keyword ALL following UNION, or remove the recursive reference within the common table expression.

sqlcode: -342

sqlstate: 42925

SQL0343N The column names are required for the recursive common table expression *name*.

Explanation: The recursive common table expression *name* must include the specification of the column names following the identifier of the common table expression.

The statement cannot be processed.

User response: Add column names following the identifier of the common table expression.

sqlcode: -343

sqlstate: 42908

SQL0344N The recursive common table expression *name* has mismatched data types, lengths or code pages for column *column-name*.

Explanation: The recursive common table expression *name* has a column *column-name* that is referred to in the iterative fullselect of the common table expression. The data type, length and code page are set based on the initialization fullselect for this column. The result of the expression for the column *column-name* in the iterative fullselect has a different data type, length or code page that may result in failure to assign the value for the column.

The statement cannot be processed.

User response: Correct the column used in the fullselects of the recursive common table expression so that the initialization column matches the iterative columns.

sqlcode: -344

sqlstate: 42825

SQL0345N The fullselect of the recursive common table expression *name* must be the UNION of two or more fullselects and cannot include column functions, GROUP BY clause, HAVING clause, ORDER BY clause, or an explicit join including an ON clause.

Explanation: The common table expression *name* includes a reference to itself and therefore:

- must be the union of two or more fullselects
- cannot include a GROUP BY clause
- cannot have column functions
- cannot include a HAVING clause
- cannot include an ORDER BY clause on the iterative fullselect
- and cannot include an explicit join with an ON clause.

The statement cannot be processed.

User response: Change the common table expression by:

- making it a union of two or more fullselects
- removing any column functions, GROUP BY clause, HAVING clause, ORDER BY clause, or explicit JOIN including an ON clause.
- removing the recursive reference.

sqlcode: -345

sqlstate: 42836

SQL0346N An invalid reference to common table expression *name* occurs in the first fullselect, as a second occurrence in the same FROM clause, or in the FROM clause of a subquery.

Explanation: The common table expression *name* includes an invalid reference to itself as described by one of the following.

- A recursive reference in the first fullselect before the UNION ALL set operator. The first fullselect must be an initialization and cannot include a recursive reference.
- More than one reference to the same common table expression in the same FROM clause. Such references are not permitted in recursive common table expression.
- A recursive reference in the FROM clause of a subquery. A recursion cycle cannot be defined using a subquery.

The statement cannot be processed.

User response: Change one of the following:

- the fullselect prior to the union operator so that it does not include a recursive reference
- the FROM clause containing more than one reference to the same common table expression to just one reference
- the FROM clause of the subquery so that it does not reference the common table expression.

sqlcode: -346

sqlstate: 42836

SQL0347W The recursive common table expression *name* may contain an infinite loop.

Explanation: The recursive common table expression called *name* may not complete. This warning is based on not finding specific syntax as part of the iterative portion of the recursive common table expression. The expected syntax includes:

- incrementing an INTEGER column in the iterative select list by 1.

- a predicate in the where clause of the iterative portion of the form "counter_col < constant" or "counter_col < :hostvar".

The absence of this syntax in the recursive common table expression may result in an infinite loop. The data or some other characteristic of the recursive common table expression may allow the successful completion of the statement anyway.

User response: To prevent an infinite loop, include the expected syntax as described.

sqlcode: +347

sqlstate: 01605

SQL0348N *sequence-expression* cannot be specified in this context.

Explanation: The statement contains a NEXTVAL expression or PREVVVAL expression in an invalid context. NEXTVAL expressions and PREVVVAL expressions cannot be specified in the following contexts:

- join condition of a full outer join
- DEFAULT value for a column in a CREATE TABLE or ALTER TABLE statement
- generated column definition in a CREATE TABLE or ALTER TABLE statement
- condition of a CHECK constraint
- CREATE TRIGGER statement (a NEXTVAL expression may be specified, but a PREVVVAL expression cannot be specified)
- CREATE VIEW statement, CREATE METHOD statement or CREATE FUNCTION statement

NEXTVAL expressions cannot be specified in the following contexts:

- CASE expression
- argument list of an aggregate function
- subquery except in the fullselect of an INSERT, UPDATE or VALUES INTO statement
- SELECT statement for which the outer SELECT contains a DISTINCT operator
- SELECT statement for which the outer SELECT contains a GROUP BY clause
- join condition of a join
- SELECT statement for which the outer SELECT is combined with another SELECT statement using the UNION, INTERSECT or EXCEPT set operator
- nested table expression
- argument list of a table function
- argument list of an XMLTABLE, XMLQUERY or XMLEXISTS expression
- WHERE clause of the outer-most SELECT statement, DELETE or UPDATE statement

- ORDER BY clause of the outer-most SELECT statement
- select-cause of the fullselect of an expression, in the SET clause of an UPDATE statement
- IF, WHILE, DO...UNTIL, or CASE statement in an SQL routine

The statement cannot be executed.

User response: Remove the reference to the sequence expression and resubmit the statement.

sqlcode: -348

sqlstate: 428F9

SQL0349N The specification of the NEXTVAL expression for the column in position *column-position* must match the specification of all other expressions for the same column for all rows.

Explanation: The expression specified for the column in position *column-position* of a VALUES clause of a multiple row INSERT statement or VALUES expression included a NEXTVAL expression. When an expression containing a NEXTVAL expression is used to specify the value of a column in one of these contexts, then that same expression must be specified for that column for all rows. For example, the following INSERT statement succeeds:

```
INSERT INTO T1
VALUES(
  NEXTVAL FOR sequence1 + 5, 'a'
),
(
  NEXTVAL FOR sequence1 + 5, 'b'
),
(
  NEXTVAL FOR sequence1 + 5, 'c'
)
```

However, the following INSERT statement fails:

```
INSERT INTO T1
VALUES(
  NEXTVAL FOR sequence1 + 5, 'a'
),
(
  NEXTVAL FOR sequence1 + 5, 'b'
),
(
  NEXTVAL FOR sequence1 + 4, 'c'
)
```

User response: Correct the syntax and resubmit the statement.

sqlcode: -349

sqlstate: 560B7

SQL0350N LOB, LONG VARCHAR, DATALINK, XML, or structured type column *column-name* cannot be used in an index, a key, a unique constraint, a functional dependency, a generated column, or a declared temporary table.

Explanation: A LOB column, LONG VARCHAR column, DATALINK column, XML column or structured type column cannot be used in a key, unique constraint, generated column or declared global temporary table. A LOB column or DATALINK column cannot be used in an index definition. An XML column can only be used in an index definition if it is the only column and an XMLPATTERN clause is specified. A structured type column can only be used in an index definition if it is the only column and has an associated index extension specified.

The statement cannot be processed.

User response: Remove the LOB, LONG VARCHAR, DATALINK, XML, or structured type column from the specification of the index, key, unique constraint, a functional dependency, generated column, or declared temporary table. If indexing an XML column or structured type column ensure that it is the only column and the index definition includes the appropriate clauses.

sqlcode: -350

sqlstate: 42962

SQL0351N An unsupported SQLTYPE was encountered in position *position-number* of the output SQLDA (select list).

Explanation: The element of the SQLDA at position *position-number* is for a data type that either the application requestor or the application server does not support. If the application is not using the SQLDA directly, *position-number* could represent the position of an element in the select list or a parameter of a CALL statement.

The statement cannot be processed.

User response: Change the statement to exclude the unsupported data type. For a select statement, remove the names of any columns in the select-list with the unsupported data type or use a cast in the query to cast the column to a supported data type.

sqlcode: -351

sqlstate: 56084

SQL0352N An unsupported SQLTYPE was encountered in position *position-number* of the input list (SQLDA).

Explanation: The element of the SQLDA at position *position-number* is for a data type that either the application requestor or the application server does not

support. If the application is not using the SQLDA directly, *position-number* could represent the position of an input host variable, parameter marker, or a parameter of a CALL statement.

The statement cannot be processed.

User response: Change the statement to exclude the unsupported data type.

sqlcode: -352

sqlstate: 56084

SQL0355N The column *column-name*, as defined, is too large to be logged.

Explanation: Large Object data types (BLOB, CLOB, and DBCLOB) may be created in sizes up to 2 gigabytes (2147483647 bytes). Logging of data values is allowed only upon objects which are less than or equal to than 1 gigabyte (1073741823 bytes) in size. Therefore, large objects greater than 1 gigabyte in size can not be logged.

User response: Either explicitly indicate logging of data is not required, by using the NOT LOGGED phrase during column creation, or reduce the maximum size of the column to 1 gigabyte or below.

sqlcode: -355

sqlstate: 42993

SQL0357N The DB2 Data Links Manager *name* is not currently available. Reason code = *reason-code*.

Explanation: The statement requires processing on the DB2 Data Links Manager *name*. The DB2 Data Links Manager is not currently available as indicated by the reason code.

- 01 The DB2 Data Links Manager is not available.
- 02 The database server, instance, or database from which the operation was attempted is not registered with the appropriate DB2 Data Links Manager.
- 03 Either access to the DB2 Data Links Manager is currently disallowed, or DB2 is unable to connect to the DB2 Data Links Manager.
- 04 The DB2 Data Links Manager is an unknown server.
- 05 An error occurred while communicating with the DB2 Data Links Manager.
- 06 The installation type of the DB2 Data Links Manager is not compatible with that registered to the database.

The statement cannot be processed.

User response: The action depends on the reason code as follows.

- 01 The DB2 Data Links Manager or a communication link may be down. Wait a while and try again, or check with the DB2 Data Links Manager administrator. If the problem persists, disconnect the application from the database, and retry after connecting again.
- 02 Register the database server, instance, or database with the DB2 Data Links Manager.
- 03 Access to the DB2 Data Links Manager is disallowed until DB2 can ensure that it is in a consistent state. Wait until DB2 does this asynchronously. It is possible that DB2 is unable to do this because of conditions in other reason codes. So, if the problem persists, check the db2diag.log file of the instance to find out the condition and correct that condition. For more information, refer to the Administration Guide for information on crash recovery for DB2 Data Links Managers. Also check all the host settings for connections to this DB2 Data Links Manager.
- 04 Ensure that the DB2 Data Links Manager is available on the network.
- 05 Check that the DB2 Data Links Manager and the communication link are up. If the problem persists, disconnect the application from the database, and retry after connecting again.
- 06 If the DB2 Data Links Manager was installed for DFS, then it must added as a CELL to the database. If it was installed for native file systems, then it must be added as a NODE. Refer to the Command Reference for details on ADD DATALINKS MANAGER command.

sqlcode: -357

sqlstate: 57050

SQL0358N Unable to access file referenced by a DATALINK value. Reason code = *reason-code*.

Explanation: A DATALINK value could not be assigned. The possible reason codes are as follows:

- 21 DATALINK value data location format is not valid.
- 22 DATALINK value DB2 Data Links manager is not registered with the database or database manager configuration parameter DATALINKS is not set to YES.
- 23 DATALINK linktype value is not valid.

- 24 DATALINK value referenced file cannot be found by a DB2 Data Links Manager.
- 25 DATALINK value referenced file is already linked to a database.
- 26 DATALINK value referenced file cannot be accessed for linking. It may be a directory, a symbolic link or a file with permission bit for set user ID (SUID) on or set group ID (SGID) on, or a file located in a file system not defined as a DLFS (Data Links File System).
- 27 DATALINK value data location or comment is too long.
- 28 Existing registry on the DB2 Data Links Manager does not allow this file to be linked (No matching prefix on DLFM).
- 29 The DB2 Data Links Manager does not authorize the DB2 user to link this file.
- 30 A link is already in progress for the file by another application.
- 31 File copy by the DB2 Data Links Manager is not complete for the file to be unlinked. The statement cannot be processed.
- 32 DATALINK value does not contain a valid write token.
- 33 DATALINK value constructed by the DLPREVIOUSCOPY scalar function can be assigned only to a DATALINK column defined with WRITE PERMISSION ADMIN and RECOVERY YES.
- 34 DATALINK value constructed by the DLNEWCOPY or DLPREVIOUSCOPY scalar function does not match the value as already exists in the column.
- 35 DATALINK value constructed by the DLNEWCOPY or DLPREVIOUSCOPY scalar function cannot be used in an INSERT statement to assign a new value.
- 36 The write token embedded in DATALINK value data location does not match the token used to open the DATALINK value referenced file.
- 37 DATALINK value reference file is in the update-in-progress state.
- 38 DATALINK value with scheme DFS cannot be assigned to a DATALINK column defined with WRITE PERMISSION ADMIN.
- 39 DATALINK value constructed by the DLNEWCOPY scalar function cannot be assigned to a DATALINK column defined with WRITE PERMISSION BLOCKED.
- 40 The previous archive copy of DATALINK reference file cannot be located from the archive server.
- 41 The same DATALINK value constructed by the DLNEWCOPY or DLPREVIOUSCOPY scalar function cannot be assigned multiple times within the same transaction or the same datalink value cannot be unlinked while the assignment of the same datalink value constructed by DLNEWCOPY or DLPREVIOUSCOPY is not yet committed.
- 42 DATALINK value constructed by the DLREPLACECONTENT scalar function can be assigned to a DATALINK column defined with NO LINK CONTROL only if the second argument (replacement file location) is a zero-length string or a null.
- 43 The unlink operation of the replacement file specified in the DLREPLACECONTENT scalar function has not committed.
- 44 The replacement file specified in the DLREPLACECONTENT scalar function is already used in another replacement process.
- 45 DATALINK referenced file is already specified as the replacement file in another operation.
- 46 The format of the replacement file specified in the DLREPLACECONTENT scalar function is not valid.
- 47 The format of the replacement file specified in the DLREPLACECONTENT scalar function cannot be a directory or a symbolic link.
- 48 The replacement file specified in the DLREPLACECONTENT scalar function is already linked to a database.
- 49 The replacement file specified in the DLREPLACECONTENT scalar function cannot be found by a Data Links File Manager.
- 50 DATALINK values that have a write token in the data location, as constructed by the DLNEWCOPY scalar function, can only be assigned to DATALINK columns defined with WRITE PERMISSION ADMIN.
- User response:** The action is based on the reason code as follows.
- 21 Correct the data location format.
- 22 Ensure that the correct DB2 Data Links Manager is specified and if so have it registered to the database. Registered DB2 Data Links Managers are ignored unless the database manager configuration parameter Datalinks is set to YES.
- 23 Correct the linktype value.

- 24 Check that the correct file is specified and that the file exists.
- 25 Either unlink the existing reference to the file or do not specify the file in this statement.
- 26 Linking of directories is not allowed. Use the actual file name, not a symbolic link. If SUID or SGID is on, or if the file is located in a non-DLFS file system, this file cannot be linked using a DATALINK type.
- 27 Reduce the length of the data location value or the comment.
- 28 Contact the DB2 Data Links Manger administrator to add the registration necessary to link this file.
- 29 Contact the DB2 Data Links Manager administrator to get the necessary authorization.
- 30 Do not link this file or retry later.
- 31 Allow some time for the file copy to complete and retry later.
- 32 Provide the data location value with a valid write token. A write token is generated as part of the returned value from either the DLURLCOMPLETEWRITE or DLURLPATHWRITE scalar function in a SELECT statement on a DATALINK column defined with WRITE PERMISSION ADMIN.
- 33 Use DLVALUE scalar function instead.
- 34 Correct the data location to match the one as exists in the row.
- 35 If assigning a new DATALINK value, use DLVALUE scalar function instead.
- 36 Provide the data location embedded with the write token which is used to open and modify the file. If the token is lost, there is a set of Data Links File manager (DLFM) commands available to retrieve the write token. Refer to the Data Links Manager Administration Guide and Reference for details about the DLM commands.
- 37 DATALINK value referenced file is being updated. First, issue a SQL UPDATE with the DLNEWCOPY or DLPREVIOUSCOPY scalar function on the DATALINK column to commit or backout the file changes. Then retry the same statement again.
- 38 It is a restriction that DATALINK value with DFS scheme cannot be assigned to a DATALINK column defined with WRITE PERMISSION ADMIN. Move the file to another type of file system and assign the DATALINK value with a different scheme.
- 39 Use DLVALUE scalar function instead.
- 40 Check whether the archive server is up and running. Then retry it again.
- 41 Retry the UPDATE operation again in a separate transaction.
- 42 Use either a zero-length string or a null as the replacement file location.
- 43 Commit the current transaction. The retry it again.
- 44 Use another name for the replacement file or retry it later.
- 45 Do not link this file or retry it later.
- 46 Correct the string format of the replacement file location.
- 47 Make sure a file is specified. Use the actual file name, not the symbolic link for the replacement file.
- 48 Unlink the file.
- 49 Check that the correct file is specified and that the file exists.
- 50 Remove the token from the data location value.

sqlcode: -358

sqlstate: 428D1

SQL0359N The range of values for the identity column or sequence is exhausted.

Explanation: DB2 attempted to generate a value for an identity column or sequence object, however all allowable values have already been assigned.

The statement cannot be processed.

User response: For an identity column, redefine the table with a larger range of values for the identity column. If a MAXVALUE or MINVALUE specification has been made that limits the range of values to be less than the range for the data type of the column, then the column can be altered to expand the range of valid values. Otherwise, the identity column must be recreated which requires that the table be recreated. First drop the existing table, and then recreate the table with a different data type for the identity column, specifying a data type that has a larger range of values than the current data type for the identity column.

For a sequence object, redefine the sequence with a larger range of values. If a MAXVALUE or MINVALUE clause limits the range of values to less than the range for the data type of the sequence object, then alter the sequence to expand the range of valid values. Otherwise, drop the sequence object and reissue the CREATE SEQUENCE statement specifying a data type that allows a larger range of values.

sqlcode: -359

sqlstate: 23522

SQL0360W DATALINK values may not be valid because the table *table-name* is in Datalink Reconcile Pending (DRP) or Datalink Reconcile Not Possible (DRNP) state.

Explanation: DATALINK values in table *table-name* may not be valid because the table is either in Datalink Reconcile Pending (DRP) or Datalink Reconcile Not Possible (DRNP) state. While in either of these states, control of the files on the DB2 Data Links Manager is not guaranteed.

Statement processing continues.

User response: Refer to the Administration Guide for information on Datalink Reconcile Pending (DRP) and Datalink Reconcile Not Possible (DRNP) states to take appropriate action.

sqlcode: +360

sqlstate: 01627

SQL0368N The DB2 Data Links Manager *dln-name* is not registered to the database.

Explanation: The DB2 Data Links Manager *dln-name* is not registered to the database. Registered DB2 Data Links Managers are ignored if the database manager configuration parameter DATALINKS is set to NO. The DB2 Data Links Manager may have been dropped using the DROP DATALINKS MANAGER command. It is possible that a new incarnation of the DB2 Data Links Manager with the same name is currently registered; in that case, the error pertains to one or more previously dropped incarnations of that DB2 Data Links Manager.

The statement cannot be processed.

User response: Ensure that the database manager configuration parameter DATALINKS is set to YES. DATALINK values that are links to previously dropped DB2 Data Links Managers should be removed using the reconcile utility. For additional details, see the usage notes for the DROP DATALINKS MANAGER command in the *Command Reference*.

sqlcode: -368

sqlstate: 55022

SQL0370N The parameter in position *n* must be named in the CREATE FUNCTION statement for LANGUAGE SQL function *name*.

Explanation: All parameters for functions defined with LANGUAGE SQL must have a *parameter-name* for each parameter.

The statement cannot be processed.

User response: Include a parameter name for each parameter of the function.

sqlcode: -370

sqlstate: 42601

SQL0372N Only one IDENTITY, or ROWID, or security label column is allowed in a table.

Explanation: An attempt was made to do one of the following:

- Create a table with more than one IDENTITY column.
- Add an IDENTITY column to a table which already has one.
- Create a table with more than one ROWID column.
- Add a ROWID column to a table which already has one.
- Create a table with more than one security label column.
- Add a security label column to a table that already has one.

The statement cannot be processed.

User response: For a CREATE TABLE statement, select only one column to have the ROWID data type, or the IDENTITY attribute, or the DB2SECURITYLABEL data type. For an ALTER TABLE statement, a ROWID column, or IDENTITY column, or security label column already exists for the table. Do not attempt to add another column with data type ROWID, or with the IDENTITY attribute, or with data type DB2SECURITYLABEL to the table.

sqlcode: -372

sqlstate: 428C1

SQL0373N The DEFAULT clause cannot be specified for GENERATED column *column-name*.

Explanation: A DEFAULT clause may not be specified for a column which has been identified as a GENERATED column.

The statement cannot be processed.

User response: Remove the DEFAULT clause and resubmit the statement.

sqlcode: -373

sqlstate: 42623

SQL0374N The *clause* clause has not been specified in the CREATE FUNCTION statement for LANGUAGE SQL function *function-name* but an examination of the function body reveals that it should be specified.

Explanation: The following situations may be the cause of this error.

NOT DETERMINISTIC must be specified if either of the following conditions apply within the body of the function:

- a function that has the NOT DETERMINISTIC property is called,
- a special register is accessed.

MODIFIES SQL DATA must be specified if the body of the function defined with LANGUAGE SQL can modify SQL data or if it calls a function or a procedure that can modify SQL data.

READS SQL DATA must be specified if the body of the function defined with LANGUAGE SQL contains a subselect or if it calls a function that can read sql data.

EXTERNAL ACTION must be specified if the body of the function defined with LANGUAGE SQL calls a function that has the EXTERNAL ACTION property.

The statement cannot be processed.

User response: Either specify the clause or change the function body.

sqlcode: -374

sqlstate: 428C2

SQL0385W Assignment to an SQLSTATE or SQLCODE variable in an SQL routine may be over-written and does not activate any handler.

Explanation: The SQL routine includes at least one statement that assigns a value to the SQLSTATE or SQLCODE special variables. These variables are assigned values by processing of SQL statements in the SQL routine. The value assigned may therefore be over-written as a result of the SQL statement processing. Furthermore, the assignment of a value to the SQLSTATE special variable does not activate any handlers.

The routine definition was processed successfully.

User response: None required. Remove any assignments to the SQLSTATE or SQLCODE special variable to prevent the warning.

sqlcode: +385

sqlstate: 01643

SQL0388N In a CREATE CAST statement for function *function-name*, either the source *source-data-type-name* and target *target-data-type-name* are both built-in types or they are the same type.

Explanation: One of the data types must be a user-defined type. The source type and the target type cannot be the same data type.

The statement cannot be processed.

User response: Change the data type of either the source or the target.

sqlcode: -388

sqlstate: 428DF

SQL0389N The specific function instance *specific-name* identified in a CREATE CAST statement either has more than one parameter, has a parameter that does not match the source data type, or returns a data type that does not match the target.

Explanation: A cast function must

- have exactly one parameter,
- the data type of the parameter must be the same as the source data type,
- the result data type must be the same as the target data type.

The statement cannot be processed.

User response: Either chose a different function instance, change the source data type, or change the target data type.

sqlcode: -389

sqlstate: 428DG

SQL0390N The function *function-name* resolved to specific function *specific-name* that is not valid in the context where it is used.

Explanation: A function resolved to a specific function that is not valid in the context where it is used. If *specific-name* is an empty string, then the function resolved to the built-in function identified by *function-name*. Some of the possible situations include:

- the specific function is a table function where only a scalar, column, or row function is expected (such as creating a sourced scalar function).
- the specific function is a scalar, column, or row function where only a table function is expected (such as in the FROM clause of a query).
- the specific function is a row function where only a scalar or column function is expected.

- the specific function is allowed only in restricted contexts but is referenced in a context that is not allowed for the function. The description of the function specifies the contexts in which the function is allowed.

The statement cannot be processed.

User response: Ensure that the correct function name and arguments are specified and that the current path includes the schema where the correct function is defined. You may need to change the function name, the current path (using SET CURRENT FUNCTION PATH or the FUNCPATH bind option), or change the context in which the function is used.

sqlcode: -390

sqlstate: 42887

SQL0391N Invalid use of the row based function *function-name*.

Explanation: The statement uses a row based function *function_name* that cannot be used for one of the following reasons:

- The function is used in a GROUP BY or a HAVING clause but is not also included in the select list.
- The function cannot be used in this context because of the recursive nature of the statement.
- The function cannot be used in a check constraint.
- The function cannot be used in a generated column.
- The function cannot be used in a view definition where the WITH CHECK OPTION clause is specified or any view dependent on such a view having the WITH CHECK OPTION clause specified.
- The function has an argument that does not resolve to a row of a base table. This would include the situation involving a result column of an outer join where NULL producing rows are possible.
- The function cannot be used on rows from a replicated materialized query table.

SQL0400 - SQL0499

SQL0401N The data types of the operands for the operation *operator* are not compatible.

Explanation: The operation using *operator* cannot be processed for one of the following reasons:

- The data types of the operands must be compatible but there is at least one pair of types that is not compatible.
- The data type of an operand is XML which cannot be compared (with itself or any other type).
- The data type of an operand is DATALINK which cannot be compared (with itself or any other type).

The statement cannot be processed.

User response: Remove *function-name* from the context where it is not allowed.

sqlcode: -391

sqlstate: 42881

SQL0392N SQLDA provided for cursor *cursor* has been changed from the previous fetch.

Explanation: The application is running with **DB2 rules**, and has requested that LOB data be returned as a LOB in one FETCH statement, and as a locator in another FETCH statement. This is not permitted.

User response: The statement cannot be executed.

Either do not use **DB2 rules**, or change the application to not change the data type code from LOB to locator (or the reverse) in the SQLDA between successive fetches.

sqlcode: -392

sqlstate: 42855

SQL0396N Object-type *object-name* (specific name *specific-name*) attempted to execute an SQL statement during final call processing.

Explanation: A routine *object-name* (specific name *specific-name*) attempted to execute an SQL statement (other than CLOSE cursor) during FINAL CALL (call-type = 255) processing. This is not allowed.

User response: Change the routine to not issue SQL statements during FINAL CALL (call-type = 255) processing.

sqlcode: -396

sqlstate: 38505

- The data type of an operand is a structured type which cannot be compared (with itself or any other type).

Federated system users: this data type violation can be at the data source or at the federated server.

Some data sources do not provide the appropriate values for *operator*. In these cases the message token will have the following format: "<data source>:UNKNOWN", indicating that the actual value for the specified data source is unknown.

The statement cannot be processed.

User response: Check all operand data types to ensure

The statement cannot be processed.

User response: Reduce the literal value to the appropriate size.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the data range restrictions for that data source.

Range-clustered tables: ensure that the ending value in a range definition is greater than the starting value.

sqlcode: -405

sqlstate: 42820

SQL0406N A numeric value in the UPDATE or INSERT statement is not within the range of its target column.

Explanation: The value of a host variable or a numeric value calculated during processing of the UPDATE or INSERT SQL statement is outside the target column range. This problem may be caused by the values occurring in the object column, the SQL operation being performed on those values, or both.

The statement cannot be processed.

User response: See the explanation of message SQL0405 for ranges allowed for numeric data types.

NOTE: For system catalog updates, see the *SQL Reference* for valid ranges in various columns of updatable catalogs.

sqlcode: -406

sqlstate: 22003

SQL0407N Assignment of a NULL value to a NOT NULL column *name* is not allowed.

Explanation: One of the following occurred:

- The update or insert value was NULL, but the object column was declared as NOT NULL in the table definition. Consequently:
 - NULL values cannot be inserted into that column.
 - An update cannot set values in that column to NULL.
 - A SET transition-variable statement in a trigger cannot set values in that column to NULL.
- The update or insert value was DEFAULT, but the object column was declared as NOT NULL without WITH DEFAULT in the table definition. Consequently:
 - A default value of NULL cannot be inserted into that column.
 - An update cannot set default values of NULL in that column.

– A SET transition-variable statement in a trigger cannot set default values of NULL in that column.

- The column name list for the INSERT statement omits a column declared NOT NULL and without WITH DEFAULT in the table definition.
- The view for the INSERT statement omits a column declared NOT NULL and without WITH DEFAULT in the base table definition.
- An alter table statement attempted to alter the column with SET NOT NULL, but the existing table data contained a row with the NULL value.

If the value for *name* is of the form “TBSPACEID=n1, TABLEID=n2, COLNO=n3”, then the column name from the SQL statement was not available when the error was issued. The values provided identify the tablespace, table, and column number of the base table that does not allow NULL value.

Federated system users: this situation can be detected by the federated server or by the data source. Some data sources do not provide the appropriate values for *name*. In these cases the message token will have the following format: “<data source>:UNKNOWN”, indicating that the actual value for the specified data source is unknown.

The statement cannot be processed.

Note: Under some circumstances, the token *name* may not be filled in (sqlerrmc field of the SQLCA not filled in).

User response: Correct the SQL statement after examining the object table definition to determine which columns of the table have the NOT NULL attribute and do not have the WITH DEFAULT attribute.

If the value for *name* is of the form “TBSPACEID=n1, TABLEID=n2, COLNO=n3”, you can determine the table name and column name using the following query:

```
SELECT C.TABSCHEMA, C.TABNAME,
       C.COLNAME
FROM SYSCAT.TABLES AS T,
     SYSCAT.COLUMNS AS C
WHERE T.TBSPACEID = n1
AND T.TABLEID = n2
AND C.COLNO = n3
AND C.TABSCHEMA = T.TABSCHEMA
AND C.TABNAME = T.TABNAME
```

The table and column identified by this query may be the base table of a view for which the SQL statement failed.

If the error is returned as part of an alter table statement, when setting a column to NOT NULL, modify any row data for the column that contains the NULL value, and retry the statement.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the object definition for that data source. Remember that the defaults (NULL and NOT NULL) are not necessarily the same between data sources.

sqlcode: -407

sqlstate: 23502

SQL0408N A value is not compatible with the data type of its assignment target. Target name is *name*.

Explanation: The data type of the value to be assigned to the column, parameter, SQL variable, or transition variable by the SQL statement is incompatible with the declared data type of the assignment target. Both must be:

- Numeric
- Character
- Graphic
- Dates or character
- Times or character
- Timestamps or character
- Datalinks
- The same distinct types
- Reference types where the target type of the value is a subtype of the target type of the column.
- The same user-defined structured types. Or, the static type of the value must be a subtype of the static type (declared type) of the target. If a host variable is involved, the associated built-in type of the host variable must be compatible with the parameter of the TO SQL transform function defined in the transform group for the statement.

The statement cannot be processed.

User response: Examine the statement and possibly the target table or view to determine the target data type. Ensure the variable, expression, or literal value assigned has the proper data type for the assignment target. For a user-defined structured type, also consider the parameter of the TO SQL transform function defined in the transform group for the statement as an assignment target.

sqlcode: -408

sqlstate: 42821

SQL0409N The operand of a COUNT function is not valid.

Explanation: As specified in the SQL statement, the operand of the COUNT function does not conform to the rules of SQL syntax. Only COUNT(*) and COUNT(DISTINCT *column*) are allowed.

The statement cannot be processed.

User response: Specify COUNT(*) or COUNT(DISTINCT *column*).

NOTE: This message is only applicable to versions of DB2 prior to Version 2.

sqlcode: -409

sqlstate: 42607

SQL0410N The floating point literal *literal* contains more than 30 characters.

Explanation: The specified floating point literal is more than 30 characters in length, excluding leading zeros. A floating point literal has a maximum length of 30 characters.

The statement cannot be processed.

User response: Shorten the specified literal.

sqlcode: -410

sqlstate: 42820

SQL0412N Multiple columns are returned from a subquery that is allowed only one column.

Explanation: In the context of the SQL statement, a fullselect is specified that can have only one column as a result.

The statement cannot be processed.

User response: Specify only one column when only a scalar fullselect is allowed.

sqlcode: -412

sqlstate: 42823

SQL0413N Overflow occurred during numeric data type conversion.

Explanation: During processing of the SQL statement, an overflow condition arose when converting from one numeric type to another. Numeric conversion is performed according to the standard rules of SQL.

Federated system users: numeric conversion can occur at the federated server, at data sources, or both.

The statement cannot be processed. No data was retrieved, updated, or deleted.

User response: Examine the syntax of the SQL

statement to determine the cause of the error. If the problem is data-dependent, it may be necessary to examine the data processed at the time of the error.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the data range restrictions for that data source.

sqlcode: -413

sqlstate: 22003

SQL0415N The data types of corresponding columns are not compatible in a fullselect that includes a set operator or in the multiple rows of a VALUES clause of an INSERT or fullselect.

Explanation: There are various statements where this error may occur.

- It may occur within a SELECT or VALUES statement that includes set operations (UNION, INTERSECT, or EXCEPT). The corresponding columns of the subselects or fullselects that make up the SELECT or VALUES statements are not compatible.
- It may occur within an INSERT statement that is inserting multiple rows. In this case, the corresponding columns of the rows specified in the VALUES clause are not compatible.
- It may occur within a SELECT or VALUES statement where the VALUES clause is used with multiple rows. In this case, the corresponding columns of the rows specified in the VALUES clause are not compatible.

The columns are incompatible for one of the following reasons:

- Both columns are not characters
- Both columns are not numbers
- Both columns are not dates
- Both columns are not times
- Both columns are not timestamps
- Both columns are not graphic
- Both columns are not the same user-defined distinct type.

If the data type of a column is character, date, time, or timestamp the corresponding column may be a character string constant.

The statement cannot be processed.

User response: Correct the column names used in the SELECT statements or the expressions in the VALUES clause so that all corresponding columns are compatible types.

sqlcode: -415

sqlstate: 42825

SQL0416N You cannot specify a result column longer than 254 bytes in the SELECT or VALUES statements connected by a set operator other than UNION ALL.

Explanation: One of the SELECT or VALUES statements connected by a set operator specifies a result column that is longer than 254 bytes. VARCHAR or VARGRAPHIC result columns longer than 254 bytes can be used only with the UNION ALL set operator.

The statement cannot be processed.

User response: Either use the UNION ALL operator instead of UNION, or remove the result columns longer than 254 bytes from the SELECT or VALUES statements.

sqlcode: -416

sqlstate: 42907

SQL0417N A statement string to be prepared contains parameter markers as the operands of the same operator.

Explanation: The statement string specified as the object of a PREPARE or EXECUTE IMMEDIATE contains a predicate or expression in which parameter markers have been used as operands of the same operator without a CAST specification. For example:

? > ?

The statement cannot be processed.

User response: This syntax is not supported. Use a CAST specification to give at least one of the parameter markers a data type.

sqlcode: -417

sqlstate: 42609

SQL0418N A statement contains a use of a parameter marker that is not valid.

Explanation: Untyped parameter markers cannot be used:

- in a SELECT list
- as the sole argument of a datetime arithmetic operation
- in some cases as the sole argument of a scalar function
- as a sort key in an ORDER BY clause
- as an argument of an XMLQUERY, XMLEXISTS or XMLTABLE expression.

Parameter markers can never be used:

- in a statement that is not a prepared statement
- in the fullselect of a CREATE VIEW statement
- in the triggered action of a CREATE TRIGGER statement

The statement cannot be processed.

User response: Correct the syntax of the statement. If untyped parameter markers are not allowed, use the CAST specification to give the parameter marker a data type.

sqlcode: -418

sqlstate: 42610

SQL0419N A decimal divide operation is not valid because the result would have a negative scale.

Explanation: A specified decimal division is not valid because it will result in a negative scale.

The formula used internally to calculate the scale of the result for decimal division is:

Scale of result = 31 - np + ns - ds

where np is the precision of the numerator, ns is the scale of the numerator, and ds is the scale of the denominator.

Federated system users: Decimal division can occur at the federated server, at data sources, or both. The specified decimal division results in an invalid scale for that data source.

The statement cannot be processed.

User response: Examine and ensure the precision and scale of all columns that may participate in a decimal division. Note that an integer or small integer value may be converted to a decimal for this calculation.

Federated system users: if the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source) and examine the data range restrictions for that data source.

sqlcode: -419

sqlstate: 42911

SQL0420N Invalid character found in a character string argument of the function *function-name*.

Explanation: The function *function-name* has a character string argument that contains a character that is not valid in a numeric SQL constant. The function may have been called as a result of using the CAST specification with *function-name* as the target data type.

The function or data type used in the SQL statement may be a synonym for *function-name*.

If a decimal character is specified in the DECIMAL function then that is the character that must be used in place of the default decimal character.

User response: Ensure that the character strings that are being converted to numeric types contain only characters that are valid in numeric SQL constants, using the decimal character, if specified.

sqlcode: -420

sqlstate: 22018

SQL0421N The operands of a set operator or a VALUES clause do not have the same number of columns.

Explanation: The operands of a set operator such as UNION, EXCEPT, or INTERSECT must have the same number of columns. The rows in a VALUES clause must have the same number of columns.

The statement cannot be processed.

User response: Change the SQL statement so each operand, or each row of a VALUES clause, has exactly the same number of columns.

sqlcode: -421

sqlstate: 42826

SQL0423N Locator variable *variable-position* does not currently represent any value.

Explanation: A locator variable is in error. Either it has not had a valid result set locator or LOB locator variable value assigned to it, the locator associated with the variable has been freed, or the result set cursor has been closed.

If *variable-position* is provided, it gives the ordinal position of the variable in error in the set of variables specified. Depending on when the error is detected, the database manager may not be able to determine *variable-position*.

Instead of an ordinal position, *variable-position* may have the value "function-name RETURNS", which means that the locator value returned from the user-defined function identified by function-name is in error.

User response: Correct the program so that the locator variables used in the SQL statement have valid values before the statement is executed. A LOB value can be assigned to a locator variable by means of a SELECT INTO statement, a VALUES INTO statement, or a FETCH statement. Result set locator values are returned by the ASSOCIATE LOCATORS statements. Result set locator values are only valid as long as the underlying SQL cursor is open. If a commit or rollback operation closes an SQL cursor, the result set locator

associated with the cursor is no longer valid.

If this was a WITH RETURN cursor, ensure the cursor is opened before attempting to allocate it.

sqlcode: -423

sqlstate: 0F001

SQL0426N Dynamic commit invalid for application execution environment.

Explanation: An application executing in a CONNECT TYPE 2 environment or Distributed Transaction Processing (DTP) environment such as CICS has attempted to execute an SQL dynamic COMMIT statement. The SQL dynamic COMMIT statement cannot be executed in this environment.

Federated system users: SQL dynamic COMMIT statements cannot be executed during a pass-through session.

User response:

- Use the commit statement provided by the DTP environment to perform the commit. For example, in a CICS environment this would be the CICS SYNCPOINT command.
- If this statement was executed within a stored procedure, remove the statement entirely.

Federated system users: Either comment out the COMMIT statement or code it as a static statement. Then resubmit your program.

sqlcode: -426

sqlstate: 2D528

SQL0427N Dynamic rollback invalid for application execution environment.

Explanation: An application executing in a CONNECT TYPE 2 environment or Distributed Transaction Processing (DTP) environment such as CICS has attempted to execute an SQL dynamic ROLLBACK statement. The SQL dynamic ROLLBACK statement cannot be executed in this environment.

Federated system users: SQL dynamic ROLLBACK statements cannot be executed during a pass-through session.

User response:

- Use the rollback statement provided by the DTP environment to perform the rollback. For example, in a CICS environment this would be the CICS SYNCPOINT ROLLBACK command.
- If this statement was executed within a stored procedure, remove the statement entirely.

Federated system users: Either comment out the ROLLBACK statement or code it as a static statement. Then resubmit your program.

sqlcode: -427

sqlstate: 2D529

SQL0428N The SQL statement is only allowed as the first statement in a unit of work.

Explanation: The SQL statement that was issued is required to execute before any other SQL statement that initiates a unit of work. Following are possible situations:

- The SQL statement must be first in the unit of work and SQL has been issued against the connection within the unit of work.
- The SQL statement must be first in the unit of work and a WITH HOLD cursor is currently open for the connection.

Note that when the statement is DISCONNECT ALL, it causes the DISCONNECT to be directed against all connections, so the request will fail if any of the connections violate the above restrictions.

User response: Issue a COMMIT or ROLLBACK prior to processing the SQL statement. If there are any WITH HOLD cursors, these will need to be closed. If the statement is SET INTEGRITY, remove the COMMIT THRESHOLD clause.

sqlcode: -428

sqlstate: 25001

SQL0429N The maximum number of concurrent LOB locators has been exceeded.

Explanation: A maximum of 32,000 concurrent LOB locators per unit of work, is supported by DB2.

User response: Modify the program so that it requires fewer concurrent LOB locators and try again.

sqlcode: -429

sqlstate: 54028

SQL0430N User defined function *function-name* (specific name *specific-name*) has abnormally terminated.

Explanation: An abnormal termination has occurred while the named UDF was in control.

User response: The UDF needs to be fixed. Contact the author of the UDF or your database administrator. Until it is fixed, the UDF should not be used.

sqlcode: -430

sqlstate: 38503

SQL0431N User defined function *function-name* (specific name *specific-name*) has been interrupted by the user.

Explanation: A user/client interrupt has occurred while the named UDF was in control.

User response: This could indicate some problem in the UDF, such as an infinite loop or wait. If the problem persists, (that is, the need to interrupt results in the same error condition), then contact the author of the UDF or your database administrator. Until the problem is fixed, the UDF should not be used.

sqlcode: -431

sqlstate: 38504

SQL0432N A parameter marker cannot have the user defined type name or reference target type name *udt-name*.

Explanation: A parameter marker in the statement has been determined as having the user-defined type *udt-name* or a reference type with the target type *udt-name* based on the context in which it is used. A parameter marker cannot have a user-defined type or reference type as its data type unless it is part of an assignment (VALUES clause of INSERT or SET clause of UPDATE) or it is being explicitly cast to a user-defined distinct data type or reference data type using the CAST specification.

The statement cannot be processed.

User response: Use an explicit cast to the user-defined distinct data type or reference data type for the parameter marker. An alternative is to cast the columns that are user-defined distinct data types to their corresponding source data type or columns that are reference data types to their corresponding representation type.

sqlcode: -432

sqlstate: 42841

SQL0433N Value *value* is too long.

Explanation: The value *value* required truncation by a system (built-in) cast or adjustment function, which was called to transform the value in some way. The truncation is not allowed where this value is used.

The value being transformed is one of the following:

- an argument to a user defined function (UDF)
- an input to the SET clause of an UPDATE statement
- a value being INSERTed into a table
- an input to a cast or adjustment function in some other context

- a recursively referenced column whose data type and length is determined by the initialization part of recursion and may grow in the iterative part of the recursion
- an XML data value being serialized to the output by XMLSERIALIZE function.

The statement cannot be processed.

User response: If *value* is a literal string in the SQL statement, it is too long for its intended use.

If *value* is not a literal string, examine the SQL statement to determine where the transformation is taking place. Either the input to the transformation is too long, or the target is too short.

Correct the problem and rerun the statement.

sqlcode: -433

sqlstate: 22001

SQL0434W An unsupported value for clause *clause* has been replaced by the value *value*.

Explanation: The value that was specified for clause *clause* is not supported and has been replaced with the identified supported value *value*.

User response: No change is required if the selected value is acceptable. Otherwise, specify a value that is valid for *clause*.

sqlcode: +434

sqlstate: 01608

SQL0435N An invalid application defined SQLSTATE *sqlstate* was specified.

Explanation: The SQLSTATE value specified by the RAISE_ERROR function or on the SIGNAL or RESIGNAL statement does not conform to the rules for an application defined SQLSTATE.

User response: Correct the specified value for the SQLSTATE. The SQLSTATE value must be a character string containing exactly 5 characters. It must be of type CHAR defined with a length of 5, or type VARCHAR defined with a length of 5 or greater. The SQLSTATE value must follow the rules for application-defined SQLSTATES.

The following are the rules for an SQLSTATE value specified on the SIGNAL or RESIGNAL statement.

- Each character must be from the set of digits ('0' through '9') or non-accented upper case letters ('A' through 'Z').
- The SQLSTATE class (first two characters) cannot be '00'.

The following are the rules for an SQLSTATE value specified by the RAISE_ERROR function

- Each character must be from the set of digits ('0' through '9') or non-accented upper case letters ('A' through 'Z')
- The SQLSTATE class (first two characters) cannot be '00', '01', or '02' since these are not error classes.
- If the SQLSTATE class (first two characters) starts with the character '0' through '6' or 'A' through 'H', then the subclass (last three characters) must start with a character in the range 'I' through 'Z'
- If the SQLSTATE class (first two characters) starts with the character '7', '8', '9' or 'I' through 'Z', then the subclass (last three characters) can be any of '0' through '9' or 'A' through 'Z'.

sqlcode: -435

sqlstate: 428B3

SQL0436N The terminating NULL character is missing from the C language NULL-terminated character string host variable.

Explanation: The value of an input host variable code in the C programming language requires a NULL-terminator character at the end of the string.

The statement cannot be processed.

User response: Ensure that the value of the input host variable is terminated by the NULL-terminator character.

sqlcode: -436

sqlstate: 22024

SQL0437W Performance of this complex query may be sub-optimal. Reason code: *reason-code*.

Explanation: The statement may achieve sub-optimal performance since the complexity of the query requires resources that are not available or optimization boundary conditions were encountered. The following is a list of reason codes:

- 1 The join enumeration method was altered due to memory constraints
- 2 The join enumeration method was altered due to query complexity
- 3 Optimizer cost underflow
- 4 Optimizer cost overflow
- 5 Query optimization class was too low
- 6 Optimizer ignored an invalid statistic
- 15 Chosen plan materializes an intermediate result set, whose size might exceed the limit imposed by the registry variable DB2_OPT_MAX_TEMP_SIZE

The statement will be processed.

User response: One or more of the following:

- Increase the size of the statement heap (stmtheap) in the database configuration file. (Reason code 1)
- Break the statement up into less complex SQL statements. (Reason codes 1,2,3,4)
- Ensure predicates do not over-specify the answer set (Reason code 3)
- Change the current query optimization class to a lower value (Reason codes 1,2,4)
- Issue Runstats for the tables involved in the query (Reason codes 3,4)
- Change the current query optimization class to a higher value (Reason code 5)
- Reissue RUNSTATS for both the tables involved in the query and their corresponding indexes, that is, use the AND INDEXES ALL clause so that table and index statistics are consistent (Reason code 6)
- If the materialization is caused by a spilling sort, try creating an index that would avoid the sort. To suppress the warning, increase the value specified by the registry variable DB2_OPT_MAX_TEMP_SIZE or unset it completely. (Reason code 15)

sqlcode: +437

sqlstate: 01602

SQL0438N Application raised error with diagnostic text: *text*.

Explanation: This error or warning occurred as a result of execution of the RAISE_ERROR function or the SIGNAL SQLSTATE statement in a trigger. An SQLSTATE value that starts with '01' or '02' indicates a warning.

User response: See application documentation.

sqlcode: -438, +438

sqlstate: application-defined

SQL0439N User defined function *function-name* is indirectly implemented by function *source-function* which resulted in error *sqlcode*.

Explanation: The function *function-name* was referenced in the user's statement. However, because the SOURCE clause was used in the definition of this function, it has turned out that function *source-function* actually implements the function. (It may be a direct or an indirect definition path from *function-name* to *source-function*.) At compile time, the encapsulator (DB2 code which acts on behalf of a function) for *source-function* has returned the error identified by *sqlcode*.

User response: The actual error situation needs to be

understood better before corrective action can be taken. Look up the explanation for *sqlcode*. If *source-function* is a built-in function, the *sqlcode* should indicate the problem, as in the case where a built-in function is directly referenced in the user's statement. If *source-function* is a user defined function, the message most likely indicates a problem with one of the arguments or with the result from the function.

Correct the problem and try again.

sqlcode: -439

sqlstate: 428A0

SQL0440N No authorized routine named *routine-name* of type *routine-type* having compatible arguments was found.

Explanation: This occurs in a reference to routine *routine-name*, when the database manager cannot find a routine it can use to implement the reference. There are several reasons why this could occur:

- *routine-name* was either incorrectly specified or does not exist in the database.
- A qualified reference was made, and the qualifier was incorrectly specified.
- The user's SQL path does not contain the schema to which the desired function or method belongs, and an unqualified reference was used.
- The wrong number of arguments were included.
- The right number of arguments were included in the function or method reference, but the data types of one or more of the arguments is incorrect.
- The routine does not exist in the database with the same function id that was used when the package was bound (applies to static statements).
- The mutator method corresponding to an attribute assignment used in an UPDATE statement could not be found. The data type of the new value for the attribute is not a data type that is the same or promotable to the data type of the attribute.
- The routine invoker is not authorized to execute the routine.

User response: Fix the problem and retry. This could involve catalog access, a change to the statement, a grant of the execute privilege to the routine invoker, the addition of new functions, and/or a change to the SQL path.

sqlcode: -440

sqlstate: 42884

SQL0441N Invalid use of keyword DISTINCT or ALL with function *function-name*.

Explanation: There are several possible causes.

- The keyword DISTINCT or ALL was detected within the parentheses in a reference to function

function-name, and the function has been resolved as a scalar function. Use of the keyword DISTINCT or ALL with a scalar function is invalid.

- The keyword DISTINCT is used in a column function for which it is not supported. These functions include COVARIANCE, CORRELATION and the linear regression functions (those that start with REGR).
- The function was expected to be a column function supporting the keyword ALL or DISTINCT but the function it resolved to was not a column function.

User response:

- If a scalar function is being used, then remove the keyword DISTINCT or ALL. It is invalid for a scalar function.
- If the function is a column function that does not support the DISTINCT or ALL keywords, then remove the keywords.
- If a column function is being used, then there is a problem with function resolution. Check your function path to see if the desired function is in one of the schemas, and also check the SYSFUNCTIONS catalog for the spelling of the function name and the number and types of parameters.

Correct the error and try again.

sqlcode: -441

sqlstate: 42601

SQL0442N Error in referring to routine *routine-name*. The maximum number of allowable arguments (90) has been exceeded.

Explanation: Too many arguments were specified in the reference to routine *routine-name*. The maximum allowable is 90.

User response: Correct the statement by ensuring that the correct number of arguments has been used and try again.

sqlcode: -442

sqlstate: 54023

SQL0443N Routine *routine-name* (specific name *specific-name*) has returned an error SQLSTATE with diagnostic text *text*.

Explanation: An SQLSTATE was returned to DB2 by routine *routine-name* (specific name *specific-name*), along with message text *text*. The routine could be a user-defined function or a user-defined method.

User response: The user will need to understand the meaning of the error. See your Database Administrator, or the author of the routine.

Errors that are detected by the IBM supplied functions

in the SYSFUN schema all return the SQLSTATE 38552. The message text portion of the message is of the form: SYSFUN:nn

where nn is a reason code meaning:

- | | |
|----|---|
| 01 | Numeric value out of range |
| 02 | Division by zero |
| 03 | Arithmetic overflow or underflow |
| 04 | Invalid date format |
| 05 | Invalid time format |
| 06 | Invalid timestamp format |
| 07 | Invalid character representation of a timestamp duration |
| 08 | Invalid interval type (must be one of 1, 2, 4, 8, 16, 32, 64, 128, 256) |
| 09 | String too long |
| 10 | Length or position in string function out of range |
| 11 | Invalid character representation of a floating point number |
| 12 | Out of memory |
| 13 | Unexpected error |

Errors that are detected by the IBM supplied routines in the SYSIBM or SYSPROC schemas and IBM supplied procedures in the SYSFUN schema all return the SQLSTATE 38553. The message text portion of the message contains a message number that may be an SQLCODE, (for example, SQL0572N), a DBA error message (for example, DBA4747), or some other indication from the routine as to what error was encountered. Note that if the message for the message number would normally contain tokens, these token values are only available in the db2diag.log file.

sqlcode: -443

sqlstate: (the SQLSTATE returned by the routine).

SQL0444N Routine *routine-name* (specific name *specific-name*) is implemented with code in library or path *library-or-path*, function *function-code-id* which cannot be accessed. Reason code: *code*.

Explanation: The DBMS is trying to access the body of code that implements routine *routine-name* (specific name *specific-name*), and cannot access it for the reason given by reason code *code* (the codes are listed below). The file implementing the routine is identified by *library-or-path*, and the function by *function-code-id*.

The last two tokens might be truncated due to a limit on the maximum available token length. The following

query can be used to get the full library path and function names from the DB2 catalog views:

```
SELECT implementation
FROM syscat.routines
WHERE specificname = 'specific-name'
```

- | | |
|---|--|
| 1 | Path name <i>library-or-path</i> is longer than the maximum (255 bytes). |
| 2 | The DB2 instance path name could not be retrieved from DB2. |
| 3 | The path <i>library-or-path</i> could not be found. |
| 4 | |

The file in *library-or-path* could not be found, because of one of the following reasons:

1. The routine library associated with the routine is not available in the location specified by the EXTERNAL clause in the routine CREATE statement definition.
2. The routine library is dependent on a shared library that cannot be located (within the concatenation of directories specified in the LIBPATH environment variable in UNIX-based systems, or the PATH environment variable in Windows systems). There can be multiple levels of this indirection involved, leading to this reason code. For example, routine body X can be found, and it needs shared library Y which can also be found. But Y needs another shared library Z that cannot be located.
3. This is a partitioned database and the library is not located in one of the partitions on which the user-defined function was run.

5

There is insufficient memory to load the library containing the function or one or more symbols could not be resolved. This reason code indicates one of the following situations:

1. One or more symbols might not have been resolved. The routine library might be dependent on a shared library that cannot be located (using the concatenation of directories specified in the LIBPATH environment variable in UNIX-based systems, the PATH environment variable in INTEL systems).
2. The routine has a 64-bit library which is not supported within a 32-bit DB2 instance, or, the routine has a 32-bit library or DLL within a 64-bit DB2 instance that is incompatible with the routine definition.
3. There was insufficient memory to load the library containing the function.

- 6 The function *function-code-id* could not be found in the library that was named.
- 7 The symbol given as the function name (*function-code-id*) is not the name of a valid function in the named library.
- 8 The "load" system function has failed, for reasons other than those given above. The object file might not have been linked properly or not have been linked at all.
- 9 There was insufficient memory to resolve the function name *function-code-id* in the library identified in *library-or-path*.
- 10 The "loadquery" system call has failed. This can only happen on Unix systems, and is a symptom that the database manager has not been installed correctly.
- 11 The agent process is searching for a particular database manager function that should be in the libdb2.a library, and it cannot find it. This can only happen on Unix systems, and is a symptom that the database manager is not correctly installed.
- 15 System or network access has been denied. This can happen in Windows NT environments if the EXTERNAL NAME specification in the routine definition statement does not specify a full path, or the function does not exist in the <db2 installation path>\function directory, necessitating a search using the PATH environment variable. For example, If the PATH contains a LAN drive prior to the directory containing your function and the DB2 instance is running under the SYSTEM account, this reason code can result.

other: An unidentified system failure has occurred.

Federated system users: if this user defined function is a function template (and thus no code is required to reside on the federated server), consider modifying the SQL statement or statistics to enable this function to be evaluated on the remote data source.

User response: Given for each reason code:

- 1 Either the routine definition needs to be changed to specify a shorter path, or the DB2 instance path name is too long. Analyze the routine definition within the DB2 catalog views to determine which is the case. It may be necessary to move the function body to a directory with a shorter path name.

2, 10, and 11

See your system administrator, and provide them with the full text of the appropriate reason code.

3, 6, and 7

See the routine creator or your database administrator. Provide them with the full text of the appropriate reason code. The routine definition or the location of the routine library will need to be corrected.

4

Possible solutions are grouped by the causes provided in the message explanation:

1.
 - Correct the routine definition EXTERNAL clause value or verify that the routine library is in the location specified by the EXTERNAL clause.
 - If you have recently migrated your database to a new release or FixPak and the routine is a system-defined routine, do the following: for post-release migration: Run the db2iupt <instance> command and restart the instance, for post-fixpak migration: Run the "db2updv8 -d <db-alias>" command and restart the instance
 - Verify that the routine library is available to DB2. For fenced routines, verify that the fenced process owner has execute access permission on the library or DLL. For unfenced routines, verify that the instance owner has read access permissions on the library or DLL.
2. The routine should be relinked or user should verify that dependent libraries are available in the LIBPATH (Unix) or PATH (INTEL). Use the db2set command to update the LIBPATH to include the path where the library or DLL is located. For example, db2set db2libpath=/db2test/db2inst1/sql
3. In a partitioned database, the library associated with a user-defined function must be accessible as *library-or-path* on all partitions of the database. Verify that the routine library has been deployed to the function directory on all partitions of the database.

5

Possible solutions are ordered to match the causes provided in the message explanation:

1. There can be multiple levels of this indirection involved, leading to this reason code. For example, routine body X can be found, and it requires shared library Y which is also found, however Y needs another shared library Z that cannot be located. The routine library should be relinked or the user should verify that all

dependent libraries are available in the LIBPATH (Unix) or PATH (INTEL). Use the db2set command to update the LIBPATH to include the path where the library is located. For example, db2set db2libpath=/db2test/db2inst1/sql

2. Use a supported library.
3. If a lack of memory is determined then the system configuration may need to be changed to make more memory available to DB2.

- 8 Ensure that the module is correctly linked.
- 9 Contact the routine creator or your database administrator to make sure the library containing the function was correctly linked. The system configuration may need to be changed to make more memory available to DB2 Server.

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Verify that the EXTERNAL NAME clause in the routine definition statement contains the full path, or the function exists in the <db2 installation path>\function directory.

If either of the above is correct and the error occurs due to a DB2 instance running under an account which cannot access a LAN drive prior to the directory containing your function in the PATH environment variable, you need to reconfigure the DB2 service to run under a user account that has access to all the network paths that are in the PATH environment variable.

When assigning a user account to the DB2 service, make sure that the account is granted all the required advanced user rights as documented in the Quick Beginnings book.

other: Note the code, and see your system administrator.

Federated system users: if this user defined function is a function template (and thus no code is required to reside on the federated server), you may want to consider modifying the SQL statement or statistics to enable this function to be evaluated on the remote data source.

sqlcode: -444

sqlstate: 42724

SQL0445W Value *value* has been truncated.

Explanation: The value *value* was truncated when transformed in some way by a system (built-in) cast, adjustment, or codepage-conversion function. This is a warning situation.

The value being transformed may be one of:

- The output of a routine (user-defined function (UDF) or method), and is being transformed because of a CAST FROM specification in the routine definition.
- The output of a routine (user-defined function (UDF) or method) that is sourced on another function and the result needed to be transformed.
- The output of a built-in string processing routine that needed to perform codepage conversion during processing, for example, due to a string length unit specification.

User response: Ensure that the output is as expected and that the truncation has not caused any unexpected consequences.

sqlcode: +445

sqlstate: 01004

SQL0447W The statement contains redundant specifications involving the clause *clause*.

Explanation: The *clause* keyword was included more than once in the statement. This is a warning condition.

User response: If the redundancy was intentional, or if it is determined that no harm has resulted, then no response is necessary. The type of "harm" alluded to could include, for example, the omission of some other desired keyword.

sqlcode: +447

sqlstate: 01589

SQL0448N Error in defining routine *routine-name*. The maximum number of allowable parameters (90 for user defined functions and methods, 32767 for stored procedures) has been exceeded.

Explanation: Too many parameters were specified when defining routine *routine-name*. The routine definition statement may be a CREATE FUNCTION, CREATE PROCEDURE, CREATE TYPE (method definition), or ALTER TYPE (method definition).

User response: Change the statement to include fewer parameters.

sqlcode: -448

sqlstate: 54023

SQL0449N The statement defining routine *routine-name* contains an invalidly formatted library/function identification in the EXTERNAL NAME clause.

Explanation: An error was found in the EXTERNAL NAME clause of the CREATE statement for user defined function (UDF), user-defined method, or

procedure *routine-name*. The rules for the library/function identification are as follows:

For LANGUAGE C, the name takes the form '*<a>*' or '*<a>!*' as follows:

- *<a>* is the file name containing the routine (function) to invoke
- ** is the entry point (function) within *<a>* that will be invoked as the body of the routine. If ** is omitted, the default entry point of *<a>* will be used.

For LANGUAGE OLE, the name takes the form '*<a>!*' as follows:

- *<a>* is the programmatic or class identifier of the OLE object
- ** is the method of the object to invoke.

For LANGUAGE JAVA and LANGUAGE CLR, the name takes the form '*<a>:!<c>*' as follows:

- *<a>* is the jar identifier (LANGUAGE JAVA) or assembly file (LANGUAGE CLR) in which the class is located. '*<a>*:' is optional for LANGUAGE JAVA and if it is omitted the corresponding class must reside in either the function directory or the CLASSPATH.
- ** is the class in which the method to invoke resides
- *<c>* is the method to invoke. For LANGUAGE JAVA '*<c>*' can be used as an alternative to '*!<c>*'

For all languages, no leading or trailing blank characters are permitted between the single quotes, object identifiers, or the separating characters (for example, '*<a> ! *' is invalid). Path and file names, however, may contain blanks if the platform permits.

For all file names, the file can be specified by using either the short form of the name (examples: *math.a* (on UNIX), *math.dll* (on Windows)) or the fully qualified pathname (examples: */u/slick/udfs/math.a* (on UNIX), *d:\udfs\math.dll* (on Windows)). If the short form of the file name is used, the file must be located as follows:

- If the platform is UNIX or the routine is a LANGUAGE CLR routine: in the function directory
- Otherwise, if the platform is Windows: in the system PATH

File extensions (examples: *.a* (on UNIX), *.dll* (on Windows)) should always be included in the file name.

User response: Correct the problem and try again. A possible cause is the inclusion of a blank, or having the '*!*' or '*:*' at the beginning or end of the name.

sqlcode: -449

sqlstate: 42878

SQL0450N Routine *routine-name* (specific name *specific-name*) has generated a result value, SQLSTATE value, message text, or scratchpad which is too long.

Explanation: Upon return from routine *routine-name* (specific name *specific-name*), DB2 has detected that more bytes were returned than were allocated for one of the following:

- the result value (based upon the routine definition). There are several possible causes:
 - Too many bytes were moved to the result buffer.
 - The data type is one where the data value must be delimited by a null, such as VARCHAR(n), and the delimiting null was not within the range of the defined size.
 - DB2 is expecting a two- or four- byte length value preceding the value, and this length exceeds the defined size of the result.
 - A LOB locator is returned by the routine, and the length of the LOB value associated with this locator exceeds the defined size of the result.

The definition of the result argument in the Routine must conform to the requirement for the data type.

- the SQLSTATE value (6 bytes including the null terminator)
- the message text (71 bytes including the null terminator).
- the scratchpad content (length declared on CREATE FUNCTION).

This is not permitted.

This error will also be returned if the length field of the scratchpad is altered by the routine.

User response: See your Database Administrator, or the author of the routine.

sqlcode: -450

sqlstate: 39501

SQL0451N The *data-item* definition, in the statement that defines routine *routine-name*, contains a data type *type* that is not appropriate for a non-sourced routine written in the given language.

Explanation: An error was made in the *data-item* part of the statement defining routine *routine-name*. The user's statement contained the invalid type *type*, or it contained a user defined type (UDT) which is based on the invalid type *type*. The routine definition may be a CREATE FUNCTION, CREATE PROCEDURE, CREATE TYPE (method definition), or ALTER TYPE (method definition).

data-item is a token that identifies the area of the

problem in the statement. For example, "PARAMETER 2" or "RETURNS" or "CAST FROM".

User response: Determine which situation has occurred, and take corrective action. Possible corrective actions include:

- Changing the routine definition to a supported type; for example, from DECIMAL to FLOAT. This may involve a change in the routine body itself, and may also involve use of cast functions upon use of the routine.
- Creating a new (suitably based) user defined type, or changing the definition of an existing UDT.

sqlcode: -451

sqlstate: 42815

SQL0452N Unable to access the file referenced by host variable *variable-position*. Reason code: *reason-code*.

Explanation: An error was encountered attempting to access or while accessing the file referenced by the "nth" host variable, where n = *variable-position*, for the reason given by *reason-code*. <variable-position> is set to 0 if the host variable position could not be determined. The possible reason codes are as follows:

- 01 - The file name length is invalid or the file name and/or the path has an invalid format.
- 02 - The file option is invalid. It must have one of the following values:
SQL_FILE_READ
-read from an existing file
SQL_FILE_CREATE
-create a new file for write
SQL_FILE_OVERWRITE
-overwrite an existing file.
If the file does not exist,
create the file.
SQL_FILE_APPEND
-append to an existing file.
If the file does not exist,
create the file.
- 03 - The file cannot be found.
- 04 - The SQL_FILE_CREATE option was specified for a file with the same name as an existing file.
- 05 - Access to the file was denied. The user does not have permission to open the file.
- 06 - Access to the file was denied. The file is in use with incompatible modes. Files to be written to are opened in exclusive mode.
- 07 - Disk full was encountered while writing to the file.
- 08 - Unexpected end of file encountered while reading from the file.
- 09 - A media error was encountered while accessing the file.

- 10 - An incomplete or invalid multibyte character was encountered while reading from the file.
- 11 - An error was encountered while converting data from the file code page to the application's graphic character code page.

User response:

For reason code 01, correct the file name length, file name and/or path.

For reason code 02, specify a valid file option.

For reason code 03, ensure that the file specified exists before attempting to access the file.

For reason code 04, either delete the file if it is no longer required or specify a file name that does not currently exist.

For reason code 05, ensure that the user has access (correct file permissions) to the file.

For reason code 06, either use a different file or, if the file must be accessed, modify the application to ensure that the file is not accessed concurrently.

For reason code 07, delete unnecessary files to free up disk space or specify a file that resides on another drive/file system with sufficient disk space. Also, ensure that no operating system or user file size limits were reached. If your application code page uses a multibyte encoding scheme it is possible that only part of the last character was written, ensure that the file contains only fully formed characters.

For reason code 08, if a file is to be used for input, ensure that the file is not modified before the entire file has been read.

For reason code 09, correct all errors on the media where the file resides.

For reason code 10, ensure that the file contains valid multibyte characters based on the code page of the application or submit the request while running under the same code page as the contents of the file.

For reason code 11, ensure that character conversion support between the code page of the file, for example Japanese EUC, and the graphic code page of the application, for example UCS-2, is installed.

sqlcode: -452

sqlstate: 428A1

SQL0453N A problem has been identified with the RETURNS clause in the statement that defines the routine *routine-name*.

Explanation: A problem casting the result of routine *routine-name* has been identified. The CAST FROM data type is not castable to the RETURNS data type, and it should be. See the *SQL Reference* for details on casting between data types.

User response: Change the RETURNS or CAST FROM

clause so that the CAST FROM data type is castable to the RETURNS data type.

sqlcode: -453

sqlstate: 42880

SQL0454N The signature provided in the definition for routine *routine-name* matches the signature of some other routine that already exists in the schema or for the type.

Explanation: The signature of a function consists of the function name, the number of parameters defined for the function, and an ordered list of the types of the parameters (without regard to any parameters of the types).

The signature of a method consists of the method name, the subject type of the method, the number of parameters defined for the method, and an ordered list of the types of the parameters (without regard to any parameters of the types).

The signature of a procedure consists of the procedure name and the number of parameters defined for the procedure (data types are not considered).

In this case, either:

- there is a function or procedure (*routine-name*) already in the schema having the same signature as the function or procedure being created
- there is a method (*routine-name*) for the subject type having the same signature as the method specification being added or the method body being created

The statement cannot be processed.

User response: Determine if the existing routine already provides the functionality desired. If not, then the signature of the routine will have to be changed; for example, by changing the routine name.

sqlcode: -454

sqlstate: 42723

SQL0455N In routine *routine-name*, the schema name *schema-name1* provided for the SPECIFIC name does not match the schema name *schema-name2* of the routine.

Explanation: If the SPECIFIC name is specified as a two part name, the *schema-name1* portion must be the same as the *schema-name2* portion of the *routine-name*. Note that the *schema-name2* portion of *routine-name* may have been specified directly or it may have defaulted to the authorization ID of the statement. If the routine is a method, *schema-name* refers to the schema name of the subject type of the method.

User response: Correct the statement and try again.

sqlcode: -455

sqlstate: 42882

SQL0456N In the definition of routine *routine-name*, the SPECIFIC name *specific-name* already exists in the schema.

Explanation: The user has supplied an explicit SPECIFIC name *specific-name* in the definition of routine *routine-name*, but this name already exists as the SPECIFIC name for a function, method, or procedure in the schema.

User response: Choose a new SPECIFIC name and try again.

sqlcode: -456

sqlstate: 42710

SQL0457N A function, method, user-defined data type, or structured data type attribute cannot be called *name* since it is reserved for system use.

Explanation: The user-defined function, method, user-defined data type, or structured data type cannot be created because a specified name is reserved for use by the system. Names that cannot be used for function names, distinct type names, structured type names, or attribute names include:

"=", "<", ">", ">=", "<=",
"&=", "&>", "&<,"
"!=", "!>", "!<", "<>,"
SOME, ANY, ALL, NOT, AND, OR,
BETWEEN, NULL, LIKE, EXISTS, IN,
UNIQUE, OVERLAPS, SIMILAR, and MATCH.

User response: Select a name for the function, method, user-defined data type, or structured data type attribute that is not reserved for system use.

sqlcode: -457

sqlstate: 42939

SQL0458N In a reference to routine *routine-name* by signature, a matching routine could not be found.

Explanation: In a reference to function, method, or stored procedure *routine-name* by signature, no matching function, method, or stored procedure could be found.

If a data type is used that can accept a parameter, then the type parameter is optional. For example, for CHAR(12), you can either specify the parameter (CHAR(12) or omit it (CHAR()). If you specify the parameter, then the DBMS will only accept an exact match on the data type AND the data type parameter. If you omit the parameter, then the DBMS will accept a

match on data type only. The CHAR() syntax provides a way to tell the DBMS to ignore data type parameters when finding a matching function.

Note also that in the DROP FUNCTION/PROCEDURE, COMMENT ON FUNCTION/PROCEDURE and TRANSFER OWNERSHIP FUNCTION/PROCEDURE/METHOD statements, an unqualified reference is qualified with the statement authorization ID, and this is the schema where the problem can be found. In the SOURCE clause of a CREATE function, the qualification comes from the current function path. In this case, there is no matching function in the entire path.

A function cannot be sourced on the COALESCE, NULLIF, NODENUMBER, PARTITION, RAISE_ERROR, TYPE_ID, TYPE_NAME, TYPE_SCHEMA, or VALUE built-in functions.

The statement cannot be processed.

User response: Possible responses include:

- Changing the function path to include the correct schema.
- Removing parameters from the specifications of data types.
- Using a SPECIFIC name to refer to the function or procedure instead of a signature.

sqlcode: -458

sqlstate: 42883

SQL0461N A value with data type *source-data-type* cannot be CAST to type *target-data-type*.

Explanation: The statement contains a CAST with the first operand having a data type of *source-data-type* to be cast to the data type *target-data-type*. This cast is not supported.

User response: Change the data type of either the source or target so that the cast is supported. For predefined data types these are documented in the SQL Reference. For a cast involving a user-defined distinct type, the cast can be between the base data type and the user-defined distinct type or from a data type that is promotable to the base data type to the user-defined distinct type.

sqlcode: -461

sqlstate: 42846

SQL0462W Routine *routine-name* (specific name *specific-name*) has returned a warning SQLSTATE, with diagnostic text *text*.

Explanation: An SQLSTATE of the form 01Hxx was returned to DB2 by routine *routine-name* (with specific name *specific-name*), along with message text *text*.

User response: The user will need to understand the

meaning of the warning. See your database administrator, or the author of the routine.

sqlcode: +462

sqlstate: 01Hxx

SQL0463N Routine *routine-name* (specific name *specific-name*) has returned an invalid SQLSTATE *state*, with diagnostic text *text*.

Explanation: The valid SQLSTATEs that a routine can return are 38xxx (error), 38502 (error) and 01Hxx (warning). This routine *routine-name* (specific name *specific-name*) returned an invalid SQLSTATE *state*, along with message text *text*. The routine is in error.

User response: The routine will need to be corrected. See your database administrator, or the author of the routine. The application significance of the bad SQLSTATE can also be learned from the routine author.

sqlcode: -463

sqlstate: 39001

SQL0464W Procedure *procedure-name* returned *generated-nbr-results* query result sets, which exceeds the defined limit *max-nbr-results*.

Explanation: The stored procedure named by *procedure-name* completed normally. However, the stored procedure exceeded the defined limit on the number of query result sets the procedure can return.

generated-nbr-results

identifies the number of query result sets returned by the stored procedure.

max-nbr-results

identifies the defined limit on the number of query result sets for the stored procedure.

Only the first *max-nbr-results* query result sets are returned to the SQL program that issued the SQL CALL statement.

The possible causes are as follows:

- The stored procedure is unable to return *generated-nbr-results* result sets due to the DRDA limitations imposed by the client. The DRDA client establishes this limit with the MAXRSLCNT DDM code point.
- The procedure was called from a C application. The processing of result sets is not supported for C, so the result set is simply closed before returning to the C application.

User response: The SQL statement is successful. The SQLWARN9 field is set to 'Z'.

sqlcode: +464

sqlstate: 0100E

SQL0465N Unable to start, initialize, or communicate with fenced mode process.
Reason code *code*.

Explanation: There is a system related problem involved with the running of a fenced mode routine (user-defined function or method). The exact nature of the problem is indicated by *code*. This is NOT a user problem. Possible reason codes are:

Routine process errors

- 21: Failure to initialize internal data or application data.
- 22: Failure to register signal handlers.
- 23: Failure to grant agent process the access permission for the REQUEST QUEUE.
- 24: Failure to connect to the routine process Shared Memory.
- 25: Failure to open the REPLY QUEUE.
- 26: Failure to write to the REPLY QUEUE.
- 27: Failure to create the REQUEST QUEUE.
- 28: Failure to read from the REQUEST QUEUE.
- 29: Routine process dies.
- 30: Routine process catches an USER INTERRUPT signal.
- 31: Failure to unload routine module.
- 32: Failure to allocate storage for control blocks used in module loading/unloading.
- 33: Failure to send SIGINT from agent process to routine process.
- 34: Failure to initialize OLE library.
- 35: Failure to initialize OLE DB Initialization Service Component.
- 40: Internal error occurred in routine process.

Agent process errors

- 41: Failure to spawn routine process.
- 42: Failure to create the REPLY QUEUE.
- 43: Failure to read from the REPLY QUEUE.
- 44: Failure to open the REQUEST QUEUE.
- 45: Failure to write to the REQUEST QUEUE.
- 47: Failure to grant the routine process the access permission to the UDFP shared memory set.
- 48: Failure to grant the routine process the access permission to the REPLY QUEUE.

49: Failure to allocate storage for control blocks used in module loading/unloading.

50: Agent process died while running routine code or agent code.

51: Agent process catches USER INTERRUPT while running un-fenced routine code.

60: Internal error occurred in routine process.

User response: Contact your Database or System administrator.

sqlcode: -465

sqlstate: 58032

SQL0466W The procedure *procedure-name* returns *number-results* result sets from the stored procedure.

Explanation: This message is returned as a result of issuing a CALL SQL statement. It indicates that the stored procedure *procedure-name* has *number-results* result sets associated with it.

The statement completed successfully.

User response: None required.

sqlcode: +466

sqlstate: 0100C

SQL0467W The procedure *procedure-name* includes another result set. There are a total of *max-nbr-results* result sets.

Explanation: This message is returned as a result of closing a cursor. It indicates that another result set exists for stored procedure *procedure-name* and the cursor was re-opened on the next result set. There are a total of *max-nbr-results* result sets from the stored procedure.

The statement completed successfully.

User response: None required. Fetches can proceed on to the next result set.

sqlcode: +467

sqlstate: 0100D

SQL0469N The parameter mode (IN, OUT, or INOUT) is not valid for a parameter in procedure *procedure-name* with specific name *specific-name* (parameter number *number*, name *parameter-name*).

Explanation: One of the following errors occurred:

- a parameter in an SQL procedure is declared as OUT and is used as input in the procedure body
- a parameter in an SQL procedure is declared as IN and is modified in the procedure body.

User response: Change the attribute of the parameter to INOUT, or change the use of the parameter within the procedure.

sqlcode: -469

sqlstate: 42886

SQL0470N The user defined routine *routine-name* (specific name *specific-name*) has a null value for argument *argument* that could not be passed.

Explanation: A routine has an input argument with a null value but was defined with a parameter style that does not pass null indicators, or the data type of this parameter does not support null values.

User response: If the routine is to be called with null values, ensure the parameter style and input types are capable of accepting a null value. For functions, the function could also be created with "RETURNS NULL ON NULL INPUT".

sqlcode: -470

sqlstate: 39004

SQL0471N Invocation of routine *name* failed due to reason *reason-code*.

Explanation: The invocation of routine *name* failed. Use reason code *reason-code* to find out more details about the cause of the failure.

User response: If the reason code starts with "DSNX9":

- The routine was invoked on a DB2 Universal Database for z/OS server. A DSNX9xx message describing the error might be displayed on the server's system console. Consult the documentation for the DB2 UDB for z/OS server and correct the condition described by the reason code.

Else, the following lists the action to take for the indicated reason code:

- 1 The invocation failed because the SQL routine was created on a previous release of the product and the DBMS was not able to migrate it to the current release. The routine must be dropped and re-created to become operative again.

sqlcode: -471

sqlstate: 55023

SQL0472N One or more cursors were left open by function or method *routine-name* (specific name *specific-name*).

Explanation: The function or method *routine-name*

(specific name *specific-name*) did not close all its open cursors before the invoking statement completed. Functions and methods must close all cursors before the invoking statement completes.

User response: Consult with the developer of the function or method. The function or method must be rewritten to ensure that all cursors are closed before the invoking statement completes.

sqlcode: -472

sqlstate: 24517

SQL0473N A user defined data type having the same name as a system predefined type is not allowed.

Explanation: The name of a data type to be created or which exists, if the database is to be migrated, has an unqualified name that is the same as a system-predefined data type or is BINARY, VARBINARY, BOOLEAN or XML. This is not allowed. Adding delimiters does not make the name valid.

The statement could not be processed.

User response: Correct the statement to use another identifier.

sqlcode: -473

sqlstate: 42918

SQL0475N The result type *type-1* of the SOURCE function cannot be cast to the RETURNS type *type-2* of the user defined function *function-name*.

Explanation: In order for the CREATE of a sourced user defined function (UDF) to be valid, the result type (*type-1*) of the source function must be castable to the RETURNS type (*type-2*) of the function being created. There is no supported cast between these data types. See the *SQL Reference* for details on casting between data types.

User response: Change the RETURNS data type or the SOURCE function identification so that the result type of the SOURCE function is castable to the RETURNS data type.

sqlcode: -475

sqlstate: 42866

SQL0476N Reference to routine *function-name* was made without a signature, but the routine is not unique in its schema.

Explanation: References to a function or stored procedure without a signature is permitted, but the named function or store procedure *function-name* must be unique in its schema and is not. If the routine is a method, a reference without a signature is permitted

but this named method must be unique for the data type.

Note that in the DROP FUNCTION/PROCEDURE and COMMENT ON FUNCTION/PROCEDURE statements, an unqualified reference is qualified with the statement authorization ID, and this is the schema where the problem can be found. In the SOURCE clause of a CREATE FUNCTION, the qualification comes from the current function path. In this case, the first schema in the path containing a function with this name had other functions by the same name.

Federated system users: For a pass-through session, if the statement is a CREATE FUNCTION MAPPING statement, this error indicates that an attempt was made to create a function mapping from one remote function to more than one local function.

User response: Correct the reference by one of the following:

- completing the signature
- using the SPECIFIC name of the desired routine
- changing the SQL path

and try again.

sqlcode: -476

sqlstate: 42725

SQL0478N DROP, ALTER TRANSFER OWNERSHIP or REVOKE on object type *object-type1* cannot be processed because there is an object *object-name*, of type *object-type2*, which depends on it.

Explanation: The requested DROP, TRANSFER OWNERSHIP or REVOKE cannot be processed because a dependency exists on this *object-type1*. There is a restrict dependency defined with objects of type *object-type2* (of which object *object-name* is an example).

It may be that the dependency is indirect. That is, the named object is dependent on another object which is dependent on the object being dropped or affected by the REVOKE.

For example:

- function F1 is sourced on function F2
- view V1 is defined using F1
- an attempt to drop F2 will fail due to the direct dependency of F1 on F2 and the indirect dependency of V1 on F2

User response: Remove the dependencies on this object and then reissue the request.

sqlcode: -478

sqlstate: 42893

SQL0480N The procedure *procedure-name* has not yet been called.

Explanation: Either the procedure identified in an ASSOCIATE LOCATORS statement has not yet been called within the application process, or the procedure has been called, but an explicit or implicit commit occurred before the statement.

User response: Correct the statements so that the exact syntax used to specify the procedure name on the CALL statement is the same as that on the ASSOCIATE LOCATORS statement. If an unqualified name is used to CALL the procedure, the one-part name must also be used in the other statements. Reissue the statements.

sqlcode: -0480

sqlstate: 51030

SQL0481N The GROUP BY clause contains *element-1* nested within *element-2*.

Explanation: The following types of nesting are not allowed within a GROUP BY clause:

- CUBE within CUBE, ROLLUP, or GEL
- ROLLUP within CUBE, ROLLUP, or GEL
- () within CUBE, ROLLUP, or GEL
- GROUPING SET within GROUPING SET, CUBE, ROLLUP, or GEL

where GEL represents the element shown as grouping-expression-list in the syntax diagram of the GROUP BY clause.

In some instances the value “---” will be shown for *element 2*. In this case “---” represents one of CUBE, ROLLUP, GROUPING SET, or GEL.

The statement cannot be processed.

User response: Modify the GROUP BY clause to remove the nesting.

sqlcode: -481

sqlstate: 428B0

SQL0483N In the CREATE for user defined function *function-name* statement, the number of parameters does not match the number of parameters of the SOURCE function.

Explanation: An attempt is being made to CREATE a user defined function *function-name* which is sourced on another function. One of the following situations has been identified:

- The SOURCE clause uses a function-name (input parameter list) to identify the source function, and the number of types in the list is different from the number of parameters of the function being created.

- The SOURCE clause uses different syntax to identify the source function, and the number of types of that function is different from the number of parameters of the function being created.

User response: The number of parameters for the SOURCE function and for the function being created must be the same. The identification of the SOURCE function needs to be changed, to

- fix the input parameter list
- correct the function name or function specific name to identify the proper function.

It is also possible that the function path needs to be corrected in order for correct function resolution to occur.

sqlcode: -483

sqlstate: 42885

SQL0486N The BOOLEAN, BINARY, and VARBINARY data types are currently only supported internally.

Explanation: One or more of the data types in the statement is BOOLEAN, BINARY, or VARBINARY. This is not supported in the current version of DB2.

User response: Change the data type(s) then resubmit the statement.

sqlcode: -486

sqlstate: 42991

SQL0487N Routine *routine-name* (specific name *specific-name*) attempted to execute an SQL statement.

Explanation: The program used to implement the body of a routine is not allowed to execute SQL statements. This routine *routine-name* (specific name *specific-name*) contains SQL statements or this routine calls a procedure that uses SQL statements, such as the SYSPROC.ADMIN_CMD procedure.

User response: Remove any SQL statements then recompile the program. Investigate the level of SQL allowed as specified on the statement defining the routine.

sqlcode: -487

sqlstate: 38001

SQL0489N The function *function-name* in a SELECT or VALUES list item has produced a BOOLEAN result.

Explanation: The function *function-name* is defined for use as a predicate, returning a boolean result. Such a result is not valid in a select list.

The statement cannot be processed.

User response: Correct the function name or remove the use of the function.

sqlcode: -489

sqlstate: 42844

SQL0490N Number *number* directly specified in an SQL statement or command is outside the range of allowable values in this context (*minval,maxval*)

Explanation: A number (*number*) was specified that is not valid in the context in which it was specified. The minimum allowed value in this context is *minval*. The maximum allowed value in this context is *maxval*. *n* must be within the range specified by *minval* and *maxval* (*minval* =< *n* => *maxval*).

If creating or altering a table space, the minimum and maximum values may be dependant on the page size of the table space. Refer to the SQL Reference for more details on table space limits.

User response: Change the value *n* to a valid value in the statement or command.

sqlcode: -490

sqlstate: 428B7

SQL0491N The definition of routine *routine-name* must have a RETURNS clause, and one of: the EXTERNAL clause (with other required keywords); the RETURN statement; or the SOURCE clause.

Explanation: A required clause is missing in the definition of routine *routine-name*. If EXTERNAL was specified, one of the following clauses must also be specified: LANGUAGE, PARAMETER STYLE, DETERMINISTIC or NOT DETERMINISTIC, and EXTERNAL ACTION or NO EXTERNAL ACTION.

User response: Add the missing clause, then try again.

sqlcode: -491

sqlstate: 42601

SQL0492N There is a problem in the CREATE for user defined function *function-name*, with parameter number *number*. It may involve a mismatch with a SOURCE function.

Explanation: The parameter in position *number* of function *function-name* is in error and the CREATE cannot be performed. The parameter in position *number* of the source function is not castable to the corresponding parameter of the function being created.

User response: Possible corrections include:

- Identify a different source function.

- Change the data type of the parameter of the function being created so that the data type of the source function can be cast to this data type.

sqlcode: -492

sqlstate: 42879

SQL0493N Routine *routine-name* (specific name *specific-name*) has returned a date, time or timestamp value which is syntactically or numerically invalid.

Explanation: The body of user defined function (UDF) or method *routine-name* (specific name *specific-name*) has returned an invalid date, time or timestamp value.

An example of a syntactically invalid date value is '1994-12*25': the '*' should be a '-'. An example of a numerically invalid time value is '11.71.22': there is no 71st minute in the hour.

User response: The routine needs fixing. See your DBA, or the author of the routine.

sqlcode: -493

sqlstate: 22007

SQL0494W The number of result sets is greater than the number of locators.

Explanation: The number of result set locators specified on the ASSOCIATE LOCATORS statement is less than the number of result sets returned by the stored procedure. The first "n" result set locator values are returned, where "n" is the number of result set locator variables specified on the SQL statement.

The SQL statement is successful. The SQLWARN3 field is set to 'Z'.

User response: Increase the number of result set locator variables specified on the SQL statement.

sqlcode: +494

sqlstate: 01614

SQL0495N Estimated processor cost of *estimate-amount1* processor seconds (*estimate-amount2* service units) in cost category *cost-category* exceeds a resource limit error threshold of *limit-amount* service units.

Explanation:

The prepare of a dynamic INSERT, UPDATE, DELETE, or SELECT SQL statement resulted in a cost estimate that exceeded the error threshold value specified in the resource limit specification table (RLST).

This error is also issued if DB2's cost category value was "B", and the default action specified in the

RLF_CATEGORY_B column in the RLST is to issue an error.

estimate_amount1

The cost estimate (in processor seconds) if the prepared INSERT, UPDATE, DELETE or SELECT statement were to be executed.

estimate_amount2

The cost estimate (in service units) if the prepared INSERT, UPDATE, DELETE or SELECT statement were to be executed.

cost-category

DB2's cost-category for this SQL statement. The possible values are A or B.

limit-amount

The error threshold (in service units) specified in the RLFASUERR column of the RLST.

The prepare of the dynamic INSERT, UPDATE, DELETE, or SELECT statement was unsuccessful.

User response: If this SQLCODE was returned because the cost category value is "B", it might be that the statement is using parameter markers or that some statistics are not available for the referenced tables and columns. Make sure the administrator has run the utility RUNSTATS on the referenced tables. It might also be that UDFs will be invoked when the statement is executed, or for INSERT, UPDATE, or DELETE statements that triggers are defined on the changed table. Check the DSN_STATEMNT_TABLE or the IFCID 22 record for this statement to find the reasons this SQL statement has been put in cost category "B". If the program cannot be changed, or if statistics cannot be obtained, ask the administrator to change the value in the RLF_CATEGORY_B column in the RLST to "Y" which allows the statement to execute or "W" which returns a warning instead of an error.

If the warning is caused by an SQL statement that is consuming too much processor resource, attempt to rewrite the statement to perform more efficiently. Another option is to ask the administrator to increase the error threshold value in the RLST.

sqlcode: -495

sqlstate: 57051

SQL0499N Cursor *cursor-name* has already been assigned to this or another result set from procedure *procedure-name*.

Explanation: An attempt was made to assign a cursor to a result set but multiple cursors have been allocated for procedure *procedure-name*.

User response: Determine if the target result set was previously assigned to a cursor. If multiple cursors have been allocated for procedure *procedure-name* ensure that only one cursor is used to process the result sets of a stored procedure.

sqlcode: -499

sqlstate: 24516

SQL0500 - SQL0599

SQL0501N The cursor specified in a FETCH or CLOSE statement is not open.

Explanation: The program attempted to either:
(1) FETCH using a cursor, or (2) CLOSE a cursor at a time when the specified cursor was not open.

The statement cannot be processed.

User response: Check for a previous message (SQLCODE) that may have closed the cursor. Note that after the cursor is closed, any fetches or close cursor statements receive SQLCODE -501.

If no previous SQLCODEs have been issued, correct the application program to ensure that the cursor is open when the FETCH or CLOSE statement is executed.

sqlcode: -501

sqlstate: 24501

SQL0502N The cursor specified in an OPEN statement is already open.

Explanation: The program attempted to execute an OPEN statement for an open cursor.

The statement cannot be processed. The cursor was unchanged.

User response: Correct the application program to ensure it does not attempt to execute an OPEN statement for a cursor already open.

sqlcode: -502

sqlstate: 24502

SQL0503N A column cannot be updated because it is not identified in the FOR UPDATE clause of the SELECT statement of the cursor.

Explanation: Using a cursor, the program attempted to update a value in a table column that was not identified in the FOR UPDATE clause in the cursor declaration or the prepared SELECT statement.

Any column to be updated must be identified in the FOR UPDATE clause of the cursor declaration.

The statement cannot be processed.

User response: Correct the application program. If the column requires updating, add its name to the FOR UPDATE clause of the cursor declaration.

sqlcode: -503

sqlstate: 42912

SQL0504N The cursor *name* is not defined.

Explanation: An UPDATE or DELETE WHERE CURRENT OF *name* was specified, but the cursor *name* was not declared in the application program.

The statement cannot be processed.

User response: Ensure the completeness of the application program and correct spelling errors in the cursor names.

sqlcode: -504

sqlstate: 34000

SQL0505N The cursor *name* is already defined.

Explanation: The cursor name specified in the DECLARE statement has already been declared.

The statement cannot be processed.

User response: Ensure the name is spelled correctly.

SQL0507N The cursor specified in the UPDATE or DELETE statement is not open.

Explanation: The program attempted to execute an UPDATE or DELETE WHERE CURRENT OF cursor statement when the specified cursor was not open.

The statement cannot be processed. No update or delete was performed.

User response: Check for a previous message (SQLCODE) that may have closed the cursor. Note that after the cursor is closed, any fetches or close cursor statements receive SQLCODE -501 and any updates or deletes receive SQLCODE -507. Correct the logic of the application program to ensure that the specified cursor is open at the time the UPDATE or DELETE statement is executed.

sqlcode: -507

sqlstate: 24501

SQL0508N The cursor specified in the UPDATE or DELETE statement is not positioned on a row.

Explanation: The program attempted to execute an UPDATE or DELETE WHERE CURRENT OF cursor statement when the specified cursor was not positioned on an object table row. The cursor must be positioned on the row to be updated or deleted.

The cursor is no longer positioned on a row if the row is deleted. This includes any use of cursors within a savepoint when a ROLLBACK TO SAVEPOINT is performed.

Federated system users: the record in a remote data source has been updated and/or deleted by another application (or a different cursor within this application) and the record no longer exists.

The statement cannot be processed. No data is updated or deleted.

User response: Correct the logic of the application program to ensure that the cursor is correctly positioned on the intended row of the object table before the UPDATE or DELETE statement is executed. Note that the cursor is not positioned on a row if FETCH returned message SQL0100W (SQLCODE = 100).

sqlcode: -508

sqlstate: 24504

SQL0509N The table specified in the UPDATE or DELETE statement is not the same table specified in the SELECT for the cursor.

Explanation: The program attempted to execute an UPDATE or DELETE WHERE CURRENT OF cursor statement where the table named did not match the name of the table specified in the SELECT statement that declared the cursor.

The statement cannot be processed.

User response: Correct the application program to ensure that the table identified in the UPDATE or DELETE statement is the same table identified in the cursor declaration.

sqlcode: -509

sqlstate: 42827

SQL0510N UPDATE or DELETE is not allowed against the specified cursor.

Explanation: The program attempted to execute an UPDATE or DELETE WHERE CURRENT OF cursor statement against a table or view definition that does not permit the requested update or delete operation. For example, this error can occur in a delete from a read-only view or in an update where the cursor was not defined with the FOR UPDATE clause.

On the database manager the view is read-only if the SELECT statement includes :

- The DISTINCT keyword
- A column function in the SELECT list
- A GROUP BY or HAVING clause
- A FROM clause that identifies one of the following:
 - More than one table or view
 - A read-only view (READONLY column of SYSCAT.SYSVIEWS is set to 'Y')
- A set operator (other than UNION ALL).

Note that these conditions do not apply to subqueries of the SELECT statement.

The cursor is declared with a FOR FETCH ONLY clause.

The cursor is ambiguous and the BLOCKING ALL bind option was specified.

The cursor references a view that has an INSTEAD OF UPDATE (or DELETE) trigger.

The cursor directly or indirectly references a view that is defined with the WITH ROW MOVEMENT clause and an UPDATE WHERE CURRENT OF CURSOR was attempted.

The statement cannot be processed.

User response: If the database manager is failing the statement and the cursor is based on a read-only SELECT or VALUES statement, do not issue any update or delete statements against it.

If the database manager is failing the statement and the cursor is not based on a read-only SELECT or VALUES statement and is defined with a FOR FETCH ONLY clause, either remove this clause from the cursor definition or do not issue any update or delete statements.

If the database manager is failing the statement and the cursor cannot be determined to be either fetch only or updatable from its definition or context, rebind the program with either the BLOCKING NO or BLOCKING UNAMBIG bind option.

If the database manager is failing the statement and the cursor is based on a view with an INSTEAD OF UPDATE (or DELETE) trigger, use a searched UPDATE (or DELETE) statement.

If the database manager is failing the statement and the cursor directly or indirectly references a view that is defined with the WITH ROW MOVEMENT clause, do not issue any update statements against it.

Federated system users: isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source). If a data source is failing the request, examine the restrictions for that data source to determine the cause of the problem and its solution. If the restriction exists on a data source, see the SQL reference manual for that data source to determine why the object is not updatable.

sqlcode: -510

sqlstate: 42828

SQL0511N The FOR UPDATE clause is not allowed because the table specified by the cursor cannot be modified.

Explanation: The result table of the SELECT or VALUES statement cannot be updated.

On the database manager, the result table is read-only if the cursor is based on a VALUES statement or the SELECT statement contains any of the following:

- The DISTINCT keyword
- A column function in the SELECT list
- A GROUP BY or HAVING clause
- A FROM clause that identifies one of the following:
 - More than one table or view
 - A read-only view
 - An OUTER clause with a typed table or typed view
- A set operator (other than UNION ALL).
- A FROM clause that identifies one of the following:
 - More than one table or view
 - A read-only view
 - An OUTER clause with a typed table or typed view
 - A data change statement

Note that these conditions do not apply to subqueries of the SELECT statement.

The statement cannot be processed.

User response: Do not perform updates on the result table as specified.

Federated system users: isolate the problem to the data source failing the request (see the problem determination guide for procedures to follow to identify the failing data source). If a data source is failing the request, examine the restrictions for that data source to determine the cause of the problem and its solution. If the restriction exists on a data source, see the SQL reference manual for that data source to determine why the object is not updatable.

sqlcode: -511

sqlstate: 42829

SQL0513W The SQL statement will modify an entire table or view.

Explanation: The UPDATE or DELETE statement does not contain a WHERE clause so all rows of the table or view are modified if this statement is executed.

The statement is accepted.

Federated system users: not all data sources report this warning condition. The federated server attempts to issue this warning whenever the condition exists, but

there is no guarantee that the federated server can always detect this condition. Do not rely on this warning to preclude UPDATE/DELETE operations from affecting an entire table or view.

User response: Ensure that you intend to modify the entire table or view.

SQL0514N The cursor *name* is not in a prepared state.

Explanation: The application program tried to use a cursor *name* that is not in a prepared state. The cursor is associated with a statement that either (1) was never prepared, (2) was made not valid by a ROLLBACK, or (3) was made not valid by either an explicit or implicit rebind of the package.

The statement cannot be processed.

User response: For case (1), prepare the statement named in the DECLARE CURSOR statement for *name* before you try to open the cursor. For case (2), do not issue a ROLLBACK until after you finish using the cursor. For case (3), the prepare for the cursor must be reissued.

sqlcode: -514

sqlstate: 26501

SQL0516N The DESCRIBE statement does not specify a prepared statement.

Explanation: The statement name in the DESCRIBE statement must specify a statement that was prepared in the same database transaction.

The statement cannot be processed.

User response: Verify that the statement name specifies a statement that has been prepared.

sqlcode: -516

sqlstate: 26501

SQL0517N The cursor *name* identifies a prepared statement that is not a SELECT or VALUES statement.

Explanation: The cursor *name* could not be used as specified because the prepared statement named in the cursor declaration was not a SELECT or VALUES statement.

The statement cannot be processed.

User response: Verify that the statement name is specified correctly in the PREPARE and the DECLARE CURSOR for cursor *name* statements. Or correct the program to ensure that only prepared SELECT or VALUES statements are used in association with cursor declarations.

sqlcode: -517

sqlstate: 07005

SQL0518N The statement named in the EXECUTE statement is not in a prepared state or is a SELECT or VALUES statement.

Explanation: The application program tried to EXECUTE a statement that (1) was never prepared, (2) was made not valid by a ROLLBACK, (3) is a SELECT or VALUES statement, or (4) was made not valid by either an explicit or implicit rebind of the package.

The statement cannot be processed.

User response: For case (1), prepare the statement before attempting the EXECUTE. For case (2), either do not issue a ROLLBACK until after you finish using the prepared statement, or prepare the statement again after the ROLLBACK. For case (3), ensure that the statement is not a SELECT or VALUES statement. For case (4), the prepare for the cursor must be reissued.

sqlcode: -518

sqlstate: 07003

SQL0519N The PREPARE statement identifies the SELECT or VALUES statement of the open cursor *name*.

Explanation: The application program attempted to prepare the SELECT or VALUES statement for the specified cursor when that cursor is already open.

The statement cannot be prepared. The cursor was not affected.

User response: Correct the application program so it does not attempt to prepare the SELECT or VALUES statement for a cursor that is open.

sqlcode: -519

sqlstate: 24506

SQL0525N The SQL statement cannot be executed because it was in error at bind time for section = *section-number* package = *pkgschema.pkgname* consistency token = *0Xcontoken*.

Explanation: One of the following:

- The statement was in error when the package was bound, but the error was ignored then because the option SQLERROR (CONTINUE) was used. Since the statement contains an error, it cannot be executed.
- The statement might not be an executable statement at this location, or might only be executable by a DB2 application requester

Note that *contoken* is given in hexadecimal.

The statement cannot be executed.

User response: If the SQL statement is not supposed to execute at the indicated location, then correct the program so that the statement in error does not execute at that location. Precompile, compile, and bind replace the package. If the SQL statement is supposed to execute at the indicated location, correct the problem found and reissue PREP or BIND using ACTION(REPLACE). If multiple versions of the package have been bound, issue the following SELECT statement to determine which version has the error: SELECT PKGVERSION FROM SYSCAT.PACKAGES where PKGSHEMA='pkgschema' AND PKGNAME = 'pkgname' and HEX(UNIQUE_ID) = 'contoken'

sqlcode: -525

sqlstate: 51015

SQL0526N The requested function does not apply to declared temporary tables.

Explanation: The SQL statement being executed refers to a declared temporary table. A declared temporary table cannot be used in the given context.

The statement cannot be processed.

User response: Modify the SQL statement to ensure that the object references are not to declared temporary tables.

sqlcode: -526

sqlstate: 42995

SQL0528N The table or nickname *tablename-or-nickname* already has a unique constraint that is a duplicate of constraint *name*.

Explanation: A UNIQUE clause uses the same column list as the PRIMARY KEY clause, another UNIQUE clause or the PRIMARY KEY or a UNIQUE constraint that already exists for the table *tablename*. Duplicate unique constraints are not allowed.

name is the constraint name, if one was specified or exists. If a constraint name is not specified, *name* is the first column name specified in the column list of the UNIQUE clause followed by three periods.

The statement cannot be processed.

User response: Remove the duplicate UNIQUE clause or change the column list to a set of columns that is not already part of a unique constraint.

sqlcode: -528

sqlstate: 42891

SQL0530N The insert or update value of the FOREIGN KEY *constraint-name* is not equal to any value of the parent key of the parent table.

Explanation: A value in a foreign key of the object table is being set, but this value is not equal to any value of the parent key of the parent table.

When a row is inserted into a dependent table, the insert value of a foreign key must be equal to some value of the parent key of any row of the parent table of the associated relationship.

Similarly, when the value of a foreign key is updated, the update value of a foreign key must be equal to the value of the parent key of any row of the parent table of the associated relationship at the completion of the statement.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *constraint name*. In these cases the message token will have the following format: "<data source>:UNKNOWN", indicating that the actual value for the specified data source is unknown.

The statement could not be executed. The contents of the object table are unchanged.

User response: Examine the insert or update value of the foreign key first, and then compare it with each of the parent key values of the parent table to determine and correct the problem.

sqlcode: -530

sqlstate: 23503

SQL0531N The parent key in a parent row of relationship *constraint-name* cannot be updated.

Explanation: An operation attempted to update a parent key in the row of the parent table but the parent key in the specified row has dependent rows in the dependent table associated with it in the *constraint-name* constraint.

When the update rule of constraint *constraint-name* is NO ACTION, the value of a parent key in a parent row cannot be updated if the parent row has any dependent rows at the completion of the statement.

When the update rule of constraint *constraint-name* is RESTRICT, the value of a parent key in a parent row cannot be updated if the parent row has any dependent rows at the time the update of the parent key is attempted.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *constraint name*. In these cases the message token will have the following format: "<data source>:UNKNOWN", indicating that the actual value for the specified data source is unknown.

The statement could not be executed. The contents of the parent table are unchanged.

User response: Examine the parent key of the object table and the foreign key of the dependent table to determine if the value of the specified row of the parent key should be changed. If this does not show the problem, examine the contents of the object table and the dependent table to determine and correct the problem.

sqlcode: -531

sqlstate: 23001, 23504

SQL0532N A parent row cannot be deleted because the relationship *constraint-name* restricts the deletion.

Explanation: An operation attempted to delete a specified row of the parent table but the parent key in the specified row has dependent rows in the referential constraint *constraint-name* and the delete rule of NO ACTION or RESTRICT is specified for the relationship.

When the delete rule of constraint *constraint-name* is NO ACTION, a row of the parent table cannot be deleted if the dependent rows are still dependent on the parent key at the completion of the statement.

When the delete rule of constraint *constraint-name* is RESTRICT, a row of the parent table cannot be deleted if the parent row has any dependent rows at the time of the delete.

Note that a delete can cascade to delete other rows in dependent tables that have a delete rule of NO ACTION or RESTRICT. Thus the constraint *constraint-name* may be on a different table than the original delete operation.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *constraint name*. In these cases the appropriate fields contain values (such as "unknown") that indicate that the actual value is unknown.

The statement could not be executed. The contents of the table are unchanged.

User response: Examine the delete rule for all descendent tables to determine and correct the problem. The specific tables involved can be determined from the relationship *constraint-name*.

sqlcode: -532

sqlstate: 23001, 23504

SQL0533N The INSERT statement is not valid because a relationship restricts the result of the fullselect to one row.

Explanation: An INSERT operation with a fullselect attempted to insert multiple rows into a table that is a parent and a dependent in the same relationship of a referential constraint.

The fullselect of the INSERT operation should return no more than one row of data.

The INSERT statement could not be executed. The contents of the object table are unchanged.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

User response: Examine the search condition of the fullselect to ensure selection of no more than one row of data.

sqlcode: -533

sqlstate: 21501

SQL0534N Invalid multiple-row update.

Explanation: An UPDATE operation attempted to perform a multiple-row update of a column included in a primary key or unique index.

Multiple-row updates of columns of a primary key or unique index are not supported.

The UPDATE statement could not be executed. The contents of the table are unchanged.

Federated system users: the constraint can exist on federated server (if the child and parent tables exist as tables on federated server), or it can exist on the data source (if the child and parent tables exist on the data source).

User response: Ensure the search condition of the UPDATE statement selects only one object table row to update.

sqlcode: -534

sqlstate: 21502

SQL0535N The DELETE statement is not valid because a self-referencing relationship restricts the deletion to one row.

Explanation: A DELETE operation with a WHERE clause attempted to delete multiple rows from a table which is a parent and a dependent in the same relationship of a referential constraint with a RESTRICT or SET NULL delete rule.

The WHERE clause of the DELETE operation should select no more than one row of data.

The DELETE statement could not be executed. The

contents of the object table are unchanged.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

User response: Examine the WHERE clause search condition to ensure no more than one row of data is selected.

NOTE: This is only a restriction in releases of DB2 prior to Version 2.

sqlcode: -535

sqlstate: 21504

SQL0536N The DELETE statement is not valid because table *name* can be affected by the operation.

Explanation: A DELETE operation was attempted with the indicated table referenced in a subquery.

The indicated table referenced in a subquery of the DELETE statement can be affected because it is either:

- A dependent of the DELETE object table in a relationship with a CASCADE or SET NULL delete rule.
- A dependent of another table in a relationship with a CASCADE or SET NULL delete rule and deletions from the DELETE object table can cascade to that table.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *name*. In these cases the appropriate fields contain values (such as "unknown") that indicate that the actual value is unknown.

The statement could not be processed.

User response: Do not reference a table in a DELETE statement subquery when the table can be affected by the DELETE statement.

NOTE: This error is only applicable to releases of DB2 prior to Version 2 and hosts accessed through DB2 Connect.

sqlcode: -536

sqlstate: 42914

SQL0537N A key column list identifies column *column-name* more than once.

Explanation: The column *column-name* appears more than once in a key column list. A key column list could occur in a PRIMARY KEY clause, FOREIGN KEY clause, UNIQUE clause, DISTRIBUTE BY clause, ORGANIZE BY clause, PARTITION BY clause or as a

functional dependency of a CREATE or ALTER statement.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *column-name*. In these cases the appropriate fields contain values (such as “unknown”) that indicate that the actual value is unknown.

The statement cannot be processed.

User response: Remove the duplicate column names.

sqlcode: -537

sqlstate: 42709

SQL0538N FOREIGN KEY *name* does not conform to the description of the parent key of table or nickname *table-name-or-nickname*.

Explanation: The definition of the indicated foreign key does not conform to the parent key description of the table or nickname *table-name-or-nickname*.

Possible errors are:

- The number of columns in the foreign key column list does not match the number of columns in the parent key column list.
- The number of columns in the foreign key column list does not match the number of columns in the primary key of the parent table or the parent nickname (a parent key column list is not specified).
- The descriptions of the corresponding columns are not compatible. Column descriptions are compatible if corresponding columns have compatible data types (both columns are numeric, character strings, graphic, date/time, or have the same distinct type).

name is the constraint name if specified in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the clause followed by three periods.

Federated system users: some data sources do not provide the appropriate values for *name* and *table-name-or-nickname*. In these cases the appropriate fields contain values (such as “unknown”) that indicate that the actual value is unknown.

The constraint can exist the data source (if the child and parent tables exist on the data source).

The statement cannot be processed.

User response: Correct the statement so the foreign key description conforms to the parent key description.

sqlcode: -538

sqlstate: 42830

SQL0539N Table or nickname *name* does not have a *key-type* key.

Explanation: One of the following occurred:

- The table or nickname *name* was specified as a parent in a FOREIGN KEY clause but the table or nickname is not defined as a parent because it does not have a primary key.
- The ALTER TABLE statement attempted to create the FOREIGN KEY for the table *name* but the table or nickname does not have a primary key.
- The ALTER TABLE statement attempted to drop the primary key for the table *name* but the table does not have a primary key.
- The ALTER TABLE statement attempted to drop the partitioning key for the table *name* but the table does not have a partitioning key.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *name* and *key-type*. In these cases the appropriate fields contain values (such as “unknown”) that indicate that the actual value is unknown.

The statement cannot be processed. A system catalog cannot be defined as a parent in a referential constraint.

User response: When creating a referential constraint, specify the primary key before specifying any foreign keys (constraints).

sqlcode: -539

sqlstate: 42888

SQL0540N The definition of table *table-name* is incomplete because it lacks a primary index or a required unique index.

Explanation: The table named was defined with a PRIMARY KEY clause or a UNIQUE clause. Its definition is incomplete, and it cannot be used until a unique index is defined for the primary key (the primary index) and for each set of columns in any UNIQUE clause (the required unique indexes). An attempt was made to use the table in a FOREIGN KEY clause or in an SQL manipulative statement.

The statement cannot be executed.

User response: Define a primary index or a required unique index on the table before referencing it.

sqlcode: -540

sqlstate: 57001

SQL0541W The referential, primary key, or unique constraint *name* is ignored because it is a duplicate constraint.

Explanation: If *name* refers to a referential constraint, then a FOREIGN KEY clause uses the same foreign key and parent table or the same foreign key and parent nickname as another FOREIGN KEY clause.

If *name* refers to a primary key or unique constraint, then one of the following situations exists.

- A PRIMARY KEY clause uses the same set of columns as a UNIQUE clause in the statement.
- A UNIQUE clause uses the same set of columns as the PRIMARY KEY clause or another UNIQUE clause in the statement.
- A PRIMARY KEY or a UNIQUE constraint on the same set of columns already exists for the table *tablename*.

name is the constraint name, if specified. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY or UNIQUE clause followed by three periods.

Federated system users: the constraint can exist on the data source (if the child and parent tables exist on the data source).

Some data sources do not provide the appropriate values for *name*. In these cases the appropriate fields contain values (such as “unknown”) that indicate that the actual value is unknown.

The indicated referential constraint or unique constraint was not created. The statement was processed successfully.

User response: No action is required. Processing can continue.

sqlcode: +541

sqlstate: 01543

SQL0542N *name* cannot be a column of a primary key or unique key because it can contain null values.

Explanation: The column *name* identified in a PRIMARY KEY clause or UNIQUE clause is defined to allow null values, or an attempt was made to alter a column that is part of a PRIMARY KEY or UNIQUE constraint to allow null values.

Federated system users: some data sources do not provide the appropriate values for *name*. In these cases the appropriate fields contain values (such as “unknown”) that indicate that the actual value is unknown.

The statement cannot be processed.

User response: Correct the column, primary key or unique key definition. If this error was returned as part of an alter table statement, the PRIMARY KEY or UNIQUE constraint must be removed before the column can be altered to allow null values.

sqlcode: -542

sqlstate: 42831

SQL0543N A row in a parent table cannot be deleted because the check constraint *constraint-name* restricts the deletion.

Explanation: The delete operation cannot be executed because the target table is a parent table and is connected with a referential constraint to a dependent table with a delete rule of SET NULL. However, a check constraint defined on the dependent table restricts the column from containing a null value.

The statement cannot be processed.

User response: Examine the foreign key and its delete rule in the dependent table and the conflicting check constraint. Change either the delete rule or the check constraint so that they do not conflict with each other.

sqlcode: -543

sqlstate: 23511

SQL0544N The check constraint *constraint-name* cannot be added because the table contains a row that violates the constraint.

Explanation: At least one existing row in the table violates the check constraint that is to be added in the ALTER TABLE statement.

The statement cannot be processed.

User response: Examine the check constraint definition that was specified in the ALTER TABLE statement and the data in the table to determine why there is a violation of the constraint. Change either the check constraint or the data so that the constraint is not violated.

sqlcode: -544

sqlstate: 23512

SQL0545N The requested operation is not allowed because a row does not satisfy the check constraint *constraint-name*.

Explanation: Check constraint violations can occur on either INSERT or UPDATE operations. The resulting row violated the check constraint definition on that table.

The statement cannot be processed.

User response: Examine the data and the check

constraint definition in the catalog view SYSCAT.CHECKS to determine why the INSERT or UPDATE statement failed. Change the data so that the constraint is not violated.

sqlcode: -545

sqlstate: 23513

SQL0546N The check constraint *constraint-name* is invalid.

Explanation: A check constraint in the CREATE TABLE or CREATE NICKNAME, ALTER TABLE, or ALTER NICKNAME statement is invalid for one or more of the following reasons:

- the constraint definition contains a subquery
- the constraint definition contains a column function
- the constraint definition contains a host variable
- the constraint definition contains a parameter marker
- the constraint definition contains a special register
- the constraint definition contains a variant user defined function
- the constraint definition contains a user defined function with external action
- the constraint definition contains a user defined function with the scratchpad option
- the check constraint is part of a column definition, and its check-condition contains a reference to a column name other than the column being defined.
- the constraint definition contains a dereference operation or a Deref function where the scoped reference argument is other than the object identifier (OID) column.
- the constraint definition uses a TYPE predicate.
- the constraint definition includes a CAST specification with a SCOPE clause.
- the functional dependency is defined with attribute ENFORCED.
- a nullable column is specified in the child-set columns of the functional dependency.
- the constraint definition contains a text search function.
- the constraint definition contains an XML column.
- the constraint definition contains an XMLQUERY or XMLEXISTS expression.

The statement cannot be processed.

User response: The user response is one of the following, depending on the cause of the error:

- change the check constraint so that it does not include the listed item.
- move the check constraint definition outside the column definition, so that it becomes a table level constraint definition.

- change the functional dependency so that it does not specify the ENFORCED attribute.
- change the nullable column to not nullable in the child-set of columns of the functional dependency.

sqlcode: -546

sqlstate: 42621

SQL0548N A check constraint or generated column that is defined with *check-condition-element* is invalid.

Explanation: A check constraint in the CREATE TABLE or CREATE NICKNAME, ALTER TABLE or ALTER NICKNAME statement is invalid for one or more of the following reasons:

- the constraint definition contains a subquery
- the constraint definition contains a column function
- the constraint definition contains a host variable
- the constraint definition contains a parameter marker
- the constraint definition contains a special register
- the constraint definition contains a function that is not deterministic
- the constraint definition contains a user defined function with external action
- the constraint definition contains a user defined function with the scratchpad option
- the definition contains a user defined function with the CONTAINS SQL or READS SQL DATA option
- the definition contains a reference to a generated column which is based on an expression
- the check constraint is part of a column definition, and its check-condition contains a reference to a column name other than the column being defined
- the generated column definition contains a reference to itself
- the constraint definition contains a dereference operation or a Deref function where the scoped reference argument is other than the object identifier (OID) column.
- the constraint definition uses a TYPE predicate.
- the constraint definition includes a CAST specification with a SCOPE clause.
- the constraint or generated column definition contains a text search function.
- the constraint definition contains an XML column.
- the constraint definition contains an XMLQUERY or XMLEXISTS expression.

The token within the text of the error message lists the invalid item.

The statement cannot be processed.

User response: The user response is one of the

following, depending on the cause of the error:

- change the check constraint or generated column so that it does not include the listed item.
- move the check constraint definition outside the column definition, so that it becomes a table level constraint definition.

sqlcode: -548

sqlstate: 42621.

SQL0549N The statement **statement** is not allowed for *object-type1* *object-name1* because the bind option **DYNAMICRULES RUN** is not in effect for the *object-type2*.

Explanation: A program attempted to issue the indicated SQL statement that is one of several SQL statements that can be dynamically prepared only in a package exhibiting run behavior. Those SQL statements are:

- Dynamic GRANT statement
- Dynamic REVOKE statement
- Dynamic ALTER statement
- Dynamic CREATE statement
- Dynamic DROP statement
- Dynamic COMMENT ON statement
- Dynamic RENAME statement
- Dynamic SET INTEGRITY statement
- Dynamic SET EVENT MONITOR STATE statement
- Dynamic TRANSFER OWNERSHIP statement

statement

The SQL statement in error

object-type1

PACKAGE or DBRM. DBRM is valid only in a DRDA connection.

object-name1

If *object-type1* is PACKAGE, *object-name1* is the name of the package in the format 'location-id.collection-id.package-id'. If *object-type1* is DBRM, *object-name1* is the name of the DBRM in the format 'plan-name DBRM-name'.

object-type2

PACKAGE or PLAN. PLAN is valid only in a DRDA connection. If *object-type1* is PACKAGE, *object-type2* can be either PACKAGE or PLAN (whichever is bound with DYNAMICRULES(BIND)). If *object-type1* is DBRM, *object-type2* is PLAN.

The SQL statement cannot be executed.

User response: Do one of the following to correct the error:

- If the SQL statement is embedded, remove it, precompile and compile the application program again, and reissue the BIND command.
- If appropriate, use the SQL statement with a package or plan that is bound with DYNAMICRULES(RUN).
- Issue the REBIND command with the DYNAMICRULES(RUN) option for the plan or package to which the SQL statement is bound.

sqlcode: -549

sqlstate: 42509

SQL0551N *authorization-ID* does not have the privilege to perform operation *operation* on object *name*.

Explanation: Authorization ID *authorization-ID* attempted to perform the specified *operation* on *name* without the proper authorization.

1. If creating or altering a table with referential constraints, this message can indicate that the user does not have the REFERENCES privilege to create or drop a FOREIGN KEY. In this case the *operation* is "REFERENCES" and the *name* is the object the constraint references.
2. If attempting to run a DB2 utility or CLI application, the DB2 utility programs or CLI packages may need to be rebound to the database because the userid who created the database no longer exists or no longer has the required privileges. Execute privileges may need to be granted.
3. If this error occurs during invocation or creation of a routine:
 - On invocation: then authorization ID *authorization-ID* does not have the EXECUTE privilege on any candidate routine in the SQL path. *name* is the name of a candidate routine in the SQL path.
 - On creation: the authorization ID *authorization-ID* used to bind a routine might not have the privileges necessary to perform all the statements in the routine. The binding operation failed because statements in the routine may reference one or more objects for which *authorization-ID* does not have the appropriate privileges. For example, if a statement in a routine updates table A, and *authorization-ID* does not have update privileges on table A, then the binding operation will fail. Note that group privileges are not used when binding static SQL statements.

For more information on creation and use of routines, and binding, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using terms such as "routines" and "binding".

4. If this error occurs during the execution of LOAD/IMPORT utility using the REPLACE mode against protected tables, then the authorization ID *authorization-ID* requires one of the following additional authorities or privileges.
 - SYSADM or DBADM authority
 - CONTROL privilege on the target table or view

Federated system users: if this message is returned when the user is changing the remote_pw column of the SYSCAT.USEROPTIONS view, the user is not authorized to change a password for another user. The user performing the alter operation must have either SYSADM authority or an authorization ID (the value in the USER special register) that matches the value of the authid column in the rows being updated. Some data sources do not provide the appropriate values for *authid*, *<operation>*, and *<name>*. In these cases the message tokens will have the following format: "*<data source> AUTHID:UNKNOWN*", "*UNKNOWN*", and "*<data source> :TABLE/VIEW*", indicating that the actual values for the authid, operation, and name at the specified data source are not known.

The statement cannot be processed.

User response:

1. Grant the REFERENCES privilege using the command GRANT REFERENCES ON *<table-name>* TO *<authorization-name>*
2. If the DB2 utility programs need to be rebound to the database, the database administrator can accomplish this by issuing one of the following CLP command from the bnd subdirectory of the instance, while connected to the database:
 - "DB2 bind @db2ubind.lst blocking all grant public" for the DB2 utilities.
 - "DB2 bind @db2cli.lst blocking all grant public" for CLI.

To grant execute privilege on a package use the grant command, for example: GRANT EXECUTE ON package nullid.syssh200 TO public.

3. Grant EXECUTE privilege on the routine to *authorization-ID* using the command GRANT EXECUTE ON *<function-designator>* TO *<authorization-name>*.
Grant explicit privileges to *authorization-ID* on the objects which the statements within the routine are attempting to access.
4. Grant SYSADM or DBADM authority, or CONTROL privilege on the target table or view to *authorization-ID*.

Federated system users: this authorization can be at the federated server, the data source, or both.

For more information on privileges in DB2 search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) for "privileges" and "granting privileges" .

sqlcode: -551

sqlstate: 42501

SQL0552N *authorization-ID does not have the privilege to perform operation operation.*

Explanation: Authorization ID *authorization-ID* attempted to perform the specified *operation* without the proper authorization.

Federated system users: some data sources do not provide the appropriate values for *authorization-ID* and *<operation>*. In these cases the message tokens will have the following format: "*<data source> AUTHID:UNKNOWN*", and "*UNKNOWN*" indicating that the actual values for authid and operation at the specified data source are not known.

The statement cannot be processed.

User response: Ensure that *authorization-ID* has the authorization to perform the operation.

Federated system users: this authorization can be at the federated server, the data source, or both.

sqlcode: -552

sqlstate: 42502

SQL0553N *An object cannot be created with the schema name schema-name.*

Explanation: The reason the schema name *schema-name* is invalid depends on the type of object that is being created.

- Objects of types that existed in releases prior to DB2 Version 2 (tables, views, indexes and packages) cannot be created with the schema name SYSCAT, SYSFUN, SYSSTAT or SYSIBM. It is strongly advised that schema names should not start with SYS since additional schemas starting with these letters may be reserved for exclusive use of DB2 in the future.
- Objects of types that are being introduced starting with DB2 Version 2 (user defined functions, distinct types, triggers, schemata, and aliases) cannot be created with any schema name that starts with the letters SYS.

The statement cannot be processed.

User response: Use a valid schema name or remove the explicit schema name and rerun the statement.

sqlcode: -553

sqlstate: 42939

SQL0554N An authorization ID cannot grant a privilege to itself.

Explanation: An authorization ID attempted to execute a GRANT statement where the authorization ID itself appears as one of the entries in the authorization ID list to which privileges are to be granted.

The statement cannot be processed.

User response: Remove the authorization ID from the list.

sqlcode: -554

sqlstate: 42502

SQL0555N An authorization ID cannot revoke a privilege from itself.

Explanation: An authorization ID attempted to execute a REVOKE statement where the authorization ID itself appears as one of the entries in the authorization ID list from which privileges are to be revoked.

The statement cannot be processed.

User response: Remove the authorization ID from the list.

sqlcode: -555

sqlstate: 42502

SQL0556N An attempt to revoke a privilege, security label, or exemption from *authorization-ID* was denied because *authorization-ID* does not hold this privilege, security label, or exemption.

Explanation: The privilege, security label, or exemption cannot be revoked because *authorization-ID* does not hold the privilege, security label, or exemption.

The statement cannot be processed.

User response: Change the REVOKE statement to conform to the REVOKE rules and resubmit the statement. Ensure that when a REVOKE statement lists several privileges, security labels, or exemptions to be revoked and a list of authorization IDs that each authorization ID possesses at least one of the specified privileges, security labels, or exemptions.

sqlcode: -556

sqlstate: 42504

SQL0557N The specified combination of privileges cannot be granted or revoked.

Explanation: One of the following occurred:

- The GRANT or REVOKE statement contains a combination of privileges that are of different classes. The privileges must all be of one class. Examples are DATABASE, PLAN, or TABLE.
- The GRANT statement attempted to grant a privilege for a view that is not allowed. ALTER, INDEX and REFERENCES cannot be granted for a view.

The statement cannot be processed.

User response: Correct and resubmit the statement.

sqlcode: -557

sqlstate: 42852

SQL0558N An attempt to revoke a privilege from *authorization-ID* was denied because *authorization-ID* would still hold control authority.

Explanation: *authorization-ID* holds the *control* privilege. The privilege to be revoked is implicit in the *control* privilege, so it cannot be revoked unless the *control* privilege is also revoked.

The valid values for *control* are the following:

- DBADM
- CONTROL
- CREATE NOT FENCED ROUTINE

The statement cannot be executed. No privileges are revoked.

User response: Revoke the *control* privilege, if desired.

sqlcode: -558

sqlstate: 42504

SQL0562N The specified database privileges cannot be granted to PUBLIC (public).

Explanation: The GRANT statement attempted to grant a database privilege to the reserved authorization ID PUBLIC (public). DBADM authority cannot be granted to PUBLIC (public).

The statement cannot be processed.

User response: The implied function is not supported.

sqlcode: -562

sqlstate: 42508

SQL0567N *authorization-ID* is not a valid authorization ID.

Explanation: The authorization ID specified by *authorization-ID* is not valid for one of the following reasons:

- It begins with "SYS", "sys", "IBM", "ibm", "SQL", or "sql".
- It contains characters other than a through z, A through Z, 0 through 9, and the three special characters (#,@.\$).
- It is delimited and contains lower case letters.
- It is GUESTS, ADMINS, USERS, or LOCAL.
- It is PUBLIC preceded by the keyword USER or GROUP in a GRANT or REVOKE statement.

The statement cannot be processed.

User response: Correct the invalid authorization ID.

sqlcode: -567

sqlstate: 42602

SQL0569N The GRANT/REVOKE statement failed because *authorization-name* may identify both a user and a group in the system.

Explanation: The GRANT or REVOKE statement specified an authorization name that may identify both a user and a group in the security namespace, and did not explicitly specify the USER or GROUP keyword in the statement. The statement is therefore ambiguous. Note that when using DCE security, the USER or GROUP keyword is always required.

User response: Change the statement to explicitly specify the USER or GROUP keyword to uniquely identify the required authorization id.

sqlcode: -569

sqlstate: 56092

SQL0570W Not all requested privileges on object *object-name* of type *object-type* were granted.

Explanation: A GRANT operation was attempted on object *object-name* of type *object-type*, but some or all of the privileges were not granted. The authorization ID that issued the statement does not have all of the privileges to be granted with grant option or does not have DBADM authority.

All valid requested privileges were granted.

User response: Obtain the required authority and try the the operation again.

sqlcode: +570

sqlstate: 01007

SQL0572N Package *pkgname* is inoperative.

Explanation: The package *pkgname* is marked as inoperative and must be explicitly rebound (without specifying RESOLVE CONSERVATIVE) before it can be used. This package cannot be used because one or more user-defined functions that it depends upon have been dropped.

User response: Explicitly rebound the named package using either the REBIND (without specifying RESOLVE CONSERVATIVE) or the BIND command.

sqlcode: -572

sqlstate: 51028

SQL0573N A column list specified in the references clause of constraint *name* does not identify a unique constraint of the parent table or nickname *table-name*.

Explanation: A list of column names was specified in the references clause for the constraint identified by *name* that does not match the column names of the primary key or any unique key of the referenced table *table-name*.

name is the constraint name, if specified. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: Correct the column list in the references clause or add the unique constraint to the referenced table or nickname.

sqlcode: -573

sqlstate: 42890

SQL0574N DEFAULT value or IDENTITY attribute value is not valid for column *column-name* in table *table-name*. Reason code: *reason-code*.

Explanation: The DEFAULT value or IDENTITY attribute value for column *column-name* in table *table-name* is not valid. The possible reason codes are as follows:

- 1 The value is not assignable to the column because the constant does not conform to the format for a constant of that data type, the value has an incorrect length or precision, or the function returns an incorrect data type.
- 2 A floating-point constant is specified and the column is not a floating point data type
- 3 A decimal constant is specified and non-zero digits would be truncated when assigned to the column

- 4 The value is more than 254 bytes, including quotes for strings, introducer characters such as the X for a hex constant, fully qualified function names, and parentheses. Non-significant blanks in the value are ignored. In an unequal code page environment, the value may be more than 254 bytes due to expansion of the string in the database code page.
- 5 The USER special register is specified and the length attribute of the character string data type is less than 8.
- 6 A datetime special register (CURRENT DATE, CURRENT TIME, or CURRENT TIMESTAMP) is specified and does not match the data type of the column.
- 7 A function was specified that is not supported. The specified function must be system-generated cast function or one of the built-in functions BLOB, DATE, TIME, or TIMESTAMP.
- 8 The argument to a datetime function was not a string constant or the corresponding datetime special register.
- 9 A system-generated cast function was specified and the column is not defined with a user-defined distinct type.
- 10 A value with non-zero scale was specified for the START WITH or INCREMENT BY option of an identity column.
- 11 A special register is specified as the DEFAULT value and the length attribute of the character string data type is less than 128.
- <0 Any reason code that is less than zero is an SQLCODE. The error in the DEFAULT value specification can be determined by checking the error message corresponding to this SQLCODE.

The statement cannot be processed.

User response: Correct the DEFAULT value or IDENTITY attribute value based on the reason code that was returned.

sqlcode: -574

sqlstate: 42894

SQL0575N View or materialized query table *name* cannot be used because it has been marked inoperative.

Explanation: The view or materialized query table *name* has been marked inoperative because a table, view, alias, or privilege upon which it is dependent has been removed. The view cannot be used by any SQL statement other than one of the following:

- COMMENT ON
- DROP VIEW or DROP TABLE
- CREATE ALIAS
- CREATE VIEW or CREATE TABLE

The statement cannot be processed.

User response: If *name* is a view, recreate the view by issuing a CREATE VIEW statement using the same view definition as the inoperative view. If *name* is a materialized query table, recreate the materialized query table by issuing the CREATE TABLE statement using the same materialized query table definition as in the inoperative materialized query table.

sqlcode: -575

sqlstate: 51024

SQL0576N Alias *name* cannot be created for *name2* as it would result in a repetitive alias chain.

Explanation: The alias definition of *name* on *name2* would have resulted in a repetitive alias chain which could never be resolved. For example, "alias A refers to alias B which refers to alias A" is a repetitive alias chain which could never be resolved.

The statement cannot be processed.

User response: Change the alias definition for *name* or revise the definition of one of the other alias definitions in the alias chain to avoid a repetitive chain.

sqlcode: -576

sqlstate: 42916

SQL0577N User defined routine *routine-name* (specific name *specific-name*) attempted to modify data but was not defined as MODIFIES SQL DATA.

Explanation: The program used to implement the body of a routine is not allowed to modify SQL data.

User response: Remove any SQL statements that modify data then recompile the program. Investigate the level of SQL allowed as specified when defining the routine.

sqlcode: -577

sqlstate: 38002

sqlstate: 42985

SQL0579N Routine *routine-name* (specific name *specific-name*) attempted to read data but was not defined as READS SQL DATA or MODIFIES SQL DATA.

Explanation: The program used to implement the body of a routine is not allowed to read SQL data.

User response: Remove any SQL statements that read data then recompile the program. Investigate the level of SQL allowed as specified when defining the routine.

sqlcode: -579

sqlstate: 38004

sqlstate: 42985

SQL0580N The result-expressions of a CASE expression cannot all be NULL.

Explanation: There is a CASE expression in the statement that has all the result-expressions (expressions following THEN and ELSE keywords) coded with the keyword NULL.

The statement cannot be processed.

User response: Change the CASE expression to include at least one result-expression that is other than the keyword NULL.

sqlcode: -580

sqlstate: 42625

SQL0581N The data types of the result-expressions of a CASE expression are not compatible.

Explanation: There is a CASE expression in the statement that has result-expressions (expressions following THEN and ELSE keywords) that are not compatible.

The data type of a CASE expression is determined using the "Rules for Result Data Types" on the result-expressions. The data types of the result-expressions may be incompatible for one of the following reasons:

- they are not all character data types
- they are not all numeric data types
- They are not all date data types
- They are not all time data types
- They are not all timestamp data types
- They are not all the same user-defined distinct data types

The statement cannot be processed.

User response: Correct the result-expressions so that they are compatible.

sqlcode: -581

sqlstate: 42804

SQL0582N A CASE expression in a VALUES clause, IN predicate, GROUP BY clause, or ORDER BY clause cannot include a quantified predicate, an IN predicate using a fullselect, or an EXISTS predicate.

Explanation: A search condition of a CASE expression is:

- a quantified predicate (one using SOME, ANY, or ALL),
- an IN predicate using a fullselect or
- an EXISTS predicate

and the CASE expression is part of:

- a VALUES clause
- an IN predicate
- a GROUP BY clause or
- an ORDER BY clause.

Such CASE expressions are not supported. The CASE expression may be part of a function written in SQL.

The statement cannot be processed.

User response: Remove the use of the quantified predicate, IN predicate, or EXISTS predicate from the CASE expression. If the CASE expression is part of a function, the query may need to be written without the function that causes the error.

sqlcode: -582

sqlstate: 42625

SQL0583N The use of routine *routine-name* is invalid because it is not deterministic or has an external action.

Explanation: The routine (function or method) *routine-name* is defined as a non-deterministic routine or a routine with an external action. This type of routine is not supported in the context in which it is used. The contexts in which these are not valid are:

- as the first operand of a BETWEEN predicate
- in the expression prior to the first WHEN keyword in a simple-case-expression.
- in an expression of a GROUP BY clause
- in an expression of an ORDER BY clause (external action only)
- in a FILTER clause of a user-defined predicate specification or an index extension definition

The statement cannot be processed.

User response: If the use of a non-deterministic or external action routine was not intended, substitute a routine without these characteristics. If the behavior associated with the non-deterministic or external action

routine is intentional, use the alternate form of the statements that make that intent explicit.

- Instead of the BETWEEN predicate, use the corresponding statement using the equivalent combination of comparison predicates ($a \geq b$ and $a \leq c$ instead of a between b and c).
- Instead of a simple-when-clause, use the corresponding searched-when-clause where the routine would get specified in each search-condition.
- Remove the non-deterministic or external action routine from the GROUP BY clause. If grouping is desired on a column of the result that is based on a non-deterministic or external action routine use a nested table expression or a common table expression to first provide a result table with the expression as a column of the result.
- Remove the external action routine from the ORDER BY clause. If the column is part of the result set of the query, change the expression in the ORDER BY clause to the simple-integer or simple-column-name form of the sort key.
- Remove the non-deterministic or external action routine from the FILTER clause.

sqlcode: -583

sqlstate: 42845

SQL0584N Invalid use of NULL or DEFAULT.

Explanation: DEFAULT can only be used in a VALUES clause that is part of an INSERT or MERGE statement.

A VALUES clause that is not part of an INSERT statement must have a value other than NULL in at least one row for each column.

If DEFAULT is used as a column-name in a WHERE or HAVING clause, it must be capitalized and enclosed in double quotes.

Federated system users: DEFAULT cannot be used in a VALUES clause of an INSERT statement where the object is a nickname.

User response: Substitute a value other than NULL or DEFAULT in the VALUES clause. If DEFAULT is used as a column-name, capitalize it and enclose it in double quotes.

sqlcode: -584

sqlstate: 42608

SQL0585N The schema name *schema-name* appears more than once in the set *special-register* statement.

Explanation: The SET statement for special register *special-register* includes the schema *schema-name* more than once.

The statement cannot be processed.

User response: Verify the list in the SET statement that contains the duplicate. If the error is only in entering a schema-name incorrectly, which happens to duplicate another entry, enter the schema name correctly and reissue the statement. If the entry is really a duplicate no action is required.

sqlcode: -585

sqlstate: 42732

SQL0586N The total length of the *special-register* cannot exceed *length*.

Explanation: The *special-register* is defined as a length smaller than the value specified on the SET statement. The content of the string includes each schema name delimited with double quotes and separated from the next schema name by a comma. The total length of the string of all schema names in the special register cannot exceed the maximum length of the special register. A SET PATH or SET CURRENT PACKAGE PATH statement could result in this message.

The statement or command cannot be processed.

User response: Remove schema names to reduce the total length to fit the length of the special register. If the statement that failed was SET PATH and if all the schema names are required, it may be necessary to consolidate some user-defined functions, procedures, methods, or distinct types, so that fewer schema names are required on the SQL PATH.

sqlcode: -586

sqlstate: 42907

SQL0590N Name *name* specified in context *context-tag* is not unique.

Explanation: Name *name* is specified as a parameter, SQL variable, cursor, label, or condition in a context defined by *context-tag*. The name is not unique.

If *context-tag* is "BEGIN...END", then the context of the error is a dynamic SQL compound statement.

Otherwise, the context of the error is a trigger or routine and *context-tag* is the trigger name or routine name containing the compound statement.

- If *name* is a parameter name, then it must be unique within the parameter list and the EXPRESSION AS clause of a routine.
- If *name* is an SQL variable name, cursor name or condition, then it must be unique within a compound statement .
- A label must be unique within a compound statement and different from the labels of the statements in which it is nested.

User response: Change the name so that it is unique.

sqlcode: -590

sqlstate: 42734

SQL0595W Isolation level *requested-level* has been escalated to *escalated-level*.

Explanation: The isolation level specified is not supported by DB2. It has been escalated to the next higher level of isolation supported by DB2.

User response: To avoid this warning, specify an isolation level which is supported by DB2. DB2 supports isolation levels Repeatable Read (RR), Read Stability (RS), Cursor Stability (CS), and Uncommitted Read (UR).

sqlcode: +595

sqlstate: 01526

SQL0597N Unable to retrieve a DATALINK value.
Reason code = *reason-code*.

Explanation: A DATALINK value could not be retrieved. The possible reason codes are as follows:

- 01 The DB2 Data Links Manager does not authorize the DB2 user to retrieve a DATALINK value embedded with a write token for modifying the DATALINK value referenced file.

User response: The action is based on the reason code as follows.

- 01 Contact the DB2 Data Links Manager administrator to grant the write access privilege to this file.

sqlcode: -0597

sqlstate: 42511

SQL0598W Existing index *name* is used as the index for the primary key or a unique key.

Explanation: An index was required for an ALTER TABLE operation that defined a primary key or a unique key, and the indicated index matches the required index.

When creating a primary key or unique key index, an index description matches if it identifies the same set of columns (in any order) as the primary or unique key without regard to ascending or descending specifications, and is specified as unique.

The statement is processed successfully.

User response: No action is required.

sqlcode: +598

sqlstate: 01550

SQL0599W Comparison functions are not created for a distinct type based on a long string data type.

Explanation: Comparison functions are not created for a distinct type based on a long string data type (BLOB, CLOB, DBCLOB, LONG VARCHAR, or LONG VARGRAPHIC) since the corresponding functions are not available for these built-in data types.

This is a warning situation. The statement is processed successfully.

User response: No action is required.

sqlcode: +599

sqlstate: 01596

SQL0600 - SQL0699

SQL0600N A routine *routine-name* could not be generated because of a duplicate signature or because it would override an existing routine.

Explanation: During the CREATE or ALTER operation, a system-generated cast function, observer method, mutator method, or constructor function could not be created because another function or method with the same name and signature already exists in the schema, or because the method or function would override an existing method.

User response: Choose another name for the user-defined type, attribute, or cast function that causes the conflict, or drop the function or method with the same name as the function or method that could not be generated.

sqlcode: -600

sqlstate: 42710

SQL0601N The name of the object to be created is identical to the existing name *name* of type *type*.

Explanation: The CREATE or ALTER statement tried to create or add an object *name* when an object of type *type* already exists with that name on the application server or in the same statement.

If *type* is FOREIGN KEY, PRIMARY KEY, UNIQUE, or CHECK CONSTRAINT, the *name* is the constraint name specified in the ALTER NICKNAME, ALTER TABLE, CREATE NICKNAME or CREATE TABLE statement or generated by the system.

If *type* is DATA PARTITION, the *name* is the data partition name specified in the ALTER TABLE or CREATE TABLE statement.

This error can also occur when registering an XML schema repository object using a REGISTER command or the one of the procedures XSR_REGISTER, XSR_DTD, or XSR_EXTENTIVITY. The error occurs when the name for the XSROBJECT already exists.

Federated system users: some data sources do not provide the appropriate values for the *name* and *type* message tokens. In these cases, *name* and *type* will have the following format: "OBJECT:<data source> TABLE/VIEW", and "UNKNOWN" indicating that the actual values at the specified data source are not known.

The statement cannot be processed. No new object is created, and the existing object is not altered or modified.

User response: Either drop the existing object or choose another name for the new object.

Federated system users: if the statement is a CREATE FUNCTION MAPPING or a CREATE TYPE MAPPING statement, the user can also consider not supplying a type mapping name and the system will automatically generate a unique name for this mapping.

sqlcode: -601

sqlstate: 42710

SQL0602N The CREATE INDEX or CREATE INDEX EXTENSION statement specifies too many columns (64 is the maximum).

Explanation: The number of columns for the index that would be generated by the CREATE INDEX statement exceeds the maximum of 64 columns for the database manager. If the index is defined on a typed table, there is additional overhead that reduces the maximum number of specified columns to 63.

For a CREATE INDEX EXTENSION statement, the GENERATE KEY function returns a number of columns that exceeds the maximum of 64 columns allowed in an index.

Federated system users: the limit for other data sources is different. That limit could have been exceeded. This problem may be detected on the federated server, or it may be detected on the data source.

The statement cannot be processed.

User response: Change the index definition to conform to the column limit of 64. For a CREATE INDEX EXTENSION statement, specify a different GENERATE KEY function, or redefine the function to return fewer columns.

Federated system users: change the index definition to conform to the column limit for the data source.

sqlcode: -602

sqlstate: 54008

SQL0603N A unique index cannot be created because the table contains data that would result in duplicate index entries.

Explanation: The index defined in the CREATE INDEX statement could not be created as unique, because the specified table already contains rows that duplicate the values of the identified columns. If defining an index on an XML column, there may be duplicate index values generated from a single XML document.

Federated system users: this situation may also be detected by the data source.

The statement cannot be processed. The specified index is not created.

User response: Examine the data to determine if the duplicate data is permitted. Alternatively, consider creating a non-UNIQUE index.

sqlcode: -603

sqlstate: 23515

SQL0604N The length, precision, or scale attribute for column, distinct type, structured type, attribute of structured type, routine, cast target type, or type mapping *data-item* is not valid.

Explanation: There is an error in the data type specification in a CREATE or ALTER statement, or a CAST specification. An invalid length, precision or scale attribute may have been specified, or it may be that the data type itself is incorrect or not permitted in this context. The location of the error is given by *data-item* as follows:

- for a CREATE or ALTER TABLE statement, *data-item* gives the name of the column containing the error or the data type containing an error. If the column data type is a structured type, then the explicit or implicit INLINE LENGTH value must be at least 292 and cannot exceed 32677.
- for a CREATE FUNCTION statement, *data-item* is a token that identifies the area of the problem in the statement. For example, "PARAMETER 2" or "RETURNS" or "CAST FROM". In some cases, it may also be the data type containing the error.
- for a CREATE DISTINCT TYPE statement, *data-item* gives the name of the type being defined or the source data type containing the error.
- for a CREATE or ALTER TYPE statement, *data-item* gives the type of the attribute containing the error or the name of the structured type having an incorrect inline length value. The inline length cannot be smaller than 292 and the size returned by the constructor function for the structured type.
- for CAST(expression AS data-type), *data-item* is "CAST" or the data type containing the error.
- for XMLCAST(expression AS data-type), *data-item* is "XMLCAST" or the data type containing the error.
- for a reverse type mapping, [p..p] expression cannot be used for the remote data type. For example, the following statement (reverse type mapping) is incorrect.

```
CREATE TYPE MAPPING tm1
FROM SERVER drdasvr
TYPE CHAR([1..255])
TO SYSIBM.VARCHAR
```

Whereas, the following statement (forward type mapping) is correct.

```
CREATE TYPE MAPPING tm1
TO SERVER drdasvr
TYPE CHAR([1..255])
FROM SYSIBM.VARCHAR
```

Federated system users: if the statement is a CREATE TYPE MAPPING statement, an attempt was made to create a type mapping where a type attribute for either the local data type or the remote data type is not valid. Possible reasons include:

- The local length/precision is set to 0 or a negative value.
- The length/precision attribute is specified for data types such as date/time/timestamp, float, or integer.
- The scale attribute is specified for data types such as character, date/time/timestamp, float, or integer.
- The FOR BIT DATA clause is specified for a non-character type.
- The remote precision is set to 0 for remote types other than Informix datetime.
- An invalid field qualifier is being used in a type mapping for an Informix datetime type.
- An ending value is lower than the starting value in a precision/scale range.

The statement cannot be processed.

User response: Correct the syntax and try again.

sqlcode: -604

sqlstate: 42611

SQL0605W The index was not created because an index *name* with a matching definition already exists.

Explanation: A CREATE INDEX statement attempted to create a new index which matches an existing index definition.

Two index definitions match if they identify the same columns in the same order, with the same ascending or descending specifications, and both enforce uniqueness or only the new index does not enforce uniqueness.

Two index definitions also match if they identify the same columns in the same order, with the same or reverse ascending or descending index key order, and at least one index supports both forward and reverse scans.

The new index was not created.

User response: No action is required unless the existing index *name* is not a suitable index. For example, the existing index *name* is not a suitable index if it does not allow reverse scans, and the required one does (or vice versa). In this case, the index *name* must be dropped before the required index can be created.

sqlcode: +605

sqlstate: 01550

SQL0606N The COMMENT ON or LABEL ON statement failed because the specified table or column is not owned by owner.

Explanation: An attempt was made to comment or label on a table or column which does not exist or is not owned by the owner specified in the message text.

Processing of the SQL statement has ended.

User response: Correct the statement. Try again.

sqlcode: -606

sqlstate: 42505

SQL0607N operation is not defined for system objects.

Explanation: The operation specified in the SQL statement cannot be performed on system objects. One of the following was attempted:

- ALTER, DROP or TRANSFER OWNERSHIP of a system owned object such as a system catalog table, built-in function or built-in data type
- COMMENT ON a system owned built-in function.
- INSERT or DELETE on a system catalog table.
- UPDATE directly on a system catalog table. Some columns of a subset of system catalog tables are updatable. For UPDATE operation on these catalog tables, updatable views in SYSSTAT schema should be used. For a description of updatable catalog views (SYSSTAT views), see the *SQL Reference*.
- CREATE or DROP of an index on a system table
- CREATE of a trigger on a system table
- A non-updatable system table was identified in the FROM clause of a SELECT statement containing a FOR UPDATE clause. For a list of updatable system catalogs see the *SQL Reference*.
- DROP or ALTER of a system table space.
- DROP or ALTER of a system database partition group.
- REDISTRIBUTE of the IBMCATGROUP or IBMTEMPGROUP database partition group.
- Transfer ownership on a schema that is beginning with 'SYS

The statement cannot be processed.

User response: Do not attempt to modify any system objects except for those columns of the system catalog tables which are updatable through updatable SYSSTAT views. See the *SQL Reference* for more information.

sqlcode: -607

sqlstate: 42832

SQL0612N name is a duplicate name.

Explanation: A statement was issued with the same name appearing more than once where duplicates are not allowed. Where these names appear varies depending on the type of statement.

- CREATE TABLE statements cannot have the same column name defined for two columns.
- CREATE TABLE statements specifying table partitioning cannot define an identical data partition name for two data partitions.
- ALTER TABLE statements cannot add or attach a data partition to a table specifying a partition name that is identical to a partition name of an existing data partition in the table.
- CREATE VIEW statements or common table expression definitions cannot have the same column name in the column name list. If no column name list is specified, then the column names of the columns in the select list of the view must be unique.
- ALTER TABLE statement cannot add a column to a table using the name of a column that already exists or is the same as another column being added. Furthermore, a column name can only be referenced in one ADD, DROP COLUMN, or ALTER COLUMN clause in a single ALTER TABLE statement.
- CREATE INDEX cannot have a column name specified more than once as part of the index key or the INCLUDE columns of the index.
- CREATE TRIGGER cannot have a column name specified more than once in the list of columns that cause an update trigger to be activated.
- CREATE TABLE OF statements cannot have the same name defined for the REF IS column and any attribute of the structured type.
- CREATE TYPE statements cannot have the same name defined for two attributes. Attribute names must be unique with the type and all supertypes.
- ALTER TYPE statements cannot add an attribute to a structured type using the name of an attribute that already exists in the type or any of its subtypes or is the same as another attribute being added. Also, the name of the attribute may not be the same as the REF IS column in any table created from the structured type. Furthermore, an attribute name can only be referenced in one ADD or DROP ATTRIBUTE clause in a single ALTER TYPE statement.
- CREATE INDEX EXTENSION statements cannot have the same name defined for two parameters.
- A column name can only be referenced in one ALTER COLUMN clause in a single ALTER NICKNAME statement.
- An XMLQUERY, XMLEXISTS, or XMLTABLE argument list contained two arguments with the same name.

- An XMLTABLE column list contains two columns with the same name.

The statement cannot be processed.

User response: Specify unique names as appropriate for the type of statement.

sqlcode: -612

sqlstate: 42711

SQL0613N The primary key, unique key, or table partitioning key identified by *name* is too long or has too many columns.

Explanation: This error is caused by one of the following:

- The sum of the internal lengths of columns in the PRIMARY KEY clause or a UNIQUE clause identified by *name* exceeds the index key length limit or the number of columns exceeds the maximum of 64. Also, a primary key or a unique key cannot be defined using a LONG VARCHAR column. If the primary key or unique constraint is defined on a typed table, there is additional index overhead that reduces the maximum number of specified columns to 63 and limits the length by 4 bytes.
- The number of columns in the PARTITION BY clause exceeds the maximum of 16.

name is the constraint name, if specified, of the primary key or unique constraint. If a constraint name was not specified, *name* is the first column name specified in the primary key or unique constraint clause followed by three periods.

The index key length limit is based on the page size of the tablespace used by the index:

Max Key Length	Page size
1K	4K
2K	8K
4K	16K
8K	32K

For a table partitioning key, *name* is the column name of the column which exceeds the limit.

The statement cannot be processed.

User response: Modify the primary key, unique key or table partitioning key definition by eliminating one or more key columns to conform to the column limit of 64 and the key length limit.

sqlcode: -613

sqlstate: 54008

SQL0614N The index or index extension *index-name* cannot be created or altered because the combined length of the specified columns is too long.

Explanation: The index could not be created or altered because the sum of the key column internal lengths would exceed the index key length limit. Also, an index cannot be created using a LONG VARCHAR, LONG VARGRAPHIC, or LOB column. If the index is defined on a typed table, there is additional index overhead that reduces the maximum length by 4 bytes. The index may be altered by an ALTER TABLE or ALTER NICKNAME statement that alters the data type of one or more columns.

An index extension could not be created because the sum of the columns returned by the GENERATE KEY function would exceed the index key length limit.

The index key length limit is based on the page size of the tablespace used by the index:

Max Key Length	Page size
1K	4K
2K	8K
4K	16K
8K	32K

The statement cannot be processed. The specified index or index extension was not created or the table or nickname could not be altered.

User response: To modify the index definition or alter column, eliminate one or more key columns and reduce the key length to the permitted maximum. For an index extension definition, specify a different GENERATE KEY function, or redefine the function to reduce the length of the returned row.

sqlcode: -614

sqlstate: 54008

SQL0615N The object *object-name* of type *object-type* cannot be dropped because it is currently in use by the same application process.

Explanation: A DROP statement of an object cannot be issued when it is in use.

The statement cannot be processed. The object is not dropped.

User response: Close any cursors that depend either directly or indirectly on the object *object-name* and resubmit the statement.

sqlcode: -615

sqlstate: 55006

SQL0620N The CREATE TABLE statement failed because *user-id* has no private, recoverable dbspaces with less than 255 tables.

Explanation: The dbspace name was not specified in the CREATE TABLE statement, so the database manager tried to find a private dbspace owned by *user-id*. This message will appear under one of the following conditions:

1. There were no private dbspaces found in the DB2 for VM database for the *user-id*.
2. There were one or more private dbspaces found for the *user-id*, but each contained 255 tables.
3. The private dbspaces were located in nonrecoverable storage pools. Only private dbspaces that exist in recoverable storage pools will be available when the CREATE TABLE statement does not specify the dbspace name.

Processing of the SQL statement has ended.

User response: Suggestions for the three conditions above are:

1. Acquire a private dbspace in a recoverable storage pool. You may require a database administrator's assistance.
2. Drop a table in a private dbspace residing in a recoverable storage pool to free up an entry, or take the action indicated in (1) above.
3. If you want to create the table in a dbspace existing in a non-recoverable storage pool, then specify the dbspace name on the CREATE TABLE command. Otherwise, take the action indicated in (1) above.

Then rerun the CREATE TABLE statement.

If appropriate, acquire a private dbspace for the user.

sqlcode: -620

sqlstate: 57022

SQL0622N The clause *clause* is invalid for this database.

Explanation: The clause indicated is invalid because it is incompatible with the defined characteristics for this database.

Possible reasons:

- CCSID ASCII and PARAMETER CCSID ASCII cannot be specified when connected to a database created using a Unicode code page.
- CCSID UNICODE and PARAMETER CCSID UNICODE cannot be specified when connected to a database created using a non-Unicode code page before the alternate collating sequence is specified in the database configuration.

- CCSID UNICODE or PARAMETER CCSID UNICODE cannot be specified in this statement when connected to a database created using a non-Unicode code page.
- FOR SBCS DATA can only be specified when connected to a database created using a single byte code page.
- FOR MIXED DATA can only be specified when connected to a database created using a double byte or Unicode code page.
- The IN *database-name.table-space-name* or IN DATABASE *database-name* clause was specified using a database name that does not match the name of the database to which the application is currently connected.

The statement cannot be processed.

User response: Change or remove the clause and re-issue the SQL statement.

To allow Unicode objects in a non-Unicode database, update the database configuration to specify the alternate collating sequence (ALT_COLLATE).

sqlcode: -622

sqlstate: 56031

SQL0623N A clustering index already exists on table *name*.

Explanation: The CREATE INDEX statement would create a second clustering index on the specified table. A given table can have only one clustering index.

The statement cannot be executed.

User response: Check to determine the identity and validity of the existing clustering index on table *name*. Consider creating the index without the CLUSTER attribute.

sqlcode: -623

sqlstate: 55012

SQL0624N Table *name* already has a *key-type* key.

Explanation: A primary key or partitioning key cannot be defined in an ALTER TABLE statement because the indicated table already has a key of this type.

The statement cannot be executed.

User response: A table cannot have more than one primary key or partitioning key.

sqlcode: -624

sqlstate: 42889

SQL0628N Multiple or conflicting keywords involving the *clause-type* clause are present.

Explanation: There are several possible reasons why this condition might have been diagnosed for the statement. Exactly which one happened is indicated by the value of *clause-type*. The possibilities to consider are:

- The keyword may not be specified in the same statement as some other keyword.
- The keyword may be part of a sequence of keywords where the order in which they are specified is not enforced. A keyword in such a sequence may have been specified with the contradicting keyword also specified.
- The keyword may appear more than once with different associated values.
- The keyword may require the specifying of other particular keywords in the same statement which were not specified.
- When ALTERING an object, a keyword was specified that conflicts with an existing property of the object.
- When ALTERING a partitioned table, the ADD, ATTACH and DETACH clauses are not supported with any other clauses.

User response: Check that the statement conforms to the syntax and rules defined for the statement. Correct any invalid occurrences of duplicate or conflicting keywords.

sqlcode: -628

sqlstate: 42613

SQL0629N SET NULL cannot be specified because either the column or FOREIGN KEY *name* cannot contain null values.

Explanation: The SET NULL option of the ALTER TABLE statement or indicated FOREIGN KEY clause is not valid. For an ALTER TABLE statement, the column *name* cannot be altered to not allow NULL values because this column was the last nullable column in the foreign key constraint with action type 'on delete set NULL'.

For the FOREIGN KEY clause, no column of the key allows null values. *name* is the constraint name, if specified. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: For an ALTER TABLE statement, either remove the foreign constraint or change at least one other column in this constraint to be nullable. For the FOREIGN KEY clause, change either a column of the key to allow an assignment to the null value or change the delete rule.

sqlcode: -629

sqlstate: 42834

SQL0631N FOREIGN KEY *name* is too long or has too many columns.

Explanation: The sum of the column internal lengths identified in the FOREIGN KEY clause in a CREATE TABLE statement exceeds the index key length limit, or the number of columns identified exceeds 64. Also, a foreign key cannot be defined using a LONG VARCHAR column.

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The index key length limit is based on the page size of the tablespace used by the index:

Max Key Length	Page size
1K	4K
2K	8K
4K	16K
8K	32K

The statement cannot be processed.

User response: To modify the foreign key definition, eliminate one or more key columns and conform to the 64 column limit and the key length limit.

sqlcode: -631

sqlstate: 54008

SQL0632N FOREIGN KEY *name* is not valid because the table cannot be defined as a dependent of table *table-name* because of delete rule restrictions (reason code = *reason-code*).

Explanation: A referential constraint cannot be defined because the object table of the CREATE TABLE or ALTER TABLE statement cannot be defined as a dependent of table *table-name* for one of the following reason codes:

- (01) The relationship is self-referencing and a self-referencing relationship already exists with the SET NULL delete rule.
- (02) The relationship forms a cycle of two or more tables that cause the table to be delete-connected to itself (all other delete rules in the cycle would be CASCADE).
- (03) The relationship causes the table to be delete-connected to the indicated table through multiple relationships and the delete rule of the existing relationship is SET NULL.

The delete rules of the existing relationships cause an error, not the delete rule specified in the FOREIGN KEY clause of the CREATE TABLE or ALTER TABLE statement.

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: If possible, eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.

sqlcode: -632

sqlstate: 42915

SQL0633N The delete rule of FOREIGN KEY *name* must be *delete-rule* (reason code = *reason-code*).

Explanation: The delete rule specified in a FOREIGN KEY clause of the CREATE TABLE or ALTER TABLE statement is not valid. The indicated delete rule is required for one of the following reason codes:

- (01) The referential constraint is self-referencing and an existing self-referencing constraint has the indicated delete rule (NO ACTION, RESTRICT or CASCADE).
- (02) The referential constraint is self-referencing and the table is dependent in a relationship with a delete rule of CASCADE.
- (03) The relationship would cause the table to be delete-connected to the same table through multiple relationships and such relationships must have the same delete rule (NO ACTION, RESTRICT or CASCADE).

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: If possible, change the delete rule.

sqlcode: -633

sqlstate: 42915

SQL0634N The delete rule of FOREIGN KEY *name* must not be CASCADE (reason-code = *reason-code*).

Explanation: The CASCADE delete rule specified in the FOREIGN KEY clause of the CREATE TABLE or

ALTER TABLE statement is not valid for one of the following reason codes:

- (01) A self-referencing constraint exists with a delete rule of SET NULL, NO ACTION or RESTRICT.
- (02) The relationship would form a cycle that would cause a table to be delete-connected to itself. One of the existing delete rules in the cycle is not CASCADE, so this relationship may be definable if the delete rule is not CASCADE.
- (03) The relationship would cause another table to be delete-connected to the same table through multiple paths with different delete rules or with delete rule equal to SET NULL.

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: If possible, change the delete rule.

sqlcode: -634

sqlstate: 42915

SQL0636N Range specified for data partition *partition-name* is not valid. Reason code = *reason-code*.

Explanation: The range specified for the partitioning key is not valid for one of the following reason codes:

- 1 The STARTING value for the partition is greater than the ENDING value. Generally the STARTING value for a partition must be less than the ENDING value. However, the starting value can be EQUAL to the ending value if BOTH bounds are inclusive. A bound which includes MINVALUE or MAXVALUE is exclusive. For example, a partition defined as STARTING (1, MINVALUE) ENDING (1, MINVALUE) is illegal (with reason code 1). because the bound values are equal and both are exclusive. Even if only one bound (e.g. only a STARTING bound) is explicitly specified, this reason code will be returned if the resulting bounds (after the missing bounds are generated) violate this rule.
- 3 STARTING value is not specified for the partition with the lowest key.
- 4 ENDING value is not specified for the partition with the highest key.
- 5 A STARTING value is not specified when the previous ENDING value was not specified.
- 7 On DB2 UDB for iSeries only: The data partitions are not specified in ascending sequence.

9 The STARTING or ENDING value for the partition is too long. The total length of the table partitioning key limit values must be less than or equal to 512 bytes.

10 The range overlaps with another partition. Each data partition must have a well defined starting and ending boundary and each data value must go into one and only one data partition. Also, if the same value (except MINVALUE or MAXVALUE) is used in the ending bound of one partition and the starting bound of the next partition, then at least one of these bounds must be defined as EXCLUSIVE. For an existing table, to determine whether the bounds of a partition are INCLUSIVE or EXCLUSIVE, query the SYSCAT.DATAPARTITIONS catalog table as follows (substituting the appropriate values for 'table-schema' and 'table-name'):

```
SELECT
DATAPARTITIONID, DATAPARTITIONNAME,
LOWVALUEINCLUSIVE, LOWVALUE,
HIGHVALUEINCLUSIVE, HIGHVALUE
FROM SYSCAT.DATAPARTITIONS
WHERE TABSCHEMA='table-schema'
AND TABNAME='table-name'
ORDER BY SEQNO
```

11 MINVALUE and MAXVALUE cannot be specified when the EVERY clause is specified.

12 The value specified for the EVERY clause must be greater than zero and large enough to define unique partitions.

13 A constant cannot be specified following MINVALUE or MAXVALUE in the STARTING or ENDING value for a partition. Once a MINVALUE or MAXVALUE is specified, all subsequent (less significant) columns must be MINVALUE or MAXVALUE, respectively.

If the value for *partition-name* is of the form "PARTITION=value", then the partition name was not available when the error occurred. The value provided identifies the starting or ending value of the offending partition in the partition list clause.

The statement cannot be processed.

User response: Correct the invalid ranges for the data partitions.

sqlcode: -636

sqlstate: 56016

SQL0637N Keyword *keyword* is not valid as used.

Explanation: The SQL statement contains a duplicate or conflicting specification for a clause with the indicated keyword. For example:

- DEFAULT, UNIQUE, and PRIMARY can only be specified once in a column definition
- UNIQUE and PRIMARY cannot both be specified for the same column definition
- PRIMARY can only be specified once in a CREATE TABLE statement
- the attribute-string specified for the PREPARE statement cannot specify an option more than once, or there are conflicting options

The statement cannot be processed.

User response: Correct the statement to specification of duplicate or conflicting clauses.

sqlcode: -637

sqlstate: 42614

SQL0638N Table *name* cannot be created because no column definitions were specified.

Explanation: The CREATE TABLE statement does not contain any column definitions.

The statement cannot be processed.

User response: Add one or more column definitions to the statement.

sqlcode: -638

sqlstate: 42601

SQL0644N Invalid value specified for keyword *keyword* in statement *statement-type*.

Explanation: The keyword *keyword* is followed by an invalid value as allowed by the description of *statement-type*. For numeric values, the value may be outside a defined range. For other types, the value is not in the defined set of valid values.

User response: Determine from reference documentation for the *statement-type* what are valid values and make the appropriate change.

sqlcode: -644

sqlstate: 42615

SQL0647N Bufferpool *bufferpool-name* is currently not active.

Explanation: The bufferpool *bufferpool-name* is not active in the current database environment. An attempt was made to find another bufferpool with the same page size but there are no such bufferpools active in the current database environment. The bufferpool *bufferpool-name* was recently defined but has not yet been activated.

The statement cannot be processed.

User response: The database must be stopped and

started again to activate the required bufferpool.

sqlcode: -647

sqlstate: 57003

SQL0648N The foreign key cannot be defined because it will cause table *owner1.table-name1* to be delete-connected to table *owner2.table-name2* through multiple paths. Reason Code = *reason-code*.

Explanation: The foreign key cannot be defined because one of the following reason codes = *reason-code*:

- 01 The relationship will cause table *owner1.table-name1* to be delete-connected to table *owner2.table-name2* through multiple paths with the same delete rule of SET NULL.
- 02 The relationship will cause table *owner1.table-name1* to be delete-connected to table *owner2.table-name2* through multiple paths with different delete rules.

Processing of the SQL statement has ended.

User response: Correct the statement. Try again.

sqlcode: -648

sqlstate: 42915

SQL0658N The object *name* cannot be explicitly dropped or altered.

Explanation: The identifier *name* identifies one of the following:

- a cast function or comparison function that cannot be dropped using the DROP statement because it was created by the system for use with a distinct type
- a method that cannot be dropped using the ALTER TYPE method because it was created by the system for use with a structured type
- a package that cannot be dropped using the DROP statement because it was created by the system for use with a SQL procedure. The consistency token (or *unique_id*) is given in hexadecimal as part of the package name in the form of “pkgschema.pkgname 0Xcontoken”.
- a routine that cannot be altered because it is defined with LANGUAGE SQL
- a nickname that cannot be altered to disallow caching because the nickname is referred to in the fullselect of a materialized query table definition

The statement cannot be processed.

User response:

- The function *name* can only be dropped by dropping the distinct type or structured type that caused the function to be defined. The distinct type name

corresponds to either the name of the function or the type of the parameters to the function.

- The method *name* can only be dropped by dropping the structured type that caused the method to be defined. The method name corresponds to the name of an attribute for the structured type.
- The package *name* can only be dropped by dropping the SQL procedure that caused the package to be defined. The specific name of the SQL procedure can be found by retrieving the DSCHEMA and DNAME from the SYSIBM.SYSDEPENDENCIES catalog table where the BSCHEMA, BNAME, and BUNIQUE_ID match the relevant parts of *name*, BTYPE is 'K' and DTYPE is 'L'. The consistency token (or *unique_id*) is needed to distinguish between package versions that share the same schema and name.
- The routine *name* can only be changed by dropping the routine and then redefining it.
- The nickname *name* can only be altered to disallow caching by dropping all references to it in any materialized query table definition.

sqlcode: -658

sqlstate: 42917

SQL0659N Maximum size of a table object has been exceeded.

Explanation: One or more of the objects which make up a table has reached its maximum size. The storage objects that make up a table are:

- Data: This is where basic column data is stored
- Index: This is where all indexes on the table are stored
- Long Data: This is where LONG VARCHAR and LONG VARGRAPHIC column data is stored
- Lob/Lob Allocation: This is where BLOB, CLOB, and DBCLOB column data and control information are stored
- XML: This is where XML data is stored.

Once a storage object has grown to its maximum size, it cannot be extended further.

User response: To make existing space within the object available to store new data, the following actions may be taken:

- Reorganize the table
- Delete unnecessary rows from the table
- Drop an index from the table
- Update rows to reduce the amount of data (a reorg may be required after this action in order to reclaim unused storage)
- Delete unnecessary XML documents

sqlcode: -659

sqlstate: 54032

SQL0663N Number of partitioning values is not correct for data partition *partition-name*.

Explanation: The wrong number of data partition key limit values was specified in the STARTING or ENDING clause for the data partition. If the data partition specification included an EVERY clause, there must be only one table partitioning key column with a numeric or datetime data type. If the value for *partition-name* is of the form "PARTITION=value", then the partition name was not available when the error occurred. The value provided identifies the starting or ending value of the offending partition in the partition list clause.

User response: Change the number of values specified in the STARTING or ENDING clause to match the number of columns in the table partitioning key. Alternatively, change the number of columns in the table partitioning key.

sqlcode: -663

sqlstate: 53038

SQL0667N The FOREIGN KEY *name* cannot be created because the table contains rows with foreign key values that cannot be found in the parent key of the parent table.

Explanation: The definition of the indicated foreign key failed because the table being altered contains at least one row where the foreign key does not match the parent key value in the parent table.

name is the constraint name, if specified. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed. The specified table is not altered.

User response: Remove the erroneous table rows and define the foreign key.

sqlcode: -667

sqlstate: 23520

SQL0668N Operation not allowed for reason code *reason-code* on table *table-name*.

Explanation: Access to table *table-name* is restricted. The cause is based on the following reason codes *reason-code*:

- 1 The table is in the Set Integrity Pending No Access state. The integrity of the table is not enforced and the content of the table may be invalid. An operation on a parent table or an underlying table that is not in the Set Integrity

Pending No Access state may also receive this error if a dependent table is in the Set Integrity Pending No Access state.

- 2 The table is in the No Data Movement state. When in this state, operations that cause data movement are disallowed. Data movement operations include REDISTRIBUTE, update of database partitioning key, update of multi-dimensional clustering key, update of range clustering key, update of data partitioning key and REORG TABLE.
- 3 The table is in the Load Pending state. A previous LOAD attempt on this table resulted in failure. No access to the table is allowed until the LOAD operation is restarted or terminated.
- 4 The table is the Read Access state. This state can occur during on-line LOAD processing (LOAD INSERT with the READ ACCESS option), or after an on-line LOAD operation, but before all constraints have been validated in the newly appended portion of the table using the SET INTEGRITY statement. No update activity is allowed on this table.
- 5 The table is in the Load In Progress state. The LOAD utility is currently operating on this table, no access is allowed until the LOAD is finished.
- 6 Materialized query tables that reference a nickname cannot be refreshed in ESE.
- 7 The table is in the reorg pending state. This can occur after an ALTER TABLE statement containing a REORG-recommended operation.
- 8 The table is in the alter pending state. This can occur when using the table in the same unit of work as an ALTER TABLE statement containing a REORG-recommended operation.

User response:

- 1 Execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option on table *table-name* to bring the table out of the Set Integrity Pending No Access state. For a user maintained materialized query table, execute the statement with the IMMEDIATE UNCHECKED option instead of the IMMEDIATE CHECKED option.
- 2 Execute REFRESH TABLE statement on the dependent immediate materialized query tables and staging tables of table *table-name*. The contents of these dependent immediate materialized query tables and staging tables can be incrementally maintained from the appended data of *table-name* through previous LOAD INSERT operations and from the

attached data of *table-name* through previous ALTER TABLE statements with the ATTACH clause.

- 3 Restart or terminate the previously failed LOAD operation on this table by issuing LOAD with the RESTART or TERMINATE option respectively.
- 4 Issue the LOAD QUERY command to check whether the table is in the process of being loaded. If yes, wait until the LOAD utility has completed, or if necessary, restart or terminate previously failed LOAD operation. If LOAD is currently not in progress, issue the SET INTEGRITY statement with the IMMEDIATE CHECKED option, to validate constraints in the newly loaded portion of the table.
- 5 Wait until the current LOAD operation has finished. You can use the LOAD QUERY command to monitor the progress of load.
- 6 Define a materialized query table using the MAINTAIN BY USER option. Then, use an INSERT statement with a subquery to populate the materialized query table.
- 7 Reorganize the table using the REORG TABLE command (note that INPLACE REORG TABLE is not allowed for a table that is in the reorg pending state).
- 8 Complete the unit of work, and re-issue the command.

sqlcode: -668

sqlstate: 57007

SQL0669N A system required index cannot be dropped explicitly.

Explanation: The DROP INDEX statement attempted to drop an index required to:

- enforce the primary key constraint on a table
- enforce a unique constraint on a table
- enforce the uniqueness of the object identifier (OID) column of a typed table hierarchy
- maintain a replicated materialized query table
- maintain an XML column in the table.

A system required index cannot be dropped using the DROP INDEX statement.

The statement cannot be processed. The specified index is not dropped.

User response: If you do not want to keep the primary or unique constraint, use the DROP PRIMARY KEY clause or the DROP CONSTRAINT clause of the ALTER TABLE statement to remove the primary key or

unique constraint. If the index was created only for enforcing the primary or unique key, then the index will be dropped. If not, the DROP INDEX statement could then be processed.

The index for an OID column can only be dropped by dropping the table.

The index required to maintain a replicated materialized query table can only be dropped by first dropping the replicated materialized query table.

The system-required indexes associated with one or more XML columns in a table cannot be dropped explicitly. Such indexes are maintained by the database manager to support the XML column in the table. The index specified in the DROP INDEX statement cannot be dropped without dropping the table.

sqlcode: -669

sqlstate: 42917

SQL0670N The row length of the table exceeded a limit of length bytes. (Table space *tablespace-name*.)

Explanation: The row length of a table in the database manager cannot exceed:

- 4005 bytes in a table space with a 4K page size
- 8101 bytes in a table space with an 8K page size
- 16293 bytes in a table space with an 16K page size
- 32677 bytes in a table space with an 32K page size

The length is calculated by adding the internal lengths of the columns. Details of internal column lengths can be found under CREATE TABLE in the *SQL Reference*.

One of the following conditions can occur:

- The row length for the table defined in the CREATE TABLE or ALTER TABLE statement exceeds the limit for the page size of the table space. The regular table space name *tablespace-name* identifies the table space from which the page size was used to determine the limit on the row length.
- The row length for the table defined in the DECLARE GLOBAL TEMPORARY TABLE statement exceeds the limit for the page size of the table space. The user temporary table space name *tablespace-name* identifies the table space from which the page size was used to determine the limit on the row length.

The statement cannot be processed.

User response: Depending on the cause, do one of the following.

- In the case of CREATE TABLE, ALTER TABLE, or DECLARE GLOBAL TEMPORARY TABLE, specify a table space with a larger pagesize, if possible.

- Otherwise, reduce the row length by eliminating one or more columns or reducing the lengths of one or more columns.

sqlcode: -670

sqlstate: 54010

SQL0672N Operation DROP not allowed on table *table-name*.

Explanation: The DROP operation failed for one of the following reasons:

- The table being dropped has the RESTRICT ON DROP attribute.
- The table space or database partition group being dropped contains the specified table, which has the RESTRICT ON DROP attribute.

The DROP statement cannot be executed.

User response: If the problem occurred during a DROP TABLE statement, issue an ALTER TABLE statement using the DROP RESTRICT ON DROP clause. Then re-issue the DROP TABLE statement.

If the problem occurred during a DROP TABLESPACE or DROP NODEGROUP statement, ensure that there are no other tables within the table space or database partition group with the RESTRICT ON DROP attribute. The following select statement can help identify the tables:

```
SELECT TB.TABNAME, TB.TABSCHEMA,
       TS.TBSPACE, TS.NGNAME
FROM SYSCAT.TABLES TB,
     SYSCAT.TABLESPACES TS
WHERE TYPE = 'T'
AND DROPRULE = 'R'
AND TB.TBSPACEID = TS.TBSPACEID
ORDER BY TS.NGNAME, TS.TBSPACE,
         TB.TABSCHEMA, TB.TABNAME;
```

After identifying tables with the RESTRICT ON DROP attribute, issue an ALTER TABLE statement using the DROP RESTRICT ON DROP clause for each table with the RESTRICT ON DROP attribute. Then re-issue the DROP TABLESPACE or DROP NODEGROUP statement.

sqlcode: -672

sqlstate: 55035

SQL0673N A primary or unique key index cannot be created because the table contains rows which are duplicates with respect to the values of the identified primary or unique key columns of constraint *name*.

Explanation: The primary or unique key definition of

the constraint identified by *name* failed because the table being altered already contains rows with duplicate values for the PRIMARY KEY or UNIQUE clause columns.

name is the constraint name, if specified. If a constraint name was not specified, *name* is the first column name specified in the primary key or unique constraint clause followed by three periods.

The statement cannot be processed. The specified table is not altered.

User response: Remove the erroneous rows from the table before attempting to define the primary or unique key.

sqlcode: -673

sqlstate: 23515

SQL0678N The literal *literal* must be compatible with the data type *data-type* of column *column-name*.

Explanation: The literal *literal* specified for the STARTING, ENDING or EVERY clause is not compatible with the data type of column *column-name*. The data type of the column is *data-type*. The value of a literal used in the EVERY clause must not be zero or negative. The EVERY clause must specify a duration when the PARTITION BY clause specifies a datetime data type.

User response: Specify a valid literal in the STARTING, ENDING, or EVERY clause.

sqlcode: -678

sqlstate: 53045

SQL0680N Too many columns are specified for a table, view, or table function.

Explanation: The maximum number of columns permitted for each table is based on the page size of the table space and the data types of the columns. The limits for tables are:

- 4K page size allows a maximum of 500 columns
- 8K, 16K, and 32K page sizes allow a maximum of 1012 columns.

The actual number of columns for a table is determined by the following formula: Total Columns * 8 + Number of LOB Columns * 12 + Number of Datalink Columns * 28 <= row size limits for page size.

The maximum number of columns permitted for each view is 5000.

The maximum number of columns permitted for a table function is 255.

The maximum number of columns permitted for a nickname is 5000

Federated system users: other data sources may have a different maximum column limit. This limit has been exceeded.

The statement cannot be processed.

User response: Ensure that the number of table or view columns does not exceed the limit. If creating a table where a larger page size would allow the number of columns, specify a table space with the larger page size. Create separate tables or views, as required, to hold additional information beyond the limit.

Federated system users: limit the number of table columns to the maximum supported by the data source. Create separate tables or views, as required, to hold additional information beyond the maximum number of columns supported by the data source.

sqlcode: -680

sqlstate: 54011

SQL0683N The specification for column, attribute, user-defined type or function *data-item* contains incompatible clauses.

Explanation: There is an error in a data item specification in a CREATE statement, ALTER statement, or an XMLTABLE expression. Incompatible specifications are present, such as: "INTEGER and FOR BIT DATA". If the column is of type DB2SECURITYLABEL, incompatible specifications include NOT NULL WITH DEFAULT. The location of the error is given by *data-item* as follows:

- for a CREATE TABLE statement, ALTER TABLE statement, or an XMLTABLE expression, *data-item* gives the name of the column containing the error.
- for a CREATE FUNCTION statement, *data-item* is a token that identifies the area of the problem in the statement. For example, "PARAMETER 3" or "RETURNS" or "CAST FROM".
- for a CREATE DISTINCT TYPE statement, *data-item* gives the name of the type being defined.
- for a CREATE or ALTER TYPE statement, *data-item* identifies the clause containing the error or gives the name of the attribute containing the error.

The statement cannot be processed.

User response: Remove the incompatibility and try the statement again.

sqlcode: -683

sqlstate: 42842

SQL0695N The value provided (*seclabel*) could not be converted to a security label. In the security policy with a policy ID of *policy-id*, the element value *element-value* does not correspond to any element in the component in ordinal position *ordinal*.

Explanation: An INSERT or UPDATE statement specified a value for the column of type DB2SECURITYLABEL. The value cannot be converted to a valid security label for the security policy protecting the table. If the *seclabel* value is *N, then the actual value has been written in the db2diag.log file.

The value has a problem in the component indicated by the component number. The ordinal position refers to the position of the component in COMPONENTS clause of the CREATE SECURITY POLICY statement used to create the policy. The indicated element value does not correspond to a valid element in that component.

User response: Check the INSERT or UPDATE statement and make sure that the value being set in the security label column is valid for the security policy protecting the table. Sometimes an invalid value can be generated as the result of a SELECT done from a table that is not protected with the same security policy as the target table. You should only copy security labels between tables protected by the same security policy.

To get the security policy name for the given policy ID use this SQL query. Replace *policy-id* with the policy ID number given in the error message.

```
SELECT SECPOLICYNAME
      FROM SYSCAT.SECURITYPOLICIES
      WHERE SECPOLICYID = policy-id
```

sqlcode: -695

sqlstate: 23523

SQL0696N The definition of trigger *trigger-name* includes an invalid use of correlation name or transition table name *name*. Reason code=*reason-code*.

Explanation: The trigger definition included an invalid use of *name*. The value of *reason-code* indicates the specific problem as follows.

- 1 NEW correlation name and NEW_TABLE name are not allowed in a DELETE trigger.
- 2 OLD correlation name and OLD_TABLE name are not allowed in an INSERT trigger.
- 3 OLD_TABLE name and NEW_TABLE name are not allowed in a BEFORE trigger.

The statement cannot be processed.

User response: Remove the invalid correlation name

or transition table name along with the preceding keyword.

sqlcode: -696

sqlstate: 42898

SQL0697N OLD or NEW correlation names are not allowed in a trigger defined with the FOR EACH STATEMENT clause.

Explanation: The trigger, as defined, includes a REFERENCING clause with OLD or NEW correlation

names specified (or both) and the FOR EACH STATEMENT clause. These cannot be specified together.

The statement cannot be processed.

User response: Remove any OLD or NEW correlation names from the REFERENCING clause or replace FOR EACH STATEMENT with FOR EACH ROW.

sqlcode: -697

sqlstate: 42899

SQL0700 - SQL0799

SQL0707N The name *name* cannot be used because the specified identifier is reserved for system use.

Explanation: The following lists reserved names:

- a table space name cannot start with 'SYS'
- a database partition group name cannot start with 'SYS' or 'IBM'
- a savepoint name cannot start with 'SYS'

User response: Select a name that is not reserved.

sqlcode: -707

sqlstate: 42939

package version is the empty string, then 'pkgversion' is omitted from the name.

The package is not created.

User response: Possible ways to ensure that there is no attempt to add a duplicate entry include:

- Check the SYSCAT.PACKAGES catalog view for names of existing application packages. Re-invoke the PRECOMPILE or BIND with a 'pkgschema.pkgname.pkgversion' that is not in use.
- Reissue the PREP or BIND statement without the ACTION ADD option. This will replace the existing package.

sqlcode: -719

sqlstate: 42710

SQL0713N The replacement value for *special-register* is invalid.

Explanation: Either the value specified in the SET *special-register* statement is not a valid value of the indicated special register, or the value specified is NULL as a result of an indicator variable.

The statement cannot be executed.

User response: Correct the replacement value and/or any indicator variables. See the *SQL Reference* for an explanation of the valid values of each special register.

sqlcode: -713

sqlstate: 42815

SQL0720N Attempting to replace package *pkgschema.pkgname* WITH VERSION *pkgversion*, where this version already exists.

Explanation: An attempt is made to create a version of a package that already exists using the ACTION REPLACE REPLVER option. The version specified in the REPLVER keyword is different from the version specified in the VERSION precompile option. The version specified in the VERSION precompile option already exists in the catalog. The combination of 'pkgschema.pkgname.version' must be unique in the SYSCAT.PACKAGES catalog view.

A common mistake is that the user may believe that the version that is being created is the one specified in the REPLVER keyword. This is not the case. The version specified in the REPLVER keyword is the name of the version being replaced. The version that will be created is the version that is given to the program in the VERSION option.

No package is created.

User response: Ensure that the version being created does not already exist.

SQL0719N Bind error for user *auth-id*. Package *package-name* already exists.

Explanation: An attempt is made, using the ACTION ADD option of PRECOMPILE or BIND to add a package that already exists. The combination of 'pkgschema.pkgname.pkgversion' must be unique in the SYSCAT.PACKAGES catalog view.

auth-id Authorization ID of the invoker of the BIND or PREP

package-name

Name of the package in the form 'pkgschema.pkgname.pkgversion'. If the

There are two approaches to solve this problem:

- Precompile the program again with a new version name and reissue the original PREP or BIND command.
- The other approach is to reissue the PREP or BIND command specifying the ACTION REPLACE clause without the REPLVER specification. In this case, the REPLACE will replace the version that matches the version specified in the VERSION option.

sqlcode: -720

sqlstate: 42710

SQL0721N Package *pkgschema.pkgname* with consistency token = *0Xcontoken* cannot be created since it is not unique.

Explanation: An attempt is made to add or replace a package with a consistency token that is not unique for that package. The combination of 'pkgschema.pkgname.contoken' already exists. This is most likely caused by using the LEVEL option of the PRECOMPILE to specify the consistency token.

The package is not created.

User response: Check the SYSCAT.PACKAGES catalog table for names of existing application packages with the indicated consistency token. Reissue the PREP or BIND command such that the 'pkgschema.pkgname.contoken' is unique within the catalog. The following SQL statement can be used to query the catalog:

```
SELECT PKGSHEMA, PKGNAME
FROM SYSCAT.PACKAGES
WHERE HEX(UNIQUE_ID) = 'contoken';
```

If the LEVEL option on the precompile was used, reissuing the precompile and specifying a different LEVEL value would change the consistency token. It is recommended that the LEVEL option is not used; not specifying the LEVEL option of the precompile would ensure that the consistency token is a current timestamp value.

SQL0722N Error performing *bind-command* for user *auth-id*. Package *package-name* does not exist.

Explanation: Bind or rebind was issued against a package that does not exist. The error would occur if ACTION REPLACE was specified and the REPLVER option specified a version that doesn't exist.

bind-command

Type of bind command (BIND | REBIND) issued. Note that the value 'BIND' will be used for a precompile as well.

auth-id

Authorization ID that issued the bind or rebind.

package-name

Name of the package in the form 'pkgschema.pkgname.pkgversion'. If the package version is the empty string, then '.pkgversion' is omitted from the name.

The package was not bound or rebound.

Explanation: Check the SYSCAT.PACKAGES catalog view for the correct 'pkgschema.pkgname.pkgversion' to specify in the REPLVER option.

sqlcode: -722

sqlstate: 42704

SQL0723N An error occurred in a triggered SQL statement in trigger *trigger-name*. Information returned for the error includes SQLCODE *sqlcode*, SQLSTATE *sqlstate* and message tokens *token-list*

Explanation: An SQL statement in the trigger *trigger-name* has failed during execution of the trigger. The sqlcode, sqlstate and message token list (each token is separated by the vertical bar character) are provided. The message tokens may be truncated. See the corresponding message for the *sqlcode* for further explanation of the error.

The trigger and the original SQL statement that caused the trigger to execute cannot be processed.

User response: Check the message associated with the SQLCODE of the SQL statement that failed. Follow the action suggested by that message.

sqlcode: -723

sqlstate: 09000

SQL0724N The activation of *object-name* of type *object-type* would exceed the maximum level of indirect SQL cascading.

Explanation: Cascading of indirect SQL occurs when a trigger activates another trigger (possibly through referential constraint delete rules) or a routine, containing SQL, invokes another routine. The depth of this cascading is limited to 16.

Note that recursive situations where a trigger includes a triggered SQL statement that directly or indirectly causes the same trigger to be activated, or where a routine directly or indirectly invokes itself, is a form of cascading that is very likely to cause this error if there are no conditions to prevent cascading from exceeding the limit.

The *object-type* is one of TRIGGER, FUNCTION, METHOD, or PROCEDURE.

The *object-name* specified is one of the objects that would have been activated at the seventeenth level of cascading.

User response: Start with the objects that are activated or invoked by the statement that received this error. If any of these objects are recursive, ensure that there is some condition that prevents the object from being activated or invoked more than the limit allows. If this is not the cause of the problem, follow the chain of objects that are activated or invoked to determine the chain that exceeds the cascading limit.

sqlcode: -724

sqlstate: 54038

SQL0727N An error occurred during implicit system action type *action-type*. Information returned for the error includes **SQLCODE** *sqlcode*, **SQLSTATE** *sqlstate* and message tokens *token-list*.

Explanation: The processing of a statement or command has caused the database manager to implicitly perform additional processing. During this processing an error was encountered. The action attempted is shown by the *action-type*:

- 1 implicit rebind of a package
- 2 implicit prepare of a cached dynamic SQL statement
- 3 implicit regeneration of a view
- 4 This return code is reserved for use by DB2.
- 5 incremental bind of a static SQL statement, not bound during package bind time
- 6 implicit prepare of a reoptimizable statement containing host-variables, special registers, or parameter markers
- 7 implicit regeneration of a trigger
- 8 implicit regeneration of a function
- 9 implicit regeneration of a check constraint

The *sqlcode*, *sqlstate* and message token list (each token is separated by the vertical bar character) are provided. The message tokens may be truncated. See the corresponding message for the *sqlcode* for further explanation of the error.

The original SQL statement or command that caused the *action-type* cannot be processed and the implicit system action was not successful.

Federated system users: You may have received this message because you dynamically prepared an SQL statement in a pass-through session and then tried to execute the statement after the session was closed.

User response: Check the message associated with the

SQLCODE of the SQL statement that failed. Follow the action suggested by that message.

For an invalid package, the REBIND command can be used to recreate the error or to explicitly validate the package once the cause of the error has been resolved.

For a failure while regenerating a view, the name of the view that failed is recorded in the administration notification log. The failing view can be dropped or a change made to the statement or command that caused the view regeneration.

Federated system users: If the statement that failed was dynamically prepared in a pass-through session, open another pass-through session, write and prepare the statement again, and execute it while the session is still open.

sqlcode: -727

sqlstate: 56098

SQL0740N Routine *routine-name* (specific name *specific-name*) is defined with the **MODIFIES SQL DATA** option, which is not valid in the context where the routine is invoked.

Explanation: The routine *routine-name* (specific name *specific-name*) is defined with MODIFIES SQL DATA and is therefore not allowed in:

- a BEFORE trigger
- a correlated subquery
- a search-condition (such as a WHERE clause or check constraint)

User response: Ensure that routine resolution resolved to the desired routine. Remove the routine from the failing statement or redefine the routine with an SQL access indicator other than MODIFIES SQL DATA.

sqlcode: -740

sqlstate: 51034

SQL0746N Routine *routine-name* (specific name *specific-name*) violated nested SQL statement rules when attempting to perform operation *operation* on table *table-name*.

Explanation: The routine *routine-name* (specific name *specific-name*) attempted to perform the operation *operation* on table *table-name*. This operation conflicts with other uses of the table by either the application, or a routine invoked directly or indirectly from that application.

If the operation is "READ", then the table *table-name* is currently being written to by either the application or another routine.

If the operation is "MODIFY", then the table *table-name* is already being read from or written to by the

application or another routine.

If *table-name* references an explain table and the statement that receives this error message is either a PREPARE statement or an EXECUTE IMMEDIATE statement, then a conflict occurred when inserting explain information into the explain table.

User response: The operation may be successful if retried. Redesign either the application or the routine to avoid the conflict.

If the conflict occurred when inserting explain information for a dynamic statement, then disable explain for dynamic statements and try the PREPARE statement or EXECUTE IMMEDIATE statement again.

sqlcode: -746

sqlstate: 57053

SQL0750N The source table cannot be renamed because it is referenced in a view, materialized query table, trigger, SQL function, SQL method, check constraint, referential constraint, or XSR object.

Explanation: The source table in a RENAME statement cannot be renamed for one or more of the following reasons.

- The table is referenced in one or more existing views.
- The table is referenced in one or more existing materialized query tables.
- The table is referenced in one or more existing triggers. This includes triggers on the table or references in triggered SQL statements.
- The table is referenced in one or more existing SQL functions or SQL methods.
- The table has check constraints defined. This includes check constraints caused by generated columns.
- The table is involved in one or more referential constraints as a parent or dependent table.
- The table is a target table for decomposition of one or more XSR objects.

The statement cannot be processed.

User response: Drop the views, materialized query table, triggers, SQL functions, SQL methods, check constraints, referential constraints or xsr object dependent on the table before issuing the RENAME statement. For views or materialized query tables dependent on the table, query SYSCAT.VIEWDEP where the table matches BSHEMA and BNAME columns. For triggers dependent on the table, query SYSCAT.TRIGDEP where the table matches BSHEMA and BNAME columns. For SQL functions or SQL methods, query SYSCAT.FUNCDEP where the table matches BSHEMA and BNAME columns. For check constraints on the table, query SYSCAT.CHECKS where the table matches TABSCHEMA and TABBNAME

columns. For referential constraints dependent on the table, query SYSCAT.REFERENCES where the table matches TABSCHEMA and TABNAME columns or REFTABSCHEMA and REFTABNAME columns. For XSR objects enabled for decomposition for which the table is a target, query SYSCAT.

sqlcode: -750

sqlstate: 42986

SQL0751N Routine *routine-name* (specific name *specific-name*) attempted to execute a statement that is not allowed.

Explanation: The program used to implement the body of a routine is not allowed to issue any connection statements. If the routine is a function or method, COMMIT and ROLLBACK (without the SAVEPOINT option) are also not allowed. If the routine is a procedure and is called within a trigger, function, method, or dynamic compound statement, a COMMIT or ROLLBACK statement is not allowed in the procedure.

User response: Remove the statement that is not allowed, then recompile the program.

sqlcode: -751

sqlstate: 38003, 42985

SQL0752N Connecting to a database is not permitted within a logical unit of work when the CONNECT type 1 connection setting is in use.

Explanation: An attempt was made to connect to either another database or the same database before issuing a COMMIT or ROLLBACK statement. The request cannot be processed within a CONNECT type 1 environment.

User response:

- Submit a COMMIT or ROLLBACK statement before requesting a connection to another database.
- If multiple databases need to be updated within a unit of work, change the connection settings to SYNCPOINT TWOPHASE and CONNECT 2 by re-precompiling or by issuing the SET CLIENT API from within the application.

sqlcode: -752

sqlstate: 0A001

SQL0773N Case not found for CASE statement.

Explanation: A CASE statement without an ELSE clause was found in the routine body of an SQL routine. None of the conditions specified in the CASE statement were met.

User response: Change the CASE statement to handle all conditions that can occur.

sqlcode: -773

sqlstate: 20000

SQL0774N The statement cannot be executed within an ATOMIC compound SQL statement.

Explanation: A COMMIT or ROLLBACK statement was encountered within the context of an ATOMIC compound SQL statement. These statements are not allowed in this context.

User response: Remove the COMMIT or ROLLBACK statement or change the context so that it is not an ATOMIC compound statement.

sqlcode: -774

sqlstate: 2D522

SQL0776N Use of cursor *cursor-name* is not valid.

Explanation: Cursor *cursor-name* is specified as the cursor name on a FOR statement in an SQL procedure. The cursor cannot be specified on a CLOSE, FETCH, or OPEN statement within the FOR statement.

User response: Remove the CLOSE, FETCH, or OPEN statement.

sqlcode: -776

sqlstate: 428D4

SQL0777N Nested compound statements are not allowed.

Explanation: Atomic compound statements in the routine body of an SQL procedure cannot be nested.

User response: Ensure that the SQL procedure does not contain nested atomic compound statements.

sqlcode: -777

sqlstate: 42919

SQL0778N End label *label* is not the same as the begin label.

Explanation: Label *label* specified at the end of a FOR, IF, LOOP, REPEAT, WHILE or compound statement is not the same as the label at the beginning of the statement. You cannot specify an end label if a begin label is not specified.

User response: Ensure that the end label is the same as the begin label for FOR, IF, LOOP, REPEAT, WHILE, and compound statements.

sqlcode: -778

sqlstate: 428D5

SQL0779N Label *label* specified on a GOTO, ITERATE, or LEAVE statement is not valid.

Explanation: Label *label* is specified on a GOTO, ITERATE or LEAVE statement. The label is not defined or is not a valid label for the statement.

The label on an ITERATE statement must be the label for a FOR, LOOP, REPEAT, or WHILE statement.

The label on a LEAVE statement must be the label for a FOR, LOOP, REPEAT, WHILE, or compound statement.

The label on a GOTO must be defined within a scope that the GOTO statement can reach.

- If the GOTO statement is defined in a FOR statement, *label* must be defined inside the same FOR statement, excluding a nested FOR statement or nested compound statement.
- If the GOTO statement is defined in a compound statement, *label* must be defined inside the same compound statement, excluding a nested FOR statement or nested compound statement.
- If the GOTO statement is defined in a handler, *label* must be defined in the same handler, following the other scope rules.
- If the GOTO statement is defined outside of a handler, *label* must not be defined within a handler.

User response: Specify a valid label on the GOTO, ITERATE, or LEAVE statement.

sqlcode: -779

sqlstate: 42736

SQL0780N UNDO is specified for a handler when ATOMIC is not specified for the compound statement.

Explanation: UNDO is specified for a handler in a compound statement in an SQL procedure. UNDO cannot be specified unless the compound statement is ATOMIC.

User response: Either specify that the compound statement is ATOMIC or specify EXIT or CONTINUE on the handler.

sqlcode: -780

sqlstate: 428D6

SQL0781N Condition *condition* specified in a handler is not defined.

Explanation: Condition *condition* specified in a handler in an SQL procedure is not defined.

User response: Define the condition using the DECLARE CONDITION statement or remove the condition from the handler.

sqlcode: -781

sqlstate: 42737

SQL0782N A condition or SQLSTATE value specified in a handler is not valid.

Explanation: A condition or SQLSTATE value specified in a handler in an SQL statement is not valid for one of the following reasons:

- The condition or SQLSTATE value has already been specified by another handler in the same scope.
- The condition or SQLSTATE value was specified in the same handler as SQLEXCEPTION, SQLWARNING, or NOT FOUND.
- The condition, SQLSTATE value or SQLCODE value specified in a continue-handler clause of an error tolerant nested-table-expression is invalid.

User response: Remove the condition, SQLSTATE value or SQLCODE value from the handler.

sqlcode: -782

sqlstate: 428D7

SQL0783N A duplicate column name or unnamed column was specified in a DECLARE CURSOR statement of a FOR statement.

Explanation: The select list in the FOR statement must contain unique column names. The select list specified contains either duplicate column names or unnamed expressions.

User response: Specify unique column names in the select list specified in the FOR statement.

sqlcode: -783

sqlstate: 42738

SQL0785N The declaration or use of the SQLSTATE or SQLCODE variable is not valid.

Explanation: SQLSTATE or SQLCODE was used as a variable in the routine body of an SQL routine, but is not valid for one of the following reasons:

- SQLSTATE is not declared as CHAR(5)
- SQLCODE is not declared as INTEGER
- The variable is assigned the NULL value.

The statement cannot be processed.

User response: Declare the SQLSTATE variable as CHAR(5) and the SQLCODE variable as INTEGER. Set the variable to a valid value.

sqlcode: -785

sqlstate: 428D8

SQL0787N RESIGNAL statement not within a handler.

Explanation: The RESIGNAL statement can only be used inside condition handlers.

User response: Remove the RESIGNAL statement or use a SIGNAL statement instead.

sqlcode: -787

sqlstate: 0K000

SQL0788N The same row of target table *table-name* was identified more than once for an update, delete or insert operation of the MERGE statement.

Explanation: The ON search-condition of the MERGE statement matched a single row from the target table with multiple rows of the source table-reference. This could result in the target row being operated on more than once with an update or delete operation and is not allowed.

The statement cannot be processed.

User response: Correct the search condition to ensure that each row in the target table only matches one row in the source table.

Alternatively, aggregate the rows in the source table that match the row in the target table by using GROUP BY functions or cleanse the data by using the ROW_NUMBER() OLAP expression.

sqlcode: -788

sqlstate: 21506

SQL0789N The data type for parameter or variable *name* is not supported in the SQL routine.

Explanation: The SQL routine (function, method, or procedure) does not support variables or parameters of DATALINK, REFERENCE, LONG VARCHAR, LONG VARGRAPHIC, or structured data types. An SQL function or method also does not support variables or parameters of XML data type.

User response: Do not use SQL variables or parameters of DATALINK, REFERENCE, LONG VARCHAR, LONG VARGRAPHIC, or structured data types in the SQL routine definition. Do not use SQL variables of XML data type in an SQL function or method. Specify a different data type for the parameter or variable *name*.

sqlcode: -789

sqlstate: 429BB

SQL0797N The trigger *trigger-name* is defined with an unsupported triggered SQL statement.

Explanation: The trigger must be defined with a triggered SQL statement that can only include statements from the following list.

- A trigger can include the following control statements:
 - dynamic compound statement
 - FOR statement
 - GET DIAGNOSTICS statement
 - IF statement
 - ITERATE statement
 - LEAVE statement
 - SIGNAL statement
 - WHILE statement
- A BEFORE trigger can also include the following triggered SQL statements:
 - a CALL statement which invokes a procedure that does not modify SQL data
 - a fullselect
 - an assignment statement

However, the triggered SQL statements in a BEFORE trigger cannot include:

- a table function that modifies SQL data
 - a nested DELETE, INSERT, MERGE, or UPDATE statement
- An AFTER trigger can also include the following triggered SQL statements:
 - an INSERT statement
 - a searched UPDATE statement
 - a searched DELETE statement
 - a MERGE statement
 - a CALL statement
 - a fullselect
 - an assignment statement (excluding assignment of transition variables)
 - An INSTEAD OF trigger can also include the following triggered SQL statements:
 - an INSERT statement
 - a searched UPDATE statement
 - a searched DELETE statement

- a MERGE statement
- a CALL statement
- a fullselect
- an assignment statement (excluding assignment of transition variables)

In some cases the *trigger-name* is not available for use in the message.

User response: Check the triggered SQL statements in the trigger for any statement that does not match the above list and remove it.

sqlcode: -797

sqlstate: 42987

SQL0798N A value cannot be specified for column *column-name* which is defined as GENERATED ALWAYS.

Explanation: When inserting or updating a row in a table, a value was specified for the GENERATED ALWAYS column *column-name*. GENERATED ALWAYS columns should not be specified in the column-list for an INSERT or in the SET clause for an update unless the keyword DEFAULT is specified.

The INSERT or UPDATE is not performed.

User response: Remove the GENERATED ALWAYS column from the column-list or SET clause, or specify DEFAULT as the column value.

sqlcode: -798

sqlstate: 428C9

SQL0799W A SET statement references a special register that does not exist at the server site.

Explanation: A DB2 server received a SET statement that it does not understand.

The SET SPECIAL REGISTER request is ignored.

User response: This SQLCODE can be returned to an application for any SQL statement. This SQLCODE may be masked by other negative SQLCODEs that the SQL statement receives. Processing continues at the server.

sqlcode: 799

sqlstate: 01527

SQL0800 - SQL0899

SQL0801N Division by zero was attempted.

Explanation: The processing of a column function or arithmetic expression resulted in division by zero.

The statement cannot be processed. For the INSERT,

UPDATE, or DELETE statements, no inserts or updates are performed.

User response: Examine the SQL statement to determine the cause of the problem. If the problem is data dependent, it is necessary to examine the data processed when the error occurred. Refer to the SQL

Reference to see the valid ranges for the data types.

Federated system users: examine the SQL statement to determine the cause of the problem. If the problem is data dependent, examine the data being processed at the data sources when the error occurred.

sqlcode: -801

sqlstate: 22012

SQL0802N Arithmetic overflow or other arithmetic exception occurred.

Explanation: The processing of a column function or arithmetic expression has resulted in an arithmetic overflow.

The statement cannot be processed. For the INSERT, UPDATE, or DELETE statements, no inserts or updates are performed.

User response: Examine the SQL statement to determine the cause of the problem. If the problem is data dependent, it is necessary to examine the data processed when the error occurred. Refer to the *SQL Reference* to see the valid ranges for the data types.

This error may also be returned when column functions cannot handle the value that is returned by the SQL statement. For example, issuing a SELECT COUNT statement against a table that has more rows than defined by the MAX_LONGINT_INT SQL limit will cause an arithmetic overflow error. Consider using the COUNT_BIG column function for tables with more than 2 147 483 647 rows.

Federated system users: examine the SQL statement to determine the cause of the problem. If the problem is data dependent, examine the data being processed at the data sources when the error occurred. Refer to the corresponding SQL Reference for the data source to determine the valid ranges for the data types.

sqlcode: -802

sqlstate: 22003

SQL0803N One or more values in the INSERT statement, UPDATE statement, or foreign key update caused by a DELETE statement are not valid because the primary key, unique constraint or unique index identified by *index-id* constrains table *table-name* from having duplicate values for the index key.

Explanation: The INSERT or UPDATE object table *table-name* is constrained by one or more UNIQUE indexes to have unique values in certain columns or groups of columns. Alternatively, a DELETE statement on a parent table caused the update of a foreign key in a dependent table *table-name* that is constrained by one or more UNIQUE indexes. Unique indexes might support primary keys or unique constraints defined on

a table. The statement cannot be processed because completing the requested INSERT, UPDATE or DELETE statement would result in duplicate column values. If the index is on an XML column, the duplicate values for the index key may be generated from within a single XML document.

Alternatively, if a view is the object of the INSERT or UPDATE statement, it is the table *table-name* on which the view is defined that is constrained.

If *index-id* is an integer value, the index name can be obtained from SYSCAT.INDEXES by issuing the following query:

```
SELECT INDNAME, INDSHEMA
FROM SYSCAT.INDEXES
WHERE IID = <index-id>
AND TABSCHEMA = 'schema'
AND TABNAME = 'table'
```

where *schema* represents the schema portion of *table-name* and *table* represents the table name portion of *table-name*.

The statement cannot be processed. The table remains unchanged.

User response: Examine the definition for the index identified by *index-id*.

For an UPDATE statement, ensure that the specified operation is not itself inconsistent with the uniqueness constraint. If this does not show the error, examine the object table content to determine the cause of the problem.

For an INSERT statement, examine the object table content to determine which of the values in the specified value list violates the uniqueness constraint. Alternatively, if the INSERT statement contains a subquery, the object table contents addressed by that subquery must be matched against the object table contents to determine the cause of the problem. Note that if the table is protected using a security policy, your LBAC credentials may not allow you to see the rows that are causing the error.

If the index is on an XML column and the statement is either INSERT or UPDATE, consider whether the XML document would result in duplicate values from within the single XML document.

For a DELETE statement, examine the identified dependent table for unique constraints on foreign keys that are defined with the rule ON DELETE SET NULL. This table has a foreign key column included in the identified unique index that cannot be set to null since there is already a null in the column for that table.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement) and examine the index definitions and data for the conditions listed previously.

sqlcode: -803
sqlstate: 23505

SQL0804N The application program parameters for the current request are not valid. Reason code *reason-code*. If a host variable or SQLVAR in the SQLDA is invalid then: host variable/SQLVAR number = *var-number*, SQLTYPE = *sqltype*, SQLLEN = *sqllen*, host variable/SQLVAR type = *input-or-output*.

Explanation: An error occurred while processing the current request.

- The call parameter list, which is created by the precompiler, may not be correct if the application programmer has modified the output of the precompiler or over-written the call parameter list in another way.
- The SQLDA or host variable(s) in the SQL statement are invalid.
- The request being made is not supported or is out of context.

Reason codes are interpreted as follows:

- 100 The request being made is not supported or is out of context.
- 101 SQLDA.SQLN is less than SQLDA.SQLD
- 102 SQLVAR.SQLTYPE is invalid.
- Federated system users: A data type that you specified is not supported by either the federated server or the data source that you want to access.
- 103 The length specified in SQLVAR.SQLLEN or SQLVAR2.SQLLONGLEN is incorrect for the SQL type given in SQLVAR.SQLTYPE.
- 104 Doubling of the SQLVARs is expected, but the SQLDOUBLED field of SQLDA.SQLDAID is not set to '2'. This may be required because of a large object type or a structured type.
- 105 A double-byte character Large Object has an odd value indicated by the SQLVAR2.SQLDATALEN pointer, which is always in terms of bytes, even for DBCLOBs.
- 106 The SQLDATA pointer is invalid or points to insufficient storage.
- 107 The SQLIND pointer is invalid or points to insufficient storage.
- 108 The SQLDATALEN pointer is invalid or points to insufficient storage.
- 109 A specific number of host variables/SQLVARs is expected for the current SQL statement.

- 110 The LOB locator is not associated with a LOB of a compatible type.
- 111 A LOB is indicated by the SQLTYPE of the SQLVAR, but the second SQLVAR is null.
- 112 The SQLDATATYPE NAME field is not valid. It does not conform to the format for identifying an existing user-defined type in the database. The format for identifying an existing user-defined type is as follows: 8 bytes, followed by a period, followed by 18 bytes.
- 113 The SQLFLAG4 field is not valid. If a structured type is specified the value must be X'12'. If a reference type is specified the value must be X'01'. Otherwise the value must be X'00'.
- 114 The DB2_TRUSTED_BINDIN registry variable is enabled, and an unsupported host variable data type is being used during bindin. Either unset the DB2_TRUSTED_BINDIN registry variable or change the data type of the input host variable.

In SQL statements with host variables, use the host variable number to count in from the beginning of the statement (or substatement, in the case of compound SQL) to locate the invalid host variable. For statements using an SQLDA, the SQLVAR number is used to locate the invalid SQLVAR. For an input SQLDA, count only input host variables or SQLVARs; similarly for output. Note that this number is based at 1.

The statement cannot be processed.

User response: Examine the application program for any errors noted. Note that the programmer should not attempt to modify the precompiler output.

Federated system users: If you received reason code 102, specify a supported data type and resubmit the program.

sqlcode: -804
sqlstate: 07002

SQL0805N Package *package-name* was not found.

Explanation: The statement cannot complete because the necessary package was not found in the catalog.

The *package-name* is either in the form:

- 'pkgschema.pkgname 0Xcontoken', where the consistency token is given in hexadecimal.
- 'pkgschema.pkgname.pkgversion', if the package version is the empty string then '.pkgversion' is omitted from the name.

- '%.pkgname' if the CURRENT PACKAGE PATH is set. The set of schema names in the CURRENT PACKAGE PATH are implied by the percent character ('%').

Possible causes for this message (SQLCODE) are:

- The package was not bound or it was dropped.
- If attempting to run a DB2 utility or CLI application, the DB2 utilities may need to be rebound to the database.
- '%.pkgname' if the CURRENT PACKAGE PATH is set but no package with the name 'pkgname' could be found in any of the schemas in the CURRENT PACKAGE PATH.

Note that when version-ids are in use for the given package-schema.package-name, there may be packages defined with the same package schema and package name, but the correct package is not found since the existing packages do not match the requested version or consistency token. A package must match all three parts of the package-name. When multiple versions are being used, additional causes for this messages are:

- the version of the application being executed was precompiled, compiled, and linked, but was not bound, or it was bound but that version of package was subsequently dropped.
- the application was precompiled and bound, but not compiled and/or linked, so the application being executed is not up to date.
- the package was bound from a bind file generated by a different precompile of the source file than the precompile that produced the modified source file that was compiled and linked into the application executable.
- a new application was bound with the same name (and version) of an existing package, thus replacing the existing package. If the application associated with the replaced package is run, this error would result.

In all these cases, the consistency token of the request does not match the consistency token of the existing version and thus the package is considered to be not found.

The statement cannot be processed.

User response: Specify the correct package name or bind the program. If the application being run is not bound to the database, contact the database administrator to do the necessary binding. Ensure that the application or object module being executed is the compiled and linked modified source code associated with the precompile and bind that generated the package.

If the CURRENT PACKAGE PATH is set, ensure that the schema that includes the package is specified in the CURRENT PACKAGE PATH.

The following SQL statements can be used to query the catalog to determine if there are different versions of the package.

```
SELECT PKGSHEMA, PKGNAME,
       PKGVERSION, UNIQUE_ID
FROM SYSCAT.PACKAGES
WHERE PKGSHEMA = 'pkgschema'
      and PKGNAME='pkgname'.
```

Note that the UNIQUE_ID column corresponds to the consistency token.

If the DB2 utility programs need to be rebound to the database, the database administrator can accomplish this by issuing one of the following CLP command from the bnd subdirectory of the instance, while connected to the database:

- "DB2 bind @db2ubind.lst blocking all grant public" for the DB2 utilities.
- "DB2 bind @db2cli.lst blocking all grant public" for CLI.

Federated system users: ensure that the packages required for the federated server are bound at the applicable data sources. Refer to the Federated Systems Guide for more information about binding packages to data sources.

sqlcode: -805

sqlstate: 51002

SQL0808N The CONNECT statement semantics are not consistent with those of other existing connections.

Explanation: The CONNECT statement originates from a source file which was precompiled having different connection options (SQLRULES, CONNECT type, SYNCPOINT, or RELEASE type) than that of a source file for which a connection exists.

User response: Ensure that all source files are precompiled using the same CONNECT options, or if this is not possible, call the SET CLIENT api to set the desired options for the application process before issuing the first CONNECT statement.

sqlcode: -808

sqlstate: 08001

SQL0811N The result of a scalar fullselect, SELECT INTO statement, or VALUES INTO statement is more than one row.

Explanation: One of the following caused the error:

- Execution of an embedded SELECT INTO or VALUES INTO statement resulted in a result table of more than one row.

- Execution of a scalar fullselect resulted in a result table of more than one row.

Federated system users: this situation can be detected by federated server or by the data source.

The statement cannot be processed.

User response: Ensure that the statement contains the proper condition specifications. If it does, there may be a data problem that is causing more than one row to be returned when only one is expected.

Federated system users: isolate the problem to the data source failing the request (refer to the *Troubleshooting Guide* to determine which data source is failing to process the SQL statement) and examine the selection criteria and data for that object.

sqlcode: -811

sqlstate: 21000

SQL0817N The SQL statement cannot be executed because the statement will result in a prohibited update operation.

Explanation: The application attempted to execute an SQL statement that would result in updates to user data or to the subsystem catalog. This is prohibited for one of the following reasons:

- The application is running as an IMS inquiry-only transaction.
- The application is an IMS or CICS application that is attempting to update data at a remote DBMS that does not support two-phase commit.
- The application is attempting to update data at multiple locations and one of the locations does not support two-phase commit.

These SQL statements include INSERT, UPDATE, DELETE, CREATE, ALTER, DROP, GRANT, and REVOKE.

The statement cannot be executed.

User response: If the application is running as an IMS inquiry-only transaction, see your IMS system programmer about changing the inquiry-only status of the transaction under which your application is running.

If the IMS or CICS application is attempting a remote update, either the application must be changed to run as a local application on the server DBMS, or the server DBMS must be upgraded to support two-phase commit.

If the application is attempting to update data at multiple locations, either the application must be changed, or all DBMSs involved must be upgraded to support two-phase commit.

sqlcode: -817

sqlstate: 25000

SQL0818N A timestamp conflict occurred.

Explanation: The timestamp generated by the precompiler at precompile time is not the same as the timestamp stored with the package at bind time.

This problem can be caused by the following:

- The application was precompiled, compiled, and linked, but was not bound.
- The application was precompiled and bound, but not compiled and/or linked, so the application being executed is not up to date.
- The package was bound from a bind file generated by a different precompile of the source file than the precompile that produced the modified source file that was compiled and linked into the application executable.
- A new application was bound of the same name and existing package, thus replacing the existing package. If the application associated with the replaced package is run, this error would result.

Federated system users: in addition to the causes listed previously, the problem can also be due to not binding the required packages at all applicable data sources.

The statement cannot be processed.

User response: Bind the application again, using the bind file for the program that matches the object module. Or, execute the program that corresponds to the package stored in the database.

If installing the sample database, record the number and text of this message and then contact your technical service representative.

Federated system users: in addition to the previously listed actions, ensure that the packages required for the federated server are bound at the applicable data sources. Refer to the *Federated Systems Guide* for more information on binding packages to data sources.

sqlcode: -818

sqlstate: 51003

SQL0822N The SQLDA contains a data address or indicator variable address which is not valid.

Explanation: The application program placed an address that is not valid in the SQLDA.

The statement cannot be processed.

User response: Correct the application program so that valid addresses are placed in SQLDA.

sqlcode: -822

sqlstate: 51004

SQL0840N Too many items were returned in a SELECT list.

Explanation: The number of items returned in the SELECT list exceeds the allowable maximum. The maximum for SELECT lists (other than on common table expressions) is 1012. The maximum for SELECT lists in common table expressions is 5000.

The statement cannot be processed.

User response: Determine whether all the information is actually needed. (Note that the number of items returned by the SELECT list * in the SQL statement SELECT * from A, B, C is the sum of the number of columns in all three tables.) If possible, rewrite the SQL statement so only the necessary items of information are returned. If all the information is necessary, break the SQL statement into two or more statements.

sqlcode: -840

sqlstate: 54004

SQL0842N A connection to server *server-name* already exists.

Explanation: SQLRULES(STD) is in effect and a CONNECT statement identifies an existing SQL connection.

User response: The correction depends on the error:

- If the server name is not the intended name, correct it.
- If SQLRULES(STD) is in effect and the CONNECT statement identifies an existing SQL connection, replace the CONNECT with SET CONNECTION or change the option to SQLRULES(DB2).

Correct the error in the application and try again.

sqlcode: -842

sqlstate: 08002

SQL0843N The server name does not specify an existing connection.

Explanation: A statement, command, or API specified a server name that does not identify an existing SQL connection of the application process.

This may have occurred using:

- a SET CONNECTION statement
- a RELEASE statement
- a DISCONNECT statement
- SET or QUERY CLIENT INFORMATION

User response: The correction depends on the error:

- If the server name is not the intended name, correct it.
- Ensure that a connection to the server has been established and is in a current or dormant state before issuing the request for that connection.

Correct the error in the application and try again.

sqlcode: -843

sqlstate: 08003

SQL0845N A PREVVAL expression cannot be used before the NEXTVAL expression generates a value in the current session for sequence *sequence-name*.

Explanation: A PREVVAL expression specified sequence *sequence-name*, but a value has not yet been generated for this sequence. A NEXTVAL expression must be issued in this session to generate a value for this sequence before a PREVVAL expression for the sequence can be issued.

User response: Issue at least one NEXTVAL expression for a sequence before issuing any PREVVAL expression for the same sequence in a session.

sqlcode: -845

sqlstate: 51035

SQL0846N Invalid specification of identity column or sequence object *object-type object-name*. Reason code = *reason-code*.

Explanation: For an identity column or sequence object, the specification of an attribute in a CREATE or ALTER statement may be invalid for one of the following reasons:

1. The underlying data type of the identity column or sequence object is not supported. Identity columns and sequence objects support the following data types: SMALLINT, INTEGER, BIGINT and DECIMAL (or NUMERIC) with a scale of zero.
2. The value for START WITH, INCREMENT BY, MINVALUE or MAXVALUE is outside of the range for the data type of the identity column or sequence object.
3. MINVALUE must be less than or equal to MAXVALUE.
4. An invalid value was specified for CACHE. The value must be an INTEGER with a minimum value of 2.

User response: Correct the syntax and resubmit the statement.

sqlcode: -846

sqlstate: 42815

SQL0859N Access to the Transaction Manager Database failed with SQLCODE *SQLCODE*.

Explanation: The application was precompiled with SYNCPOINT(TWOPHASE) and requires a Transaction Manager Database to coordinate the two phase commit. Reasons why the Transaction Manager Database is not available might include the following:

- It was not created.
- The *tm_database* field of the database manager configuration file has not been updated and activated with the name of the database.
- The database exists, but communication to the database failed.

User response: Possible actions:

- Refer to the SQLCODE that was returned with this message, and follow the appropriate action for that SQLCODE.
- Verify that the *tm_database* exists; if not, create a new database or select a database that currently exists for use as the TM database. It is recommended to create a separate database if there are no serious constraints on disk storage.
- Update the database manager configuration for the TM database using the field *tm_database* if that has not already been done.
- Verify that a connection to the *tm_database* can be made. For example, attempt the connection using the Command Line Processor.
- Ensure that the *tm_database* chosen is not a database accessed through DB2 Connect.

sqlcode: -859

sqlstate: 08502

SQL0863W A successful connection was made, but only single byte characters should be used.

Explanation: The server database and client application are using codepages for different language types and any characters outside the 7-bit ASCII range cannot be guaranteed (only the characters in the 7-bit ASCII range exist in all codepages). For example, the connection might be between a Japanese and a Latin-1 codepage, but none of the Japanese characters will be available in the Latin-1 codepage, so all of these characters should be avoided (English characters are fine though).

Federated system users: possible causes are:

- The federated database supports single-byte and double-byte characters but the database client system supports only single-byte characters.

- The data source supports single-byte and double-byte characters but the federated system supports only single-byte characters.

User response: Do not submit SQL statements or commands that use characters which are not common between the application and database codepages.

Federated system users: do not submit SQL statements or commands that use characters which are not common between the client system, the federated system, and the data source.

sqlcode: +863

sqlstate: 01539

SQL0864N A referential constraint *constraint-name* attempted to modify a row in table *table-name* that was modified by an SQL data change statement within a fullselect.

Explanation: An SQL data change statement was specified in the FROM clause, but the underlying target base table of the SQL data change statement has a referential constraint which modifies the same table. This is disallowed.

The statement cannot be processed.

User response: Avoid using the SQL data change statement within a FROM clause, or change the referential constraint so that it does not modify the table that is the target of the SQL data change statement.

sqlcode: -0864

sqlstate: 560C6

SQL0865N Invalid *tm_database* value.

Explanation: The database chosen as the *tm_database* in the database manager configuration is not valid. The database must be at level DB2 V2.1 or later, and cannot be a database accessed through DRDA protocol (ie. through DB2 Connect).

The statement cannot be executed.

User response:

1. Update the database manager configuration to specify a valid database for the *tm_database* parameter.
2. Issue db2stop and db2start to ensure that the change takes effect.

sqlcode: -865

sqlstate: 08001

SQL0866N Connection redirection failed. Reason code: *reason-code*

Explanation: Directory cataloging for a database caused a connection to be redirected in a manner which is not supported.

Possible reason codes are:

- 01 A database connection involved more than one redirection from a server to another server; only one connection redirection is supported.
- 02 A connection was attempted which involved both a current version of DB2 client or server and a version 1 client or server. This attempt failed because redirection is not supported with version 1 clients or servers.

User response: By the reason code, the actions are:

- 01 Recatalog the database so that there is no more than one server redirecting the connection to another server in the path of the connection.
- 02 Recatalog the database so that there is no intermediary server redirecting the connection.

sqlcode: -866

sqlstate: 08001

SQL0868N A CONNECT using a USER/USING clause was attempted to a server for which a connection already exists.

Explanation: A current or dormant connection to a server exists, and an attempt to CONNECT to this server using the USER/USING clause is invalid.

User response: Possible actions:

- Use the SET CONNECTION statement to make the connection to the DORMANT connection current.
- Use the CONNECT statement without USER/USING if SQLRULES(DB2) are being used by the application.
- Complete the existing unit of work, disconnect, and then reconnect using USER/USING.

sqlcode: -868

sqlstate: 51022

SQL0873N Objects encoded with different encoding schemes cannot be referenced in the same SQL statement.

Explanation: All tables, SQL functions, and SQL methods referenced in the SQL statement are not defined with the same encoding scheme.

This situation can occur when:

- a table created with either the ASCII or Unicode encoding scheme is referenced in a statement with a table that was not created with the same encoding scheme
- an SQL function or SQL method created with either the ASCII or Unicode encoding scheme is referenced in a statement with a table that was not created with the same encoding scheme
- a sourced function is created with a different encoding scheme than the source function
- an exception table is created with a different encoding scheme than the base table for the operation

User response: Correct the SQL statement so that only objects with the same encoding scheme are referenced.

sqlcode: -873

sqlstate: 53090

SQL0874N The CCSID of all the parameters must match the PARAMETER CCSID of the routine.

Explanation: All the parameters of a routine must use the same encoding scheme as the routine itself. If the CCSID is specified for a parameter, it must match the implicitly or explicitly specified PARAMETER CCSID option for the routine.

User response: Remove the CCSID option from the parameter or change the statement so the same CCSID value is specified throughout.

sqlcode: -874

sqlstate: 53091

SQL0880N SAVEPOINT *savepoint-name* does not exist or is invalid in this context.

Explanation: An error occurred issuing a RELEASE or ROLLBACK TO SAVEPOINT *savepoint-name* statement. Either a savepoint with that name does not exist, or it was established outside the current atomic execution context.

The statement cannot be processed.

User response: Correct the name of the savepoint in the statement and reissue the statement.

sqlcode: -880

sqlstate: 3B001

SQL0881N A SAVEPOINT with name *savepoint-name* already exists, but this savepoint name cannot be reused.

Explanation: The name *savepoint-name* has already been used in a SAVEPOINT statement. The savepoint name cannot be reused because at least one of the SAVEPOINT statements that used this name also

specified the UNIQUE keyword, which asserts that the name must be unique.

The statement cannot be processed. The new savepoint is not set. The old savepoint with the same name still exists.

User response: Choose another name for this savepoint and reissue the SAVEPOINT statement. If this existing savepoint name must be reused, issue the RELEASE SAVEPOINT statement to free the existing savepoint. However, be aware that the RELEASE SAVEPOINT statement also releases any savepoints that were established in the transaction since the specified savepoint was established. For more information, refer to the SQL Reference.

sqlcode: -881

sqlstate: 3B501

SQL0900 - SQL0999

SQL0900N The application state is in error. A database connection does not exist.

Explanation: A connection to a database does not exist. This may be due to one of the following reasons:

- A serious error in the application state has caused the database connection to be lost.
- The application may have disconnected from a database and not established a new current connection before executing the next SQL statement.
- A request to switch the user in a trusted connection was unsuccessful.

User response: Reestablish a current connection by either switching to an existing dormant connection (using CONNECT TO or SET CONNECTION), by establishing a new connection (using CONNECT), or by successfully switching to another user in a trusted connection.

sqlcode: -900

sqlstate: 08003

SQL0901N The SQL statement failed because of a non-severe system error. Subsequent SQL statements can be processed. (Reason *reason*.)

Explanation: An error has occurred which is due to a system error. Processing of the SQL statement has ended for reason *reason* (this is in English only and is useful only to IBM support personnel).

User response: Record the message number (SQLCODE) and reason *reason*.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

SQL0882N Savepoint does not exist.

Explanation: An error occurred issuing a ROLLBACK TO SAVEPOINT statement. Issuing a ROLLBACK TO SAVEPOINT without specifying a specific savepoint name is not allowed when there are no existing savepoints.

The statement cannot be processed.

User response: Issue a different statement, or try rolling back the entire transaction with the ROLLBACK statement.

sqlcode: -882

sqlstate: 3B502

- Problem description
- SQLCODE
- reason *reason*
- SQLCA contents if possible
- Trace file if possible.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement) and take the necessary diagnostic steps for that data source. The problem determination procedures for data sources vary, so refer to the applicable data source manuals.

sqlcode: -901

sqlstate: 58004

SQL0902C A system error (reason code = *reason-code*) occurred. Subsequent SQL statements cannot be processed.

Explanation: A system error occurred.

User response: Record the message number (SQLCODE) and reason code in the message.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

- Problem description
- SQLCODE and embedded reason code
- SQLCA contents if possible
- Trace file if possible.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting

Guide to determine which data source is failing to process the SQL statement) and take the necessary diagnostic steps for that data source. The problem determination procedures for data sources vary, so refer to the applicable data source manuals.

sqlcode: -902

sqlstate: 58005

SQL0903N COMMIT statement failed, transaction rolled back. Reason code: *reason-code*

Explanation: One or more of the servers participating in the current unit of work was unable to prepare the database to be committed. The COMMIT statement has failed and the transaction has been rolled back. If there is only one server participating in the current unit of work, the transaction may have been committed instead.

Possible reason codes are:

- 01** A connection to one of the databases participating in the unit of work was lost.
- 02** One of the databases or nodes participating in the unit of work was accessed, but unable to prepare to commit.

Federated system users: if the database you connected to is a federated server database where nicknames are used, one of the data sources required for a nickname is unable to prepare to commit.
- 03** A DB2 Data Links Manager participating in the unit of work was unable to prepare to commit.
- 04** One or more declared temporary tables are in an inconsistent state.
- 05** An unexpected error occurred. Check the administration notification log for details.

Federated system users: if the database you connected to is a federated server database where nicknames are used, a connection to one of the data sources required for a nickname within the database was lost.
- 06** Unable to send Resync Information to one of the participants. The participant only supports IPv4. Please enable dual-stack mode for the participant.

User response: If a connection to a database was lost, reestablish the connection. If the failure was not connection related, reference the error diagnostic logs on the remote system to determine the nature of the failure and what action might be required. Rerun the application.

sqlcode: -903

sqlstate: 40504

SQL0904N Unsuccessful execution caused by an unavailable resource. Reason code: *reason-code*, **type of resource:** *resource-type*, **and resource name:** *resource-name*.

Explanation: The SQL statement could not be executed because resource *resource-name* of type *resource-type* was not available at the time for the reason indicated by *reason-code*. Refer to the Problem Determination documentation of DB2 for MVS for an explanation of resource type codes.

User response: Verify the identity of the resource that was not available. To determine why the resource was unavailable, refer to the specified *reason-code*.

sqlcode: -904

sqlstate: 57011

SQL0905N Unsuccessful execution due to resource limit being exceeded. Resource name = *resource-name*, **limit =** *limit-amount1* **CPU seconds** (*limit-amount2* **service units**) **derived from** *limit-source*.

Explanation: The execution of the SQL statement was terminated because a resource limit was exceeded.

The name of the resource whose limit was exceeded is *resource-name*. It is also the name of the column in the resource limit specification table from which the limit was derived. The limit that was exceeded in CPU seconds is *limit-amount1* and in service units it is *limit-amount2*. The *resource-name* may be ASUTIME, which is the number of CPU seconds permitted for each SQL statement. The maximum number of CPU seconds permitted is *limit-amount1*. The maximum number in service units is *limit-amount2*.

The source used to derive the limit-amount is *limit-source* and is either the name of a resource limit specification table or a 'system parameter'. If the source is a system parameter, the resource limit specification table did not contain an applicable entry or an error occurred while accessing the table. In either case, the limit is obtained from an install (system) parameter.

User response: Determine why this SQL statement took so long and take appropriate action. Consider simplifying the SQL statement, restructuring tables and indexes, or contacting the installation group responsible for maintaining the resource limit specification tables.

An application program that receives this return code can execute additional SQL statements.

sqlcode: -905

sqlstate: 57014

SQL0906N The SQL statement cannot be executed because this function is disabled due to a prior error.

Explanation: Execution of the SQL statement failed because the requested function had been disabled by a prior error. This situation can arise if the application program has intercepted an abend (for instance, by an ON ERROR condition in a PL/I program) and continued to execute SQL statements. This situation may also arise if a DB2 CICS transaction encountered a create thread error yet continued to issue SQL requests without issuing a SYNCPOINT ROLLBACK first.

User response: In general, an application program should terminate upon receipt of this return code. All subsequent attempts by the application to execute other SQL statements will also fail with the same return code. In the case of a DB2 CICS transaction, if the SQLERRP field in the SQLCA contains the module name DSNCEXT1, the transaction may issue a SYNCPOINT ROLLBACK and continue processing. If the transactions chooses to ROLLBACK and continue processing, it must be capable of correcting the situation that caused the create thread error to occur originally.

sqlcode: -906

sqlstate: 24514, 51005, 58023

SQL0907N An attempt was made to modify the target table, *table-name*, of the MERGE statement by constraint or trigger *name*.

Explanation: The MERGE statement caused constraint or trigger *name* to activate, which attempted to update, insert into or delete from table *table-name* that is also a target table, or table within the same table hierarchy, of the MERGE statement. This is not allowed.

User response: Change the MERGE statement to remove the operation that causes the constraint or trigger to activate, or alter the table that has the constraint or trigger to remove the reference to the target table.

sqlcode: -907

sqlstate: 27000

SQL0908N *bind-type* error using *auth-id* authority BIND, REBIND, or AUTO_REBIND operation is not allowed.

Explanation: For BIND and REBIND, the indicated authorization ID is not allowed to perform the indicated *bind-type* against a plan or package. An entry in the resource limit specification table (RLST) prohibits binding and rebinding by this authorization ID, or all authorization IDs. For AUTO-REBIND, the system parameter controlling AUTO-REBIND operations is set to disallow AUTO-REBIND.

bind-type

Type of bind operation (BIND, REBIND or AUTO-REBIND).

auth-id Authorization ID of the invoker of the BIND subcommand or primary authorization ID of the invoker of the plan for AUTO-REBIND operations.

User response: If the indicated authorization id should be allowed to bind, change the entry in the active RLST table. If AUTO-REBIND operations are disabled, rebind the package before reexecuting the package.

sqlcode: -908

sqlstate: 23510

SQL0909N The object has been deleted.

Explanation: The application program has either (1) dropped a table and then attempted to access it, or (2) dropped an index and then tried to access its object table using that index.

User response: The logic of the application program must be corrected such that it does not attempt to access or use an object after it has been dropped.

Dropping indexes within an application program is especially hazardous, because there is no way of determining whether or not the plan that has been generated for the application (by BIND or REBIND) actually uses a particular index for access to its object table.

sqlcode: -909

sqlstate: 57007

SQL0910N The SQL statement cannot access an object on which a modification is pending.

Explanation: The application program attempted to access an object within the same unit of work in which either:

- The application program issued a DROP against the object or a related object (for example, an index for a table)
- The application program issued a statement against the object that added or dropped a constraint.
- The application program issued a DROP TRIGGER or CREATE TRIGGER statement that affected the object, either directly or indirectly.
- The application program issued a ROLLBACK TO SAVEPOINT statement, which placed the object in the modification pending state.
- The application program issued a statement that caused all rows of a NOT LOGGED declared temporary table to be deleted.

- The application program issued an ALTER TABLE ... ADD PARTITION, ALTER TABLE ... ATTACH PARTITION or ALTER TABLE ... DETACH PARTITION statement against the object (in this case a table). If a unit of work contains an ALTER TABLE ... ATTACH PARTITION, then subsequently in the same unit of work, an ALTER TABLE ... DETACH PARTITION cannot be done on the same table.
- The application program issued a DETACH to create this object from a data partition in a partitioned MDC table.

Federated system users: in addition to the previously listed causes, other data source specific restrictions may exist that prevent access to the object.

The SQL statement cannot be processed.

User response: Modify the application program so there is no attempt to access an object within the same unit of work in which the modification was made. In general, it is better to isolate Data Definition Language (DDL) statements in a different unit of work than Data Manipulation Language (DML) statements that access the same objects.

The unit of work must be committed or rolled back before the statement that failed can be processed successfully. If the committed modification caused an object to be dropped, then the object may have to be recreated in order for the failing SQL statement to be processed successfully.

If the object is modified within a SAVEPOINT, modify the application program so that it does not attempt to access the object after the application issues a ROLLBACK TO SAVEPOINT statement. Any cursor that accesses the modified object and is open at the time of the ROLLBACK TO SAVEPOINT will not be accessible. Modify the application so that it closes the cursor.

If an insert, delete or update statement involving a NOT LOGGED declared temporary table fails, then all rows in that table are deleted. Any cursor that is open against that declared temporary table at the time of the failure will not be accessible and should be closed by the application.

If an ALTER TABLE ... DETACH PARTITION fails because of a pending ALTER TABLE ... ATTACH PARTITION, use two different units of work to do the two operations.

Federated system users: if the previous action does not solve the problem, isolate the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement) and determine what additional constraints exist on the data source that are preventing access to the object. Ensure that the application is not violating any of those constraints.

sqlcode: -910

sqlstate: 57007

SQL0911N The current transaction has been rolled back because of a deadlock or timeout.
Reason code *reason-code*.

Explanation: The current unit of work was involved in an unresolved contention for use of an object and had to be rolled back.

The reason codes are as follows:

- 2 transaction rolled back due to deadlock.
- 68 transaction rolled back due to lock timeout.
- 72 transaction rolled back due to an error concerning a DB2 Data Links Manager involved in the transaction.

Note: The changes associated with the unit of work must be entered again.

The application is rolled back to the previous COMMIT.

User response: To help avoid deadlock or lock timeout, issue frequent COMMIT operations, if possible, for a long-running application, or for an application likely to encounter a deadlock.

Federated system users: the deadlock can occur at the federated server or at the data source. There is no mechanism to detect deadlocks that span data sources and potentially the federated system. It is possible to identify the data source failing the request (refer to the problem determination guide to determine which data source is failing to process the SQL statement).

Deadlocks are often normal or expected while processing certain combinations of SQL statements. It is recommended that you design applications to avoid deadlocks to the extent possible.

For more detailed information about preventing deadlocks or lock timeouts search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "deadlock prevention", and terms such as "deadlocks" and "lock timeouts".

sqlcode: -911

sqlstate: 40001

SQL0912N The maximum number of lock requests has been reached for the database.

Explanation: The maximum number of locks for the database was reached because insufficient memory was allocated to the lock list.

The statement cannot be processed.

User response: The application should submit a COMMIT or ROLLBACK statement before submitting other SQL statements. Consider increasing the database

configuration parameter (*locklist*) to allow more lock list space.

sqlcode: -912

sqlstate: 57011

SQL0913N Unsuccessful execution caused by deadlock or timeout. Reason code *reason-code*.

Explanation: The request issued was involved in an unresolved contention for use of an object and the execution failed.

The reason codes are as follows:

- 2 transaction branch failed due to deadlock.
- 68 transaction branch failed due to lock timeout.
- 72 transaction rolled back due to an error concerning a DB2 Data Links Manager involved in the transaction.
- 80 statement failed due to timeout.

User response:

- For reason code 80, you can retry the failed statement without terminating the application. If the application accesses multiple remote databases, it may be better to rollback the transaction to avoid the possibility of a global deadlock.
- For other reason codes, issue a request to rollback the transaction. The transaction cannot be committed due to the failure of the current transaction branch.
- To help avoid deadlock or lock timeout, issue frequent COMMIT operations, if possible, within long-running applications or applications requiring data with high concurrent access.

sqlcode: -913

sqlstate: 57033

SQL0917N Bind package failed.

Explanation: An error has occurred which prevents the package from being created.

This SQLCODE can be issued during bind or commit processing. If issued during commit processing, all changes to the database are rolled back. If issued during bind processing, only package creation fails and other changes within the logical unit of work are still able to be committed.

User response: This problem is usually caused by one or more SQL statements which did not get bound because of an error.

Determine which statements are causing the error and correct them. Reissue the command to create the package.

sqlcode: -917

sqlstate: 42969

SQL0918N Application must execute a rollback.

Explanation: The unit of work has already been rolled back in the database but other resource managers involved in this unit of work might not. To ensure integrity of this application, all SQL requests will be rejected until the application issues a rollback.

User response: All SQL requests will be rejected until the application issues a rollback. For example, in a CICS environment, this would be a CICS SYNCPOINT ROLLBACK command.

sqlcode: -918

sqlstate: 51021

SQL0920N Data on a database client system cannot be accessed from other database client systems.

Explanation: The workstation has been configured as a client or a server with local clients. Any databases created on this system cannot be shared by other workstations.

The function cannot be processed.

User response: Request data only from server workstations.

sqlcode: -920

sqlstate: 57019

SQL0925N SQL COMMIT invalid for application execution environment.

Explanation: COMMIT is disallowed in the following cases:

- In a Distributed Transaction Processing environment such as CICS, a static SQL COMMIT statement was attempted, but a commit statement specific to the environment is required. For example, in a CICS environment this would be the CICS SYNCPOINT command.
- A DB2 application precompiled or set to use CONNECT 2 in a non-TP Monitor environment has issued a dynamic SQL COMMIT statement, whereas only static SQL COMMITs are allowed.
- When issued from a stored procedure, SQL COMMIT is also not allowed if the calling program is executing in a distributed unit of work or Distributed Transaction Processing environment.

User response: Correct the problem by doing one of the following:

- Remove the statement issuing the COMMIT and replace it with a statement which does the valid equivalent for the environment

- In the case of a connect type 2 in a non-TP Monitor environment, use only static COMMIT.
- In the case of a stored procedure, remove the COMMIT

sqlcode: -925

sqlstate: 2D521

SQL0926N SQL ROLLBACK invalid for application execution environment.

Explanation: ROLLBACK is disallowed in the following cases:

1. In a Distributed Transaction Processing environment such as CICS, a static SQL ROLLBACK statement was attempted, but a rollback statement specific to the environment is required. For example, in a CICS environment this would be the CICS SYNCPOINT ROLLBACK command.
2. A DB2 application precompiled or set to use CONNECT 2 has issued a dynamic SQL ROLLBACK statement, whereas only static SQL ROLLBACKs are allowed.
3. When issued from a stored procedure, SQL ROLLBACK is also restricted if the calling program is executing in a distributed unit of work (CONNECT type 2) or Distributed Transaction Processing environment.

User response:

1. Remove the statement issuing the ROLLBACK and replace it with a statement which does the valid equivalent for the environment.
2. In the case of a connect type 2, use only static COMMIT.
3. In the case of a stored procedure, remove it entirely.

sqlcode: -926

sqlstate: 2D521

SQL0930N There is not enough storage available to process the statement.

Explanation: A request was made to the database that required another memory page but no more pages are available to the database manager.

The statement cannot be processed.

User response: Possible solutions include:

- Verify that your system has sufficient real and virtual memory.
- Remove background processes.
- If the error occurs during DUOW resynchronization, increase the *maxagents* and reduce the *resync_interval* database manager configuration parameter values.

- If the error occurs on a statement which referenced a routine (UDF, stored procedure or method), it may be that the storage required to contain the arguments and return values was more than the memory available in the system. This might occur if the routine is defined with BLOB, CLOB, DBCLOB parameters or return values, having a large size (2GB for example).

If the possible solutions listed above do not solve the problem, it may be necessary to consider changing the definition of the routine.

sqlcode: -930

sqlstate: 57011

SQL0931C Operating system file table overflow occurred. Subsequent SQL statements cannot be processed.

Explanation: An Operating system limit has been reached. The application program is not permitted to issue additional SQL statements. The database is marked as needing recovery and all applications using the database are prevented from accessing the database.

User response: Terminate all the applications using the database. Restart the database.

To help prevent the problem from recurring:

- Change the MAXFILOP database configuration parameter to a smaller value (this will reduce DB2's use of the operating system file table), and/or
- Terminate other applications that are using files, if appropriate, and/or,
- Refer to the operating system documentation for increasing the operating system file table limit. In most UNIX environments this can be accomplished by updating the kernel configuration with a larger value. (On AIX, this may only be possible by increasing the amount of memory in your machine).

sqlcode: -931

sqlstate: 58005

SQL0950N The table or index cannot be dropped because it is currently in use.

Explanation: A DROP TABLE or DROP INDEX statement cannot be issued when an open cursor is currently using the table or index.

The statement cannot be processed. The table or index is not dropped.

User response: Close any cursors required and resubmit the statement.

sqlcode: -950

sqlstate: 55006

SQL0951N The object *object-name* of type *object-type* cannot be altered because it is currently in use by the same application process.

Explanation: An ALTER statement or SET INTEGRITY statement for an object cannot be issued when it is either locked or in use.

The statement cannot be processed. The object is not altered.

User response: Close any cursors that depend either directly or indirectly on the object *object-name* and resubmit the statement.

sqlcode: -951

sqlstate: 55007

SQL0952N Processing was cancelled due to an interrupt.

Explanation: The user may have pressed the interrupt key sequence.

The statement processing is terminated. Some changes may have been applied to the database, but not committed, before termination occurred.

Federated system users: this situation can also be detected by the data source.

User response: Continue the application.

If installing the sample database, drop it and install the sample database again.

sqlcode: -952

sqlstate: 57014

SQL0954C Not enough storage is available in the application heap to process the statement.

Explanation: All available memory for the application has been used.

The statement cannot be processed.

User response: Terminate the application on receipt of this message. Increase the database configuration parameter (*applheapsz*) to allow a larger application heap.

sqlcode: -954

sqlstate: 57011

SQL0955C Sort memory cannot be allocated to process the statement. Reason code = *reason-code*.

Explanation: Insufficient virtual memory is available

to the database agent for sort processing, as indicated by the reason code:

- 1 Insufficient private process memory.
- 2 Insufficient shared memory in the database-wide shared memory area designated for sort processing.

The statement cannot be processed but other SQL statements may be processed.

User response: One or more of the following:

- Decrease the value of the sort heap parameter (*sortheap*) in the corresponding database configuration file.
- For reason code 1, increase the private virtual memory available, if possible. For example, on UNIX systems you can use the ulimit command to increase the maximum size of the data area for a process.
- For reason code 2, increase the size of the database-wide shared memory area designated for sort processing. To increase the size of this area without affecting the sortheap threshold for private sorts, increase the value of the SHEAPTHRES_SHR database configuration parameter.

To increase both the size of the database-wide shared memory area designated for sort processing as well as the sortheap threshold for private sorting, increase the value of the SHEAPTHRES database manager configuration parameter and set SHEAPTHRES_SHR to 0

sqlcode: -955

sqlstate: 57011

SQL0956C Not enough storage is available in the database heap to process the statement.

Explanation: All available memory for the database has been used.

The statement cannot be processed.

User response: Terminate the application on receipt of this message. Increase the database configuration parameter (*dbheap*) to allow a larger database heap. If the number of I/O servers is near the high limit, reducing this number may also help.

To change dbheap, enter a command similar to the following, which sets *dbheap* to size 2400 for database *sample*:

```
db2 UPDATE DB CFG FOR sample
    USING DBHEAP 2400
```

Disconnect from the database to have the change take effect.

sqlcode: -956

sqlstate: 57011

SQL0958C The maximum number of open files has been reached.

Explanation: The maximum number of file handles available to the database has been reached.

The statement cannot be processed.

User response: Increase any parameter that affects the maximum number of open files allowed at the location of the database. This includes increasing the configuration parameter (*maxfilop*) to allow more file handles for the instance and terminating other sessions to reduce the number of file handles being used.

sqlcode: -958

sqlstate: 57009

SQL0959C Not enough storage is available in the communication heap of the server to process the statement.

Explanation: All available memory in the server communication heap has been used.

The command or statement cannot be processed.

User response: Terminate the application on receipt of this message. Increase the size of the communication heap (*comheapsz*) parameter in the server workstation database manager configuration file.

NOTE: This message is applicable only for releases of DB2 prior to Version 2.

sqlcode: -959

sqlstate: 57011

SQL0960C The maximum number of objects have been created in table space *tablespace-name*.

Explanation: You cannot create a new object in the table space because the maximum number of objects for the table space has been reached.

User response: Specify a different table space in which to create the object or table. If the table space is a SYSTEM TEMPORARY table space, there are too many concurrent temporary tables in use.

sqlcode: -960

sqlstate: 57011

SQL0964C The transaction log for the database is full.

Explanation: All space in the transaction log is being used.

If a circular log with secondary log files is being used, an attempt has been made to allocate and use them.

When the file system has no more space, secondary logs cannot be used.

If an archive log is used, then the file system has not provided space to contain a new log file.

The statement cannot be processed.

User response: Execute a COMMIT or ROLLBACK on receipt of this message (SQLCODE) or retry the operation.

If the database is being updated by concurrent applications, retry the operation. Log space may be freed up when another application finishes a transaction.

Issue more frequent commit operations. If your transactions are not committed, log space may be freed up when the transactions are committed. When designing an application, consider when to commit the update transactions to prevent a log full condition.

If deadlocks are occurring, check for them more frequently. This can be done by decreasing the database configuration parameter DLCHKTIME. This will cause deadlocks to be detected and resolved sooner (by ROLLBACK) which will then free log space.

If the condition occurs often, increase the database configuration parameter to allow a larger log file. A larger log file requires more space but reduces the need for applications to retry the operation. Transaction configuration parameters which may need to be adjusted are LOGFILSZ, LOGPRIMARY, LOGSECOND. For more information about the transaction log search the DB2 Information Center using phrases such as "transaction log".

If installing the sample database, drop it and install the sample database again.

sqlcode: -964

sqlstate: 57011

SQL0965W There is no message text corresponding to SQL warning *SQLCODE* in the message file on this workstation. The warning was returned from module *name* with original tokens *token-list*.

Explanation: Database server returned code *SQLCODE* to your application. The warning code does not correspond to a message in the DB2 message file on this workstation.

User response: Refer to the documentation for your database server to determine the cause for specified *SQLCODE*.

SQL0966N The error mapping file *name* specified in the Database Connection Services directory cannot be found or cannot be opened.

Explanation: One of the following conditions is true:

- The error mapping file does not exist.
- The error mapping file is currently opened by another application.
- The error mapping file is not located in the expected path.
- The error mapping file is damaged.

The error mapping data could not be retrieved.

User response: Release the file from the application in which it is open or reinstall or restore the original file.

sqlcode: -966

sqlstate: 57013

SQL0967N The format of the error mapping file *name* specified in the Database Connection Services directory is not valid.

Explanation: An error occurred while the program was reading the error mapping file.

The error mapping data could not be retrieved.

User response: Correct all syntactic errors in the error mapping file.

sqlcode: -967

sqlstate: 55031

SQL0968C The file system is full.

Explanation: One of the file systems containing the database is full. This file system may contain the database directory, the database log files, or a table space container.

The statement cannot be processed.

User response: Free system space by erasing unwanted files. Do not erase database files. If additional space is required, it may be necessary to drop tables and indexes identified as not required.

On unix-based systems, this disk full condition may be due to exceeding the maximum file size allowed for the current userid. Use the `chuser` command to update `fsize`. A reboot may be necessary.

This disk full condition may be caused when containers are of varying sizes. If there is sufficient space in the file system, drop the table space and recreate it with containers of equal size.

sqlcode: -968

sqlstate: 57011

SQL0969N There is no message text corresponding to SQL error *error* in the message file on this workstation. The error was returned from module *name* with original tokens *token-list*.

Explanation: The Database server returned `SQLCODE error` to your application. The error code does not correspond to a message in the DB2 message file on this workstation.

User response: Refer to the documentation for your database server to determine the cause for the specified `SQLCODE`. Take action specified in the documentation for the database server to fix this problem.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement). Find the *error* in the applicable manual at the data source. If the problem is data dependent, it may be necessary to examine the data being processed at the data source at the time the error occurred.

SQL0970N The system attempted to write to a read-only file.

Explanation: A file used by the database is marked read-only or does not exist. The database requires write access to this file.

The statement cannot be processed.

User response: Terminate the application on receipt of this message (`SQLCODE`). Ensure that all database files are allowed both read and write access. Check for unnecessary blank spaces within the specified filename.

sqlcode: -970

sqlstate: 55009

SQL0972N The database drive does not contain the correct diskette.

Explanation: The diskette in the drive is not the database diskette.

The statement cannot be processed.

User response: Place the required diskette into the drive. Do not remove a diskette if the application starts using a database that resides in it.

sqlcode: -972

sqlstate: 57019

SQL0973N Not enough storage is available in the *heap-name* heap to process the statement.

Explanation: All available memory for this heap has been used. The statement cannot be processed.

User response: Terminate the application on receipt of

this message (SQLCODE). Modify the *heap-name* configuration parameter to increase the heap size.

For example, to update a database configuration parameter, issue the following command:

```
db2 update db cfg
for db-name
using heap-name heap-size
```

To view a list of the database configuration parameters, use the GET DATABASE CONFIGURATION command.

To update a database manager configuration parameter, issue the following command:

```
db2 update dbm cfg
for db-name
using heap-name heap-size
```

To view a list of the database manager configuration parameters, use the GET DATABASE MANAGER CONFIGURATION command.

For application group shared heap size, the following three database configuration parameters control its size and usage: APPGROUP_MEM_SZ, GROUPHEAP_RATIO, and APP_CTL_HEAP_SZ. The number of applications in one application group is calculated by: APPGROUP_MEM_SZ / APP_CTL_HEAP_SZ. The application group shared heap size is calculated by: APPGROUP_MEM_SZ * GROUPHEAP_RATIO / 100.

sqlcode: -973

sqlstate: 57011

SQL0974N The drive containing the database is locked.

Explanation: The system reported that the drive containing the database is locked.

The statement cannot be processed.

User response: Ensure no other processing (for example, CHKDSK) that can lock the drive is occurring on the system. Retry the operation.

If installing the sample database, drop it and install the sample database again.

sqlcode: -974

sqlstate: 57020

SQL0975N A new transaction could not be started because database or instance *name* is quiesced by user *username*. Quiesce type: *type*.

Explanation: Another user has quiesced the instance or database that you are attempting to use, and no new transactions are allowed until the instance or database

is no longer in the quiesced state.

Quiesce type *type* refers to the instance or database already quiesced and is a '1' for an instance and a '2' for a database.

User response: Contact the user who currently has the instance or database quiesced to determine when DB2 will no longer be quiesced, and retry the request at that time.

sqlcode: -975

sqlstate: 57046

SQL0976N The diskette drive door is open.

Explanation: The drive door for the database is open.

The statement cannot be processed.

User response: Close the drive door and retry the operation.

sqlcode: -976

sqlstate: 57021

SQL0977N COMMIT state unknown.

Explanation: The *tm_database* has become unavailable during COMMIT processing, and this has caused the result of the COMMIT to be unknown. Resynchronization of the databases will occur when the *tm_database* becomes available. Note that the transaction may be rolled back during resynchronization. Further execution of SQL statements can safely occur, however locks might be held until the resynchronization process is complete.

User response: Verify that the connection to the *tm_database* can be made, for example by using CLP. If it cannot be made, follow the necessary actions for the SQLCODE returned to ensure that a connection can be established.

sqlcode: -977

sqlstate: 40003

SQL0978N The diskette is write-protected.

Explanation: A write operation was attempted to the database but the database diskette is write protected.

The statement cannot be processed.

User response: Verify that you are using the correct diskette. Remove protection from the diskette, if necessary.

sqlcode: -978

sqlstate: 55009

SQL0979N COMMIT has failed against *num* databases for an application process running with SYNCPOINT of NONE. The failures include the following database alias and SQLSTATE pairs (a maximum of four can be returned): *alias/SQLSTATE1, alias/SQLSTATE2, alias/SQLSTATE3, alias/SQLSTATE4.*

Explanation: An application was connected to multiple databases, and a COMMIT was issued which failed for one or more of these connections.

Federated system users: if one of the failed connections is a federated server database where nicknames are used, then a commit against one of the data sources required for a nickname has failed.

User response: Depending upon the nature of the application and the data being updated, the user might wish to discontinue the processing being done, log the failure, and issue the appropriate SQL to ensure that the changes intended by the application are consistently reflected across all databases involved.

If a full list of databases affected by COMMIT errors could not be returned please refer to the diagnostic log for a full list.

sqlcode: -979

sqlstate: 40003

SQL0980C A disk error occurred. Subsequent SQL statements cannot be processed.

Explanation: A disk error occurred that prevented successful execution of the current and subsequent SQL statements. The application program is not permitted to issue additional SQL statements. For example, a recovery routine associated with the application program cannot issue additional SQL statements. The database is marked as needing recovery and all applications using the database are prevented from accessing the database.

The statement cannot be processed.

User response: Record all error information from the SQLCA, if possible. Terminate all applications using the database. Determine if the error is a hardware error. Restart the database. If recovery is not possible, restore the database from a backup copy.

If installing the sample database, drop it and install the sample database again.

sqlcode: -980

sqlstate: 58005

SQL0982N A disk error occurred. However, subsequent SQL statements can be processed.

Explanation: A disk error occurred during processing of a temporary system file that prevented successful execution of the current SQL statement. However, subsequent SQL statements can be processed.

The statement cannot be processed.

User response: Terminate the application on receipt of this message (SQLCODE).

sqlcode: -982

sqlstate: 58004

SQL0983N The transaction log does not belong to the current database.

Explanation: The signature stored in the log file does not match the database dependent signature. This error usually occurs when the user specified that the log file be stored in a directory different from where the database is stored. File redirection can be involved.

The statement cannot be processed.

User response: Resubmit the command with the proper access to the log file.

sqlcode: -983

sqlstate: 57036

SQL0984C COMMIT or ROLLBACK was not successful. Subsequent SQL statements cannot be processed.

Explanation: A commit or rollback operation could not be processed successfully because of a system error. The application program is not permitted to issue additional SQL statements. For example, a recovery routine associated with the application program may not issue additional SQL statements. The database is marked as needing recovery and all applications using the database are prevented from accessing the database.

The statement cannot be processed.

User response: Record the message number (SQLCODE) and all SQLCA error information, if possible. Terminate all applications using the database. Restart the database. If installing the sample database, drop it and install the sample database again.

If recovery is not possible, restore the database from a backup copy.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact your technical service representative with the following information:

Information required:

- Problem description

- SQLCODE
- SQLCA contents if possible
- Trace file if possible.

Federated system users: isolate the problem to the data source failing the request (refer to the *Troubleshooting Guide* to determine which data source is failing to process the SQL statement) and take the necessary diagnostic steps and database recovery procedures for that data source. The problem determination procedures and database recovery procedures for data sources vary, so refer to the applicable data source manuals.

sqlcode: -984

sqlstate: 58005

SQL0985C A file error occurred while processing the database catalogs. The database is not usable.

Explanation: The system is unable to recover from an I/O error on a catalog file.

The system cannot process any statements using the database.

User response: Restore the database from a backup copy.

If installing the sample database, drop it and install the sample database again.

sqlcode: -985

sqlstate: 58005

SQL0986N A file error occurred while processing a user table. The table is not usable.

Explanation: The data in the table is no longer valid.

The system cannot process any statements using the table.

User response: Restore the database from a backup version if the database is inconsistent.

If installing the sample database, drop it and install the sample database again.

sqlcode: -986

sqlstate: 58004

SQL0987C The application control shared memory set cannot be allocated.

Explanation: The application control shared memory set cannot be allocated. This error is caused by insufficient memory resources for either the database manager or the environment in which its operations are being attempted. Memory resources that can cause this error include:

- The number of shared memory identifiers allocated in the system.
- The amount of paging or swapping space available in the system.
- The amount of physical memory available in the system.

User response: One or more of the following:

- Ensure that sufficient memory resources are available to satisfy the database manager requirements and those of the other programs running on the system.
- Reduce the database manager memory requirement for this memory set by reducing the database configuration parameter, `app_ctl_heap_sz`, which affects it.
- Reduce one or more of the database configuration parameters `dbheap`, `util_heap_sz`, and `buffpage`. Refer to the *Administration Guide* for the parameters affecting the amount of database global memory allocated.
- Reduce the database manager configuration parameter, `sheapthres`, if `intra_parallel` is set to yes, or set `intra_parallel` to no.
- Where appropriate, stop other programs using the system.

sqlcode: -987

sqlstate: 57011

SQL0989N AFTER trigger *trigger-name* attempted to modify a row in table *table-name* that was modified by an SQL data change statement within a FROM clause.

Explanation: An SQL data change statement was specified in the FROM clause, but the underlying target base table of the SQL data change statement has an AFTER trigger defined which modifies the same table. This is disallowed.

The statement cannot be processed.

User response: Avoid using the SQL data change statement within a FROM clause, or change the trigger so that it does not modify the table that is the target of the SQL data change statement.

sqlcode: -0989

sqlstate: 560C3

SQL0990C An index error occurred. Reorganize the table.

Explanation: An index has had considerable activity that used all the free space for indexes.

Federated system users: this situation can also be detected by the data source.

The statement cannot be processed.

User response: Commit your work and retry the command. If the error continues, roll back your work. If errors still persist, reorganize the table, if possible.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement) and follow the index re-creation procedures for that data source.

SQL0992C The release number of the precompiled program is not valid.

Explanation: The release number of the precompiled program (package) is not compatible with the release number of the installed version of the database manager.

The precompiled program (package) cannot be used with the current version of the database manager. The command cannot be processed.

User response: Use only programs that are precompiled with a compatible release level of the database manager.

sqlcode: -992

sqlstate: 51008

SQL0993W The new path to the log (newlogpath) in the database configuration file is not valid.

Explanation: The path to the log file is not valid for one of the following reasons:

- The path does not exist.
- A file with the correct name was found in the specified path, but it is not a log file for this database.
- The database manager instance id does not have permission to access the path or a log file.

The requested change is not made.

User response: To change the path to the log file, submit a database configuration command with a valid value.

sqlcode: +993

sqlstate: 01562

SQL0994N Invalid usage of the application savepoint.

Explanation: The application savepoint function has been used inconsistently. The program attempted to perform one of the following:

- Request more than one active savepoint.
- Issue an end savepoint call without an active savepoint.

- Issue a rollback savepoint call without an active savepoint.

The function cannot be processed.

User response: Correct the savepoint usage in the program.

SQL0995W The current path to the log file (logpath) is not valid. The log file path is reset to the default.

Explanation: The path to the log file is not valid for one of the following reasons:

- The path does not exist.
- A file with the correct name was found in the specified path, but it is not a log file for this database.
- The database manager instance id does not have permission to access the path or log file.

For circular logging, the log file is created in the default log path. For archive logging, the next log file is created in the default log path. The requested change is not made.

User response: To change the path to the log file, submit a configuration command with a valid value.

sqlcode: +995

sqlstate: 01563

SQL0996N Cannot free pages for an object in a table space.

Explanation: There are corrupted internal database pages or internal logic errors in a table space.

User response: Discontinue use of the object or table space. Contact IBM service to inspect the object and the table space.

sqlcode: -996

sqlstate: 58035

SQL0997W General informational message for transaction processing. Reason Code = XA-reason-code.

Explanation: The SQLCODE 997 is only passed between components of the database manager and will not be returned to an application. It is used to carry XA return codes for non-error situations. The possible reason codes are:

- XA_RDONLY (3) - the transaction branch was read-only and has been committed.
- 64 - TM database indicates transaction to be committed on DUOW resynchronization
- 65 - TM database indicates transaction to be rolled back on DUOW resynchronization

User response: No action required.

SQL0998N Error occurred during transaction or heuristic processing. Reason Code = *reason-code* Subcode = *subcode*.

Explanation: An error is detected when processing a distributed transaction. The transaction is:

- Running under a Distributed Transaction Processing environment (such as those from CICS or other transaction managers).
- Performing heuristic operations.
- Updating multiple nicknames within a federated database, where each updated nickname represents a different data source. In this case, one of the data sources has failed during transaction processing. The reason code returned in this case is the reason for the failure at the data source, not the federated database.

The possible reason codes (corresponding X/Open XA reason codes are shown in parenthesis) are:

- 01 - (XAER_ASYNC) asynchronous operation already outstanding.
- 02 - (XAER_RMERR) a resource manager error occurred in the transaction branch.
- 03 - (XAER_NOTA) the XID is not valid.
- 04 - (XAER_INVALID) invalid arguments were given. Possible subcodes are:
 - 01 - xa_info pointer is invalid, eg. the XAOpen string is null.
 - 02 - database name exceeds maximum length.
 - 03 - username exceeds maximum length.
 - 04 - password exceeds maximum length.
 - 05 - username specified but not a password.
 - 06 - password specified but not a username.
 - 07 - too many parameters in the xa_info string.
 - 08 - multiple xa_opens generate different RM ids for the same database name.
 - 09 - database name not specified.
 - 10 - invalid exe_type.
 - 11 - the Sybase LRM name is not present in the xa_config file or the xa_config file does not exist.
- 05 - (XAER_PROTO) routine invoked in improper context.
- 06 - (XAER_RMFAIL) resource manager unavailable.
- 07 - (XAER_DUPID) the XID already exists.
- 08 - (XAER_OUTSIDE) RM doing work outside global transaction.
- 09 - registration (ax_reg) with the transaction manager failed. Possible subcodes are:
 - 01 - Joining XID not found
 - 02 - dynamic library specified in the tp_mon_name configuration parameter could not be loaded.
 - 10 - attempted to start a different transaction while suspended.
 - 12 - unregistering (ax_unreg) with the transaction manager failed.
 - 13 - ax interface failure: ax_reg() and ax_unreg() not found.
 - 14 - The enlistment for DB2 with the Microsoft Distributed Transaction Coordinator has failed. MSDTC service may be down. You must terminate the current transaction.
 - 15 - The transaction does not exist.
 - 16 - A failure occurred with the Microsoft Distributed Transaction Coordinator (MSDTC). Possible subcodes are:
 - 01 - DB2 is unable to communicate with the MSDTC.
 - 02 - The MSDTC is unable to register the DB2 connection. The subcode represents the Microsoft error code.
 - 03 - MSDTC is unable to enlist the DB2 connection in the Distributed Transaction. The subcode represents the Microsoft error code.
 - 04 - The DB2 Connection cannot be enlisted as there is an active transaction.
 - 05 - No transaction exists. The connection has not been enlisted.
 - 35 - Heuristic operations are invalid for non-XA database.
 - 36 - The XID is not known by the database manager.
 - 37 - The transaction has already been heuristically committed.
 - 38 - The transaction has already been heuristically rolled back.
 - 39 - The transaction is not an indoubt transaction.
 - 40 - Only rollbacks are allowed for this transaction.
 - 41 - Transaction is not heuristically committed on some MPP subordinator nodes because of node failure.
 - 42 - DB2 Connect XA support is only available to outbound connections that were established using TCPIP.
 - 43 - A connection could not be established because the server does not support native XA.
 - 69 - Database log ID mismatch during DUOW resynchronization.
 - 85 - As a result of heuristic processing, the transaction has partially committed and rolled back.
 - 210 - Only heuristic commits are allowed for this transaction. Some nodes are already in commit state.
 - 221 - The version of DBMS on the host requires that all applications that participate in the same XA transaction use the same user ID to connect to the database.

- 222 - The version of DBMS on the host requires that all applications that participate the same XA transaction have the same CCSID.
- 223 - DB2 Connect XA support is only available to local clients or remote clients that use TCP/IP to establish the inbound connection.
- 224 - DB2 Connect XA support is only available to clients that are at least version 7.1.
- 225 - Operation Invalid in an XA Loosely Coupled Transaction. Possible subcodes are:
 - 01 - DDL statements are not allowed.
 - 02 - updates and deletes specifying WHERE CURRENT OF clause are not allowed.
 - 03 - buffered insert operations are not allowed.
 - 04 - only rollbacks are allowed for this transaction.
 - 05 - implicit rebind operations are not allowed.
- 226 - The transaction has already been rolled back.
- 227 - Heuristic request should be run on the coordinator node.
- 228 - There are open cursors.
- 229 - The previous transaction is not yet complete.
- 230 - The transaction has already been committed.

User response: For reason codes 1 through 8, an entry will be made in the system log because sometimes the SQLCA cannot be returned to the caller.

If the error is due to a failed data source associated with a nickname, the location of the failed data source will always appear in federated server's system log.

For reason code 4, verify the content of the xa open string and make necessary corrections.

For reason code 4, subcode 11, ensure xa_config file exists in \$SYBASE/\$SYBASE_OCS directory and the LRM name that is specified as the NODE server option exists in the file.

For reason code 9, subcode 02, ensure that the tp_mon_name configuration parameter contains the name of the dynamic library in the external product which has the ax_reg() function used for dynamic registration of transactions.

For reason code 14, ensure that the MSDTC service is active.

For reason code 15, this error may occur when the MSDTC transaction timeout value is too low. Increase the timeout value and see if the error continues.

For reason code 16:

- subcode 01, ensure that the MSDTC service is active.
- subcode 02, MSDTC was unable to register the connection. For more information refer to the db2diag.log or the Windows Event Viewer for an entry titled MicrosoftXARMCreat.
- subcode 03, MSDTC was unable to enlist the connection into a Transaction. For more information

refer to the db2diag.log or the Windows Event Viewer for an entry titled MicrosoftEnglishWithRM. The most common error is that the current transaction has been explicitly or implicitly rolled back. This may occur when the MSDTC transaction timeout is too low. Increase the timeout value and see if the error continues.

- subcode 04, there has been an attempt to enlist a DB2 connection that is currently active in a different distributed transaction.
- subcode 05, enlist the connection before attempting to issue an SQL statement.

For reason code 35, you attempted to perform a heuristic operation against a database that only participates as a read-only resource manager in a global transaction. Examples are any DRDA databases such as DB2 on MVS. These type of non-XA databases would not have any XA indoubt transactions.

For reason codes 36, 37, and 38, you attempted to perform an invalid heuristic operation on an indoubt transaction. Either you specified the wrong XID, or a heuristic or resync operation had taken place since you recorded this XID. Perform a Heuristic Query request to get the current list of indoubt transactions to verify if you still need to perform your heuristic operation.

For reason code 39, the XID specified is for a transaction that has ended and is waiting for the two-phase commit process to begin. You can only perform heuristic operations on transactions that have entered the two-phase commit process and become indoubt transactions.

For reason code 40, an SQL statement was attempted under a transaction which has failed. An example of this is to attempt an SQL statement in a transaction thread that has successfully registered after a tightly coupled thread participating in the same transaction has abnormally terminated.

For reason code 41, you can find more information about the problem in the administration notification log. You need to restart DB2 on the failed nodes. It may be necessary to contact the system administrator for assistance.

For reason code 42, an outbound connection can be established by modifying the gateway catalogs to use TCP/IP communication protocol.

For reason code 43, if connecting to DB2 on a zSeries or iSeries server, catalog the database using DB2 Connect and then start the sync point manager.

For reason code 69, either the transaction manager (TM) database or the resource manager (RM) database or both are different from the ones when the indoubt transaction was generated. In other words, the TM

database or RM database names could be referencing different database instances. The log ID mismatch may be caused by the following reasons:

- The database directory for the TM database at the RM instance is incorrect.
- The configuration may have been changed after the indoubt transaction was generated.
- The database may have been dropped and recreated. In that case, you can only commit or rollback the indoubt transaction heuristically.

For reason code 85, you are updating multiple data sources, and some of the data sources have been heuristically rolled back or committed, resulting in the transaction having partially committed and rolled back. With this reason code data is now in an inconsistent state, you must manually check every data source updated by the transaction to correct the data.

For reason code 210, some of the nodes are already in commit state. You have to perform heuristic commit to resolve the indoubt transaction.

For reason code 221, ensure all applications that participate in the same XA transaction use the same user ID to connect to the database.

For reason code 222, ensure all applications that participate in the same XA transaction have the same CCSID.

For reason code 223, modify the application and client set-up to use local clients, or for remote clients use TCP/IP as the communication protocol to connect to the gateway.

For reason code 224, update the client to version 7.1 or later.

For reason code 225, ensure the application did not contain any of the invalid operations in an XA Loosely Coupled Transaction. Common application server environments where XA Loosely Coupled Transaction can be used are IBM Encina Transaction Server, IBM WebSphere Application Server, Microsoft Transaction Server, and BEA Tuxedo. If you encounter this reason code, then you must review your application and ensure none of the above actions are performed.

For reason code 226, the transaction has reached a rollback state, and is now rolled back on this node.

For reason code 227, heuristic request should be run on the coordinator node, see db2diag.log for the coordinator node number.

For reason code 228, ensure that the cursors are closed prior to issuing the request.

For reason code 229, ensure that the previous transaction is complete prior to issuing the request.

For reason code 230, the transaction has already been committed.

General information collection procedure:

If you cannot resolve the problem identified by the reason codes, record the message number (SQLCODE), reason code, and the optional subcode in the message or the SQLCA in the system log.

If the failure is from a federated database, you should also record the location of the failed data source found in the federated server's system log.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then, contact your technical service representative with the following information:

- Problem description
- SQLCODE, embedded reason code, and subcode
- SQLCA contents (if possible)
- Trace file (if possible)
- Location of the failed data source if the failure is from a federated server.

There might be additional information in the console or message logs of the transaction manager and the database manager.

sqlcode: -998

sqlstate: 58005

SQL1000 - SQL1099

SQL1000N *alias* is not a valid database alias name.

Explanation: The alias specified in the command or api is not valid. The alias must contain 1 to 8 characters (bytes in MBCS countries) and all the characters must be from the database manager base character set.

The command cannot be processed.

User response: Resubmit the command with the correct alias.

SQL1001N *name* is not a valid database name.

Explanation: The syntax of the database name specified in the command is not valid. The database name must contain 1 to 8 characters and all the

characters must be from the database manager base character set.

The command cannot be processed.

User response: Resubmit the command with the correct database name.

sqlcode: -1001

sqlstate: 2E000

SQL1002N *drive is not a valid drive.*

Explanation: The drive specified in the command is not valid. The drive is a single character (A to Z) indicating the diskette drive or fixed-disk partition where the database or database directory is located.

The command cannot be processed.

User response: Resubmit the command with the correct drive.

SQL1003N **The password is not valid because the syntax is not correct or the password does not match the password of the specified database.**

Explanation: The length of the password is expected to be 18 characters or less. However, if the password is to be verified for an APPC conversation, it must be 8 characters or less.

User response: Ensure that the password is not longer than the limit allowed.

sqlcode: -1003

sqlstate: 28000

SQL1004C **There is not enough storage on the file system to process the command.**

Explanation: There is not enough storage on the specified file system to process the command.

In a partitioned database environment on Windows environments, each node in the partitioned database group must have the exact same physical hard drive specification (letter) available and useable (must contain useable space) for the CREATE DATABASE command to succeed. The physical hard drive letter is specified in the database manager configuration. If DFTDBPATH is left blank the default will be the hard drive where DB2 is installed on the instance owning machine (db2 installation path).

The command cannot be processed.

User response: Choose a different file system or erase some non-database files from the specified file system to make space for the database manager functions.

In a partitioned database environment on Windows environments, follow the following steps:

- Determine which hard drive specification (letter) is required. The drive letter is specified in the error message.
- Determine which node/s of the database partition are experiencing the problem. You can usually find this information in the db2diag.log file of the instance owning node.
- Correct the drive problem on the individual node that is experiencing the problem or change the drive specification in the database manager configuration so that the same drive is available (and has sufficient space) on each and every node of the partitioned database group.
- re-issue the command.

SQL1005N **The database alias *name* already exists in either the local database directory or the system database directory.**

Explanation: The alias name specified has already been used. If no alias is specified in the catalog database command, the database name is used as the alias. When a database is created, the alias name is the same as the database name.

This error may occur on the catalog database command when the alias already exists in the system database directory.

On the create database command this error may occur in one of the following situations:

- The alias already exists in the system database directory and local database directory.
- The alias already exists in the system database directory but not in the local database directory.
- The alias already exists in the local database directory but not in the system database directory.

User response: For the catalog database command, uncatlog the alias from the system database directory and resubmit your original command or catalog the database with a different alias name.

For the create database command, do the following operations with respect to the above 3 situations:

- Drop the database using the alias name. Resubmit your original command.
- Uncatlog the alias. Resubmit your original command.
- Catalog the alias into the system database directory. Drop the database using the same alias. Resubmit your original command.

SQL1006N **The code page *code-page* of the application does not match the code page *code-page* of the database.**

Explanation: The application could not connect to the database because the active codepage is different from the one that was active when the database was created.

The command cannot be processed.

User response: Exit the current application program and return to the operating system. Change the code page for the process and restart the application program.

SQL1007N Error in finding pages for an object in a table space.

Explanation: There are corrupted internal database pages or internal logic error for a table space.

User response: Discontinue use of the object or table space. Contact IBM service to inspect the object and the table space.

sqlcode: -1007

sqlstate: 58034

SQL1008N Invalid table space ID.

Explanation: The table space ID specified does not exist. It is either larger than the current maximum table space ID, or the table space has been dropped.

User response: Discontinue use of the database. Save the diagnostic information in the error log and contact IBM service.

sqlcode: -1008

sqlstate: 58036

SQL1009N The command is not valid.

Explanation: The command is not supported when issued on a client-only workstation or against remote databases. An example of such a command is cataloging a local database.

The command cannot be processed.

User response: Possible solutions include:

- Issue the specified command from a non client-only workstation or from the workstation where the database resides.
- Verify that the database is cataloged correctly.
- Issue a different command.

SQL1010N *type* is not a valid type parameter.

Explanation: The type specified in the Database Environment command is not valid. It must be '0' for an indirect database or '1' for a remote database.

In addition, on the Unix platforms, the type can be '3' for a database that has a DCE global name.

The command cannot be processed.

User response: Resubmit the command with a valid type.

SQL1011N No path was specified in the CATALOG DATABASE command for an indirect entry.

Explanation: A CATALOG DATABASE command was issued for an indirect entry but no path was specified. Indirect entries must specify the path where the database resides.

The command cannot be processed.

User response: Resubmit the command with the required path or change the type.

SQL1012N No node name was specified in the CATALOG DATABASE command for a remote entry.

Explanation: There was no *nodename* parameter specified in the CATALOG DATABASE command for a remote entry. Remote entries must specify the node name of the database.

The command cannot be processed.

User response: Resubmit the command with the *nodename* parameter or a different type.

SQL1013N The database alias name or database name *name* could not be found.

Explanation: The database name or alias specified in the command is not an existing database or the database could not be found in the (client or server) database directories.

User response: Ensure that the specified database name exists in the system database directory. If the database name does not exist in the system database directory, then the database either does not exist or the database name has not been cataloged.

If the database name appears in the system database directory and the entry type is INDIRECT, ensure that the database exists in the specified local database directory. If the entry type is REMOTE, then ensure that the database exists and is cataloged on the database directories of the server node.

For CREATE DATABASE with the AT NODE clause, ensure that the database name is in the system database directory with an entry type of INDIRECT and with a catalog node number that does not equal -1.

Federated system users: in addition to the above, verify that the database names specified in SYSCAT.SERVERS are all valid. Correct any SYSCAT.SERVERS entry for which the database specified in that entry does not exist.

sqlcode: -1013

sqlstate: 42705

SQL1014W There are no more entries in the directory, file, or list being scanned.

Explanation: The scan of the directory, file, or list is finished.

User response: No action is required.

SQL1015N The database is in an inconsistent stat.

Explanation: The possible causes of the inconsistent state include:

- 1 The database is offline as a result of an abnormal termination of the previous session (for example, a power failure).
- 2 If the error was encountered when running the pre-migration tool db2ckmig:
 - The database is online and SQL has been issued which modified data in the database.
 - The database is online and HADR has been enabled.

User response: Depending on the cause, the following apply:

- 1 Restart the database using the RESTART DATABASE command. In a partitioned database server environment, the command must be issued on all nodes. You may wish to warn users that database recovery needs to complete before the database becomes available.
- 2 Perform a clean shutdown of the database. After shutdown, if HADR has been enabled on the database, issue the STOP HADR command on the database. Rerun the db2ckmig tool.

sqlcode: -1015

sqlstate: 55025

SQL1016N The local_lu alias *name* specified in the CATALOG NODE command is not valid.

Explanation: The local logical unit (*local_lu*) alias specified in the CATALOG NODE command is not permitted. The local logical unit alias is the local SNA logical unit alias and must be 1 to 8 characters and cannot contain blank characters.

The command cannot be processed.

User response: Verify that the alias is a permitted logical unit name. Verify the characters used in the name. Resubmit the command with a valid logical unit name.

SQL1017N The mode parameter *mode* specified in the CATALOG NODE command is not valid.

Explanation: The *mode* specified in the CATALOG NODE command is not permitted.

The *mode* parameter identifies the communications profile the Communications Manager uses to set up a session. The mode must be 1 to 8 characters. Valid characters are uppercase or lowercase A through Z, 0 through 9, #, @, and \$. The first character must be alphabetic. The system changes lowercase characters to uppercase.

The command cannot be processed.

User response: Verify that the name is a permitted mode name. Verify the characters used in the name. Resubmit the command with a correct mode.

SQL1018N The node name *name* specified in the CATALOG NODE command already exists.

Explanation: The node name specified in the *nodename* parameter of the CATALOG NODE command is already cataloged in the node directory on this file system.

The command cannot be processed.

User response: If the *nodename* parameter is typed correctly, continue processing.

Uncatalog the cataloged node in the node directory if the node cataloged information is no longer valid and resubmit the command. If the node cataloged information is valid, define a new node name and resubmit the command using the new node name.

SQL1019N The node name *name* specified in the command is not valid.

Explanation: The node name specified in the command is not valid. The node name may be 1 to 8 characters and all of the characters must be from the database manager base character set. The specified node name cannot be the same as the local instance name.

The command cannot be processed.

User response: Ensure the node name is not the same as the local instance name by displaying the value of the DB2INSTANCE environment variable. On UNIX operating systems, display the DB2INSTANCE environment variable by entering the following command:

```
echo $DB2INSTANCE
```

On Windows operating systems, display the DB2INSTANCE environment variable by entering the following command:

echo %DB2INSTANCE%

Resubmit the command with the correct node name.

SQL1020C The node directory is full.

Explanation: The node directory cannot hold any more entries.

The command cannot be processed.

User response: Uncatalog any unnecessary entries in the node directory.

SQL1021N The node name *name* specified in the UNCATALOG NODE command was not found.

Explanation: The *nodename* specified in the command could not be found in the node directory.

The command cannot be processed.

User response: If the *nodename* parameter is correct, the node may already have been uncataloged, and processing can continue. Otherwise, resubmit the command with the correct node name.

SQL1022C There is not enough memory available to process the command.

Explanation: Not enough random access memory (RAM) is available to process the command.

If a remote procedure was invoked, the remote procedure may use a local variable space that is larger than the allowable maximum (4K).

If the statement involves a user-defined function (UDF), the memory set controlled by the *ASLHEAPSZ* database manager configuration parameter may be larger than the memory available.

The command cannot be processed.

User response: Stop the application. Possible solutions include:

- Change the MEMMAN NO SWAP, NO MOVE option in the CONFIG.SYS file to SWAP, MOVE.
- Remove background processes.
- Decrease the values of the configuration parameters that define allocation of memory, including *ASLHEAPSZ* if UDFs are involved in the failing statement.
- Install more random access memory (RAM).
- If a remote procedure was invoked, ensure that the remote procedure uses a local variable space that is less than or equal to 4K.
- If you are using Remote Data Services, increase the Remote Data Services heap size (*rsheapsz*) in the server and client configuration because at least one block is used per application.

sqlcode: -1022

sqlstate: 57011

SQL1023C The communications conversation failed.

Explanation: An error occurred in the communications conversation.

The command cannot be processed.

User response: Retry the original command. If the error persists, contact your communications administrator.

Federated system users: this situation can also be detected by the data source.

sqlcode: -1023

sqlstate: 08001

SQL1024N A database connection does not exist.

Explanation: There is no connection to a database. Other SQL statements cannot be processed unless an SQL CONNECT was previously executed.

The command cannot be processed.

User response: If the error occurred when disconnecting from the database, continue processing. If the error occurred on another SQL statement, issue an SQL CONNECT statement and resubmit the command or statement.

sqlcode: -1024

sqlstate: 08003

SQL1025N The database manager was not stopped because databases are still active.

Explanation: The stop database manager command cannot be processed if there are any applications connected to databases under control of the database manager, or if any databases have been activated, or if there are any active HADR primary or standby database under control of this database manager.

No action is taken.

User response: Usually no action is required. To stop the database manager, all active applications must disconnect from all the databases they are using. Alternatively, the user can use the FORCE command to force applications to disconnect, and the DEACTIVATE command to deactivate the database, including any HADR primary or standby databases.

SQL1026N The database manager is already active.

Explanation: A start database manager command is already processed.

The command cannot be processed.

User response: Because the command is already processed, the application may continue processing.

SQL1027N The node directory cannot be found.

Explanation: The list node directory command cannot be processed because the node directory could not be found.

The command cannot be processed.

User response: Issue a CATALOG NODE command with the appropriate parameters and resubmit the current command.

SQL1029N The partner_lu alias *name* specified in the CATALOG NODE command is not valid.

Explanation: The *partner_lu* alias specified in the CATALOG NODE command was not specified or contains characters that are not valid. The *partner_lu* alias is the partner SNA logical unit alias and must be 1 to 8 characters and must not contain blank characters.

The command cannot be processed.

User response: Examine the *partner_lu* for a typing error. Verify that the alias is a permitted logical unit name. Verify the characters used in the alias. Resubmit the command with a correct *partner_lu*.

SQL1030C The database directory is full.

Explanation: Either the system database directory or the local database directory cannot hold any more entries.

The command cannot be processed.

User response: Uncatalog any unnecessary entries in the directory. Create new databases on another file system if the local database directory is full.

SQL1031N The database directory cannot be found on the indicated file system.

Explanation: The system database directory or local database directory could not be found. A database has not been created or it was not cataloged correctly.

The command cannot be processed.

User response: Verify that the database is created with the correct path specification. The Catalog Database command has a path parameter which specifies the directory where the database resides.

sqlcode: -1031

sqlstate: 58031

SQL1032N No start database manager command was issued.

Explanation: The start database manager command has not been processed. It must be processed before a stop database manager, any SQL statement, or utility can be issued.

The command cannot be processed.

User response: Issue a start database manager command and resubmit the current command.

If using multiple logical nodes, ensure the DB2NODE environment variable is set correctly. The DB2NODE environment variable indicates the node the application will attempt to connect to. DB2NODE must be set to the node number of one of the nodes defined on the same host as the application.

sqlcode: -1032

sqlstate: 57019

SQL1033N The database directory cannot be accessed because it is being used.

Explanation: The database directory cannot be accessed if it is currently being updated. Also, the directory cannot be accessed for update if it is already being accessed for any reason. This situation could exist with either the system database directory or the local database directory.

The command cannot be processed.

User response: Wait until the access has completed, then resubmit the command.

sqlcode: -1033

sqlstate: 57019

SQL1034C The database is damaged. The application has been disconnected from the database. All applications processing the database have been stopped.

Explanation: Damage has occurred to the database. It cannot be used until it is recovered. All applications connected to the database have been disconnected and all processes running applications on the database have been stopped.

The command cannot be processed.

User response: Issue a RESTART DATABASE command to recover the database. If the RESTART command consistently fails, you may want to restore the database from a backup. In a partitioned database server environment, check the syslog to find out if the RESTART command fails because of node or communication failures before restoring the database from a backup. If so, ensure the database manager is

up and running and communication is available among all the nodes, then resubmit the restart command.

If you encountered this error during roll-forward processing, you must restore the database from a backup and perform roll-forward again.

Note that in a partitioned database environment, the RESTART database command is run on a per-node basis. To ensure that the database is restarted on all nodes, use the command:

```
db2_all db2 restart database
<database_name>
```

This command may have to be run several times to ensure that all in-doubt transactions have been resolved.

If you are installing the sample database, drop it and install the sample database again.

sqlcode: -1034

sqlstate: 58031

SQL1035N The database is currently in use.

Explanation: One of the following conditions exists:

1. There are open connections to the database preventing the attempted operation from succeeding. This can occur in the following situations:
 - Exclusive use was requested, but the database is already in use as a shared database by another user (in the same process).
 - Exclusive use was requested, but the database is already in use as an exclusive database (Two different processes are trying to access the same database).
 - The maximum number of connections to the database has been reached.
 - The database is being used by another user on another system.
2. The database has been activated explicitly, preventing the operation from succeeding.
3. The database is active because it is in WRITE SUSPEND state.

The command cannot be processed.

User response:

1. Valid options are:
 - Resubmit the command later when the database is not in use.
 - Change the authorization to match the current user or wait until the database is not in use.
 - Wait until the database is not in exclusive use.

- Wait until other users on another system have disconnected from the database
 - Issue a QUIESCE DATABASE DEFER WITH TIMEOUT <minutes> command and a CONNECT RESET command to free connections to the database and prevent application users from re-connecting. The DEFER option will wait for applications until they commit the current unit of work instead of rolling back all running transactions.
 - Issue a LIST APPLICATIONS command to list connections to the database. Issue a FORCE APPLICATION ALL command to free connections to the database. Note: FORCE APPLICATION ALL is an asynchronous command which might return as successful even though it is still continuing to clean up connections. A varying interval of time might be required for the command to complete.
2. Deactivate the database using the command DEACTIVATE DATABASE <DBALIAS>.
 3. Issue a SET WRITE RESUME FOR DATABASE command to resume write operations for the database.

Re-issue the command.

For more information on the syntax of commands, and related topics, search the Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "force application", "deactivate database", and "quiesce database".

sqlcode: -1035

sqlstate: 57019

SQL1036C An I/O error occurred while accessing the database.

Explanation: The problem may have occurred in one of the following situations:

- The system cannot open, read from, or write to a database file.
- The system cannot create the database because an error occurred while the system was creating a database file or a directory for the database.
- The system cannot drop the database because an error occurred while the system was deleting a database file or a directory for the database.
- The system cannot create the database because an interrupt was received while the system was creating or deleting a database file or a directory for the database.
- The system cannot locate the database subdirectory or database configuration file during connect.

Problem causes are ordered in terms of their frequency of occurrence:

- A log file cannot be found in the active log path directory.
- There may be a problem with the database directory the operation is being attempted on.
- There may be inadequate disk space to complete the operation.

The database cannot be used.

User response: Appropriate responses for the problem causes described above are:

- To verify if a log file is missing, check the db2diag.log for the presence of a logging error (return code contains SQLO_FNEX). If present, this error will contain the name of the missing log file. Ensure that the file is located in the active log path directory. If the file cannot be located, restore and roll-forward the database to an earlier point in time referenced in a log file preceding the missing log file (use a timestamp that is earlier than that of the missing file).
- There may be a problem with the database directory. Check the integrity of the directory. Examples of potential problems include: permissions issues, mount point problems, corruption.
- Increase filesystem size.

NOTE: If the error occurred during CREATE DATABASE or DROP DATABASE, a subsequent CREATE DATABASE or DROP DATABASE command attempts to erase files and directories left from the unsuccessful CREATE DATABASE or DROP DATABASE command.

sqlcode: -1036

sqlstate: 58030

SQL1037W The Node directory is empty.

Explanation: An attempt was made to read the contents of the node directory, but no entries existed.

User response: No action is required.

sqlcode: +1037

sqlstate: 01606

SQL1038C An I/O error occurred while accessing the node directory.

Explanation: The node directory could not be accessed because of an I/O error.

The command cannot be processed.

User response: Resubmit the command. If the error continues, remove the node directory (sqlnodir under

the sqllib directory) and recatalog the node names on the network.

sqlcode: -1038

sqlstate: 58031

SQL1039C An I/O error occurred while accessing the database directory.

Explanation: Either the system database directory or the local database directory cannot be accessed. This error may occur not only when the system is cataloging or uncataloging a database but also when the system is accessing a database that is cataloged in the directory.

The command cannot be processed.

User response: Possible solutions include:

- If the error occurred on a diskette system, verify that the correct diskette is in the drive and ready to use. Verify that it is not write-protected.
- If the database directory is damaged, restore the databases that were cataloged there from backup versions and catalog them.

If installing the sample database, drop it and install the sample database again.

sqlcode: -1039

sqlstate: 58031

SQL1040N The maximum number of applications is already connected to the database.

Explanation: The number of applications connected to the database is equal to the maximum value defined in the configuration file for the database.

The command cannot be processed.

User response: Wait for other applications to disconnect from the database. If more applications are required to run concurrently, increase the value for *maxappls*. After all applications disconnect from the database and the database is restarted, the new value takes effect.

sqlcode: -1040

sqlstate: 57030

SQL1041N The maximum number of concurrent databases have already been started.

Explanation: The application attempted to start an inactive database but the number of active databases already equals the maximum value defined in the system configuration file.

The command cannot be processed.

User response: Wait for one of the databases to become inactive. If more databases are required to be

active at the same time, increase the value for *numdb*. The new value takes effect after the next successful database manager start.

sqlcode: -1041

sqlstate: 57032

SQL1042C An unexpected system error occurred.

Explanation: A system error occurred. Some possible reasons for this error are:

- The database manager is not installed correctly or the environment is not set up correctly.
- On UNIX-based systems, db2iupdt may need to be run in order to update the DB2 instance to enable acquisition of a new system configuration or access to function associated with the installation or removal of certain product options, FixPaks, or modification levels.

The command cannot be processed.

User response:

- To update the instance to acquire a configuration or access to function run DB2IUPDT <InstName>.
- If the error occurred while trying to connect to a database, get a trace (instructions below) and call IBM support.

If the problem falls outside of the above suggestions, ensure that the system time and date is correctly set, and make sure your system has enough memory and swapping/paging space available.

Resubmit the current command.

If the error continues, stop the database manager and restart it.

If the error still continues, reinstall the database manager.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE or message number
- SQLCA contents if possible
- Trace file if possible.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the problem determination guide for procedures to follow to identify the failing data source). If the problem is with

a data source follow the problem determination procedures for that data source.

sqlcode: -1042

sqlstate: 58004

SQL1043C The database manager could not initialize the system catalogs. Error error was returned.

Explanation: The CREATE DATABASE command failed while initializing the system catalogs.

User response: Record the message number (SQLCODE) and error in this message.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

- Environment: Application
- Required information:
 - Problem description
 - SQLCODE or message number and error identifier
 - SQLCA contents if possible
 - Trace file if possible.

SQL1044N Processing was cancelled due to an interrupt.

Explanation: The user may have pressed the interrupt key sequence.

Processing is stopped.

Federated system users: this situation can also be detected by the data source.

User response: Continue processing to handle the interrupt.

If installing the sample database, drop it and install the sample database again.

If starting the database manager, issue a db2stop before issuing any db2 commands.

sqlcode: -1044

sqlstate: 57014

SQL1045N The database was not found because it was not cataloged correctly.

Explanation: An indirect entry in the database directory points to another non-HOME entry.

The command cannot be processed.

User response: Verify the entries in all the associated database directories with the directory scan commands.

sqlcode: -1045

sqlstate: 58031

SQL1046N The authorization ID is not valid.

Explanation: The authorization specified at logon is not valid for either the data source or the database manager. One of the following occurred:

- The authorization contains more than 30 characters for Windows platforms or 8 characters for other platforms.
- The authorization contains characters not valid for an authorization. Valid characters are A through Z, a through z, 0 through 9, #, @ and \$.
- The authorization is PUBLIC or public.
- The authorization begins with SYS, sys, IBM, ibm, SQL or sql.
- The authorization violates some data source-specific naming convention.

The command cannot be processed.

User response: Log on with a valid authorization ID.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and use an authorization ID valid for that data source.

sqlcode: -1046

sqlstate: 28000

SQL1047N The application is already connected to another database.

Explanation: An application cannot create a database while connected to another database.

Binding a bind file to one database while already connected to another database is not permitted.

The command cannot be processed.

User response: Disconnect from the active database and resubmit the command.

SQL1048N The use parameter *parameter* in the START USING DATABASE or CONNECT TO command is not valid. it must be an S for shared access, an X for exclusive use or an N for exclusive use at single node. For DB2 Connect connections, only S is supported. N is only supported in MPP configuration.

Explanation: The *use* parameter in the START USING DATABASE or CONNECT TO command must be either an S for shared or an X for exclusive use. If connecting to a database using DB2 Connect, only shared access is allowed. Mnemonic equates for these values are provided in the SQLENV.H file.

The command cannot be processed.

User response: Resubmit the command with a valid *use* parameter (preferably from the mnemonic equates).

SQL1049C The application state is in error. The database connection has been lost.

Explanation: The connection to the database has been lost.

The command cannot be processed.

User response: Issue a CONNECT RESET statement.

SQL1050N The database cannot be uncataloged because it is a home database.

Explanation: The database specified in the UNCATALOG DATABASE command is a home database. Home databases cannot be uncataloged because their directory entries are deleted when the database is dropped.

The command cannot be processed.

User response: Continue processing if the database name was specified correctly.

SQL1051N The path *path* does not exist.

Explanation: One of the following conditions is true:

- The value specified for the database directory or storage path does not exist or is inaccessible.
- Storage paths must have an absolute path name and cannot be relative.
- An attempt is being made to activate or connect to a database but a storage path cannot be found or it is inaccessible.
- An attempt is being made to restore an automatic storage database while maintaining the storage paths defined in the backup image. However, a storage path cannot be found or it is inaccessible.
- A rollforward is attempting to replay a log record related to adding storage paths but a storage path cannot be found or it is inaccessible.

The statement or command cannot be processed.

User response: Depending on the condition:

- Create the path if it does not exist, or change the permissions of the path if it is inaccessible. Resubmit the statement or command.
- If specifying a relative storage path name then specify its absolute path name instead. Resubmit the statement or command.
- Resolve the issue with the storage path and resubmit the command. If the storage path is no longer available then the database must be restored from a backup image.

- Create the storage path if it does not exist, or change the permissions of the path if it is inaccessible. Alternately, the storage paths can be redefined using the ON parameter of the RESTORE DATABASE command.
- Create the storage path if it does not exist, or change the permissions of the path if it is inaccessible. Alternately, restore the database again and redefine the storage paths associated with the database. When storage paths are redefined during a restore, all subsequent add storage path log records are ignored.

sqlcode: -1051

sqlstate: 57019

SQL1052N The database path *path* does not exist.

Explanation: The path specified in the *path* parameter of the command is not valid. There is no path with that name.

In a partitioned database environment on Windows environments, each node in the partitioned database group must have the exact same physical hard drive specification (letter) available and useable (must contain useable space) for the CREATE DATABASE command to succeed. The physical hard drive letter is specified in the database manager configuration. If DFTDBPATH is left blank the default will be the hard drive where DB2 is installed on the instance owning machine (db2 installation path).

The command cannot be processed.

User response: Resubmit the command with the correct database path.

In a partitioned database environment on Windows environments, follow the following steps:

- Determine which hard drive specification (letter) is required. The drive letter is specified in the error message.
- Determine which node/s of the database partition are experiencing the problem. You can usually find this information in the db2diag.log file of the instance owning node.
- Correct the drive problem on the individual node that is experiencing the problem or change the drive specification in the database manager configuration so that the same drive is available (and has sufficient space) on each and every node of the partitioned database group.
- re-issue the command.

SQL1053N An interrupt is already being processed.

Explanation: The system is currently processing an interrupt so another interrupt is not honored.

The interrupt request is ignored.

User response: Wait until the current interrupt processing finishes and resubmit the command.

SQL1054N A COMMIT is in progress and cannot be interrupted.

Explanation: The system is currently processing a COMMIT. The user entered an interrupt key sequence.

The interrupt request is ignored.

Federated system users: this situation can also be detected by the data source.

User response: Wait until COMMIT is finished and resubmit the request.

SQL1055N A ROLLBACK is in progress and cannot be interrupted.

Explanation: The system is currently processing a ROLLBACK. The user entered an interrupt key sequence.

The interrupt request is ignored.

Federated system users: this situation can also be detected by the data source.

User response: Wait until ROLLBACK is finished and resubmit the request.

SQL1056N There are already eight database directory scans open.

Explanation: Eight database directory scans in this process are already open. No more than eight open scans are allowed.

The command cannot be processed.

User response: Issue one or more CLOSE DIRECTORY SCAN commands and resubmit the command.

sqlcode: -1056

sqlstate: 54029

SQL1057W The system database directory is empty.

Explanation: An attempt was made to read the contents of the system database directory, but no entries existed.

User response: No action is required.

sqlcode: +1057

sqlstate: 01606

SQL1058N The handle parameter in the Directory Scan command is not valid.

Explanation: The *handle* parameter specified in the Directory Scan command is not valid. The *handle* must be the one returned from the OPEN DIRECTORY

SCAN or the OPEN NODE DIRECTORY SCAN command.

The command cannot be processed.

User response: Resubmit the command with a valid *handle* parameter.

SQL1059N A Get Next command cannot be processed because no Open Scan command was issued.

Explanation: A directory scan command was issued before the scan was opened.

The command cannot be processed.

User response: Issue an OPEN DIRECTORY SCAN or OPEN NODE DIRECTORY SCAN command and resubmit the current command.

SQL1060N User *authorization-ID* does not have the CONNECT privilege.

Explanation: The specified authorization ID does not have the CONNECT privilege to access the database. The CONNECT privilege must be granted before the user can connect to a database.

Federated system users: This situation can also be detected by the data source

The command cannot be processed.

User response: Contact the system administrator or database administrator for the database and request a GRANT CONNECT for the authorization ID. Resubmit the command.

Federated system users: if necessary isolate the problem to the data source that rejected the request (see the Troubleshooting Guide for procedures to follow to identify the data source that failed) and ensure that correct privileges have been granted for that data source. Some data sources might use a different name than the CONNECT privilege for the privilege required to connect to a database.

sqlcode: -1060

sqlstate: 08004

SQL1061W RESTART completed successfully, but indoubt transactions exist against the database.

Explanation: A RESTART was successfully completed, except indoubt transactions were discovered. The database is usable, but if the indoubt transactions are not resolved before the last connection to the database is dropped, then the database will again require a RESTART before it can be used.

User response: Either resolve the indoubt transactions, or be prepared to RESTART the database whenever you wish to use it. If the transaction manager (TM) that was

using the database (in an XA/DTP environment) is available, then the administrator should instruct the TM to resolve the indoubt transactions. Alternatively, with great caution, the administrator can use the CLP to heuristically complete the transactions.

Note that in a partitioned database server environment, the RESTART database command is run on a per-node basis. In order to ensure that the database is restarted on all nodes, use the following command:

```
db2_all db2 restart database
    <database_name>
```

Issuing the above command will resolve any in-doubt transactions if all nodes are operational.

This command may have to be run several times to ensure that all in-doubt transactions have been resolved.

SQL1062N The database path *path* was not found.

Explanation: The database *path* parameter specified in the command does not exist. If the path is not specified, the default path defined in the system configuration file is used, and it does not exist.

In a partitioned database environment on Windows environments, each node in the partitioned database group must have the exact same physical hard drive specification (letter) available and useable (must contain useable space) for the CREATE DATABASE command to succeed. The physical hard drive letter is specified in the database manager configuration. If DFTDB is left blank the default will be the hard drive where DB2 is installed on the instance owning machine (db2 installation path).

The command cannot be processed.

User response: Verify the path or the default path and make sure they exist in the system. Resubmit the command.

In a partitioned database environment on Windows environments, follow the following steps:

- Determine which hard drive specification (letter) is required. The drive letter is specified in the error message.
- Determine which node/s of the database partition are experiencing the problem. You can usually find this information in the db2diag.log file of the instance owning node.
- Correct the drive problem on the individual node that is experiencing the problem or change the drive specification in the database manager configuration so that the same drive is available (and has sufficient space) on each and every node of the partitioned database group.
- re-issue the command.

SQL1063N The start database manager processing was successful.

Explanation: The command to start the database manager completed successfully.

SQL1064N The stop database manager processing was successful.

Explanation: The command to stop the database manager completed successfully.

SQL1065W The database was created, but an error occurred on one or more bind files in list *list-name*. The file(s) in the following position(s) in the bind list file were not bound: *list*.

Explanation: One or more utilities were not bound to the database. The list file *list-name* contains a list of the bind files. The numbers in *list* indicate the relative positions of the unbound files in the list file.

The listed utility bind files are not bound to the newly created database.

User response: The user may bind the indicated utilities to the database. The format option must not be used on the binder call.

If the version of the remote server is V8.1 and the code level is fixpack 0, fixpack 1 or fixpack 2, then you can copy the bnd/db2schema.bnd file from the install path on the remote server to the install path on the local client and either bind the utilities manually, or reissue the CREATE DATABASE or MIGRATE DATABASE command.

SQL1066N DB2START processing was successful. IPX/SPX protocol support was not successfully started.

Explanation: The IPX/SPX protocol support was not successfully started. Remote clients cannot use IPX/SPX to connect to the server. Possible causes are:

- The workstation is not logged in to the NetWare file server.
- The workstation does not have authority to create an object in the NetWare file server bindery.
- Another database manager on the network is using the same object name specified in the database manager configuration file.

User response: Ensure that the workstation is logged in to the NetWare file server, and has sufficient authority to create an object in the bindery at the file server. The user must be logged in as SUPERVISOR or equivalent. Also ensure that the object name specified in the database manager configuration file is unique for all database managers in the network. Make any corrections, run DB2STOP, and then run DB2START again.

If the problem continues, at the operating system command prompt type DB2TRC ON -L 0X100000. Run DB2START again, then at the command prompt, type DB2TRC DUMP filename to save the trace information. To turn trace off, type DB2TRC OFF. Contact your service coordinator with the trace information.

SQL1067N DB2STOP processing was not successful. IPX/SPX protocol support was not successfully stopped.

Explanation: The IPX/SPX protocol support was not successfully stopped. Possible causes are:

- The workstation is not logged in to the NetWare file server.
- The workstation does not have authority to delete an object in the NetWare file server bindery.

User response: Ensure that the workstation is logged in to the NetWare file server, and has sufficient authority to delete an object in the bindery at the file server. The user must be logged in as SUPERVISOR or equivalent. Make any corrections, and run DB2STOP again.

If the problem continues, at the operating system command prompt type DB2TRC ON -L 0X100000. Run DB2STOP again, then at the command prompt, type DB2TRC DUMP filename to save the trace information. To turn trace off, type DB2TRC OFF. Contact your service coordinator with the trace information.

SQL1068N The domain that owns the user ID *user-ID* for the CONNECT or ATTACH statement is not defined in the DB2DOMAINLIST environment variable.

Explanation: A user ID in a CONNECT TO or ATTACH TO statement does not belong to a domain defined in the DB2DOMAINLIST environment variable.

User response: Specify the name of the domain which owns the user ID in the DB2DOMAINLIST environment variable by using the DB2SET command.

sqlcode: -1068

sqlstate: 08004

SQL1069N The database *name* is not a home database.

Explanation: The database is not a local database. A local database is cataloged as indirect in the system database directory and this entry references a home entry in the local database directory on the same node. Remote databases cannot be dropped.

The command cannot be processed.

User response: If the specified database name was incorrect, resubmit the command with the correct

database name. If the specified database name was correct and the intent is to remove the database name from the database directory, use the UNCATALOG DATABASE command.

SQL1070N The address of the database name parameter is not valid.

Explanation: The application program used an address that is not valid for the database name parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Correct the application program so a correct address is used and the input string is null terminated.

SQL1071N The address of the database alias name parameter is not valid.

Explanation: The application program used an address that is not valid for this parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1072C The database manager resources are in an inconsistent state. the database manager may have been incorrectly terminated, or another application may be using system resources in a way which conflicts with the way the database manager uses system resources. System resource cleanup may be required.

Explanation: The request failed because the database manager resources are in an inconsistent state. This can occur if:

- DB2 was incorrectly terminated (on UNIX-based systems, for example, this may occur if the processes were terminated with the "kill" command, rather than the stop database manager command).
- Another application or user may have removed the database manager resources (on UNIX-based systems, for example, a user with sufficient privilege may have accidentally removed an Interprocess Communication (IPC) resource owned by the database manager, using the "ipcrm" command).
- Another application's use of system resources conflicts with the database manager's use of system resources (on UNIX-based systems, for example,

another application may be using the same keys that the database manager uses for creating IPC resources).

- Another instance of the database manager may be using the same resources. This could occur on UNIX-based systems if the two instances are on different file systems and the sqllib directories happen to have the same i-node (i-nodes are used to get the IPC keys).

User response: Resource cleanup may be required:

- Remove all the database manager processes running under the instance id (on UNIX-based systems, issue the psdb2 command to list all the database manager processes running under the instance id, and the "kill -9 <process id>" command to remove them).
- Ensure that no other application is running under the instance id, and then remove all resources owned by the instance id (on UNIX-based systems, you can use the "ipcs | grep <instance id>" command to list all IPC resources owned by the instance id, and the "ipcrm -[q|m|s] <id>" command to remove them).
- If there is another instance of the database manager running, there may be an inode conflict. This is probably the case if you find that two instances cannot be active at the same time, but can be started individually. It is necessary to change the inode being used to generate IPC keys for one of the instances.

For single-node instances, perform the following as the instance owner from the sqllib directory:

- delete the .ftok file
rm .ftok
- create a new .ftok file
touch .ftok

For multi-node instances, perform the following as the instance owner:

- create another directory at the same level as sqllib
 - move everything from under sqllib to the new directory
 - delete sqllib
 - rename the new directory to sqllib
- Restart the database manager instance.

SQL1073N The node directory release number is not correct.

Explanation: The node directory release number does not match the product expected release number. The node directory could be from a previous release.

User response: Re-catalog all the node entries and try the command again.

SQL1074N The address of the password parameter is not valid.

Explanation: The application program used an address that is not valid for this parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1075N The address of the database comment parameter is not valid.

Explanation: The application program used an address that is not valid for this parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1076N The address of the count parameter is not valid.

Explanation: The application program used an address that is not valid for the *count* parameter.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program.

SQL1077N The address of the handle parameter is not valid.

Explanation: The application program used an address that is not valid for the *handle* parameter.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program.

SQL1078N The address of the buffer parameter is not valid.

Explanation: The application program used an address that is not valid for the *buffer* parameter.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program.

SQL1079N The address of the nodename parameter is not valid.

Explanation: The application program used a *nname* parameter address that is invalid. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1080N The address of the local_lu name parameter is not valid.

Explanation: The application program used an address that is not valid for the *local_lu* name parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1081N The address of the partner_lu parameter is not valid.

Explanation: The application program has used an address that is not valid for the *partner_lu* parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1082N The address of the mode parameter is not valid.

Explanation: The application program has used an address that is not valid for the *mode* parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1083N The database description block cannot be processed, reason code=*reason-code*.

Explanation: The application issued a CREATE DATABASE command, but the database descriptor block (DBDB) could not be processed for one of the following reason codes:

- The address of the DBDB is not valid (reason code 01).
- The value of the SQLDBDID field of the DBDB is not valid (reason code 02). It should be set to the value SQLDBDB1.
- The value of the SQLDBCSS field of the DBDB is not valid (reason code 04).

The command cannot be processed.

User response: Correct the error and resubmit the command.

SQL1084C Shared memory segments cannot be allocated.

Explanation: The database manager could not allocate segments while processing a Database Environment command or an SQL CONNECT statement.

The dbheap parameter may be too small.

User response: Record the message number (SQLCODE). The cause of this error may be insufficient memory resources either for the database manager or the environment where operation of the database manager is being attempted. Validate that sufficient memory resources are available to satisfy the database manager requirements. You may also close any background processes that do not need to be active.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt. Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE or message number
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -1084

sqlstate: 57019

SQL1085N The application heap cannot be allocated.

Explanation: The application could not connect to the database because the database manager could not allocate the number of application heap 4K pages specified in the database configuration file. The system

is out of 4K pages. The command cannot be processed.

User response: Possible solutions are:

- Lower the size of the application heap (applheapsz) in the database configuration file.
- Reduce the maximum number of applications in the database configuration file.
- Remove background processes.
- Install more memory.

sqlcode: -1085

sqlstate: 57019

SQL1086C An operating system error *error* occurred.

Explanation: The command received an error from the operating system that prevents further processing.

The command cannot be processed.

User response: Refer to the operating system user publications to determine the nature of the error.

SQL1087W The database was created, but an error occurred while opening the list file *name*. The utilities are not bound to the database.

Explanation: CREATE DATABASE could not open the list file containing the list of utility bind files. The list file should be located in the *bnd* subdirectory of the *sqllib* subdirectory.

The utility bind files are not bound to the newly created database.

User response: Bind the utilities to the database. Do not use the format option on the binder call.

If the version of the remote server is V8.1 and the code level is fixpack 0, fixpack 1 or fixpack 2, then you can copy the *bnd/db2schema.bnd* file from the install path on the remote server to the install path on the local client and either bind the utilities manually, or reissue the CREATE DATABASE or MIGRATE DATABASE command.

SQL1088W The database was created, but an error occurred while binding the utilities. The utilities are not bound to the database.

Explanation: CREATE DATABASE or MIGRATE DATABASE could not bind the utility bind files to the database.

The utility bind files are not bound to the newly created or migrated database.

User response: Bind the utilities to the database. Do not use the format option on the binder call.

If the version of the remote server is V8.1 and the code

level is fixpack 0, fixpack 1 or fixpack 2, then you can copy the bnd/db2schema.bnd file from the install path on the remote server to the install path on the local client and either bind the utilities manually, or reissue the CREATE DATABASE or MIGRATE DATABASE command.

SQL1089W The database was created, but the binding of the utilities was interrupted. The utilities are not bound to the database.

Explanation: CREATE DATABASE was interrupted while binding the utilities to the database. The interrupt key sequence may have been pressed.

The utility bind files are not bound to the newly created database.

User response: Bind the utilities to the database. Do not use the format option on the binder call.

SQL1090C The release number of the precompiled application program or utility is not valid.

Explanation: The release number of the precompiled application program or utility is not compatible with the release number of the installed version of the database manager.

The error will also occur if the application program is using down-level database manager libraries or DLLs while accessing the installed version of the database manager configuration file.

The command cannot be processed.

User response: Verify that there is no older version of the database manager libraries or DLLs that will be picked up for your application processing.

If the problem persists, repeat the precompile process with the current database manager. Use only application programs precompiled with a compatible release level of the database manager.

SQL1091C The release number of the database is not valid.

Explanation: The release number of the database is not compatible with the release number of the installed version of the database manager. This can be the release number when the database was created, the release number when the database was last migrated, or the highest version, release, modification, and fixpak level defined in the catalog.

The command cannot be processed. If the error occurred during a Migrate or Restore, you are attempting to migrate or restore an incompatible release of database. If the error occurred on the first connection after removing a fixpak, you are attempting to connect to a database that is defined to use a higher

level of database manager code.

User response: Use only databases created with a compatible release of database manager. If the error occurred during a Migrate or Restore, you must first migrate the database to a release which can be migrated by the current release of the database manager. If the error occurred on the first connection after removing a fixpak, the database should be restored from a backup prior to using the utility to update the database to the fixpak level.

sqlcode: -1091

sqlstate: 08004

SQL1092N *authorization-ID* does not have the authority to perform the requested command.

Explanation: Possible causes are:

1. The user attempted to execute a command or operation without having the proper authority for that command or operation.
2. You are using Kerberos authentication in a Windows environment, and have attempted to log on to the machine with an account which is not a domain account. Only domain users can use Kerberos authentication in a Windows 2000 environment.
3. If you are using LDAP support, the userid you are using or the DB2 Connect gateway might not have the authority to perform the CATALOG DATABASE, NODE and DCS DATABASE commands.
4. If in a Windows environment, the DB2 Server logon userid, DB2_GRP_LOOKUP setting, and other group enumeration settings might not be configured properly, preventing you from gaining access using *authorization-ID*. The following is a very common sample scenario:
 - You are attempting to connect to the DB2 Server using a domain userid.
 - The logon userid for the DB2 Server instance is LocalSystem or a local account.
 - Groups (SYSCTRL, SYSADM, SYSMAINT) are defined to be domain groups.
 - DB2_GRP_LOOKUP is not set. As a result, an attempt is made to enumerate the groups at the location where *authorization-ID* is defined. This fails because the DB2 Server instance is running under the context of LocalSystem or the local account, and so cannot access the network resources required to do so.
 - To fix this problem change the logon userid for the DB2 Server instance to be a domain account and add this domain account to the local Administrators group. If DB2 Extended Security

is enabled, then the domain account must also be added to the DB2ADMNS group or its equivalent.

5. If in a Windows environment running with DB2 Extended Security enabled, the userid *authorization-ID* might be attempting to use or modify a database resource, while not a member of the local DB2USERS or DB2ADMNS group. This is not allowed. The command cannot be processed.

The command cannot be processed.

Federated system users: this situation can also be detected by the data source.

User response: Solutions to problem causes described above are:

1. Log on as a user with the correct authority and retry the failed command or operation. Correct authorities may include SYSADM, SYSCTRL, SYSMANT, and DBADM. DBADM is granted on databases and all other authorities are determined by membership in the groups defined in the database manager configuration (eg. if *sysctrl_group* in the database manager configuration file is defined as 'beatles', then you must belong to the group 'beatles' to have SYSCTRL authority). Refer to the *Command Reference* or the *SQL Reference* for the listing of required authorities for the attempted command or operation.
2. Log on to the machine with an account which is a domain account.
3. Invoke the command "UPDATE DBM CFG USING CATALOG_NOAUTH YES" at the client or the gateway to correct the problem.
4. Make appropriate configuration settings changes. For more information on Windows OS security and groups, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "db2_grp_lookup" and "Windows authentication" .
5. Add the userid *authorization-ID* to the local windows security groups DB2USERS or DB2ADMNS using the Windows Computer Management tool. A workaround is to disable Extended Security but this is not recommended.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and ensure that the authorization id specified has the proper authority on that data source.

Contact the System Administrator for authority request assistance. Do not attempt to execute the command without appropriate authorization.

SQL1093N The user is not logged on.

Explanation: A user must be logged on before any command requiring authorization can be processed. Possible causes for this error include:

- Unable to get a user ID.
- An unexpected operating system error occurred when attempting to log on.
- The application is running in a background process.
- The user cancelled an attempted logon.

The command cannot be processed.

User response: Log on with a valid user ID and resubmit the command. If several concurrent processes are attempting to log on, wait a few seconds and retry the logon procedure.

sqlcode: -1093

sqlstate: 51017

SQL1094N The node directory cannot be accessed because it is being updated.

Explanation: The node directory cannot be scanned or used while it is being updated. Also, the directory cannot be accessed for update if it is already being accessed for any reason.

The command cannot be processed.

User response: Resubmit the command after the update is finished.

sqlcode: -1094

sqlstate: 57009

SQL1095N There are already eight node directory scans open.

Explanation: Eight node directory scans are already open in this process and no more than eight are allowed.

The command cannot be processed.

User response: Issue one or more CLOSE NODE DIRECTORY SCAN commands. Resubmit the command.

sqlcode: -1095

sqlstate: 54029

SQL1096N The command is not valid for this node type.

Explanation: A command was issued on a node that does not support the command, or the system environment was found to be set up incorrectly for this node type. For example, a database was cataloged as LOCAL on a client node.

The command cannot be processed.

User response: Verify that the command and parameters are correct for the node type. Also verify that the environment where the command is to be processed is correct. Resubmit the command.

SQL1097N The node name was not found in the node directory.

Explanation: Either the node name listed in the database directory for a remote database or the node name specified on an attach command was not cataloged in the node directory.

The command cannot be processed.

Federated system users: this situation can also be detected by the data source.

User response: Verify that the node name listed in the database directory or as the object of the attach command is cataloged in the node directory. If the node is not listed in the node directory, submit a CATALOG NODE command.

Federated system users: in addition to the actions listed above, also verify that the node names listed in all the SYSCAT.SERVERS entries are correct. If the node is not listed in the node directory and the server is a member of the DB2 family, issue a CATALOG NODE command for that node.

SQL1100 - SQL1199

SQL1100W The node name *name* specified in the Catalog Database command has not been cataloged in the Node Directory.

Explanation: The Catalog Database command specified node name *name* but that is not cataloged in the node directory. The node name must be cataloged before the remote database can be used.

The CATALOG DATABASE command completed successfully.

User response: Issue a CATALOG NODE command.

SQL1101N Remote database *name* on node *node-name* could not be accessed with the specified authorization id and password.

Explanation: A connection to the remote database *name* on node *node-name* was requested, and the remote node does not accept the authorization ID and password combination specified for this node (either in the remote authorization tables or at runtime).

Federated system users: This error can also occur when there is no user mapping and the remote authorization ID or remote password does not match the authorization ID and password that were specified when connecting to the DB2 federated database.

sqlcode: -1097

sqlstate: 42720

SQL1098N The application is already connected to this database.

Explanation: A connection to a database was requested but the application is already connected to the specified database.

The command cannot be processed.

User response: No action is necessary.

sqlcode: -1098

sqlstate: 53056

SQL1099N The diskette is write-protected.

Explanation: A write operation was attempted to a database residing on a write-protected diskette.

The statement cannot be processed.

User response: Verify you are using the correct diskette. Remove protection from the diskette, if necessary.

The request cannot be processed.

User response: Resubmit the request with a valid authorization ID and password combination for the remote system.

sqlcode: -1101

sqlstate: 08004

SQL1102N A database name was not specified.

Explanation: No database name was provided to proceed with migration.

The statement cannot be processed.

User response: Specify a database name for migration.

SQL1103W The Migrate Database command processing was successful.

Explanation: The Migrate command completed successfully.

Note that this message will also be returned if the database was already at the current level and did not need to be migrated.

Processing continues.

User response: No action is required.

SQL1104N The address of the program name parameter is not valid.

Explanation: The application program has used an address for the program name that is not valid.

The command cannot be processed.

User response: Use a correct address in the application program.

SQL1105N The SQL CONNECT RESET statement is not allowed in a Remote Application Interface Procedure.

Explanation: The remote application procedure contains an SQL CONNECT RESET statement.

The remote procedure is not allowed to continue.

User response: Remove the SQL CONNECT RESET statement and retry the remote procedure.

sqlcode: -1105

sqlstate: 38003

SQL1106N The specified DLL *name* module was loaded, but the function *function* could not be executed.

Explanation: The function within the DLL (dynamic link library) cannot be found.

The command cannot be processed.

User response: Ensure that the DLL module is built correctly. Reference the module in the definition file.

sqlcode: -1106

sqlstate: 42724

SQL1107N An interrupt was received while loading the specified DLL *name*.

Explanation: When loading the DLL (dynamic link library) module, the command was interrupted, perhaps by Ctrl+Break.

Processing is stopped.

User response: Resubmit the command.

sqlcode: -1107

sqlstate: 42724

SQL1108N An unexpected I/O error or operating system error was received while loading the specified DLL *name*.

Explanation: An unexpected error occurred when trying to load the DLL (dynamic link library) module specified in the program name field.

The command cannot be processed.

User response: Resubmit the current command. If the error continues, reinstall the database manager.

If reinstallation does not correct the error, record the message number (SQLCODE) and all information in the SQLCA if possible.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative.

sqlcode: -1108

sqlstate: 42724

SQL1109N The specified DLL *name* could not be loaded.

Explanation: The DLL (dynamic link library) module specified could not be found.

The command cannot be processed.

User response: Ensure that the specified file is in a subdirectory identified in the system LIBPATH.

sqlcode: -1109

sqlstate: 42724

SQL1110N A supplied data area was invalid and could not be used.

Explanation: The data area is not initialized correctly.

The command cannot be processed.

User response: Ensure that the user-supplied input SQLDA or output SQLDA fields are initialized correctly.

SQL1111N The program name *name* specified was not valid.

Explanation: The DLL (dynamic link library) module or program name syntax is not correct.

The command cannot be processed.

User response: Ensure that the DLL or program name is specified correctly.

sqlcode: -1111

sqlstate: 42724

SQL1112N There are not enough system resources to load the specified DLL *name*.

Explanation: There is not enough random access memory (RAM) to load the specified DLL (dynamic link library) module.

The command cannot be processed.

User response: Stop the application. Possible solutions are:

- Change the MEMMAN NO SWAP, NO MOVE option in the CONFIG.SYS file to SWAP, MOVE.
- Remove background processes.
- Decrease the values of the configuration parameters that define the allocation of memory.
- Install more random access memory (RAM).

sqlcode: -1112

sqlstate: 42724

SQL1113N The data type for sqlvar *n* in the output SQLDA was changed from *type-1* to *type-2*.

Explanation: The remote stored procedure changed the data type of the *n*th sqlvar in the output SQLDA; *n* is the sequence number of the first mismatched sqlvar.

The stored procedure does not return any data.

User response: Correct the remote stored procedure so the data type information in the output SQLDA is not changed.

sqlcode: -1113

sqlstate: 39502

SQL1114N The data length for the sqlvar *n* in the output SQLDA was changed from *length-1* to *length-2*.

Explanation: The remote stored procedure changed the data length of the *n*th sqlvar in the output SQLDA; *n* is the sequence number of the first mismatched sqlvar.

The stored procedure does not return any data.

User response: Correct the remote stored procedure so the data length information in the output SQLDA is not changed.

sqlcode: -1114

sqlstate: 39502

SQL1115N The number of sqlvars in the output SQLDA was changed from *count-1* to *count-2*.

Explanation: The remote procedure changed the sqld field in the output SQLDA; sqld is the number of used sqlvars in the SQLDA.

The stored procedure does not return any data.

User response: Correct the remote stored procedure so the sqld field in the output SQLDA is not changed.

sqlcode: -1115

sqlstate: 39502

SQL1116N A connection to or activation for database *name* cannot be made because of BACKUP PENDING.

Explanation: The specified database requires a backup to be taken to provide a starting point for roll-forward recovery.

No connection was made.

User response: Back up the database by calling the BACKUP routine or, if roll-recovery is not required, set the database configuration parameters LOGARCHMETH1 and LOGARCHMETH2 to OFF.

sqlcode: -1116

sqlstate: 57019

SQL1117N A connection to or activation for database *name* cannot be made because of ROLL-FORWARD PENDING.

Explanation: The specified database is enabled for roll-forward recovery and it has been restored but not rolled forward.

No connection was made.

Federated system users: this situation can also be detected by the data source.

User response: Roll forward the database or indicate that you do not wish to roll forward by using the ROLLFORWARD command. Note that if you do not roll forward the database, the records written since the last backup of the database will not be applied to the database.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and take recovery action appropriate to that data source to bring the data source to a point of consistency.

sqlcode: -1117

sqlstate: 57019

SQL1118N A connection to or activation of database *name* cannot be made because a previous backup is incomplete.

Explanation: The database is in an inconsistent state because a system error occurred during a backup function.

No connection was made.

Federated system users: this situation can also be detected by the data source.

User response: Issue the BACKUP command and then try the command again.

Federated system users: if necessary isolate the problem

to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and issue the BACKUP command against that data source prior to trying the command again.

sqlcode: -1118

sqlstate: 57019

SQL1119N A connection to or activation of database *name* cannot be made because a previous restore is incomplete.

Explanation: The database is in an inconsistent state because a system error occurred during a restore function.

No connection was made.

Federated system users: this situation can be detected by the data source.

User response: Issue the RESTORE command and then try the command again.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and issue the RESTORE command against that data source prior to trying the command again.

sqlcode: -1119

sqlstate: 57019

SQL1120N A connection to or activation of database *name* cannot be made because a previous backup or restore is incomplete.

Explanation: The database is in an inconsistent state because a system error occurred during a backup or restore function. It cannot be determined if backup or restore was being processed.

No connection was made.

Federated system users: this situation can also be detected by the data source.

User response: Issue the BACKUP or RESTORE command, and then try the command again.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and issue the BACKUP or RESTORE command against that data source prior to trying the command again.

sqlcode: -1120

sqlstate: 57019

SQL1121N The address of the node structure parameter is not valid.

Explanation: The application used an address for the node structure parameter that is not valid. Either the address points to an unallocated buffer or the buffer is not large enough to contain the required input.

The command cannot be processed.

User response: Verify that the program allocates the required buffer area and resubmit the command.

SQL1122N The address of the protocol structure parameter is not valid.

Explanation: The application used an address for the protocol structure parameter that is not valid. Either the address points to an unallocated buffer or the address points to the incorrect protocol buffer.

The command cannot be processed.

User response: Verify that the program allocates the required buffer area based on the protocol field in the node structure and resubmit the command.

SQL1123N The protocol *type* is not valid.

Explanation: The protocol type specified in the node structure for the Catalog command does not represent a recognized value. The valid protocol types are defined in the *sqlenv* header files.

The command cannot be processed.

User response: Verify the protocol type in the node structure and resubmit the command.

SQL1124N The remote workstation name *name* is not valid.

Explanation: The remote workstation name specified in the NETBIOS protocol structure for the Catalog command is not specified or contains characters that are not valid. The workstation name must be 1 to 8 characters. Valid characters are A through Z, a through z, 0 through 9, #, @, and \$. The first character must be alphabetic or a special character: #, @, or \$. Lowercase characters are changed to uppercase by the system.

The command cannot be processed.

User response: Verify the characters specified in the remote workstation name. Resubmit the command with a valid workstation name.

SQL1125N The adapter number *number* is not valid.

Explanation: The adapter number specified in the NETBIOS protocol structure for the Catalog command is not valid.

The command cannot be processed.

User response: Verify that the adapter number is valid and resubmit the command.

SQL1126N The network ID *ID* is not valid.

Explanation: The network ID specified in the APPN protocol structure for the Catalog command is not valid. The network ID identifies the SNA network where the remote logical unit (LU) resides. The network ID must be 1 to 8 characters. Valid characters are A through Z, a through z, 0 through 9, #, @, and \$. The first character must be alphabetic or a special character: #, @, or \$. Lowercase characters are changed to uppercase by the system.

The command cannot be processed.

User response: Verify the characters specified in the network ID. Resubmit the command with a valid network ID.

SQL1127N The remote LU name *name* is not valid.

Explanation: The remote logical unit (LU) name specified in the APPN protocol structure for the Catalog command is not valid. The remote LU name is the remote SNA logical unit name and must be 1 to 8 characters. Valid characters are A through Z, a through z, 0 through 9, #, @, and \$. The first character must be alphabetic or a special character: #, @, or \$. Lowercase characters are changed to uppercase by the system.

The command cannot be processed.

User response: Verify the characters specified in the remote LU name. Resubmit the command with a remote LU name.

SQL1128W SAVECOUNT is ignored. Reason code = *reason-code*.

Explanation: Possible reason codes are as follows:

1. Consistency points are not supported when loading into MDC tables.
2. The specified filetype does not allow consistency points.
3. Consistency points are not supported when loading into partitioned tables.

User response: No action is required.

SQL1129N New DARI (Stored Procedure) process could not be started because there are insufficient resources for a new process to be created.

Explanation: New DARI (Stored Procedure) process could not be started because there are insufficient resources for a new process to be created.

User response: Do one of the following:

- Reduce the number of users using DB2

- Increase the system process limit.

sqlcode: -1129

sqlstate: 42724

SQL1130N New DARI (Stored Procedure) process could not be started because the maximum number of DARI processes allowed to be present at the server at the same time has been reached.

Explanation: New DARI (Stored Procedure) process could not be started because the maximum number of DARI processes allowed to be present at the server at the same time has been reached.

User response: Increase the maximum number of DARI processes, *maxdari*, configuration parameter. See the database configuration parameter *maxdari* for more details.

sqlcode: -1130

sqlstate: 42724

SQL1131N DARI (Stored Procedure) process has been terminated abnormally.

Explanation: The cause of this error may be:

- There was a coding error (for example, segmentation violation) within the DARI routine.
- The DARI process has been terminated by another process through the use of a signal.

User response: Reinitiate the DARI request after doing the following :

- Ensure that the DARI procedure is free from programming errors.
- Make sure that no user is sending a termination signal to the DARI process.

sqlcode: -1131

sqlstate: 38503

SQL1132N The command is not allowed to execute within a DARI (Stored Procedure).

Explanation: An illegal command has been made within the scope of DARI (Stored Procedure).

The DARI procedure is not allowed to continue.

User response: Remove the illegal command in the DARI procedure and retry.

sqlcode: -1132

sqlstate: 38003

SQL1133N A pointer address inside an sqlvar (index = *n*) of the output SQLDA was modified within the DARI (Stored Procedure) function.

Explanation: The “sqlind” or the “sqldata” pointer within the sqlvar of the output SQLDA has been altered within the user prepared DARI function.

The stored procedure does not return any data.

User response: Correct the usage of the indicated sqlvar within the output SQLDA so that pointer addresses are not changed within the DARI (Stored Procedure) function routine.

sqlcode: -1133

sqlstate: 39502

SQL1134N For database authentication type CLIENT, the command is not allowed within the scope of DARI (Stored Procedure).

Explanation: All SYSADM commands are not allowed to execute within DARI (Stored Procedure) when the database authentication type is CLIENT.

The stored procedure does not return any data.

The DARI procedure is not allowed to continue.

User response: Remove the illegal command in the DARI procedure and retry.

sqlcode: -1134

sqlstate: 38003

SQL1135N An invalid value was specified for the number of segments when creating a database.

Explanation: The value that was specified for the number of segments was out of range. The valid range is from 1 to 256.

User response: Respecify the number of segments and try to create the database again.

SQL1136N An invalid value was specified for the default table space extent size (dft_extentsize) when creating a database.

Explanation: The value that was specified for the default table space extent size (dft_extentsize) is out of range. The valid range is from 2 to 256.

User response: Correct the table space extent size and try again.

SQL1137W The database manager was unable to remove the database path or some of the containers when dropping database *dbalias*. Cleanup is required.

Explanation: Either the list of containers could not be accessed or some failure occurred while attempting to remove them or the database directory.

User response: System managed containers (directories) and database managed file containers may be manually removed using operating system commands. To release device containers, please call your IBM service representative for assistance.

If the log directory has been changed via the New Log Path configuration parameter, then manually unmount the log directory file system and remove the log and database directories.

SQL1138W The unique index *name* was migrated to support deferred uniqueness checking. A new index was not created.

Explanation: A CREATE INDEX operation was attempted on an existing index. Since the index had not yet been migrated to support deferred uniqueness checking, this migration was performed.

The migrated format of the unique index will allow multiple row updates to check the uniqueness of the columns of the index at the end of the update statement instead of when each row is updated.

User response: No action is required.

sqlcode: +1138

sqlstate: 01550

SQL1139N The total size of the table space is too big.

Explanation: The size of the current table space is too big. The size of a REGULAR table space is limited to 0x0100 0000 (16777216) pages while the size of LARGE and TEMPORARY table spaces are limited to 0x2000 0000 (536870912) pages.

User response: Check the administration notification log for details. Reduce the size of the table space and correct the SQL statement.

sqlcode: -1139

sqlstate: 54047

SQL1140W Estimated processor cost of *estimate-amount1* processor seconds (*estimate-amount2* service units) in cost category *cost-category* exceeds a resource limit warning threshold of *limit-amount* service units.

Explanation: The prepare of a dynamic INSERT,

UPDATE, DELETE, or SELECT SQL statement resulted in a cost estimate that exceeded the warning threshold value specified in the resource limit specification table (RLST).

This warning is also issued if DB2's cost category value was "B", and the default action specified in the RLF_CATEGORY_B column in the RLST is to issue a warning.

estimate_amount1

The cost estimate (in processor seconds) if the prepared INSERT, UPDATE, DELETE or SELECT statement were to be executed.

estimate_amount2

The cost estimate (in service units) if the prepared INSERT, UPDATE, DELETE or SELECT statement were to be executed.

cost-category

DB2's cost-category for this SQL statement. The possible values are A or B.

limit-amount

The warning threshold (in service units) specified in the RLFASUWARN column of the RLST.

The prepare of the dynamic INSERT, UPDATE, DELETE, or SELECT statement was successful. An SQLCODE -905 might be issued if the execution of the prepared statement exceeds the ASUTIME value specified in the RLST.

User response: Ensure that there is application logic to handle the warning to either allow the statement to execute or to stop the statement from being executed. If this SQLCODE was returned because the cost category value is "B", it might be that the statement is using parameter markers or that some statistics are not available for the referenced tables and columns. Make sure the administrator has run the utility RUNSTATS on the referenced tables. It might also be that UDFs will be invoked when the statement is executed, or for INSERT, UPDATE, or DELETE statements that triggers are defined on the changed table. Check the DSN_STATEMNT_TABLE or the IFCID 22 record for this statement to find the reasons this SQL statement has been put in cost category "B".

If the warning is caused by an SQL statement that is consuming too much processor resource, attempt to rewrite the statement to perform more efficiently. Another option is to ask the administrator to increase the warning threshold value in the RLST.

sqlcode: +1140

sqlstate: 01616

SQL1141N The operation completed with errors or warnings. The details are located in the result file *file-name* that needs to be formatted with the db2inspf utility.

Explanation: In a partitioned database environment, the file extension corresponds to the database partition node number. The files are located in the directory specified by the DIAGPATH database manager configuration parameter.

User response: Use the db2inspf utility to format the inspection data result file *file-name*.

SQL1142N The operation cannot complete because the file *file-name* is already in use.

Explanation: There is an existing file using the file name specified in the INSPECT command.

The command cannot be processed.

User response: Resubmit the command using a different file name that is not already in use. Or remove the existing file *file-name* and resubmit the command.

In a partitioned database environment, the file extension corresponds to the database partition node number. The files are located in the directory specified by the DIAGPATH database manager configuration parameter.

SQL1143N The operation cannot complete because a file error occurred for the file *file-name*.

Explanation: The file could not be accessed because of an I/O error. The system cannot open, read from, or write to the file. The file may be incomplete or the disk may be full.

The utility stops processing.

User response: If possible, record all error information from the SQLCA. Look in the diagnostics log file for additional information.

In a database partitioned environment, the file extension corresponds to the database partition node number. The files are located in the directory specified by the DIAGPATH database manager configuration parameter.

SQL1144N The current transaction was rolled back as a result of a failure creating an index, **sqlcode = *sqlcode***.

Explanation: In the same transaction, the last remaining index on a table was dropped and then a new index was created on the same table. The index creation either failed with an error, *sqlcode*, or was rolled back by a ROLLBACK TO SAVEPOINT statement (*sqlcode*=0). A rollback of the index creation cannot be successfully completed when a drop index of the last remaining index on a table has not yet been

committed. The entire transaction is rolled back for either of these cases. Note that indexes are also created or dropped by adding or dropping unique or primary key constraints in an ALTER TABLE statement.

User response: Where possible, commit the drop of an index before creating a new index on the same table in order to avoid rolling back the entire transaction. If the *sqlcode* is not 0, then refer to the message for the *sqlcode* for corrective action. All statements in the rolled back transaction need to be issued again. If the *sqlcode* is zero and the index is dropped within the savepoint scope, the statements may need to be re-ordered to create the new index before dropping the old index on the same table. If the drop and add unique or primary key constraints are in the same ALTER TABLE statement, this may need to be done in two statements, performing the ADD in the first statement and the drop in the second statement.

sqlcode: -1144

sqlstate: 40507

SQL1145N PREPARE statement is not supported when using a gateway concentrator.
Reason code: *reason-code*.

Explanation: The statement failed for one of the following reasons, based on *reason-code*.

- 1 When gateway concentrator feature is ON, dynamically prepared statements from embedded SQL are not supported. In this configuration, dynamically prepared statements are only supported if the client is a CLI application.
- 2 When the gateway concentrator feature is ON, dynamically prepared SET statements are not supported.

User response: Based on the reason code, perform the following actions:

- 1 Change the application to use CLI for dynamic SQL statements, or change the application to use static SQL.
- 2 Use EXECUTE IMMEDIATE for SET statements.

sqlcode: -1145

sqlstate: 560AF

SQL1146N There are no indexes on table *table-name*.

Explanation: The *table-name* specified for index reorganization has no indexes.

User response: Resubmit the command with a valid table name.

SQL1147W TOTALFREESPACE is ignored for MDC tables.

Explanation: Because the table free space is well managed for MDC tables, the TOTALFREESPACE file type modifier is unnecessary and will be ignored.

User response: No action required.

SQL1148N The index needs to be refreshed. However, the index resides in a table space which is currently in backup pending state and it cannot be refreshed.

Explanation: The index needs to be refreshed, however, the index resides in a table space which is currently in backup pending state and it cannot be refreshed.

User response: Complete a database or table space backup and resubmit the query or command.

SQL1149N CLP error *clp-msg-id* with short text *clp-msg-short-text* returned. Refer to CLP message documentation for details.

Explanation: A CLP error was encountered. Use the *clp-msg-id* information to look up the appropriate message details for the indicated CLP message.

User response: See the CLP message information for details on what action to take.

sqlcode: -1149

sqlstate: 5U007

SQL1150N The address of the user id parameter is not valid.

Explanation: The application program used an address that is not valid for this parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL1151N Load REMOTEFETCH media options are invalid. Reason Code: *reason-code*.

Explanation: The Load utility was invoked using the REMOTEFETCH media type, but one or more specified arguments is incompatible or invalid. This is due to one of the following reasons:

- 1 The server does not support the REMOTEFETCH media type.
- 2 The source database name was not specified.

- 3 The password field was specified without the user-id field.
- 4 One of the source table-name or schema fields was specified without the other.
- 5 Both the source table-name and source statement fields were specified.
- 6 Neither the source table-name nor source statement fields were specified.
- 7 The isolation-level specified is invalid.
- 8 One of the specified arguments exceeds the maximum applicable size for that argument.
- 9 The SQLU_REMOTEFETCH_ENTRY API structure was not setup correctly.

User response: The responses corresponding to each reason code are:

- 1 Ensure that the server level is version 9 or greater.
- 2 Ensure that the source database-name is specified. This field is mandatory.
- 3 Do not specify the password field without specifying the user-id field.
- 4 If providing a source table-name instead of a source query, ensure that you specify both the source table-name and schema.
- 5 Specify either the source table-name and schema, or the source statement, not both.
- 6 Specify the source table-name and schema, or the source statement.
- 7 Ensure that the isolation level specified is correct.
- 8 Ensure that the arguments provided and their length tokens (API) are all valid.
- 9 Ensure that the SQLU_REMOTEFETCH_ENTRY API structure is set-up and initialized correctly. Unused fields should be NULL. Length values should be set.

SQL1152N Invalid utility priority.

Explanation: The specified priority is not within the legal range of 0 - 100.

User response: Reissue the command with a valid priority.

SQL1153N The utility ID *utility-ID* does not exist.

Explanation: The specified utility ID could not be found. Either an invalid ID has been specified or the utility has already completed.

User response: Verify that the utility exists and

resubmit the command. To determine if the utility has completed, review the database manager snapshot data.

SQL1154N Unable to set the priority for a utility that does not support throttling.

Explanation: There has been an attempt to throttle a utility that does not support throttling.

User response: The utility will continue to run unthrottled.

SQL1155W A numeric value that is out of range for the data type has been replaced with the maximum or minimum value, as appropriate.

Explanation: The value to be assigned for a column of a result set from the ADMIN_CMD procedure either is greater than the maximum value for the data type of the column or is less than the minimum value for the data type. If the value was greater than the maximum value, then the maximum value for the data type has been assigned. If the value was less than the minimum value, then the minimum value for the data type has been assigned. For an SMALLINT data type, the value assigned for the maximum is 32767 and the minimum is -32768. For an INTEGER data type, the value assigned for the maximum is 2147483647 and the minimum is -2147483648. For a BIGINT data type, the value assigned for the maximum is 9223372036854775807 and the minimum is -9223372036854775808.

User response: See the db2diag.log for the actual values returned by the ADMIN_CMD procedure.

sqlcode: +1155

sqlstate: 01608

SQL1156N The utility operation ID is not valid.

Explanation: The utility operation ID provided is not valid. It cannot be null and it must be a value previously returned from the SYSPROC.ADMIN_CMD procedure for a utility that was executed by it. However, once the messages have been removed from the server by the SYSPROC.ADM_REMOVE_MSGS procedure, the utility operation ID can no longer be used to refer to the messages on the server.

User response: The messages were neither retrieved nor removed from the server. Verify that the correct value was provided. The SYSPROC.ADMIN_CMD procedure returns SQL statements in the MSG_RETRIEVAL and MSG_REMOVAL columns of the first result set. They contain the operation ID that corresponds to the utility being executed. Use these SQL statements for message retrieval or removal.

sqlcode: -1156

sqlstate: 5U008

SQL1157N The routine *routine-name* cannot be invoked in a trigger.

Explanation: The routine *routine-name* is disallowed from being invoked in a trigger. Triggers do not support executing an API, execution of a COMMIT statement and the return of result sets.

User response: Remove the routine reference from the trigger definition.

sqlcode: -1157

sqlstate: 42987

SQL1158N The directory *directory-name* is restricted from access.

Explanation: The directory *directory-name* may contain database sensitive information and so access to it is restricted. In order to maintain database integrity, applications cannot create a new file, read from a file, write to a file, or delete a file under this directory.

User response: Specify a different directory name.

sqlcode: -1158

sqlstate: 42832

SQL1159N Initialization Error with the DB2.NET Data Provider. Reason Code: *reason-code*.

Explanation: Reason codes for this message:

- 1 - codebase path too short
- 2 - file does not exist
- 3 - dll cannot be loaded
- 4 - invalid return code on capabilities query
- 5 - invalid length on capabilities result
- 6 - db2app.dll was not cli driver

User response: There was a problem with your DB2 installation. If this is the first time DB2 was installed on this computer, review the install logs for any possible errors and run a repair of DB2 from the Add/Remove Programs control panel applet. The default location of the installation logs is the My Documents/DB2LOG folder of the user that performed the installation. If this does not resolve the issue please contact IBM Support and provide the reason code associated with this message along with any installation logs.

SQL1160N The DOS *network-protocol* TSR has not been loaded.

Explanation: The Terminate and Stay Resident (TSR) network driver for the specified communications protocol has not been loaded. The TSR must be loaded before attempting to use network communications.

User response: Ensure that the TSR for the specified

communications protocol has been successfully loaded, then run your application again.

SQL1161W Reconcile processing failed. DataLink column(s) not defined on DB2 DataLinks Manager(s). Check the administration notification log for details.

Explanation: Metadata information about one of more DataLink columns of the table are missing on DB2 DataLinks Managers. Reconcile processing has failed. Table is placed in DataLink Reconcile Not Possible (DRNP) state.

User response: To take the table out of DataLink Reconcile Not Possible state, follow the procedure mentioned under "Removing a table from the DataLink Reconcile Not Possible state" in the Administration Guide.

SQL1162W Reconcile processing failed. DB2 DataLinks Manager(s) became unavailable during exception processing.

Explanation: One of more DB2 DataLinks Managers referred to by the table data became unavailable during reconcile exception processing. Reconcile processing has failed. Table is placed in DataLink Reconcile Pending (DRP) state.

User response: Run reconcile again.

SQL1163N The table cannot be enabled for data capture as the identifier name *ident-name* of type *ident-type* is too long.

Explanation: Data capture is not supported with certain identifier types exceeding specific lengths. In processing the attempted change, it was found that the identifier *ident-name* of type *ident-type* is too long. The identifier types and the maximum lengths allowed for data capture enablement are as follows:

1. column. Column names cannot be longer than 18 bytes for data capture to be enabled.
2. table. Table names cannot be longer than 18 bytes for data capture to be enabled.
3. schema. Schema names cannot be longer than 18 bytes for data capture to be enabled.

User response: If data capture is to be enabled for this table than ensure that the identifiers in question do not exceed the maximum sizes stated above. Otherwise disable data capture for the table in order to use longer identifier names.

sqlcode: -1163

sqlstate: 42997

SQL1164N The SQLDA or host variables, of type *type*, used in the SQL statement are not valid. Reason code *reason-code*, host variable/SQLVAR number *var-number*.

Explanation: An error occurred while processing the SQLDA or host variable(s) in the SQL statement.

The call parameter list, which is created by the precompiler, may not be correct if the application programmer has modified the output of the precompiler, used a variable name beginning with SQL in the application program, or over-written the call parameter list in another way.

Also, if an SQLDA is passed directly by the application, it may not be initialized correctly.

Host variable/SQLDA types:

- 1 input host variable(s) or SQLDA
- 2 output host variable(s) or SQLDA

In SQL statements with host variables, use the host variable number to count in from the beginning of the statement (or substatement, in the case of compound SQL) to locate the invalid host variable. For statements using an SQLDA, the SQLVAR number is used to locate the invalid SQLVAR. For an input SQLDA, count only input host variables or SQLVARs; similarly for output. Note that this number is based at 1, and may not be applicable to all reason codes. Reason codes are interpreted as follows:

- 1 SQLDA.SQLN is less than SQLDA.SQLD
- 2 SQLVAR.SQLTYPE is invalid.
- 3 The length specified in SQLVAR.SQLLEN or SQLVAR2.SQLLONGLEN is incorrect for the SQL type given in SQLVAR.SQLTYPE.
- 4 A Large Object SQLVAR is present, but the SQLDOUBLED field of SQLDA.SQLDAID is not set to '2'.
- 5 An input varchar is supplied whose current length (from the length field of the varchar itself) is greater than the maximum length. The maximum length is determined by the declaration (in the case of a host variable) or by the setting of SQLVAR.SQLLEN (in the case of a user-defined SQLDA).
- 6 An input Large Object is passed in whose current length (either in the length field of the LOB itself, or as indicated by the SQLVAR2.SQLDATALEN pointer) is greater than the maximum length. The maximum length is determined by the declaration (in the case of a host variable) or by the setting of SQLVAR2.SQLLONGLEN (in the case of a user-defined SQLDA).
- 7 A double-byte character Large Object has an

odd value indicated by the SQLVAR2.SQLDATALEN pointer, which is always in terms of bytes, even for DBCLOBs.

- 8 The SQLDATA pointer is invalid or points to insufficient storage.
- 9 The SQLIND pointer is invalid or points to insufficient storage.
- 10 The SQLDATALEN pointer is invalid or points to insufficient storage.
- 11 A specific number of input host variables/SQLVARS is expected for the current SQL statement.

The statement cannot be processed.

User response: Examine the application program for any errors noted. Note that the programmer should not attempt to modify the precompiler output.

sqlcode: -1164

sqlstate: 07002

SQL1165W A value cannot be assigned to a host variable because the value is not within the range of the host variable's data type.

Explanation: A FETCH, VALUES, or SELECT into a host variable list failed because the host variable was not large enough to hold the retrieved value.

The statement processing continued returning a null indicator of -2.

User response: Verify that table definitions are current and that the host variable has the correct data type. For the ranges of SQL data types, refer to the *SQL Reference*.

sqlcode: +1165

sqlstate: 01515

SQL1166W Division by zero was attempted.

Explanation: The processing of an arithmetic expression resulted in division by zero. This warning may be returned with a row other than the row which caused the warning. For example, this occurs with arithmetic expressions in predicates or when the query is processed using system temporary tables. The warning may be issued again since it is also returned whenever a null indicator variable is set to -2.

The statement processing continued, using null as the result of the division expression and possibly returning a null indicator of -2.

User response: Examine the SQL statement to determine the cause of the problem. If the problem is data dependent, it is necessary to examine the data processed when the error occurred.

sqlcode: +1166

sqlstate: 01564

SQL1167W Arithmetic overflow or other arithmetic exception occurred.

Explanation: The processing of an arithmetic expression has resulted in an arithmetic overflow, underflow or other arithmetic exception. This warning may be returned with a row other than the row which caused the warning. For example, this occurs with arithmetic expressions in predicates or when the query is processed using system temporary tables. The warning may be issued again since it is also returned whenever a null indicator variable is set to -2.

The statement processing continued, using null as the result of the arithmetic expression and possibly returning a null indicator of -2.

User response: Examine the SQL statement to determine the cause of the problem. If the problem is data dependent, it is necessary to examine the data processed when the error occurred. Refer to the *SQL Reference* to see the valid ranges for the data types.

sqlcode: +1167

sqlstate: 01519

SQL1168N Load REMOTEFETCH media error.
Reason Code: *reason-code*.

Explanation: The Load utility encountered an error associated with the REMOTEFETCH media. This is due to one of the following reasons:

- 1 A connection to the database-name specified in the REMOTEFETCH media arguments could not be made.
- 2 The source table-name specified in the REMOTEFETCH media arguments does not exist or the source table is inaccessible.
- 3 The source query specified in the REMOTEFETCH media arguments could not be PREPARED.
- 4 The result set from the source table or query is not compatible with the target table definition.
- 5 An error occurred while fetching records from the source table or query.

User response: The responses corresponding to each reason code are:

- 1 Ensure that the database-name, userid, and password arguments are all correct.
- 2 Ensure that the table-name is correct.
- 3 Ensure that the query is valid.
- 4 Ensure that the source table/query and target table have compatible column definitions.

- 5 Examine the db2diag.log to determine the source of the error.

SQL1169N An error occurred while explaining the statement. Reason code = *reason-code*.

Explanation: The Explain facility has been invoked to explain a statement, previously compiled with REOPT ONCE, but an error occurred as described by one of the following reason codes:

1. The specified statement could not be found in the package cache.
2. The cached statement has not been compiled using REOPT ONCE.
3. The cached statement has been compiled in multiple environments with REOPT ONCE, and can't be uniquely identified.
4. No values could be found for the cached reoptimized statement.
5. A column of an Explain table is too small. The *additional information* identifies the schema name, table name and column name as well as the column size required to contain the data generated by the Explain facility, using the format *schema-name.table-name.column-name (recommended-size)*.

The *additional information* might be truncated if the names are very long. The db2diag.log will contain more detail.

User response: The user response corresponding to the reason code is:

1. Ensure that the statement text specified matches the statement text for the statement in the package cache.
2. Recompile the statement using REOPT ONCE. See the Command Reference for details.
3. Ensure that the statement has a unique environment with REOPT ONCE setting.
4. Ensure that the statement gets explained on the database partition it was originally reoptimized on.
5. Decide whether the required column size can be accommodated in your table and database. If it can, increase the column size using the ALTER TABLE statement.

sqlcode: -1169

sqlstate: 560C9

SQL1170N The restore cannot continue because database partition *dbpartition* is not available.

Explanation: The database partition *dbpartition* is not available. This error occurs when new storage paths are being used as part of a RESTORE command.

User response: Resubmit the RESTORE command

after the database partition becomes available. If the unavailable database partition cannot be made available, resubmit the RESTORE command without specifying the new storage paths.

sqlcode: -1170

sqlstate: 5U013

SQL1171N Maximum number of storage paths has been reached.

Explanation: The maximum number of storage paths for a database is 128 and this has been reached. The CREATE DATABASE command or ALTER DATABASE statement issued may contain too many paths or the database may already be using the maximum number allowed.

User response: If this error occurred as part of a CREATE DATABASE command then too many storage paths were specified. Reduce the number of storage paths and re-issue the command.

If this error occurred as part of an ALTER DATABASE statement then either there were more than the maximum allowed number of paths specified, or the number of paths specified plus the number of paths already in use by this database is greater than the maximum. Decrease the number of storage paths specified in the ALTER statement and resubmit it.

sqlcode: -1171

sqlstate: 5U009

SQL1172N The restore operation on a non-catalog database partition cannot specify automatic storage paths.

Explanation: The restore operation specified a list of storage paths when restoring to a non-catalog partition in a partitioned database. This is not supported.

User response: Either perform the restore operation again without specifying a list of storage paths, or first restore the catalog partition using the new list of storage paths.

sqlcode: -1172

sqlstate: 5U010

SQL1173N The restore operation must specify automatic storage paths.

Explanation: A previous attempt was made to restore the catalog partition specifying a list of automatic storage paths in a partitioned database, and that restore failed. Any subsequent restore operations on the catalog partition must also specify a list of automatic storage paths. This restriction is removed from the database once the database is returned to normal state via a rollforward operation.

User response: Perform the restore operation again, specifying a list of automatic storage paths.

sqlcode: -1173

sqlstate: 5U011

SQL1174N Invalid or incorrect use of database partition expression in path *path*. Reason code = *reason-code*.

Explanation: A database partition expression using the \$N notation was found in the specified path *path* but it is either not permitted or not specified correctly. The reason codes are as follows:

- 1 A database partition expression was used as part of the database path, specified either implicitly as the first storage path or explicitly using the DBPATH ON option, and this is not permitted.
- 2 A database partition expression was found within the path but it could not be evaluated due to an error in the syntax.

User response: Remove the database partition expression from the database path. Alternatively, if the database path is being derived from the first storage path in the list, explicitly provide a database path using the DBPATH ON option where the given database path does not contain a database partition expression. Correct the database partition expression. Resubmit the command.

sqlcode: -1174

sqlstate: 5U012

SQL1175I The number of Load Partitioning Agents was reduced to optimize REMOTEFETCH execution.

Explanation: The Load utility has automatically reduced the number of Partitioning Agents in order to optimize REMOTEFETCH parallelism.

SQL1176N The values assigned to parameter *parameter-1* and parameter *parameter-2* are incompatible.

Explanation: Incompatible values for parameters have been provided to the command or API.

User response: Modify one of the parameters and resubmit the command. See the Command or API Reference for more information on valid values.

SQL1177N Run time execution of routine *routine-name* (specific name *specific-name*) failed in the current DB2 database server environment.

Explanation: OLE, OLEDB and CLR routines can only

be created and run on DB2 database servers in Windows operating system environments. The current DB2 database server is not in a Windows operating system environment. The routine cannot be invoked from this server.

User response: Please create the OLE, OLEDB or CLR routine on a DB2 database server in a Windows operating system environment and try again to invoke the routine from that DB2 database server.

sqlcode: -1177

sqlstate: 42997

SQL1178N The federated *object-type* called *object-name* does not reference a federated database object.

Explanation: The object of type *object-type* identified by *object-name* is defined using the keyword FEDERATED but the fullselect in the statement does not reference a federated database object.

The statement cannot be processed.

User response: Remove the keyword FEDERATED from the statement.

sqlcode: -1178

sqlstate: 429BA

SQL1179W The *object-type* called *object-name* may require the invoker to have necessary privileges on data source objects.

Explanation: The object identified by *object-name* references a federated object (such as an OLE DB table function, federated routine, federated view, or a nickname), where the actual data exists at a data source. When the data source data is accessed, the user mapping and authorization checking is based on the user that initiated the operation.

If the *object-type* is SUMMARY TABLE, then the operation is refreshing the data for the materialized query table. The user that invoked the REFRESH TABLE or SET INTEGRITY statement that causes the refresh may be required to have the necessary privileges to access the underlying data source object at the data source.

If the *object-type* is VIEW, then any user of the view may be required to have the necessary privileges to access the underlying data source object at the data source.

If the *object-type* is PROCEDURE, FUNCTION, or METHOD then the invoker of the routine may be required to have the necessary privileges to access the underlying data source object at the data source for any SQL statements in the routine.

In any case, an authorization error may occur when the attempt is made to access the data source object.

User response: Granting privileges to the object may not be sufficient to support operations that access the data from the data source. User access may need to be granted at the data source for the underlying data source objects.

sqlcode: +1179

sqlstate: 01639

SQL1180N Routine *routine-name* (specific name *specific-name*) has caused an OLE error. HRESULT=*hresult*. Diagnostic text: *message-text*.

Explanation: DB2 received an OLE error code while trying to communicate with the OLE automation server of user defined function (UDF) or stored procedure *routine-name* (specific name *specific-name*). HRESULT *hresult* is the returned OLE error code, and *message text* is the retrieved error message.

The following shows a partial list of error messages, HRESULTS, and possible causes. The error message text may be changed by OLE, and new error codes may be added by OLE.

Unknown interface (0x80020001):

The specified OLE object does not support the IDispatch interface.

Type mismatch (0x80020005):

One or more of the SQL data types do not match the data types of the method arguments.

Unknown name (0x80020006):

The specified method name was not found for the specified OLE object.

Invalid number of parameters (0x8002000E):

The number of arguments passed to the method is different from the number of arguments accepted by the method.

Invalid class string (0x800401F3):

The specified ProgID or CLSID is invalid.

Class not registered (0x80040154):

CLSID is not properly registered.

Application not found (0x800401F5):

Local server EXE not found.

DLL for class not found (0x800401F8):

In-process DLL not found.

Server execution failed (0x80080005):

Creation of the OLE object failed.

User response: Consult the *OLE Programmer's Reference Guide* for a complete documentation, including the meaning of the special terminology.

sqlcode: -1180

sqlstate: 42724

SQL1181N Routine *routine-name* (specific name *specific-name*) has raised an exception with description *message-text*.

Explanation: The user defined function (UDF) or stored procedure *routine-name* (specific name *specific-name*) has raised an exception. The message text shows the textual description of the exception returned by the routine.

User response: The user will need to understand the meaning of the exception. See the author of the routine.

sqlcode: -1181

sqlstate: 38501

SQL1182N User defined function *function-name* could not initialize data source object of specified OLE DB provider. HRESULT=*hresult*. Diagnostic text: *message-text*.

Explanation: The OLE DB data source object of the specified OLE DB provider could not be instantiated or initialized. *hresult* is the returned OLE DB error code, and *message-text* is the retrieved error message.

The following shows a partial list of HRESULTS and possible causes.

0x80040154
Class (OLE DB provider) not registered.

0x80040E73
The initialization string specified does not conform to specification.

0x80004005
Unspecified error (during initialization).

User response: Verify proper registration of the OLE DB provider and correct initialization of the parameters in the connection string. Consult Microsoft OLE DB Programmer's Reference and Data Access SDK for a complete documentation of HRESULT codes and Data Link API connection string syntax in OLE DB Core Components.

sqlcode: -1182

sqlstate: 38506

SQL1183N User defined function *function-name* received an OLE DB error from specified OLE DB provider. HRESULT=*hresult*. Diagnostic text: *message-text*.

Explanation: The specified OLE DB provider returned an OLE DB error code. *hresult* is the returned OLE DB error code, and *message-text* is the retrieved error message.

The following shows a partial list of HRESULTS and possible causes.

0x80040E14
The command contained one or more errors, for example, syntax error in pass-through command text.

0x80040E21
Errors occurred, for example, the supplied columnID was invalid (DB_INVALIDCOLUMN).

0x80040E37
The specified table does not exist.

User response: Consult Microsoft OLE DB Programmer's Reference and Data Access SDK for a complete documentation of HRESULT codes.

sqlcode: -1183

sqlstate: 38506

SQL1184N One or more EXPLAIN tables were not created using the current version of DB2.

Explanation: EXPLAIN will not be able to insert into these tables until they are migrated using DB2EXMIG, or dropped and created with the EXPLAIN.DDL CLP script for the current version of DB2.

User response: Either migrate the tables using DB2EXMIG, or drop and re-create them with the EXPLAIN.DDL CLP script for the current version of DB2. Re-issue the command.

sqlcode: -1184

sqlstate: 55002

SQL1185N FEDERATED *value* is incorrectly used in binding the package.

Explanation: If *value* is NO, then at least one static SQL statement in the package includes a reference to either a nickname or OLE DB table function or OLE DB procedure. In this case, you must specify FEDERATED YES to bind the package.

If *value* is YES, then no static SQL statement in the package includes a reference to either a nickname or OLE DB table function or OLE DB procedure. In this case, you must specify FEDERATED NO to bind the package.

The package is not created.

User response: Specify the correct FEDERATED option.

SQL1186N The object *object-type* named *object-name* is either being altered to become a federated object, or being created as a federated object, without specifying the FEDERATED clause.

Explanation: The object identified by *object-name*

references a federated object (such as an OLE DB table function, federated routine, federated view, or a nickname) where the actual data exists at a data source.

If a non-federated view is being altered and the fullselect now refers to a federated database object, either directly or indirectly, then FEDERATED must be specified.

If a federated view is being altered and the fullselect still refers to a federated database object, either directly or indirectly, then NOT FEDERATED must not be specified.

If a materialized query table is being created and the fullselect refers to a federated database object, either directly or indirectly, then NOT FEDERATED must not be specified.

If an SQL routine is being created and the routine refers to a federated database object, either directly or indirectly, then NOT FEDERATED must not be specified.

User response: To alter a non-federated view to become a federated view, specify the FEDERATED clause.

To alter a federated view that continues to be a federated view, do not specify the NOT FEDERATED clause.

To create a materialized query table in which the fullselect refers to a federated database object, either directly or indirectly, do not specify the NOT FEDERATED clause.

To create an SQL routine which refers to a federated database object, either directly or indirectly, do not specify the NOT FEDERATED clause.

sqlcode: -1186

sqlstate: 429BA

SQL1187W The database was created or migrated successfully, but an error occurred while creating the detailed deadlocks event monitor *event-monitor-name*. The detailed deadlocks event monitor is not created.

Explanation: CREATE DATABASE or MIGRATE DATABASE could not create a detailed deadlocks event monitor for the newly created database.

User response: Create a detailed deadlocks event monitor if desired.

SQL1188N Column *src-col-num* of the SELECT or VALUES statement is not compatible with table column *tgt-col-num*. The source column has sqltype *src-sqltype*, and the target column has sqltype *tgt-sqltype*.

Explanation: The source and target columns are not

compatible. This may be a result of an incorrect ordering of the columns in the SELECT or VALUES statement, or of an incorrect ordering of the METHOD P or METHOD N specification.

User response: Correct the command so that the source and target columns are compatible, and then resubmit the command.

SQL1189N The LOAD METHOD specified is invalid for the specified file type.

Explanation: An invalid METHOD was specified for the specified file type.

User response: Resubmit the command with a different METHOD.

SQL1190N The LOAD utility encountered SQLCODE *sqlcode*, SQLSTATE *sqlstate*, and message tokens *token-list*.

Explanation: The LOAD utility encountered an error with the SQLCODE *sqlcode* and has stopped processing.

User response: Look up the SQLCODE *sqlcode* in the Message Reference. Take the required corrective actions, and then resubmit the command.

SQL1191N Column *col-spec* specified in the METHOD parameter does not exist.

Explanation: Column *col-spec* does not exist in the result of the query.

User response: Correct the invalid column specification and resubmit the command.

SQL1192W Too many input sources were specified for the current filetype. The maximum number allowed is *max-input-sources*.

Explanation: The filetype specified does not allow more than *max-input-sources* input sources to be specified for a single load.

User response: Resubmit the command with a number of input sources that does not exceed *max-input-sources*.

SQL1193I The utility is beginning to load data from the SQL statement *statement*.

Explanation: This is an informational message indicating that a load from an SQL statement has begun.

User response: No action is required.

SQL1194W The value in row *row-num* corresponding to target column number *col-num* is not valid. The row has been rejected.

Explanation: Row number *row-num* has been rejected because the value corresponding to target column *col-num* is not a valid value for that column.

Possible reasons are :

- A numeric value is not within the minimum or maximum range of its target column.
- A character value is too long for its target column.

User response: Examine the input value. If necessary, define a new table replacing target column *col-num* with a more appropriately defined column and repeat the process.

SQL1195N The Tools Catalog Database *database-name* creation or initialization failed at *server-name*. SQLCODE = *SQLCODE*.

Explanation: The Tools Catalog Database *database-name* creation or initialization failed at *server-name*. SQLCODE = *SQLCODE*.

User response: Refer to the user response for the SQLCODE returned from the operation.

SQL1196W Backup completed successfully. However, one or more Data Links File Managers could not be contacted. The timestamp for this backup image is *backup-image-timestamp*.

Explanation: Backup completed successfully. One or more Data Links File Managers were not available during backup processing. Additional verification are needed from the Data Links File Managers when they are available.

User response: Bring up the Data Links File Managers that were unavailable during backup processing. Once all the Data Links File Managers can be contacted, DB2 will automatically complete the final verification for this backup image.

SQL1197N Invalid value specified for keyword *keyword* in command *command*.

Explanation: The *keyword* value specified for the *command* is invalid. For numeric values, the value may be outside a defined range. For other types, the value specified is not in the defined set of valid values.

User response: Determine from reference documentation for the *command* what are valid values and make the appropriate change. If this error has been returned by an API, determine from the reference documentation for the *command* API what are valid

values for the corresponding API option and make the appropriate change.

SQL1198N This command is not supported in the current downlevel client-server configuration. Reason code = *reason-code*.

Explanation: The command you have entered is not supported in your current configuration involving either a pre-V8 client or server. The possible reason codes are as follows:

- 1 Scrollable cursors are not supported from a pre-V8 client through a V8 or later gateway to a DB2 server.
- 2 Utility commands are not supported from a pre-V8 client through a V8 or later gateway to any DB2 server.
- 3 Access to a pre-V8 server through a V8 or later gateway is not supported.
- 4 Utility commands are not supported to a pre-V8 server from a V8 or later client.
- 5 Pre-V8 clients may only access tables, table functions, and procedures that are created with the CCSID value whose corresponding code page is the same as the database code page.
- 6 Tablespace point-in-time rollforward commands are not supported from a pre-V9 client to a V9 or later server because some of the function of these commands runs on the client side. The pre-V9 client is NOT able to perform these operations when connected to a V9 or later server.
- 98 Operation not supported to a pre-V8 server from a V8 or later client.
- 99 Operation not supported from a pre-V8 client to a V8 or later server.

User response: The action is based on the reason code as follows:

- 1 Do not use scrollable cursors from a downlevel client through a gateway. Use a direct client-server connection or upgrade your client to a compatible release.
- 2 Do not issue utility commands from a downlevel client through a gateway. Use a direct client-server connection or upgrade your client to a compatible release.
- 3 Use a compatible level of gateway or configure a direct connection (non-gateway) to the server.
- 4 Use a compatible client level to issue V8 utility commands.
- 5 Use a V8 or later client to access tables, table

- functions and procedures that are created with the CCSID value whose corresponding code page is the different than the database code page.
- 6 Resubmit the rollforward to a point in time command using a V9.1 client. Alternatively, roll forward to the end of logs (instead of to a point in time).
- 98 Use a compatible level of client to issue this command or consider upgrading your server's level of code.

- 99 Use a compatible level of server to issue this command or consider upgrading your client's level of code.

sqlcode: -1198

sqlstate: 42997

SQL1200 - SQL1299

SQL1200N The object parameter is not valid.

Explanation: The value specified for the object parameter in the COLLECT DATABASE STATUS function call is not valid. Valid values are:

SQL_DATABASE

Status is to be collected for a single database.

SQL_DRIVE

Status is to be collected for all LOCAL databases on a single path.

SQL_LOCAL

Status is to be collected for all LOCAL databases.

The command cannot be processed.

User response: Correct the object parameter and resubmit the COLLECT DATABASE STATUS function call.

SQL1201N The status parameter is not valid.

Explanation: The value specified for the status parameter in the COLLECT DATABASE STATUS function call is not valid. Valid values are:

SQL_SYSTEM

System status is to be collected.

SQL_DATABASE

System status and database status is to be collected.

SQL_ALL

System status, database status and user status is to be collected.

The command cannot be processed.

User response: Correct the status parameter and resubmit the COLLECT DATABASE STATUS function call.

SQL1202N Status has not been collected.

Explanation: The value specified for the *handle*

parameter in the GET NEXT DATABASE STATUS BLOCK or the FREE DATABASE STATUS RESOURCES function calls is not valid. The handle must be the one returned as the positive function value from the COLLECT DATABASE STATUS function call.

This is the second COLLECT DATABASE STATUS call made from the process. The first COLLECT DATABASE STATUS call terminates and its handle can no longer be used.

The command cannot be processed.

User response: Correct the *handle* parameter and resubmit the COLLECT DATABASE STATUS function call.

SQL1203N The database has no users connected.

Explanation: A request was made for user status on a database, but the database has no users connected.

The command cannot be processed.

User response: Verify the database name and the connection status. Resubmit the command with a database currently being used.

SQL1204N The code page *code-page* and/or territory code *territory-code* is not supported by the installed version of the database manager.

Explanation: This version of the database manager does not support the active code page or territory code or both.

The command cannot be processed.

Choose an active code page and territory code supported by this version of the database manager.

Federated system users: if necessary isolate the problem to the data source rejecting the request (see the Troubleshooting Guide for procedures to follow to identify the failing data source) and choose an active code page and territory code supported by both the federated server and the data source.

User response: Exit the current program and return to the operating system.

sqlcode: -1204

sqlstate: 22522

SQL1205N The code page *code-page* and/or territory code *territory* that has been specified is not valid.

Explanation: This version of DB2 does not support the active code page or territory code or both, as specified by the Create Database command.

The command cannot be processed.

User response: Refer to the Create Database command in the *Command Reference* for details of valid code page and territory code pairs supported by DB2/2.

SQL1206N PRUNE LOGFILE is not supported in this database configuration.

Explanation: The PRUNE LOGFILE request is not supported if:

1. the database is not in recoverable mode. A database is in recoverable mode if LOGARCHMETH1 is set to DISK, TSM, VENDOR, USEREXIT, or LOGRETAIN, or if LOGARCHMETH2 is set to DISK, TSM, or VENDOR.
2. the active logfile path is set to a raw device.

User response: Do not issue the PRUNE LOGFILE command for this database.

SQL1207N Communication Manager configuration file *name* cannot be found.

Explanation: The Communication Manager configuration file name specified on the CATALOG NODE command was not found either in the path specified or in the CMLIB directory on the default drive.

The command cannot be processed.

User response: Resubmit the command with the correct configuration file name and path.

SQL1208W The performance of the Load utility might be constrained by the available memory.

Explanation: The Load utility is unable to allocate all requested memory. Success of the operation is unaffected, but performance might be suboptimal. The memory available to the Load utility is determined either by the value of the DATA BUFFER Load option, or by the value of the *util_heap_sz* database configuration parameter.

User response: If appropriate, increase the memory limits for future invocations of the Load utility.

SQL1209W The partner_lu name *name* specified in the CATALOG NODE function does not exist. One was created.

Explanation: The logical partner unit name specified in the CATALOG NODE function does not exist in the Communications Manager configuration file located in the CMLIB directory on the default drive.

A logical unit profile of the specified name was created.

User response: No action is required.

SQL1210W Default values were returned for one or more DOS Requester/WINDOWS Requester configuration file parameters.

Explanation: One or more of the DOS Requester/WINDOWS Requester configuration values returned was defaulted. The parameter may not be defined in the DOS Requester/WINDOWS Requester configuration file or the configuration file could not be opened or an error occurred reading the file.

User response: Ensure that the DOS Requester/WINDOWS Requester configuration file exists in the appropriate path and that the parameters are explicitly defined.

SQL1211N The computer name *name* is not valid.

Explanation: The computer name specified in the NPIPE protocol structure for the Catalog command is not valid. The size of the computer name must be 15 characters or less.

The command cannot be processed.

User response: Verify that the computer name is valid and resubmit the command.

SQL1212N The instance name *name* is not valid.

Explanation: The instance name specified for the Catalog command is not valid. The size of the instance name must be 8 characters or less.

The command cannot be processed.

User response: Verify that the instance name is valid and resubmit the command.

SQL1213N The change password LU name *name* is not valid.

Explanation: The change password logical unit (LU) name specified in the APPN protocol structure for the CATALOG command is not valid.

The change password LU name is the remote SNA LU name and must be 1 to 8 characters. Valid characters are A through Z, a through z, 0 through 9, #, @, and \$. The first character must be alphabetic or a special

character: #, @, or \$. Lowercase characters are changed to uppercase by the system.

The command cannot be processed.

User response: Verify the characters specified in the change password LU name.

Resubmit the command with a valid change password LU name.

SQL1214N The transaction program name *name* is not valid.

Explanation: The transaction program (TP) name specified in the APPN protocol structure for the CATALOG command is not valid.

The TP name is the remote SNA Application TP name and must be 1 to 64 characters. Valid characters are A through Z, a through z, 0 through 9, #, @, and \$. The first character must be alphabetic or a special character: #, @, or \$.

The command cannot be processed.

User response: Verify the characters specified in the TP name.

Resubmit the command with a TP name.

SQL1215N The LAN adapter address *address* is not valid.

Explanation: The LAN adapter address specified in the APPN protocol structure for the CATALOG command is not valid.

The LAN adapter address is the remote SNA LAN adapter address and must be a 12-hexadecimal number.

The command cannot be processed.

User response: Verify the LAN adapter address.

Resubmit the command with a valid LAN adapter address.

SQL1216N Graphic data and graphic functions are not supported for this database.

Explanation: The code page of the database does not support graphic data. The data types GRAPHIC, VARGRAPHIC, LONG VARGRAPHIC, and DBCLOB are not valid for this database. The GRAPHIC literal and the VARGRAPHIC scalar functions are not valid for this database.

The statement cannot be processed.

Federated system users: this situation can also be detected by the data source.

User response: Resubmit the command with valid data types.

sqlcode: -1216

sqlstate: 56031

SQL1217N The REAL data type is not supported by the target database.

Explanation: An SQL operation is using a data type of REAL (single-precision floating point number) as an input or output variable. The REAL data type is not supported on the target database for this request.

The statement is not processed.

User response: Replace the declaration of any host variable that corresponds to the SQL data type of REAL with a declaration that corresponds to an SQL data type of DOUBLE in your application.

sqlcode: -1217

sqlstate: 56099

SQL1218N There are no pages currently available in bufferpool *bufferpool-num*.

Explanation: All of the pages in the bufferpool are currently being used. A request to use another page failed.

The statement cannot be processed.

User response: The bufferpool is not large enough to provide pages to all database processes or threads at this time. The bufferpool is too small or there are too many active processes or threads.

The statement may be successful if executed again. If this error occurs frequently, some or all of the following actions may prevent further failures:

1. increase the bufferpool size(if AWE support is enabled for this bufferpool, this means increase the number of address windows specified by DB2_AWE registry variable)
2. decrease the maximum number of database agents and/or connections
3. decrease the maximum degree of parallelism
4. decrease the prefetch size for table spaces that are in this bufferpool
5. move some table spaces into other bufferpools.

sqlcode: -1218

sqlstate: 57011

SQL1219N The request failed because private virtual memory could not be allocated.

Explanation: The instance was unable to allocate enough private virtual memory to process the request. This may be a result of shared memory allocations made in other (unrelated) processes.

User response: The problem may be corrected by:

- Stopping other applications running on the machine, especially those that use large amounts of shared memory.

sqlcode: -1219

sqlstate: 57011

SQL1220N The database manager shared memory set cannot be allocated.

Explanation: The database manager could not allocate its shared memory set. The cause of this error may be insufficient memory resources either for the database manager or the environment in which its operation is being attempted. Memory resources that can cause this error include:

- The number of shared memory identifiers allocated in the system
- The size of the shared memory segment
- The amount of paging or swapping space available in the system
- The amount of physical memory available in the system

User response: One or more of the following:

- Validate that sufficient memory resources are available to satisfy the database manager's requirements, and those of the other programs running on the system.
- On Linux 32-bit, increase the kernel parameter `shmmx` to 256 MB. On Linux 64-bit, increase the kernel parameter `shmmx` to 1GB.
- Reduce database manager's memory requirement for this memory set by reducing the database manager configuration parameters which affect it. These are: *maxagents*, *maxdari* and, *numdb*.
- Where appropriate, stop other programs using the system.

SQL1221N The Application Support Layer heap cannot be allocated.

Explanation: The Application Support Layer heap could not be allocated. The cause of this error may be insufficient memory resources either for the database manager or the environment in which its operations are being attempted. Memory resources that can cause this error include:

- The number of shared memory identifiers allocated in the system
- The amount of paging or swapping space available in the system
- The amount of physical memory available in the system

User response: One or more of the following:

- Validate that sufficient memory resources are available to satisfy the database manager's requirements, and those of the other programs running on the system.
- Reduce the *aslheapsz* configuration parameter.
- Where appropriate, stop other programs using the system.

sqlcode: -1221

sqlstate: 57011

SQL1222N Not enough storage is available in the Application Support Layer heap to process the request.

Explanation: All available memory in the Application Support Layer heap has been used.

User response: Increase the *aslheapsz* configuration parameter.

sqlcode: -1222

sqlstate: 57011

SQL1223N An agent could not be started to service this request.

Explanation: The request failed because the *maxagents* configuration parameter limit would be exceeded.

User response: Increase the *maxagents* configuration parameter, and/or reduce the number of users using the database.

sqlcode: -1223

sqlstate: 57019

SQL1224N The database manager is not able to accept new requests, has terminated all requests in progress, or has terminated your particular request due to a problem with your request.

Explanation: The message may be attributed to any of the following cases. The causes are grouped according to the type of user response required.

1.
 - The database manager has not been started on the database server
 - The database manager was stopped
 - The database manager has already allocated the maximum number of agents
 - The database agent was forced off by the system administrator
 - The database agent was terminated due to an abnormal termination of a key database manager process

2. A user with SYSADM authority issued a FORCE QUIESCE command while you were connected. Because your user ID does not have CONNECT QUIESCE authority for the database/instance or belong to a group that has CONNECT QUIESCE authority, you were disconnected from the database/instance.
 3. The application was forced off by DB2 for using more transaction log space than allowed by the database configuration parameters MAX_LOG or NUM_LOG_SPAN.
 4. The application is using multiple contexts with local protocol. In this case the number of connections is limited by the number of shared memory segments to which a single process can be attached. For example, on AIX, the limit is ten shared memory segments per process.
 5. You are running DB2 on a Windows OS-based machine with DB2 Extended Security enabled, and submitted a request to the database under a userid which was not a member of the DB2USERS or DBADMINS group. DB2 Extended Security prevents unauthorized access to DB2 by locking DB2 system files, and by default is enabled.
 6. A query is timing out because SQL_ATTR_QUERY_TIMEOUT is set to a value which is too low, and the query should NOT be timed-out. SQL_ATTR_QUERY_TIMEOUT indicates the number of seconds to wait for an SQL statement to complete executing before attempting to cancel the execution.
 7. The application was forced off by DB2 after waiting for a lock held by an application using with-hold cursors and queued for execution in concentrator mode.
3. Modify the application to issue more frequent commit operations. MAX_LOG prevents individual transactions from consuming too much log space. NUM_LOG_SPAN prevents individual transactions from holding up the reuse of transaction log space. When designing an application, consider when to commit transactions to prevent excessive log space use. Also consider having the database administrator modify the transaction log parameters.
 4. Either catalog the database as a loopback datasource using TCP/IP, or set the EXTSHM parameter provided the application supports this, and sufficient memory resources exist to use it.
 5. Add the appropriate userid to the local Windows security groups DB2USERS or DBADMINS using the Windows Computer Management tool. A workaround is to disable Extended Security but this is not recommended.
 6. Change the setting of SQL_ATTR_QUERY_TIMEOUT in the application. An application can use the SQLSetStmtAttr() function to set the statement attribute. If the application cannot be modified (that is, a third party ODBC application), then the QueryTimeoutInterval can be set to 0, and the CLI driver will ignore the SQL_ATTR_QUERY_TIMEOUT setting, and therefore wait for SQL statements to complete execution before returning to the application. The QueryTimeoutInterval value specifies how long the query timeout thread waits between checks for expired queries. Note: if QueryTimeoutInterval is set to 0, any attempt by the application to set SQL_ATTR_QUERY_TIMEOUT will result in SQLSTATE 01S02.

Additional federated server cases are:

- The maximum number of processes per user (maxuproc on AIX) at the operating system level has been exceeded.
- In the client/server environment using the TCP/IP protocol, the port number assigned to the TCP/IP service name on the client is not the same as the port number on the server.

This situation can be detected by federated server or by the data source.

User response: Numbered user responses correspond to problem causes described above:

1. Reissue the database request. If the request fails again, contact your database administrator. Have your database administrator ensure that the *maxagents* database manager configuration parameter is appropriately configured.
2. Have the database administrator unquiesce the database/instance or add the user to the quiesced group. A quiesce can be executed at the instance, tablespace, and database level.

7. Increase the value of max_coordagents relative to max_connections. Applications that hold locks in withhold cursors and are queued for execution in concentrator mode may cause active agents to be held up waiting for those locks. This in conjunction with max_coordagents being reached will render the system unable to service the queued application in order for it to release the lock and resolve the situation. To reduce the chances of this scenario occurring, more coordinator agents should be configured on the system, or the use of with-hold cursors should be reduced.

Federated system users, should also:

- Isolate the problem to the data source rejecting the request (see the *Troubleshooting Guide* for procedures to follow to identify the failing data source) and ensure that the communication subsystem is active and that the database manager and required communication protocol server processes have been started on the database server.

- For AIX operating systems, check the setting of maxuproc and change it if needed. maxuproc restricts the number of processes that can run under a given federated server. The default setting is 40.

You can check the current setting of maxuproc with the command:

```
lsattr -E -l sys0
```

To view the number of processes currently running under a given federated server, use the command:

```
ps -ef | grep instdj1 | wc -l
```

where “instdj1” is the instance name of the federated server.

To change maxuproc, use the command:

```
chdev -l sys0 -a maxuproc='nn'
```

where **nn** is the new integer value of maxuproc.

If the application is using multiple contexts with local protocol, then either reduce the number of connections in the application, or switch to another protocol (for example, TCP/IP). For users on AIX version 4.2.1 or newer, the environment variable EXTSHM can be set to ON to increase the number of shared memory segments to which a single process can be attached.

sqlcode: -1224

sqlstate: 55032

SQL1225N The request failed because an operating system process, thread, or swap space limit was reached.

Explanation: An operating system process, thread, or swap space limit was reached. You can find more information about the problem in the administration notification log. On AIX systems, the maxuproc value might be too low.

User response: Check the administration notification log to determine which limit was reached and increase that limit.

sqlcode: -1225

sqlstate: 57049

SQL1226N The maximum number of client connections are already started.

Explanation: The number of client connections is already equal to the maximum value defined in the system configuration file.

The operation cannot be processed.

User response: Wait for other applications to disconnect from the database. If one or more

applications are required to run concurrently, increase the value for max_connections. The new value takes effect after the next successful database manager start. If the value for max_connections is larger than the value for max_coordagents, the concentrator feature is turned on.

sqlcode: -1226

sqlstate: 57030

SQL1227N The catalog statistic *value* for column *column* is out of range for its target column, has an invalid format, or is inconsistent in relation to some other statistic. Reason Code = *code*

Explanation: The value or format of a statistic provided for an updatable catalog is either invalid, out of range, or inconsistent. The most common checks for value, range and format are (corresponding to *code*):

- 1 Numeric statistics must be -1 or >= 0.
- 2 Numeric statistics representing percentages (eg. CLUSTERRATIO) must be between 0 and 100.
- 3 HIGH2KEY, LOW2KEY related rules:
 - The data type of any HIGH2KEY, LOW2KEY value must be the same as the data type of the corresponding user column.
 - The length of HIGH2KEY, LOW2KEY value must be the smaller of 33 or the target column's data type's maximum length.
 - HIGH2KEY must be > LOW2KEY whenever there are 3 or more distinct values in the corresponding column. In the case of less than 3 distinct values in the column, HIGH2KEY can be equal to LOW2KEY.
- 4 PAGE_FETCH_PAIRS related rules:
 - Individual values in the PAGE_FETCH_PAIRS statistic must be separated by a series of blank delimiters.
 - There must be exactly 11 pairs in a single PAGE_FETCH_PAIR statistic.
 - There must always be a valid PAGE_FETCH_PAIRS value if the CLUSTERFACTOR is > 0.
 - Individual values in PAGE_FETCH_PAIRS statistics must not be longer than 19 digits and must be less than the maximum integer value (MAXINT = 9223372036854775807).
 - Buffer size entries of PAGE_FETCH_PAIRS must be ascending in value. Also, any buffer size value in a PAGE_FETCH_PAIRS entry cannot be greater than MIN(NPAGES, 1048576) for 32-bit platforms and MIN(NPAGES, 2147483647) for 64-bit platforms where NPAGES is the number of pages in the corresponding table.

- "fetches" entries of PAGE_FETCH_PAIRS must be descending in value, with no individual fetches entry being less than NPAGES. Also, any "fetch" size value in a PAGE_FETCH_PAIRS entry must not be greater than CARD (cardinality) statistic of the corresponding table.
 - If buffer size value is the same in two consecutive pairs, then page fetch value must also be the same in both the pairs.
- 5 CLUSTERRATIO and CLUSTERFACTOR related rules:
- Valid values for CLUSTERRATIO are -1 or between 0 and 100
 - Valid values for CLUSTERFACTOR are -1 or between 0 and 1
 - Either CLUSTERRATIO or CLUSTERFACTOR must be -1 at all times.
 - If CLUSTERFACTOR is a positive value, it must be accompanied by a valid PAGE_FETCH_PAIR statistic.
- 6 The cardinality of a column (COLCARD statistic in SYSCOLUMNS) or column group (COLGROUPCARD in SYSCOLGROUPS) cannot be greater than the cardinality of its corresponding table (CARD statistic in SYSTABLES).
- 7 No statistics are supported for columns with the following data types: LONG VARCHAR, LONG VARGRAPHIC, BLOB, CLOB, DBCLOB, or user-defined structured types.
- 8 A statistic is inconsistent with other related statistics for this entity or is invalid in this context.
- 9 For tables that are not partitioned, the following table partitioning statistics in SYSSTAT.INDEXES cannot be updated: AVGPARTITION_CLUSTERRATIO, AVGPARTITION_CLUSTERFACTOR, AVGPARTITION_PAGE_FETCH_PAIRS, DATAPARTITION_CLUSTERFACTOR
- 10 AVGPARTITION_PAGE_FETCH_PAIRS related rules:
- Individual values in the AVGPARTITION_PAGE_FETCH_PAIRS statistic must be separated by a series of blank delimiters.
 - There must be exactly 11 pairs in a single AVGPARTITION_PAGE_FETCH_PAIR statistic.
 - There must always be a valid AVGPARTITION_PAGE_FETCH_PAIRS value if the AVGPARTITION_CLUSTERFACTOR is > 0.
- Individual values in AVGPARTITION_PAGE_FETCH_PAIRS statistics must not be longer than 19 digits and must be less than the maximum integer value (MAXINT = 9223372036854775807).
 - Buffer size entries of AVGPARTITION_PAGE_FETCH_PAIRS must be ascending in value. Also, any buffer size value in a AVGPARTITION_PAGE_FETCH_PAIRS entry cannot be greater than MIN(NPAGES, 1048576) for 32-bit platforms and MIN(NPAGES, 2147483647) for 64-bit platforms where NPAGES is the number of pages in the corresponding table.
 - "fetches" entries of AVGPARTITION_PAGE_FETCH_PAIRS must be descending in value, with no individual fetches entry being less than NPAGES. Also, any "fetch" size value in a AVGPARTITION_PAGE_FETCH_PAIRS entry must not be greater than CARD (cardinality) statistic of the corresponding table.
 - If buffer size value is the same in two consecutive pairs, then page fetch value must also be the same in both the pairs.
- 11 AVGPARTITION_CLUSTERRATIO and AVGPARTITION_CLUSTERFACTOR related rules:
- Valid values for AVGPARTITION_CLUSTERRATIO are -1 or between 0 and 100.
 - Valid values for AVGPARTITION_CLUSTERFACTOR are -1 or between 0 and 1.
 - Either AVGPARTITION_CLUSTERRATIO or AVGPARTITION_CLUSTERFACTOR must be -1 at all times.
 - If AVGPARTITION_CLUSTERFACTOR is a positive value, it must be accompanied by a valid AVGPARTITION_PAGE_FETCH_PAIR statistic.
- 12 DATAPARTITION_CLUSTERFACTOR related rules:
- Valid values for DATAPARTITION_CLUSTERFACTOR are -1 or between 0 and 1.

User response: Make sure the new catalog statistic satisfies the above range, length and format checks.

Make sure that any updates to statistics are consistent in their inter-relationships (eg. cardinality).

For tables that are not partitioned, do not attempt to update statistics columns that are specific to partitioned tables.

sqlcode: -1227

sqlstate: 23521

SQL1228W DROP DATABASE has completed but the database alias name or database name *name* could not be found on *num* nodes.

Explanation: The drop database command has completed successfully, however, there are some nodes where the database alias or database name was not found. It is possible that DROP DATABASE AT NODE was already performed on these nodes.

User response: This is a warning message only. No response is necessary.

SQL1229N The current transaction has been rolled back because of a system error.

Explanation: One of the following has occurred:

1. A system error, such as node failure or connection failure, has occurred. The application is rolled back to the previous COMMIT.

Note that in the case of DB2 utility functions, the behavior is described below:

Import The application is rolled back. If the COMMITCOUNT parameter was used, the operation is rolled back to a previous committed point.

Reorg The operation is aborted and must be resubmitted.

Redistribute
The operation is aborted, however, some of the operation may have been successful. Issuing the request again with the "continue" option will restart the operation from the point of failure.

Rollforward
The operation is aborted and the database is still in rollforward pending state. The command must be resubmitted.

Backup/Restore
The operation is aborted and must be resubmitted.

2. The service port numbers assigned for FCM (Fast Communication Manager) communications are not the same on all nodes in the DB2 instance. Check the services file being used on all nodes to ensure that the ports are the same. The ports are defined using the format:

```
DB2_<instance>      xxxx/tcp
DB2_<instance>_END  xxxx/tcp
```

where <instance> is the DB2 instance name and xxxx is the port number. Ensure that these port numbers are not being used for DB2 remote client support.

User response:

1. Try the request again. If the error persists, you can find more information about the problem in the administration notification log. It may be necessary to contact the system administrator for assistance since the most common reason for this error is that a node has failed.

Note that in an SP environment where the high speed switch is used, this error can be a symptom of a failure in the high speed switch.

2. Update the service ports to be the same on all nodes and try the request again.

The sixth sqlerrd field of the SQLCA will indicate the node number that detected the node failure. On the node that detected the failure a message will be placed in the db2diag.log that identifies the failed node.

sqlcode: -1229

sqlstate: 40504

SQL1230W At least one agent id specified could not be forced.

Explanation: At least one agent id specified on the Force command could not be forced. Causes of this warning may be:

- A nonexistent or invalid agent id was specified.
- The agent disconnected from the database manager between the time that the agent ids were collected and the Force command was issued.
- The agent id specified was for a parallel agent which cannot be forced.

User response: If a nonexistent or invalid agent id was specified, retry the command using the valid agent id.

SQL1231N Invalid Force count specified.

Explanation: The value specified for the count parameter of the Force command is not valid. The value specified must either be a positive integer or SQL_ALL_USERS. A value of 0 will result in an error.

User response: Correct the value of count and resubmit the command.

SQL1232N Invalid Force mode specified.

Explanation: The value specified for the mode parameter of the Force command is not valid. Only asynchronous mode is supported for the Force command. The parameter must be set to the value SQL_ASYNC.

User response: Set the mode to SQL_ASYNC and resubmit the command.

SQL1233N The use of this clause or scalar function is supported only for Unicode database graphic data.

Explanation: A UCS-2 graphic string expression from a Unicode database is required for the following:

- The first argument of the VARCHAR scalar function
- The first argument of the VARGRAPHIC scalar function when a second argument is specified
- Specifying a UCS-2 hexadecimal constant using the format UX'hex-digits'

The statement cannot be processed.

User response: Resubmit the command with valid data types.

sqlcode: -1233

sqlstate: 560AA

SQL1234N The table space *tablespace-name* cannot be converted to a LARGE table space.

Explanation: Only REGULAR DMS table spaces can be converted to a LARGE DMS table space. The system catalog table space, SMS table spaces, and temporary table spaces cannot be converted to be a LARGE table space.

User response: Verify the attributes of the table space by issuing SELECT TBSPACE, TBSPACETYPE, DATATYPE FROM SYSCAT.TABLESPACES WHERE TBSPACE = '*tablespace-name*'. The table space cannot be the system catalog table space (TBSPACE cannot be 'SYSCATSPACE'), must be a DMS table space (TBSPACETYPE must be 'D'), and also must be a REGULAR table space (DATATYPE must be 'A').

sqlcode: -1234

sqlstate: 560CF

SQL1235N The table space *tablespace-name* is restricted by table *table-name* from being converted to be a LARGE table space.

Explanation: The partitioned table has data partitions in multiple regular DMS table spaces. The table space must contain all of the data partitions of a partitioned table in order to be converted to be a LARGE table space.

User response: To successfully convert the table spaces of the partitioned table:

1. For each table space containing data partitions of the partitioned table (except for one of the table spaces), detach the data partitions in these table spaces from the partitioned table. Commit the detach actions.
2. Convert each of these table spaces using the COVERT TO LARGE option of the ALTER TABLESPACE statement. Commit each statement.

3. Convert the table space containing the remaining data partitions of the partitioned table. Commit this action.
4. Rebuild the indexes on the partitioned table using REORG INDEXES ALL FOR TABLE *table-name* ALLOW NO ACCESS, or by reorganizing the partitioned table.
5. Reorganize each new table resulting from the detach of data partitions.
6. Re-attach each table to the partitioned table.

sqlcode: -1235

sqlstate: 560CF

SQL1236N Table *table-name* cannot allocate a new page because the index with identifier *index-id* does not yet support large RIDs.

Explanation: The table space in which this table resides was converted to a LARGE table space via the CONVERT TO LARGE clause of the ALTER TABLESPACE statement. The table itself cannot support large RIDs until all previously existing indexes on the table have been reorganized or rebuilt to support large RIDs. The index(es) must be reorganized or rebuilt to support future growth of this table.

User response: The indexes can be reorganized using REORG INDEXES ALL FOR TABLE *table-name*, but without the CLEANUP ONLY clause. For partitioned tables, ALLOW NO ACCESS must be specified. Alternatively, the table can be reorganized (REORG TABLE without the INPLACE clause) which will not only rebuild all indexes, but will enable the table to support greater than 255 rows per page.

sqlcode: -1236

sqlstate: 55066

SQL1237W Table space *tbspace-name* is being converted from REGULAR to LARGE. Indexes on tables in this table space must be reorganized or rebuilt to support large RIDs.

Explanation: The table space being converted can, following COMMIT, support a storage capacity larger than that of a regular table space. The maximum page number for a data page in a regular table space is 0x00FFFFFF. For a table to support a page number above 0x00FFFFFF, the indexes on the table must be reorganized or rebuilt.

User response: The documentation for the ALTER TABLESPACE statement in the SQL Reference specifies the best practices when using the CONVERT TO LARGE option. Please follow these recommendations to be pro-active in reorganizing or rebuilding all indexes on all tables in this table space to prevent possible

future failures when a page number above 0x00FFFFFF is allocated to a table.

sqlcode: +1237

sqlstate: 01686

SQL1238N The result set specified to be returned to the client is invalid. Reason code = *reason-code*.

Explanation: The result set specified by the WITH RETURN TO CLIENT clause in the CREATE PROCEDURE (Sourced) statement is not valid. Possible reason codes are:

- 1 If the data source is Microsoft SQL Server, Sybase, or Informix, the result set specified by the position number in the returned set of result sets in the WITH RETURN TO CLIENT clause in the CREATE PROCEDURE (Sourced) statement is not equal to 1.
- 2 If the data source is Oracle, the largest position number in the returned set of result sets in the WITH RETURN TO CLIENT clause in the CREATE PROCEDURE (Sourced) statement is greater than the maximum number of REF CURSORS at the data source.

User response: Actions based on the reason codes are:

- 1 Remove references to any position number in the returned set of result sets other than 1.
- 2 Remove references to any position number in the returned set of result sets which is greater than the maximum number of REF CURSORS at the data source.

sqlcode: -1238

sqlstate: 560CI

SQL1239N XML features can only be used in a Unicode database with a single database partition.

Explanation: The use of XML features is restricted to a database that is defined with codeset UTF-8 and has only one database partition. XML features such as defining columns of data type XML, registering XML schema repository objects, and XQuery expressions can only be used in a database defined this way. Once XML features are used in a database, additional database partitions cannot be added.

For a Version 9 multiple database partition database or non-Unicode database, the XML data type can only be used as a transient data type and the available XML functions are limited to the subset that matches Version 8 support. This means that the version 9 multiple database partition database or non-Unicode database does not allow XML functions that are new to Version 9

(such as XMLCOMMENT or XMLPI), the xml casting specification (XMLCAST), and capabilities of XML functions that are new in Version 9 on XML functions that existed in Version 8.

User response: If you want to use XML features and the database already exists that is not defined with codeset UTF-8, you will need to create a different Unicode database with a single database partition to take advantage of the XML features. If you want to use XML features and the Unicode database already exists with multiple database partitions, you will need to drop all but one of the database partitions of the database or create a different Unicode database with a single database partition to take advantage of the XML features. If you have already used XML features, you cannot extend the database by adding new database partitions. You would need to create a different database without using any XML features to have multiple database partitions.

For a Version 9 multiple database partition database or non-Unicode database you can input the XML data to one of the functions that accept XML input (ultimately XMLSERIALIZE) and store the output of the function in the database or return it to the application. Also, ensure that you are not using any of the XML functions that are new to Version 9 (such as XMLCOMMENT or XMLPI) and that capabilities of XML functions which are new in Version 9 on XML functions that existed in Version 8 are not used. If you need to use the new XML functions or new capabilities of previously existing XML functions, you must change the database back to using only a single database partition and UTF-8 as the codeset of the database.

sqlcode: -1239

sqlstate: 42997

SQL1240N The maximum number of quiescers has been reached.

Explanation: An attempt was made to acquire a quiesce state on a table space which has already been quiesced by 5 processes.

User response: Wait for one of the processes to release its quiesce state and try again.

SQL1241N An invalid value was specified for the *tbs-name* table space definition when creating a database. Attribute is *string*.

Explanation: The value for a table space attribute was out of range. See the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) for the format of the sqletsdesc structure used for the create database api. The identified attribute is the field name of this structure.

User response: Correct the create database request.

SQL1242N An XML feature is not supported in the context where it is used. Reason code = *reason-code*.

Explanation: The statement cannot be processed because an XML feature is used in a context where it is not supported. The *reason-code* indicates the context.

- 1 Columns of data type XML are not supported in a table that is organized by dimensions.
- 2 Columns of data type XML are not supported in a range-partitioned table.
- 3 Columns of data type XML cannot be added to a table with existing type 1 indexes.
- 4 A distribution key cannot be defined for a table with an XML column.
- 5 Columns of data type XML are not supported in a view that is the target of an INSTEAD OF trigger.
- 6 References to transition variables of data type XML are not supported in a trigger definition.
- 7 For tables containing columns of data type XML, a REORG-recommended operation cannot be specified in an ALTER TABLE statement.

User response: The action is based on the reason code as follows.

- 1 Do not use the XML data type for any column defined in a table that is organized by dimensions.
- 2 Do not use the XML data type for any column defined in a range-partitioned table.
- 3 Use the REORG INDEXES command with the CONVERT option to convert existing indexes on the table to type 2 indexes before issuing the ALTER TABLE to add a column of type XML.
- 4 Change the table definition to avoid having both a distribution key and an XML column. In a CREATE TABLE statement, this can be done by removing the DISTRIBUTE BY clause (or PARTITIONING KEY clause) or removing all columns of data type XML. In an ALTER TABLE statement, either drop the distribution key before adding a column of type XML or drop all XML columns before adding a distribution key.
- 5 Do not specify a view with columns of data type XML as the target of an INSTEAD OF trigger.
- 6 Do not use transition variables that are of data type XML in a trigger definition.

- 7 Any REORG-recommended operations must be removed from the ALTER TABLE statement.

sqlcode: -1242

sqlstate: 42997

SQL1243W Dropping db2look operation table SYSTOOLS.DB2LOOK_INFO in DB2 Version 8 database failed.

Explanation: The MIGRATE DATABASE command checks whether the DB2 Version 8 database has a db2look operation table called SYSTOOLS.DB2LOOK_INFO or not, and drops this table if it exists. The drop table command fails if the database owns a table with the same name but a different column definition.

User response: Check the definition of the SYSTOOLS.DB2LOOK_INFO table after the database migration is complete. If it is a system created table, it should be dropped manually. If it is a user created table, it should be renamed. Otherwise, DB2 Version 9 ALTER TABLE and COPY SCHEMA statements will fail to execute.

sqlcode: +1243

SQL1244W Disconnect for transaction manager database *server-name* will occur at next COMMIT.

Explanation: A disconnect has been issued against a database which is acting as the TM database. The disconnect cannot be completed until the next COMMIT is processed.

User response: If it is necessary that the database which is acting as the TM database be disconnected immediately, issue a COMMIT statement before execution continues.

sqlcode: +1244

sqlstate: 01002

SQL1245N Connection limit has been reached. No more connections are allowed from this client.

Explanation: The maximum number of concurrent database connections has been reached for an environment where the number of connections is restricted or must be predefined. The primary example of where this would occur is when the NETBIOS protocol is being used.

User response: Possible actions:

- Use the SET CLIENT command or API to set the MAX NETBIOS CONNECTIONS field to the

maximum number of concurrent connections required. This must be done before any connections are made.

sqlcode: -1245

sqlstate: 08001

SQL1246N Connection settings cannot be changed while connections exist.

Explanation: One of the following occurred:

- An attempt was made to change the connection settings for an application using the SET CLIENT API. This was rejected because one or more connections exist.
- The application contains both DB2 Call Level Interface API calls and calls to functions containing embedded SQL, and the connection management was not invoked using the CLI APIs.

User response: Possible actions:

- Ensure that the application disconnects from all servers before attempting to issue the SET CLIENT API (sqlsetc or sqlgsetc) or CLP command.
- Ensure that all connection management requests are issued via the DB2 Call Level Interface APIs if CLI is being used by the application.

SQL1247N Applications running in an XA transaction processing environment must use the SYNCPOINT TWOPHASE connection setting.

Explanation: The application was precompiled with the option SYNCPOINT ONEPHASE or SYNCPOINT NONE, or the SYNCPOINT connection setting was changed to one of these values using the SET CLIENT API. These settings are invalid for applications which cause transaction processing syncpoint commands (for example CICS SYNCPOINT) to be executed. Note that SYNCPOINT ONEPHASE is the default precompiler option.

User response: Possible actions:

- Re-compile the application using the precompiler option SYNCPOINT TWOPHASE.
- Modify the program such that the SET CLIENT API is called to set the connection option to SYNCPOINT TWOPHASE prior to any other processing.

sqlcode: -1247

sqlstate: 51025

SQL1248N Database *database-alias* not defined with the transaction manager.

Explanation: You attempted to access a database that had not been opened by the transaction manager. A database must be defined to the transaction manager in order to participate in the two-phase commit process.

User response: Define the database as a resource manager to the transaction manager of your Distributed Transaction Processing environment. For example, in a CICS environment this requires adding the database to the XAD file and provides the database alias name in the XAOOpen string of the XAD entry.

sqlcode: -1248

sqlstate: 42705

SQL1249N The DATALINK data type is not supported. *db-object* must be dropped or altered to avoid using the DATALINK data type.

Explanation: The db2ckmig tool has identified an occurrence of the DATALINK data type which will cause migration to fail.

Database objects which use the DATALINK data type include tables, views, functions, methods, distinct types and structured data types.

User response: Remove or update the database object identified by *db-object* which references the DATALINK data type before attempting to migrate the database.

sqlcode: -1249

sqlstate: 5U015

SQL1250N A database partition is not added because XML features have been used in the instance.

Explanation: An instance of the database manager has already had at least one database created where an XML object, such as a table with a column of data type XML or a XML schema repository object, was created. Even if the XML objects no longer exist, the database manager instance is still considered to have used XML. Once the database manager instance is known to have used XML in this way, the instance is no longer permitted to have more than a single database partition. Any attempt to add a database partition will return this error.

User response: If any of the databases that are part of the instance are using columns of data type XML or XML schema repository objects, then a different instance will be required to establish an instance with multiple database partitions.

If the databases in the instance are not actually intended for storage of XML data, the instance must be cleansed of all references to XML data. Indicators still

exist in the instance and the databases, even when there are no longer columns of data type XML and XML schema repository objects. There are two approaches to clearing the instance XML indicator and database level XML indicators.

1. Export non-XML data from the existing databases in the instance. Create a new instance with new databases. Import the data into the database in the new instance.
2. Use a password protected db2pdcfg option to change the XML indicators in the database configuration for each database within the instance and for the database manager configuration of the instance. Before this is done, it is extremely important that no database in the instance includes any columns of type XML and that the XML schema repository of each database is empty. Contact IBM Service to use this option.

SQL1251W No data returned for heuristic query.

Explanation: There are no in-doubt transactions in the database, nor any transactions that have ended and are waiting to enter the syncpoint process.

User response: No action is required.

SQL1252N More than one procedure was identified at the data source for the source procedure *source-procedure-name* specified in the CREATE PROCEDURE (Sourced) statement. Reason code = *reason-code*.

Explanation: More than one procedure was identified at the data source for the source procedure *procedure-name* specified in the CREATE PROCEDURE (Sourced) statement. Possible reason codes are:

- 1 There are multiple source procedures at the data source with identical source procedure name and source schema name.
- 2 There are multiple source procedures at the data source with identical source procedure name, source schema name and NUMBER OF PARAMETERS.
- 3 There are multiple source procedures at the data source with identical source procedure name.

User response: Actions based on the reason codes are:

- 1 Specify the NUMBER OF PARAMETERS in the CREATE PROCEDURE (Sourced) statement to help uniquely identify the procedure at the data source.
- 2 Specify the UNIQUE ID in the CREATE PROCEDURE (Sourced) statement to help uniquely identify the procedure at the data source.
- 3 Specify the source-schema-name in the

CREATE PROCEDURE (Sourced) statement to help uniquely identify the procedure at the data source.

sqlcode: -1252

sqlstate: 42725

SQL1253N The source procedure with the name *source-procedure-name* was not found at the data source. Reason code = *reason-code*.

Explanation: The source procedure specified in the CREATE PROCEDURE (Sourced) statement was not found at the data source. Possible reason codes are:

- 1 The source object name along with the NUMBER OF PARAMETERS does not identify a procedure at the data source.
- 2 The source object name along with the NUMBER OF PARAMETERS and UNIQUE ID does not identify a procedure at the data source.
- 3 The source package name specified in the CREATE PROCEDURE (Sourced) statement is not found at the data source.
- 4 The source package name specified in the CREATE PROCEDURE (Sourced) statement is marked invalid at the data source
- 5 The source object name does not identify a procedure at the data source.
- 6 The source object name specifies a UNIQUE ID, but UNIQUE ID is not supported at the data source.

User response: Actions based on the reason codes are:

- 1 Verify that the NUMBER OF PARAMETERS specified is correct.
- 2 Verify that the UNIQUE ID specified is valid for the data source and identifies a procedure at the data source.
- 3 Verify that the source package name specified is correct.
- 4 Correct the package definition at the data source.
- 5 Verify that the source object name specified is correct.
- 6 Remove the UNIQUE ID clause.

sqlcode: -1253

sqlstate: 42883

SQL1254N The data type *data-type* is not supported by the federated server or data source *server-name*. It was used for parameter *parameter-name* in the procedure *procedure-name*.

Explanation: The data type of the parameter that was specified for the procedure is not supported by either the federated server or the data source that was accessed.

User response: Specify a supported data type and resubmit the program.

sqlcode: -1254

sqlstate: 428C5

SQL1255N The option value *value* specified for procedure *procedure-name* does not match the corresponding option of the source procedure.

Explanation: The value for SQL data access (NO SQL, CONTAINS SQL, READS SQL DATA, or MODIFIES SQL DATA), determinism (DETERMINISTIC or NOT DETERMINISTIC), or external action (EXTERNAL ACTION or NO EXTERNAL ACTION) specified in the CREATE PROCEDURE (Sourced) statement does not match the corresponding option of the source procedure.

User response: Correct the option value to match the corresponding option of the source procedure.

sqlcode: -1255

sqlstate: 428GS

SQL1256W The package body for the source procedure *source-procedure-name* at the data source was not found or is invalid.

Explanation: The federated procedure was created successfully but the package body for the source procedure *procedure-name* at the data source was not found or is invalid.

User response: Ensure that the package body of the source procedure is valid before the federated procedure is invoked.

sqlcode: 1256

sqlstate: 0168A

SQL1257N The query must contain a predicate using the column *column-name* in nickname *nickname*.

Explanation: The data source requires a predicate that uses the indicated column. Either the predicate is not in the query, or the predicate is in the query but was not made available to the data source wrapper during query compilation.

User response: If the required column is not used in a predicate in the query, add a predicate that uses the column appropriately. If the required column is in a predicate in the query, restructure the query so that the predicate is valid. Valid predicates are listed in the documentation for the data source.

sqlcode: -1257

sqlstate: 429C0

SQL1258N The SYSTOOLSPACE and SYSTOOLSTMPSPACE table spaces must be created in the IBMCATGROUP database partition group.

Explanation: In order for the SYSTOOLSPACE and SYSTOOLSTMPSPACE table spaces to be created, they must be defined in the IBMCATGROUP database partition group.

User response: Resubmit the CREATE TABLESPACE command and specify the ON IBMCATGROUP clause.

sqlcode: -1258

sqlstate: 560CJ

SQL1259N The ARCHIVE LOG command failed for database *db-name* on database partition *partition-list* due to SQLCODE *SQLCODE*.

Explanation: An SQL error occurred while attempting to issue the ARCHIVE LOG command for database *db-name* on database partition *partition-list*.

User response: Refer to the SQLCODE in the Message Reference for the user response and resubmit the ARCHIVE LOG command.

SQL1260N Database *name* is not configured for roll-forward recovery on node(s) *node-list*.

Explanation: The specified database is not configured for roll-forward recovery on the specified node(s). If "...," is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

The database is not rolled forward on the specified node(s).

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Ensure that recovery is required on the specified node(s), then restore the most recent backup version of the database on these nodes.

SQL1261N Database *name* is not in rollforward pending state on node(s) *node-list*, so it does not need to be rolled forward on these nodes.

Explanation: The specified database is not in roll-forward pending state on the specified node(s). This may be because the database has not been restored, or was restored with the WITHOUT ROLLING FORWARD option, or roll-forward recovery is complete on these nodes.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

The database is not rolled forward.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Do the following:

1. Ensure that recovery is required on the specified node(s).
2. Restore a backup version of the database on these nodes.
3. Issue the ROLLFORWARD DATABASE command.

SQL1262N The point-in-time specified for rolling forward database *name* is not valid.

Explanation: The timestamp parameter specified for the point-in-time stopping value is not valid. The timestamp must be entered in ISO format (YYYY-MM-DD-hh.mm.ss.<sssss> where YYYY represents year, MM represents month, DD represents day, hh represents hours, mm represents minutes, ss represents seconds, and ssssss represents optional microseconds).

The database is not rolled forward.

User response: Ensure that the timestamp is entered in the correct format.

When you issue a ROLLFORWARD DATABASE command, ensure that you are not specifying a year greater than 2105.

SQL1263N The archive file *name* is not a valid log file for database *name* on node *node-number*.

Explanation: The specified archive log file exists in the database log directory or the overflow log directory on the specified node, but the file is not valid.

Roll-forward recovery processing stops.

(Note : if you are using a partitioned database server, the node number indicates which node the error

occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct archive log file into the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file, and issue the ROLLFORWARD DATABASE command again. Alternatively, resubmit the command with the overflow log path pointing to the correct archive file.

SQL1264N The archive file *name* does not belong to database *database-name* on node *node-number*.

Explanation: The archive log file specified was found in the log directory or the overflow log directory but does not belong to the specified database.

Roll-forward recovery processing stops.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct archive log file into the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file and issue the ROLLFORWARD DATABASE command again. Alternatively, resubmit the command with the overflow log path pointing to the correct archive file.

SQL1265N The archive log file *name* is not associated with the current log sequence for database *name* on node *node-number*.

Explanation: For roll-forward recovery, the log files need to be processed in correct sequence. The log file sequence is determined by the database that has been restored or the log files that have been processed. In addition to this, for table space level roll-forward recovery, the log files must be processed in the sequence through which the current state of the database has been reached. The specified archive log file was found in the log directory or the overflow log path for the database on the specified node but the log file is not in the correct log sequence.

Roll-forward recovery processing stops.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct

archive log file into the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file and issue the ROLLFORWARD DATABASE command again. Alternatively, resubmit the command with the overflow log path pointing to the correct archive file.

SQL1266N Database *name* has been rolled forward to *timestamp*, which is past the specified point-in-time.

Explanation: Roll-forward is requested to stop at a timestamp that is before the current point in time in the specified database log file. This can happen when rolling forward either the database or a subset of table spaces to a point in time.

Database roll-forward processing stops.

User response: Specify the correct point in time or restore the database or table space subset from a backup version and resubmit the ROLLFORWARD command.

SQL1267N The system could not find *db2uexit* in the current PATH environment variable.

Explanation: The user-supplied file *db2uexit* cannot be found, either because it is not in the current PATH environment variable or it does not exist.

The command cannot be processed.

User response: Update the current PATH environment variable to include the path to *db2uexit* or create a *db2uexit* file and update the current PATH environment variable if necessary.

SQL1268N Roll-forward recovery stopped due to error *error* while retrieving log file *logfile* for database *name* on node *node-number*.

Explanation: Roll-forward processing is unable to retrieve a log file.

Roll-forward processing stopped. The database or table space is still in a roll forward pending state.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Ensure that log archiving is operating correctly by checking the Administration Notification log for messages and resume or terminate roll-forward recovery.

If the database is configured to use log archiving to a userexit program, check the userexit diagnostic logs to determine if an error occurred while executing the userexit program.

SQL1269N Table space level roll-forward recovery is already running.

Explanation: An attempt has been made to use table space level roll-forward recovery but it is already running. Only one agent can be executing roll-forward recovery at any given time.

User response: Wait until table space level roll-forward recovery is complete. If more table spaces need recovery, initiate table space level roll-forward recovery again.

SQL1270C The LANG environmental variable is set to *string*. This language is not supported.

Explanation: The LANG environmental variable is set to a language that is not supported by the database manager. Processing cannot continue.

User response: Set the LANG environmental variable to a language that is supported. For more information please refer to "National Language Support" appendix in the *Administration Guide*.

Federated system users: see the *Federated Systems Guide* for NLS information.

SQL1271W Database *name* is recovered but one or more table spaces are off-line on node(s) *node-list*.

Explanation: This message can occur after crash recovery, database level roll-forward recovery, or table space level roll-forward recovery. For database level roll-forward recovery, the database is available for use if the STOP option was specified. One or more table spaces on the specified node(s) are not available. This could happen if:

- One or more table spaces receive I/O errors during recovery.
- One or more table spaces may require storage definition following recovery.
- One of more table spaces are unusable and must be dropped.
- One or more table spaces have been taken offline.
- Additional table spaces are restored while a table space level roll-forward recovery is already in progress.
- The database is rolled forward past a previous point-in-time table space roll-forward, causing all table spaces involved to be placed in restore pending state.

The table spaces that are off-line can be identified on the specified node(s) by the LIST TABLESPACES command or the db2dart utility. The administration notification log will provide more information on specific table spaces.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Repair or restore the table spaces if necessary and run roll-forward recovery. If the same error occurs, try running table space level roll-forward recovery offline.

SQL1272N Table space level roll-forward recovery for database *name* has stopped before completion on node(s) *node-list*.

Explanation: Table space level roll-forward recovery has stopped on the specified node(s) before all qualifying table spaces could be rolled forward. This can be caused by one of the following:

- The transaction table is full.
- All table spaces being rolled forward received I/O errors.
- Point-in-time table space level roll-forward encountered an I/O error on one of the table spaces being rolled forward.
- Point-in-time table space level roll-forward encountered an active transaction that made changes to one of the table spaces being rolled forward. This transaction could be an indoubt transaction.
- The table space level roll-forward was interrupted and, before it was resumed, all table spaces that were being rolled forward are restored again.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Check the administration notification log for the cause. Do one of the following depending on the cause:

- Use the LIST TABLESPACES command to determine if the table spaces received I/O errors. If so, repair them.
- If the transaction table became full, increase the MAXAPPLS database configuration parameter or try running table space level roll-forward recovery offline.
- If the cause is an active or indoubt transaction, complete the transaction.
- If the table spaces were restored after a previous table space level roll forward was interrupted, the

previous table space level roll-forward is now canceled. The next table space level roll-forward command will check for table spaces in rollforward pending state.

Run table space level roll-forward recovery again.

SQL1273N Roll-forward recovery on database *name* cannot reach the specified stop point (end-of-log or point-in-time) because of missing log file *name* on node *node-number*.

Explanation: The Rollforward Database utility cannot find the specified archive log file in the database log directory or the overflow log directory on the specified node.

Roll-forward recovery has stopped.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Do one of the following:

- Move the specified archive log file into the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file, and issue the ROLLFORWARD DATABASE command again. Alternatively, resubmit the command with the overflow log path pointing to the correct archive file.
- If you cannot find the missing log files, restore the database/table space on all nodes, then do point-in-time recovery using a timestamp that is earlier than that of the missing log file.

SQL1274N The database *name* requires roll-forward recovery and the point-in-time must be to the end of logs.

Explanation: The database needs to be rolled forward. For database level roll-forward recovery, the point-in-time must be to the end of logs because a database level roll-forward to end of logs is already in progress. To continue the roll forward, the same stoptime must be specified.

For table space level roll-forward recovery, the point-in-time must be to the end of logs for one of the following reasons:

- The system catalogs require roll-forward recovery. System catalogs must always be rolled forward to the end of logs to remain consistent with all other table spaces.
- A table space level roll-forward to the end of logs is already in progress. To continue the roll forward, the same stoptime must be specified.
- The point in time specified for a table space level roll-forward is past the end of the logs of the

database. It is very likely that this time is incorrect. If this is the intended recovery stop time, resubmit the command with the END OF LOGS option.

The database is not rolled forward.

User response: Resubmit the ROLLFORWARD command specifying ROLLFORWARD TO END OF LOGS.

SQL1275N The stoptime passed to roll-forward must be greater than or equal to *timestamp*, because database name on node(s) *node-list* contains information later than the specified time.

Explanation: The database or at least one of the table spaces to be rolled forward were backed up online. An advanced virtual timestamp is in the database or table space backup. The stoptime passed to roll-forward must be greater than or equal to the time the online backup ended on the specified node.

If "...," is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Do one of the following:

- Resubmit the command with a stoptime greater than or equal to *timestamp*. Time must be specified in CUT (Coordinated Universal Time).
- Restore an earlier backup on node(s), then issue the ROLLFORWARD DATABASE command again.

SQL1276N Database *name* cannot be brought out of rollforward pending state until roll-forward has passed a point in time greater than or equal to *timestamp*, because node *node-number* contains information later than the specified time.

Explanation: A request was made to bring the database or subset of table spaces out of rollforward pending state by specifying caller action SQLUM_ROLLFWD_STOP, SQLUM_STOP, SQLUM_ROLLFWD_COMPLETE, or SQLUM_COMPLETE. However, the database or at least one of the table spaces to be rolled forward was backed up online. The request cannot be granted until the database or all table spaces have been rolled forward to the end of the online backup timestamp on the specified node.

This error can also occur if not all the log files are provided to perform the requested recovery.

(Note : if you are using a partitioned database server,

the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: If the stoptime specified on the ROLLFORWARD command is smaller than *timestamp*, resubmit the command with a stoptime greater than or equal to *timestamp*.

Verify that all the log files were provided. the ROLLFORWARD QUERY STATUS command shows which log file is to be processed next. Some of the reasons for missing log files include:

- the log path has changed. The file can be found in the old log path.
- DB2 is unable to find the log file from the archive location reflected by the current LOGARCHMETH1 or LOGARCHMET2 database configuration parameters.

If the missing log file is found, copy it to the log path and resubmit the command.

SQL1277W A redirected restore operation is being performed. Table space configuration can now be viewed and table spaces that do not use automatic storage can have their containers reconfigured.

Explanation: The Restore utility validates that the containers needed by each table space being restored are currently accessible on the system. Where possible, the Restore utility will create the containers if they do not exist. If they cannot be created, are currently in use by another table space, or are inaccessible for any other reason, then the list of containers needed must be corrected before the restore operation can continue.

In a redirected restore, the state of each container of a non-automatic storage table space being restored is set to "storage must be defined". This makes it possible to use the SET TABLESPACE CONTAINERS command or API against the containers to redefine their storage.

For table spaces using automatic storage, the only way to redefine container paths is to use the ON keyword when you issue the RESTORE command. You cannot use the SET TABLESPACE CONTAINERS command or API against automatic storage table spaces.

User response: To determine the list of containers for each table space being restored, use the TABLESPACE CONTAINER QUERY API or the LIST TABLESPACE CONTAINERS command. To specify an updated list for each table space, use the SET TABLESPACE CONTAINERS command or API. This API or command lets you specify whether this should be the initial list of containers (meaning that a subsequent rollforward will redo any "add container" operations described in the database log) or the final list (meaning that the rollforward operation will not redo "add container" operations).

It is also possible that the container(s) are read-only, in which case the only action required before continuing with the restore is to give read/write access to the container(s).

Once you are ready to proceed with the restore, issue a RESTORE command with the CONTINUE keyword to perform the actual restore.

SQL1278W Roll-forward operation has completed successfully. Active or indoubt transactions required rollback on node(s) *node-list*.

Explanation: The roll-forward of a table space subset to a point in time was completed successfully, however one or both of the following situations occurred:

1. There was one or more active transactions at the point in time specified. Each transaction was rolled back from the table spaces in the table space subset.
2. There was one or more indoubt transactions at the point in time specified. Each indoubt transaction was rolled back from the table spaces in the table space subset.

Transactions that were rolled back from the table spaces in the table space subset may still be committed in other table spaces not involved in the roll-forward.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: The administration notification log will contain details on the transactions that were rolled back by roll-forward recovery.

SQL1279W Some indexes may not have been recreated.

Explanation: An error occurred during index recreation while performing a database restart or following a table reorganization which may have prevented some of the indexes from being recreated successfully. Details can be found in administration notification log.

Database restart or Reorg table was successful.

User response: Examine the administration notification log to determine why the index(es) could not be recreated and correct the problem. The invalid indexes for a table will be recreated when the table is first accessed.

SQL1280N The stoptime passed to roll-forward must be less than or equal to *timestamp* for database *name* because at least one of the table spaces was already rolled forward to this point in time.

Explanation: At least one of the table spaces specified by the roll-forward to point in time has already been rolled forward to an earlier point in time. It cannot be rolled forward any further.

User response: Do one of the following:

- Resubmit the command with stoptime *timestamp*.
- Restore all table spaces again, and resubmit the command with a stoptime less than *timestamp*.
- Restore the table space backup(s) taken following the earlier table space roll-forward to point in time and resubmit the command with the same stoptime.

Time must be specified in CUT (Coordinated Universal Time).

SQL1281N The connection to database *database-alias* has been severed because the pipe *pipe-name* has been broken.

Explanation: The connection was lost because the DB2 server broke the pipe. The current transaction has been rolled back.

User response: Resubmit the current command. If the error continues, contact your technical service representative.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE or message number
- SQLCA contents, if possible
- Trace file, if possible.

sqlcode: -1281

sqlstate: 40504

SQL1282N The attempt to connect to database *database-alias* failed because all the pipe instances on *pipe-name* are busy.

Explanation: Attempts to connect to the named pipe failed because the connection was refused by DB2. There is a limit to the number of connections that are allowed on the named pipe.

User response: Increase the connection limit on the DB2 server, or terminate some of the applications using named pipe to free up connection resources.

sqlcode: -1282

sqlstate: 08001

SQL1283N The attempt to connect to database *database-alias* failed because the pipe *pipe-name* is in use by another process.

Explanation: The name of the named pipe is already in used by another process. Named pipe support did not start.

User response: Choose a different name by setting the environment variable DB2PIPENAME, or have the other programs which use named pipe use a different pipe name.

SQL1284N The attempt to connect to database *database-alias* failed because the pipe *pipe-name* cannot be found.

Explanation: The server has not started its named pipe support, or the server is using a different name for the named pipe.

User response: Start the database manager and ensure the named pipe support starts. If the named pipe support has been started, then ensure the name of the named pipe is the same between the client and server by setting the environment variable DB2PIPENAME to the same value.

sqlcode: -1284

sqlstate: 08001

SQL1285N The attempt to connect to database *database-alias* failed because the pipe *pipe-name* is invalid.

Explanation: The alternate pipe name set by the environment variable DB2PIPENAME is invalid.

User response: The value of the environment variable DB2PIPENAME must be a valid pipe name. The pipe name must be no longer than eight characters, and has the same syntactical restrictions as a normal file name.

sqlcode: -1285

sqlstate: 08001

SQL1286N The connection to database *database-alias* has been severed because the operating system ran out of resources for pipe *pipe-name*.

Explanation: Named pipe failed because the operating system ran out of resources (swapping space, disk space, file handles). The current transaction has been rolled back.

User response: Free up the system resources and try again.

sqlcode: -1286

sqlstate: 40504

SQL1287N ATTACH to instance *instance* failed because the named pipe *pipe* cannot be found.

Explanation: The server has not started its named pipe support, or the instance name is incorrect.

User response: Ensure that the database manager is started at the server and that the named pipe support is started. Ensure that the instance name is correct.

SQL1288N The remote server does not support this operation.

Explanation: The remote server is running on a 64-bit platform that does not support non-SQL requests from Version 7 (or earlier) 32-bit clients.

User response: Perform this operation from a supported client.

SQL1289W During conversion of an argument to *function-name* from code page *from-code-page* to code page *to-code-page*, one or more invalid characters were replaced with a substitute character, or a trailing partial multi-byte character was omitted from the result.

Explanation: The input to *function-name* passed to the code page conversion function contains a byte sequence that is not a valid character in the input code page, *from-code-page*. Each invalid byte sequence was replaced with the substitute character when converting to *to-code-page*. The inserted substitute character may or may not be included in the final result. If an invalid byte sequence appears at the end of the input, it is omitted from the result rather than replaced with a substitute character.

User response: Ensure that the data being converted does not contain invalid byte sequences.

sqlcode: +1289

sqlstate: 01517

SQL1290N The value of either the DFT_CLIENT_COMM database manager configuration parameter or the DB2CLIENTCOMM environment variable is not valid.

Explanation: Either an incorrect value was specified or the protocol(s) specified are not supported by the target database. The acceptable values are:

- Unix platforms: TCPIP and APPC
- Windows: TCPIP, APPC (Windows 32-bit only), NETBIOS, and NPIPE

If more than one value is specified, then they must be delimited by a comma.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Correct the value and try again.

sqlcode: -1290

sqlstate: 08001

SQL1291N A directory services error has been detected. **Service:** *directory-services-type*, **API:** *API*, **function:** *function*, **error code:** *rc*.

Explanation: An error has been detected by the directory services subsystem. Refer to the token values for details. The following is the explanation of the token values:

directory-services-type

The type of the directory services being used. Valid tokens include:

- DCE

API The application programming interface used to access the above directory services. Valid tokens include:

- XDS/XOM

function The name of the directory services subsystem function that returned the error code.

rc The error code returned from the above function. The meaning of the value is specific to the API being used.

For XDS functions such as *ds_read*, the return code values can be found in the DCE include file *xds.h*.

For XOM functions such as *om_get*, the return code values can be found in the DCE include file *xom.h*.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Ensure that:

- The product providing the directory services is properly installed and operational.

- You are logged in to the directory services with the appropriate authorization to access the directory entries, if login is required by the directory services provider, for example, DCE.

If the problem persists, consult with your system administrator and/or database administrator to determine the cause of the problem using the set of tokens provided.

sqlcode: -1291

sqlstate: 08001

SQL1292N The global name of the database or database manager instance is invalid.

Explanation: The global name of the database or database manager instance cannot be NULL and cannot be longer than 255 characters. It must start with either *"/.../"* or *"/:/"*.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Correct the global name and try again.

SQL1293N An error was found in a global directory entry. **Error code:** *error-code*.

Explanation: An error has been detected in one of the global database directory entries used. Refer to the following error codes for details:

- | | |
|----|--|
| 1 | The database object does not contain authentication information |
| 2 | Both the database object and the database locator object do not contain communication protocol information |
| 10 | Entry not a database object |
| 11 | Native database name in the database object is either not found or too long |
| 12 | Database protocol in the database object is either not found or too long |
| 13 | Invalid authentication value found in the database object |
| 14 | Insufficient or invalid communication protocol information in the database object |
| 15 | Database locator object name not found in the database object |

- 16 Database locator object name in the database object invalid
- 20 Entry not a database locator object
- 22 Insufficient or invalid communication protocol information in the database locator object
- 30 Entry not a routing information object
- 31 Target database information not found in the routing information object
- 32 Insufficient information for the target database in the routing information object
- 33 No appropriate gateway found in the routing information object
- 34 Invalid flag for authentication at gateway
- 35 Database locator object name for the gateway invalid
- 36 Database name in the target database information attribute of the routing information object is either not found or too long
- 37 Database protocol in the target database information attribute of the routing information object is either not found or too long

Note that you may also see this message if the DCE subsystem is not operational, or if you do not have sufficient privilege to read the DCE directory entry.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Make sure the DCE subsystem is operational and that you have the appropriate privilege to read the directory entry. If the problem persists, inform the database administrator to correct the error in the directory entry. Refer to the *Administration Guide* for the format of these directory objects.

sqlcode: -1293

sqlstate: 08001

SQL1294N The directory path name being used for global directory access is not specified or not valid.

Explanation: In order to use global directory services, a directory path name must be specified either in the *dir_path_name* database manager configuration

parameter, or in the DB2DIRPATHNAME environment variable. You either did not specify it, or the name you specified is not valid.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Consult your database administrator for the correct name to use, specify it, and try again.

sqlcode: -1294

sqlstate: 08001

SQL1295N The routing information object name being used for global directory access is not specified or not valid.

Explanation: In order to use global directory services to access a remote database with a database protocol that is not native to this client, the name of a routing information object must be specified either in the *route_obj_name* database manager configuration parameter, or in the DB2ROUTE environment variable. You either did not specify it, or the name you specified is not valid.

Note that this message may be returned from an intermediate node involved in your connection. For example, if you are trying to connect to a DRDA server via a DB2 Connect gateway and your client workstation does not use global directory services, this message may be returned from the DB2 Connect gateway.

User response: Consult with your database administrator for the correct object name to use, specify it and try again.

sqlcode: -1295

sqlstate: 08001

SQL1296N Valid values must be specified for the DIR_PATH_NAME and DIR_OBJ_NAME database manager configuration parameters if the DIR_TYPE parameter has a value other than NONE.

Explanation: These three parameters are interrelated. If the DIR_TYPE value is NONE, then the other two are ignored. If the DIR_TYPE value is not NONE, then the other two must both contain valid values. The following rules apply when the DIR_TYPE value is not NONE:

1. The DIR_PATH_NAME and DIR_OBJ_NAME values cannot be NULL (or blanks).

2. If the DIR_TYPE value is DCE, then the DIR_PATH_NAME value must start with either of the special DCE strings enclosed in the following quotes: "/.../" or "/:./".

User response: If you want to change the DIR_TYPE value, make sure the DIR_PATH_NAME and DIR_OBJ_NAME parameters have been specified with the valid values first. If you want to blank out either the DIR_PATH_NAME or the DIR_OBJ_NAME parameter, make sure you set DIR_TYPE to NONE first.

SQL1300 - SQL1399

SQL1300N Invalid DCE principal name in catalog statement.

Explanation: The DCE principal name in the catalog database operation was invalid. DCE principal names are subject to the following conditions:

- If AUTHENTICATION is specified as DCE, a principal name must be included in the catalog statement.
- If AUTHENTICATION is not specified as DCE, a principal name can not be included in the catalog statement.
- The maximum length of the principal name is 1024 bytes.

User response: Ensure that the principal name conforms to the conditions above, and resubmit the catalog command.

SQL1301N An error occurred when accessing the server's DCE keytab file.

Explanation: An error occurred when accessing the server's DCE keytab file. For a keytab file to be valid, the following conditions must be satisfied:

- The server's keytab file exists, has the name keytab.db2, and is in the sqllib/security directory.
- There is only a single entry in the keytab file.

User response: Make sure that DCE is started. Next, check that the keytab file exists, and contains a single entry (with rgy_edit). Retry the operation.

SQL1302N DCE principal to DB2 authorization id mapping error. Reason code: reason-code.

Explanation: An error occurred when mapping a DCE principal to a DB2 authorization id. Refer to the reason code below.

- 1. Missing or invalid DCE user to DB2 authorization id mapping
- 2. Missing or invalid DCE group to DB2 authorization id mapping

User response: The DCE principal must have an ERA mapping to a DB2 authorization id. Add the missing

SQL1297N This command is currently not supported on this platform.

Explanation: The function requested using this command is not supported on this platform.

User response: Do not use this command.

entry to the DCE registry, and retry the operation.

sqlcode: -1302

sqlstate: 08001

SQL1303N Security daemon could not be restarted.

Explanation: An attempt to restart the security daemon has failed after communication between the agents and the security daemon was severed or the security daemon terminated abnormally. All new connections to the database manager will be rejected, as authentication is not possible.

User response: Stop the database manager and start it again. If the db2start command fails, follow the user response for that sqlcode.

sqlcode: -1303

sqlstate: 58004

SQL1304N The TCP/IP security type SOCKS is not valid.

Explanation: The TCP/IP security type SOCKS in the TCP/IP protocol structure of the Catalog Node command is invalid with authentication type DCE.

User response: Make sure you do not use the combination of TCP/IP protocol with security type SOCKS and authentication type DCE.

sqlcode: -1304

sqlstate: 08001

SQL1305N An internal DCE error occurred.

Explanation: DB2 processing failed due to an internal DCE error.

User response: Make sure DCE is started. If the problem persists, contact a service representative for assistance.

sqlcode: -1305

sqlstate: 58004

SQL1306N An invalid parameter was specified during invocation of the security audit facility. Reason Code: *reason-code*.

Explanation: One of the parameters of the security audit API is incorrect. Reasons:

- 1 An invalid audit option was specified.
- 2 Invalid pointer to Configure/Describe sqleaucfg structure.
- 3 Invalid Configure/Describe parameter token.
- 4 Invalid Configure/Describe parameter value. The value is incorrect or outside the valid range for the parameter.
- 5 Invalid count specification for Configure/Describe parameter.
- 6 Insufficient length allocated for Configure/Describe parameter.
- 7 Invalid pointer to Extract sqleuextract structure.
- 8 Invalid Extract parameter token.
- 9 Invalid Extract parameter value. The value is incorrect or outside the valid range.
- 10 Invalid count specification for Extract parameter.
- 11 Invalid length for Extract parameter.

User response: The system administrator should take specific actions for each of the reasons.

- 1 Provide the right option value for the audit API call by looking at the sqlutil.h include file.
- 2 Check to see if a valid pointer has been provided to a Configure/Describe structure.
- 3 The correct parameter should be specified by looking up the audit facility reference section for the sqleaucfg parameter tokens.
- 4 Correct the parameter value by looking up the valid values in the audit facility reference.
- 5 Specify the correct count and allocate/initialize the appropriate length for variable length parameters.
- 6 Correct the length allocated for Configure/Describe parameter based on the error token that is returned in the SQLCA.
- 7 Check to see if a valid pointer has been provided to a Extract structure.
- 8 The correct parameter should be specified by looking up the audit facility reference section for the sqleuextract parameter tokens.
- 9 Correct the parameter value by looking up the valid values in the audit facility reference.

10 Specify the correct count and allocate/initialize the appropriate length for variable length parameters.

11 Correct the length allocated for Extract parameter based on the error token that is returned in the SQLCA.

SQL1307N An error occurred during invocation of the security audit facility. Reason Code: *reason-code*.

Explanation: The invocation of the security audit API caused an error to occur. Reasons:

1. Audit is already started.
2. Audit is already stopped.
3. Invalid checksum for audit configuration file.
4. The default or user-provided audit pathname is too long.
5. Could not update the audit configuration file. Either the filesystem is full or the permissions do not allow write.
6. Configuration File not found. Either the file or the directory which contains the file does not exist.
7. The extract file is not found.
8. Invalid format of audit records during extract. The file is corrupted.

User response: The system administrator should take specific actions for each of the reasons.

1. No action required.
2. No action required.
3. Restore the configuration file from backup or issue 'audit reset' command.
4. Choose a different audit pathname which is within the filename length limit.
5. If the file permissions are incorrect, set the permissions to allow write by owner. If the filesystem is full, create free space before proceeding.
6. If the audit configuration file is missing, then restore it from a backup or issue the 'reset' command to initialize the file to defaults. If the directory is missing, restore from a backup or recreate the database manager instance.
7. Verify that file exists in the specified path. If file missing, restore from backup if available.
8. The audit log file is most likely corrupted. If problem persists for other audit log files, notify DB2 service.

SQL1308W The audit Extract Facility completed Processing. *num-records* records were extracted.

Explanation: The security audit extract facility completed its processing successfully and extracted the

specified number of records.

User response: If zero records were extracted, the user should verify that the extract pathname contains extract files and the extract parameters are correct.

SQL1309N Invalid server principal name.

Explanation: The server principal name specified in the database catalog statement does not exist in the DCE registry. Because of this a DCE ticket could not be obtained for the DB2 server.

User response: Make sure that the principal name in the database catalog entry corresponds to the DCE principal being used by the DB2 server. It may be necessary to fully qualify the principal name.

sqlcode: -1309

sqlstate: 08001

SQL1310N The Database Connection Services directory service failed while attempting to access the Database Connection Services directory.

Explanation: The Database Connection Services Directory Service failed because of file errors while trying to access the Database Connection Services directory file.

The function cannot be processed.

User response: Rerun the function after doing one of the following:

- If you are adding an entry to the Database Connection Services directory, ensure that there is sufficient space for the directory file to become larger.
- Ensure that no other concurrently running program is trying to access the file.
- Verify that the directory file has not been damaged. If it is unrecoverable, you must erase it and recreate it or restore it from a backed-up version.

SQL1311N The Database Connection Services directory cannot be found.

Explanation: The directory cannot be found. The directory may have been deleted.

The function cannot be processed.

User response: Use the CATALOG DCS DATABASE command to add an entry to the Database Connection Services directory, or restore the directory from a backed-up version.

SQL1312W The Database Connection Services directory is empty.

Explanation: An attempt was made to read the contents of the Database Connection Services directory, but no entries existed.

Processing continues, but subsequent commands expecting entries to be available cannot be processed.

User response: Use the Catalog DCS Database command to add entries to the directory or restore a backed-up version that contains entries.

SQL1313N The Database Connection Services directory is full.

Explanation: The entry cannot be added to the Database Connection Services directory because the directory has already reached its maximum size.

The function cannot be processed.

User response: Delete an entry or entries from the directory before adding any more entries.

SQL1314N The address of the Database Connection Services directory entry parameter is not valid.

Explanation: The application program has used an address for this parameter that is not valid. Either the address points to an unallocated buffer or the buffer is not large enough to contain the required input.

The function cannot be processed.

User response: Ensure that the application program has allocated the required buffer area and resubmit the command.

SQL1315N The local database name is not valid.

Explanation: A local database name was specified that contains characters that are not valid. All characters must be from the database manager base character set.

The function cannot be processed.

User response: Ensure that the characters used in the local database name are from the database manager base character set and resubmit the command.

SQL1316N No entry was found in the Database Connection Services directory for the specified local database name.

Explanation: The Database Connection Services directory service failed because no entry could be found in the Database Connection Services directory that corresponds to the input local database name.

The function cannot be processed.

User response: Ensure that the local database name is

correct and resubmit the command.

SQL1317N The local database name already exists in the Database Connection Services directory.

Explanation: The entry could not be added to the directory because an entry for that local database name already exists in the directory.

The function cannot be processed.

User response: Specify a unique local database name or delete the existing entry and add the new entry.

SQL1318N The length of element *name* in the input structure for parameter 1 is not valid.

Explanation: The length values in the Database Connection Services directory entry structure should not be less than zero nor greater than the maximum length for the element it represents.

The function cannot be processed.

User response: If an element of the directory entry structure is specified, the associated length value should represent the number of bytes in the element. Otherwise, the length value should be zero. Ensure that all the directory entry structure elements have the required specifications and lengths for the command and resubmit the command.

SQL1319N The Database Connection Services directory entries have not been collected.

Explanation: A request to copy all the directory entries was received, but either a prior request to collect the entries was not received or the prior request to collect the entries failed.

The function cannot be processed.

User response: Issue a request to open the directory and collect the entries. Then resubmit this command.

SQL1320N The Database Connection Services directory cannot be accessed at this time.

Explanation: A request to access the Database Connection Services directory failed. Access to the Database Connection Services directory is dependent on the type of access requested and the current activity in the directory. If the request is for the intention of updating the directory, then the directory must not be active. If the request is to read the directory, then access is allowed if the directory is not being updated.

The function cannot be processed.

User response: Wait for the current activity to complete and resubmit the command.

SQL1321N The structure ID specified in the directory entry structure is not valid.

Explanation: The structure ID received in the directory entry structure does not represent a recognized value.

The function cannot be processed.

User response: Verify the structure ID passed in the directory entry structure is a valid value and resubmit the command.

SQL1322N An error occurred when writing to the audit log file.

Explanation: The DB2 audit facility encountered an error when invoked to record an audit event to the trail. There is no space on the file system the audit log resides on. Free up space on this file system or prune the audit log to reduce its size.

When more space is available, use db2audit to flush out any data in memory, and to reset the auditor to a ready state. Ensure that appropriate extracts have occurred, or a copy of the log has been made prior to pruning the log, as deleted records are not recoverable.

User response: The system administrator should take the suggested corrective action so that the audit facility can resume logging.

sqlcode: -1322

sqlstate: 58030

SQL1323N An error occurred when accessing the audit configuration file.

Explanation: db2audit.cfg could not be opened, or was invalid. Possible reasons:

- The db2audit.cfg file either does not exist, or has been damaged. Take one of the following actions:
 - Restore from a saved version of the file.
 - Reset the audit facility configuration file by issuing the reset command from the db2audit executable.

User response: The system administrator should take the suggested action to resolve the problem.

sqlcode: -1323

sqlstate: 57019

SQL1325N The remote database environment does not support the command or one of the command options.

Explanation: An attempt has been made to issue a DB2 workstation database specific command or command option against a host database through DB2 Connect or federated server. The following commands generate this error when issued against a DB2 for

MVS*, DB2 for OS/400* or SQL/DS* database:

- OPSTAT (Collect Operational Status)
- DARI (Database Application Remote Interface)
- GETAA (Get Administrative Authorizations)
- GETTA (Get Table Authorizations)
- PREREORG (Prepare to Reorganize Table)
- REORG (Call Reorganize Function)
- RQSVPT/ENSVPT/RLBSVPT (Subtransaction Requests)
- RUNSTATS (Run Statistics).
- COMPOUND SQL ATOMIC STATIC (Atomic Compound SQL)
- ACTIVATE DATABASE
- DEACTIVATE DATABASE

As well, the following commands generate this error with incorrect options:

- IMPORT (Import table) The filetype must be IXF, commitcount must be 0 for offline import or must not be automatic for online import, and the first word in the Action String (for example, "REPLACE into ...") must be INSERT.
- EXPORT (Export table) The filetype must be IXF.

The command cannot be processed.

User response: Do not attempt to issue this command against a host database through DB2 Connect or federated server.

SQL1326N The file or directory *name* cannot be accessed.

Explanation: The file or directory *name* cannot be accessed because either the file permissions are incorrect, the file path is incorrect, or there is insufficient space in the directory or path.

User response: Verify that any path or filename specified in the command is valid, you have the proper permissions to access the path or filename, and there is sufficient space to contain the file. Correct the problem and resubmit the command. If the problem persists, contact your System Administrator.

SQL1327N An implicit connection attempt failed. *database-name* is not a valid database name.

Explanation: An attempt to perform an implicit connection failed. The syntax of the database alias name specified by the DB2DBDFT environment variable is not valid. The database name must contain 1 to 8 bytes and all the characters must be from the database manager base character set.

The command cannot be processed.

User response: Correct the database alias name

specified by the DB2DBDFT environment variable and resubmit your command. If using the command line processor, then a "db2 terminate" should be issued prior to resubmitting the command. If you do not want an implicit connection to be performed, remove the DB2DBDFT environment variable.

sqlcode: -1327

sqlstate: 2E000

SQL1328N An implicit connection attempt failed. The database alias name or database name *name* was not found in the local database directory.

Explanation: An attempt to perform an implicit connection failed. The database name specified by the DB2DBDFT environment variable does not name an existing database. The database could not be found in the database directory.

The command cannot be processed.

Note that a CONNECT RESET request issued within a distributed unit of work will attempt an implicit connect to the default database. This may be the reason for this error.

User response:

- Correct the database alias name specified by the DB2DBDFT environment variable and resubmit the command.
- If the intended action is to remove a connection while operating in a distributed unit of work environment, consider replacing the CONNECT RESET statement with a DISCONNECT or RELEASE statement.
- If using the command line processor, then a "db2 terminate" should be issued prior to resubmitting the command.
- If you do not want an implicit connection to be performed, remove the DB2DBDFT environment variable.

sqlcode: -1328

sqlstate: 42705

SQL1329N The resolved path specified on the command is too long.

Explanation: The resolved path specified on the command exceeds the maximum length supported by the database manager. The resolved path must be no longer than 215 characters in length. During a Create Database, Catalog Database, Open Database Directory for scan, and change database comment commands, the database manager instance name is appended to the end of the specified path.

User response: Check that the fully resolved absolute

or relative path name, including the database manager instance name, does not exceed 215 characters in length. Correct the path and resubmit the command.

SQL1330N The symbolic destination name *name* is not valid.

Explanation: The symbolic destination name in the CPIC protocol structure of the Catalog Node command is either not specified or longer than the allowable length. The name must be 1 to 8 bytes in length.

User response: Verify that the symbolic destination name is specified and that it is not longer than 8 bytes in length. Resubmit the command with a valid symbolic destination name.

SQL1331N The CPIC security type *type* is not valid.

Explanation: The CPIC security type specified in the CPIC protocol structure of the Catalog Node command is invalid. The security type specifies the security information that will be included when a database client allocates a conversation with a partner LU, as specified by the LU 6.2 architecture. Correct values for security type are:

- SQL_CPIC_SECURITY_NONE
 - No access security information will be included.

Note: This is not supported when using federated server. When DB2 Connect is used, it is only supported when authentication type is DCE, KERBEROS, or SERVER_ENCRYPT.

- SQL_CPIC_SECURITY_SAME
 - A userid will be included together with an indicator specifying that the userid is already verified. This is not supported when authentication type SERVER is used with DB2 Connect or federated server, or when authentication type is DCE, KERBEROS, or SERVER_ENCRYPT.
- SQL_CPIC_SECURITY_PROGRAM
 - Both a userid and a password will be included. This is not supported when authentication type CLIENT is used with DB2 Connect or when authentication type is DCE, KERBEROS, or SERVER_ENCRYPT.

User response: Set the security type to one of the above and resubmit the command.

sqlcode: -1331

sqlstate: 08001

SQL1332N The Host Name *name* is not valid.

Explanation: The host name in the TCP/IP protocol structure of the Catalog Node command is either not specified or longer than the allowable length. The name

must be 1 to 255 characters in length and cannot be all blanks.

User response: Verify that the host name is specified and that it is not longer than 255 characters in length. Resubmit the command with a valid host name.

SQL1333N The Service Name *name* is not valid.

Explanation: The service name in the TCP/IP protocol structure of the Catalog Node command is either not specified or longer than the allowable length. The name must be 1 to 14 characters in length and cannot be all blanks.

User response: Verify that the service name is specified and that it is not longer than 14 characters in length. Resubmit the command with a valid service name.

SQL1334N The database server cannot be used to route a remote request to a second database server in this configuration.

Explanation: An attempt was made to route a request through a database server node using an unsupported combination of client and target database server. Either a client or target database prior to release version 2 was used or an attempt was made to route the request from a DRDA client to a DRDA target database. The request must be routed directly from the client to the node on which the target database is running.

User response: Uncatalog the database at the client machine and then catalog the database specifying the node on which the database actually resides. Ensure that the node is also cataloged.

SQL1335N The application requestor name is not valid

Explanation: An application requestor name was specified that contains characters that are not valid. All characters must be from the database manager base character set.

User response: Ensure that the characters used in the application requestor name are from the database manager base character set and resubmit the command.

SQL1336N The remote host *hostname* was not found.

Explanation: The system cannot resolve the address of the remote host. Possible causes are:

- An incorrect hostname value was specified when the TCP/IP node was cataloged.
- The correct hostname was specified, but was not defined in any TCP/IP name server accessible to your client node, nor in the client's hosts file.

- The TCP/IP name server where the hostname was defined was not available at the time you tried to connect.
- TCP/IP is not running.
- The remote host was cataloged on this client using the CATALOG TCPIP6 NODE command. However, the remote host does not support IPv6.

User response: Make sure that TCP/IP is running and that the hostname specified when cataloging the TCP/IP node is a correct name, and that it is defined in an accessible name server or in the local hosts file.

If the remote host was cataloged on this client using the CATALOG TCPIP6 NODE command but the remote host does not support IPv6, then perform the following steps: (1) Use the UNCATALOG command and (2) recatalog using the CATALOG TCPIP NODE command.

Federated system users: verify that the remote host is cataloged correctly in the SYSCAT.SERVERS view.

sqlcode: -1336

sqlstate: 08001

SQL1337N The service *service-name* was not found.

Explanation: The system cannot resolve the port number associated with the service-name. Possible causes are:

- An incorrect service-name value was specified when the TCP/IP node was cataloged.
- The correct service-name was specified, but was not defined in the client's services file.

Federated system users: this situation can also be detected by the data source.

User response: Make sure that the service-name specified when cataloging the TCP/IP node is a correct name, and that it is defined in the local services file.

Federated system users must also ensure that the name is defined in the services file at the data source.

SQL1338N The symbolic destination name *symbolic-destination-name* was not found.

Explanation: The system cannot find the Side Information associated with the symbolic-destination-name you specified. Possible causes are:

- An incorrect symbolic-destination-name value was specified when the CPIC NODE was cataloged.
- The symbolic destination name and its associated side information have not been defined to the SNA communications subsystem.
- The SNA communication subsystem has not been started.

User response: Make sure that the symbolic-destination-name specified when cataloging

the CPIC node is a correct name, and that it has been defined to the local SNA communication subsystem.

Start the SNA communication subsystem if it has not been started.

SQL1339N *n* SQL error(s) were detected in the execution of a Not Atomic Compound SQL statement, and have the following identification: *error1 error2 error3 error4 error5 error6 error7*.

Explanation: One or more SQL substatements within a Compound SQL statement resulted in SQL errors (negative return codes).

The error tokens will not be returned for CLI/ODBC applications. CLI/ODBC applications can use SQLGetDiagRec, SQLGetDiagField, or SQLError APIs to get more information about each error.

User response: Examine the error identification information provided. There will be <n> <errorX> tokens filled in, up to a maximum of 7. Each <errorX> represents an SQL statement error. These errors are listed in the order that they were encountered. If the message text has not been formatted, this information can be found in the second and subsequent tokens of the SQLERRMC field (tokens are separated by a one byte hexadecimal value 0xFF).

Each <errorX> is of the format PPPSSSSS where:

PPP PPP represents the position of the statement that caused the error within the Compound SQL block, and is left-justified. For example, if the first statement failed, this field would contain the number one ("1").

SSSSS SQLSTATE of the statement that failed.

More information can be found by examining the SQLCA itself. The third SQLERRD field contains the number of rows affected by the compound SQL statement, the fourth SQLERRD field contains the position of the last statement that succeeded, the 5th SQLERRD field contains the number of rows affected by referential integrity when DB2 Client/Server and SQL/DS databases are accessed, and the 6th SQLERRD field contains the number of statements that failed (returned negative SQLCODES).

sqlcode: -1339

sqlstate: 56091

SQL1340N The file server *fileserv* was not found.

Explanation: The system cannot find the specified file server on the network. Possible causes are:

- An incorrect *fileserv* name was specified when the IPX/SPX node was cataloged.

- The correct *fileserv* name was specified, but the file server was not available at the time the connect was tried.

User response: Make sure that the *fileserv* name specified when cataloging the IPX/SPX node is correct, and that the file server is available on the network.

SQL1341N A workstation name must be specified in the client database manager configuration file.

Explanation: A workstation name has not been specified in the client database manager configuration file. A workstation name must be specified when using NetBIOS to communicate with the server.

User response: Specify a workstation name in the client database manager configuration file.

SQL1342N The File Server name *name* is missing or invalid.

Explanation: The File Server name specified in the command/API is missing or invalid.

User response: Verify that a File Server name was specified, that the name does not contain invalid characters, and is not longer than 48 characters in length. Resubmit the command/API with a valid File Server name.

SQL1343N The Object Name *name* is missing or invalid.

Explanation: The Object Name specified in the command/API is missing or invalid.

User response: Verify that the Object Name was specified, that the name does not contain invalid characters, and is not longer than 48 characters in length. Resubmit the command/API with a valid Object Name.

SQL1344N Orphan rows found in the system catalogs. Contact your technical service representative prior to attempting a migration.

Explanation: One or more system catalogs contain orphan rows that would cause a migration to fail.

User response: Contact your technical service representative. Do not attempt a migration until this problem has been resolved.

SQL1350N The application is not in the correct state to process this request. Reason code=*rc*.

Explanation: Corresponding to *rc*:

01 The application is currently processing SQL and cannot process the utility command requested.

02 A Backup request is in progress. A warning was received from the initial utility call indicating that further requests are required before Backup can complete.

03 A Restore request is in progress. A warning was received from the initial utility call indicating that further requests are required before Restore can complete.

04 A Rollforward request is in progress. A warning was received from the initial utility call indicating that further requests are required before Rollforward can complete.

05 A Load request is in progress. A warning was received from the initial utility call indicating that further requests are required before Load can complete.

07 Federated system users: the application cannot process this command after executing SQL statements.

User response: Corresponding to *rc*:

01 Complete the unit of work (using either COMMIT or ROLLBACK) before reissuing this command.

02-05 Issue the required call(s) to complete the utility in progress, then reissue this command.

07 Federated system users: the application must issue the commands after establishing a connection to the database manager but prior to any other SQL statements.

SQL1351C No FCM channels are available.

Explanation: No FCM channels are available. FCM is unable to increase the number of channels automatically because the maximum value has been reached.

The statement cannot be processed.

User response: Try the request again after other processes have freed up some of this resource.

If the error persists, increase the number of FCM channels (*fcnumchannels*) specified in the database manager configuration file, then try the request again.

sqlcode: -1351

sqlstate: 57011

SQL1352N Trusted Connection cannot be reused during a transaction.

Explanation: An attempt to reuse a connection failed because the connection was in a transaction. The connection is now in an unconnected state.

User response: Before trying to reuse a connection make sure that you perform a commit or rollback.

SQL1353N A column option for column *column-name* is invalid in a transparent DDL statement Reason code = *reason-code*.

Explanation: Transparent DDL statements create objects at a data source. Certain column options that can be specified for objects created at the federated server are not supported via transparent DDL statements. The specific column option specified for column *column-name* is indicated by the *reason-code* as follows:

1. lob-options
2. unique-constraint, referential-constraint, or check-constraint
3. default-clause
4. generated-column-spec (not including the default-clause)

The statement cannot be processed.

User response: Remove or replace the option that is invalid.

sqlcode: -1353

sqlstate: 428GO

SQL1354N An SQL variable in routine *routine-name* is not available for reference due to a recent commit or rollback operation.

Explanation: During the execution of routine *routine-name* an attempt was made to reference an SQL variable or SQL parameter of data type XML that cannot be referenced because a recent commit or rollback operation has caused its value to no longer be available.

Referencing variables or parameters of data type XML in SQL procedures after a commit or rollback operation occurs without first assigning new values to these variables is not supported.

User response: To prevent the error from occurring, do one or more of the following:

- Move the commit or rollback operation to after the SQL statement that references SQL variables or SQL parameters of data type XML.
- Remove references to SQL variables or SQL parameters of data type XML that follow commit or rollback operations.

- Assign values to SQL variables or SQL parameters of data type XML that will be referenced in SQL statements that follow a commit or rollback operation.
- Retry the transaction if the rollback was implicit as a result of conditions such as deadlocks or system failures.

sqlcode: -1354

sqlstate: 560CE

SQL1355N One or more values specified when retrieving alert configuration settings are invalid. Reason code: *reason-code*.

Explanation: One or more values specified when retrieving alert configuration settings are invalid for the reason given by reason code *reason-code*. The possible reason codes are as follows:

- 1 The specified object type is invalid.
- 2 The specified configuration level is invalid.
- 3 The request to retrieve alert configuration for a particular database failed because the database name is not specified.
- 4 The request to retrieve alert configuration for a particular object failed because either the database name or the object name is not specified.
- 5 The object specified does not match the object type.
- 6 An object was specified but no object level settings were requested.

User response: The action corresponding to the reason code is:

- 1 To retrieve alert configuration settings for the database manager, specify object type DBM, for the database, specify object type DB, for a tablespace, specify object type TS, for a tablespace container, specify object type TSC.
- 2 If the object type is DBM, specify configuration level D to retrieve install default settings, or specify G or O to retrieve instance level settings. If the object type is not DBM, specify configuration level D to retrieve install default settings, specify G to retrieve global level settings, or specify O for object level settings.
- 3 Specify the database name.
- 4 Ensure both the database name and the object name are specified.
- 5 Ensure the object specified matches the object type.

6 Specify object name only if you want to retrieve object level settings.

Resubmit the request.

sqlcode: -1355

sqlstate: 560CD

SQL1356N The data partition cannot be detached from the table *tablename*.

Explanation: The ALTER TABLE ... DETACH PARTITION statement cannot be processed. The data partition has been attached within the same unit of work (UOW) and so the table has a pending modification to be made.

User response: Either COMMIT or ROLLBACK the pending ATTACH transaction before detaching the partition.

SQL1360N Current processing cannot be interrupted.

Explanation: The user attempted to interrupt a process which is not interruptible.

User response: Do not interrupt the current process.

SQL1361W Execution time has exceeded timeout value. Do you wish to interrupt it?

Explanation: If a command takes longer than a pre-defined timeout period, a dialog box pops up asking if the (Windows client) user wants to interrupt it or not.

Note that this message is applicable in Windows environments only, and will only be seen in a dialog pop up box.

User response: There are three choices: YES - interrupt now; NO - continue, don't prompt me; CANCEL - continue, same timeout.

SQL1362W One or more of the parameters submitted for immediate modification were not changed dynamically. Client changes will not be effective until the next time the application is started or the TERMINATE command has been issued. Server changes will not be effective until the next DB2START command.

Explanation: Some changes to the database manager configuration could not be applied immediately. For these parameters, the changes become effective only after DB2 is started. This typically occurs after a DB2START on a server and after the application restarts on a client.

User response: To see which parameter changes took effect dynamically and which ones did not, retrieve the database manager configuration parameters and display the parameter details using the following command:

```
DB2 GET DBM CFG SHOW DETAIL
```

Changes to database manager configuration parameters can only take effect dynamically if you are attached to the instance. Not all configuration parameters support dynamic update. To see which parameters can be changed dynamically, refer to the Administration Guide.

If several parameters were submitted in a group, submit the parameters individually. In those cases where a configuration parameter could not change dynamically, do one or more of the following:

- for user applications: stop and start the application
- for CLP: TERMINATE and reconnect
- for a server: issue DB2STOP and DB2START

SQL1363W One or more of the parameters submitted for immediate modification were not changed dynamically. For these configuration parameters, all applications must disconnect from this database before the changes become effective.

Explanation: The database configuration command has been successfully processed. However, not all changes were processed right away. After the applications disconnect from the database, the first connection to the database will cause the changes to become effective.

User response: To see which parameter changes took effect dynamically and which ones did not, retrieve the database configuration parameters and display the parameter details using the following command:

```
DB2 GET DB CFG FOR  
<database-alias> SHOW DETAIL
```

Changes to database configuration parameters can only take effect dynamically if you are connected to the database. Not all configuration parameters support dynamic update. To see which parameters can be changed dynamically, refer to the Administration Guide.

If several parameters were submitted in a group, submit the parameters individually. In those cases where a configuration parameter could not change dynamically, do one or more of the following:

- Ensure that all applications disconnect from the database and issue a db2 connect to command.

- Rebind your packages after the new configuration parameters take effect so that the new values will be used during the bind.
- Use the FLUSH PACKAGE CACHE command to invalidate dynamic statements in the SQL cache.

SQL1364W One or more of the configuration parameters were set to AUTOMATIC in a case where the parameter does not support AUTOMATIC.

Explanation: One or more of the configuration parameters were set to AUTOMATIC in a case where the parameter does not support AUTOMATIC.

User response: If the parameter changes were submitted as a group, resubmit the changes individually to see which parameter changes were successful.

If only one parameter was submitted then this message indicates that the value AUTOMATIC is not supported for this parameter.

To find out which configuration parameters support the AUTOMATIC value, refer to the Administration Guide.

SQL1365N db2start or db2stop failed in processing the plug-in *plugin-name*. Reason code = *reason-code*.

Explanation: Processing failed for the server side security plug-in *plugin-name*. The explanation corresponding to the *reason-code* is:

- 1 Security plug-in not found.
- 2 Unable to load the security plug-in.
- 3 More than one Kerberos security plug-in is specified in the SRVCON_GSSPLUGIN_LIST database manager configuration parameter.
- 4 No Kerberos based security plug-in is found and Kerberos is specified in the SRVCON_AUTH or AUTHENTICATION database manager configuration parameter.
- 5 Required API is missing in the security plug-in.
- 6 Wrong security plug-in type.
- 7 Error encountered during unloading of the security plug-in.
- 8 Invalid security plug-in name.
- 9 The version of the APIs reported by the security plug-in is not compatible with DB2.
- 10 Security plug-in encountered an unexpected error on the database server
- 11 The SRVCON_GSSPLUGIN_LIST database manager configuration parameter is not set and GSSPLUGIN or GSS_SERVER_ENCRYPT

is specified in the SRVCON_AUTH or AUTHENTICATION database manager configuration parameter.

User response: The user response corresponding to the *reason-code* is:

- 1 Ensure that the indicated security plug-in is located in the server-plug-in directory.
- 2 Check the administration notification log file for the cause of the failure. Fix the problem identified by the error message text in the administration notification log.
- 3 Ensure that only one Kerberos security plug-in is specified in the SRVCON_GSSPLUGIN_LIST database manager configuration parameter.
- 4 Specify one Kerberos security plug-in in the SRVCON_GSSPLUGIN_LIST database manager configuration parameter or do not specify Kerberos in the SRVCON_AUTH or AUTHENTICATION database manager configuration parameter.
- 5 Check the administration notification log file for the missing required API name. Add the missing API to the security plug-in.
- 6 Specify the right type of security plug-in in the appropriate database manager configuration parameter. For example, do not specify a userid-password based security plug-in for the SRVCON_GSSPLUGIN_LIST database manager configuration parameter.
- 7 Check the administration notification log file for the cause of the failure. Fix the problem identified by the error message text in the administration notification log.
- 8 Specify a valid security plug-in name. The name should not contain any directory path information.
- 9 Ensure that the security plug-in is using a supported version of the APIs and that it is reporting a correct version number.
- 10 Check the administration notification log file on the client and on the server for more information. Fix the problem identified by the error message text in the administration notification log.
- 11 Specify at least one GSS-API based security plug-in for the SRVCON_GSSPLUGIN_LIST database manager configuration parameter or specify a different authentication type for the SRVCON_AUTH or AUTHENTICATION database manager configuration parameter.

SQL1366N A security plug-in *plugin-name* processing error on the client. Reason code = *reason-code*.

Explanation: The client side security plug-in returned an error. The explanation corresponding to the *reason-code* is:

1. Required API is missing in the security plug-in.
2. Wrong security plug-in type.
3. Unable to load the client security plug-in.
4. Unable to unload the security plug-in.
5. Invalid plug-in name.
6. The version of the APIs reported by the security plug-in is not compatible with DB2.
7. Security plug-in encountered an unexpected error.
8. Invalid client credential.
9. Security plug-in received an expired credential.

User response: The user response corresponding to the *reason-code* is:

1. Check the administration notification log file for the name of the required missing API. Add the missing API to the security plug-in.
2. Specify the right type of security plug-in in the appropriate database manager configuration parameter. For example, do not specify a userid-password based security plug-in for the SRVCON_GSSPLUGIN_LIST database manager configuration parameter.
3. Check the administration notification log file for the cause of the failure. Fix the problem identified by the error message text in the administration notification log.
4. Check the administration notification log file for the cause of the failure. Fix the problem identified by the error message text in the administration notification log.
5. Specify a valid security plug-in name. The name should not contain any directory path information.
6. Ensure that the security plug-in is using a supported version of the APIs and that it is reporting a correct version number.
7. Check the administration notification log file on the client and on the server for more information. Fix the problem identified by the error message text in the administration notification log.
8. Verify that the client credential (generated by db2secGenerateInitialCred or provided as an inbound delegated credential) is in a format recognized by the security plug-in. As the credential will be used to initiate contexts, it must be an INITIATE or BOTH credential.
9. The user issuing the statement must obtain the appropriate credentials (or re-obtain their initial credentials) and then resubmit the statement.

SQL1367N Insufficient operating system configuration for resource policy support.

Explanation: Resource policy does not support the current operating system configuration.

User response: Install the appropriate operating system level or disable the DB2_RESOURCE_POLICY registry variable.

SQL1368N Invalid resource policy configuration.

Explanation: The resource policy file is invalid.

User response: Correct the policy definition specified by the file defined by the DB2_RESOURCE_POLICY registry variable.

Disable resource policy support by clearing the DB2_RESOURCE_POLICY registry variable or set DB2_RESOURCE_POLICY to AUTOMATIC for automatic configuration.

SQL1369N Invalid XML document.

Explanation: The current XML document is invalid.

User response: Validate the XML document before proceeding.

SQL1370N An attempt to quiesce instance or database *name1* failed because instance or database *name2* is already quiesced by user *username*. Quiesce type: *type*.

Explanation: An attempt was made to quiesce an instance or database which would have caused an overlapping quiesce, such as quiescing an instance while a database is already quiesced by another user.

Quiesce type *type* refers to the instance or database already quiesced and is a '1' for an instance and a '2' for a database.

User response: Contact the user who currently has the instance or database quiesced to determine when DB2 will no longer be quiesced, and retry the request at that time.

SQL1371W Instance or database *name* is already quiesced. Quiesce type: *quiesce-type*.

Explanation: An attempt was made to quiesce an instance or database which is already quiesced.

User response: No action required.

SQL1372N Cannot perform a quiesce while in a transaction.

Explanation: An attempt was made to quiesce a database or instance while the user issuing the quiesce

has uncompleted units of work. Quiesce cannot be issued while in this state.

User response: Complete the unit of work (COMMIT or ROLLBACK) and retry the request.

SQL1373W Cannot unquiesce instance or database *name*, because it is not quiesced.

Explanation: Unquiesce failed because the instance or database is not quiesced.

User response: Ensure that the unquiesce is being issued for the correct instance or database.

SQL1374N Cannot QUIESCE RESET instance or database *name*, because it has been quiesced by another user *username*.

Explanation: The instance or database is quiesced, but you are not the quiescer.

User response: Ensure that the quiesce reset is being issued for the correct instance or database.

SQL1375N An invalid parameter was passed to the api. Parameter *parm-code* is in error.

Explanation: *parm-code* indicates the parameter in error:

- 1 scope
- 2 options

The value may be out of range or invalid.

User response: Check the syntax of the api, correct the parameter and try again.

SQL1380N An unexpected Kerberos security error has occurred.

Explanation: An unexpected Kerberos security error occurred during authentication.

User response: No action required.

SQL1381N The Security Support Provider Interface is not available.

Explanation: Authentication failed because the Security Support Provider Interface (SSPI) was not available.

User response: When running under Windows operating system, ensure that the file security.dll exists under the system directory. Also ensure that SSPI is supported for the operating system that is being used.

SQL1382N Kerberos support is not available.

Explanation: Authentication failed because Kerberos support is not installed.

User response: Ensure that Kerberos support is installed and operational, then retry the connection.

SQL1383N The target principal name is not valid.

Explanation: The target principal name that was specified in the CATALOG DATABASE command is not valid.

User response: Remove the database entry that has the invalid target principal name by using the UNCATALOG DATABASE command. Re-catalog the database entry with a valid target principal name using the CATALOG DATABASE command and retry the connection.

When running in a Windows operating system environment, the target principal name is the logon account name of the DB2 service in the format of <domain name>\<user ID>.

SQL1384N Unable to complete mutual authentication.

Explanation: The connection failed because either the client or server was unable to complete mutual authentication.

User response: If the target principal name was specified in the CATALOG DATABASE command, ensure that the target principal name is valid for the server to which the client is attempting to connect or attach.

When running in a Windows operating system environment, the target principal name is the logon account name of the DB2 service in the format of <domain name>\<user ID>.

If the target principal name appears to be invalid, then contact IBM service for assistance.

SQL1390C The environment variable DB2INSTANCE is not defined or is invalid.

Explanation: The environment variable DB2INSTANCE is not defined or is not set to a valid instance owner.

User response: Set the DB2INSTANCE environment variable to the name of the instance to use. If you do not know the name of the instance to use or how to set the DB2INSTANCE environment variable to the instance name, refer to the *Administration Guide*.

Federated system users: refer to the *Federated Systems Guide* for DB2INSTANCE information.

Ensure your PATH environment variable contains the

sqllib/adm path in the home directory of the instance you want to use (for example, /u/instance/sqllib/adm, where /u/instance is the home directory of the instance owner on a UNIX system).

SQL1391N The database is already in use by another instance.

Explanation: The request failed because the database is in use by another instance of the database manager (a database may only be used by one instance.) This may be caused by attempting to access a database located on a mounted file system accessible to another instance located on another machine.

This can also occur if you have an open connection (via SNA) to a database and the database manager was brought down abnormally.

User response:

- Validate that you are using the correct database and ensure no other instance uses this database.
- If the database manager was brought down abnormally, and you have a command line processor connection to it, perform a db2 terminate to close the offending open connection before attempting to connect again.

sqlcode: -1391

sqlstate: 51023

SQL1392N Multiple instances of applications using prep,-bind,-import,-export is not supported.

Explanation: Only 1 instance of prep, bind, import, or export can be running at any one time within WINDOWS.

User response: Within WINDOWS, do not attempt to start more than 1 application that uses prep, bind, import, or export.

SQL1393C The environment variable DB2PATH is not defined or is invalid.

Explanation: The environment variable DB2PATH is not defined or is not set to a valid directory path.

User response: Set the DB2PATH environment

SQL1400 - SQL1499

SQL1400N Authentication is not supported.

Explanation: The authentication type supplied is not one of the supported types.

The command can not be processed.

User response: The user should reissue the command with a valid parameter value.

variable to the directory where the database manager is installed.

SQL1394N The instance is not defined.

Explanation: The new instance can not be set for the application because the instance is not defined.

User response: Ensure that the specified instance exists. Use the db2ilist command to display the list of instances:

db2ilist

SQL1395N Unable to switch to another instance because the application is using multiple contexts.

Explanation: The request to switch to another instance failed because the application is using multiple contexts.

User response: Ensure that the application is not using multiple contexts before switching to another instance.

SQL1396N Unable to switch to another instance because the application is connected to a database or attached to an instance.

Explanation: Request to switch to another instance failed because the application is connected to a database or attached to an instance.

User response: Ensure that the application is not connected to any database or attached to any instance before switching to another instance.

SQL1397N The DB2 service failed to logon.

Explanation: DB2 service did not start due to a logon failure.

User response: If you are starting the DB2 Administration Server, then use the DB2ADMIN SETID command to set a new logon account. If you are starting a DB2 server on Windows NT, you can set the logon account for a DB2 service by using the Services dialog box from the Control Panel.

SQL1401N Authentication types do not match.

Explanation: The user is attempting to connect to a remote database which is cataloged on the local node with a different authentication type from the remote node.

Federated system users: this message can also appear when:

- A data source is identified in SYSCAT.SERVEROPTIONS with SETTING='N' for OPTION='PASSWORD' and the data source is not running in trusted client mode (that is, the data source expects a password)
- The data source is identified in SYSCAT.SERVEROPTIONS with SETTING='Y' for OPTION='PASSWORD' and the data source is running in trusted client mode (that is, the data source does not expect a password)
- There is no server option specified for OPTION='PASSWORD' in SYSCAT.SERVEROPTIONS and the system default value for PASSWORD violates the data source password requirement.

User response: The command can not be processed.

The user should recatalog the database alias on the client node with the same authentication type as the remote database. Resubmit the command.

Federated system users:

- If the problem is that the data source requires a password but SYSCAT.SERVEROPTIONS contains SETTING='N' for OPTION='PASSWORD' for that server, alter SYSCAT.SERVEROPTIONS to reflect the true data source password requirement using the ALTER SERVER SQL statement.
- If the problem is that the data source does not require a password but SYSCAT.SERVEROPTIONS contains SETTING='Y' for OPTION='PASSWORD' for that server, alter SYSCAT.SERVEROPTIONS to reflect the true data source password requirement using the ALTER SERVER SQL statement.
- If the server option for OPTION='PASSWORD' is not set in SYSCAT.SERVEROPTIONS, create an entry using the CREATE SERVER SQL statement to reflect the true data source password requirement.

sqlcode: -1401

sqlstate: 08001

SQL1402N Unable to authenticate user due to unexpected system error.

Explanation: Call your system administrator. On unix-based systems, the file *db2ckpw* may not have the correct permission bits set, or the system may have run out of swap/paging space. On Windows NT, the DB2 security service may not have been started or the account may be locked.

The command can not be processed.

Federated system users: this situation can also be detected by the data source.

User response: On unix-based systems, have the system administrator ensure the correct access permissions are set for *db2ckpw*, and that there is

enough swap/paging space allocated. On Windows NT, have the system administrator verify that the DB2 security service is installed and started. If the service is running then ensure that the account is not locked.

SQL1403N The username and/or password supplied is incorrect.

Explanation: The username and/or password supplied is incorrect or not a valid username/password combination or the database to which you are attempting to connect to has an authentication type of SERVER and no username and password was supplied on the CONNECT TO statement.

If DB2 Connect is being used, the problem may be that the DCS directory entry for the host connection could not be found.

The command can not be processed.

Federated system users: this situation can also be detected by the data source.

User response: Supply the correct username and password combination.

Federated system users: ensure that the entry in SYSCAT.USEROPTIONS contains the correct username and password for the data source being accessed.

sqlcode: -1403

sqlstate: 08004

SQL1404N Password expired.

Explanation: Your password has expired.

User response: Change your password, then retry the request using the new password. You can use the DB2 Client Configuration Assistant, or Command Line Processor CONNECT and ATTACH commands to change your password.

sqlcode: -1404

sqlstate: 08004

SQL1405N Unable to communicate with local DB2 authentication server.

Explanation: The application failed to authenticate due to an error while communicating to the local DB2 authentication server.

User response: Ensure that the DB2 authentication server is started.

SQL1415N The statement was compiled for diagnostic purposes only and has not been executed.

Explanation: The statement was processed through parts of the system to collect diagnostic information using service features. The necessary steps to allow

further processing of the statement have not been completed.

User response: This error is returned to prevent further processing by the system of statements prepared using service features and is expected.

SQL1420N Too many concatenation operators.

Explanation: The database manager has reached an internal limit while evaluating an expression, of long or large object string result type, that contains concatenation operators.

User response: Reduce the number of concatenations in the expression and try again.

sqlcode: -1420

sqlstate: 54001

SQL1421N MBCS conversion error occurred when converting host variable or sqlvar number to or from wchar_t format. Reason code rc.

Explanation: A C/C++ application with embedded SQL statements was precompiled with the WCHARTYPE CONVERT option. At runtime, the application received an error which occurred during conversion in either `wcstombs()`, for input host variables, or `mbstowcs()`, for output host variables. The host variable or sqlvar number indicates which data item experienced the problem. Valid reason codes are:

- 1 the problem occurred with input data
- 2 the problem occurred with output data

User response: If application data is already in MBCS format, re-compile the application with WCHARTYPE NOCONVERT and re-build. If application data is intended to be in `wchar_t` format, then input data failing in `wcstombs()` may be corrupt. Correct the data and re-execute the application.

sqlcode: -1421

sqlstate: 22504

SQL1422N The size of the container is invalid.

Explanation: One of the containers to be used in a database managed table space is either too large or too small. A container must be at least 2 * extentsize pages in length. The maximum size of a container is operating system dependent. The most common system limit is 2 gigabytes (524288 4K pages).

User response: Check the administration notification log for details. Then correct the SQL statement.

sqlcode: -1422

sqlstate: 54039

SQL1423N The query includes a column with a large object data type.

Explanation: The query includes a column with a data type of BLOB, CLOB or DBCLOB. In general, such data types cannot be handled from clients available prior to Version 2.1.

The error occurred for a condition that corresponds to warning SQLCODE +238. See this message for details that explain the condition. The client level receiving this message cannot process BLOB data types. It may be able to handle CLOB and DBCLOB data types by using the SUBSTR function or by setting the data type in the SQLDA to one of the character data types available in Version 1 if the LOB column is not larger than the supported length of the character data type.

User response: Change the query to exclude any column that has a data type of BLOB, CLOB or DBCLOB. This is the only possible action if the query includes a column of type BLOB. If the column (say C1) is a CLOB, you could use `CAST(C1 AS LONG VARCHAR)` to get the first 32700 characters. Similarly for DBCLOB column (DC1) use `CAST(DC1 AS LONG VARGRAPHIC)` to get the first 16350 characters. If the application code can be changed, code can be added to change the SQLDA to use LONG VARCHAR or LONG VARGRAPHIC for CLOB and DBCLOB.

sqlcode: -1423

sqlstate: 56093

SQL1424N Too many references to transition variables and transition table columns or the row length for these references is too long. Reason code=rc.

Explanation: The trigger includes a REFERENCING clause that identifies one or more transition tables and transition variables. The triggered action of the trigger contains references to transition table columns or transition variables with one of the following conditions identified by the reason code:

- 1 references total more than the limit of the number of columns in a table
- 2 sum of the lengths of the references exceeds the maximum length of a row in a table.

User response: Reduce the number of references to transition variables and transition table columns in the trigger action of the trigger so that the length is reduced or the total number of such references is less than the maximum number of columns in a table.

sqlcode: -1424

sqlstate: 54040

SQL1425N A password has been supplied without a userid.

Explanation: Any command/API that accepts a userid and password will not accept a password without a userid.

User response: Resubmit the command/API and supply a userid if you are also supplying a password.

SQL1426N A default instance cannot be determined.

Explanation: If an explicit 'attach to instance' has not been performed, instance commands try to form an implicit attachment to a default instance. The default instance is determined from the DB2INSTDFLT and DB2INSTANCE environment variables. If neither of these are set, then no implicit attachment can be formed.

User response: Set one of these environment variables to a valid instance name and resubmit the command.

SQL1427N An instance attachment does not exist.

Explanation: The application is not attached to an instance. The attempted command/API cannot be executed unless there is an existing instance attachment.

User response: If the error occurred when detaching from an instance, continue processing. If the error occurred during the execution of any other command, attach to an instance and reissue the failed command.

SQL1428N The application is already attached to *nodename1* while the command issued requires an attachment to *nodename2* for successful execution.

Explanation: In order to successfully process the command, an attachment to a node other than that which currently exists is required. The application must either: 1) have no attachment when the command is issued, or 2) already be attached to the node required by the command.

User response: Ensure that the application has no attachment before issuing the command or that the attachment that exists is to the correct node.

SQL1429N A node directory entry cannot be created in which the node name matches the value of the DB2INSTANCE environment variable.

Explanation: The CATALOG NODE command or API does not allow an entry whose nodename matches the value of the DB2INSTANCE environment variable.

User response: Choose another node name for the node being cataloged and try again.

SQL1430N The database name *database* cannot be found in the system database directory on node *nodename*.

Explanation: When specific database names are provided to the database monitor, those databases must reside either at the node to which you are currently attached or at the local node.

User response: Make sure the databases listed in the request all reside at the node to which you are attached or at the local node. Reissue the request.

SQL1431N The relative path *path* is not allowed when executing remotely.

Explanation: When the application is remote from the server, relative paths are not allowed.

User response: Specify a fully qualified path that is valid at the server and reissue the command.

SQL1432N A request has been sent to a server using a database protocol which the server does not recognize.

Explanation: This error is caused by sending a DB2 request to a server which does not understand the database protocol being used to transmit the request. This situation will occur most frequently when sending a DB2 ATTACH request to a server listed in your node directory which is not a DB2 Version 2 or greater server. This error will also arise if you send an attach request to DB2 for AS/400, DB2 for MVS, or DB2 for VM and VSE servers.

User response: Do not attempt to attach to any of the servers listed above.

SQL1433N The application is already connected to *database1* while the command issued requires a connection to *database2* for successful execution.

Explanation: In order to successfully process the command, a connection to a database other than that which currently exists is required. The application must either: 1) have no connection when the command is issued, or 2) already be connected to the database required by the command.

User response: Ensure that the application has no connection before issuing the command or that the connection that exists is to the correct database.

SQL1434N A CONNECT or ATTACH statement failed because of a client/server incompatibility between 32 bit and 64 bit platforms.

Explanation:

1. Version 7 does not support client/server connections between 32 bit and 64 bit platforms.
2. Version 8 Windows 64-bit database server does not support client/server connections from Version 7 64-bit clients.

User response: For scenario 1 listed above, you can issue a CONNECT or ATTACH statement in the following scenarios:

- from a 32 bit client to a 32 bit server
- from a 64 bit client to a 64 bit server

For scenario 2 listed above, reissue the statement from a supported client.

sqlcode: -1434

sqlstate: 08004

SQL1440W The WITH GRANT OPTION has been ignored on the GRANT (Database Authorities) statement, GRANT (Index Privileges) statement, or when granting CONTROL privilege on a table or view.

Explanation: The WITH GRANT OPTION is not applicable when granting database authorities or privileges or privileges on indexes. The WITH GRANT OPTION does not apply to CONTROL privilege on tables, views, indexes, or packages.

All valid requested privileges were granted.

User response: When granting database authorities or index privileges do not include the WITH GRANT OPTION clause. When granting CONTROL, use a separate grant statement for the CONTROL privilege without specifying the WITH GRANT OPTION clause.

sqlcode: +1440

sqlstate: 01516

SQL1441N Invalid parameter. Reason code *code*.

Explanation: The following is a list of valid reason codes:

- 1 A NULL was passed in for the context pointer.
- 3 The context pointer has been initialized, but not to a valid context area.
- 4 Invalid option
- 5 reserved parameter was not NULL

User response: Ensure that the application context pointer has been properly initialized and that any options used are valid and try again.

SQL1442N The context is not in use or is not in use by the current thread. Reason code *code*.

Explanation: The call failed because:

- 1 The context is not in use by any thread (no attach was done)
- 2 The context is not in use by the current thread.
- 3 The current thread is not using a context.

User response: For a detach call, ensure that the context is the one in use by the current thread, and that a corresponding attach was done.

For a get current context call, ensure that the thread is currently using a context.

SQL1443N Thread is already attached to a context.

Explanation: The user attempted to attach a context to a thread, and the thread is already using a context.

User response: Detach from the previous context before attaching to a new one.

SQL1444N The application context cannot be destroyed because it is in use.

Explanation: The user attempted to destroy an application context while it is still in use. Either there is a thread attached to the context, or the context has a CONNECT or ATTACH associated with it. A CONNECT RESET or DETACH must be done (if a CONNECT or ATTACH has been done), and all threads must detach from the context before it can be destroyed.

User response: Ensure that all calls to attach to a context have a corresponding detach, all CONNECTS have a corresponding CONNECT RESET, and all ATTACHES have a corresponding DETACH.

SQL1445N Thread or process does not have a context to use.

Explanation: A context type of SQL_CTX_MULTI_MANUAL is in effect, but the current thread or process has not been attached to a context.

User response: Make sure the current thread or process is attached to a context before making any database calls.

SQL1450N Invalid registration information pointer.

Explanation: An invalid registration information pointer was passed to the register/deregister DB2 server command/API.

User response: Verify that a valid pointer was passed to the register/ deregister DB2 server command/API.

SQL1451N Register/deregister DB2 server must be issued from a server node.

Explanation: Register/deregister DB2 server was issued from an invalid node.

User response: Reissue the register/deregister DB2 server command/API from a server node.

SQL1452N An invalid registration location was specified.

Explanation: An invalid registration location was passed to the register/deregister DB2 server command/API.

User response: Verify that a valid registration location was passed to the register/deregister DB2 server command/API.

SQL1453N The entry in the database manager configuration file for file server name is missing or invalid.

Explanation: The file server name specified in the configuration command/API or in the database manager configuration file is missing or invalid.

User response: Verify that a file server name was specified, that the name does not contain invalid characters, and is not longer than 48 characters in length. Update the file server name in the database manager configuration file and resubmit the command/API.

SQL1454N The entry in the database manager configuration file for object name is missing or invalid.

Explanation: The object name specified in the configuration command/API or in the database manager configuration file is missing or invalid.

User response: Verify that an object name was specified, that the name does not contain invalid characters, and is not longer than 48 characters in length. Update the object name in the database manager configuration file and resubmit the command/API.

SQL1455N The entry in the database manager configuration file for IPX socket number is missing or invalid.

Explanation: The IPX socket number specified in the configuration command/API or in the database manager configuration file is missing or invalid.

User response: Verify that an IPX socket number was specified, that the number does not contain invalid characters, and is not longer than 4 characters in length. Update the IPX socket number in the database

manager configuration file and resubmit the command/API.

SQL1456N The object name specified in the database manager configuration file already exists on the NetWare file server.

Explanation: A duplicate object name was found when trying to register the DB2 server object name on the NetWare file server.

User response: The object name specified in the database manager configuration file is already in use. Change the object name and then re-register the DB2 server.

SQL1457N Register/deregister failed to login to the NetWare file server specified because a NetWare directory services connection is already established to that file server.

Explanation: A bindery login using NWLoginToFileServer cannot be performed if a NetWare directory services connection is already established to the specified file server.

User response: Sever the directory services connection by logging out and detaching from Directory Services, and then reissue register/deregister.

SQL1458N IPX/SPX has been configured in the database manager configuration file for direct addressing. It is not necessary to register/deregister the DB2 server at/from a NetWare file server.

Explanation: Issuing register/deregister is not necessary since the database manager configuration file has been configured for IPX/SPX direct addressing. ie. Fileserver and objectname have been specified as '*.*'.

User response: Note that since the DB2 server has been configured for direct addressing only, IPX/SPX clients using fileserver addressing will not be able to connect to this server. For the server to support both types of IPX/SPX client addressing, specify a fileserver and objectname in the database manager configuration file.

SQL1460N The environment variable *variable* required for SOCKS server name resolution is not defined or not valid.

Explanation: The SOCKS environment variable SOCKS_NS or SOCKS_SERVER is not defined. SOCKS protocol support requires that both these environment variables be defined.

SOCKS_NS

This is the IP address of the domain name server where the SOCKS server is defined.

SOCKS_SERVER

This is the hostname of the SOCKS server.

User response: Define the missing environment variable and resubmit the command.

SQL1461N The security option *security* is not valid.

Explanation: The SECURITY option for a TCP/IP node has a value other than 'SOCKS'. This option is used to enable the TCP/IP node being cataloged to use SOCKS protocol support to traverse a firewall. No value other than 'SOCKS' is permitted.

User response: Verify that SOCKS protocol support is required. If so, re-catalog the node with SECURITY SOCKS. If not, re-catalog the node, but omit the SECURITY option.

SQL1462N Request is only valid for a syncpoint manager connection.

Explanation: A request was attempted which is only valid for a syncpoint manager connection, but the syncpoint manager instance is not connected to.

User response: Connect to the syncpoint manager instance and reissue the request.

SQL1468N The database manager TCP/IP listener must be configured and running on the server instance *instance* (nodenum *node-num1*) before attempting to CONNECT or ATTACH to node *node-num2*.

Explanation: The SET CLIENT command or api or the environment variable DB2NODE was used to set the node for CONNECT or ATTACH to *node-num2*. In order to CONNECT or ATTACH to this node, the Database Manager TCP/IP listener must be configured and running on the server instance *instance* (node *node-num1*).

Note: This message may be returned by an implicit CONNECT or ATTACH.

User response: Either:

- Ensure that *svccname* has been specified in the database manager configuration on the instance *instance*, node *node-num1*, the DB2COMM environment variable has been set to use TCP/IP, and that TCP/IP listener was successfully started at DB2START time.
- or
- Explicitly catalog the node and database.

sqlcode: -1468

sqlstate: 08004

SQL1469N Instance *instance-name* (nodenum *node-num1*) does not have node *node-num2* specified in its db2nodes.cfg file.

Explanation: The SET CLIENT command or api or the environment variable DB2NODE was used to set the node for CONNECT or ATTACH to *node-num2*. Subsequent CONNECT or ATTACH processing was unable to locate this node in the db2nodes.cfg file on the instance *instance-name* (node *node-num1*).

Note: This message may be returned by an implicit CONNECT or ATTACH.

User response: Ensure that the node number specified by the SET CLIENT command or api or the DB2NODE environment variable exists in the db2nodes.cfg file of the intermediate instance *instance-name*, node *node-num1*.

sqlcode: -1469

sqlstate: 08004

SQL1470N Value of DB2NODE environment variable is not valid.

Explanation: The DB2NODE environment variable indicates the node the application will attempt to connect to. If DB2NODE is unset or is blank, the application will attempt to connect to the default node. Otherwise, DB2NODE must be set to the node number of one of the nodes defined on the same host as the application.

User response: Set the DB2NODE environment variable to one of the following values:

unset causes the application to connect to the default node.

blank causes the application to connect to the default node.

A number

causes the application to connect to the node with that node number. The node must be running on the same host as the application.

sqlcode: -1470

sqlstate: 08001

SQL1471N Cannot connect to database *database-name* on node *node-number* because the database on this node is not synchronized with catalog node.

Explanation: The end-of-log information on this node does not match the corresponding record on the catalog node. This can be caused by restoring the database on various nodes with backups taken from different times.

User response: If the database is restored without rolling forward on one node, ensure that the database is restored from consistent offline backups on all nodes without rolling forward.

sqlcode: -1471

sqlstate: 08004

SQL1472N Cannot connect to database *database-name* on node *node-number* because the difference between the system time on the catalog node and the virtual timestamp on this node is greater than the *max_time_diff* database manager configuration parameter.

Explanation: The system time difference for the machines in the configuration (listed in the *db2nodes.cfg* file) is greater than the *max_time_diff* database manager configuration parameter.

User response: Synchronize the system times on all machines, and ensure that the *max_time_diff* parameter is configured to allow for normal communication delays among the database machines.

If the above does not fix the problem, see the *Administration Guide* for possible causes and actions.

sqlcode: -1472

sqlstate: 08004

SQL1473N Cannot commit the transaction because the time difference between the system time on the local node and the virtual timestamps of node(s) *node-list* is greater than the *max_time_diff* database manager configuration parameter. The transaction is rolled back.

Explanation: The system time difference for the machines in the configuration (listed in the *db2nodes.cfg* file) is greater than the *max_time_diff* database manager configuration parameter.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Synchronize the system times on all machines, and ensure that the *max_time_diff* parameter is configured to allow for normal communication delays among the database machines.

sqlcode: -1473

sqlstate: 40504

SQL1474W The transaction completed successfully, but the time difference between the system time on the local node and the virtual timestamps of node(s) *node-list* is greater than the *max_time_diff* database manager configuration parameter.

Explanation: The system time difference for the machines in the configuration (listed in the *db2nodes.cfg* file) is greater than the *max_time_diff* database manager configuration parameter.

This warning message is returned to read-only transactions because they are not affected by this condition. However, other transactions would be rolled back. This message is to inform the user about this condition so that action can be taken at the earliest possible time.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Synchronize the system times on all machines, and ensure that the *max_time_diff* parameter is configured to allow for normal communication delays among the database machines.

sqlcode: 1474

sqlstate: 01607

SQL1475W A system error occurred during CONNECT RESET processing.

Explanation: The CONNECT RESET was successful but a system error such as a node failure or a communications error may have occurred.

User response: Check the administration notification log for details. The database at this node may need to be restarted.

sqlcode: 1475

sqlstate: 01622

SQL1476N The current transaction was rolled back because of error *sqlcode*.

Explanation: The transaction was rolled back because:

1. An implicit or explicit CLOSE CURSOR failed, or
2. A table was being created with the NOT LOGGED INITIALLY option, or NOT LOGGED INITIALLY was activated for an existing table. During the same unit of work, either an error occurred, or a ROLLBACK TO SAVEPOINT statement was issued. This unit of work is rolled back, with the following effects:
 - any table that was created in this unit of work is dropped.
 - any NOT LOGGED INITIALLY tables that were activated in the transaction are marked inaccessible, and can only be dropped.
 - the *sqlcode* will be 0 if a ROLLBACK TO SAVEPOINT was issued in the transaction.
3. A rollback to savepoint failed or release savepoint failed.

User response: Correct the problem as indicated by the error *sqlcode*, then run the transaction again.

Remove any ROLLBACK TO SAVEPOINT statement that is used in the same transaction in which a NOT LOGGED INITIALLY table is created or activated.

sqlcode: -1476

sqlstate: 40506

SQL1477N For table *table-name* an object *object-id* in table space *tbspace-id* cannot be accessed.

Explanation: An attempt was made to access a table where one of its objects is not accessible. The table may not be accessible because of one of the following reasons:

- The table had NOT LOGGED INITIALLY activated when the unit of work was rolled back.
- The table is a partitioned declared temporary table and one or more partitions failed since the temporary table was declared (all declared temporary tables have the schema name SESSION).
- ROLLFORWARD encountered the activation of NOT LOGGED INITIALLY on this table or a NONRECOVERABLE load on this table.

Access to this table is not allowed because its integrity cannot be guaranteed.

User response: One of the following actions can be taken.

- If the object is a table and it had NOT LOGGED INITIALLY activated, drop the table. If this table is required, re-create it.
- If the object is a data partition, detach it from the table. If this data partition is required, add a new one.
- If the object is a non-partitioned index, drop the index. If this index is required, create a new one.
- If the table is a declared temporary table, drop the table. If this table is required, declare it again.
- Otherwise, restore from a tablespace or database backup. The backup image must have been taken subsequent to the commit point following the completion of the non-recoverable operation (NOT LOGGED INITIALLY operation, or NONRECOVERABLE load).

The catalogs can be used to determine what the object is. To determine if the object is a table, use the following query:

```
SELECT TABNAME
FROM SYSCAT.TABLES
WHERE TBSpaceID=tbspace-id AND TABLEID=object-id
```

If a table name does not appear as the result for the above query you can determine if the object is a partition by using the following query:

```
SELECT DATAPARTITIONNAME, TABNAME
FROM SYSCAT.DATAPARTITIONS
WHERE TBSpaceID=tbspace-id AND
PARTITIONOBJECTID=object-id
```

To determine if the object is an index, use the following query:

```
SELECT INDNAME
FROM SYSCAT.INDEXES
WHERE TBSpaceID=tbspace-id AND
INDEX_OBJECTID=object-id
```

sqlcode: -1477

sqlstate: 55019

SQL1478W The defined buffer pools could not be started. Instead, one small buffer pool for each page size supported by DB2 has been started.

Explanation: The defined buffer pools could not be started. Instead, one small buffer pool for each page size supported by DB2 has been started, and extended storage has been disabled. The defined buffer pools could not be started for one or more of the following reasons:

- Not enough memory could be allocated for the total size of the buffer pools and the extended storage specified for this database.
- The buffer pool files in the database directory are missing or corrupt.

User response: Check the administration notification log for the correct source of the problem. A possible solution includes:

- Drop or alter the size of one or more of the buffer pools to allow the database to start properly.

After making the changes, disconnect from the database and start the database again.

sqlcode: +1478

sqlstate: 01626

SQL1479W Attempt to fetch before the result set returned the first rowset.

Explanation: The requested rowset overlapped the start of the result set and, depending on the fetch orientation specified:

SQL_FETCH_PRIOR

one of the following situations:

- the current position was beyond the first row, and the number of the current row is less than or equal to the rowset size.

- the current position was beyond the end of the result set, and the rowset size was greater than the result set size.

SQL_FETCH_RELATIVE

the absolute value of the fetch offset was less than or equal to the current rowset size.

SQL_FETCH_ABSOLUTE

the fetch offset was negative, and the absolute value of the fetch offset was greater than the result set size but less than or equal to the current rowset size.

User response: No action needed.

SQL1480N The discover type specified in the DISCOVER database manager configuration parameter is invalid.

Explanation: Valid values for the DISCOVER parameter in the database manager configuration file are: DISABLE, KNOWN, or SEARCH.

User response: Update the DISCOVER database manager configuration parameter with a type of DISABLE, KNOWN, or SEARCH.

SQL1481N One or more of the communications protocols specified in the DISCOVER_COMM parameter is invalid.

Explanation: Valid values for the DISCOVER_COMM parameter in the database manager configuration file are any combination of NETBIOS, and TCPIP, separated by commas.

User response: Update the DISCOVER_COMM database manager configuration parameter with any combination of NETBIOS, and TCPIP, separated by commas.

SQL1482W The BUFFPAGE parameter will only be used if one of the buffer pools is defined with a size of -1.

Explanation: This is a warning that the BUFFPAGE database configuration parameter will be ignored if none of the database's buffer pools is defined with a size of -1. -1 indicates that the buffer pool is to use the BUFFPAGE parameter as the number of buffer pool pages.

User response: You can select from the SYSCAT.BUFFERPOOLS to review the buffer pool definitions. If none of the buffer pools are defined with size -1 (NPAGES), then setting the BUFFPAGE parameter will not change the size of the buffer pools for the database.

SQL1490W Activate database is successful, however, the database has already been activated on one or more nodes.

Explanation: Database has already been explicitly started (activated) on one or more nodes.

User response: No action required.

SQL1491N The database *name* was not deactivated because the database is still being used.

Explanation: The database cannot be deactivated if there are any applications connected to the specified database.

User response: Ensure that all applications have done a CONNECT RESET, then try again.

SQL1492N The database *name* was not deactivated because it was not activated.

Explanation: The database cannot be deactivated because the specified database was not active.

User response: No action is required.

SQL1493N The application is already connected to an active database.

Explanation: The ACTIVATE DATABASE and DEACTIVATE DATABASE commands cannot proceed because the application is already connected to a database.

User response: Disconnect from the database then re-submit the command.

SQL1494W Activate database is successful, however, there is already a connection to the database.

Explanation: There is already database connection on one or more nodes.

User response: No action required.

SQL1495W Deactivate database is successful, however, there is still a connection to the database.

Explanation: There is still database connection to one or more nodes.

User response: No action required.

SQL1496W Deactivate database is successful, but the database was not activated.

Explanation: Database was not explicitly started on one or more nodes when deactivate database was executed.

User response: No action required.

SQL1497W Activate/Deactivate database was successful, however, an error occurred on some nodes.

Explanation: Activate/Deactivate database is successful at least on the catalog node and coordinator node, however, on some other node(s) an error has occurred.

User response: Refer to the diagnostic log to find out what error has occurred on which node, fix the problem if possible and then reissue the activate/deactivate database command.

SQL1500 - SQL1599

SQL1512N ddcstrc could not write to the specified file.

Explanation: *ddcstrc* was not able to write the trace information to the filename that it has been instructed to write to.

User response: Ensure that the filename specified is valid for your file system. If a filename is not specified, ensure that you have the necessary permission to write to the default file *ddcstrc.tmp*.

SQL1513W ddcstrc has not been turned off.

Explanation: Because of an error condition *ddcstrc* has not been turned off. This was done to ensure that the trace information will not be lost before being safely placed in a file.

User response: Correct the *ddcstrc* error condition reported prior to this error and attempt to turn off the trace again.

1. The VIPL library specified in DB2_VI_VIPL registry variable could not be loaded.
2. The Device name specified in DB2_VI_DEVICE registry variable could not be opened.
3. DB2 does not support the VIA implementation installed.

User response:

1. Make sure the DB2 registry DB2_VI_VIPL is properly set and the name specified in DB2_VI_VIPL is in the %PATH% environment variable.
2. Make sure the DB2 registry DB2_VI_DEVICE is properly set.
3. DB2 only supports a VIA implementation that supports at least Reliable Delivery reliability level. It is also required that the VIA implementation complies with Intel Virtual Interface Architecture Implementation Guide and passes the conformance Suite. Make sure the VIA implementation you chose satisfies these requirements.

SQL1520N Buffersize must be a numeric value greater than or equal to 65536.

Explanation: The user specified an invalid buffersize for the *ddcstrc* command.

User response: Ensure that the buffersize used is numeric and greater than or equal to 65536 (64K). Note that the memory to be used will be a multiple of 64K. *ddcstrc* rounds down the buffersize specified to the nearest multiple of 64K.

SQL1530W The specified degree of parallelism will be ignored because the system is not enabled for intra-partition parallelism.

Explanation: Either the DEGREE bind option was specified with a value greater than 1 or the SET CURRENT DEGREE statement was executed with a value greater than 1, but the database manager was not enabled for intra-partition parallelism.

The database manager must be started with the *intra_parallel* configuration parameter set to ON in order for the instance to be enabled for intra-partition parallelism.

The statement or command completed successfully, but the degree specification was ignored.

User response: If you want to use intra-partition parallelism restart the database manager with the *intra_parallel* configuration parameter set to ON.

Otherwise use a value of 1 or ANY for the degree specification.

sqlcode: +1530

sqlstate: 01623

SQL1525N An error occurred when starting the DB2 security daemon.

Explanation: An unexpected error occurred when starting the DB2 security daemon.

User response: Retry the DB2START command. If the problem persists, contact IBM Service.

SQL1526N db2start failed because DB2VIA support was not started. Reason code *reason-code*.

Explanation: DB2VIA support was not started successfully at *db2start* time. The reason code indicates the error:

SQL1550N The SET WRITE SUSPEND command failed. Reason code = *reason-code*.

Explanation: You cannot issue the SET WRITE SUSPEND command until the condition indicated by *reason-code* is resolved:

- 1 Database is not activated.
- 2 A backup database operation is currently in progress for the target database. You cannot suspend write operations until DB2 completes the backup.
- 3 A restore database operation is currently in progress for the target database. You cannot suspend write operations for this database until DB2 completes the restore operation.
- 4 Write operations have already been suspended for this database.
- 5 The current state of one or more table spaces does not permit write suspend.

User response:

- 1 Activate the database by issuing the ACTIVATE DATABASE command, then re-issue the SET WRITE SUSPEND command.
- 2 Wait until the BACKUP procedure finishes, then re-issue the SET WRITE SUSPEND command.
- 3 Wait until the RESTORE procedure finishes, then re-issue the SET WRITE SUSPEND command.
- 4 The database is already in suspended state. To resume write operations for this database, issue the SET WRITE RESUME command.
- 5 To view the table space states, issue the LIST TABLESPACES command. For those table spaces that are in a pending state, issue the appropriate command to bring them out of the pending state before reissuing the SET WRITE SUSPEND command. If one or more table spaces involve an operation in progress, wait until the operation is complete before reissuing the SET WRITE SUSPEND command.

sqlcode: -1550

SQL1551N The SET WRITE RESUME command failed because the database is not currently in WRITE SUSPEND state.

Explanation: The database is not currently in WRITE SUSPEND state. You can only resume write operations for a database for which write operations have been suspended.

User response: No action is required, because write operations are enabled for this database. To suspend

write operations for the database, issue the SET WRITE SUSPEND command.

sqlcode: -1551

SQL1552N The command failed because the database is currently in WRITE SUSPEND state.

Explanation: This command is not allowed when write operations are suspended for the database. The database is in WRITE SUSPEND state.

User response: If the command that failed was RESTART DATABASE, re-issue the RESTART DATABASE command using the WRITE RESUME option. In a multi-node database environment, re-issue the command concurrently on all nodes.

If the command that failed was a BACKUP or RESTORE command, issue a SET WRITE RESUME FOR DATABASE command to resume write operations for the database. Then re-issue the BACKUP or RESTORE command.

sqlcode: -1552

SQL1553N DB2 cannot be stopped because one or more databases are in WRITE SUSPEND state.

Explanation: You cannot shut down a database for which write operations are suspended. The database is in WRITE SUSPEND state.

User response: Issue the SET WRITE RESUME command to resume write operations for the database, then re-issue the db2stop command.

sqlcode: -1553

SQL1560N Statistics profile does not exist for table *table-name*.

Explanation: A statistics profile needs to be defined before use.

User response: Register a statistics profile for the table using the SET PROFILE option of the RUNSTATS command and then reissue the operation.

SQL1561N Statistics option not compatible with the database server level.

Explanation: One or more of the options specified are not compatible with the database server level. This database server version does not support all of the statistics options available using the db2runstats API.

User response: Use the sqlustat API to collect the statistics or use the db2runstats API and specify only those options that are available using the sqlustat API.

SQL1562N Statistics node option is not compatible with the existing table and/or index statistics for the table *table-name*.

Explanation: The statistics node option is different from the existing table and/or index statistics of the table.

User response: Use consistent node option to collect the statistics for a table.

SQL1580W Trailing blanks were truncated while performing conversion from codepage *source-code-page* to codepage *target-code-page*. The maximum size of the target area was *max-len*. The source string length was *source-len* and its hexadecimal representation was *string*.

Explanation: During the execution of the SQL statement, a code page conversion operation has resulted in a string that is longer than the maximum size of the target object. Processing continued because only blank characters were truncated.

User response: Ensure that the output is as expected and that the truncation has not caused any unexpected consequences.

sqlcode: +1580

sqlstate: 01004

SQL1581N The table *table-name* cannot be in append mode and have a clustering index.

Explanation: There are two situations where this error is issued.

- A clustered index exists for a table and ALTER TABLE is used to attempt to place the table in append mode.
- A table is in append mode and CREATE INDEX is used to attempt to create a clustering index.

User response: If a clustering index is necessary then alter the table to set append mode off. If append mode is desired, drop the existing clustering index on the table.

sqlcode: -1581

sqlstate: 428CA

SQL1582N The PAGESIZE of the table space *tblspace-name* does not match the PAGESIZE of the bufferpool *bufferpool-name* associated with the table space.

Explanation: The PAGESIZE value specified in the CREATE TABLESPACE statement does not match the page size of the bufferpool specified for use with the

table space. These values must match.

The statement cannot be processed.

User response: Change the value specified for PAGESIZE to match the page size of the bufferpool or change the bufferpool to one that has a page size that matches.

sqlcode: -1582

sqlstate: 428CB

SQL1583N PAGESIZE value *pagesize* is not supported.

Explanation: The PAGESIZE that is specified is not a supported page size. The supported page sizes are 4096, 8192, 16384, and 32768, while a value of 4 K, 8 K, 16 K, or 32 K can also be specified.

The statement cannot be processed.

User response: Specify one of the supported page sizes.

sqlcode: -1583

sqlstate: 428DE

SQL1584N System temporary tablespace with page size of at least *pagesize* could not be found.

Explanation: A system temporary table space was required to process the statement. There was no system temporary table space available that had a page size of *pagesize* or larger.

The statement cannot be processed.

User response: Create a system temporary table space with a page size of at least *pagesize*.

sqlcode: -1584

sqlstate: 57055

SQL1585N A system temporary table space with sufficient page size does not exist.

Explanation: One of the following conditions could have occurred:

1. The row length of the system temporary table exceeded the limit that can be accommodated in the largest system temporary table space in the database.
2. The number of columns required in a system temporary table exceeded the limit that can be accommodated in the largest system temporary table space in the database.

The system temporary table space limits depend on its page size. These values are:

Max Record Length	Max Cols	Page size of temporary table space
1957 bytes	244	2K
4005 bytes	500	4K
8101 bytes	1012	8K
16293 bytes	1012	16K
32677 bytes	1012	32K

User response: Create a system temporary table space of a larger page size supported, if one does not already exist. If such a table space already exists, eliminate one or more columns from the system temporary table. Create separate tables or views, as required, to hold additional information beyond the limit.

sqlcode: -1585

sqlstate: 54048

SQL1590N **LONG VARCHAR and LONG VARGRAPHIC fields are not permitted in TABLESPACES which are built on DEVICES.**

Explanation: Devices (raw i/o) on HP require i/o to be aligned on 1024 byte boundaries. LONG VARCHAR and LONG VARGRAPHIC fields are handled in 512 byte pieces, and thus can only be used in SYSTEM MANAGED TABLESPACES or in DATABASE MANAGED TABLESPACES with only FILE containers.

User response: Alternatives:

- Choose one of the LOB columns types (BLOB,CLOB,DBCLOB) instead of LONG.
- Use a table space with the correct attributes.

sqlcode: 1590

sqlstate: 56097

SQL1591N **The ON option of the SET INTEGRITY statement is not valid since the table *table-name* is not in the correct state.**

Explanation: The ON option can only be specified on a table that is in the check pending state and the first (for foreign key constraints), second (for check constraints) and fifth (for materialized query tables) fields in the CONST_CHECKED column of SYSCAT.TABLES catalog must be either 'Y' or 'U'.

User response: If the table is not in check pending, do not specify the ON option. If the table is in check pending, perform integrity checking on the table (or refresh the table if it is a materialized query table) before executing the SET INTEGRITY statement with the ON option.

sqlcode: -1591

sqlstate: 55019

SQL1592N **The INCREMENTAL option is not valid with reason code *reason-code* since the table *table-name* cannot be incrementally processed.**

Explanation: The cause is based on the *reason-code*:

- 32** The table is not a REFRESH IMMEDIATE materialized query table, nor a REFRESH DEFERRED materialized query table with a supporting staging table, nor a PROPAGATE IMMEDIATE staging table.
- 33** A LOAD REPLACE or LOAD INSERT has occurred to the table if it is a materialized query table or staging table.
- 34** A LOAD REPLACE has occurred to the table after the last integrity check.
- 35** One of the following:
 - The materialized query or staging table was newly created. Full processing is required for the first time the table is checked for integrity after it has been created.
 - New constraint has been added to the table itself or its parents (or its underlying table if it is a materialized query table or staging table) while in the Set Integrity Pending state.
 - If it is a materialized query table or staging table, a LOAD REPLACE has occurred to any underlying table of the table after the last refresh.
 - If it is a materialized query table, at least on underlying table was forced to full access (using the FULL ACCESS option) before the materialized query table was refreshed.
 - If it is a staging table, at least one underlying table was forced to full access (USING the FULL ACCESS option) before the staging table was propagated.
 - If it is a deferred materialized query table and its corresponding staging table is in incomplete state.
 - Some of its parents (or underlying table if it is a materialized query table or staging table) have been non-incrementally checked for integrity.
 - The table was in the Set Integrity Pending state before migration. Full processing is required for the first time the table is checked for integrity after migration.
 - The table was placed in the Set Integrity Pending state during a point in time roll-forward operation.

User response: Do not specify the INCREMENTAL option. The system will check the entire table for constraint violations (or if it is a materialized query

table, recompute the materialized query table definition query).

sqlcode: -1592

sqlstate: 55019

SQL1593N The REMAIN PENDING option is not valid since the table *table-name* is not in check pending state.

Explanation: The table must be in check pending state if the REMAIN PENDING option is to be specified.

User response: Do not specify the REMAIN PENDING option.

sqlcode: -1593

sqlstate: 55019

SQL1594W Integrity of non-incremental data remains unverified by the database manager.

Explanation: The table was previously unchecked. When the option NOT INCREMENTAL is not specified, incremental processing of the table is done. The previously unchecked portion of the table remains unchecked and the corresponding values in the CONST_CHECKED column remains marked as 'U'.

User response: No action is required. To verify the integrity of previously unchecked data and have the system maintain the integrity of the data in the table, issue the SET INTEGRITY statement with the OFF option to place the table in the Set Integrity Pending state and then re-execute the SET INTEGRITY statement with the IMMEDIATE CHECKED and NOT INCREMENTAL options.

sqlcode: +1594

sqlstate: 01636

SQL1595N The integrity for table *table-name* cannot be checked because either a parent table in a referential constraint has not been checked or an underlying table of the materialized query or staging table has not been checked.

SQL1600 - SQL1699

SQL1601N The Database System Monitor input parameter *parameter* is a null pointer.

Explanation: The user called one of the Database System Monitor APIs and provided a null pointer instead of a required parameter.

The command can not be processed.

User response: The user should reissue the command with a valid parameter value.

Explanation: To avoid propagating this table with data that might violate integrity checks, all parents must not be in check pending in order to check integrity for this table. If this is a materialized query table, all underlying tables must have been validated in order to refresh this table. If this is a staging table, all underlying tables must not be in check pending in order to propagate this table. A table is validated when the first (for foreign key constraints), the second (for check constraints), the fifth (for materialized tables), and the seventh (for staging tables) fields in the CONST_CHECKED column of SYSCAT.TABLES are either 'Y' or 'U'.

User response: Check integrity for all its parent tables (or underlying tables if it is a materialized query table or a staging table) and re-execute this statement.

sqlcode: -1595

sqlstate: 55019

SQL1596N WITH EMPTY TABLE cannot be specified for *table-name*.

Explanation: The WITH EMPTY TABLE clause cannot be specified for table *table-name* because the table:

- is a materialized query table or is a staging table, or
- has a dependent refresh immediate materialized query table or has a dependent propagate immediate staging table, or
- is the parent in a referential constraint, or
- has attached data partitions that have not been checked for constraint violations yet

The WITH EMPTY TABLE clause cannot be specified when altering such a table to ACTIVATE NOT LOGGED INITIALLY.

The statement cannot be processed.

User response: Remove the WITH EMPTY TABLE clause from the ALTER TABLE statement.

sqlcode: -1596

sqlstate: 42928

SQL1602N An object type supplied in the input data structure (*sqlma*) is not supported.

Explanation: An object type specified in the variable data area of the input data structure (*sqlma*) for Database System Monitor Snapshot API is not supported.

The command can not be processed.

User response: Reissue the command using a valid object type.

SQL1603N The parameter *parameter* is not specified in the input data structure (sqlma).

Explanation: A required parameter is not specified in the input data structure (sqlma) of the Database System Monitor Snapshot or Estimate Buffer Size API.

The command cannot be processed.

User response: The user should reissue the command specifying a valid parameter value.

SQL1604N The parameter *parameter* is not null terminated.

Explanation: A null character is expected at the end of the character string parameter.

The command can not be processed.

User response: Add a null character at the end of the character string parameter and reissue the command.

SQL1605W The database *db-alias* is not active.

Explanation: The Database System Monitor Reset API was called for a specific database, but the database was not active.

The command completed successfully but no action was taken.

User response: Verify that the database alias is correct and the database has been started.

SQL1606W The Database System Monitor output buffer is full.

Explanation: The Database System Monitor output buffer area is not large enough to accommodate the returned data. Likely causes are intense system activity when the call was made, or in the case of a Database Monitor API call within a user application, the user allocated a buffer too small to contain the returned data.

The command completed successfully and data collected prior to the buffer overflow is returned in the user's buffer.

User response: The user should reissue the command, or in the case of a Database Monitor API call within a user application, allocate a larger buffer or reduce the amount of information requested.

SQL1607N There is not enough working memory to execute the requested Database System Monitor function.

Explanation: The database manager is out of working

memory to process the Database System Monitor command.

The command can not be processed.

User response: Reduce the buffer size in the input parameter and reissue the command.

SQL1608W Two or more database aliases specified on input refer to the same database.

Explanation: A Database System Monitor Snapshot or Estimate Buffer Size API call was issued specifying the same request for two or more database aliases in the sqlma input data structure, and they point to the same database.

Database System Monitor executes successfully, but returns only one copy of the information in the output buffer.

User response: No action is required. However, the user should verify that the database aliases specified on input are correct if information on different databases was expected.

SQL1609N The database *db-alias* is a remote database and cannot be monitored.

Explanation: A Database System Monitor API call was issued specifying the database alias of a remote database. Database System Monitor does not support monitoring of remote databases.

The command cannot be processed.

User response: The user should verify that the database alias specified on input is correct, and reissue the command with the correct database alias.

SQL1610N The Database System Monitor input parameter *parameter* is invalid.

Explanation: The user called one of the Database System Monitor APIs and specified an invalid value for the specified parameter.

The command can not be processed.

User response: The user should reissue the command with a valid parameter value.

SQL1611W No data was returned by Database System Monitor.

Explanation: None of the monitoring information requested by the users was available at the time the Database System Monitor API call was issued. This can occur when a requested database or application is inactive, or when a monitoring group such as the Table group is turned OFF, and Table information is requested.

User response: The command completed successfully, but no data is returned to the user.

The user should make sure that the databases or applications for which monitoring is desired are active at the time the Database System Monitor API is called, or that the desired monitoring groups are active.

SQL1612N The specified event monitor target path is invalid.

Explanation: The target path specified in the CREATE EVENT MONITOR statement is not a valid path name. The command could not be processed.

User response: Resubmit the statement with the correct event monitor target path.

sqlcode: -1612

sqlstate: 428A3

SQL1613N The specified event monitor option is invalid.

Explanation: The option specified in the CREATE EVENT MONITOR statement is not valid. Possible causes include:

- The specified MAXFILES, MAXFILESIZE, or BUFFERSIZE is too low.
- MAXFILESIZE is smaller than BUFFERSIZE.
- MAXFILESIZE NONE was specified with MAXFILES not equal to 1.

The command could not be processed.

User response: Resubmit the statement with the corrected event monitor options.

sqlcode: -1613

sqlstate: 428A4

SQL1614N An I/O error occurred when activating an event monitor. Reason code = *reason-code*.

Explanation: An I/O error was detected when an event monitor was activated. <reason-code> is one of the following:

- 1 Encountered an unknown event monitor target type.
- 2 The Event monitor target path was not found.
- 3 Access to event monitor target path was denied.
- 4 Event monitor target path is not the name of a pipe.
- 5 No process has opened the event monitor target pipe for reading.
- 6 Encountered an unexpected I/O error.

User response: Where possible, fix the problem described by the reason code, and resubmit the SET

EVENT MONITOR statement.

sqlcode: -1614

sqlstate: 58030

SQL1615W The specified event monitor is already in the requested state.

Explanation: An attempt was made to either activate an already active event monitor, or deactivate an already inactive event monitor. The SET EVENT MONITOR statement was ignored.

User response: No user response is required.

sqlcode: +1615

sqlstate: 01598

SQL1616N The limit on the maximum number of active event monitors has already been reached.

Explanation: A maximum of 32 event monitors can be active simultaneously per database. This limit has already been reached. The specified event monitor cannot be activated.

User response: If possible, deactivate one of the active event monitors and resubmit the SET EVENT MONITOR statement.

sqlcode: -1616

sqlstate: 54030

SQL1617N The specified event monitor has already reached its MAXFILES and MAXFILESIZE limit.

Explanation: The specified event monitor was created with a limit on the amount of data that would be allowed in the event monitor target directory. This limit has already been reached. The specified event monitor cannot be activated.

User response: If possible, delete some of the event monitor data files from the target directory, and resubmit the SET EVENT MONITOR statement.

sqlcode: -1617

sqlstate: 54031

SQL1618N The target path of the specified event monitor is in use by another event monitor.

Explanation: The specified event monitor was created with the same target path as another event monitor. This other event monitor was activated at least once, and has left .evt and/or .ctl files in the target path. These files may be in use by application(s) that are reading the event information they contain.

User response: If the other event monitor is currently active, deactivate it. After ensuring no application(s) are using the files it created in the target path, remove the files. Then resubmit the SET EVENT MONITOR statement.

Alternatively, recreate the required event monitor, specifying a different target path, and resubmit the SET EVENT MONITOR statement.

sqlcode: -1618

sqlstate: 51026

SQL1619N Cannot DROP an active event monitor.

Explanation: The specified event monitor is currently active, and therefore cannot be dropped.

User response: Deactivate the event monitor and resubmit the DROP EVENT MONITOR statement.

sqlcode: -1619

sqlstate: 55034

SQL1620N Unable to flush event monitor. Reason code *rc*.

Explanation: The event monitor could not be flushed. Possible reasons are:

1. The event monitor is not started.
2. The event monitor is running at a pre-version 6 level of output, for which flush is not available.

User response: Ensure that the event monitor is started. If the event monitor is running at a pre-version 6 level of output, do not attempt to flush it.

sqlcode: -1620

sqlstate: 55034

SQL1621N The transaction in which the specified event monitor was created has not yet been committed. The event monitor cannot be activated.

Explanation: An event monitor cannot be activated until the transaction in which it was created has been committed.

User response: Commit the transaction in which the event monitor was created and then reissue the SET EVENT MONITOR statement.

sqlcode: -1621

sqlstate: 55033

SQL1622N The STATE value specified in the SET EVENT MONITOR STATE statement is invalid.

Explanation: The STATE value specified in the SET EVENT MONITOR STATE statement is not within the

range of valid values, or the value is NULL as a result of an indicator variable.

Valid values for the Event Monitor State include:

0 to deactivate the event monitor

1 to activate the event monitor

The statement cannot be executed.

User response: Correct the event monitor state value and/or any indicator variable and reissue the statement.

sqlcode: -1622

sqlstate: 42815

SQL1623N The sqlmonsz or sqlmonss API was called with too many objects specified in the sqlma input structure.

Explanation: The limit imposed on the number of objects that are permitted in the sqlma input structure has been exceeded.

User response: Reduce the number of objects in the sqlma parameter and try the call again.

SQL1624N All databases referenced by the sqlmonsz or sqlmonss API must be located at the same node.

Explanation: The sqlma parameter contained references to databases that reside on different nodes.

User response: Modify the sqlma parameter so that all database objects reference the same node and then try the call again.

SQL1625W The monitor is not able to convert from the code page *source* to the code page *target*. This conversion was attempted for data pertaining to type *type*.

Explanation: Possible types are as follows:

1. statement text
2. dcs application
3. application
4. table
5. locks
6. table space

Conversion of data from the source code page to the target code page is not supported. This condition can occur under the following conditions:

1. source and target code page combination is not supported by the database manager.
2. source and target code page combination is not supported by the operating system character conversion utility on the server node.

This situation can occur when the monitor tries to convert data pertaining to a database whose code page is incompatible to that of the monitor application.

User response: Check your operating system documentation for a list of supported conversions and ensure that the appropriate ones are installed and accessible to the database manager.

If possible ensure that the database being monitored and the monitoring application are in the same codepage.

SQL1626W Overflow occurred while performing conversion from codepage *source* to codepage *target*. The size of the target area was *max-len*, the data pertained to type *type* and the first eight characters are *data*.

Explanation: Possible types are as follows:

1. statement text
2. dcs application
3. application
4. table
5. locks
6. table space

The monitor is unable to convert the data due to space constraints. The data is retained in its original form.

User response: If possible ensure that the database being monitored and the monitoring application are in the same codepage.

SQL1627W A snapshot api request was made at the self-describing datastream level, but the server was only able to return a snapshot of the fixed size structure format.

Explanation: Although the application issuing the snapshot request made it at the SQLM_DBMON_VERSION6 or later level, the server returning the snapshot returned a downlevel view of the data.

User response: In the self describing data format for snapshot (DB2 version 6 and later), collected information, including the server level, is returned as part of the snapshot datastream. In the pre-version 6 levels of DB2, the snapshot collected information is returned in an sqlm_collected structure. You must use the sqlm_collected structure, and the old data stream processing method to parse this snapshot datastream.

SQL1628W A remote get switches operation returned partial results because the output buffer is full. To retrieve the full results, use a minimum buffer size of *size* bytes.

Explanation: The output buffer provided was not large enough to return all the switch data available. The monitor returned as much data as possible using the given output buffer.

User response: Allocate a larger data buffer and re-issue the switch request.

SQL1629W A remote snapshot operation failed on node or nodes *node-list*, with reason code or codes *reason-list*.

Explanation: Some type of failure occurred during an operation on a remote node for reason <reason-code>, which is one of the following:

- 1 FCM was unable to communicate with the target node, due to a node failure or communications error.
- 2 The snapshot operation failed to complete on the target node. Please see the administration notification log for the specific sqlca.

User response: If the cause of the error was a node failure, or communication error, you will need to resolve the communication error, or restart the node that failed to correct the error.

If the error was due to a snapshot operation failure on a remote node, see the administration notification log for the sqlca from the failed operation, and refer to the instructions for that code to correct the problem.

SQL1650N The function invoked is no longer supported.

Explanation: The user has attempted to call an API that is no longer supported in this version of the database manager.

User response: The function required may be supported by a different API call. See the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) to determine if the function is supported through a different API call.

SQL1651N The request cannot be executed because the DB2 server version does not support this functionality.

Explanation: Some new functionality is not supported against older DB2 server versions. Another possible cause of this error could be the request referenced objects with qualifiers of length that exceeds the support of the server version.

User response: Execute the request against a DB2

server where the latest DB2 server version has been installed, or upgrade the server to the latest DB2 server version.

SQL1652N File I/O error occurred.

Explanation: Error occurred either opening, reading, writing, or closing a file.

User response: Check the db2diag.log for details. Also, check for disk full conditions, file permissions, and operating system errors.

SQL1653N An invalid profile path was specified.

Explanation: A full path to a file where server information should be generated must be specified.

User response: Ensure that the profile path specified is correct and not null.

SQL1654N An instance path error was encountered.

Explanation: The instance path could not be returned.

User response: Check that the DB2INSTANCE path was specified correctly. Check that the complete path length specified is not approaching the maximum supported by the operating system.

SQL1660N The Generator at the server, which is used by Discovery to gather server information, has failed.

Explanation: A server system failure has occurred.

User response: Report the failure to your DB2 server administrator. More details of the failure can be found in the server's db2diag.log file.

SQL1670N The discover type specified in the DISCOVER database manager configuration parameter indicates discovery is disabled.

Explanation: DISCOVER = DISABLE is configured in the database manager configuration file.

User response: If DISCOVER functionality is required, change the discover type to KNOWN or SEARCH.

SQL1671N The search discovery request failed. Check the administration notification log for further details.

Explanation: The search discovery request failed for one of the following reasons:

1. Initialization failed (sqlCommonInitializationForAPIs)
2. Failed to retrieve the client instance path (sqlinstancepath)
3. Failed to open the output file (sqlfopn)

4. Failed to write to output file (sqlfoprnt)
5. Failed to get memory (sqlgmbblk)
6. Failed to retrieve database manager configuration (sqlfcsys)
7. NetBIOS call failed
8. DB2 internal system function failed (sqlgpid, sqlgmt)

Check the db2diag.log for details.

User response:

1. If initialization fails, try re-booting the machine or re-installing the product.
2. If there was an instance path failure, check the DB2INSTANCE value to ensure it is correctly set.
3. If the open or write to file failed, check that you have access to open and write a file to the <sqllib path>\<instance>\tmp directory on Intel machines, or the <instance path>/sqllib/tmp directory on UNIX machines.
4. If get memory failed, check the available memory on your machine.
5. If retrieving the DBM configuration failed, try re-booting the machine or re-installing the product.
6. If a NetBIOS call failed:
 - If Add Name failed with a return code of 13, check that the nname configured in the DBM configuration was not used to configure another DB2 client/server on the network.
 - Check that NetBIOS was installed and configured properly, and is functioning correctly.
 - Check your network for problems.
7. If a DB2 internal system function failed, check that the operating system functions on your machine are functioning correctly.

DB2 Service can provide details about the error codes returned by the above functions and written to the db2diag.log.

SQL1673N The address list specified as input to the discover interface is invalid.

Explanation: The application program used an invalid input address list pointer. The address list points to nothing.

User response: Ensure that a valid input address list pointer is specified in the application program, and that it is not null.

SQL1674N The server address specified as input to the discover interface is invalid.

Explanation: The application program used an invalid input server address pointer. The server address points to nothing.

User response: Ensure that a valid input server address is specified in the application program, and that it is not null.

SQL1675N Discovery is only allowed against DB2 administration servers. The communications information provided does not access an administration server.

Explanation: A KNOWN discovery request was issued

SQL1700 - SQL1799

SQL1700N The reserved schema name *name* was found in the database during database migration.

Explanation: The database contains one or more database objects which use the schema name *name* that is reserved by the current Database Manager.

The command cannot be processed.

User response: Ensure that all the database objects that use the reserved schema name are dropped and recreate the objects using a different schema name. This correction must be made in the release of Database Manager where the database was originally created. Ensure that no reserved schema names are in use before attempting the migration again. Then, resubmit the database migration command under the current release of Database Manager.

SQL1701N The database cannot be migrated because the last session was abnormally terminated.

Explanation: The last database operation was abnormally terminated (for example, a power failure) under the previous database manager. Database migration cannot be done until the database has been restarted.

The command cannot be processed.

User response: The database must be restarted. You must issue the RESTART DATABASE command using the release of Database Manager where the database was last accessed. Then, resubmit the database migration command under the current release of Database Manager.

SQL1702W The *protocol* connection managers have started successfully.

User response: No action required.

SQL1703W The db2event directory could not be created during database migration.

Explanation: The database was migrated successfully but the db2event directory could not be created.

against a DB2 server that is not a DB2 administration server. The communications information specified is not correct.

User response: Verify that DB2ADMINSERVER is set on the DB2 server instance you are accessing. This indicates that the server instance is a DB2 administration server. Retry the KNOWN discovery request with the correct communications information.

This is a warning only.

User response: The db2event directory must be created if the event monitor is to be used. The db2event directory must be created in the database directory where the migrated database resides. The database directory of the migrated database can be determined by invoking LIST DATABASE DIRECTORY.

SQL1704N Database migration failed. Reason code *reason-code*.

Explanation: Database migration failed. The reason codes are as follows:

- 1 an invalid schema name was found.
- 2 database is not migrateable. The database could be in one of the following states:
 - backup pending state
 - roll-forward pending state
 - transaction inconsistent state
 - HADR has marked the database inconsistent
- 3 database logs are full.
- 4 insufficient disk space.
- 5 cannot update database configuration file.
- 6 failed to relocate database.
- 7 failed to access the database subdirectory or one of the database files.
- 8 failed to update database container tag.
- 9 table space access is not allowed.
- 10 an invalid type name was found.
- 17 Failure to allocate new page from the DMS system catalog table space.
- 18 Duplicate functions encountered for unicode database migration.

For a unicode database, the following are considered equivalent string types:

CHAR and GRAPHIC
VARCHAR and VARGRAPHIC
LONG VARCHAR and LONG VARGRAPHIC
CLOB and DBCLOB

- Function signatures that are only different in equivalent string types are considered “duplicates” and cannot co-exist in the database. For example, func1(CHAR, GRAPHIC, VARCHAR) and func1(GRAPHIC, GRAPHIC, VAR GRAPHIC) are duplicates.
- 21 Database migration is complete on the catalog node and other nodes, but not on all nodes. There are some nodes reporting node failure. As a result, migration has not been performed on these nodes.
- 22 Database migration failed because the catalog node is reporting node failure.
- 24 Error creating the event monitor directory, db2detaildeadlock, under the directory, db2event, in your database directory.

User response: Possible solutions based on the reason code are:

- 1 The reserved schema names are: SYSIBM, SYSCAT, SYSSTAT, and SYSFUN. Ensure that all the database objects that use one or more of these schema names are dropped and recreate the objects using a different schema name. This correction must be made in the release of database manager in use prior to the current release. Resubmit the database migration command under the current release.
- 2 Correct the database state by going back to release of database manager in use prior to the current release and perform any necessary corrective action to the database. For HADR systems, stop HADR should be issued prior to attempting to migrate the HADR primary database. Resubmit the database migration command under the current release.
- 3 Increase the database configuration parameters *logfilsiz* or *logprimary* to a larger value. Resubmit the database migration command.
- 4 Ensure that there is sufficient disk space and resubmit the database migration command.
- 5 There was a problem in updating the database configuration file. Ensure that the database configuration file is not being held exclusively by any users and is updatable. Resubmit the database migration command. If the problem persists, inform your IBM service representatives.
- 6 Restore the database from the database backup.
- 7 Restore the database from the database backup.
- 8 Resubmit the database migration command. If the problem persists, contact your IBM service representative.

- 9 Correct the table space by going back to the release of the database manager in use prior to the current release. Refer to message SQL0290N for the suggested actions to take to correct the table space.
- 10 The type name is reserved by the system. Ensure that the type and database objects that use the type are dropped and recreated using a non-reserved type name. This correction must be made in the release of database manager in use prior to the current release. Resubmit the database migration command under the current release.
- 17 Restore database backup onto its previous database manager system. Add more containers to the table space. You should allocate 70% free space for database migration. Move back to the current release and migrate the database.
- 18 Restore the database backup onto its previous database manager system. Drop one of the duplicate functions. If necessary, recreate the function with a different signature. Move back to the current release of the database manager system. Resubmit the database migration command. Please refer to the Quick Beginnings book and follow the instructions on how to verify that the database is ready for migration before moving to the current release of DB2.
- 21 Check the administration notification log to determine the nodes that are reporting node failure. Correct the node failure situation and resubmit the database migration command. As migration only takes place on nodes that require migration, you can submit the command from any node.
- 22 Correct the node failure situation on the catalog node. Resubmit the migration command.
- 24 Remove the directory db2detaildeadlock if it exists in your database directory and resubmit the migration command.

SQL1705W Unable to update a database directory entry to the current release level.

Explanation: One or more database aliases could not be updated in the database directory for a database which has just been migrated from a previous release.

User response: Uncatalog the database alias(es) for the migrated database and re-catalog the database alias using the same information.

SQL1706W At least one non local database was detected in the node directory for this instance during word size instance migration.

Explanation: While performing word size instance migration, at least one database not created under this instance was encountered. Such databases must have the same word size as this instance for migration to complete successfully.

User response: Ensure that all databases cataloged at the instance have the same word size.

SQL1707N Unable to migrate the instance word size.

Explanation: There was an error while attempting to migrate the word size of the instance. Please contact your IBM service representative.

User response: Contact your IBM service representative.

SQL1708W Database migration completed with the following warning code: *warning-code*.

Explanation: Database migration completed with a warning. The warning codes are as follows:

1 One or more nodes failed to migrate.

User response: Possible solution based on the warning codes:

1 Re-issue the database migration command on that node.

SQL1751N The resulting nodegroup would not contain any nodes that can be used in a partition map.

Explanation: A nodegroup must contain at least one node that can be used in a partition map. If a node is added to a nodegroup WITHOUT TABLESPACES, it cannot be included in the partition map because there are no containers for the table spaces defined on the nodegroup. If a node is added LIKE another node and the other node does not have containers for all table spaces on the nodegroup then neither node can be included in the partition map.

User response: Do not drop all the nodes in the nodegroup without adding at least one node. If tablespaces are already defined on the nodegroup but there are no tables, ensure that at least one node has containers for all the table spaces.

sqlcode: -1751

sqlstate: 428C0

SQL1752N The table space cannot be created in the nodegroup *ngname*.

Explanation: The nodegroup IBMTEMPGROUP can be specified if and only if the table space is a system temporary table space.

User response: For system temporary table spaces, specify nodegroup IBMTEMPGROUP. For other table space types, specify a nodegroup other than IBMTEMPGROUP.

sqlcode: -1752

sqlstate: 429A1

SQL1753N Node *node-number* does not have containers for all the system temporary table spaces defined in the nodegroup IBMTEMPGROUP.

Explanation: A node must have containers defined for all the system temporary table spaces defined in the nodegroup IBMTEMPGROUP for this database before it can be included in a nodegroup.

User response: Issue the ALTER TABLESPACE statement to add containers on every node for every system temporary table space in the database.

sqlcode: -1753

sqlstate: 57052

SQL1754N The index table space or long table space is not in the same nodegroup as the primary table space.

Explanation: All the table spaces specified in the CREATE TABLE statement must belong to the same nodegroup.

User response: Make sure all the table spaces specified in the CREATE TABLE statement belong to the same nodegroup.

sqlcode: -1754

sqlstate: 42838

SQL1755N Node *node-number* does not have containers for all the table spaces defined in the nodegroup *ngname*.

Explanation: A node must have containers defined for all the table spaces defined in a nodegroup before that node can be included in a redistribution operation of a nodegroup.

User response: Issue the ALTER TABLESPACE statement to add containers on the node for all the table spaces defined in the nodegroup.

SQL1756N More than one clause specifies containers without the ON NODES clause.

Explanation: For the CREATE TABLESPACE, the USING clause without the ON NODES clause can only be specified once.

For the ALTER TABLESPACE, the ADD clause without the ON NODES clause can only be specified once.

The statement was not processed.

User response: Correct the statement and reissue it.

sqlcode: -1756

sqlstate: 428B1

SQL1757N A USING clause without an ON DATABASE PARTITION clause is missing.

Explanation: In CREATE TABLESPACE statement, every USING clause specifies the ON DATABASE PARTITION clause. However not all the database partitions in the database partition group are included, and therefore not all database partitions in the database partition group have containers.

The statement is not processed.

User response: Ensure that the USING clause without the ON DATABASE PARTITION clause is specified or that each database partition in the database partition group is included once in an ON DATABASE PARTITION clause.

sqlcode: -1757

sqlstate: 428B1

SQL1758W The containers not designated for specific nodes are not used by the table space on any node.

Explanation: The ALTER TABLESPACE and CREATE TABLESPACE statement includes container specification for all the database partition in the database partition group. The specification of the containers that is not followed by an ON DATABASE PARTITION clause is redundant and has been ignored.

The statement has been processed.

User response: If the containers are needed on some of the nodes, issue an ALTER TABLESPACE statement to add the necessary containers.

sqlcode: +1758

sqlstate: 01589

SQL1759W Redistribute database partition group is required to change database partitioning for objects in database partition group *database-partion-group-name* to include some added database partition or exclude some dropped database partitions.

Explanation: This warning indicates that a change being made using the ALTER DATABASE PARTITION or ALTER TABLESPACE statements has not caused the partitioning map for the database partition group to be changed. The partitioning map for a database partition group is only changed immediately by these statements if there are no tables defined using any table space defined in the database partition group or the database partition being dropped is not in the partitioning map.

This warning is issued in the following cases:

- One or more database partitions are added using ALTER DATABASE PARTITION ADD DATABASE PARTITION
- One or more database partitions are dropped using ALTER DATABASE PARTITION DROP DATABASE PARTITION
- Containers are added for table space and no further containers are required for a database partition to be used.

For all of these cases, a table is already defined using a table space in the database partition group.

User response: If you want the database partition included or excluded for database partitioning then issue the REDISTRIBUTE DATABASE PARTITION command or API. Another alternative is to drop all tables that use table spaces in the database partition group.

sqlcode: +1759

sqlstate: 01618

SQL1760N The CREATE statement for stored procedure *procedure-name* must have a valid LANGUAGE clause, EXTERNAL clause and PARAMETER STYLE clause.

Explanation: A required clause is missing in the CREATE for procedure *procedure-name*. LANGUAGE, EXTERNAL and PARAMETER STYLE must be specified.

User response: Add the missing clause, then try again.

sqlcode: -1760

sqlstate: 42601

SQL1761N The nodegroup *ngname* is not defined for the buffer pool *bpname*.

Explanation: The nodegroup for the table space has not been defined for the buffer pool. The table space cannot be created or altered to use this combination of nodegroup and buffer pool.

The statement cannot be processed.

User response: The possible actions are:

- specify a buffer pool that has defined the nodegroup for the table space
- alter the buffer pool to add the nodegroup of the table space
- If CREATE TABLESPACE, specify a nodegroup that is defined for the buffer pool.

sqlcode: -1761

sqlstate: 42735

SQL1762N Unable to connect to database because there is not enough space to allocate active log files.

Explanation: There is not enough disk space to allocate active log files. Possible reasons include:

- There is insufficient space available on the device used to store the recovery logs.
- If userexits are enabled, the userexit program may be failing due to an incorrect path, incorrect install directory, sharing violation, or other problem.

User response: Based on the cause:

- Ensure that there is sufficient space on the device for the primary logs, as DB2 may require extra space to allocate new logs so that the database will start with at least LOGPRIMARY log files. Do NOT delete recovery logs to free space, even if they appear inactive.
- Ensure the userexit program is operating correctly by manually invoking it. Review the instructions provided in the sample userexit source code for compiling and installing the userexit program. Ensure that the archive destination path exists.

As a last resort, try reducing the values for LOGPRIMARY and/or LOGFILSIZ database configuration parameters so that a smaller set of active log files are used. This will reduce the requirement for disk space.

Reissue the connect statement after determining and correcting the problem.

SQL1763N There are conflicting clauses in the ALTER TABLESPACE statement.

Explanation: The clauses specified in the ALTER TABLESPACE statement cannot be used in conjunction with each other.

1. The CONVERT TO LARGE clause must be specified by itself.
2. The BEGIN NEW STRIPE SET container clause cannot be specified with any other container clauses (ADD, DROP, EXTEND, REDUCE or RESIZE).
3. When adding or removing space from the table space:
 - a. EXTEND and RESIZE can be used in the same statement, provided that the size of each container is increasing.
 - b. REDUCE and RESIZE can be used in the same statement, provided that the size of each container is decreasing.
 - c. EXTEND and REDUCE cannot be used in the same statement, unless they are being directed to different database partitions.
 - d. ADD cannot be used with REDUCE or DROP in the same statement, unless they are being directed to different database partitions.
 - e. DROP cannot be used with EXTEND or ADD in the same statement, unless they are being directed to different database partitions.

User response:

1. Issue the CONVERT TO LARGE clause in its own ALTER TABLESPACE statement.
2. If using the BEGIN NEW STRIPE SET container operation and other operations in the same statement, move the BEGIN NEW STRIPE SET operation into its own ALTER TABLESPACE statement.
3. If both adding pages to and removing pages from a table space, use two ALTER TABLESPACE statements.

sqlcode: -1763

sqlstate: 429BC

SQL1764N Specified size for a RESIZE action in an ALTER TABLESPACE statement is smaller than the current size of the table space container.

Explanation: The size specified in an ALTER TABLESPACE statement using the RESIZE action is smaller than the current size of the table space container. You can only increase the size of a container.

User response: Specify a size that is larger than the current size value of the table space container.

sqlcode: -1764

sqlstate: 560B0

SQL1765W The update completed successfully. However, index creation, recreation, or reorganization may not be recovered on the secondary database server.

Explanation: When HADR is enabled, it is recommended that the database configuration parameter LOGINDEXBUILD is set to ON, and the database or database manager configuration parameter INDEXREC is set to either RESTART or ACCESS. Otherwise, any index creation, recreation, or reorganization on the current or future primary database server may not be recovered on the current or future secondary database server using HADR. Those indexes which cannot be recovered will be marked as invalid and will be rebuilt implicitly either at the end of the HADR takeover process or after the HADR takeover process when indexes are to be accessed.

User response: To enable full logging, update the database configuration parameter LOGINDEXBUILD or issue the SQL statement ALTER TABLE LOG INDEX BUILD ON. To enable redo of any logged index build operations, update the configuration parameter INDEXREC to either RESTART or ACCESS.

SQL1766W The command completed successfully. However, LOGINDEXBUILD was not enabled before HADR was started.

Explanation: It is recommended that the database configuration parameter LOGINDEXBUILD is set to ON before HADR is started. Otherwise, any index creation, recreate, or reorganization on the current or future primary database server may not be recovered on the current or future secondary database server using HADR. Those indexes which cannot be recovered will be marked as invalid and will be rebuilt implicitly either at the end of the HADR takeover process or after the HADR takeover process when the underlying tables are to be accessed.

User response: To enable full logging, update the database configuration parameter LOGINDEXBUILD.

SQL1767N Start HADR cannot complete. Reason code = *reason-code*.

Explanation: Start HADR cannot complete. The explanation corresponding to the reason code is:

- 1 The database was not in roll forward-pending or roll forward-in-progress state when the START HADR AS STANDBY command was issued.
- 2 START HADR AS PRIMARY cannot be issued on an HADR standby database.
- 3 START HADR AS STANDBY cannot be issued on an active database.

98 A valid HADR license is not installed. The command did not complete successfully.

99 The command was issued in a multi-partition instance environment.

User response: The user response corresponding to the reason code is:

- 1 Initialize the standby database from a backup image or a split mirror of the primary database, then reissue the START HADR AS STANDBY command.
 - 2 If you intend to change the standby database to a primary database, issue the TAKEOVER command.
 - 3 If you intend to change a primary database to a standby database, issue the TAKEOVER command from the current standby. If you intend to change a standard database to a standby, the database must be deactivated first.
- 98 Obtain and install a valid HADR license and resubmit the command.
- 99 The HADR feature is not supported in a multi-partition instance environment.

SQL1768N Unable to start HADR. Reason code = *reason-code*.

Explanation: The explanation corresponding to the reason code is:

- 1 The database is not recoverable as circular logging is in use.
- 2 The database has infinite active logging enabled.
- 3 The database has DATALINKS enabled.
- 4 Invalid configuration parameter HADR_LOCAL_HOST.
- 5 HADR_LOCAL_SVC configuration parameter is an invalid service name.
- 6 HADR_REMOTE_SVC configuration parameter is an invalid service name.
- 7 The primary database failed to establish a connection to its standby database within the HADR timeout interval.
- 8 One or more HADR database configuration parameters have no values.
- 9 The database is configured to use raw logs. However, HADR does not support the use of raw I/O (direct disk access) for database log files.
- 10 The command was interrupted by HADR

shutdown due to a STOP HADR command, deactivation of the database, or an internal error.

- 11 Cannot resolve both HADR_LOCAL_HOST and HADR_REMOTE_HOST configuration parameters to the same IP format.
- 12 Invalid configuration parameter HADR_REMOTE_HOST.
- 98 A valid HADR license is not installed. The command did not complete successfully.
- 99 An internal error occurred during HADR startup.

User response: The user response corresponding to the reason code is:

- 1 The database must be a recoverable database. Activate log archiving or turn LOGRETAIN on and reissue the command.
- 2 Disable infinite active logging and reissue the command.
- 3 Set the database manager configuration parameter DATALINKS to NO and reissue the command.
- 4 Ensure that configuration parameter HADR_LOCAL_HOST can be mapped to an IPv4 or IPv6 address associated with the local host.
- 5 Ensure that the HADR_LOCAL_SVC configuration parameter is a valid service name. For Unix platforms, edit the /etc/services file. For Windows, edit %SystemRoot%\system32\drivers\etc\services. Alternatively, a literal port number can be specified for this parameter.
- 6 Ensure that the HADR_REMOTE_SVC configuration parameter is a valid service name. For Unix platforms, edit the /etc/services file. For Windows, edit %SystemRoot%\system32\drivers\etc\services. Alternatively, a literal port number can be specified for this parameter.
- 7 Check the remote host and remote service parameters on the standby database. Ensure that the standby is online and that the network is functioning. Also consider increasing the HADR_TIMEOUT configuration parameter if the network is slow, or use the BY FORCE option to start the primary database.
- 8 Ensure that one or more HADR database configuration parameters have a value.
- 9 Reconfigure the database to use only file system storage for the log files, instead of using raw I/O (direct disk access) devices.

Refer to the discussion of logpath and newlogpath database configuration parameters in the DB2 Information Center.

- 10 Address the cause of the HADR shutdown, and if desired, reissue the START HADR command.
- 11 Make sure that HADR_LOCAL_HOST and HADR_REMOTE_HOST configuration parameters are in the same IP format (IPv4 or IPv6) or can be resolved to the same format.
- 12 Ensure that configuration parameter HADR_REMOTE_HOST can be mapped to an IPv4 or IPv6 address.
- 98 Obtain and install a valid HADR license and resubmit the command.
- 99 If the problem persists, contact IBM Support.

SQL1769N Stop HADR cannot complete. Reason code = reason-code.

Explanation: The explanation corresponding to the reason code is:

- 1 The command was issued on a standard database.
- 2 The command was issued on an active HADR standby database.
- 3 The command was interrupted by HADR shutdown due to a STOP HADR command, deactivation of the database, or an internal error.
- 99 The command was issued in a multi-partition instance environment.

User response: The user response corresponding to the reason code is:

- 1 No action is required as HADR is not running on this database. Verify that the specified database alias is correct.
- 2 The user should deactivate the database and then reissue the command.
- 3 If the command was interrupted due to another STOP HADR command, no further action is necessary. Otherwise, ensure that the database instance is started and reissue the STOP HADR command.
- 99 The HADR feature is not supported in a multi-partition instance environment.

SQL1770N Takeover HADR cannot complete. Reason code = reason-code.

Explanation: The explanation corresponding to the reason code is:

- 1 An unforced takeover was attempted while the HADR standby was not in peer state.
- 2 A forced takeover was attempted while the HADR standby was in neither peer nor remote catch-up pending state.
- 3 The standby was created from an online backup, and takeover was attempted before the standby had replayed through to the end point of that backup in the log.
- 4 The command was issued against a standard or HADR primary database.
- 5 The command was issued against an inactive standby database.
- 6 An error occurred while switching the primary database to a standby database.
- 7 A communication error occurred during takeover.
- 8 The command was interrupted by HADR shutdown due to a STOP HADR command, deactivation of the database, or an internal error.
- 98 A valid HADR license is not installed. The command did not complete successfully.
- 99 The command was issued in a multi-partition instance environment.

User response: The user response corresponding to the reason code is:

- 1 Wait for the standby database to reach peer state. An alternative is to use the BY FORCE option of the TAKEOVER command. The BY FORCE option will allow takeover from remote catch-up pending state. However, if the standby database can connect to its primary, it may rapidly move from remote catch-up pending state to remote catch-up state, in which takeover is again not allowed. Also, forcing a takeover from remote catch-up pending state may result in transactions that committed on the old primary being missing from the new primary.
- 2 Wait for the standby database to reach remote catch-up pending or peer state. An alternative is to force the standby into remote catch-up pending state by breaking the connection between the standby and the primary, for example run STOP HADR or DEACTIVATE DATABASE on the primary, or by disabling the network between primary and standby.
- 3 Allow the standby more time to reach the end of the online backup and reissue the command.
- 4 This command is not supported on a standard

or HADR primary database. Issue the command on an HADR standby database only.

- 5 Activate the standby database, then issue the takeover command.
- 6 Refer to the database logs on both HADR database partitions for possible causes of this message. The roles of the database partitions may not have changed. Check the value of the HADR_DB_ROLE database configuration parameter on both database partitions.
- 7 Refer to the database logs on both HADR database partitions for possible causes of this message. The roles of the database partitions may not have changed. Check the value of the HADR_DB_ROLE database configuration parameter on both database partitions.
- 8 Address the cause of the HADR shutdown, and if desired, reissue the TAKEOVER HADR command.
- 98 Obtain and install a valid HADR license and resubmit the command.
- 99 The HADR feature is not supported in a multi-partition instance environment.

SQL1771N Non-recoverable databases cannot be used as either HADR primary or HADR standby database.

Explanation: Circular logging cannot be used on a database in HADR primary or standby role. HADR requires recoverable databases.

User response: Either convert the database to standard role or do not use circular logging.

SQL1772N Infinite active logging cannot be enabled on either HADR primary or HADR standby databases.

Explanation: Infinite active logging cannot be enabled on a database in either HADR primary or standby role.

User response: Either convert the database to standard role or do not use infinite logging.

SQL1774N Table space restore cannot be issued on an HADR primary or HADR standby database.

Explanation: Table space level restore on either an HADR primary or HADR standby database is not allowed.

User response: Convert the database to standard role and then issue the restore command on the database.

If the goal is to recover lost data on a primary and the data to be restored is available on the standby, consider running the TAKEOVER command to convert the

standby database to a primary database rather than restoring the table space on the primary.

SQL1776N The command cannot be issued on an HADR standby database. Reason code = *reason-code*.

Explanation: The explanation corresponding to the reason code is:

1. The command is not supported on an HADR standby database.
2. Connection requests are not allowed while a database is switching from primary to standby.
3. The migration command is not supported on an HADR standby database.

User response: The user response corresponding to the reason code is:

1. Refer to the DB2 Information Center to determine if there is a supported alternative to the command issued. If not, stop HADR on this database and then issue the command again.
2. Connect to the new primary database.
3. Issue migration against the primary database and then recreate your standby after migration is successful.

SQL1777N HADR is already started.

Explanation: This error occurs when the START HADR command is issued on a database which is already running in the desired role.

User response: No action required.

SQL1790W A default table space could not be found with a page size of at least *page size*.

SQL1800 - SQL1899

SQL1800N An invalid pointer to structure *sqlc_request_info* was passed to the catalog admin command/api.

Explanation: The pointer to structure *sqlc_request_info* passed as a parameter to the catalog admin command/api was invalid. For Client Configuration Assistance request this pointer must not be NULL.

User response: Specify a valid pointer to *sqlc_request_info* and re-submit the command.

SQL1801N Invalid request type.

Explanation: The specified request type is not supported for this command.

User response: Ensure that the request type is one of the following supported request types:

Explanation: The procedure NNSTAT was not able to create the SYSPROC.FED_STATS table to keep a history of the statement that was run. The table space with sufficient page size (at least *pagesize*) could not be found.

User response: Ensure that a table space with a page size of at least *pagesize* exists.

sqlcode: +1790

sqlcode: 01670

SQL1791N The specified server definition, schema, or nickname does not exist.

Explanation: The procedure NNSTAT accepts a server definition, schema, and nickname as input and one or more of these objects could not be found.

User response: Specify an existing server definition, schema, or nickname and resubmit the statement.

sqlcode: -1791

sqlstate: 42704

SQL1792W The statistics for the specified nicknames were not updated completely because of schema inconsistencies between the remote and local catalogs.

Explanation: The remote schema has changed. Either the remote table or view, or one of its columns or the column data types have changed since the nickname was created.

User response: Create a new nickname and resubmit the statement.

sqlcode: +1792

sqlcode: 01669

-
1. SQLE_CCA_REQUEST - CCA catalog node request for catalog and open scan command
 2. SQLE_DAS_REQUEST - DAS catalog node request for catalog and open scan command
 3. SQLE_CND_REQUEST - Open scan command for CCA and DAS catalog entries

SQL1802N No entry belongs to the request type.

Explanation: There is no entry in the node directory that is catalogued by the given request type.

User response: Catalog an entry with the same request type and re-submit the command.

SQL1803N The requested operation cannot be executed in "No Package Lock" mode. An affected package is

pkgschema.pkgname OXcontoken.

Explanation: The database manager is currently operating in "No Package Lock" mode. This mode has been activated by setting the DB2_APM_PERFORMANCE registry environment variable to "ON".

In this mode, the following classes of operations are prevented from being executed because of their impact on packages:

- An operation that invalidates packages.
- An operation that makes a package inoperative.
- Binding, rebinding (explicitly or implicitly) or dropping a package.

Since the requested operation would affect the package *pkgschema.pkgname OXcontoken* in one of these ways, the operation is disallowed.

User response: Do not attempt disallowed operations in "No Package Lock" mode. In order to execute the requested operation, "No Package Lock" mode must be exited. This is accomplished by unsetting the DB2_APM_PERFORMANCE environment registry variable. In order for the variable change to take effect, that database manager must be stopped and restarted.

sqlcode: -1803

sqlstate: 57056

SQL1816N Wrapper *wrapper-name* cannot be used to access the *type-or-version* of data source (*server-type server-version*) that you are trying to define to the federated database.

Explanation: The wrapper that you specified does not support the type or version of data source that you want to define.

User response: Consult the documentation to find out which wrapper supports the type and version of data source that you want to define. Make sure that the wrapper has been registered to the federated database by the CREATE WRAPPER statement. Then recode the CREATE SERVER statement so that it specifies this wrapper, and run the CREATE SERVER statement again.

sqlcode: -1816

sqlstate: 560AC

SQL1817N The CREATE SERVER statement does not identify the *type-or-version* of data source that you want defined to the federated database.

Explanation: When a CREATE SERVER statement references the wrapper that you specified, it must also identify the *type-or-version* of data source that is to be defined to the federated database.

User response: In the CREATE SERVER statement, code the *type-or-version* option so that it designates the *type-or-version* of data source being defined. Then run the CREATE SERVER statement again.

sqlcode: -1817

sqlstate: 428EU

SQL1818N The ALTER SERVER statement that you submitted could not be processed.

Explanation: The ALTER SERVER statement is preceded in a unit of work by a SELECT statement that references a nickname for a table or view within the data source (or category of data sources) that the ALTER SERVER statement references.

User response: Let the unit of work finish; then resubmit the ALTER SERVER statement.

sqlcode: -1818

sqlstate: 55007

SQL1819N The DROP SERVER statement that you submitted could not be processed.

Explanation: The DROP SERVER statement is preceded in a unit of work by a SELECT statement that references a nickname for a table or view within the data source (or category of data sources) that the DROP SERVER statement references.

User response: Let the unit of work finish; then resubmit the DROP SERVER statement.

sqlcode: -1819

sqlstate: 55006

SQL1820N Action on the LOB value failed. Reason code = *reason-code*.

Explanation: The possible reasons codes are:

1. Not enough buffer space to store the LOB value.
2. The remote data source does not support the current action on LOB data type.
3. Some internal programming limitation exceeded.

User response: Reduce the size of the LOB or replace the function which is being applied on the LOB data type. As a last resort, remove the LOB data type from the statement.

sqlcode: -1820

sqlstate: 560A0

SQL1821W The LOB value retrieved may have changed.

Explanation: The LOB value was evaluated on a deferred retrieval basis. The LOB value may have changed between the time it was first accessed and

when it was actually retrieved.

User response: Set the "deferred_lob_retrieval" to "N" in SYSSERVEROPTIONS, resubmit your query, or ignore the warning.

sqlcode: +1821

sqlstate: 01621

SQL1822N Unexpected error code *error-code* received from data source *data-source-name*. Associated text and tokens are *tokens*.

Explanation: While referencing a data source, the federated server received an unexpected error code from the data source that does not map to a DB2 equivalent.

Possible error codes include:

- 4901 Trying to open more than 15 cursors
- 4902 Row size exceeds 32K limit

This error might also be returned if the data source is not available.

User response: Ensure the data source is available, then identify and correct the root cause of the problem by locating the appropriate message text and corrective action for the specified error at the data source.

sqlcode: -1822

sqlstate: 560BD

SQL1823N No data type mapping exists for data type *data-type-name* from server *server-name*.

Explanation: An attempt was made to create a nickname for an object. One or more columns of that object are of a type currently unknown to the federated server. The name of (one of) the unknown type(s) is listed in the message.

User response: Create a mapping for the specified type name on the specified server using the CREATE TYPE MAPPING statement.

sqlcode: -1823

sqlstate: 428C5

SQL1824W Some base tables in the operands of this UNION ALL may be the same table.

Explanation: A nickname can refer to a remote base table, a remote view, a remote alias/synonym, or a remote nickname. If two operands of a UNION ALL view refer to different nicknames, they may potentially be pointing to the same table (if not both of them are known to be remote base tables). This message is issued to warn the user that potentially one remote base table can get updated/deleted twice via updates/deletes through two operands.

User response: Verify if all operands point to different remote tables. If two operands point to the same remote base table, consider issuing a rollback to reverse the update/delete operation.

sqlcode: +1824

sqlstate: 01620

SQL1825N This SQL statement cannot be handled in a federated environment.

Explanation: Due to some limitation, the current SQL statement cannot be handled in a federated environment. Possible limitations include:

- A cursor update/delete statement involves a refetch of a column into the federated server that is not being fetched in the cursor select statement.
- Some internal programming limitation is exceeded.

User response: Based on the cause:

- If this is the cursor update/delete statement that involves refetch of a column not being fetched in the cursor select statement, modify the cursor select statement so that the needed column is fetched.
- If some internal programming limitation is exceeded, try to simplify or rewrite the part of the statement that seems complex.

sqlcode: -1825

sqlstate: 429A9

SQL1826N An invalid value *value* was specified for column *column-name* in a system catalog object *object-name*.

Explanation: An invalid value *value* was specified for a column *column-name* in a system catalog object *object-name*.

The statement cannot be processed.

User response: Refer to the *SQL Reference* for valid values for the specified column in the specified system catalog object. Correct the statement and reissue it.

sqlcode: -1826

sqlstate: 23521

SQL1827N No user mapping is defined from local authorization ID *auth-ID* to server *server-name*.

Explanation: An attempt was made to drop or alter a user mapping that is not defined.

User response: If it is an ALTER USER MAPPING statement, first create a user mapping using the CREATE USER MAPPING statement. Then, alter the user mapping. If it is a DROP USER MAPPING

statement, no extra action is needed because the user mapping does not exist.

sqlcode: -1827

sqlstate: 42704

SQL1828N No server option *option-name* is defined for remote server *server-name* or for a group of remote servers: server type *server-type*, version *server-version*, and protocol *server-protocol*.

Explanation: An attempt was made to drop or alter a server option that is not defined.

User response: If it is an ALTER SERVER statement, first create a server option using the CREATE SERVER statement. Then, alter the server option. If it is a DROP SERVER statement, no extra action is needed because the server option for the servers does not exist.

sqlcode: -1828

sqlstate: 42704

SQL1830N RETURNS clause must be specified prior to a predicate specification using the EXPRESSION AS clause.

Explanation: The RETURNS clause is not specified before the PREDICATE clause that includes the EXPRESSION AS clause. The RETURNS clause may have been included after the predicate specification or may be missing.

The statement cannot be processed.

User response: Specify the CREATE FUNCTION statement with the RESULTS clause prior to the PREDICATE clause.

sqlcode: -1830

sqlstate: 42627

SQL1831N Table statistics for a subtable *subtable-name* cannot be updated.

Explanation: The statement attempts to update the statistics values of NPAGES, FPAGES, or OVERFLOW, for table *subtable-name*, that is defined as a subtable. For typed tables, these statistics can only be updated using the root table of the table hierarchy.

The statement cannot be processed.

User response: Update the catalog statistics for the root table of the table hierarchy instead of the subtable.

sqlcode: -1831

sqlstate: 428DY

SQL1832N The routine *routine-name* cannot be used to define a filter because it is defined as an SQL function.

Explanation: The routine (function or method) *routine-name* is specified in a FILTER clause for a user defined predicate specification or an index extension definition. The routine can not be defined with LANGUAGE SQL.

The statement cannot be processed.

User response: Specify a routine that is not defined with LANGUAGE SQL.

sqlcode: -1832

sqlstate: 429B4

SQL1833N Connection to remote Extended Search Server *host_name* on port *port_number* could not be established or was terminated.

Explanation: The Extended Search Wrapper tried to connect to the remote Extended Search Server *host_name* on port *port_number* but the connection could not be established or was terminated by the remote Server.

User response: Verify the Host name and Port number of the remote Extended Search server. Also, check that the Extended Search Server is up and running

SQL1834N User-defined column *column_name* is identical to a fixed column for wrapper *Wrapper_name* but uses a different data type.

Explanation: A CREATE NICKNAME statement or ALTER NICKNAME statement contains a user-defined column which has the same name as a fixed column for Wrapper *Wrapper_name* but uses a different data type.

User response: Do not specify the fixed columns for Wrapper *Wrapper_name* in the column definition of an CREATE NICKNAME statement. However, if the fixed columns are specified, then the fixed column name and the data type/data type length must match the fixed column definition. It is not allowed to alter a fixed column name or data type.

SQL1835N Extended Search object *object_name* of type *object_type* could not be found on the remote Extended Search Server *es_host_name*.

Explanation: Extended Search object *object_name* of type *object_type* could not be found on the remote Extended Search Server *es_host_name*.

User response: Verify that the object name is defined on this server and is of type *object_type*.

SQL1836N No column mapping exists between user-defined column *column_name* and a field name on the remote Extended Search *es_host_name*.

Explanation: None of the data sources specified in option DATASOURCE or in option CATEGORY contains a field name identical to the user-defined column *column_name*.

User response: Verify that the column name is defined as a field in one of the following:

- any of the data sources specified in option DATASOURCE
- in a data source in a category specified in option CATEGORY.

SQL1837N The required option *option_name* for the *option_type* object *object_name* cannot be dropped.

Explanation: Some options are required for federation. The option cannot be dropped.

User response: See the federation documentation for this data source to determine if the option can be set to another value. It might be necessary to drop the associated object.

sqlcode: -1837

sqlstate: 428GA

SQL1838N The search statement *statement* is not a valid Extended Search query.

Explanation: The Extended Search wrapper attempted to process the listed search statement, however the query failed because the syntax is incorrect.

User response: Correct the search statement and submit the request again. Consult the documentation for information about creating valid SQL search statements when using Extended Search Nicknames.

SQL1839N One or more search parameters are not valid.

Explanation: The Extended Search wrapper tried to use the specified search parameters, but they are not valid for Extended Search.

User response: Consult the IBM DB2 Life Sciences Data Connect Planning, Installation, and Configuration Guide (Part: Extended Search Wrapper) for information about how to write valid SQL statements.

SQL1840N The *option-type* option *option-name* cannot be added to the *object-name* object.

Explanation: The option cannot be added. Some options are set by the object and cannot be added or overridden by you.

User response: See the federation documentation for this data source. Determine the actions that are valid for the options that are associated with this object.

sqlcode: -1840

sqlstate: 428GA

SQL1841N The value of the *option-type* option *option-name* cannot be changed for the *object-name* object.

Explanation: The option value cannot be changed. Some options are set by the object and cannot be added or overridden by you.

User response: See the federation documentation for this data source. Determine the actions that are valid for the options that are associated with this object. It might be necessary to drop the associated object and create it again with a new option value. If this message is produced in response to a SET SERVER OPTION statement, it might be necessary to use an ALTER SERVER statement.

sqlcode: -1841

sqlstate: 428GA

SQL1842N Option *option-name* of type *option-type* for object *object-name* found near *text* is not valid. Reason code = *reason-code*.

Explanation: The syntax of the specified option is not valid or the option cannot be set to the specified value. The reason code provides more information about the error. The reason codes are:

- | | |
|----|--|
| 01 | Unexpected character |
| 02 | Element or attribute name expected but not found |
| 03 | Min/max occurrence expected after reference |
| 04 | More than one colon found in an attribute name |
| 05 | Min/max occurrence is not an integer value |
| 06 | Min/max occurrence out of range |
| 07 | Min occurrence greater than max occurrence |
| 08 | Reference in column template option was not "column" |
| 09 | '=' delimiter missing from namespace specification |
| 10 | Opening or closing quotation mark missing from namespace specification |
| 11 | Duplicate reference in template |
| 12 | The wrapper option <i>option-name</i> is not allowed when the DB2 instance is 32-bit |
| 13 | The two wrapper options or option values are |

not compatible. The wrapper option *option-name* is only valid when "DB2_FENCED" is set to "Y"

- 14 The wrapper option *option-name* is not supported on this particular platform

User response: See the federation documentation for this data source. Determine the correct option syntax and recode the statement. The reason codes are:

- 01 Examine the option value near the specified position and change or remove the invalid character.
- 02 Examine the option value near the specified position and correct the syntax.
- 03 Ensure that a range specification "[min,max]" follows each reference in the template option value
- 04 Templates support only one level of name qualification. Remove the extra qualifications.
- 05 Ensure that the min occurrence and max occurrence values of a range specification are integers.
- 06 Ensure that the values for the range specification "[min,max]" are within the allowed ranges for this data source.
- 07 Correct the range specification. Ensure that the first number is less than or equal to the second.
- 08 Replace the reference in the column template option value with the token 'column'
- 09,10 Recode the namespace option value in the form 'name="specification"'
- 11 Recode the template. Ensure that no references are repeated.
- 12 Do not specify the *option-name* wrapper option for a 32-bit DB2 instance.
- 13 Examine the option value for the "DB2_FENCED" wrapper option.
- 14 Consult the SQL Reference to verify the wrapper option that you want. Install and use the 64-bit client for this data source.

sqlcode: -1842

sqlstate: 42616

SQL1843N The *operator-name* operator is not supported for the *nickname-name.column-name* nickname column.

Explanation: Some data sources restrict the operators that can be specified with nickname columns.

User response: See the federation documentation for

this data source. Recode the statement and remove or change the invalid expression. Then submit the statement again.

sqlcode: -1843

sqlstate: 429BP

SQL1844W Data for column *column-name* were truncated between the remote data source and the federated server.

Explanation: Characters were truncated when data was transferred between a remote data source and the federated server. Truncation can occur in many situations. Some of these situations include an incorrect nickname column definition (a column is too small for the remote data source column data), or the presence of a conversion or type-cast function that restricts the size of the data returned by the remote data source.

User response: To correct this problem, examine the statement for any type-cast or conversion functions that might be restricting the size of data returned from the remote data source. If the statement contains these functions, recode the statement to allow larger data to be returned from the data source. Then submit the statement again. If the statement does not contain these functions, or if correcting the functions does not correct the problem, examine the local column specification in the nickname in the DB2 catalog. Using the ALTER NICKNAME statement or DROP NICKNAME and CREATE NICKNAME statements, change the column specification to ensure that the column size is large enough to accommodate the data returned by the remote data source.

sqlcode: 1844

sqlstate: 01004

SQL1846N The *option-type-1* option *option-name-1* for the *object-name-1* object conflicts with *option-type-2* option *option-name-2* for the *object-name-2* object.

Explanation: You have specified two or more incompatible options or option values.

User response: See the federation documentation for this data source. Determine the valid options that can be specified with this object. Then recode and submit the statement again.

sqlcode: -1846

sqlstate: 42867

SQL1847N Template substitution error for the *object-name* *object-type*. Reason code = *reason-code*. Additional text and tokens *text*

Explanation: While building an XML document a

wrapper encountered a problem substituting values into a template. This may be caused by conflicts between templates at the nickname and column level. The reason codes are:

- 01 Reference name not found in template. The additional text identifies the missing reference.
- 02 Cannot substitute an attribute reference with element content. The additional text identifies the reference in error.

User response: See the federation documentation for this data source. Further diagnostic information may be logged to db2diag.log. Correct the template syntax if necessary, using the ALTER NICKNAME statement. Then submit the original statement again.

sqlcode: -1847

sqlstate: 428G9

SQL1860N Table space *tablespace-name* is not compatible with table space *tablespace-name*. Reason code = *reason-code*.

Explanation: The table spaces specified are not compatible for one of the following reasons:

- 1 All table spaces (data, long, index) for a partitioned table must be in the same database partition group.
- 2 The data table spaces for a partitioned table must be either all SMS, all regular DMS or all large DMS.
- 3 The page size for all data table spaces must be the same. The page size for all long table spaces must be the same. (The page size of data and long table spaces can be different.)
- 4 The extent size for all data table spaces must be the same. The extent sizes for all table spaces storing long data must also be the same, but can be different from that used for the data table spaces.
- 5 Long data for a partitioned table must be stored in the same table space as the data for all data partitions or it must be stored in large table spaces, each of which is distinct from the table space of the corresponding data partition. This error will occur if a LONG IN clause is used that specifies a table space that is different from the data table space but is not a large table space. LONG IN can only be used to specify regular table spaces if they are identical to the data table spaces (i.e. in the case where the LONG IN clause is redundant because it merely specifies the data table spaces, which is the same as the default behavior if LONG IN were omitted entirely).

User response: Specify a table space that matches the

other table spaces for the table.

sqlcode: -1860

sqlstate: 42838

SQL1870N A row could not be inserted into a range-clustered table because a key sequence column is out of range.

Explanation: A row could not be inserted into a range-clustered table because the key sequence values fall outside the defined range.

User response: To see the range defined by the range-clustered table query the constraints defined on this table, and find the constraint named "RCT". For example: SELECT * FROM SYSIBM.SYSCHECKS WHERE NAME='RCT' AND TABLE=<rct table-name>

- you can drop and recreate the range-clustered table with the WITH OVERFLOW option enabled. This will create a range-clustered table which can handle out-of-range records, but does not guarantee ordering and has higher locking implications.
- you can drop and recreate the range-clustered table with a new range definition which will include this record.
- you can define a view which is a UNION ALL of the range-clustered table records and create a separate table which contains the out-of-range records. Inserts, updates, deletes, merges, and queries should then be directed at the view.

sqlcode: -1870

sqlstate: 23513

SQL1871N This function is not supported on range-clustered tables. Reason code = *reason-code*.

Explanation: Certain functions are not available on range-clustered tables. Reason codes:

- 1 VALUE COMPRESSION and COMPRESS SYSTEM DEFAULT are not available.
- 2 A clustering index cannot be created on a range clustered tables.
- 3 Adding a column is not supported.
- 4 SET DATA TYPE is not supported.
- 5 Changing PCTFREE is not supported.
- 6 Changing APPEND mode is not supported.
- 7 Column attributes cannot be changed.
- 8 Typed tables are not supported.
- 9 Range clustered tables cannot be created in a database with more than one database partition defined.

- 10 Redistribute is not supported on a database partition group which was used to define a tablespace containing a range-clustered table.
- 11 The LOAD utility is not supported.
- 12 Table Reorganization is not supported.
- 13 Table Truncate is not supported.
- 14 Columns of type XML cannot be used.
- 15 COMPRESS YES is not supported.

User response: If the unavailable function is required on this table, consider creating the table without the ORGANIZE BY KEY SEQUENCE clause. If the table already exists, you will need to drop and then create the table again. Reason codes:

- 1 Remove the VALUE COMPRESSION clause or the COMPRESS SYSTEM DEFAULT clause.
- 2 Remove the CLUSTER keyword from the CREATE INDEX statement.
- 3 To add a column you must drop and create the table again with the additional column.
- 4 Remove SET DATA TYPE clause from the ALTER TABLE statement.
- 5 Remove PCTFREE clause from the ALTER TABLE statement.
- 6 Remove the APPEND clause from the ALTER TABLE statement.
- 7 To change column attributes you must drop and create the table again with the new column attributes.
- 8 Do not use a typed table definition together with the ORGANIZE BY KEY SEQUENCE clause.
- 9 Create the range-clustered table in a database that has only one database partition defined.
- 10 To redistribute a database partition group which was used to define a tablespace containing a range-clustered table, you must drop and create the range-clustered table again in a different tablespace which does not belong to that database partition group.
- 11 Consider using the IMPORT utility instead of the LOAD utility. Multiple IMPORT commands can be issued concurrently using subsets of the data to improve performance. Also consider using parallel insert applications which populate different regions of the key sequence range.
- 12 Table reorganization is not required for Range Clustered Tables.
- 13 Drop the table and recreate.

- 14 Remove the column defined with data type XML or use another supported data type.
- 15 Remove the COMPRESS YES clause.

sqlcode: -1871

sqlstate: 429BG

SQL1880N *option-name* is not a supported *option-type* option for cursor *object-name* by either the wrapper *wrapper-name*, or the federated data source *server-name*, or both.

Explanation: The cursor *cursor-name* accessing a nickname using wrapper *wrapper-name* at the federated data source *server-name* was declared using the option *option-name* of type *option-type*, but either the wrapper or the data source itself does not support this option.

The cursor cannot be opened.

User response: Do not open the cursor with this option.

sqlcode: -1880

sqlstate: 428EE

SQL1881N *option-name* is not a valid *option-type* option for *object-name*.

Explanation: The specified option might not exist, or it might not be valid for the particular data source, data source type, or database object that you're working with.

User response: Consult the SQL Reference to verify the option that you want. Then revise and resubmit the statement that you want to run.

sqlcode: -1881

sqlstate: 428EE

SQL1882N The *option-type* option *option-name* cannot be set to *option-value* for *object-name*.

Explanation: The value that you specified either lacks the proper delimiters or is invalid.

User response: Consult the SQL Reference to verify the value that you want. Then revise and resubmit the statement that you want to run. Be sure to delimit the value in single quotes.

sqlcode: -1882

sqlstate: 428EF

SQL1883N *option-name* is a required *option-type* option for *object-name*.

Explanation: You did not specify an option that DB2 requires in order to process the statement that you submitted.

User response: Consult the documentation to find out the options that are required for the statement that you want to run. Then revise and resubmit this statement.

sqlcode: -1883

sqlstate: 428EG

SQL1884N The *option_name* option was specified more than once for the *object_type* object *object_name*.

Explanation: You entered a statement that references the same option multiple times.

User response: Recode the statement so that the statement references the option that you want only once. Then submit the statement again.

sqlcode: -1884

sqlstate: 42853

SQL1885N The *option_type* option *option_name* is already defined for *object_name*.

Explanation: You entered a value for an option that already has a value.

User response: Query the appropriate catalog view to determine what value the option is currently set to. If the option value differs from the one that you want, recode the statement so that the SET keyword follows the OPTIONS keyword. Determine which catalog view contains the options for this option. Refer to the DB2 Information Center for more information about catalog views.

sqlcode: -1885

sqlstate: 428EH

SQL1886N The *operation-type* operation is not valid because the *option-type* option *option-name* has not been defined for *object-name*.

Explanation: You tried to change or delete a value for an option that has not been defined for the data source, data source type, or database object that you're working with.

User response: If you specified SET in the statement that you want to run, recode the statement, either omitting SET or replacing it with ADD (ADD is the default); remove any incorrect DROP clause. Then submit the statement again.

sqlcode: -1886

sqlstate: 428EJ

SQL1887N SPECIFICATION ONLY clause required.

Explanation: A CREATE INDEX statement for a nickname must have a SPECIFICATION ONLY clause.

User response: Add the SPECIFICATION ONLY clause and then resubmit the statement.

sqlcode: -1887

sqlstate: 42601

SQL1888N The port number *port-number* is not valid.

Explanation: The port number as specified on the Update Alternate Server command is not valid. The value is either not numeric or its length is not valid. The value must be 1 to 14 characters in length and cannot be all blanks.

User response: Verify that the port number is specified as a numeric value and that it is no more than 14 characters in length.

Resubmit the command with a valid port number.

SQL1889W The update alternate server request was ignored.

Explanation: The request can only be applied to a database server.

User response: Issue the request in a database server.

SQL1890N The host name *host-name* is not valid.

Explanation: The host name as specified on the Update Alternate Server command is not valid. The value must be at least 1 to 255 characters in length and cannot be all blanks.

User response: Verify that the host name is no longer than 255 characters in length.

Resubmit the command with a valid host name.

SQL1891N The address of the host name parameter is not valid.

Explanation: The application program used an address that is not valid for the host name parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Correct the application program so a correct address is used and the input string is null terminated.

SQL1892N The address of the port number parameter is not valid.

Explanation: The application program used an address that is not valid for the port number parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

The command cannot be processed.

User response: Correct the application program so a correct address is used and the input string is null terminated.

SQL1900 - SQL1999

SQL1900N The command completed successfully.

Explanation: The command line utility successfully completed the command.

User response: No action is required.

Explanation: The command line utility could not process the command.

User response: Correct and resubmit the command.

SQL1901N The syntax of the command is not correct.

SQL2000 - SQL2099

SQL2000N The drive specified in the utility command is not a valid diskette drive or fixed disk.

Explanation: The input or output drive specified in the utility command does not exist.

The utility stops processing.

User response: Resubmit the utility command with the correct drive specifier.

SQL2003C A system error occurred.

Explanation: An operating system error occurred. The return code can be found in the SQLERRD[0] field of the SQLCA.

The utility stops processing.

User response: Look at the error return code in the SQLERRD[0] field of the SQLCA. Correct the error, if possible, and resubmit the command.

SQL2001N The utility was interrupted. The output data may be incomplete.

Explanation: The user may have pressed the interrupt key sequence, or had called the utility with a terminate caller action.

This message can also be returned during a backup or restore operation on a database node when the database catalog node is down.

The utility stops processing.

User response: Restart the application or reissue the command, if needed. The output data from the interrupted command may be incomplete, and should not be used.

SQL2004N An SQL error *sqlcode* occurred during processing.

Explanation: The utility was using an SQL statement when an error occurred.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL2002N The specified database utility command is not valid for remote databases. The database specified in the command must reside on your local workstation.

Explanation: The database utility command is only valid for local databases.

The utility stops processing.

User response: Run the utility locally.

SQL2005C An I/O error occurred during a read operation. The data may be incomplete.

Explanation: Incomplete data was read during an I/O operation.

The utility stops processing.

User response: Determine if the I/O error can be corrected and resubmit the command.

SQL2006C An I/O error occurred during a write operation. The data may be incomplete.

Explanation: Incomplete data was written during an I/O operation.

The utility stops processing.

User response: Determine if the I/O error can be corrected and resubmit the command.

SQL2007N Specified buffersize of *buffersize* 4K buffers is too small for *pagesize* page size object.

Explanation: To backup a *pagesize* page size database object one needs a buffer larger than the page size. When backing up a database the data is first copied to an internal buffer. Data is then written from this buffer to the backup media when the buffer is full. The buffersize of *buffersize* 4K buffers that was specified is inadequate.

User response: Use a larger buffersize.

SQL2008N The *callerac* parameter is not within valid range or the requested action is out of sequence.

Explanation: Either the *callerac* parameter value is not one of the acceptable values or the requested action is out of sequence.

The command cannot be processed.

User response: Each utility has its own list of valid *callerac* values. See the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) for the valid values for the *callerac* for the utility in use. Resubmit the command with a valid *callerac* parameter.

SQL2009C A backup or restore failed due to inadequate memory resources.

Explanation: This problem can occur in the following situations:

1. An attempt to backup or restore a database has failed due to insufficient space in the utility heap.
2. Utilities were left running during an online backup attempt.

User response: To resolve all possible cases described above, re-issue the command, invoking the autonomic mode by NOT specifying the following parameters:

```
WITH num-buffers BUFFERS  
PARALLELISM n  
BUFFER buffer-size
```

If you prefer to specify parameters explicitly, appropriate actions for each case are:

1. Increase the UTIL_HEAP_SZ database configuration parameter with the command: UPDATE DB CFG FOR <DBNAME> USING UTIL_HEAP_SZ <VALUE>. For backup and restore, this value must be at least as high as the number of buffers * buffer size. For more information on backup and restore

buffers, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "optimizing restore performance" or "optimizing backup performance".

NOTE: If the database did not already exist when the RESTORE was attempted, create an empty database, increase its UTIL_HEAP_SZ as described above and retry the restore into the new database.

2. Retry the online backup after ensuring that utilities are not running.

SQL2010N The utility encountered an error *error* while connecting to the database.

Explanation: The utility could not connect to the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2011N The utility encountered an error *error* while disconnecting from the database.

Explanation: The utility could not disconnect from the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2012N Interrupt handling could not be enabled.

Explanation: The utility could not enable interrupt handling. The actual return code can be found in the SQLERRD[0] field of the SQLCA.

The utility stops processing.

User response: Look at the error return code in the SQLERRD[0] field of the SQLCA. Correct the error, if possible, and resubmit the command.

SQL2013N The utility could not access the database directory. Error *error* was returned.

Explanation: An error occurred while the utility was accessing the database directory.

The utility stops processing.

User response: If the path in the *database* parameter is not the database directory path, resubmit the command with the correct path. Otherwise, look at the error number in the message for more information. Make changes and resubmit the command.

SQL2014N A database environment error occurred.

Explanation: The utility received an error from a database environment command. The database manager configuration file and the database configuration file may contain incompatible values.

The utility stops processing.

User response: Check the database manager configuration file and the database configuration file for inconsistent values. Resubmit the command.

SQL2015N The database parameter is not valid. The database name is too long, it was not specified, or the address of the name is not valid.

Explanation: The database name is required. It must contain 1 to 8 characters and the characters must be chosen from the database manager base character set. The name must be located at a valid address for the application.

The utility stops processing.

User response: Resubmit the command with a valid database name.

SQL2016C The PATH command does not contain a path to *program-name*.

Explanation: The utility could not find the required program using the operating system Select Path.

The utility stops processing.

User response: Update the PATH command to include the path to the indicated program name.

SQL2017N Too many sessions are already started or OS/2 Start Session did not complete successfully.

Explanation: The BACKUP or RESTORE utility could not start the new session because:

- The maximum number of sessions is already started.
- The OS/2 Start Session program returned an error.

The utility stops processing.

User response: Wait until some of the current sessions stop processing and resubmit the command. Or, see the SQLERRD[0] field in the SQLCA for more information and resubmit the command.

SQL2018N The utility encountered an error *error* while attempting to verify the user's authorization ID or database authorizations.

Explanation: The user attempted to execute a utility and one of the following has occurred:

- The user authorization ID is not valid.
- An error occurred attempting to access the user's authorizations for the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2019N An error occurred while binding the utilities to the database.

Explanation: Because the current level of the utility being executed was not bound to the database, the system attempted to bind all utilities to the database and this binding process failed. Possible causes for the error include:

- The system may have run out of disk space.
- A system resource problem such as too many files opened.
- A missing or invalid list of utility programs to be bound (db2ubind.lst).
- A missing or invalid bind file for one of the utilities (db2uxxxx.bnd).
- The user does not have the required authorization for binding utilities. The required privileges are:
 - BIND privilege for the utility programs
 - SELECT privilege for the system catalogs.

For the RESTORE utility, the database is restored, but at least one utility is not bound to the database. The other utilities stop processing.

User response: Complete all activities that may be competing for system resources and resubmit the utility command. If the error continues, perform one of the following actions:

- Have a user with SYSADM or DBADM authority retry the command.
 - Reinstall the database manager or reapply any recent updates or do both.
 - Bind the utility programs (db2uxxxx.bnd files) individually to the database (with no format option) to isolate the problem and, possibly enable some utilities to operate successfully.
-

SQL2020N The utility is not bound to the database correctly.

Explanation: All the utilities were rebound to the database because the utility was not bound to the database or the package of the utility that was bound to the database was not compatible with the installed version of the database manager, but there is still a timestamp conflict between the installed version of the database manager and the package so the utility and bind file are not compatible.

The utility stops processing.

User response: Reinstall the database manager or reapply any recent updates or do both. Resubmit the utility command.

SQL2021N The correct diskette is not in the drive.

Explanation: The diskette to be used for Backup Database or for Restore Database is not in the drive or is not valid.

The command cannot be processed.

User response: Verify that the correct diskette is in the drive or insert a new diskette.

SQL2023N The utility encountered an I/O error code while accessing the log control file.

Explanation: The read or write operation against the log control file failed.

The utility stops processing.

User response: Record the error return code value. Determine whether the I/O error can be corrected.

SQL2024N The utility encountered an I/O error code while accessing the file type file-type.

Explanation: An I/O error occurred while accessing the specified file.

A file with the extension “.BRG” is used to determine whether a RESTORE operation has terminated abnormally. The file resides in the local database directory of the database for which the RESTORE operation was attempted.

A file with the extension “.BRI” stores information about the progress of an incremental RESTORE operation. The file resides in the local database directory of the database for which the RESTORE INCREMENTAL operation was attempted.

The file name consists of the database token concatenated with the file type extension. For example, if the database “SAMPLE” is assigned the database token “SQL00001”, the BRI file will have the name “instance/NODE0000/sqlbdir/SQL00001.BRI”.

The utility stops processing.

User response: Record the error return code. Determine whether the I/O error can be corrected.

SQL2025N An I/O error code occurred on media dir/devices.

Explanation: An I/O error occurred while accessing a file on the specified media.

The utility stops processing.

If media is “TSM”, there is a problem related to Tivoli

Storage Manager. A common TSM-related problem is time-out of a TSM session due to an inadequate COMMTIMEOUT setting.

User response: If media is TSM, search the Tivoli Information Center at <http://publib.boulder.ibm.com/infocenter/tivihelp/index.jsp> for the full text of the error code using phrases such as “API return codes in numeric order”.

For the COMMTIMEOUT case, attempt to increase COMMTIMEOUT to a higher setting in dsmserv.opt or dsm.sys. Example settings to test are 6000s, or 10000s.

For other media types, ensure that *dir/devices* is accessible and check for media errors. For example for media TAPE, ensure that the tape library is online. If you are attempting to backup to TAPE and you are using tape with variable block size, reduce the buffer size option to within the range that the tape device supports (DB2 automatically chooses an ‘optimal’ value for this parameter if it is not specified).

SQL2026N An error sqlcode occurred while trying to internally disconnect from the database.

Explanation: The internal disconnect command failed. The SQLCODE is returned in the message.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL2027N An error sqlcode occurred while trying to internally connect to the database.

Explanation: The internal connection failed. The SQLCODE is returned in the message. The database manager configuration file and the database configuration file may contain incompatible values.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command. Check that the database manager configuration file values and the backup image’s database configuration file values are compatible.

SQL2028N Error sqlcode occurred while installing the interrupt handler.

Explanation: The utility could not enable the interrupt handler. The SQLCODE is returned in the message.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL2029N An error *error* occurred while *command-file-name* was processing.

Explanation: An error was returned from either the specified command file, or from the operating system.

User response: The user has either requested a “Backup changes only” of a database enabled for ROLLFORWARD recovery, or has requested a “Backup changes only” while requesting the use of the user exit.

SQL2030N The *name* drive is full. At least *number* free bytes are needed on this drive.

Explanation: The specified drive does not have enough space for creating an internal subdirectory and information file.

The utility stops processing.

User response: Free the indicated space on the specified drive and resubmit the command.

SQL2031W Warning! Please mount the target or source media on device *device*.

Explanation: A database utility process either writes data to or reads data from the media on the specified device. The utility returns so that the user may mount the correct media for the operation.

The utility waits for a response to continue.

User response: Mount the media and return to the utility with the *callerac* parameter indicating if processing continues or ends.

SQL2032N The *parameter* parameter is not valid.

Explanation: The parameter is incorrectly specified. Either the value is out of range or is incorrect.

User response: Resubmit the command with a correct value for the parameter.

SQL2033N An error occurred while accessing TSM during the processing of a database utility. Reason code: *reason-code*

Explanation: Some common TSM reason codes are:

- 137 TSM authentication failure.
- 168 Password file is needed, but user is not root. This message is often generated when the DSMI_DIR environment variable points to a directory that contains a 32-bit version of the dsmtca program, yet the DB2 instance is 64-bit, or vice-versa.
- 400 An invalid option was specified on the OPTIONS parameter passed to TSM.
- 406 TSM Cannot find or read its options file.

The utility stops processing.

User response: Responses for common TSM problems are:

- 137 If the TSM parameter PASSWORDACCESS is set to GENERATE, ensure that the system administrator has used the dsmapipw utility to set the password. If PASSWORDACCESS is set to PROMPT, ensure that the TSM_NODENAME and TSM_PASSWORD database configuration parameters have been set correctly.
- 168 Ensure that DSMI_DIR points to a directory containing the correct version of db2tca, restart the instance, and execute the command again.
- 400 Ensure that the OPTIONS parameter specified on the BACKUP or RESTORE command is correct.
- 406 Ensure that the DSMI_CONFIG environment variable points to a valid TSM options file. Ensure that the instance owner has read access to the dsmtca.opt file. Ensure that the DSMI_CONFIG environment variable is set in the db2profile.

For the full text of the TSM codes described above, search the Tivoli Information Center at <http://publib.boulder.ibm.com/infocenter/tivihelp/index.jsp> using phrases such as “API return codes in numeric order”.

SQL2034N The address of the *parm* parameter is not valid.

Explanation: The application program used an address that is not valid for this parameter. Either the address points to an unallocated buffer or the character string in the buffer does not have a null terminator.

User response: Ensure that a valid address is used in the application program and the input string is null terminated.

SQL2035N The warning condition *warn* was encountered while executing the utility in non-interrupt mode.

Explanation: The calling application invoked the utility with *no interrupt* mode. During the operation a warning condition was encountered.

User response: Resubmit the operation without specifying the *no interrupt* condition in the *callerac* parameter or take actions to prevent the warning and resubmit the operation.

SQL2036N The path for the file or device *path/device* is not valid.

Explanation: The application calling the utility has supplied a source or target path that is not valid. The path or device specified may not exist or is incorrectly specified.

User response: Reissue the utility command with a path that represents a correct path or device.

SQL2037N TSM could not be loaded.

Explanation: A call to a database utility specified TSM as the target or source of the backup. An attempt was made to load the TSM client. Either the TSM client is not available on the system or an error was encountered in the load procedure.

User response: Ensure that the system has TSM available. Resubmit the command after TSM is made available, or resubmit the command without utilizing TSM.

SQL2038N A database system error *errcode* occurred during processing.

Explanation: A database system error was encountered during the processing of one of the utilities.

User response: Examine the error code in the message for more information. Take corrective action and resubmit the command.

SQL2039N The application calling the utility has terminated.

Explanation: The application calling the utility has terminated. The application side of the utility is in the same process as the calling application and terminates with the application. The agent side of the utility terminates as a result.

User response: Reissue the command after determining why the application terminated.

SQL2040N The database alias parameter *dbalias* is not valid or not specified.

Explanation: The application calling the Backup or Restore utility has supplied a database alias parameter that is not valid. The alias must be 1 to 8 bytes and the characters must be chosen from the database manager base character set.

User response: Reissue the Backup or Restore command with a valid database alias.

SQL2041N The buffer size parameter specified is not valid. The buffer size must be specified as 0 or be between 8 and 16384 inclusive.

Explanation: The application calling the utility has supplied a buffer size parameter that is not valid. The buffer size is used to determine the internal buffer size. The value is the number of 4K pages that are obtained for this buffer. The value must be specified as 0 or be between 8 and 16384 inclusive.

When running the backup or restore utility, if 0 is specified, the default buffer size defined in the database manager configuration is used.

If the target media is a diskette, the buffer size must be smaller than the diskette size.

SQL2042W Warning! I/O error *error* accessing device *device*. Additional information (if available): *additional-information*. Please ensure media is mounted and positioned correctly.

Explanation: The application calling the utility has encountered an I/O error while trying to read or write to the tape device. The utility returns so that the user may correctly mount and position the tape.

The message may contain additional information to help diagnose the problem.

The utility waits for a response to continue.

User response: Correctly mount and position the tape and return to the utility indicating if processing continues or ends.

The error, device and the additional information (if present) can be used to diagnose and correct the problem.

SQL2043N Unable to start a child process or thread.

Explanation: Unable to start up the child processes or threads required during the processing of a database utility. There may not be enough available memory to create the new process or thread. On AIX-based systems, the maxuproc value set by the chdev command may be too low. The utility stops processing.

User response: Ensure the system limit for number of processes or threads has not been reached (either increase the limit or reduce the number of processes or threads already running). Ensure that there is sufficient memory for the new process or thread. Resubmit the utility command.

SQL2044N An error occurred while accessing a message queue. Reason code: *reason-code*

Explanation: An unexpected error or bad message was received on one of the message queues during the processing of a database utility. The following is a list of reason codes:

- 1 Unable to create a message queue. The number of message queues allowed may have been exceeded.
- 2 An error was encountered while reading from a message queue.
- 3 An error was encountered while writing to a message queue.
- 4 An invalid message was received from a message queue.
- 5 An error was encountered while opening a message queue.
- 6 An error was encountered while closing a message queue.
- 7 An error was encountered while querying a message queue.
- 8 An error was encountered while deleting a message queue.

The utility stops processing.

User response: Ensure the number of message queues allowed is not reached. Reduce the number of message queues in use if necessary and resubmit the utility command.

SQL2045W Warning! Error *error* occurred while writing to media *media*.

Explanation: A database utility process encountered error *error* returned by the operating system while writing to the media *media*. The utility returns so that the user may attempt to fix the problem or cancel the operation.

The utility waits for a response to continue.

User response: Consult the problem determination documentation for your operating system and correct the *error* condition. Return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL2048N An error occurred while accessing object *object*. Reason code: *reason-code*.

Explanation: An error occurred while accessing an object during the processing of a database utility. The following is a list of reason codes:

- 1 An invalid object type is encountered.
- 2 A lock object operation failed. The lock wait

may have reached the lock timeout limit specified in the database configuration.

- 3 An unlock object operation failed during the processing of a database utility.
- 4 Access to an object failed.
- 5 An object in the database is corrupted.
- 6 The object being accessed is a table space and either the table space is in such a state that the operation is not allowed or one or more containers of the table space is not available. (LIST TABLESPACES will list the current table space state.) Examples of such states are: quiesced, offline.
- 7 A delete object operation failed.
- 8 Trying to load/quiesce into a table that is not defined on this partition.

The utility stops processing.

User response:

- 1 Ensure that *object* is of valid type.
- 2 Increase the locktimeout database configuration parameter.
- 3 Please check that there are not any issues while locking *object*, then retry the operation.
- 4, 7 Please check that *object* exists and is accessible. Ensure that you have correct privileges/permissions to access it.
- 5

If *object* is db2rhist.asc, make sure that the db2rhist file is accessible by the instance owner. If permissions are set correctly, the db2rhist file may be corrupt. Move the existing file from its existing location, or delete it. DB2 will create a new db2rhist file the next time it needs to access it. Note: deleting the db2rhist file will cause historical information in the db2rhist file to be lost.

If *object* is any other database control file, you may need to recover the database.

- 6 The table space may be offline. Attempt to determine the underlying problem and correct it. Some examples of problems are: the filesystem is not mounted, which you can fix by mounting the filesystem then altering the table space switch to online, or table space files have been deleted, which you can fix by performing a restore operation.

The table space may be quiesced. Use LIST TABLESPACES to check the table space state. Use QUIESCE RESET OR QUIESCE TERMINATE to make the table space

available. Note that the userid holding the quiesce may be needed to perform the QUIESCE REST OR TERMINATE operation.

8 Ensure that you specify an appropriate table.

SQL2054N The backup or copy image is corrupted.

Explanation: The backup or copy image in use is corrupted

This can also mean that the Restore utility determined that a compressed image was not decompressed correctly.

The utility stops processing.

User response: Discard the image as it is not a valid image. Resubmit the utility command with a valid image.

SQL2055N Unable to access memory from memory set *memory-heap*.

Explanation: A database utility was unable to access memory during processing.

The utility stops processing.

User response: Stop the database manager, then restart it and resubmit the utility command.

SQL2056N An invalid media type was encountered on media *media*.

Explanation: An invalid media type was encountered during the processing of a database utility.

The utility stops processing.

User response: Ensure the media used is among of the types supported by the utility. Resubmit the command with a valid media list.

SQL2057N The media *media* is already opened by another process.

Explanation: The source or target media specified during the processing of a database utility is already open by another process. The utility does not allow shared access for the operation.

The utility stops processing.

User response: Ensure the media used is not in use currently. Resubmit the command with a valid media list.

SQL2058W An end-of-media warning was encountered on media *media*.

Explanation: An end-of-media warning was encountered during the processing of a database utility. This error can also occur if an invalid tape device block size was specified.

The utility is waiting for a response to continue.

User response: Correct the end-of-media condition and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

The tape device block size (or blocking factor) used at restore time must be the same as that used during the backup. If a variable block size is used, then the buffer size used must be less than or equal to the maximum block size of the tape device.

SQL2059W A device full warning was encountered on device *device*.

Explanation: An device full warning was encountered during the processing of a database utility.

The utility is waiting for a response to continue.

User response: Correct the device full condition and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL2060W The device *device* is empty.

Explanation: An empty device was encountered during the processing of a database utility. The utility is waiting for a response to continue.

User response: Mount the media and return to the utility with the caller action parameter to indicate if processing should continue or terminate.

SQL2061N An attempt to access media *media* is denied.

Explanation: An attempt to access a device, file, TSM or the vendor shared library is denied during the processing of a database utility. The utility stops processing.

User response: Ensure the device, file, TSM or vendor shared library used by the utility allows the access requested and resubmit the utility command.

SQL2062N An error occurred while accessing media *media*. Reason code: *reason-code*

Explanation: An unexpected error occurred while accessing a device, file, or the vendor shared library during the processing of a database utility. The following is a list of reason codes:

1 An attempt to initialize a device, file, or the vendor shared library failed.

Other reason codes refer to vendor api codes.

The utility stops processing.

User response: Ensure the device, file, or vendor

shared library used by the utility is available and resubmit the utility command. If the command is still unsuccessful, contact your technical service representative.

For other reason codes, consult the appropriate vendor documentation for further details on the code.

SQL2065W Caller action *caller-action* specified is not allowed when the media *media* specified is the only one left connected to the utility.

Explanation: The caller action specified is not allowed because there is only one device left connected to the database utility.

User response: Return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL2066N Table space name *name* specified does not exist in the database or cannot be used for the utility operation.

Explanation: The table space name specified is syntactically correct, but it does not exist in the database or cannot be used in an utility operation. If the utility in use is a backup operation, the table space may be disallowed because it is a system or user temporary table space or is in an inconsistent state.

User response: Check the table space name and resubmit the utility command with the correct table space name.

SQL2068N An invalid image was encountered on media *media*. There was no media header.

Explanation: An invalid image was encountered during the processing of a database utility. The utility was not able to locate a valid media header. The utility stops processing.

User response: Resubmit the command with correct backup or copy images.

SQL2069N An invalid image was encountered on media *media*. The image was created for database alias *dbalias*.

Explanation: An invalid image was encountered during the processing of a database utility. The image provided was from a different database alias. The utility stops processing.

User response: Resubmit the command with correct backup or copy images.

SQL2070N An invalid image was encountered on media *media*. The image contained timestamp *timestamp*.

Explanation: An invalid image was encountered during the processing of a database utility. The image provided was from a backup or copy with a different timestamp. The utility stops processing.

User response: Resubmit the command with correct backup or copy images.

SQL2071N An error occurred while accessing the shared library *shr-lib-name*. Reason code: *reason-code*

Explanation: An unexpected error occurred while accessing a vendor shared library during the processing of a database utility. The following is a list of reason codes:

- 1 An invalid shared library path was encountered.
- 2 The library could not be loaded because it does not have a valid format. This sometimes means that a 32-bit library is being loaded in a 64-bit instance, or vice-versa.
- 3 An error was encountered while unloading the shared library.

The utility stops processing.

User response: Responses by reason code:

- 1 Specify a correct path in the restore or backup command. Make sure the path is valid and contains the correct shared library. For more information on the backup and restore commands, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using terms such as "restore database command" or "backup database command".
- 2 Ensure that you are specifying the correct library. If your system can run 32-bit and 64-bit binaries, ensure that you are instructing DB2 to load a library of the right format.
- 3 Ensure that version of TSM client being used is compatible with your DB2 instance. For more information, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using terms such as "TSM clients".

SQL2072N Unable to bind the shared library *shr-lib-name*. Reason code: *reason-code*.

Explanation: An error was encountered while binding the shared library during the processing of a database utility. The utility stops processing.

User response: Note the reason code returned from the vendor utility in the message and take corrective action if possible. Resubmit the command with a valid shared library or using another supported media.

SQL2073N DATALINK processing failed because of internal problems at the database server or DB2 Data Links Manager.

Explanation: An unexpected error occurred while processing DATALINK values.

User response: Resubmit the command. If the problem still exists, resubmit the command after shutdown and restart of DB2 and the DB2 Data Links Managers.

The Restore utility can avoid DATALINK processing by specifying WITHOUT DATALINK.

SQL2074N DATALINK processing failed because of internal problems at the database server.

Explanation: An unexpected error occurred while processing DATALINK values.

User response: Resubmit the command. If the problem still exists, resubmit the command after shutdown and restart of DB2.

The Restore utility can avoid DATALINK processing by specifying WITHOUT DATALINK.

SQL2075N DATALINK processing failed because of internal problems at the DB2 Data Links Manager.

Explanation: An unexpected error occurred while processing DATALINK values.

User response: Resubmit the command. If the problem still exists, resubmit the command after shutdown and restart of the DB2 Data Links Managers.

The Restore utility can avoid DATALINK processing by specifying WITHOUT DATALINK.

SQL2076W The DB2 Data Links Manager *server-name* was not registered to the database.

Explanation: The DB2 Data Links Manager *server-name* was not registered to the database with the ADD DATALINKS MANAGER command.

User response: For details on why the ADD DATALINKS MANAGER command failed, check the administration notification log.

SQL2077W Reconcile processing completed successfully on Data Links Managers that were available. Reconcile processing is pending on Data Links Managers that were not available. Examine the administration notification log for more information.

Explanation: Some or all of the Data Links Managers referred to in the table data were not available during reconcile processing. Reconcile processing completed successfully on Data Links Managers that were available. The table is placed in DataLink Reconcile Pending (DRP) state, because reconcile processing is pending on Data Links Managers that were not available.

User response: The table will be taken out of DataLink Reconcile Pending state when reconcile is completed successfully on all Data Links Managers referred to in the table data. Bring up the Data Links Managers that were not available and run reconcile again.

SQL2078N The DB2 Data Links Manager could not be added or dropped successfully. Reason code = *reason-code*.

Explanation: The DB2 Data Links Manager could not be added or dropped, as indicated by the one of the following reason codes:

- 01 The DB2 Data Links Manager being added is already registered to the database.
- 02 The DB2 Data Links Manager being dropped is not registered to the database.
- 03 The database manager configuration parameter DATALINKS is set to NO.
- 04 The database already has the maximum allowed number of DB2 Data Links Managers registered to it.

User response: The action depends on the reason code as follows:

- 01 Do not attempt to add the DB2 Data Links Manager more than once.
- 02 Do not attempt to drop a DB2 Data Links Manager which is not registered.
- 03 Set the database manager configuration parameter DATALINKS to YES using the UPDATE DATABASE MANAGER CONFIGURATION command and attempt the operation again.
- 04 Do not attempt to add more than the maximum allowed number of DB2 Data Links Managers.

SQL2079N An error was reported by the shared library *shr-lib-name*. Return code: *return-code*.

Explanation: An error was reported from a vendor shared library during the processing of a database utility. The return code displayed corresponds to one of the valid vendor API return codes. The utility stops processing.

Possible API return codes are:

- 3 The DB2 and vendor products are incompatible.
- 4 An invalid action was requested.
- 8 An invalid userid was specified.
- 9 An invalid password was provided.

- 10 Invalid options were specified.
- 12 An invalid device handle was provided.
- 13 An invalid buffer size was specified.
- 30 A severe error was experienced inside the vendor product.
- other** A specific severe error returned by the vendor product.

User response: Ensure the shared library provided is valid. Attempt to make the necessary corrective actions based on the vendor API return code and the corresponding db2diag entry and resubmit the utility command.

SQL2100 - SQL2199

SQL2150W The table spaces contained in the backup image were restored. Depending on the request of the caller, one or more of these table spaces might have been skipped.

Explanation: A RESTORE DATABASE command was issued. The user might have indicated that only a subset of the table spaces in the backup image were to be recovered.

User response: No action is required.

SQL2157N There are already eight recovery history file scans open.

Explanation: Eight recovery history file scans in this process are already open. No more than eight open scans are allowed.

The command cannot be processed.

User response: Issue one or more CLOSE RECOVERY HISTORY FILE SCAN commands and resubmit the command.

SQL2154N The RESTORE was not successful. The backup used to restore the table space(s) is not associated with the current log sequence for the database.

Explanation: For table space restore, the backup must have been taken during the current log sequence of the database. The log file sequence is determined by the database that has been restored previously or the log files that have been processed. In addition, the backup must have been taken after the last time the database was enabled for roll forward recovery.

Table space restore has stopped.

User response: Resubmit the command with a correct backup image.

SQL2160W A damaged recovery history file has been replaced. Processing continued.

Explanation: An error was encountered during an access to the recovery history file. The utility is able to recover the file from an alternate copy. The utility continues processing.

User response: The utility continues processing successfully. The user should take appropriate precautions to ensure the recovery history file is not damaged again.

SQL2155W Changes have been made to the recovery history file since the open scan was issued.

Explanation: Changes have been made to the recovery history file since the file was open for a scan. The data read may not be consistent.

User response: If it is essential to have consistent data from the scan, close the recovery history file and resubmit the command.

SQL2161N A damaged recovery history file could not be fixed. The specified action failed.

Explanation: An error was encountered during an access to the recovery history file. The utility is not able to recover the file. The utility stops processing.

User response: To continue processing, the user may remove the recovery history file and resubmit the command. The utility will regenerate a new file. Any data from the corrupted file are lost. The user may look at the corrupted file to see if any information can be saved. The user should take appropriate precautions to ensure the recovery history file is not damaged again.

SQL2162N Rollforward operation failed because DB2 does not have permission to access log file *log-file-number* for database *database-name* on node *node-number*.

Explanation: DB2 cannot access the specified log file because of the file permission settings. Rollforward cannot continue.

User response: Check the file system where the log files are stored. Make sure sufficient permission is given to the instance owner to access these log files.

SQL2163N DB2 is unable to locate a backup image in the Recovery History File to recover the database to the given point in time on database partition number *partition_number*.

Explanation: DB2 is unable to locate a backup image in the Recovery History File to recover the database to the given point in time. This error may occur when the History File has been pruned.

User response: Try specifying a later point in time. If end of logs is specified, ensure that the History File includes a record of backup events.

SQL2164N The RECOVER utility was unable to find the specified recovery history file *filename* on database partition number *partition_number*.

Explanation: The recovery history file specified for the RECOVER command was not found.

User response: Verify the file name and resubmit the command.

SQL2165W The SQLUHINFO structure did not provide enough TABLESPACE entries.

Explanation: The SQLUHINFO structure was not large enough to hold the entry that was to be returned (including all of its TABLESPACES). The value of the SQLN field of the SQLUHINFO structure should be at least as large as the SQLD field returned.

The command cannot be processed.

User response: Increase the value of the SQLN field in the SQLUHINFO structure to the value indicated by the SQLD field (making sure the SQLUHINFO structure is large enough to support that amount) and resubmit the command.

SQL2166N RECOVER command failed because the database *database* does not exist.

Explanation: The RECOVER command relies on a recovery history file to determine which backup image and log files are needed to recover the database.

DB2 was unable to locate the recovery history file because the specified database does not exist.

User response: Ensure that the specified database name is correct or use the USING HISTORY FILE clause of the RECOVER command to specify a recover history file for the database.

SQL2170N The utility encountered entries with the same identifier in the recovery history file. Write fails.

Explanation: The utility has encountered an entry with the same identifier (timestamp to the second) in the recovery history file while writing to it. The write to the recovery history file terminates. Database manager ensures the uniqueness of the recovery history file identifiers and makes provisions for it even if there are more than one request per second. However, there may be cases where it will fail if numerous requests come in within a few seconds.

User response: If the applications are running utilities (such as backup, quiesce, load) that generate numerous entries to the history file, try to pace the utility requests to prevent the problem.

SQL2171N The update of the recovery history file failed because the specified object part does not exist in the file.

Explanation: The entry specified to be updated in the recovery history file does not exist in the file. The utility stops processing.

User response: Resubmit the command with a valid entry.

SQL2172W The utility has completed but it is not able to log the event in the recovery history file due to error *error*.

Explanation: The utility has encountered an error writing to the recovery history file. This warning does not affect processing.

User response: Correct the error condition to prevent future warnings.

SQL2180N Incorrect syntax or incorrect password key used in filtering specification.

Explanation: The filtering specification provided uses one or both of incorrect syntax or an incorrect password key.

User response: Save the diagnostic information. Contact IBM service.

SQL2181N An internal error occurred during filtered recovery.

Explanation: An internal error occurred during filtered recovery. Recovery is terminated.

SQL2200 - SQL2299

SQL2200N The qualifier for the table or index name is too long.

Explanation: The authid must be 1 to 30 characters (bytes in MBCS environment).

The utility stops processing.

User response: Resubmit the command with the correct qualifier.

SQL2203N The tablename parameter is not valid. Either the table name is too long, only an authorization ID was specified, the table name was not specified, or the address of the name is not valid.

Explanation: The table name is required and it must be 1 to 128 characters in length (bytes in MBCS environments). The table name must be located at a valid application address.

The utility stops processing.

User response: Resubmit the command with the correct table name.

SQL2204N The iname parameter is not valid. The name of the index is too long, only an authorization ID was specified, or the address of the index is not valid.

Explanation: If an index is specified, the name must be 1 to 128 bytes. The index must be located at a valid application address.

The utility stops processing.

User response: Resubmit the command with a valid index name.

SQL2205N The specified index is not valid. Reason code: *reason-code*.

Explanation: The specified index parameter is not valid for the requested operation. Following is a list of reason codes:

- 1 The specified index does not exist for the specified *schema.table-name* or *schema.index-name*.
- 2 The specified index is an extended index. The Reorganize Table utility does not support indexes based on index extensions.
- 3 All indexes defined on the table must be

User response: If the error was on an attempt to change the state for a table, try filtering out the full tablespace. Save the diagnostic information. Contact IBM service.

pseudo delete enabled for the following operations: Inplace Table REORG, Online LOAD, REORG INDEXES with the CLEANUP ONLY option.

4 An index other than the clustering index was specified on the REORG command.

5 Inplace table REORG is not allowed if any indexes exist on the table that are based on index extensions.

6 An index cannot be specified for a REORG of a table that has one or more dimensions using the ORGANIZE BY clause of the CREATE TABLE command.

7 The specified index for REORG TABLE cannot be an XML regions index, XML column path index, or an index on an XML column.

Federated system users: this situation can also be detected by the data source.

The utility or operation stops processing.

User response: Resubmit the command with a valid index or without an index.

SQL2207N The filepath specified by the datafile parameter is not valid.

Explanation: The datafile parameter is not any of the values that indicate the default filepath. Also the datafile parameter is not a valid non-default value. One of the following may apply:

- The pointer is not valid.
- The pointer points to a string that is too long for a filepath designation.
- The specified path value is not valid (on the server machine).
- The file path does not end with an appropriate separator for the server machine.

The utility stops processing.

User response: Resubmit the command with a valid datafile parameter.

SQL2208N The table space *tablespace-name* specified by the table space or long table space parameter is not valid.

Explanation: The table space or long table space

parameter does not contain a valid value. One of the following conditions may exist:

- The pointer is not valid
- The pointer points to a string that is too long for a table space name
- The specified table space does not exist.

The utility stops processing.

User response: Resubmit the command with a valid table space or long table space parameter or do not use these parameters. In the latter case, the Reorganize Table utility will use the table space(s) in which the table itself resides.

SQL2211N The specified table does not exist.

Explanation: The table does not exist in the database. Either the table name or the authorization ID is incorrect.

The command cannot be processed.

User response: Resubmit the command with a valid table name.

SQL2212N The specified table is a view. The Reorganize Table utility cannot be run against a view.

Explanation: The Reorganize Table utility cannot be run against a view.

The utility stops processing.

User response: Resubmit the command with a valid table name.

SQL2213N The specified table space is not a system temporary table space.

Explanation: The REORG utility requires that any table space specified is a system temporary table space. The table space name provided is not a table space defined to hold system temporary tables.

The utility stops processing.

User response: Resubmit the command with the name of a system temporary table space or do not use the table space name parameter. In the latter case, the REORG utility will use the table space(s) in which the table itself resides.

SQL2214N The user does not have the authority to run the REORG utility on table *name*.

Explanation: The user attempted to reorganize the specified table or its indexes without the appropriate authorization (either SYSADM or DBADM authority or the CONTROL privilege on the table).

The utility stops processing.

User response: Logon as a user with the appropriate authority or privilege and resubmit the REORG utility command.

SQL2215N SQL error *sqlcode* occurred while committing previous work for the database.

Explanation: The user was already connected to the database specified in the Reorganize Table command. An error occurred while committing the previous work in progress for the database.

The utility stops processing with no attempt to roll back the work or break the database connection.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL2216N SQL error *sqlcode* occurred while reorganizing a database table or its indexes.

Explanation: An error occurred during the reorganization of a database table or its indexes.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL2217N The page size of the system temporary table space used by the REORG utility must match the page size of the table space(s) in which the table data resides (including the LONG or LOB column data). The cause is based on the following reason codes *reason-code*.

Explanation: Following is a list of reason codes:

- 1 The cause relates to selection of a temporary tablespace for the table's data.
- 2 The cause relates to selection of a temporary tablespace for the table's LONG or LOB data.

If the system temporary table was explicitly specified to the REORG utility then the page size of the system temporary table space used by the REORG utility must match the page size of the table space or table spaces in which the table data, including LONG or LOB column data, resides, or else an appropriate container for long data must be specified. One of the following has violated this restriction:

- The table's data resides in a table space that has a different page size than that of the specified system temporary table space.
- The table contains LONG or LOB columns whose data resides in a table space with a page size that is different than that of the system temporary table

space and the table's regular data but no tablespace with the correct page size could be found for the LONG or LOB data objects.

If the system temporary table space or LONG temporary table space was not specified to the REORG utility then the utility was looking internally for a system temporary table space. A system temporary table space that uses the same page size as the table data either did not exist in the database or was not available at the time.

User response: If a system temporary table space that uses the same page size as the table data does not exist in the database, please create a system temporary table space using a page size that matches the page size of the table data. If the page size of the table data differs from that of the LOB or LONG data, ensure a system temporary tablespace using that page size also exists.

If a system temporary table space that uses the same page size as the table data exists in the database but was not available at the time of your command, please reissue the command when the system temporary table space is available.

SQL2218N One or more parameters specified on the reorg command is incompatible.

SQL2219N The specified INPLACE table reorganization action on table *table-name* is not allowed on one or more nodes.
Reason code: *reason-code*.

Explanation: The statement cannot be processed because it violates a restriction as indicated by the following reason code:

- 1 Table reorganization cannot RESUME as the original data or index object has changed.
- 2 There is no reorganization to RESUME for the specified table.
- 3 An index cannot be specified to RESUME a non-clustering table reorganization.
- 4 Table reorganization cannot RESUME as the original index specified to START the reorganization has been dropped.
- 5 The index specified on RESUME is not the same index that was specified when the table reorganization was paused.
- 6 Unable to RESUME table reorganization as the Status File is corrupted or missing.
- 7 An I/O error occurred when attempting to access the Status File.
- 8 INPLACE table reorganization is already in progress for the specified table.

- 9 START is not allowed as a prior paused table reorganization has not been stopped.
- 10 PAUSE or STOP has already been issued. The specified action is asynchronous and may not be effective immediately.
- 11 There is no table reorganization to PAUSE or STOP.
- 12 INPLACE table reorganization is not allowed for tables in append mode.

User response:

- 1 Issue a STOP then a START.
- 2 There is no outstanding table reorganization to RESUME. Issue the START action to reorganize the specified table.
- 3 The original table reorganization did not use an index and therefore an index cannot be specified on RESUME. Either continue the reorganization without using an index or STOP the existing reorganization and issue a START with an index name.
- 4 STOP the existing paused table reorganization and issue a START.
- 5 Resubmit the RESUME command with the correct index. If no index is specified on RESUME the original index will be used by default.
- 6 Confirm whether the Status File "*<tablespaceID><objectID>.OLR*" exists under the database directory and is accessible then resubmit the command. If the file is damaged STOP then START the table reorganization.
- 7 Ensure the Status File "*<tablespaceID><objectID>.OLR*" is accessible and resubmit the command.
- 8 START or RESUME is not allowed as table reorganization is already in progress.
- 9 A reorg on the table has been paused. Either RESUME the paused reorg or STOP then START the reorg.
- 10 Wait for the original STOP or PAUSE to complete.
- 11 Ensure reorganization is running for the specified table.
- 12 Either ALTER the table to turn APPEND mode OFF or reorganize the table offline.

SQL2220W The compression dictionary was not built for one or more data objects.

Explanation: A compression dictionary could not be built for one or more data object. The object(s) either contained no records, or contained no records larger

than the minimum record length to be eligible for this page size. A new dictionary was not built. The operation continued to completion. If there was a dictionary prior to the operation, the dictionary is

retained and the rows were subject to compression.

User response: Refer to the Administration Log to determine which data object(s) caused the warning.

SQL2300 - SQL2399

SQL2300N The identifier for the table name is too long or it was not specified as part of the table name.

Explanation: The table name must be fully qualified. The format is *authid.tablename* where *authid* contains 1 to 30 characters and *tablename* contains 1 to 128 characters (bytes in MBCS environments).

The utility stops processing.

User response: Resubmit the command with the fully qualified table name, including the correct qualifier.

SQL2301N The tablename parameter is not valid. Either it is too long, only an authorization ID was specified, or the address of the name is not valid.

Explanation: The table name must be fully qualified and in the format *authid.name* where *authid* contains 1 to 30 characters and *name* contains 1 to 128 characters (bytes in MBCS environments) and must be located at a valid application address.

The utility stops processing.

User response: Resubmit the command with the correct table name.

SQL2302N The index list is not valid. Either the address for the list is not valid, the number of entries in the list is less than the number of indexes specified, or the address for an index in the list is not valid.

Explanation: The address for the list is not valid, the number of entries in the list is less than the number of indexes specified, or the address for an index in the list is not valid.

The utility stops processing.

User response: Resubmit the command with a valid index list.

SQL2303N The *statsopt* parameter is not valid.

Explanation: The *statsopt* parameter in the Run Statistics command must be one of the following:

- T for basic table only
- I for basic indexes only
- B for both basic table and indexes
- D for table and distribution

- E for table and distribution and basic indexes
- X for extended indexes only
- Y for extended indexes and basic table
- A for all

The utility stops processing.

User response: Resubmit the command with a valid *statsopt* parameter.

SQL2304N The *sharelev* parameter is not valid. It must be 'R' for reference or 'C' for change.

Explanation: The *sharelev* parameter in the RUN STATISTICS command must be R for reference or C for change.

The utility stops processing.

User response: Resubmit the command with a valid *sharelev* parameter.

SQL2305N The table specified is a view. The utility cannot be run against a view.

Explanation: The *tname* parameter specified a view rather than a table.

The utility stops processing.

User response: Resubmit the command with a valid *tname* parameter.

SQL2306N The table or index *name* does not exist.

Explanation: The table or index identified by *name* does not exist in the database, or the index identified by *name* is not defined on the specified table. The qualifier for the table or one of the indexes may be incorrect.

The utility stops processing.

User response: Resubmit the command with valid table names and indexes.

SQL2307N The table specified is a system table. The Runstats utility cannot be run against a system table.

Explanation: The Run Statistics utility command may not be run against a system table.

The utility stops processing.

User response: Resubmit the command with a valid table name.

SQL2308N The qualifier for the index name *name* is too long, or it was not specified as part of the index name.

Explanation: The index name must be a fully qualified name. The format is *authid.name* where *authid* contains 1 to 128 bytes and *name* contains 1 to 128 bytes.

The utility stops processing.

User response: Resubmit the command with a fully qualified name, including the correct qualifier.

SQL2309N The index name *name* is not valid. It is too long or only a qualifier was specified.

Explanation: The index name must be a fully qualified name. The format is *authid.name* where *authid* contains 1 to 128 bytes and *name* contains 1 to 128 bytes.

The utility stops processing.

User response: Resubmit the command with a valid index.

SQL2310N The utility could not generate statistics. Error *sqlcode* was returned.

Explanation: An error occurred while the utility was gathering statistics.

The utility stops processing.

User response: Look at the message error number for more information. Make changes and resubmit the command.

SQL2311N The user does not have the authority to run the Run Statistics utility on table *name*.

Explanation: The user attempted to run statistics on the specified table without the appropriate authorization (either the SYSADM or DBADM authority or the CONTROL privilege on the table). If the table specified in RUNSTATS is the root table of a table hierarchy, then the table name returned in the message may be a subtable of the specified root table.

The utility stops processing.

User response: Do not attempt to call the Run Statistics utility command without appropriate authorization.

SQL2312N Statistics heap size is too small to carry out the operation. Suggested heap size is *num* pages.

Explanation: The setting of the database configuration parameter *stat_heap_sz* is not big enough to collect non-uniform distribution statistics on the table.

User response: Update the database configuration parameter *stat_heap_sz* to the suggested value and try again.

SQL2313W All available memory in the statistics heap has been used. Statistics were collected on the first *n1* rows out of a total of *n2* rows.

Explanation: The setting of the database configuration parameter *stat_heap_sz* is not big enough to collect non-uniform distribution statistics on the table. Only <n1> of <n2> rows could be processed.

User response: Update the database configuration parameter *stat_heap_sz* by 20 percent and try again.

SQL2314W Some statistics are in an inconsistent state. The newly collected *object1* statistics are inconsistent with the existing *object2* statistics.

Explanation: Possible causes of this warning include the following.

1. Issuing RUNSTATS on the table only may result in a situation where the table level statistics are inconsistent with the already existing index level statistics. Likewise, issuing RUNSTATS for indexes only or during index creation may leave table level statistics in an inconsistent state. For example, if index level statistics are collected on a particular table and later a significant number of rows is deleted from this table, issuing RUNSTATS on the table only may end up with the table cardinality less than FIRSTKEYCARD which is an inconsistent state.
2. If a RUNSTATS is issued with the ALLOW WRITE ACCESS option when many inserts, updates, or deletes are occurring concurrently, then inconsistencies may occur because of table changes between the time that table and index statistics are collected.
3. If a RUNSTATS is issued with the TABLESAMPLE option, then an excessively low sample size may cause statistics to be inaccurately extrapolated, resulting in inconsistencies. The chance of inaccurate extrapolation is higher for SYSTEM sampling than for BERNOULLI sampling.

User response:

1. Issue a RUNSTATS to collect both table level and index level statistics.

2. Collect statistics when inserts, updates, and deletes are minimal or not occurring at all. Or, if concurrent inserts, updates, and deletes are not essential, issue a RUNSTATS with the ALLOW READ ACCESS option.
3. Increase the sample size, or, if RUNSTATS was issued with TABLESAMPLE SYSTEM, use the TABLESAMPLE BERNOULLI option instead.

sqlcode: 2314

sqlstate: 01650

SQL2315N The USE PROFILE option of the RUNSTATS utility was specified, however, a statistics profile does not exist.

Explanation: The statistics profile does not exist in the catalog table SYSIBM.SYSTABLES.

The utility stops processing.

User response: To create a statistics profile, use the SET PROFILE or SET PROFILE ONLY options. Refer to the RUNSTATS utility documentation for information about the utility options.

SQL2400 - SQL2499

SQL2400N The type specified in the BACKUP command is not valid. It must be either 0 to back up the entire database or 1 to back up only the current changes.

Explanation: The type must be either 0 for backing up the whole database or 1 for backing up changes only.

The utility stops processing.

User response: Resubmit the utility command with the correct type.

SQL2401N "Backup changes only" cannot be performed until a backup of the entire database has been done. The type must be 0.

Explanation: A backup of changes only has been requested without requesting a backup of the entire database first, or an internal file has been damaged such that the BACKUP utility cannot determine whether a full backup had been taken. The backup of changes only cannot be used until after a backup of the entire database.

The utility stops processing.

User response: Resubmit the utility command with the correct type.

SQL2403N The user does not have the authority to run the utility against the database.

SQL2316W The Runstats command string for the statistics profile has exceeded the maximum size. The Runstats command string will be truncated to the maximum size and stored in the catalog table SYSIBM.SYSTABLES.

Explanation: The maximum size of the STATISTICS_PROFILE column is 32768 bytes. If the size of the statistics profile is greater than this amount, the Runstats command strings is truncated to the maximum size.

The utility continues processing.

User response: Refer to the STATISTICS_PROFILE column in the catalog table SYSIBM.SYSTABLES to review the statistics profile. If the existing statistics profile is not desired, reissue the RUNSTATS utility and specify the UPDATE PROFILE or the UPDATE PROFILE ONLY option to modify the profile. Refer to the RUNSTATS utility documentation for information about the utility options.

Explanation: The user attempted to execute a database utility without either SYSADM or DBADM authority.

The utility stops processing.

User response: Do not attempt to call the utility command without appropriate authorization.

SQL2404N The backup target media is full. At least *number* free bytes are needed on the target media.

Explanation: The backup target media does not have enough space for creating an internal subdirectory and information file.

The utility stops processing.

User response: Prepare a backup media that has at least the specified number of bytes of free space and then resubmit the command.

SQL2405N The BACKUP cannot be performed because there is a previously incomplete RESTORE.

Explanation: The database is in an inconsistent state due to a system crash during a restore operation or due to an abnormally terminated RESTORE.

The utility stops processing.

User response: Resubmit the RESTORE command.

SQL2406N The BACKUP cannot be performed because the database needs to be rolled forward.

Explanation: The backup failed because the database is in an inconsistent state.

The utility stops processing.

User response: Use the ROLLFORWARD command to make the database usable. Then resubmit the BACKUP command.

SQL2407N An I/O error occurred reading the file *name*. The BACKUP cannot be performed because it cannot determine if a RESTORE was completed.

Explanation: The indicated file cannot be read due to the I/O error. Since the file exists, a BACKUP or RESTORE command must have not completed. Upon successful completion of the process this file is deleted.

The utility stops processing.

User response: Determine which process was executed previously. Delete the indicated file and resubmit the previous command.

SQL2408W The database was backed up, but an I/O error *error* occurred while deleting the file *name*.

Explanation: The BACKUP command ran successfully. The indicated file was not deleted due to an I/O error.

The utility completed processing.

User response: Try to delete the file indicated in the message.

SQL2409N When doing a BACKUP of changes only, the most recent backup image must be used.

Explanation: The user has attempted to perform a changes only backup but the backup image specified is not the most current backup or the previous backup of changes only failed.

The utility stops processing.

User response: Locate the most recent backup image and resubmit the command. If the most recent backup image cannot be located or if the previous backup of changes only failed, resubmit the command requesting a backup of the entire database rather than a changes only backup.

SQL2410N "Backup changes only" cannot be performed if the database is enabled for ROLLFORWARD or if the BACKUP is being done through a user exit.

Explanation: The user requested a changes only backup of a database with roll-forward enabled, or has requested a changes only backup through the user exit program.

User response: Possible solutions include:

- If the database is roll-forward enabled, resubmit the BACKUP utility command requesting a backup of the entire database.
 - Disable roll-forward by turning off the SQL_ENABLE_LOG_RETAIN flag and SQL_ENABLE_USER_EXIT flag in the database configuration file. Then resubmit the BACKUP utility command requesting a changes only backup.
 - If the backup was requested through the user exit program, resubmit the BACKUP utility command to do a changes only backup not using the user exit program.
 - If the backup was requested through the user exit program to a standard device, resubmit the BACKUP utility command to do a changes only backup not using the user exit program.
-

SQL2411C An I/O error occurred while running a utility. Either the disk could not be physically written to or has been filled.

Explanation: An operating system error occurred when the utility was writing to the disk or diskette. The actual return code can be found in the SQLERRD[0] field of the SQLCA.

User response: Look at the error return code in the SQLERRD[0] field of the SQLCA. Correct the error, if possible, and resubmit the command.

SQL2412C A corrupted database page was encountered while running a database utility.

Explanation: During the utility operation a corrupted database page was encountered. The database is in an unpredictable state and the utility cannot continue.

User response: Record the message number (SQLCODE).

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

- Problem description
 - SQLCODE or message number
 - SQLCA if possible
 - Trace file if possible.
-

SQL2413N Online backup is not allowed because the database is not recoverable or a backup pending condition is in effect.

Explanation: Online backup cannot be performed while the database is not logging for forward recovery as forward recovery will be required at restore time. Forward recovery is placed into effect by setting either the database configuration LOGARCHMETH1 or LOGARCHMETH2 and then performing an offline backup of the database.

User response: Execute an offline backup or reconfigure the database for roll-forward recovery and issue an offline backup so that subsequent online backups will be allowed.

SQL2414W Warning! Insufficient space on device *device* to contain backup control information. This media will not contain backup information.

Explanation: During the Backup operation a new media was mounted and positioned after one or more media became full. There is not enough space on this media to contain the Backup Control Information and the media should not be included during the Restore operation.

User response: Mount a new media, or reposition the current media to provide enough space for this header, then return to the utility with the *callerac* parameter indicating if processing continues.

SQL2416W Warning! Device *device* is full. Please mount new media.

Explanation: The tape which the utility is using has become full.

User response: Mount another tape and continue the operation with the *callerac* parameter indicating if processing continues.

SQL2417N Archive log is not allowed on non-recoverable databases.

Explanation: The archive log command can only be used on databases that are in recoverable mode. A database is in recoverable mode if LOGARCHMETH1 is set to DISK, TSM, VENDOR, USEREXIT, or LOGRETAIN, or if LOGARCHMETH2 is set to DISK, TSM, or VENDOR.

User response: Ensure that the specified database is in recoverable mode and reissue the command.

SQL2418N The database specified for Backup does not exist.

Explanation: The database specified in the *dbase* parameter of the Database Backup command could not be found.

User response: Ensure that the correct database alias was specified for the Backup Database utility and that the database exists for this alias. Resubmit the command with the correct alias.

SQL2419N The target disk *disk* has become full.

Explanation: During the processing of a database utility, the target disk became full. The utility has stopped and the target is deleted.

User response: Ensure enough disk space is available for the utility or direct the target to other media, such as tape.

On unix-based systems, this disk full condition may be due to exceeding the maximum file size allowed for the current userid. Use the *chuser* command to update *fsize*. A reboot may be necessary.

On non unix-based systems, this disk full condition may be due to exceeding the maximum file size allowed for the operating system. Direct the target to other media, such as tape, or use multiple targets.

SQL2420N Insufficient space on device *device* to contain initial backup control information.

Explanation: During the Backup operation an initial backup header needs to be created at the start of the backup image. This header must fit on one tape when backing up to tape. There is insufficient space on the tape to contain this header.

User response: Resubmit the Backup operation and either direct the output to a new tape, or reposition the current tape to provide enough space for this header.

SQL2421N Table space level backup is not allowed because roll-forward recovery is not enabled.

Explanation: Table space level backup cannot be performed while the database is not logging for forward recovery as forward recovery will be required at restore time. Forward recovery is placed into effect by setting either the database configuration parameter LOGARCHMETH1 or LOGARCHMETH2, and then performing an offline backup of the database.

User response: Execute a full database backup or reconfigure the database for roll-forward recovery and issue an offline backup so that subsequent table space level backups will be allowed.

SQL2422N The database cannot be backed up with a back-level backup API due to incompatible table space locations.

Explanation: This database contains table space(s) which have been defined in a location other than the

database subdirectory. This is not compatible with the API being used.

User response: Use the current backup API to backup the database.

SQL2423N The database cannot be backed up because some index files are missing.

Explanation: Some of the index files required by the backup are missing. These index files must be recreated prior to backing up the database.

User response: Run the 'db2recr1' program to recreate the missing index files and then resubmit the backup command.

SQL2424N The backup could not succeed because asynchronous copy operations at DB2 Data Links Managers are not complete.

Explanation: The TSM or vendor supplied archive server might not be in operational state.

User response: Ensure TSM or the vendor supplied archive server is in an operational state and resubmit the backup command.

SQL2425W The log file for the online backup was not truncated.

Explanation: During an online backup, all buffered log records are forced to disk and the last active log file is truncated. During the current backup, truncation of the last active log file has failed. As a result, new log records will continue to be written into the last log file used during the backup.

User response: No user action is required. The last active log file used during the backup will eventually become inactive when it becomes full.

SQL2426N The database has not been configured to allow the incremental backup operation. Reason code = *reason-code*.

Explanation: Incremental backups are not enabled for a table space until after modification tracking has been activated for the database and a non-incremental backup has been performed on the table space.

SQL2500 - SQL2599

SQL2501C The database was restored but the data in the restored database was unusable.

Explanation: The RESTORE utility either could not read data from the restored database or only a portion of the database was restored. Both cases indicate that the restored database is not usable.

The database is unusable and the RESTORE utility stops processing.

Possible reason codes:

1. The configuration parameter TRACKMOD has not been set for the database.
2. The TRACKMOD configuration parameter has been set but at least one table space has not had a non-incremental backup taken since the TRACKMOD parameter was set.

User response: The action is based on the reason code as follows:

1. Activate modification tracking for the database by setting the TRACKMOD database configuration parameter to on, then perform a full database backup.
2. Consult the db2diag.log file to determine the name of the table space, then perform a full backup of that table space.

SQL2427N Plug-in library *filename* cannot be backed up because it does not contain endpoint *entrypoint*.

Explanation: A compressed backup image is being created with the plug-in library being included in the image. However, the library does not contain all the functions needed to decompress the backup image when it is restored.

The utility stops processing.

User response: Resubmit the command, specifying the name of a library that has all the functions needed to decompress the backup image.

SQL2428N The BACKUP did not complete because one or more of the requested log files could not be retrieved.

Explanation: A backup that includes logs will fail if any of the logs required for the successful rollforward recovery of the image cannot be retrieved and copied into the backup image.

User response: Refer to the administration notification log for additional information about the cause of the failed log retrieval attempt. Correct the error and resubmit the command.

User response: Resubmit the RESTORE command.

SQL2502C An error occurred while reading the backup files. Either the disk could not physically be read or the specified disk did not contain a valid backup.

Explanation: An operating system error occurred when the RESTORE utility was reading the diskette or disk, or the diskette or disk does not contain a backup

of the database directory or does not contain the results of any previous backup.

The utility stops processing.

User response: If the input drive specified is a diskette drive, check the diskette being used. If the input drive is a hard file, verify that it is the correct hard file. Resubmit the command with the correct input drive and the correct diskettes, if applicable.

SQL2503N The RESTORE was not successful. The backup used to restore the database contained the wrong database.

Explanation: The name of the database contained on the backup disk does not match the database name specified on the RESTORE command. The RESTORE utility cannot determine the name until after the database has been restored because a previous release backup image was restored.

The utility stops processing.

User response: If the wrong database name was used in the command, resubmit the command with the correct database name. If the input drive specified is a diskette drive, check the diskette being used. If the input drive is a hard file, verify that it is the correct hard file. Resubmit the command with the correct input drive and the correct diskettes, if applicable.

SQL2504W Insert the first backup diskette into drive *drive*.

Explanation: The RESTORE utility reads the first backup diskette to determine the path of the database directory that was backed up. If the backup media is a diskette and the diskette is not found in the specified input drive, the utility returns to the caller with this prompt. The calling program is expected to query the user and return to the utility with the user response.

The utility waits for a response from the caller.

User response: Prompt the user for the diskette and return to the utility with the *callerac* parameter, indicating if processing continues or ends.

SQL2505W Warning! Database *name* resides at *drive*. The files for this database will be deleted.

Explanation: If the database being restored already exists, its files will be deleted before the restore process starts. The utility returns to the caller with this warning. The caller is expected to query the user and return to the utility with the user response. Once the database is dropped, it cannot be accessed again.

The utility waits for response from the caller.

User response: Warn the user that the database files will be deleted and return to the utility with the *callerac*

parameter indicating if processing continues or ends.

SQL2506W The database was restored, but there may be extra files in the database.

Explanation: If changes-only backups were performed and database files were deleted between backups, the RESTORE utility adds these deleted files back into the database. The restore process could not delete the extra files either because of an I/O error or by the failure of an internal connection to an internally stopped database.

The utility ends successfully.

User response: Either use the database as it is or attempt to restore it again. Ensure that the DB2 configuration is compatible with the restored database configuration before rerunning the RESTORE utility.

SQL2507W The RESTORE utility is not bound to the database correctly.

Explanation: Because the RESTORE utility was not bound to the database or the package of the utility that was bound to the database is not compatible with the installed version of DB2, all the utilities have been rebound to the database. But there is a timestamp conflict between the installed version of DB2 and the package so the utility and bind file are not compatible.

The database is restored, but the utility is not correctly bound.

User response: Reinstall DB2 or reapply recent updates and resubmit the utility command.

SQL2508N The Database Restore timestamp parameter *timestamp* is not valid.

Explanation: The timestamp parameter must contain either NULL or a portion of a valid timestamp, the portion consisting of complete components of a timestamp.

User response: Resubmit the Restore operation with a valid timestamp value.

SQL2509N The database drive parameter is not valid.

Explanation: The drive specified does not exist, or the database does not exist on this drive or is not cataloged on this drive. RESTORE should use the *db2uexit* command to perform the database restore.

The utility stops processing.

User response: Resubmit the utility command with a valid drive.

SQL2510N An operating system semaphore error occurred.

Explanation: An error occurred in the wait or post semaphore.

The utility stops processing.

User response: Stop the database manager, then restart it and resubmit the utility command.

SQL2511N The utility encountered an error *error* while dropping the database.

Explanation: The utility could not drop the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2512N The utility encountered an error *error* while creating the database.

Explanation: The utility could not create the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2513N The utility encountered an error *error* renaming the database.

Explanation: The utility could not rename the database.

The utility stops processing.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL2514N The RESTORE was not successful. The backup used to restore the database contained a database with a release number that is not compatible with the installed version of the database manager.

Explanation: The release number of the restored database is not compatible with the release number of the installed version of the database manager.

The utility stops processing.

User response: Resubmit the command with a backup that is compatible with the release level of the database manager.

SQL2515N The user does not have the authority to run the RESTORE utility against the database.

Explanation: The user attempted to execute the RESTORE utility without SYSADM authority.

The utility stops processing.

User response: Do not attempt to call the RESTORE utility command without appropriate authorization.

SQL2516N The RESTORE utility cannot complete because at least one database on the workstation is in use.

Explanation: In some situations, the RESTORE utility can attempt to move a database to a directory by renaming the directory associated with the database. This cannot be done if any databases are in use in any process on the workstation.

The utility stops processing.

User response: Wait until no databases on the workstation are in use and resubmit the command.

SQL2517W The restored database was migrated to the current release. Migration returned *sqlcode sqlcode* and *tokens tokens*.

Explanation: The database being restored was backed up using a previous release of DB2. The RESTORE utility migrated it to the format of the current release.

The user who submitted the RESTORE command is given DBADM authority for the database. If there are other users, the database administrator with DBADM authority must grant authorization privileges to the specific database users.

The RESTORE utility completes successfully.

User response: Determine the appropriate user response based on the SQLCODE returned by migration before using the database.

SQL2518N The RESTORE was not successful. An I/O error occurred while trying to restore the database configuration file.

Explanation: The database configuration file could not be restored due to an I/O error.

The utility stops processing.

User response: Determine whether the I/O error can be corrected. Resubmit the command.

SQL2519N The database was restored, but the restored database was not migrated to the current release. Error *sqlcode* with *tokens tokens* is returned.

Explanation: The backup image contains a previous

release of the database. After the database files were restored, an attempt was made to migrate the database to the current release. The migration failed.

The utility finishes processing but the database was not migrated.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and submit the Migrate command before using the database.

SQL2520W The database was restored. The backup version of the configuration file was used.

Explanation: When a database is restored, the current database configuration file is not always replaced with the backup version. The current database configuration file was not usable. It has been replaced by the backup version.

The utility completed successfully.

User response: Some values in the database configuration file may be different after the restore process. Check that the configuration parameters are set to the desired values.

SQL2521W The database was restored, but an I/O error *code* occurred while deleting file *file-type*.

Explanation: The restore process ran successfully. The specified file was not deleted due to an I/O error.

A file with the extension “.BRG” is used to determine whether a RESTORE operation has terminated abnormally. The file resides in the local database directory of the database for which the RESTORE operation was attempted.

A file with the extension “.BRI” stores information about the progress of an incremental RESTORE operation. The file resides in the local database directory of the database for which the RESTORE INCREMENTAL operation was attempted.

The file name consists of the database token concatenated with the file type extension. For example, if the database “SAMPLE” is assigned the database token “SQL00001”, the BRI file will have the name “instance/NODE0000/sqlbdir/SQL00001.BRI”.

The utility completed successfully.

User response: Delete the .BRG or .BRI file manually. If the file cannot be deleted, contact your technical service representative.

SQL2522N More than one backup file matches the timestamp value provided for the backed up database image.

Explanation: The backup image file filename consists of a database alias and a timestamp component. A filename is constructed from the source database alias and timestamp parameters provided in the Database Restore call. A portion of a timestamp may have been specified so that a match with more than one backup image filename was found.

User response: Resubmit the operation by specifying a timestamp with sufficient timestamp components to result in a match to a unique backup file.

SQL2523W Warning! Restoring to an existing database that is different from the database on the backup image, but have matching names. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted.

Explanation: The database alias and name of the target database are the same as the backup image database alias and name. The database seeds are not the same indicating that the databases are not the same. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted. The current configuration file will be overwritten with the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2524W Warning! Restoring to an existing database which appears to be the same but the alias *dbase* of the existing database does not match the alias *dbase* of the backup image. The target database will be overwritten by the backup version.

Explanation: The database seeds of the target database and the database image are the same, indicating these are the same databases, the database names are the same, but the database aliases are not the same. The target database will be overwritten by the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2525W **Warning! Restoring to an existing database that is different from the database on the backup image, and the alias *dbase* of the existing database does not match the alias *dbase* of the backup image, but the database names are the same. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted.**

Explanation: The database aliases of the target database and database image are not the same, the database names are the same, and the database seeds are not the same, indicating these are different databases. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted. The current configuration file will be overwritten with the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2526W **Warning! Restoring to an existing database that is the same as the backup image database, and the alias names are the same, but the database name *dbname* of the existing database does not match the database name *dbname* of the backup image. The target database will be overwritten by the backup version.**

Explanation: The database aliases of the target database and database image are the same, and the database seeds are the same, however the database names are different. These are the same databases. The target database will be overwritten by the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2527W **Warning! Restoring to an existing database that is different from the backup image database, and the database name *dbname* of the existing database does not match the database name *dbname* of the backup image, but the alias names are the same. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted.**

Explanation: The database aliases of the target database and database image are the same, the database names are not the same, and the database seeds are not the same, indicating these are different databases. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted. The

current configuration file will be overwritten with the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2528W **Warning! Restoring to an existing database that is the same as the backup image database, but the alias name *dbase* of the existing database does not match the alias *dbase* of backup image, and the database name *dbname* of the existing database does not match the database name *dbname* of the backup image. The target database will be overwritten by the backup version.**

Explanation: The database aliases of the target database and database image are not the same, the database names are not the same, and the database seeds are the same, indicating these are the same databases. The current database will be overwritten by the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2529W **Warning! Restoring to an existing database that is different from the backup image database, and the alias name *dbase* of the existing database does not match the alias name *dbase* of the backup image, and the database name *dbname* of the existing database does not match the database name *dbname* of the backup image. The target database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted.**

Explanation: The database aliases of the target and database image are not the same, the database names are not the same, and the database seeds are not the same, indicating these are different databases. The current database will be overwritten by the backup version. The Roll-forward recovery logs associated with the target database will be deleted. The current configuration file will be overwritten with the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2530N **The backup image is corrupted. Restore of database from this backup image is not possible.**

Explanation: The backup image being restored is corrupted making the database image non-restorable.

User response: Discard the backup image as it is unusable. Restore from a previous backup if possible.

SQL2531N The backup image selected for restore is not a valid database backup image.

Explanation: The file selected for restore is not a valid backup image. Either the file selected has become corrupted or a backup tape is not at the correct position.

User response: Determine the location of the correct backup image file, and resubmit the Restore command.

SQL2532N The backup file contains the backup image of database *dbalias* taken at timestamp *timestamp*. This is not the backup image requested.

Explanation: The file selected for restore does not contain the requested backup image. The image is for a different database than that requested.

User response: If using tape, ensure that the correct tape is mounted. If a restore or load is being done from disk, then the file must have been renamed. Rename the file to the correct filename with a match on database name and timestamp. Resubmit the command after taking the appropriate action.

SQL2533W Warning! The backup file on device *device* contains the image of database *database* taken at timestamp *timestamp*. This is not the backup image requested.

Explanation: The backup image read from the tape position contains a media header that does not match the header of the image of the first file of the backup file sequence.

User response: Ensure that the tape is positioned at the correct backup, then return to the utility with the *callerac* parameter indicating if processing continues.

SQL2534W Warning! The media on device *device* is not positioned at a valid backup media header.

Explanation: The data read from the tape position does not contain a valid backup media header.

User response: Ensure that the tape is positioned at the correct position, then return to the utility with the *callerac* parameter indicating if processing continues.

SQL2535W Warning! End of media on device *device* has been reached. Please mount the next source media.

Explanation: The end of tape has been reached and there is still more data to be processed. The remainder of the backup or load source exists on another tape or on several more tapes.

User response: Mount the next tape in sequence that contains the source image and resubmit the Restore or

Load command with the *callerac* parameter set to continue or end.

SQL2536W Warning! The backup image on device *device* contains an incorrect sequence number. Sequence number *number* is expected.

Explanation: The tape is positioned on a backup image file that is out of sequence. The tape containing the backup image must be positioned to the file of sequence number *sequence* of the backup image.

User response: Position the tape containing the backup image to the correct file and resubmit the Restore command with the *callerac* parameter set to continue or end.

SQL2537N Roll-forward is required following the Restore.

Explanation: SQLUD_NOROLLFWD was specified for the *rst_type* parameter of the Database Restore utility, indicating that a roll-forward is not required to make the restored database usable. If the database to be restored was backed up in online mode or the restore issued was a tablespace level restore, then a roll-forward operation is necessary to make the database usable.

User response: Resubmit the Database Restore command without specifying SQLUD_NOROLLFWD for the *rst_type* parameter.

SQL2538N Unexpected End of File of Backup Image reached on media *media*.

Explanation: While reading and restoring from the Backup Image file, an end of file condition was reached unexpectedly. The backup image is unusable and the restore operation terminates.

User response: Resubmit the Database Restore command with a usable backup image file.

SQL2539W Warning! Restoring to an existing database that is the same as the backup image database. The database files will be deleted.

Explanation: The database aliases, names and seeds of the target database and database image are the same, indicating these are the same databases. The current database will be overwritten by the backup version.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2540W Restore is successful, however a warning *warn* was encountered during Database Restore while processing in No Interrupt mode.

Explanation: The Database Restore utility was invoked in No Interrupt mode, i.e. WITHOUT PROMPTING. During the processing, one or more warnings were encountered but not returned at the time they were encountered. The Restore has completed successfully and the warning messages found are shown at the completion in this message.

User response: Ensure that the action that caused this warning to be generated has not resulted in a condition not wanted.

SQL2541W The utility was successful, however the file containing the backup image could not be closed.

Explanation: The utility was successful, but the file containing the backup image could not be closed.

User response: Attempt to close the file containing the backup image.

SQL2542N No match for a database image file was found based on the source database alias *database-alias* and timestamp *timestamp* provided.

Explanation: The backup image file filename consists of a database alias and a timestamp component. A filename is constructed from the source database alias and timestamp parameters provided in the Database Restore call. No filename existed in the source directory that matched based on the source database alias and timestamp provided.

The following situations might apply:

1. The path to the backup was incorrectly specified in the restore command.
2. You do not have permission to access the backup image or the directory within which the backup image resides.
3. You are performing an automatic incremental restore and a required image was not found based on the timestamp and location in the database history.
4. You are restoring a database in a partitioned database environment, the database does not already exist, and the first database partition being restored is not the catalog partition.
5. You are restoring from TSM media, and the TSM API client configuration used by the current instance is not able to access the backup image.

User response: Appropriate responses for the situations described above are:

1. Ensure that the database backup image resides on the media source. Resubmit the operation by specifying a correct path to the backup image and correct timestamp to result in a match. For more information on using the restore command, search the DB2 Information Center using phrases such as "using restore database utility".
2. Ensure that you have permission to access the backup image and the directory in which it resides.
3. Check the database history for the corresponding backup entry and verify that the location listed matches the actual location of the backup image. Either update the database history and retry the operation to result in a match or issue a RESTORE INCREMENTAL ABORT command to cleanup any resources that may have been created during processing.
4. Always restore the catalog partition first when restoring a partitioned database. For more information about restoring in a partitioned database environment, search the DB2 Information Center using phrases such as "restore utility partitioned database".
5. Use db2adutl utility with QUERY option to check if the image could be retrieved from TSM. If you are restoring a backup image taken from a different instance on a different server, make sure to use the options NODENAME, OWNER, and optionally PASSWORD corresponding to the TSM settings of the TSM node on which the backup image was originally taken. Once you have verified that the image could be retrieved, you could pass the same options in the options string of the RESTORE command. For more information about the db2adutl utility, search the DB2 Information Center using phrases such as "db2adutl".

DB2 Information Center: <http://publib.boulder.ibm.com/infocenter/db2luw/v9>

SQL2543N The target directory specified for the database is not valid.

Explanation: The application calling the Restore utility has supplied a target directory for the new database to be created. Either this directory does not exist, or is not a valid directory for database creation. An invalid directory for database creation would be a directory of greater than 215 characters in length.

User response: Reissue the Backup or Restore command with a valid target directory.

SQL2544N The directory where the database is being restored has become full.

Explanation: While the database was being restored the directory to which it was being restored had become full. The database being restored is unusable. The Restore terminates and if the database being

restored is a new database, then it is deleted.

User response: Free up sufficient space on the directory for the database, and reissue the Restore, or if restoring to a new database supply a directory with sufficient space to contain the database.

SQL2545W Warning! The backup image on the TSM server is currently stored on mountable media. The time required to make it available is unknown.

Explanation: The backup image is not immediately accessible by the TSM server. The restore process can continue and make the request to the server to retrieve the data. The time required is unknown.

User response: Return to the utility with the callerac parameter indicating processing to continue or end.

SQL2546N The image on media *media* is not the first in sequence from the backup or copy.

Explanation: During restore or load recovery, the first image from the backup or copy must be processed first. The image found on the media is not the first in sequence.

The utility waits for a response to continue.

User response: Mount the media with the correct backup or copy image and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL2547N The database was not restored because the backup image is from a previous release and requires rollforward recovery.

Explanation: The physical log file formats have changed between these releases, making rollforward impossible.

User response: Restore the database using the version of DB2 used to create the database and rollforward to the end of logs. Take an off-line full database backup at this time. This new backup image will be restorable on the new release of DB2.

SQL2548N Database code page indicated within the backup image *code-page* is invalid or not supported. The restore operation has failed.

Explanation:

1. The backup image you are restoring may have been created on a server with a newer FixPak level than the FixPak level that has been applied to this server. In this case, it is possible that the image contains a newer code page that is unsupported.

2. The backup image is corrupt and contains invalid code page information.

User response: If attempting to restore an image from a server with a newer FixPak level to a server with a lesser FixPak level, then ensure that the code page is supported by both servers. Alternatively, consider applying the newer FixPak to the server you are restoring to.

SQL2549N The database was not restored because either all of the table spaces in the backup image are inaccessible, or one or more table space names in list of table space names to restore are invalid.

Explanation: The containers which were used by the table spaces in the backup image are not available, are already in use, or one or more table space names specified in the list on the restore command do not exist in the backup image.

User response: Use redirected restore to redefine the containers for the table spaces in this backup image, or specify a list of valid table space names to restore.

SQL2550N Database backed up on node *node1* cannot be restored to node *node2*.

Explanation: The backup image used for the restore is a backup of a database from a different node. You can only restore a backup to the same node.

User response: Ensure that you have the correct backup image for the node then issue the request again.

SQL2551N Database with catalog node *node1* cannot be restored to a database with catalog node *node2*.

Explanation: The catalog node can exist on only one node and there is a discrepancy between the backup image and the node being restored to. This can occur in the following cases:

1. The backup image specified catalog node *node1* and the restore was attempted to an existing database whose catalog node is node *node2*
2. The restore was attempted to a new database and the catalog node has not been restored first.

User response: Verify that the correct backup image is being restored.

If you are restoring to an existing database and want to change the catalog node to *node2*, the existing database must be dropped first.

If you are restoring to a new database, restore the catalog node *node1* first.

SQL2552N Invalid report file name specified in the restore command.

Explanation: The length of the report file name exceeded the allowed limit of 255.

User response: Specify a report file name whose length is within the allowed limit and resubmit the restore command.

SQL2553I The RECONCILE utility completed successfully.

Explanation: The utility completed successfully.

User response: No action necessary.

SQL2554N The RECONCILE utility failed with reason code *reason-code*. Possible problem with *component*.

Explanation: Possible Reason codes:

- 1 Unknown connection to a DB2 Data Links Manager.
- 2 Table/DATALINK column not defined on the DB2 Data Links Manager.
- 3 DB2 Data Links Manager may be down.
- 4 I/O problems.
- 5 The exception table contains datalink columns that are defined with file link control.
- 6 Table is in "Datalink Reconcile Not Possible" state.
- 7 Exception table not allowed for reconcile on typed tables.
- 8 ALTER TABLE failed to put the table into "Datalink Reconcile Pending" or "Datalink Reconcile Not Possible" state, or failed to take the table out of "Datalink Reconcile Pending" or "Datalink Reconcile Not Possible" state.
- 9 Data Links support is not turned on.
- 10 Table is in the Set Integrity Pending state.
- 11 A required DB2 Data Links Manager was not available during exception handling. Table is placed in DataLink Reconcile Pending state.
- 12 Reconcile processing could not complete on the DB2 Data Links Manager(s) in the allotted time period. Check the administration notification log for details.
- 13 Reconcile processing has been terminated as there was no progress for a period of time.

User response: Possible Solutions:

- 1 Make sure that the DB2 Data Links Manager is up and running, and that it has been registered with the database using the ADD

DATALINKS MANAGER command. Try connecting to the database and make a sure a corresponding connection has been established on the DB2 Data Links Manager.

- 2 The table does not seem to exist on the DB2 Data Links Manager. Nothing to reconcile.
- 3 DB2 Data Links Manager may be down. Try starting the DB2 Data Links Manager.
- 4 Ensure you have file permissions and enough space for the report file. A fully qualified path is required for the DLREPORT parameter. Ensure that the table being reconciled is not damaged.
- 5 Redefine all datalink columns in the exception table as "NO LINK CONTROL".
- 6 Take the table out of the Datalink Reconcile Not Possible state using the SET INTEGRITY statement. Repeat the RECONCILE utility.
- 7 Do not specify an exception table.
- 8 Try issuing a SET INTEGRITY command to put the table into "Datalink Reconcile Pending" state or to reset the "Datalink Reconcile Pending" or "Datalink Reconcile Not Possible" state.
- 9 The value of the database manager configuration parameter DATALINKS is set to NO. To use RECONCILE, you must set the value of the parameter DATALINKS to YES.
- 10 To run reconcile on a table, the table cannot be in the Set Integrity Pending state. To remove the Set Integrity Pending state, use the SET INTEGRITY statement.
- 11 Run reconcile again.
- 12 The reconcile command has timed out waiting for verification from the DB2 Data Links Manager(s). Try the reconcile command again.
- 13 Resubmit the reconcile command. If the problem persists, contact IBM Support.

SQL2560N The target database is not identical to the source database for a restore from a table space level backup.

Explanation: For a restore from a table space level backup, the target database must be either the original database from which the backup is taken or a new database.

User response: Specify the correct target database and resubmit the utility command.

SQL2561W Warning! Rebuilding a database from a table space image or using a subset of table spaces. The target database will be overwritten. The restore utility also reports the following sqlcode *sqlcode*.

Explanation: The RESTORE utility was issued with the REBUILD option and either specified a table space image to restore or specified a list of table spaces to restore from a backup image. If the database does not already exist, it will be created using the table spaces available for restore and the same database attributes as those in the image. If the database already exists, the database will be overwritten using the table spaces available for restore and based on the sqlcode returned with this warning.

If a subset of table spaces is restored from a non-recoverable database, the table spaces that were not part of the restore can never be recovered unless you do a complete database restore.

User response: Return to the utility with the *callerac* parameter indicating processing to continue or end.

SQL2562N Table space level restore from a full database backup is not allowed.

Explanation: For a restore from a full database level backup, the restore type cannot be table space level.

User response: Specify a correct restore type or use a correct backup image and resubmit the utility command.

SQL2563W The restore process has completed successfully, but one or more table spaces from the backup were not restored.

Explanation: The restore process has completed successfully. One or more table spaces that are in the backup were not restored for one of the following reasons:

- an error was encountered while accessing the containers of the table spaces. If the table spaces have been dropped since the backup was taken, no further action is necessary.
- the restore command was invoked with a list of table spaces so that only a subset of the table spaces in the backup were restored. No further action is necessary.

User response: If this message is not due to a subset restore, use the query table space function to check the states of the table spaces. If a table space is in the "storage definition pending" state, the storage definition for the table space must be corrected for restore to complete successfully. See the Administration Guide for details about recovering the table space.

SQL2565N The option specified for RESTORE is not allowed with the backup image provided.

Explanation: The database contained in the backup image is an existing database and does not match the database to be restored. The option you have specified for restore requires that the database being restored to is new or the same as in the backup image.

The utility stops processing.

User response: Resubmit the command with the correct database name.

SQL2566W The restore process has completed successfully, but one or more table spaces have their tables put in DRP/DRNP state. Check the *db2diag.log* file for details.

Explanation: One or more table spaces have tables in DATALINK Reconcile Pending (DRP) or DATALINK Reconcile Not Possible (DRNP) because of one of the following reasons:

- Restoring to a database that has a different database name, alias, hostname, or instance than the backup image. If no rollforward follows the restore, any tables with DATALINK columns are placed in DRNP state.
- Restore is done specifying the WITHOUT DATALINK option and no rollforward follows the restore. Any tables with DATALINK columns are placed in DRP state.
- Restoring from a backup image that has become unusable. If no rollforward follows the restore, any tables with DATALINK columns are placed in DRNP state.
- DATALINK column information does not exist at the DB2 Data Links Manager(s). Affected tables are placed in DRNP state.
- Restore involving fast reconciliation failed while trying to relink files at the DB2 Data Links Manager(s). Affected tables are placed in DRNP state.

User response: Look in the administration notification log to find out what tables are put in DRP/DRNP state. See the Administration Guide for information on reconciling tables that are in DRP/DRNP state.

SQL2570N A attempt to restore on target OS *target-OS* from a backup created on source OS *source-OS* failed due to the incompatibility of operating systems or an incorrect specification of the restore command. Reason-code: *reason-code*.

Explanation: Possible reason codes are:

- 1 *target-OS* and *source-OS* are not compatible systems.

- 2 A cross-platform restore of a compressed backup was attempted and no decompression library was specified. By default the library in the backup image from *source-OS* is used. This library is not suitable for a restore on *target-OS*.
- 3 A compression library-only restore was attempted on *target-OS*, a different operating system from the one on which the backup was taken (*source-OS*).

User response: Responses for each reason code are:

- 1 To use this particular backup image, restore it on a system that is restore-compatible with the operating system on which the backup was taken. To move a database from one type of operating system to another, use the db2move utility. For details on which platforms are restore-compatible with each other and the db2move utility, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "cross-platform backup and restore" or "using different operating systems".
- 2 Retry the Restore operation, specifying a decompression library that was compiled for *target-os*. For example, db2 restore db sample comprlib libcompr.a.
- 3 Do not attempt to restore a compression library on an operating system where it cannot be used.

SQL2571N An automatic restore is unable to proceed. Reason code: *reason-code*.

Explanation: An error was encountered during the automatic restore process. This error occurred during an incremental restore or during a rebuild of a database from table space images or from a subset of table spaces in a database image. The utility was unable to complete as intended. The utility stops processing.

In the case of an incremental restore, this error is returned after the initial definitions have been restored and the processing of the required incremental restore set cannot be completed successfully.

In the case of a rebuild, this error is returned after the initial target image has been restored and the processing of the remaining required restore set cannot be completed successfully.

The error is a result of one of the following reason codes:

- 1 The backup image corresponding to the specified timestamp could not be found in the database history.
- 2 An error occurred trying to determine which table spaces to restore.

- 3 A required backup image could not be found in the database history.
- 4 The wrong rebuild type was specified for the incremental rebuild intended.
- 5 Cannot automatically restore only temporary table spaces.

User response: If this is an incremental restore or an incremental rebuild, issue a RESTORE INCREMENTAL ABORT command to clean up any resources that may have been created during processing. Perform a manual incremental restore to restore the database from this backup image.

If this is a non-incremental rebuild then complete the rebuild, if necessary, by issuing table space restores against the remaining images required to rebuild the database as intended. Please see the DB2 diagnostics log for additional information.

SQL2572N Attempted an incremental restore of an out of order image. The restore of tablespace *tablespace-name* encountered an error because the backup image with timestamp *timestamp-value* must be restored before the image that was just attempted.

Explanation: When restoring images produced with an incremental backup strategy, restore the images in the following order:

1. Restore the final image first to indicate to DB2 the increment to which you want to restore the database.
2. Restore the full database or tablespace image which precedes the set of incremental images.
3. Restore the set of incremental and delta images in the chronological order in which they were produced.
4. Restore the final image for a second time.

Each tablespace in the backup image is aware of the backup image that must be restored before the backup image that failed can be successfully restored. You must restore the image with the timestamp reported in this message before you can successfully restore the image that invoked this message. There might be additional images to restore before the indicated image, but this was the first tablespace to encounter an error.

User response: Ensure the order of the set of incremental backup images is correct and continue the incremental restore process.

SQL2573N An incremental backup image must be restored as part of an incremental RESTORE operation.

Explanation: A RESTORE operation was attempted using an incremental backup image. An incremental

backup cannot be restored on its own; it can be restored only as part of an incremental RESTORE operation.

The utility stops processing.

User response: To restore this backup image, reissue the RESTORE command using the INCREMENTAL modifier. To perform a non-incremental RESTORE operation, specify a non-incremental backup image.

SQL2574N A backup image restored as part of an incremental RESTORE operation cannot be newer than the target image.

Explanation: The target image is the first image to be restored as part of an incremental RESTORE operation. This image contains the tablespace definitions and other control structures for the database that is being restored. The RESTORE utility cannot restore an image that is newer than the target image during an incremental RESTORE operation, because it could corrupt the database.

The incremental RESTORE operation failed because it attempted to restore a backup image with a timestamp that is more recent than the timestamp of the target image.

The utility stops processing.

User response: Reissue the command, specifying a backup image with a timestamp that is older than the timestamp of the target image.

SQL2575N The timestamp of the specified incremental backup image is older than the timestamp of the last image that was restored for tablespace *tablespace-number*. The last backup image has a timestamp of *timestamp*.

Explanation: To perform an incremental RESTORE operation, the backup images must be restored in chronological order of oldest to newest for each tablespace. An incremental RESTORE operation specified a backup image with a timestamp older than the timestamp of the previous image that was restored for the specified tablespace.

The utility stops processing.

User response: Reissue the command, specifying a backup image with a timestamp that is newer than the timestamp of the last image that was restored for the tablespace.

SQL2576N Tablespace *tablespace-name* is being restored as part of an incremental RESTORE operation, but the RESTORE command did not specify the INCREMENTAL clause.

Explanation: To incrementally restore a tablespace,

each RESTORE command must specify the INCREMENTAL clause.

The utility stops processing.

User response: Reissue the RESTORE command and include the INCREMENTAL clause.

SQL2577N No library found for decompressing backup.

Explanation: The image being restored is a compressed backup, but no decompression library was specified and no library was found in the image.

The RESTORE utility requires a plug-in library to decompress the backup. This library is typically stored in the backup image itself, but in this case the creator of the backup chose to exclude the library. The library name can also be specified as a parameter to the RESTORE utility.

The utility stops processing.

User response: Resubmit the command, specifying the name of a library that can decompress the data in the image.

SQL2578N The specified object was not found in the backup image.

Explanation: The specific object that was asked to be restored does not exist in the backup image.

The RESTORE utility attempted to restore a single object from the backup image. No object of this type exists in the backup image.

The backup history file and the decompression library are the objects that can be restored individually.

The utility stops processing.

User response: Resubmit the command, specifying a backup image that does contain the object in question.

SQL2580W Warning! Restoring logs to a path which contains existing log files. Attempting to overwrite an existing log file during restore will cause the restore operation to fail.

Explanation: The specified log target path contains at least one file with a name which matches the log filename format. If the restore operation later attempts to extract a log file of the same name, this will cause the restore to fail.

User response: Either remove the existing log files from the log target path, or otherwise ensure that the files which exist in the log target will not match the filenames of any logs to be extracted from this backup image. Then return the utility with a callerac parameter indicating that restore processing should either continue or terminate.

SQL2581N Restore is unable to extract log files from the backup image to the specified path. Reason code *rc*.

Explanation: An error occurred while attempting to extract a log file from the backup image. This could be because one of the following reasons:

- 1 The backup image does not include logs.
- 2 The log target path specified could be full or invalid.
- 3 A log file name in the backup image matches a log file which already exists in the log target path.
- 4 There was an I/O error while trying to write the file.

User response:

- 1 Check that the backup image contains log files to be restored. If it does not, resubmit the command without specifying the LOGTARGET parameter.
- 2 Check that the specified LOGTARGET path is valid and that there is enough space available for all log files in the backup image to be extracted. Resubmit the command.
- 3 Check that there are no existing log files in the log target path with the same name as log files in the backup image being restored. Resubmit the command.
- 4 See the DB2 diagnostics log for additional information. Try to resolve the problem and resubmit the command.

SQL2582W Warning! A new request to rebuild the database from a table space image or using a subset of table spaces has been detected. This will abort the current rebuild in progress and start a new one using this backup image. The target database will be overwritten.

Explanation: The RESTORE utility was issued with the REBUILD option but it has detected that a rebuild of the database is already in progress. If this operation were to take place then it would abort the current rebuild in progress and start a new one using this backup image as the target. The database will be overwritten.

Subsequent restore commands during the rebuild phase of the database should not be issued with the REBUILD option.

User response: Return to the utility with the callerac parameter indicating processing to continue or end.

SQL2583N The intended restore command cannot be processed because a previous incremental restore is still in progress.

Explanation: The RESTORE utility has detected that a previous incremental restore operation has not completed. The intended restore command is not part of the previous incremental restore and cannot be processed unless the previous incremental restore is aborted.

The utility stops processing.

User response: Issue a restore with the INCREMENTAL ABORT option and then reissue the intended restore command.

SQL2600 - SQL2699

SQL2600W The input parameter pointer to the authorization block is invalid or the block's size is incorrect.

Explanation: The pointer to the authorization structure parameter is NULL, the pointer to the authorization structure points to an area that is smaller than the length indicated in the structure length field, or the authorization structure length field is not set to the correct value.

The command cannot be processed.

User response: Correct the value of the input parameter and resubmit the command.

SQL2650N An invalid parameter *parameter_name* was passed to the *API-name* read log API. Reason Code = *reason-code*.

Explanation: An invalid parameter was passed to a read log API. The possible reason codes are as follows:

- 01 Invalid action specified.
- 02 The starting log sequence number is greater than the current database active log sequence number.
- 03 The log sequence number range bounded by the starting and ending log sequence numbers is not large enough to span a log record.
- 04 The starting log sequence number does not represent the start of an actual log record.
- 05 The starting log sequence number's location could not be determined.
- 06 The ending log sequence number is less than or equal to the starting log sequence number.
- 07 The buffer is not valid for the indicated size.
- 08 The buffer is not of sufficient size to store a log record.
- 09 A pointer is not valid.
- 10 The filter option is not valid.
- 11 The logfile path is not valid.
- 12 The overflow logfile path is not valid.
- 13 The retrieve logs option is not valid.
- 14 The specified number of bytes for memory allocation is too small.

User response: For reason code 01, ensure that the action is either DB2READLOG_QUERY, DB2READLOG_READ, DB2READLOG_READ_SINGLE.

For reason code 02, reduce the value of the starting log sequence number.

For reason code 03, ensure that the ending log sequence number is sufficiently larger than the starting log sequence number.

For reason code 04, ensure that the starting log sequence number is either the initial log sequence number or the next start log sequence number returned in the read log information structure.

For reason code 05, ensure that the starting log sequence number resides in a log extent in the database log file path.

For reason code 06, ensure that the ending log sequence number is greater than the starting log sequence number.

For reason code 07, ensure that the buffer has been allocated and is of the size indicated by the log buffer size parameter.

For reason code 08, increase the size of the allocated buffer.

For reason code 09, ensure that memory has been correctly allocated and the pointers properly initialized.

For reason code 10, ensure that the filter option is either DB2READLOG_FILTER_OFF or DB2READLOG_FILTER_ON.

For reason code 11, ensure that the logfile path field is defined and points to a valid directory.

For reason code 12, ensure that the overflow logfile path field is defined and points to a valid directory.

For reason code 13, ensure that the retrieve option is either DB2READLOGNOCONN_RETRIEVE_OFF, DB2READLOGNOCONN_RETRIEVE_LOGPATH, or DB2READLOGNOCONNRETRIEVE_OVERFLOW.

For reason code 14, increase the amount of bytes that may be allocated internally.

SQL2651N The log records associated with the database can not be asynchronously read.

Explanation: The asynchronous read log API was used against a connected database which does not have LOG RETAIN or USER EXITS ON. Only databases which are forward recoverable may have their associated logs read.

User response: Update the database configuration for the database, identified to the asynchronous read log API, turning LOG RETAIN and/or USER EXITS ON.

SQL2652N Insufficient memory to run the asynchronous log reader.

Explanation: The allocation of the internal buffers used by the asynchronous read log API has failed.

User response: Increase the amount of available memory available to the process (increase real or virtual memory or remove unnecessary background processes) or decrease the log sequence number range provided to the asynchronous read log API.

SQL2653W A Restore, Forward or Crash Recovery may have reused log sequence number ranges. Reason code *reason-code*.

Explanation: A Restore, Forward or Crash Recovery may have reused log sequence number ranges. The possible reason codes are as follows:

- 01 - Restore has taken place.
- 02 - Forward Recovery (ROLLFORWARD) has taken place.
- 03 - Crash Recovery has taken place.

User response: No action is required.

SQL2654W The database log has been asynchronously read to the end of the current active log.

Explanation: All log records in the database active log have been read by the asynchronous log reader.

User response: No action is required.

SQL2655N The Asynchronous Log Reader encountered log file *name* which is not associated with the database being asynchronously read.

Explanation: The Asynchronous Log Reader attempted to read log records from the specified log file. The specified log file is not associated with the database being asynchronously read.

User response: Remove this log file from the database log directory. Move the correct log file into the database log directory and resubmit the call to the Asynchronous Read Log API.

SQL2656N The Asynchronous Log Reader has encountered log file *name* which cannot be read.

Explanation: The Asynchronous Log Reader attempted to read log records from the specified log file. The specified log file has been corrupted and cannot be read.

User response: Increase the start read log sequence and resubmit the call to the Asynchronous Read Log API to start reading after the specified log file.

SQL2657N The Asynchronous Log Reader requires log file *name* which does not currently reside in the database log directory.

Explanation: The Asynchronous Log Reader requires log records from the specified log file. The specified log file does not currently reside in the database log directory.

User response: Move the specified log file into the database log directory of the database being asynchronously read. If the database log path was changed, the log file might be found in the old log path. Resubmit the call to the Asynchronous Read Log API.

SQL2700 - SQL2799

SQL2701N Invalid command line option for *progrname*. Reason code: *reason-code*

Explanation: Command line option for the data splitting utility is not valid. Valid options are:

- -c "Configuration file name"
- -d "Distribution file name"
- -i "Input file name"
- -o "Output file prefix"
- -h Usage message

User response: Given for each reason code:

- 1 There is an option not started with '-' sign.
- 2 Each option except 'h' (or 'H') must be followed by an argument.
- 3 There is an invalid option.
- 4 The argument of an option is too long (maximum 80 characters).

SQL2702N Failed to open the configuration file *config-file*.

Explanation: The utility cannot read the configuration file *config-file*.

User response: Please ensure the configuration file exists and is readable.

SQL2703N Failed to open the log file *log-file*.

Explanation: The utility cannot open the log file *log-file* for writing or appending.

User response: Please ensure the log file exists and is writable.

SQL2704N Failed to open the input data file *input-data-file*.

Explanation: The utility cannot read the input data file *input-data-file*.

User response: Please ensure the input data file exists and is readable.

SQL2705N Failed to open the input partitioning map file *in-map-file*.

Explanation: The utility cannot read the input partitioning map file *in-map-file*.

User response: Please ensure the input partitioning map file exists and is readable.

SQL2706N Failed to open the output partitioning map file *out-map-file*.

Explanation: The utility cannot open the output partitioning map file *out-map-file* for writing.

User response: Please ensure the output partitioning map file is writable.

SQL2707N Failed to open the distribution file *dist-file*.

Explanation: The utility cannot open the distribution file *dist-file* for writing.

User response: Please ensure the distribution file is writable.

SQL2708N Failed to open the output data file *out-data-file*.

Explanation: The utility cannot open the output data file *out-data-file* for writing.

User response: Please ensure the output data file is writable.

SQL2709N Syntax error at line *line* of the configuration file.

Explanation: There is a syntax error in the specification of a keyword and its argument.

User response: A keyword and its argument must be delimited by an '=' sign.

SQL2710N Invalid keyword at line *line* of the configuration file.

Explanation: There is an undefined keyword in the configuration file.

User response: Valid keywords (case insensitive) are:

- DESCRIPTION, CDELIMITER, SDELIMITER, NODES, TRACE, MSG_LEVEL, RUNTYPE, OUTPUTNODES, NODES, OUTPUTNODES, OUTPUTTYPE, PARTITION, MAPFILI, INFILE, MAPFILO, OUTFILE, DISTFILE, LOGFILE, NEWLINE, HEADER, FILETYPE

SQL2711N Invalid column delimiter (CDELIMITER) at line *line* of the configuration file.

Explanation: The column delimiter (CDELIMITER) specified in the configuration file is not valid.

User response: Make sure the column delimiter (CDELIMITER) is a single byte character.

SQL2712N Invalid string delimiter (SDELIMITER) at line *line* of the configuration file.

Explanation: The string delimiter (SDELIMITER) specified in the configuration file is not valid.

User response: The string delimiter (SDELIMITER) cannot be a period.

SQL2713N Invalid run type (RUNTYPE) at line *line* of the configuration file.

Explanation: The value for run type (RUNTYPE) specified in the configuration file is not valid.

User response: Valid run type (RUNTYPE) can be either PARTITION or ANALYZE (case insensitive).

SQL2714N Invalid message level (MSG_LEVEL) at line *line* of the configuration file.

Explanation: The value for message level (MSG_LEVEL) specified in the configuration file is not valid.

User response: Valid message level (MSG_LEVEL) can be either CHECK or NOCHECK (case insensitive).

SQL2715N Invalid check level (CHECK_LEVEL) at line *line* of the configuration file.

Explanation: The value for check level (CHECK_LEVEL) specified in the configuration file is not valid.

User response: Valid check level (CHECK_LEVEL) can be either CHECK or NOCHECK (case insensitive).

SQL2716N Invalid record length (RECLEN) *reclen* at line *line* of the configuration file.

Explanation: The value for record length (RECLEN) *reclen* specified in the configuration file is not valid.

User response: The record length (RECLEN) must be between 1 and 32767.

SQL2717N Invalid node specification (NODES) at line *line* of the configuration file. Reason code *reason-code*.

Explanation: The node specification (NODES) in the configuration file is not valid.

User response: Given for each reason code:

- 1 NODES has already been defined.
- 2 The format is not valid. A valid example: NODES=(0,30,2,3,10-15,57)
- 3 Each entry must be numeric data between 0 and 999.

- 4 Range specification must be from a lower number to a higher number.
-

SQL2718N Invalid output node specification (OUTPUTNODES) at line *line* of the configuration file. Reason code *reason-code*.

Explanation: The output node specification (OUTPUTNODES) in the configuration file is not valid.

User response: Given for each reason code:

- 1 OUTPUTNODES has already been defined.
 - 2 The format is not valid. A valid example: OUTPUTNODES=(0,30,2,3,10-15,57)
 - 3 Each entry must be numeric data between 0 and 999.
 - 4 Range specification must be from a lower number to a higher number.
-

SQL2719N Invalid output type (OUTPUTTYPE) at line *line* of the configuration file.

Explanation: The output type (OUTPUTTYPE) in the configuration file is not valid.

User response: Valid output types (OUTPUTTYPE) are W (write) or S (stdin), case insensitive.

SQL2720N Number of partition keys exceeded the maximum "256". This error was detected at line *line* of the configuration file.

Explanation: The number of partitioning keys defined cannot exceed the maximum limit: 256.

User response: Remove one or more partitioning keys defined in the configuration file.

SQL2721N Invalid partitioning key specification (PARTITION) at line *line* of the configuration file. Reason code *reason-code*.

Explanation: A partitioning key specification (PARTITION) in the configuration file is not valid. Valid format:

```
PARTITION=<key name>,  
<position>,  
<offset>,  
<len>,  
<nullable>,  
<datatype>
```

If a delimited-data file, <position> must be defined; otherwise, <offset> and <len> must be defined.

User response: Given for each reason code:

- 1 Fields must be delimited by the ';' character.

- 2 <position>, <offset> and <len> must be positive integers.
- 3 <nullable> must take a value from {N,NN,NNWD}.
- 4 Valid <data type> includes: SMALLINT, INTEGER, CHARACTER, VARCHAR, FOR_BIT_CHAR, FOR_BIT_VARCHAR, FLOAT (for binary numerics only), DOUBLE (for binary numerics only), DATE, TIME, TIMESTAMP, DECIMAL(x,y).
- 5 For DECIMAL data type, precision (x) and scale (y) must be specified and they must be positive integers.
- 6 For CHARACTER or VARCHAR data type, <len> must be specified.

SQL2722N Invalid log file specification (LOGFILE) at line *line* of the configuration file.

Explanation: The log file specification (LOGFILE) in the configuration file is not valid.

User response: The log file specification (LOGFILE) must be in one of the following two formats:

- LOGFILE=<log file name>,<log type>
- LOGFILE=<log file name>

<log type> can only be W (write) or A (append), case insensitive.

SQL2723N Invalid trace specification (TRACE) at line *line* of the configuration file.

Explanation: The trace specification (TRACE) in the configuration file is not valid.

User response: The trace specification (TRACE) must be a positive integer between 0 and 65536 (exclusive).

SQL2724N Invalid node list specification.

Explanation: The node list specification is not valid.

User response: One and only one of the two parameters: NODES and MAPFILE (input partition map) must be specified in the configuration file.

SQL2725N Filename for output partition map was not specified.

Explanation: If run type is ANALYZE, a filename for the output partition map must be defined.

User response: Specify a filename for the output partition map.

SQL2726N There is no partitioning key defined.

Explanation: At least one partitioning key must be defined.

User response: Specify one or more partitioning keys.

SQL2727N Partition key *key-name* exceeds the record length *reclen*.

Explanation: For non-delimited data, starting position for a key must be less than the record length.

User response: Make sure starting position for a key is less than the record length.

SQL2728N Output node *out-node* is not defined in the node list.

Explanation: Output node list must be a subset of the node list, which is derived from NODES or the input partition map file.

User response: Make sure all output nodes are defined in the node list.

SQL2729N Invalid input partition map.

Explanation: There is at least one error in the input partition map file.

User response: The input partition map must contain no less than 4096 data entries, and each data entry must be a number between 0 and 999.

SQL2730N Error while writing header to output data file *out-data-file*.

Explanation: An I/O error occurred while writing the header to an output data file.

User response: Check your operating system documentation for file I/O errors and ensure that there is sufficient space on the output device.

SQL2731N Error while reading from input data file *filename*.

Explanation: An I/O error occurred while reading from input data file.

User response: Check your operating system documentation for file I/O errors.

SQL2732N Line *line* of the input data file contains binary data.

Explanation: Binary data is not permitted on the host versions of this utility program.

User response: Check your input data file.

SQL2733N Run type (RUNTYPE) was not defined in the configuration file.

Explanation: The run type (RUNTYPE) must be defined as either PARTITION or ANALYZE.

User response: Please specify run type (RUNTYPE) in the configuration file.

SQL2734N Invalid specification for parameter 32KLIMIT at line *line* of the configuration file.

Explanation: The specification for parameter 32KLIMIT in the configuration file is not valid.

User response: Parameter 32KLIMIT can be either YES or NO, case insensitive.

SQL2735W The record *rec-no* of the input data file was discarded because it was an empty record.

Explanation: The record *rec-no* of the input data is discarded because it contains nothing but spaces.

User response: Check record *rec-no* in the input data file.

SQL2736N sqlugrpi_api returned an error when processing record at line *line* of the input data file.

Explanation: Partitioning key fields contain invalid data.

User response: Check the input data file at line *line*.

SQL2737N Failed to write output data file for output node *out-node* when processing record at line *line* of input data file.

Explanation: An I/O error occurred while writing a record to the output data file for node *out-node*.

User response: Check your operating system documentation for file I/O errors and ensure that there is sufficient space on the output device.

SQL2738W Record at line *line* of input data file has been truncated when writing to the output data file for node *out-node*. Expected writing length is *reclen* while actual writing length is *real-len*.

Explanation: Expected writing length (RECLEN) does not match the actual writing length.

User response: Adjust record length value defined in the configuration file.

SQL2739N The record length was not specified for a binary numerical data file.

Explanation: If a binary numerical input data file, the record length has to be defined.

User response: Please specify the record length in your configuration file.

SQL2740N Float data type is not allowed in a non-binary input data file.

Explanation: Float data type is only supported when the file type is BIN (binary).

User response: Make sure data types and the type of input data file match.

SQL2741N Invalid file type specification at line *line* of the configuration file.

Explanation: The file type specification (FILETYPE) in the configuration file is not valid.

User response: Valid values for the file type parameter are as follows:

- ASC (positional ascii data file)
- DEL (delimited ascii data file)
- BIN (ASC file with all numeric data in binary format)
- PACK (ASC file with all decimal data in packed decimal format)
- IMPLIEDDECIMAL (DEL file with decimal data in implied decimal format).

All the values are case insensitive.

SQL2742N The length of partition key *partition-key* does not match its precision.

Explanation: In a binary input data file, the length of a partition key with decimal data type must conform to the equation: $LENGTH=(PRECISION+2)/2$ (integer division), because it is a packed decimal.

User response: Match the length of a decimal-typed partition key with its precision if the input data file is a binary data file.

SQL2743N The length of partition key *partition-key* does not match its data type.

Explanation: In a binary input data file, the length of a partition key with integer, small integer, float, and double data type must be a predefined constant, i.e. 4 for integer, 2 for small integer, 4 for float, and 8 for double.

User response: Check partition key definitions in the configuration file.

SQL2744N Illegal file name specification for *file* at line *line* of the configuration file.

Explanation: The maximum length for a file name is 80 bytes.

User response: Check the configuration file.

SQL2745N Invalid NEWLINE flag at line *line* of the configuration file.

Explanation: The NEWLINE flag must be either YES or NO, and if not given, it is NO.

User response: Check the specification of NEWLINE flag in the configuration file.

SQL2746N An incomplete record was found while reading record *record-number* from the input data file.

Explanation: If a fixed-length positional ASC file or a binary numerical data file, each record has to be exactly the same length as the value of the RECLLEN parameter in the configuration file.

User response: Make sure the input data file is complete.

SQL2747N A record was too long while reading record *rec-no* from the input data file.

Explanation: For a positional ASC input data file or a delimited data file with parameter 32KLIMIT on, the maximum record length can not exceed the 32k (bytes) limit.

User response: Check your input data file and make sure the record length is less than 32k bytes.

SQL2748N Record *record-number* has a length of *length* bytes, which is too short to hold the partitioning key *key*.

Explanation: For a positional ASC input data file or a binary numerical data file, each record has to be long enough to hold all partitioning keys.

User response: Check the record length of your input data file.

SQL2749N Partitioning key *key-no* of record *rec-no* was not in the first 32k bytes of the record.

Explanation: If a record is greater than 32k bytes long in a delimited data file, all partitioning keys of each record have to be within the first 32k bytes of the record.

User response: Check record *rec-no* in the input data file.

SQL2750N The length of line *line-number* in the configuration was more than 255 bytes.

Explanation: The maximum length of a line in the configuration file must be less than 255 bytes.

User response: Check your configuration file and make sure all lines are less than 255 bytes.

SQL2751N The actual length *actual-reclen* of record *rec-no* did not match the expected length *exp-reclen*.

Explanation: If new line checking is required for a fixed length ASC data file (NEWLINE parameter is YES and RECLLEN parameter is not zero), the actual length of each record has to match the expected record.

User response: Check record *rec-no* in the input data file.

SQL2752N Invalid codepage specification *codepage* at line *line* of the configuration file.

Explanation: The codepage specification is not valid. It must be a positive integer.

User response: Correct the codepage specification in the configuration file.

SQL2753N Failed to get the territory code and codepage for the application. Return code from function *function-name* is *rc*.

Explanation: The program failed to get the territory code and codepage of its environment.

User response: Check with your database system administrator.

SQL2754N Codepage *source-cp* cannot be converted to codepage *target-cp*.

Explanation: The database does not support codepage conversion between those two codepages.

User response: Please ensure your data is in a convertible codepage.

SQL2755N Decimal data can not be in both IMPLIEDDECIMAL and PACKEDDECIMAL format.

Explanation: Valid format of decimal data is SQL_PACKEDDECIMAL_FORMAT, SQL_CHARSTRING_FORMAT, or SQL_IMPLIEDDECIMAL_FORMAT, mutually exclusive.

User response: Verify the format of your decimal data, correct the format value, and resubmit the command.

SQL2761N Only one of table name or nodegroup can be specified.

Explanation: Specify either the table name or the nodegroup name, but not both.

User response: Check your command line options.

SQL2762N The utility failed to find the database installation path.

Explanation: The utility needs to know where the database manager is installed, then it can find its bind file.

User response: Make sure your database manager is properly installed.

SQL2763N The table *tbl-name* was not found.

Explanation: The table *tbl-name* cannot be located in *sysibm.systables*.

User response: Make sure the table exists in the database.

SQL2764N The nodegroup *nodegroup* was not found.

Explanation: The nodegroup *nodegroup* cannot be

SQL2800 - SQL2899

SQL2800N CREATE, DROP, or CHANGE NODE failed. Reason code *reason-code*.

Explanation: The utility failed to add, drop, or change the node because the input parameters specified are invalid as indicated by the following reason codes:

- (1) The node number is not specified
- (2) The TCP/IP host name is not specified
- (3) The computer name is not specified
- (4) The node number is invalid.
- (5) The port number is invalid.
- (6) The TCP/IP host name is invalid.
- (7) The port value is not defined for your instance in the services file.
- (8) The port value is not in the valid range defined for your instance in the services file.
- (9) The node number is not unique.
- (10) The host name/port couple is not unique.
- (11) The host name value has no corresponding port 0.

User response: The action corresponding to the reason code is:

- (1) Ensure that the node number is specified
- (2) Ensure that the TCP/IP host name is specified
- (3) Ensure that the computer name is specified

located in *sysibm.sysnodegroupdef*.

User response: Make sure the nodegroup exists in the database.

SQL2765W The utility failed to open output partition map file *out-map-file*.

Explanation: The utility cannot open the output partition map file for writing. It will write the output to *stdout*.

User response: Check your file access permissions.

SQL2766N The partition map is not of the correct size *map-size*.

Explanation: The size of the partition map is not correct. Data is corrupted in the database.

User response: Contact the Database Administrator to resolve the problem.

SQL2767N A command line option is not valid.

Explanation: There is an invalid command line option.

User response: Make sure to specify the correct command line options.

- (4) Ensure that the node number is between 0 and 999.
 - (5) Ensure that the port number is between 0 and 999.
 - (6) Ensure that the host name specified is both defined on the system and is operational
 - (7) Ensure that the TCP/IP services on your system contains an entry for your instance
 - (8) Ensure that you only use port values that are specified in the services file on your system
 - (9) Ensure that the node number specified is unique.
 - (10) Ensure that the new host name/port is not already defined in the *db2nodes.cfg* file.
 - (11) Ensure that the port value 0 has been defined for host name specified.
-

SQL2801N The syntax of the DB2NCRT command is incorrect.

Explanation: The DB2NCRT utility creates a new node in a partitioned database system.

```
DB2NCRT /n:node
         /u:username,password
         [/i:instance]
         [/h:host]
         [/m:machine]
```

```
[/p:port]
[/o:instance owning
  machine]
[/g:netname]
```

The command arguments are:

- /n Specify the node number
- /u to specify the account name and password for the DB2 service.

The command options are:

- /i Specify the instance if different from the default/current instance
- /h Specify the TCP/IP host name if the host name is not the machine default TCP/IP host name
- /m Specify the workstation name if the node is created on a remote machine
- /p Specify the logical port number if this is not the first node on the machine
- /o Specify the computer name of the instance owning machine when creating the first node on a machine.
- /g Specify the network name or IP Address.

User response: Enter the command again using valid parameters.

SQL2802N The syntax of the DB2NCHG command is incorrect.

Explanation: The DB2NCHG utility changes or updates node configuration for a given node in a partitioned database system.

```
DB2NCHG /n:node
        [/h:host]
        [/m:machine]
        [/p:port]
        [/i:instance]
        [/u:username,
          password]
        [/g:netname]
```

The command options are:

- /h Change the TCP/IP host name
- /m Change the workstation name
- /p Change the logical port number
- /i Specify the instance if different from the default/current instance
- /u Change the Logon Account name and password
- /g Specify the network name or IP Address

User response: Issue the DB2NCHG command with one of the valid command options.

SQL2803N The syntax of the DB2NDROP command is incorrect.

Explanation: The DB2NDROP utility drops a node from a partitioned system.

```
DB2NDROP /n:node
         [/i:instance]
```

The command options are:

- /i Specify the instance if different from the default/current instance

User response: Issue the DB2NDROP command with one of the valid command options.

SQL2804N The syntax of the DB2NLIST command is incorrect.

Explanation: The DB2NLIST utility list all nodes in a partitioned system.

```
DB2NLIST [/i:instance]
         [/s]
```

The command options are:

- /i Specify the instance if different from the default/current instance
- /s Display node status

User response: Issue the DB2NLIST command with one of the valid command options.

SQL2805N A service error has occurred. Reason code *reason-code*.

Explanation: A service error has occurred during CREATE, DROP or ADD NODE processing as indicated by the following reason codes:

- (1) Unable to register the service
- (2) Unable to set the required User Rights Policy
- (3) Unable to set the Logon Account for the service
- (4) Unable to delete the service

User response: The action corresponding to the reason code is:

- (1) If the workstation name is specified during DB2NCRT, ensure that the workstation name is correct.
- (2) Ensure that the user name specified is valid.
- (3) Ensure that the user name and the password specified are valid.
- (4) If the node resides on another machine, ensure that the machine is running.

If the problem persists, contact IBM Service.

SQL2806N Node *node* not found for instance *instance*.

Explanation: DB2NDRDP failed because the node does not exist.

User response: Ensure the node number is correct and reissue the command.

SQL2807N Node *node* already exists for instance *instance*.

Explanation: DB2NCRT failed because the node already exists.

User response: Ensure the node number is correct and reissue the command.

SQL2808W Node *node* for instance *instance* has been deleted.

Explanation: The DB2NDRDP processing has completed successfully.

User response: No further action is required.

SQL2809W Node: *node* added to instance: *instance*
{**Host:** *host-name* **Machine:** *machine-name*
Port: *port-num*}

Explanation: The DB2NCRT processing has completed successfully.

User response: No further action is required.

SQL2810W Node: *node* changed in instance: *instance*
{**Host:** *host-name* **Machine:** *machine-name*
Port: *port-num*}

Explanation: The DB2NCHG processing has completed successfully.

User response: No further action is required.

SQL2811N The command is invalid because the instance is not a partitioned database instance.

Explanation: The command is only valid if the instance is a partitioned database instance.

User response: Ensure that the specified instance name is valid. If the instance name is not specified on the command line, ensure that the DB2INSTANCE environment is set to a valid partitioned database instance.

SQL2812N An invalid argument was entered for the db2drvmp command.

Explanation: Usage:

```
db2drvmp add      node_number
                  from_drive to_drive
drop              node_number
                  from_drive
query             [node_number]
                  [from_drive]
reconcile         [node_number]
                  [from_drive]
```

Valid arguments for this command are:

add assign a new database drive map.

drop remove an existing database drive map.

query query a database map.

reconcile

repair a database map drive when the registry contents are damaged.

node_number

the node number. The parameter is required for add and drop operations.

from_drive

the drive letter to map from. This parameter is required for add and drop operations.

to_drive

to drive letter to map to. This parameter is required only for add operation. It is not applicable for any other operations.

User response: Enter the command again using valid arguments.

SQL2813I The drive mapping from drive *drive-1* to drive *drive-2* was added for node *node*.

Explanation: The drive mapping was added successfully.

User response: No action necessary.

SQL2814I The drive mapping from drive *drive* was deleted for node *node*.

Explanation: The drive mapping was deleted successfully.

User response: No action necessary.

SQL2815I The drive mapping for node *node* is: *drive-1 - drive-2*.

Explanation: Informational message.

User response: No action necessary

SQL3000 - SQL3099

SQL3001C An I/O error (reason = *reason*) occurred while opening the output file.

Explanation: A system I/O error occurred while opening the output file.

The command cannot be processed. No data is processed.

User response: For IMPORT/LOAD, verify that the output file exists. For EXPORT, verify that the output media has enough free space. Resubmit the command with a valid output file name, including the correct path. Look in the message file for additional information.

SQL3002C An I/O error occurred while writing to the output data file.

Explanation: A system I/O error occurred while writing to the output data file. The output may be incomplete or the disk may be full.

The utility stops processing.

User response: If the output data file is incomplete, erase it and resubmit the command.

SQL3003C An I/O error occurred while closing the output data file.

Explanation: A system I/O error occurred while closing the output data file.

The file is not closed.

User response: If the output data file is incomplete, erase it and resubmit the command.

SQL3004N The filetype parameter is not valid.

Explanation: The *filetype* parameter must be DEL, ASC, IXF, WSF, or DB2CS for the command.

The *filetype* parameter must be DEL, IXF, or WSF for the EXPORT command.

The *filetype* parameter must be ASC, DEL, IXF, or DB2CS for the LOAD command.

IXF files cannot be used to load into a table defined in a hash partitioned database.

The command cannot be processed.

User response: Resubmit the command with a valid *filetype* parameter.

SQL3005N Processing was interrupted.

Explanation: An interrupt was received during processing. The user may have pressed the interrupt key sequence.

The utility stops processing. Any database updates not committed are rolled back.

User response: Resubmit the command. If doing an import, see *Command Reference* for information on how to use *commitcount* and *restartcount* parameters. If doing a load, see *Command Reference* for information on how to restart the load.

SQL3006C An I/O error occurred while opening the message file.

Explanation: A system I/O error occurred while opening the message file. This error can refer to a problem on either the client or the server.

The command cannot be processed.

User response: Resubmit the command with a valid message file name, including the correct path.

SQL3007C An I/O error occurred while writing to the message file.

Explanation: A system I/O error occurred while writing to the message file.

Processing may not have finished.

User response: If the message file is incomplete, erase it and resubmit the command.

SQL3008N The utility encountered an error *error* while connecting to the database.

Explanation: The IMPORT or EXPORT utility could not connect to the database.

No data is imported or exported.

User response: Look at the error number in the message for more information. Make changes and resubmit the command.

SQL3009N The Action String parameter is not valid or too long.

Explanation: The *Action String* (for example, "REPLACE into ..." for Load and Import or "SELECT c1 ..." for Export) parameter in the command is not valid or too long. The *Action String* pointer may be incorrect. The structure that the *Action String* points to may be incorrect. The *Action String* structure may contain characters that are not valid. The *Action String* is longer than 2097152.

The command cannot be processed.

User response: Verify the *Action String* pointer and the structure it points to. Resubmit the command with a valid *Action String*.

SQL3010N The METHOD parameter is not valid.

Explanation: The *METHOD* parameter in the command is not valid. The *METHOD* pointer may be incorrect. The structure that the *METHOD* points to may be incorrect. The *METHOD* structure may contain characters that are not valid.

The command cannot be processed.

User response: Examine the *METHOD* pointer and the structure it points to. Resubmit this command with a valid *METHOD*.

SQL3011C There is not enough storage to process the command.

Explanation: A memory allocation error occurred. Not enough memory is available to process the command, or there was an error freeing storage.

The command cannot be processed.

User response: Stop the application. Possible solutions include:

- Verify that your system has sufficient real and virtual memory.
- Remove background processes.
- Increase the *util_heap_sz* for the database.
- Decrease the size of buffers to use for the LOAD.
- The *util_heap_sz* is shared by the LOAD, BACKUP, RESTORE and REORG utilities, so have fewer concurrent instances of these utilities running.

SQL3012C A system error occurred.

Explanation: An operating system error occurred.

The command cannot be processed.

User response: Check your message file, correct the problem and resubmit the command.

SQL3013N The length of the filemod is out of the acceptable range. It should be greater than or equal to zero and less than or equal to 8000.

Explanation: The *filemod* specified is outside the acceptable range (greater than or equal to zero and less than or equal to 8000).

The command cannot be processed.

User response: Examine the *filemod* pointer and the structure it points to. Resubmit the command with a valid *filemod*.

SQL3014C An I/O error occurred while closing the message file.

Explanation: A system I/O error occurred while closing the message file.

The message file is not closed.

User response: If the message file is incomplete, resubmit the command.

SQL3015N An SQL error *sqlcode* occurred during processing.

Explanation: An SQL error occurred during the utility call.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL3016N An unexpected keyword *keyword* was found in the filemod parameter for the filetype.

Explanation: A keyword that does not apply to the filetype for the utility was found in the filetype modifier (the *filemod* parameter or the phrase following *MODIFIED BY* in a CLP command).

The utility stops processing.

User response: Remove the filetype modifier or specify at least one valid keyword in the filetype modifier. See the Command Reference for more information on filetype modifiers.

SQL3017N A delimiter is not valid or is used more than once.

Explanation: For Delimited ASCII (DEL) files, one of two errors occurred:

- The character specified for either the column delimiter, character string delimiter, or decimal point character is not valid.
 - For SBCS or UTF-8 data, the valid range for the delimiters is 0x00 - 0x7F inclusive.
 - For MBCS data, the valid range for the delimiters is 0x00 - 0x3F inclusive.
 - For EBCDIC MBCS data, the valid range for the delimiters is 0x00 - 0x3F inclusive with the exception that the delimiters cannot be the SHIFT-OUT (0x0E) or the SHIFT-IN (0x0F) characters.
- The same character is specified for more than one of the preceding items.

The command cannot be processed.

User response: Examine the specified delimiters for

validity and uniqueness. Resubmit the command with valid delimiter overrides.

SQL3018N The period was specified as a character string delimiter.

Explanation: For Delimited ASCII (DEL), the period cannot be specified as the character string delimiter.

The command cannot be processed.

User response: Resubmit the command with valid delimiter overrides.

SQL3019N No Action String parameter was specified in the command.

Explanation: No *Action String* (for example, "REPLACE into ...") parameter is specified for this utility call. This parameter is required.

The command cannot be processed.

User response: Resubmit the command with an *Action String* parameter.

SQL3020N The user does not have the authority to run the specified Export command.

Explanation: The user attempted to export data without the appropriate authorization (either the SYSADM or DBADM authority), or the CONTROL or SELECT privilege for each table involved in the export.

The export action is not performed.

User response: Request appropriate authorization before exporting data from the tables.

SQL3021N The user does not have the authority to run the specified Import command on table *name*.

Explanation: The user attempted to import data without the appropriate authorization for the specified option and table.

Import using the INSERT option requires one of the following:

- SYSADM or DBADM authority
- CONTROL privilege on the table, view, or entire hierarchy
- INSERT and SELECT privilege on the table, view, or entire hierarchy.

Note: entire hierarchy refers to all subtables or object views in the hierarchy.

Import to an existing table or view using the INSERT_UPDATE, REPLACE, or the REPLACE_CREATE option, requires one of the following:

- SYSADM or DBADM authority

- CONTROL privilege on the table, view, or entire hierarchy.

Note: entire hierarchy refers to all subtables or object views in the hierarchy.

Import to a table that does not exist, using the CREATE or REPLACE_CREATE option, requires one of the following:

- SYSADM or DBADM authority
- CREATETAB authority on the database and one of:
 - IMPLICIT_SCHEMA authority on the database, if the schema name of the table does not exist
 - CREATEIN privilege on the schema, if the schema of the table exists

The import operation is not performed.

User response: Ensure that the user has the authorization to perform the import operation.

SQL3022N An SQL error *sqlcode* occurred while processing the SELECT string in the Action String parameter.

Explanation: In IMPORT or EXPORT, during processing of the SELECT string from the *Action String* (for example, "REPLACE into ...") structure, an SQL error occurred.

The command cannot be processed.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL3023N The database name parameter is not valid.

Explanation: The database name parameter is not valid. See the SQLERRD[0] field in the SQLCA for more information.

The database name must contain 1 to 8 characters and the characters must be from the database manager base character set.

The command cannot be processed.

User response: Resubmit the statement with a valid database name parameter.

SQL3024N An I/O error occurred while opening the format file.

Explanation: A system I/O error occurred while opening the format file. This error can refer to a problem on either the client or the server.

A possible cause may be that the format file is in use by another application.

The command cannot be processed.

User response: Ensure that the format file is valid, including the path, and that it is not currently in use by another application.

Resubmit the command. Look in the diagnostics log file for additional information.

SQL3025N A parameter specifying a filename or path is not valid.

Explanation: The parameter contains a path, directory, or file name that is not valid.

For IMPORT and EXPORT, verify the *datafile* parameter.

For LOAD, verify that each entry in the parameters of type *sqlu_media_list: datafile* should contain valid filenames; *lobpaths copytarget*, and *workdirectory* should contain valid paths on the server including the final separator and a null terminator.

The pointer to *lobpaths*, *copytarget* and *workdirectory* must be valid or null.

The pointer to the targets in these structures must be valid.

Check that sessions and *media_type* are specified correctly.

Also, if the *lobpaths* parameter is specified, check that the *media_type* is the same as that specified for the datafile structure.

If the *filetype* is IXE, the length of the file name may be too long.

The command cannot be processed.

User response: Resubmit the statement with a valid parameter.

SQL3026N The msgfile or tempfiles path parameter is not valid.

Explanation: For IMPORT or EXPORT, the *msgfile* parameter contains a path, directory, or file name that is not valid.

For LOAD, either the *msgfile* parameter contains a path, directory, or file name that is not valid on the client, or the *tempfiles* path is not valid on the server.

If the database to which the application is connected is a remote database, the *msgfile* must be fully qualified. For a local database the utility will attempt to fully qualify the *msgfile* if it is not already fully qualified. Also verify that the pointer to the *msgfile* is valid.

The command cannot be processed.

User response: Resubmit the statement with a valid *msgfile* and/or *tempfiles* path parameter.

SQL3027N An I/O error occurred while reading from the format file.

Explanation: A system I/O error occurred while reading from the format file. This error can refer to a problem on either the client or the server.

The command cannot be processed.

User response: Verify that the format file is readable.

SQL3028N The export method indicator is not valid. It must be either 'N' or 'D'.

Explanation: The export method indicator must be either N for Names or D for Default.

The command cannot be processed.

User response: Resubmit the statement with a valid method indicator.

SQL3029N No filetype parameter was specified.

Explanation: The *filetype* parameter was either not specified or null. The system does not know which format to use for the data file.

The command cannot be processed.

User response: Resubmit the statement with a valid *filetype*.

SQL3030C An I/O error (reason = reason) occurred while opening the input file.

Explanation: A system I/O error occurred while opening the input file. This error can refer to a problem on either the client or the server.

A possible cause may be that the input file is in use by another application.

The command cannot be processed.

User response: Ensure that the input file is valid, including the path, and that it is not currently in use by another application.

Resubmit the command.

SQL3031C An I/O error occurred while reading from the input file.

Explanation: A system I/O error occurred while reading from the input file. This error can refer to a problem on either the client or the server.

The command cannot be processed.

User response: Verify that the input file is readable.

SQL3032N The LOAD/IMPORT method indicator is not valid for the specified filetype. It must be either 'N', 'P', or 'default'.

Explanation: For the IXF and WSF filetypes, the LOAD/IMPORT method indicator must be either N for Names, P for Positional, or D for Default.

The command cannot be processed.

User response: Resubmit the command with a valid method indicator.

SQL3033N A keyword such as INSERT, REPLACE, CREATE, INSERT_UPDATE, or REPLACE_CREATE is missing from the target specification or it is misspelled.

Explanation: For IMPORT, the *Action String* (for example, "REPLACE into ...") parameter does not contain the keyword INSERT, REPLACE, CREATE, INSERT_UPDATE, or REPLACE_CREATE. For LOAD, the *Action String* parameter does not contain the keyword INSERT, REPLACE, or RESTART. The keyword must be followed by at least one blank.

The command cannot be processed.

User response: Resubmit the command with a valid *Action String* parameter.

SQL3034N The keyword INTO is missing from the target specification or it is misspelled.

Explanation: The INTO keyword is missing or spelled incorrectly. INTO must be followed by at least one blank.

The command cannot be processed.

User response: Resubmit the command with a valid *Action String* (for example, "REPLACE into ...") parameter.

SQL3035N The tablename parameter in the target specification is not valid.

Explanation: For IMPORT, the *tablename* in the *Action String* (for example, "REPLACE into ...") is not valid. For LOAD, the *tablename* or the *exception tablename* in the *Action String* is not valid.

The command cannot be processed.

User response: Resubmit the command with a valid *tablename*. Also ensure that all command keywords and parameters are entered in the correct order.

SQL3036N The *tcolumn-list* in the target specification does not have a closed parenthesis.

Explanation: The *tcolumn-list* must be delimited by

parentheses. The list was not terminated by the closed parenthesis.

The command cannot be processed.

User response: Resubmit the statement with a valid, complete column list in the *Action String* (for example, "REPLACE into ...") parameter.

SQL3037N An SQL error *sqlcode* occurred during Import processing.

Explanation: An SQL error occurred during processing of the *Action String* (for example, "REPLACE into ...") parameter.

The command cannot be processed.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL3038N The Action String parameter contains unexpected characters.

Explanation: For IMPORT, there are characters other than blanks after the closing parenthesis of the column list in the *Action String* (for example, "REPLACE into ...") parameter. For LOAD, there are characters other than blanks after the closing parenthesis of the column list and/or the exception tablename in the *Action String* parameter.

The command cannot be processed.

User response: Resubmit the command with a valid *Action String* parameter.

SQL3039W The memory available to LOAD for DATA BUFFER prohibits full LOAD parallelism. Load parallelism of *value* will be used.

Explanation: The LOAD utility attempted to determine the optimal level of CPU parallelism for SMP exploitation based on the system configuration, or the user specified a value for LOAD parallelism when invoking the utility. However, one of the following limitation was encountered:

1. The amount of free memory in the utility heap prohibits this degree of parallelism.
2. The DATA BUFFER parameter was specified with a value too small to allow for the specified or available parallelism.

A lesser degree of parallelism, requiring less memory, will be used.

User response:

1. Ignore this message, and the LOAD will complete normally using the smaller value for LOAD parallelism. However, Load performance may be less than optimal.

2. Specify a smaller value for LOAD parallelism when invoking the utility.
3. Increase the size of the utility heap.
4. Increase the size of the data buffer parameter, or leave the parameter blank and let the LOAD utility determine a default based on the freespace in the utility heap.

SQL3040N The utility cannot use the file name *file-name* specified in the *option-name* parameter. Reason code: *reason-code*.

Explanation: One of the following reason codes may apply:

- 1 Either the file *file-name* is not a valid `sqlu_media_list` or the values provided are not valid. The `media_type` must be `SQLU_CLIENT_LOCATION`.
- 2 There are not enough file names provided. There are more documents to be exported than the number of file names provided multiplied by `SQLU_MAX_SESSIONS`.
- 3 The combination of a path name and a file name exceeds the maximum length of 255 bytes per file.
- 4 The file *file-name* cannot be accessed.
- 5 The file name *file-name* contains a path name but paths should not be included.
- 6 The sum of the starting position and the length of the input data exceeds the size of the file with file name *file-name*.

User response: Determine which reason code applies above, correct the problem, and resubmit your command.

SQL3041N The date value specified is not supported in Sybase.

Explanation: Sybase does not support date values prior to 1753.

User response: Please give a valid date value and issue the command again.

SQL3042N The LINKTYPE specified for a DATALINK column is invalid.

Explanation: The value specified for LINKTYPE for a DATALINK column is invalid.

User response: Check the LINKTYPE specified. Correct the value and resubmit the command.

SQL3043N The DATALINK SPECIFICATION for DATALINK column(s) is invalid.

Explanation: The DATALINK SPECIFICATION for DATALINK column(s) is invalid for one of the following reasons:

- No value is specified for `DL_URL_REPLACE_PREFIX`.
- No value is specified for `DL_URL_DEFAULT_PREFIX`.
- No value is specified for `DL_URL_SUFFIX`.
- Contains keywords other than `DL_URL_REPLACE_PREFIX` or `DL_URL_DEFAULT_PREFIX` or `DL_URL_SUFFIX`.

User response: Correct the specification and resubmit the command.

SQL3044N The DATALINK SPECIFICATION for a DATALINK column has duplicate prefix specification.

Explanation: The DATALINK SPECIFICATION for a DATALINK column has duplicate specifications for `DL_URL_REPLACE_PREFIX` or `DL_URL_DEFAULT_PREFIX`.

User response: Remove the duplicate specification and resubmit the command.

SQL3045N A dcolumn position in the METHOD parameter is less than one or greater than the maximum number of columns (1024) in a Delimited ASCII file.

Explanation: The *dcolumn* position is less than 1 or greater than the maximum number of columns (1024) in a delimited file.

The command cannot be processed.

User response: Resubmit the command with valid *dcolumn* positions.

SQL3046N The number of columns in the METHOD parameter is less than one.

Explanation: For *METHOD* methods other than Default, the number of columns specified must be a positive number (greater than 0).

The command cannot be processed.

User response: Resubmit the command with a valid number of columns in the *METHOD* parameter.

SQL3047N The LOAD/IMPORT method specified in METHOD is not valid for Delimited ASCII files. It must be either 'P' or 'default'.

Explanation: The only valid LOAD/IMPORT methods

for Delimited ASCII files are P for Positions or D for Default.

The command cannot be processed.

User response: Resubmit the command with a valid import method.

SQL3048N There are fewer columns specified from the input file than database columns, but one of the database columns is not nullable.

Explanation: When fewer columns are specified in the *METHOD* list than are specified for the target table, the values for the missing input columns are loaded as nulls. Because the columns in the target table that correspond to one or more of these input columns are not nullable, null cannot be inserted.

The file cannot be loaded.

User response: Define a new table that has the same number of columns as the input file or that has nullable columns. Resubmit the command.

SQL3049N The data type *type* of the database column *name* is not compatible with this format file, but the database column is not nullable.

Explanation: The database column type is not valid for this format file. The database column is not nullable so the utility is ended.

The utility stops processing. No data is loaded.

User response: Redefine the database table so the columns are compatible with the columns loaded from the file.

SQL3050W Conversions on the data will be made between the IXF file code page and the application code page.

Explanation: If an *IMPORT* of an IXF data file has been issued and the code page of the character data in the IXF file is different from the code page of the application invoking the import operation, a conversion will be made from the code page of the data file to the code page of the application and the operation will continue.

If a *LOAD* of an IXF data file has been issued and the code page of the character data in the IXF file is different from the database code page, a conversion will be made from the code page of the data file to the code page of the database and the operation will continue.

User response: If you do not want a conversion to be performed, invoke the utility using the *FORCEIN* option; otherwise no action is required.

SQL3051W The data to be loaded into *column-name* has been loaded, but conversion from the IXF file code page to the application code page has not been performed.

Explanation: The data that was loaded into the CLOB or DBCLOB column is stored in a separate file and no conversions have been performed on it.

To properly load the data, call the utility from an application that has the same code page as the IXF file.

User response: This is a warning only.

SQL3052N The *type* path parameter is missing but is required. Reason code: *reason-code*.

Explanation: Reason codes:

1 The input data files come from different paths, and there are *type* columns in the target table. The *type* path parameter must be specified.

User response: Specify the path and resubmit your command.

SQL3053N There are more than 8191 rows to be exported to a worksheet formatted file.

Explanation: The maximum number of rows that can be placed in a worksheet format file (WSF) is 8191.

The *EXPORT* utility stops processing after placing 8191 rows in the file.

User response: To prevent this error, use a *SELECT* statement that results in fewer rows to export, and resubmit the command.

SQL3054N The input file is not a valid PC/IXF file. The file is too short to contain a valid H record.

Explanation: The end of the file was reached before the expected end of the first record. The file may not be a PC/IXF file.

The *LOAD/IMPORT* utility stops processing. No data is imported.

User response: Verify that the input file is correct.

SQL3055N The input file is not a valid PC/IXF file. The length field in the first record cannot be converted to a numeric value.

Explanation: The value in the length field of the first record is not the ASCII representation of a number. The file may not be a PC/IXF file.

The utility stops processing. No data is loaded.

User response: Verify that the input file is correct.

SQL3056N The input file is not a valid PC/IXF file. The value in the length field of the H record is too small.

Explanation: The value in the length field of the H record is not large enough for a valid H record. The file may not be a PC/IXF file.

The utility stops processing. No data is loaded.

User response: Verify that the input file is correct.

SQL3057N The input file is not a valid PC/IXF file. The type field in the first record is not H.

Explanation: The type field in the first record is not H. The first record is not a valid H record. The file may not be a PC/IXF file.

The utility stops processing. No data is loaded.

User response: Verify that the input file is correct.

SQL3058N The identifier field in the H record is not IXF.

Explanation: The identifier field in the H record does not identify the file as a PC/IXF file.

The utility stops processing. No data is loaded.

User response: Examine the identifier field in the H record.

SQL3059N The version field in the H record is not valid.

Explanation: The version field in the H record contains a value that is not valid.

The utility stops processing. No data is loaded.

User response: Examine the version field in the H record.

SQL3060N The HCNT field in the H record cannot be converted to a numeric value or the value is out of range.

Explanation: The Heading-record-count field in the H record is not an ASCII representation of a number or is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the HCNT field in the H record.

SQL3061N The single-byte and/or double-byte code page field in the H record cannot be converted to a numeric value or the value is out of range.

Explanation: The single-byte and/or double-byte code

page field in the H record is not an ASCII representation of a number or is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the single-byte and double-byte code page field in the H record, change them to appropriate values, and resubmit the command.

SQL3062N The double-byte code page field in the H record cannot be converted to a numeric value or the value is out of range.

Explanation: The double-byte code page field in the H record is not an ASCII representation of a number or is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the double-byte code page field in the H record, change it to an appropriate value, and resubmit the command.

SQL3063N The single-byte code page value *value-1* in the H record is not compatible with the single-byte code page value *value-2* for the application. The FORCEIN option was not specified.

Explanation: The single-byte code page value in the H record is not compatible with the application code page value. When the FORCEIN option is not used, the data cannot be loaded unless conversion from value 1 to value 2 is supported.

The utility stops processing. No data is loaded.

User response: To load this data, resubmit the command with the FORCEIN option.

SQL3064N The double-byte code page value *value-1* in the H record is not compatible with the double-byte code page value *value-2* for the application. The FORCEIN option was not specified.

Explanation: The double-byte code page value in the H record is not compatible with the application code page value. When the FORCEIN option is not used, the data cannot be loaded unless value 1 and value 2 are the same.

The utility stops processing. No data is loaded.

User response: To load data where the double-byte code page values do not match, resubmit the command with the FORCEIN option.

SQL3065C The value for the application code page cannot be determined.

Explanation: The system encountered an error while determining the code page of the application.

The utility stops processing. No data is loaded or unloaded.

User response: Contact your technical service representative.

SQL3066N While reading or looking for the T record, the end of the file was reached.

Explanation: The end of the file was reached while the system was looking for the T record or while it was reading the T record.

The utility stops processing. No data is loaded.

User response: Examine the T record of the input file. If the PC/IXF file was copied from one medium to another, compare the copy with the original or repeat the copy process.

SQL3067N The length field in the T record cannot be converted to a numeric value.

Explanation: The length field in the T record is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the length field in the T record.

SQL3068N The value in the length field of the T record is too small.

Explanation: The value in the length field of the T record is not large enough so the T record is not valid.

The utility stops processing. No data is loaded.

User response: Examine the length field in the T record.

SQL3069N The first non-A record following the H record is not a T record.

Explanation: After the H record, the first record not an A record is also not a T record. The H record must be immediately followed by a T record but A records may exist before the T record.

The utility stops processing. No data is loaded.

User response: Examine the records following the H record.

SQL3070N The length field in an A record is out of range.

Explanation: The length field in an A record is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the length field in the A records.

SQL3071N The data-convention field in the T record is not C.

Explanation: The data-convention field in the T record is a value other than C.

The utility stops processing. No data is loaded.

User response: Examine the data-convention field in the T record.

SQL3072N The data-format field in the T record is not M.

Explanation: The data-format field in the T record is a value other than M.

The utility stops processing. No data is loaded.

User response: Examine the data-format field in the T record.

SQL3073N The machine format field in the T record is not PCbbb (where b = blank).

Explanation: The machine format field in the T record is a value other than PC *bbb*, where each *b* is a blank.

The utility stops processing. No data is loaded.

User response: Examine the machine format field in the T record.

SQL3074N The data-location field in the T record is not I.

Explanation: The data-location field in the T record is a value other than I.

The utility stops processing. No data is loaded.

User response: Examine the data-location field in the T record.

SQL3075N The CCNT in the T record cannot be converted to a numeric value or the value is out of range.

Explanation: The C-record count field in the T record is not an ASCII representation of a number or is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the CCNT field in the T record.

SQL3076N The name length field in the T record cannot be converted to a numeric value or the value is out of range.

Explanation: The name length field in the T record is not an ASCII representation of a number or is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the name length field in the T record.

SQL3077N The number of C records specified in the CCNT field in the T record *value* exceeds the maximum allowed *maximum*.

Explanation: The value in the CCNT field of the T record is larger than the maximum allowed for the indicated release.

The utility stops processing. No data is loaded.

User response: Examine the CCNT field in the T record.

SQL3078N The length field in an A record cannot be converted to a numeric value.

Explanation: The length field in an A record is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the length fields in the A records.

SQL3079N The length field in a C record cannot be converted to a numeric value.

Explanation: The length field in a C record is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the length field in the C records.

SQL3080N The value in the length field of the C record is too small.

Explanation: The value in the length field of a C record is not large enough so the C record is not valid.

The utility stops processing. No data is loaded.

User response: Examine the length field in the C records.

SQL3081N Not enough C records were found.

Explanation: The number of C records found (in the correct position) is less than the number expected from the C-record-count (CCNT) in the T record.

The utility stops processing. No data is loaded.

User response: Examine the T and C records.

SQL3082N While reading or looking for a C record, the end of the file was reached.

Explanation: The end of the file was reached while the system was looking for a C record or while it was still reading a C record.

The utility stops processing. No data is loaded.

User response: Examine the C records in the input file. If the PC/IXF file was copied from one medium to another, compare the copy with the original or repeat the copy process.

SQL3083N The D-record-id field in the C record for column *name* cannot be converted to a numeric value.

Explanation: The D-record-id field in the C record for the indicated column is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the D-record-id field in the C record.

SQL3084N The D-record-position field in the C record for column *name* cannot be converted to a numeric value.

Explanation: The D-record-position field in the C record for the indicated column is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the D-record-position field in the C record.

SQL3085N The D-record-id and D-record-position fields in the C record for column *name* are out of range or inconsistent with the previous C record.

Explanation: The D-record-id or the D-record-position fields in the C record for the indicated column contain a value that is either out of the value range or is not correct relative to the previous C record.

The utility stops processing. No data is loaded.

User response: Examine the D-record-id and D-record-position fields in the C record.

SQL3086N There was no source column specified to be loaded into database column *name* or the specified source column does not exist, but the database column is not nullable.

Explanation: Either there was not a PC/IXF column specified to be exported into the indicated column or the specified PC/IXF source column does not exist. Nulls cannot be inserted because the database column is not nullable.

The utility stops processing. No data is loaded.

User response: Check the *METHOD* parameter for erroneous names or positions or for fewer entries in the *METHOD* parameter than the *Action String* (for example, "REPLACE into ...") parameter states or implies.

SQL3087N The source column specified to be loaded into database column *name* is not valid, but the database column is not nullable.

Explanation: The PC/IXF column cannot be loaded into the indicated database column and the reason was given in a previous message in the message log. Nulls cannot be inserted because the database column is not nullable.

The utility stops processing. No data is loaded.

User response: Read the previous messages to understand why the column is not valid.

SQL3088N The source column specified to be loaded into database column *name* is not compatible with the database column, but the database column is not nullable.

Explanation: The source PC/IXF column is not compatible with the target database column. The column types or lengths may be incompatible. Nulls cannot be inserted because the database column is not nullable.

The utility stops processing. No data is loaded.

User response: Compare the columns in the source PC/IXF file with the columns in the database.

SQL3089N A non-D record was found where a D record was expected.

Explanation: Some record other than a D record was found where a D record was expected.

The utility stops processing. No data is loaded.

User response: Examine the D records in the file.

SQL3090N The length field in a D record cannot be converted to a numeric value.

Explanation: The length field in a D record is not an ASCII representation of a number.

The utility stops processing. No data is loaded.

User response: Examine the length field in the D records.

SQL3091N The length field in a D record is out of range.

Explanation: The length field in a D record is a number that is not valid for this field.

The utility stops processing. No data is loaded.

User response: Examine the length field in the D records.

SQL3092N The identifier field in a D record does not contain the expected value.

Explanation: The identifier field in a D record is not valid. One or more D records may have been written out of sequence.

The utility stops processing. No data is loaded.

User response: Examine the identifier field in the D records.

SQL3093N The input file is not a valid WSF file.

Explanation: The first record in the worksheet format (WSF) file was not a beginning-of-file (BOF) record, or the version of the WSF file is not supported.

The IMPORT utility stops processing. No data is imported.

User response: Verify that the file is a valid WSF file and that the name was entered correctly.

SQL3094N The input column *name* was not found, but the corresponding database column is not nullable.

Explanation: The specified column was not in the input file. Because the corresponding database column is not nullable, data cannot be loaded into the column.

The utility stops processing. No data is loaded. The column names processed before the error occurred are in the database

User response: Verify that the input file contains the specified column names.

SQL3095N The specified column position *position* is not in the valid range of 1 to 256.

Explanation: A column position was specified that was not within the range of 1 to 256.

The utility stops processing. No data is loaded. The column names processed before the error occurred are in the database.

User response: Verify that the specified column position is within the range 1 to 256.

SQL3096N The data type *type* of the database column *name* is not compatible with any WSF column type, but the database column is not nullable.

Explanation: There is not any worksheet format (WSF) column type that is compatible with the indicated database column. The database column is not nullable so the IMPORT utility stops processing.

No data is imported.

User response: Redefine the database table so the columns are compatible with the columns being imported from the WSF file. Resubmit the command.

SQL3097N The record length field in the WSF record is not valid for its record type.

Explanation: The worksheet format (WSF) records have an expected fixed length or a variable-length range. The record does not contain the fixed length, or the variable length is out of range. Some damage occurred to the WSF file, or it was generated incorrectly, possibly with a level of the Lotus product not supported by the database manager.

The IMPORT utility stops processing.

User response: Regenerate the WSF file with a supported level of the Lotus product.

SQL3098N The row number from the input file is not in the valid range of 1 to 8192.

Explanation: The maximum number of rows that a worksheet format (WSF) spreadsheet can contain is 8192. The cell coordinate contains a value outside the valid range. Some damage occurred to the WSF file, or it was generated incorrectly, possibly with a level of the Lotus product not supported by the database manager.

The IMPORT utility stops processing.

User response: Regenerate the WSF file with a supported level of the Lotus product.

SQL3099N The column number from the input file is not in the valid range of 1 to 256.

Explanation: The maximum number of columns that a worksheet format (WSF) spreadsheet can contain is 256. The cell coordinate contains a value outside the valid range. Some damage has occurred to the WSF file, or it was generated incorrectly, possibly with a level of the Lotus product that is not supported by the database manager.

The IMPORT utility stops processing.

User response: Regenerate the WSF file with a supported level of the Lotus product.

SQL3100 - SQL3199

SQL3100W Column number *column-number* (identified as *name*) in the output DEL format file is longer than 254 bytes.

Explanation: The length or maximum length of the specified output column is greater than 254 bytes. Columns larger than 254 are not supported by some other products.

The entire field is exported without truncation.

User response: If the output file cannot be processed by another product, export only a substring of the incorrect column, redefine the table, or manually truncate the data in the DEL column.

SQL3101W There is a character string delimiter in column *column-number* in row *row-number*.

Explanation: The system puts character string delimiters around the character strings being exported but it found a character string that already has the delimiter in the character string.

Delimiters will be placed around the character string. Future use of that string leads to an appearance of truncation. Processing can continue.

User response: Review the data for the given column and row in the output table or file. To avoid loss of data, change the character delimiter to some character that is not in the data.

SQL3102W The number of columns in the METHOD parameter is greater than the number of columns in the Action String (e.g. "REPLACE into ...") parameter.

Explanation: The number of columns taken from the input file or table is greater than the number to be put in the output table or file.

Only data for the columns indicated in the output table or file will be processed. Data in the excess input columns is not processed.

User response: Review the data in the output table or file.

SQL3103W The number of columns in the METHOD parameter is less than the number of columns in the Action String (e.g. "REPLACE into ...") parameter.

Explanation: The number of columns taken from the input file or table is less than the number to be put in the output table or file.

Only data for the columns indicated in the input table or file will be processed. Data in the excess output columns is not processed.

User response: Review the data in the output table or file.

SQL3104N The Export utility is beginning to export data to file *name*.

Explanation: This is the normal beginning message.

User response: No action is required.

SQL3105N The Export utility has finished exporting *number* rows.

Explanation: This is the summary message for the export utility which is printed at the end of the message file. This message will state how many rows resulting from the SELECT statement were processed before the export utility terminated.

User response: If an sqlcode of 0 was returned from the utility, then no response is required. If an sqlcode of 3107 was returned, check the message file for warnings that occurred during the export and resubmit the command if desired. If a negative sqlcode was returned, an error occurred during the export and the data file may not contain all the data requested. The command should be resubmitted with the error corrected.

SQL3106N An error occurred while formatting a message for the message file.

Explanation: The error message may be incomplete or formatted incorrectly.

User response: No action is required.

SQL3107W There is at least one warning message in the message file.

Explanation: At least one warning was received during processing.

This warning does not affect processing.

User response: Review the message file warning.

SQL3108W Unable to access file referenced by a DATALINK value in row *row-number* and column *column-number*. Reason code = *reason-code*.

Explanation: The possible causes of this message depend on the value of *reason-code*:

- 1 DATALINK value data location format is not valid.
- 2 DATALINK value DB2 Data Links Manager is not registered with the database.
- 3 DATALINK linktype value is not valid.
- 4 DATALINK value referenced file cannot be found by the DB2 Data Links Manager.

- 5 DATALINK value referenced file is already linked to the database.
- 6 DATALINK value referenced file cannot be accessed for linking. It may be a symbolic link or a file with permission bit for set user ID (SUID) on or set group ID (SGID) on.
- 7 DATALINK value URL or comment is too long.
- 8 DATALINK value referenced file cannot be linked to the database. The DB2 Data Links Manager does not authorize the DB2 user to link this file.

User response: The action is based on the *reason-code* as follows:

- 1 Correct the data location format. If hostname is not specified, DB2 can use the local hostname as default only if support for FILE LINK CONTROL is enabled. Refer to the Administration Guide for information on enabling this support.
- 2 Ensure that the correct DB2 Data Links Manager is specified and if so have it registered to the database. Registered DB2 Data Links Managers are ignored unless support for FILE LINK CONTROL is enabled. Refer to the Administration Guide for information on enabling this support.
- 3 Correct the linktype value.
- 4 Check that the correct file is specified and that the file exists
- 5 Either unlink the existing reference to the file or do not specify the file in this statement.
- 6 Linking of directories is not allowed. Use the actual file name, not the symbolic link. If SUID or SGID is on, this file cannot be linked using a DATALINK type.
- 7 Reduce the length of the data location value or the comment.
- 8 Contact the DB2 Data Links Manager administrator to get the necessary authorization

SQL3109N The utility is beginning to load data from file *name*.

Explanation: This is the normal beginning message. The message may indicate the name of a temporary file created on the server instead of the source file.

User response: No action is required.

SQL3110N The utility has completed processing. *number* rows were read from the input file.

Explanation: This is the normal ending message.

User response: No action is required.

SQL3111C An I/O error occurred while closing the input data file.

Explanation: A system I/O error occurred while closing the input data file. This error can refer to a problem on either the client or the server.

The file is not closed.

User response: Examine the input file for an I/O error.

SQL3112W There are fewer input file columns specified than database columns.

Explanation: There are fewer columns specified in the input file than in the output table. Because the extra columns in the table are defined as nullable, the values in those columns are filled with nulls.

User response: No action is required.

SQL3113W The data type *type* of the database column *name* is not compatible with this format file. Null values are inserted for the column.

Explanation: The database column type is not valid for this file. Because the column is nullable, nulls are inserted.

Null values are loaded for the indicated column.

User response: If nulls are not acceptable for the column, do one of the following:

- Edit the data in the table.
- If possible, use another compatible column in the database table as the target column and resubmit the command.
- Redefine the database table so the columns are compatible with the columns being loaded and resubmit the command.

SQL3114W Some data following *text* in row *row-number* and column *column-number* was not loaded.

Explanation: Some data in the specified row and column is not loaded, probably because the column contains data as follows:

- A closed string delimiter
- An isolated carriage return or line feed control character
- A non-delimited string value.

The text that was loaded is shown in the *text* token.

The contents of the field may be incomplete.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command, or edit the data in the table.

SQL3115W The field value beginning *text* in row *row-number* and column *column-number* is longer than the longest allowable table column. The value was truncated.

Explanation: The field value is longer than 32700 bytes.

The value was truncated after 32700 bytes.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table. Check for unmatched character string delimiters.

SQL3116W The field value in row *row-number* and column *column-number* is missing, but the target column is not nullable.

Explanation: A null field value was encountered in the input file. Because the target column in the table is not nullable, it cannot be loaded.

For files other than ASCII files, the value of the column number specifies the field within the row of the missing data. For ASCII files, the value of the column number specifies the byte position within the row of the missing data.

The row is not loaded.

User response: If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3117W The field value in row *row-number* and column *column-number* cannot be converted to a SMALLINT value. A null was loaded.

Explanation: The value in the specified field cannot be converted to a SMALLINT value. There may be a data type mismatch. The value may be larger than a 2-byte integer.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3118W The field value in row *row-number* and column *column-number* cannot be converted to a SMALLINT value, but the target column is not nullable. The row was not loaded.

Explanation: The value in the specified field cannot be converted to a SMALLINT value. There may be a data type mismatch. The value may be larger than a 2-byte integer. A null cannot be loaded because the output column in the table is not nullable.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

The row is not loaded.

User response: Correct the input file and resubmit the command or edit the data in the table.

SQL3119W The field value in row *row-number* and column *column-number* cannot be converted to an INTEGER value. A null was loaded.

Explanation: There may be a data type mismatch because the value in the specified field cannot be converted to an INTEGER value.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3120W The field value in row *row-number* and column *column-number* cannot be converted to an INTEGER value, but the target column is not nullable. The row was not loaded.

Explanation: There may be a data type mismatch because the value in the specified field cannot be converted to an INTEGER value. A null cannot be loaded because the output column in the table is not nullable.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

The row is not loaded.

User response: Correct the input file and resubmit the

command or edit the data in the table.

SQL3121W The field value in row *row-number* and column *column-number* cannot be converted to a FLOAT value. A null was loaded.

Explanation: The value in the specified field cannot be converted to a FLOAT value. There may be a data type mismatch.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3122W The field value in row *row-number* and column *column-number* cannot be converted to a FLOAT value, but the target column is not nullable. The row was not loaded.

Explanation: The value in the specified field cannot be converted to a FLOAT value. There may be a data type mismatch. A null cannot be loaded because the output column in the table is not nullable.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

The row is not loaded.

User response: Correct the input file and resubmit the command or edit the data in the table.

SQL3123W The field value in row *row-number* and column *column-number* cannot be converted to a PACKED DECIMAL value. A null was loaded.

Explanation: The value in the specified field cannot be converted to a PACKED DECIMAL value. There may be a data type mismatch.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3124W The field value in row *row-number* and column *column-number* cannot be converted to a PACKED DECIMAL value, but the target column is not nullable. The row was not loaded.

Explanation: The value in the specified field cannot be converted to a PACKED DECIMAL value. There may be a data type mismatch. A null cannot be loaded because the output column in the table is not nullable.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

The row is not loaded.

User response: Correct the input file and resubmit the command or edit the data in the table.

SQL3125W The character data in row *row-number* and column *column-number* was truncated because the data is longer than the target database column.

Explanation: The length of the field data in the input file was longer than the length of the database field where it is being loaded.

The character data was truncated.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table. The width of the database column cannot be increased. If necessary, define a new table with wider columns and repeat the process.

SQL3128W The field containing *data* in row *row-number* and column *column-number* was truncated into a DATE field because the data is longer than the database column.

Explanation: The date value in the specified field is longer than the length of the string representation of a date.

The date value is truncated to fit into the table.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3129W The date, time, or timestamp field containing *text* in row *row-number* and column *column-number* was padded with blanks.

Explanation: The field data in the input file was shorter than the database column.

The data on the right is padded with blanks.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3130W The field containing *text* in row *row-number* and column *column-number* was truncated into a TIME field because the data is longer than the database column.

Explanation: The time value in the specified field is longer than the length of the string representation of a time.

The time value is truncated to fit into the table.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3131W The field containing *text* in row *row-number* and column *column-number* was truncated into a TIMESTAMP field because the data is longer than the database column.

Explanation: The timestamp value in the specified field is longer than the length of the string representation of a timestamp.

The timestamp value is truncated to fit into the table.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3132W The character data in column *column* will be truncated to size *size*.

Explanation: The character data column has a defined size that is longer than the longest default character column which can be exported; each value will be truncated to the specified size.

For example, by default, only the first SQL_LONGMAX bytes of a LOB column will be exported. If the entire LOB column is desired, the *LOBSINFILE* keyword must be specified in the filetype modifier and each LOB column will be stored into a separate file.

User response: This is a warning only. No action is required.

SQL3133W The field in row *row-number* and column *column-number* contains invalid DATALINK value. A null was loaded.

Explanation: The DATALINK value in the specified field is invalid. For delimited ASCII (DEL) files, the

value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3134W The field in row *row-number* and column *column-number* contains invalid DATALINK value, but the target column is not nullable. The row was not loaded.

Explanation: The DATALINK value in the specified field is invalid. For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

User response: Examine the input value. If necessary, correct the input file and resubmit the command.

SQL3135N The number of columns in the METHOD parameter is greater than the number of columns in the target table.

Explanation: The number of data columns in the METHOD parameter must be less than or equal to the number of data columns in the actual table.

User response: Specify the correct number of input columns in the METHOD parameter and resubmit the command.

SQL3137W Row *row-number* is too short. At least one input value being loaded to a non-nullable database column is missing. The row was not loaded.

Explanation: If loading from a delimited ASCII file, the row contains too few fields. If loading from a non-delimited ASCII file, the row contains too few bytes of data. There is no input value for at least one non-nullable target column.

The row is not loaded.

User response: Examine the input file and the contents of the target table. Correct the input file and resubmit the command, or edit the data in the table.

SQL3138W The ending character string delimiter was not found before the end of the input data file was reached.

Explanation: The end of the input data file was

reached before the terminating character string delimiter was found.

A closing character string delimiter is assumed at the end of the data.

User response: Compare the value in the output table with the input file. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3139W An error *error* occurred while the utility was disconnecting from the database.

Explanation: The IMPORT or EXPORT utility could not disconnect from the database.

The output data may be incomplete.

User response: Use the error number in the message to determine the exact error.

SQL3142W The column heading for column *column-number* is being truncated to 240 bytes.

Explanation: The LOTUS 1-2-3** and Symphony** programs have a limit of 240 bytes for label records. If a column heading greater than 240 bytes is specified for export, it is truncated to 240 bytes.

The column heading is truncated. Processing continues.

User response: Verify that the column headings are 240 bytes or less. Check for a possible error in specifying the names for the columns in the output worksheet format (WSF) file.

SQL3143W A maximum length of variable length column *column-number* exceeds the limitation of 240 bytes. Data from the column may be truncated.

Explanation: The LOTUS 1-2-3** and Symphony** programs have a limit of 240 bytes for label records. Whenever a character field longer than 240 bytes is written to a worksheet format (WSF) file, the data will be truncated to 240 bytes.

Continue processing. Subsequent data entries for the column may be truncated.

User response: Verify the output. If significant data from the column is lost because of truncation, investigate selecting the data from the column in several fields by substringing, or redesign the database.

SQL3144W The length of fixed length column *column-number* exceeds the 240-byte limitation. Data from the column may be truncated.

Explanation: The Lotus 1-2-3** and Symphony** programs have a limit of 240 bytes for label records.

Whenever a character field longer than 240 bytes is written to a worksheet format (WSF) file, the data will be truncated to 240 bytes.

All data entries for the column are truncated with no additional messages written to the message log.

Continue processing.

User response: Verify output. If significant data from the column is lost because of truncation, investigate selecting the data from the column in several fields by substringing, or redesign the database.

SQL3145W The data for row *row-number*, column *column-number* is being truncated to 240 bytes.

Explanation: The Lotus 1-2-3** and Symphony** programs have a limit of 240 bytes for label records. Whenever a character field longer than 240 bytes is written to a worksheet format (WSF) file, the data is truncated to 240 bytes. This message is preceded by message SQL3143 associated with the column.

Processing continues. The data is truncated.

User response: Verify the output. If significant data from the column is lost because of truncation, investigate selecting the data from the column in several fields by substringing, or redesign the database.

SQL3146N The DATE or TIMESTAMP value for row *row-number* and column *column-number* is out of range.

Explanation: The value for a date or timestamp is not valid. A date value from 01-01-1900 to 12-31-2099 is valid for worksheet format (WSF) files.

The cell record is not created.

User response: Compare the value in the output file with the input table. If necessary, correct the input value and resubmit the command or edit the data in the table.

SQL3147W More than 2048 rows were exported into a worksheet formatted file.

Explanation: The number of rows exported exceeds 2048. The first generation products cannot support more than 2048 rows.

Continue processing.

User response: The rows beyond 2048 can be read only by second and third generation products.

SQL3148W A row from the input file was not inserted into the table. SQLCODE *sqlcode* was returned.

Explanation: The database operation to insert a row of data read from the input file failed. One or more of the

fields in the input file is not compatible with the database field where the field is being inserted.

Processing continues with the next row of input data.

User response: See the next message in the message file for the row number not inserted. Examine the input file and the database contents. If desired, modify the database or modify the input file and rerun the operation.

SQL3149N *number-1* rows were processed from the input file. *number-2* rows were successfully inserted into the table. *number-3* rows were rejected.

Explanation: This summary message tells how many rows of data were read from the input file, how many rows were successfully inserted into the database table, and how many rows were rejected. If using the INSERT_UPDATE option, the number of rows updated is the number of rows processed minus the number inserted and rejected.

User response: None, because this is a summary message. The detail messages may suggest corrective action.

SQL3150N The H record in the PC/IXF file has product *product*, date *date*, and time *time*.

Explanation: Information is given about the product that created the PC/IXF file and when it was created.

User response: No action is required.

SQL3151N No data conversion will be done from the single-byte code page value *code-page* in the H record to the application single-byte code page value *code-page* because the FORCEIN option was specified.

Explanation: No data conversion will be performed from the IXF code page to the application code page because the FORCEIN option was specified.

User response: No action is required. If the conversion from the IXF file code page to the application code page is supported by the database manager, the operation can be resubmitted without the FORCEIN option and the data will be converted.

SQL3152N The double-byte code page value *value* in the H record is not compatible with the double-byte code page value *value* for the application. Data will be inserted because the FORCEIN option was specified.

Explanation: The double-byte code page values in the record and the application are not compatible. Because the FORCEIN option was used, the data is inserted.

User response: No action is required.

SQL3153N The T record in the PC/IXF file has name *name*, qualifier *qualifier*, and source *source*.

Explanation: Optional information is given about the name of the table where data was extracted, the product that created the table, and the original source of the data.

User response: No action is required.

SQL3154W The HCNT value in the H record and the CCNT value in the T record are not compatible. The CCNT value in the T record will be used.

Explanation: The HCNT value in the H record and the CCNT value in the T record do not agree.

The CCNT value in the T record is used.

User response: Verify that the CCNT value is correct. If not, make the necessary changes to the HCNT or CCNT values and resubmit the command.

SQL3155W The name length field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The value in the name length field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the name length field in the C record and resubmit the command.

SQL3156W The null field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The null field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the null field in the C record and resubmit the command.

SQL3157W The type field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The type field in the C record for the indicated column is not valid. The code page values may not be compatible with the column type.

Data from the indicated column is not loaded.

User response: Change the type field in the C record and resubmit the command.

SQL3158W The single-byte code page field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The single-byte code page field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the single-byte code page field in the C record and resubmit the command.

SQL3159W The double-byte code page field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The double-byte code page field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the double-byte code page field in the C record and resubmit the command.

SQL3160W The column length field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The column length field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the column length field in the C record and resubmit the command.

SQL3161W The precision field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The precision field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the precision field in the C record and resubmit the command.

SQL3162W The scale field in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The scale field in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the scale field in the C record and resubmit the command.

SQL3163W The column length field in the C record for floating point column *name* is blank. A value of 00008 will be used.

Explanation: The column length field in the C record for the indicated column is blank.

A column length of 00008 is used.

User response: No action is required.

SQL3164W The column length field in the C record for floating point column *name* is not valid. Data from the column will not be loaded.

Explanation: The column length field in the C record for the indicated column is not valid. The indicated column is a floating point column.

Data from the indicated column is not loaded.

User response: Change the column length field in the C record and resubmit the command.

SQL3165W The column type field *type* in the C record for column *name* is not valid. Data from the column will not be loaded.

Explanation: The column type in the C record for the indicated column is not valid.

Data from the indicated column is not loaded.

User response: Change the column type field in the C record and resubmit the command.

SQL3166W No PC/IXF column was specified to be loaded into database column *name*, or the specified PC/IXF column does not exist. Nulls will be inserted.

Explanation: Either there was not a PC/IXF column specified to be loaded into the indicated column, or the specified PC/IXF source column does not exist.

Null values are loaded for the indicated column.

User response: No action is required. If nulls are not acceptable for this column, check the *METHOD* parameter for erroneous names or positions or for fewer entries in the *METHOD* parameter than columns stated in or implied by the *Action String* (for example, "REPLACE into ...") parameter.

SQL3167W The PC/IXF column specified to be loaded into database column *name* is not valid. Nulls will be inserted.

Explanation: Values in the PC/IXF column cannot be loaded into the indicated database column and the reason is given in a previous message in the log.

Null values are loaded for the indicated column.

User response: Read the previous messages to understand why the column is not valid.

SQL3168W The PC/IXF column specified to be loaded into database column *name* is not compatible with the database column. Nulls will be inserted.

Explanation: The source PC/IXF and the target database column types or lengths may not be compatible.

Null values are loaded for the indicated column.

User response: Compare the columns in the source PC/IXF file and the database.

SQL3169N The FORCEIN option may be used to make the PC/IXF column *name* acceptable for loading into database column *name*.

Explanation: This is for information only about the optional use of the *FORCEIN* option.

User response: No action required.

SQL3170W The end of the file was reached within a row of data. The partial row of data was not loaded.

Explanation: The end of the file was reached before the end of the current row of data. The file may contain only part of the expected data.

The partial row of data is not loaded.

User response: If the PC/IXF file was copied from one medium to another, compare the copy with the original or repeat the copy process.

SQL3171W A non-label record was found in the column header row. The record was not processed.

Explanation: The IMPORT utility expects only label records in the column header row (row one) of the worksheet format (WSF) file.

The system does not process the record and continues to the next record.

User response: Remove all data and information except the column headers from the first row of the spreadsheet file. Resubmit the command.

SQL3172W The specified input column *name* was not found. The corresponding database column will contain null values.

Explanation: The specified input column was not found in the input spreadsheet file. The database column is nullable and contains null values.

User response: Verify the specified input column name.

SQL3173N The inserted data for column *name* will always contain fewer characters than the column width.

Explanation: The database column width is larger than the maximum worksheet format (WSF) label record.

Continue processing.

User response: No action is required.

SQL3174W The data type *type* of the database column *name* is not compatible with any WSF column type. Null values will be inserted for this column.

Explanation: The database column type is not valid for a worksheet format (WSF) file. Because the column is nullable, nulls are imported for the column.

User response: If nulls are not acceptable for the column, do one of the following:

- Edit the data in the table.
- If possible, use another compatible column in the database table as the target column and resubmit the command.
- Redefine the database table so that the columns are compatible with the columns imported from the WSF file, and resubmit the command.

SQL3175W The input record for database row *row*, column *column* is not valid.

Explanation: The record in the spreadsheet file is not compatible with the data type of the database column. If the database column is a graphic data type, the input data may contain an odd number of bytes.

If the column is nullable, a null is inserted. If the column is not nullable, the row is not imported.

User response: Either edit the data in the table or verify that the data in the spreadsheet file is valid for importing into a database manager database and resubmit the command.

SQL3176W The value for row *row*, column *column* in the WSF file is out of range for a date value.

Explanation: The record in the spreadsheet file contains a value that is too large or too small to represent a valid worksheet format (WSF) date. A valid WSF date is between 1 and 73050, inclusive.

If the column is nullable, a null is inserted. If the column is not nullable, the row is not imported.

User response: Either edit the data in the table or

verify that the data in the spreadsheet file is valid for import into a database manager database and resubmit the command.

SQL3177W The value in the WSF file for row *row*, column *column* is out of range for a time value.

Explanation: The record in the spreadsheet file contains a value that is either too large or too small to represent a valid worksheet format (WSF) time. A WSF time is a value equal to or greater than zero, but less than one.

If the column is nullable, a null is inserted. If the column is not nullable, the row is not imported.

User response: Either edit the data in the table or verify that the value to be imported is a time value in the input spreadsheet file and resubmit the command.

SQL3178W The type of record in the WSF file for database row *row-number*, column *column-number* is not valid for representing a time value.

Explanation: The input value is an integer value. A time value must be represented by a floating point number or a fraction of a day in a worksheet format (WSF) spreadsheet file.

If the column is nullable, a null is inserted. If the column is not nullable, the row is not imported.

User response: Either edit the data in the table or verify that the value to be imported is a time value in the input spreadsheet file and resubmit the command.

SQL3179W Row *row* in the input file is missing data for inserting into a non-nullable column in the database. The row was not inserted.

Explanation: The row of data from the input file has missing or not valid data for a non-nullable column. The values in the remaining database columns in that row are not inserted.

Processing continues with the next row. The row is not inserted.

User response: Either edit the data in the table or verify that the data in the spreadsheet file is valid for inserting into a database manager database.

SQL3180W Insert diskette *number* into drive *drive*.

Explanation: This is a request for the application to prompt the user to place the specified diskette in the specified drive.

The utility is waiting to be called again after the user puts the diskette in the drive.

User response: Prompt the user for the diskette and then return to the utility with the *callerac* parameter indicating whether processing continues or ends.

SQL3181W The end of the file was reached before the expected ending record was found.

Explanation: During the load of a PC/IXF file created by the database manager, the A record of subtype E that is expected as the last A record was not found.

The input file probably is damaged.

Continue processing.

User response: Check for data that was not loaded. If data is missing, edit the table or change the input file and resubmit the command. If the PC/IXF file was copied from one medium to another, compare the copy with the original or repeat the copy process.

SQL3182W Insert diskette *number* into drive *drive*. The diskette that is currently inserted is not the right diskette or the continuation diskette is not valid.

Explanation: During the load of a PC/IXF file that is contained on more than one diskette, a request to insert a diskette was sent to the application, a confirmation that the diskette is in the drive was returned but the continuation file is not there or is not valid. This action does not apply to the first diskette.

The utility waits for a response from the application to either continue processing or stop processing.

User response: Have the user verify that the correct diskette is in the drive. If the correct diskette is in the drive, call the utility again with the *callerac* parameter set to stop processing.

SQL3183W Multiple delimiter overrides in the filemod parameter are not separated by blanks.

Explanation: At least one COLDEL, CHARDEL or DECPT keyword in the *filemod* parameter is not at the beginning of the *filemod* parameter and does not follow a blank (space). This condition may arise during the LOAD/IMPORT or export of delimited ASCII (DEL) files.

The utility stops processing. The erroneous delimiter overrides are ignored.

User response: Resubmit the command with a correct *filemod* parameter.

SQL3184W An SQL warning *SQLCODE* occurred while creating the table.

Explanation: The table was created, however, it may be different than the original table.

User response: Compare the table definition of the newly created table and the expected table. Make any necessary corrections using commands such as ALTER TABLE. Look at the SQLCODE indicated in the warning message for more information about what happened.

SQL3185W The previous error occurred while processing data from row *row-number* of the input file.

Explanation: This message provides the identification of the row where the error occurred for the previous message listed in the message file (for example, SQL3306).

User response: No action is required.

SQL3186W Data was not loaded into the database, because the log was full or the lock space was exhausted. SQLCODE *sqlcode* was returned. A commit will be attempted and the operation will continue if the commit is successful.

Explanation: The utility could not insert a row of data into the database because either the database transaction log is full or the lock space available to the application is full.

The completed database transactions are committed and the insert is tried again. If the repeated insert continues to indicate the same failure, the utility stops processing.

User response: Be aware that a subsequent failure of the utility causes the database to roll back to the state after the last commit, not to the state before the utility was initially called.

SQL3187W An error occurred while creating an index. SQLCODE *sqlcode* was returned.

Explanation: The IMPORT utility was creating an index when an error occurred. An index may already exist for some table.

This error occurs only during the import of a PC/IXF file.

The utility continues processing. The file was imported, but the index was not created on the table.

Federated system users: in addition to the previously listed cause, this error can occur when a CREATE NICKNAME statement was issued at federated server and the table at the data source had an index or indexes with too many columns, or the total index row size could not be represented in the federated server catalog. The *sqlcode* in the message provides further information about the problem encountered.

User response: Read the next message in the message log (SQL3189) for the name of the index that was not

created. Create the index with the CREATE INDEX command.

Federated system users: select from the data source catalog and the federated server catalog to determine which index or indexes were not created in the federated server catalog. Either:

- Create the indexes using the CREATE INDEX command. Remember to truncate columns as appropriate in order to not violate limits which caused the index to not be created in the first place.
- Do nothing and allow federated server to function without knowledge about the index.

Both of the previously listed options have potential performance implications.

SQL3188N An error occurred while erasing the contents of the table.

Explanation: When running LOAD/IMPORT with the REPLACE option, the specified database table is truncated before inserting the data back into the table. An error occurred during the truncation processing.

The utility ends with an error.

User response: Resubmit the command.

SQL3189N The previous message refers to index *name* with columns *column-list*.

Explanation: This message always follows message SQL3187 when an error occurs while creating an index. *name* is the name of the index where the create failed. *column list* is a string of index column names. Each column name in the string is preceded by a plus (+) or a minus (-) sign indicating ascending or descending order.

The utility continues processing.

User response: Manually create the index with the CREATE INDEX command.

SQL3190N The indexixf option is not valid for this Import operation.

Explanation: If INDEXIXF is used in the *filetmod* parameter of the IMPORT command, each of the following is also required:

- The IMPORT must be replacing the contents of a table.
- The *METHOD* parameter must be null.
- Each IXF column must be targeted to a database column with the same name.

The utility stops processing. No data is imported.

User response: Resubmit the command either without the INDEXIXF option or with the other parameters that are valid with the INDEXIXF option.

SQL3191N The field in row *row-number*, column *column-number* which begins with string does not match the user specified DATEFORMAT, TIMEFORMAT, or TIMESTAMPFORMAT. The row will be rejected.

Explanation: The data does not match the user specified format. This may be caused by missing fields, mismatched column separators, or a value out of range.

User response: Examine the input value. Correct the input file or specify a DATEFORMAT, TIMEFORMAT, or TIMESTAMPFORMAT that matches the data and resubmit the command.

SQL3192N In the filemod a user specified format *keyword* beginning with the string *string* is not valid.

Explanation: The user specified format is not valid because it may be specified more than once, or it may contain an invalid character.

The formats must be enclosed in double-quotes.

Valid DATEFORMAT specifiers include "YYYY" and the "M", and "D" characters.

Valid TIMEFORMAT specifiers include "AM", "PM", "TT", and the "H", "M", and "D" characters.

Valid TIMESTAMPFORMAT specifiers include all of the specifiers for DATEFORMAT and TIMEFORMAT, as well as "UUUUUU". However, "M" cannot be next to both a date format specifier and a time format specifier.

A field separator is necessary if the corresponding value in the data file can have a variable length.

The utility stops processing.

User response: Examine the format specifier. Correct the format, and resubmit the command.

SQL3193N The specified view or materialized query table cannot be updated. You cannot LOAD/IMPORT into this view or LOAD into this materialized query table.

Explanation: The LOAD/IMPORT utility can be run against a view only if the view can be updated. The specified view is defined such that data in it may not be changed.

The LOAD utility can be run against a materialized query table only if the materialized query table is not replicated. The specified table is a replicated materialized query table.

The IMPORT utility can be run against a materialized query table only if the materialized query table is a user maintained materialized query table. The specified table is a system maintained materialized query table.

The LOAD/IMPORT utility stops processing. No data is inserted.

User response: Resubmit the command with the name of a table or a view that can be updated.

SQL3194N The specified table is a system table. You cannot load a system table.

Explanation: The utility cannot be run against a system table.

The utility stops processing. No data is loaded.

User response: Resubmit the command with a valid table name.

SQL3195W The diskette *number* in drive *drive* cannot be used for the output file. Insert a formatted diskette with writable free space.

Explanation: The EXPORT utility cannot use the current diskette for exporting to a PC/IXF file for one of the following reasons:

- The output file cannot be opened on the diskette. The diskette may be unformatted.
- Not enough free space is available on the diskette.

This warning code is a request for the application to prompt the user to place another diskette in the specified drive.

The utility is waiting to be called again after the user puts the diskette in the drive.

User response: Prompt the user for the diskette and then return to the utility with the *callerac* parameter indicating whether processing continues or ends.

SQL3196N The input file was not found.

Explanation: The source file to be loaded into a database could not be found in the path indicated by the *datafile* parameter.

The command cannot be processed.

User response: Verify that the input file does exist and that the path to it is correct.

SQL3197N An attempt was made to execute multiple copies of import or export.

Explanation: An attempt was made to execute more than one instance of the import or export utility on a system where this is not supported.

The command cannot be processed.

User response: Resubmit the second operation when no other processes are attempting to execute the same utility.

SQL3200 - SQL3299

SQL3201N The specified table cannot be replaced because another table is dependent on it.

Explanation: A table that is a parent in a relationship with another table cannot be replaced.

The command cannot be processed.

User response: Select a different option, such as INSERT, or select a different target for the utility operation.

SQL3202N The Load utility failed to acquire a partition lock.

Explanation: The Load utility failed to acquire a partition lock. Another Load utility is currently loading into the same table and is connected to the same db-partition as the current load.

User response: If you would like to execute multiple Loads into the same table concurrently (assuming a disjoint set of output db-partitions), then you must assure the Load Coordinator Agents reside on different db-partitions by executing each Load from a database connection connected to different db-partitions.

SQL3203N The INSERT_UPDATE option is not permitted for the specified target because it has no primary key or all columns are in the primary key.

Explanation: The INSERT_UPDATE option is only valid when the target table has a primary key and the target columns include all columns of the primary key. In addition, the target column list and the target table should contain at least one column that is not part of the primary key.

The command cannot be processed.

User response: Select a different option such as INSERT, or choose a different target for the utility operation.

SQL3204N The INSERT_UPDATE option may not be applied to a view.

Explanation: The INSERT_UPDATE option is not valid for views and a view has been selected as the target of the utility operation.

The command cannot be processed.

User response: Select a different option such as INSERT, or choose a different target for the utility operation.

SQL3205N The specified view cannot be replaced because the base table has a dependent.

Explanation: A view whose base table is a parent table in a referential relationship with any table (including itself) cannot be replaced.

The command cannot be processed.

User response: Select a different option such as INSERT, or choose a different target for the utility operation.

SQL3206N The specified view cannot be replaced because its definition involves a subquery.

Explanation: A view whose definition involves a subquery cannot be replaced. If the view definition depends on the definition of other views, the other views cannot contain subqueries. The use of a subquery anywhere in the definition of any view on which the target view is based prohibits the REPLACE option.

The command cannot be processed.

User response: Select a different option, such as INSERT, or choose a different target for the utility operation.

SQL3207N Invalid table-list provided. Reason code *reason-code*.

Explanation: The traversal-order-list/subtable-list provided is invalid. The explanation for the reason code is:

1. Tables specified in the traversal-order-list are not in PRE-ORDER fashion.
2. Tables specified in the traversal-order-list are not connected.
3. Mismatch of schema name found in traversal-order-list/subtable-list.
4. With REPLACE option, some subtables are missing in the traversal-order-list.
5. Subtable-list is not equal to or a subset of the traversal-order-list.

User response: The user action, based on the reason code, is:

1. Make sure the traversal-order-list is in PRE-ORDER fashion.
2. Make sure all tables in the traversal-order-list are connected.
3. Make sure schema names are consistent.
4. When REPLACE option is used, make sure all subtables in the hierarchy are included.
5. Make sure subtable-list is equal to or is a subset of the traversal-order-list.

SQL3208W Importing data from typed tables into regular table.

Explanation: User specified to import data from typed tables into regular table. Please note, object_id column will not be cast while importing.

User response: Please make sure such operation is intentional.

SQL3209N Import with CREATE option does not allow renaming subtable name nor attribute names.

Explanation: When CREATE option is used, neither subtable name nor attribute names can be renamed.

User response: Please check your IMPORT command and make sure no subtable-list is specified.

SQL3210N Option *option* is not compatible with hierarchy in *command-name*.

Explanation: *option* is not compatible with hierarchy in EXPORT, IMPORT, or LOAD.

User response: Please check the command syntax for hierarchical support.

SQL3211N LOAD does not support typed tables.

Explanation: LOAD does not support typed tables. Please consider IMPORT instead.

User response: Please use IMPORT to bring hierarchical data into the database.

SQL3212N The TERMINATE option of the LOAD command is not currently supported for tables with DATALINK column(s), or table spaces in delete pending state.

Explanation: An attempt was made to terminate a crashed, interrupted, or forced LOAD operation against a table which contains DATALINK column(s), or a table which resides in table space(s) in delete pending state. These are not currently supported.

User response: Use the RESTART option of the LOAD command to recover a crashed, interrupted, or forced LOAD operation.

SQL3213I The indexing mode is *mode*.

Explanation: The indexing mode values are as follows:

REBUILD

indexes will be completely rebuilt

INCREMENTAL

indexes will be extended

DEFERRED

indexes will not be updated, but will be marked as requiring refresh prior to next access.

User response: No action is required.

SQL3214N The LOAD utility does not support deferred indexing for tables with unique indexes.

Explanation: An indexing mode of DEFERRED was specified for a table that has unique indexes. This is not valid.

User response: Specify an indexing mode of AUTOSELECT, REBUILD or INCREMENTAL, and reissue the command.

SQL3215W The Load utility currently does not support INCREMENTAL indexing when loading into a DMS table space on tables where the table's index object resides in the same table space as any of the other target table's objects, and the COPY option is also specified. The REBUILD indexing mode will be used instead.

Explanation: INCREMENTAL indexing mode is not supported for this operation. REBUILD indexing mode is used instead.

User response: The user can avoid this warning by defining the index in a table space that is not shared by other objects in the table to be loaded. Alternatively, avoid use of the COPY option. Please refer to the DB2 documentation for a full list of alternatives to the COPY option.

SQL3216W The table's index object was not compatible with INCREMENTAL index maintenance at the time the load utility began. INCREMENTAL indexing cannot be performed during this load utility operation. The REBUILD indexing mode will be used instead.

Explanation: INCREMENTAL indexing can only be used on tables that have a compatible index object at the time the load utility begins. Loading with indexing mode REBUILD causes the table index to be rebuilt in a consistent manner.

User response: No action required.

SQL3217W The INCREMENTAL indexing mode is supported only when using LOAD to append data using the INSERT INTO action. The current LOAD action is *action*. The utility will use indexing mode of *mode* instead.

Explanation: INCREMENTAL indexing can only be used when appending data to a table using the load INSERT action. This feature is not supported with when loading with REPLACE, RESTART, or TERMINATE actions.

User response: No action necessary.

SQL3218C **The LOAD utility cannot proceed because it has encountered one or more damaged index files. Restart the database and resubmit the LOAD command.**

Explanation: The LOAD utility cannot proceed because one or more index on disk data structures for the target table are in an inconsistent state.

User response: Terminate all applications and issue the RESTART DATABASE command for the affected database to rebuild the damaged index or indexes. Then resubmit the LOAD command.

SQL3219N **LOAD utility failed to disable constraint checking for the target table.**

Explanation: The LOAD utility encountered problems during its attempt to disable constraint checking for the target table.

User response:

- Issue the SET INTEGRITY OFF command on the target table prior to running the LOAD utility.
- If attempting a LOAD in the REPLACE mode after a previously failed LOAD operation, use the LOAD TERMINATE command to put the tablespace into an accessible state prior to issuing a LOAD REPLACE command.

SQL3220W **Volume *volume-name* was not found in the *directory-name* directory. Copy the volume into this directory and continue the LOAD/IMPORT.**

Explanation: An attempt to LOAD/IMPORT a multiple IXF file was made, but one of the files is missing from the directory specified. LOAD/IMPORT tries to find the parts in the same directory as the first part.

The import will terminate.

User response:

- Find the part and put it in the same directory as the first part. Then call LOAD/IMPORT again with *callerac* of SQLU_CONTINUE. The LOAD/IMPORT will continue processing the file.
- Terminate the LOAD/IMPORT by calling LOAD/IMPORT with a *callerac* of SQLU_TERMINATE.

SQL3221W **...Begin COMMIT WORK. Input Record Count = *count***

Explanation: The import is about to attempt a COMMIT of the work performed.

User response: If the SQL3222W message is not printed immediately after this message, then the COMMIT failed and you will need to check your table or view to see which records have been imported. You can then start the import again with a RESTARTCOUNT set to the number of records successfully imported to skip those rows and import the rest of the file. (If you had been doing a CREATE or REPLACE_CREATE or REPLACE, call the second import with INSERT option.)

SQL3222W **...COMMIT of any database changes was successful.**

Explanation: The COMMIT was successful.

User response: None necessary if you get this message.

SQL3223N **The parameter of type pointer to *parameter* is not specified properly.**

Explanation: The parameter of type *parameter* is not specified properly. The pointer should be either a NULL pointer or should point to an appropriate value.

The command cannot be processed.

User response: Call the utility again with a proper parameter.

SQL3225N **The RESTARTCOUNT value or the SKIPCOUNT value is greater than the number of rows in the file. No rows were loaded.**

Explanation: The utility was called with a RESTARTCOUNT value or a SKIPCOUNT value which was greater than the number of rows in the input file resulting in no rows being loaded into the table/view.

User response: Ensure that the RESTARTCOUNT value or the SKIPCOUNT value is correct and call the utility again.

SQL3227W **Record token *token1* refers to user record number *token2*.**

Explanation: An error or warning was encountered during LOAD, IMPORT or EXPORT of a table. CPU parallelism was greater than 1 at the time the problem was encountered, and an SQL message was written which identified the user record with a special unique token. This message serves to map the unique record token to the record number of the source user data.

User response: Refer to the original SQL message

returned for appropriate action.

SQL3228N DEFERRED INDEXING is not supported for tables with DATALINK columns.

Explanation: The “indexing mode” option for the load utility was specified as “deferred”. This option is not supported with tables having DATALINK columns.

User response: Reissue the load command specifying a different indexing mode.

SQL3229W The field value in row *row-number* and column *column-number* is invalid. The row was rejected. Reason code: *reason-code*.

Explanation: The row of data from the input file has invalid data.

Reason codes:

- 1 The file named in the row and column cannot be found.
- 2 The file named in the row and column cannot be accessed.
- 3 Data is too long for the column.

The row was not inserted. Processing continues with the next row.

User response: If necessary, correct the input file and resubmit the command.

SQL3230N Codepage conversion from data file codepage *datafile-codepage* to database codepage *database-codepage* for data type *data-type* is not supported.

Explanation: The datafile codepage indicated by the CODEPAGE file type modifier, or by the header information of the IXF file is incompatible with the database codepage for this data type.

User response: Change the input data to be in a codepage compatible with the data type.

SQL3232W An error occurred while writing to file *file-name*. *file-name* has been used instead.

Explanation: An error occurred while writing LOB or XML documents to the specified file. A new file name has been used. Check the db2diag.log for a record detailing the failure.

Export wasn’t able to write to the original file. It assumes that there is a problem with the file, for instance the file size limit being exceeded. It will write using the next filename into the same path. If Export fails again when it writes, Export will then assume there is an error with the path. For instance, the path’s

filesystem could be full or there is insufficient access for Export to write or create files in the path. It will then attempt to use the next available path specified in the XML TO / LOBS TO options.

User response: No action is required.

SQL3233W The attribute *attribute-name* in an XML Data Specifier (XDS) was ignored. Reason code: *reason-code*

Explanation: Reason codes:

- 1 The attribute *attribute-name* is not recognized.
- 2 The attribute *attribute-name* is not applicable to a specific column.

User response: Check the attribute name and correct it if needed.

SQL3234N The XML Data Specifier (XDS) for column *col-number* is invalid. attribute name: *attribute-name*, character number: *char-number*, reason code: *reason-code*

Explanation: An error was encountered attempting to parse an XDS string. *char-number* indicates the position where the error occurred. It is set to 0 if the position could not be determined.

The possible reason codes are as follows:

- 1 The XDS string is malformed.
- 2 A mandatory attribute is missing.
- 3 An attribute name is invalid.
- 4 An attribute value is invalid.
- 5 A duplicate attribute name was found.

User response: Resubmit the command with a valid XML Data Specifier.

SQL3235N The utility cannot use the *type* path *path-name* parameter as specified. Reason code: *reason-code*.

Explanation: One of the following reason codes may apply:

- 1 Either the path *path-name* is not a valid `sqlu_media_list` or the values provided are not valid. The `media_type` must be `SQLU_LOCAL_MEDIA` and all path names must be terminated with a valid path separator.
- 2 There is not enough space on the paths provided for the EXPORT utility to hold all the data of type *type*.
- 3 The path *path-name* cannot be accessed.

User response: Determine which reason code applies

above, correct the problem, and resubmit your command.

SQL3236N A schema *schema-name* is specified in the IGNORE clause of XMLVALIDATE option, but it is also present in the left side of a schema pair in the MAP clause.

Explanation: In the XMLVALIDATE option, if a schema is specified in the IGNORE clause, it cannot also be present in the left side of a schema pair in the MAP clause.

The command cannot be processed.

User response: Resubmit the command with a valid XMLVALIDATE option.

SQL3237N The supplied EXPORT Action String cannot be used with the XMLSAVESCHEMA option. Reason code: *reason-code*

Explanation: Reason codes:

- 1 The Action String is too long due to XML specific processing.
- 2 The Action String contains a "WITH" clause, which is incompatible with the XMLSAVESCHEMA option.

User response: Resubmit the command without the XMLSAVESCHEMA option or modify the Action String.

SQL3238N The WSF file format is incompatible with *feature*.

Explanation: The LOAD, IMPORT, and EXPORT utilities do not support the WSF file format for *feature*.

User response: Use another supported file format.

SQL3239W Schema information will not be included in the XDS for some XML documents.

Explanation: One or more XML schemas were used to validate inserted XML documents but these schemas no longer exist in the database. Therefore, schema information for these XML documents will not be written to the exported data file.

SQL3240N Authorization ID *authorization-id* does not have the LBAC credentials necessary to run the utility against a table that is protected with security policy *policy-name*.

Explanation: To run the utility against a protected table, the authorization ID *authorization-id* must have

LBAC credentials that allow inserting new rows to the table.

User response: Have a user with SECADM authority grant the authorization ID *authorization-id* LBAC credentials that allow inserting new rows into the table. If the table has protected rows but no protected columns then granting any security label that is part of the security policy *policy-name* is sufficient. If the table has protected columns then the LBAC credentials must allow writing to all of the protected columns.

sqlcode: -3240

sqlstate: 5U014

SQL3241W Row *row* and column *column* in the input source contains an invalid security label for the target table.

Explanation: The value for the column of data type DB2SECURITYLABEL in the input source is not a valid security label for the security policy that is protecting the target table. Any security label inserted into a column of data type DB2SECURITYLABEL must be a part of the security policy that is protecting the table. The row is not loaded.

User response: Check the input source column and make sure that the value is valid for the policy protecting the target table. If the values in the input source are in string form, you must specify a security label related file type modifier. If necessary, correct the input data source and resubmit the command.

sqlcode: +3241

sqlstate: 01H53

SQL3242W Row *row* and column *column* in the input source contains an invalid security label string for the target table.

Explanation: The SECLABELCHAR file type modifier was specified, but the value for the DB2SECURITYLABEL column is not in the proper format for a security label string. The row is not loaded.

User response: Check that the values in the input source for the DB2SECURITYLABEL column are in the correct format. If necessary, correct the input data source and resubmit the command.

sqlcode: +3242

sqlstate: 01H53

SQL3243W The security label string in row *row* and column *column* of the input source contains the element *element*, which is an invalid element for the security label component *component*.

Explanation: The SECLABELCHAR file type modifier

was specified, but the security label string contains an invalid element for the specified component. The row is not loaded.

User response: Check the security label string carefully:

- Make sure that the elements are listed in the same order that their components are listed in the security policy protecting the target table.
- Check the spelling of the element.

If necessary, correct the input data source and resubmit the command.

sqlcode: +3243

sqlstate: 01H53

SQL3244W Row *row* and column *column* in the input source contains the security label named *security-label-name*, which cannot be found for the security policy *policy-name* protecting the target table.

Explanation: The SECLABELNAME file type modifier was specified, but the security label named *security-label-name* cannot be found for the security policy *policy-name*. The row is not loaded.

User response: Check the input source column and confirm that the value appears to be valid for the security policy protecting the target table. If necessary, correct the input data source and resubmit the command.

sqlcode: +3244

sqlstate: 01H53

SQL3245W Row *row* and column *column* in the input source cannot be inserted into the target table because the user does not have the necessary LBAC credentials.

Explanation: The user is not allowed to insert a row into a protected table if they do not have appropriate security label and/or exemption credentials. The row is not loaded.

User response: Ask your database security administrator to grant the proper security label or exemptions required for this operation. If necessary, resubmit the command.

sqlcode: +3245

sqlstate: 01H53

SQL3250N COMPOUND=*value* is invalid. Reason code: *reason-code*.

Explanation: The COMPOUND=*x* option was specified for the import utility and cannot be processed due to the reason with reason code *reason-code*:

- 1 It is invalid when the INSERT_UPDATE option is used.
- 2 It is invalid with the following file type modifiers: IDENTITYIGNORE, IDENTITYMISSING, GENERATEDIGNORE, GENERATEDMISSING.
- 3 The database being imported to is accessed through a server or gateway of a previous release.
- 4 The value is not within the allowed range of 1 to 100 (On DOS or Windows, the maximum value is 7).
- 5 The table being imported is a hierarchy or typed table.
- 6 The table being imported has generated columns.
- 7 It is invalid when the XMLVALIDATE USING XDS option is used.
- 8 It is invalid when the USEDEFAULTS file type modifier is specified.

User response: The action corresponding to the reason code:

For reason code 1:

- Remove COMPOUND=*x* from the file type modifier option, or use INSERT option.

For reason codes 2, 3, 5, 6, 8:

- Remove COMPOUND=*x* from the file type modifier option.

For reason code 4:

- Set *x* in COMPOUND=*x* to a correct value.

For reason code 7:

- Remove COMPOUND=*x* or remove XMLVALIDATE USING XDS option.

SQL3251N "number" more errors occurred during the import.

Explanation: The utility encountered more errors than can be relayed in the sqlca (maximum number is 7) while using the COMPOUND option. Messages for these errors will not be printed to the message file.

The utility continues processing.

User response: If you desire all the error messages for each row inserted during an import, do not use the COMPOUND option or use a COMPOUND value less than or equal to 7.

SQL3252N The Load METHOD *method* option is incompatible with the specified file format.

Explanation: The Load utility was invoked with a METHOD option which is incompatible with the file format specified.

User response: Review the documentation for restrictions and incompatibilities and reissue the Load command using a different METHOD option or file format to accommodate this restriction.

SQL3253N The utility is beginning to load data from the SQL statement *statement* in database *database*.

Explanation: This is an informational message indicating that a load from an SQL statement fetching from a cataloged database has begun.

User response: No action is required.

SQL3254N The utility is beginning to load data from the Table *schema.tablename* in database *database*.

Explanation: This is an informational message indicating that a load from an SQL statement fetching the contents of a table on a cataloged database has begun.

User response: No action is required.

SQL3255N The Load utility encountered an error while executing the SOURCEUSEREXIT *source user exit*. Reason Code *reason*.

Explanation: The Load utility has encountered an error while executing or attempting to execute the source user exit. This is because of one of the following reasons:

Reason Codes:

1. The source user exit file specified could not be found.
2. The source user exit ended prematurely or returned a non-zero return code.

User response:

1. Ensure that the source user exit exists, has correct permissions, and resides in the "bin" subdirectory of the "sqllib" path. Then reissue the Load.
2. Debug your source user exit application and ensure that it is working as designed. Then reissue the Load.

SQL3256N The Load utility encountered an error while processing data for the specified file type.

Explanation: The Load utility has encountered an error while processing data for the specified file type. The format of the data is invalid. The utility has stopped processing.

User response: Ensure the data is in the correct file type format.

SQL3257N The Load utility encountered an error while processing data in the specified file type. Reason Code *reason*. If applicable, record number is *record num* and column number is *column num*.

Explanation: The Load utility has encountered an error while processing data in the specified file type. The utility has stopped processing. This is because of one of the following reasons:

Reason Codes:

1. The data file header information is invalid or missing.
2. The record header information for the given *record num* is invalid or missing.
3. The column header information for the given *record num* is invalid or missing.
4. The column data for the given column number *column num* in record number *record num* is invalid or missing.

User response: 1-4. Ensure the data is in the correct file type format.

SQL3260N An unexpected error occurred when accessing the LDAP directory. Error code = *error-code*.

Explanation: An unexpected error occurred when accessing the LDAP directory. The command can not be processed.

User response: Record the message number (SQLCODE) and the error code. Use the Independent Trace Facility to obtain the DB2 trace. Then contact your IBM service representative.

SQL3261N The REGISTER LDAP command did not complete successfully because a required input parameter was not specified. Reason code = *reason-code*.

Explanation: The REGISTER LDAP command did not complete successfully because a required input parameter was not specified as indicated by the following reason codes:

- 1 The Network Id parameter was not specified.

- 2 The Partner LU parameter was not specified.
- 3 The Transaction Program (TP) name parameter was not specified.
- 4 The Mode parameter was not specified.
- 5 The Netbios NNAME parameter was not specified.
- 6 The TCP/IP hostname parameter was not specified.
- 7 The TCP/IP service name parameter was not specified.
- 8 The IPX Address was not specified.
- 9 The computer name was not specified.
- 10 The instance name was not specified.

User response: Re-submit the command with the required input parameter

SQL3262N The TCP/IP service name *name* is not valid.

Explanation: The TCP/IP service name specified is not valid.

User response: Ensure that the TCP/IP service name is configured and reserved in the local etc/services file, then re-submit the command. Alternatively, specify the port number that is assigned to the TCP/IP service name.

SQL3263N The protocol type is not supported.

Explanation: The protocol type specified is not supported for the command.

User response: Re-submit the command using a supported protocol type.

SQL3264N The DB2 server has not been registered in LDAP.

Explanation: The command did not complete successfully because the DB2 server had not been registered in LDAP.

User response: Register the DB2 server in LDAP using the REGISTER LDAP command. Then re-submit the command.

SQL3265N An unexpected error occurred during LDAP authentication.

Explanation: Unable to authenticate the LDAP user due to unexpected LDAP system error.

User response: Use the Independent Trace Facility to obtain the DB2 trace. Then contact your IBM service representative.

SQL3266N The LDAP user password is incorrect.

Explanation: The specified password is not a correct password for the specified user Distinguished Name (DN).

User response: Re-submit the command using the correct password.

SQL3267N *authid* does not have sufficient authority to perform the requested command.

Explanation: The command did not complete successfully because the LDAP user did not have sufficient authority to perform the required task.

User response: Ensure that the LDAP user has the authorization to perform the operation.

SQL3268N The LDAP schema is not compatible with the current release of DB2.

Explanation: The LDAP schema defined at the server does not contain the definition for the DB2 object classes and/or attributes used in the current release of DB2.

User response: Refer to the Administration Guide on how to extend the LDAP schema with DB2 object classes and attributes.

SQL3269N The LDAP server is not available.

Explanation: DB2 was not able to access information in the LDAP directory because the LDAP server was not available.

User response: Perform the following actions:

1. Ensure that the LDAP server is active.
2. Verify that TCP/IP is configured correctly on your machine
3. Verify that the DB2LDAPHOST registry variable is set to the TCP/IP hostname and port number of the LDAP server by running the "db2set DB2LDAPHOST" command. If the DB2LDAPHOST is not set, you can set it by using the "db2set DB2LDAPHOST=<host-name>:<port-number>" command, where <host-name> is the TCP/IP hostname of the LDAP server and <port-number> is the TCP/IP port number of the LDAP server. The default port number is 389.

SQL3270N The LDAP user's Distinguished Name (DN) is not valid.

Explanation: The LDAP user's Distinguished Name (DN) is not valid.

User response: Re-submit the command using a valid LDAP user's DN.

SQL3271N The LDAP user's Distinguished Name (DN) and/or password is not defined for the current logon user.

Explanation: When setting user preferences such as CLI configuration or DB2 registry variable, the LDAP user's DN and password must be defined for the current logon user.

User response: Refer to the IBM eNetwork LDAP documentation on how to configure the LDAP user's DN and password for the current logon user.

SQL3272N The node *node-name* was not found in the LDAP directory.

Explanation: The command did not complete successfully because the node *node-name* was not found in the LDAP directory.

User response: Ensure the node name is correct and re-submit the command.

SQL3273N The database *database-alias* was not found in the LDAP directory.

Explanation: The command did not complete successfully because the database *database-alias* was not found in the LDAP directory.

User response: Ensure the database name is correct and re-submit the command.

SQL3274W The database was created successfully. However, the database was not cataloged in the LDAP directory. **SQLCODE = *sqlcode*.**

Explanation: The database was created successfully. However, the database could not be cataloged in the LDAP directory because there was an error occurred during the operation.

User response: Correct the error as indicated in the SQLCODE. Then catalog the database in the LDAP directory using the CATALOG LDAP DATABASE command.

SQL3275W The database was dropped successfully. However, the database was not uncataloged in the LDAP directory. **SQLCODE = *sqlcode*.**

Explanation: The database was dropped successfully. However, the database could not be uncataloged in the LDAP directory because there was an error occurred during the operation.

User response: Correct the error as indicated in the SQLCODE. Then uncatalog the database in the LDAP directory using the UNCATALOG LDAP DATABASE command.

SQL3276N Unable to obtain the LDAP naming context.

Explanation: Unable to query for the LDAP naming context for the LDAP server.

User response: Contact your LDAP directory administrator to obtain the LDAP naming context for the LDAP server that you are using. If you are using IBM eNetwork Directory V2.1, this is the name of the LDAP suffix. Then set the naming context for the current machine using the "db2set DB2LDAP_BASEDN=<naming-context>" command.

SQL3277N The database *database-alias* already exists in the LDAP directory.

Explanation: The command did not complete successfully because another database of the same name already exists in the LDAP directory.

User response: Re-submit the command using a different alias name.

SQL3278N The node *node* already exists in the LDAP directory.

Explanation: The command did not complete successfully because another node of the same name already exists in the LDAP directory.

User response: Re-submit the command using a different alias name.

SQL3279N The command did not complete successfully because LDAP is disabled.

Explanation: The command did not complete successfully because the LDAP support is disabled on the current machine.

User response: If the LDAP support is installed, enable the LDAP support by running the command: "db2set DB2_ENABLE_LDAP=YES".

If the LDAP support is not installed, you need to run the setup program and select to install the LDAP support.

SQL3280N The attempt to connect to a DRDA server failed.

Explanation: The attempt to connect to a DRDA server failed because DB2 Connect is not installed on this DB2 client and the gateway-node was not specified when cataloging this LDAP database.

User response: Either install DB2 Connect on this DB2 client or recatalog this LDAP database with a valid gateway-node.

SQL3281N The OSTYPE parameter is not valid.

Explanation: The database server was not registered in LDAP because the OSTYPE parameter specified was not valid. The OSTYPE parameter describes the operating system type of the server.

User response: Resubmit the command specifying an operating system type (OSTYPE) that is supported by DB2.

SQL3282N The supplied credentials are not valid.

Explanation: Either or both the distinguished name (DN) of the user and the password that were specified were not valid.

This error may occur when a user is running in a Windows 2000 domain environment, which supports LDAP, and logs into a local account which may not have sufficient authority.

User response: Resubmit the command using valid values for both the distinguished name (DN) of the user and the password.

If you are working in a Windows 2000 domain environment, ensure that logon with an account that has sufficient authority.

SQL3283W The database manager configuration was updated successfully. However, the protocol information was not updated in the LDAP directory. SQLCODE = *sqlcode-value*.

Explanation: The database manager configuration was updated successfully. However, the protocol information could not be updated in the LDAP directory because an error occurred during the LDAP operation.

User response: Correct the error as indicated in the SQLCODE. Then update the protocol information in the LDAP directory using the UPDATE LDAP NODE command.

SQL3284N The nodetype parameter is not valid.

Explanation: The database server was not registered in LDAP because the nodetype parameter specified was not valid.

User response: Use a valid nodetype when registering the database server in LDAP. Valid values for the nodetype parameter are: SERVER, MPP, and DCS.

SQL3285N The command did not complete successfully because LDAP is not supported.

Explanation: The command did not complete successfully because LDAP is not supported on this platform.

User response: If LDAP is not supported on this platform, issue the following command to disable LDAP support:

```
db2set DB2_ENABLE_LDAP=NO
```

SQL3300 - SQL3399

SQL3300N The records in the input file are not in the correct sequence.

Explanation: The records in the worksheet format (WSF) file are expected to be in ascending order (row 1, col 1 ... row 1, col 256; row 2, col 1 ... row 2, col 256, and so on). Some damage has occurred to the WSF file or it was generated incorrectly, possibly with a level of the Lotus product not supported by the database manager.

The IMPORT utility stops processing.

User response: Regenerate the WSF file with a supported level of the Lotus product.

SQL3301N A BOF record was found in the middle of the input file.

Explanation: A beginning-of-file (BOF) record must be the first record of a worksheet format (WSF) file. It cannot occur at any other location in the file. Some damage has occurred to the WSF file or it was generated incorrectly, possibly with a level of the Lotus product not supported by the database manager.

The IMPORT utility stops processing.

User response: Regenerate the WSF file with a supported level of the Lotus product.

SQL3302N An EOF record was found before any data was imported.

Explanation: The input file is valid, but it did not contain any usable data to be imported. The first worksheet row is reserved for title information. The second worksheet row is used for column labels. Data begins in the third row.

The IMPORT utility stops processing.

User response: Regenerate the worksheet format (WSF) file with valid data in the rows that the database manager uses for data.

SQL3303N The file type must be IXF when using the CREATE or REPLACE_CREATE keywords in the Action String parameter.

Explanation: File types other than IXF are not allowed

with the CREATE or REPLACE_CREATE keywords in the *Action String* (e.g. "REPLACE into ...") parameter.

The IMPORT utility stops processing. No data is imported.

User response: Change the file type to IXF, or use INSERT, INSERT_UPDATE or REPLACE.

SQL3304N The table does not exist.

Explanation: The parameters specified on the command require that the table exists.

The utility stops processing. No data is loaded.

User response: Do one of the following:

- Resubmit the command with a table name of an existing table.
- If the input file is a PC/IXF file, resubmit the command with the CREATE option.

SQL3305N The table cannot be created because it already exists.

Explanation: The CREATE keyword indicates that a new table must be created but a table with the specified name already exists.

The IMPORT utility stops processing. No data is imported.

User response: Either erase the existing table or use a keyword other than CREATE and resubmit the command.

SQL3306N An SQL error *sqlcode* occurred while inserting a row into the table.

Explanation: An SQL error occurred while inserting a row into the table.

If the SQL error is not severe the row will be rejected and the utility continues processing; otherwise the utility stops processing.

User response: Examine other messages in the message file for details about the actual error and resubmit the command, if necessary.

SQL3307N The number of columns in the METHOD parameter does not match the number of entries in the Action String parameter, or a column specified in the METHOD parameter does not exist.

Explanation: The CREATE or REPLACE_CREATE option was specified on the IMPORT command. Either:

- If the NAMES or POSITIONS method indicator was specified in the *METHOD* parameter, the number of columns explicitly specified in *METHOD* is not equal to the number of columns explicitly specified in the *Action String* (e.g. "REPLACE into ...") parameter.

- If the DEFAULT method indicator was specified in the *METHOD* parameter, the number of columns in the PC/IXF file is less than the number of columns specified in the *Action String* parameter.
- One column specified in the *METHOD* parameter does not exist in the PC/IXF file.

The IMPORT utility stops processing. No table is created.

User response: Either correct the columns specified in the *METHOD* and *Action String* parameters or correct the columns specified in the *METHOD* parameter.

SQL3308N The code page values of the PC/IXF column *name* are not compatible with the code page values for the application. The FORCEIN parameter was not specified.

Explanation: The code page values for the column and the application are not compatible. When the FORCEIN parameter is not specified, the data cannot be loaded if the conversion from the IXF file code page to the application code page is not supported.

The utility stops processing. No data is loaded.

User response: To load data with these code pages, resubmit the command with the FORCEIN option.

SQL3309N Column *name* in the PC/IXF file is defined as a graphic column. The FORCEIN parameter was not specified.

Explanation: During the load of a PC/IXF file, a graphic data column was encountered. Because the *FORCEIN* parameter was not used, the data cannot be loaded.

The utility stops processing. No data is loaded.

User response: If you want to load the data with the graphic data, resubmit the command with the *FORCEIN* parameter.

SQL3310N Column *name* in the PC/IXF file is not valid.

Explanation: The CREATE or REPLACE_CREATE option was specified on the IMPORT command. A column with an invalid C record was found while importing the PC/IXF file.

The IMPORT utility stops processing. The table is not created.

User response: Verify the column definition information in the input file.

SQL3311N This PC/IXF file is not supported in Import CREATE mode. Reason code =*reason-code*.

Explanation: Reason codes:

- 1 Index information has not been saved because the index column names contain hexadecimal values of 0x2B or 0x2D.
- 2 XML columns are not supported.
- 3 MDC key has not been saved.
- 4 Table partitioning key has not been saved.
- 5 Index name has been truncated due to codepage conversion.
- 6 Protected tables are not supported.
- 7 Action string other than 'SELECT * FROM <TABLE-NAME>' was used during Export.
- 8 Method N was used during Export.

User response: Data has not been affected during Export but the file cannot be used in Import CREATE operation to recreate the table since some information is missing. For reason codes 1, 3, 4, 5, 7 and 8, the user may use File Type Modifier FORCECREATE to force the CREATE operation with this file. For reason codes 2 and 6, the user may use db2look tool to extract table information and perform Import INSERT or REPLACE operation.

SQL3313N The disk is full. Processing was ended.

Explanation: The disk or diskette is full. During the export to a PC/IXF file, either the PC/IXF data file is on a fixed disk, or the PC/IXF data file and the database are on the same drive, or the PC/IXF data file and the message file are on the same drive.

The EXPORT utility stops processing. The exported data is not complete.

User response: Provide more space on the disk or diskette or specify that the data file be located on a different drive than the database or the message file and resubmit the command.

SQL3314N The date and time fields in an A record do not match the date and time fields in the H record.

Explanation: During the load of a PC/IXF file, an A record was found in the PC/IXF file, that contained run identification information (in the date and time fields) that differs from the run identification information in the header (H) record. This action does not apply to an A record at the start of a continuation file.

The input file has probably been damaged.

The utility stops processing.

User response: Re-create the damaged file, or repair the damaged file to recover as much data as possible. Resubmit the command.

SQL3315N The volume fields in an A record of subtype C are not valid.

Explanation: During the load of a PC/IXF file that was created by Database Services, an A record was found in the PC/IXF file, that contained volume information (in the volume fields) that is not valid.

The input file has probably been damaged.

The utility stops processing.

User response: Re-create the damaged file, or repair the damaged file to recover as much data as possible. Resubmit the command.

SQL3316N An I/O error occurred while closing part of the input file.

Explanation: During the load of a multiple part PC/IXF file, an I/O error occurred while the system was closing one of the files that make up the input PC/IXF file. This action does not apply to the last file in the group of files that make up the PC/IXF file.

The utility stops processing.

User response: Resubmit the command.

SQL3317N The string pointed to by the filemod parameter contains conflicting information.

Explanation: The *filemod* string defines the generation and product family for the output WSF file. More than one generation or product family was defined in the string.

The utility stops processing. The output file is not created.

User response: Change the *filemod* string to define only one generation and product family. Resubmit the command.

SQL3318N There are duplicate keywords in the filemod parameter.

Explanation: A COLDEL, CHARDEL, or DECPT keyword appears more than once in the *filemod* parameter. This condition may arise while using delimited ASCII (DEL) files.

The utility stops processing. No data is loaded or exported.

User response: Resubmit the command with a correct *filemod* parameter.

SQL3319N An SQL error *sqlcode* occurred while creating the table.

Explanation: An SQL error occurred while creating the table.

The IMPORT utility stops processing. The table was not created. No data was imported.

User response: Look at the SQLCODE (message number) in the message for more information. Make changes and resubmit the command.

SQL3320N There is no delimiter or decimal point character after a keyword in the *filetmod* parameter.

Explanation: A COLDEL, CHARDEL, or DECPT keyword is located at the very end of the *filetmod* parameter. There is no delimiter or decimal point character following the keyword. This condition may arise while using delimited ASCII (DEL) files.

The utility stops processing. No data is loaded or exported.

User response: Resubmit the command with a correct *filetmod* parameter.

SQL3321C Data was not imported into the database because the log was full or the lock space was exhausted. Recovery was not successful. SQLCODE *sqlcode* was returned.

Explanation: The IMPORT utility could not insert a row of data into the database because the database transaction log was full or the lock space available to the application was exhausted. All work was committed, but the utility could not insert the row, because the database transaction log or the lock space remains full.

The utility stops processing. All previous changes were committed, but the current row was not imported.

User response: Check the amount of space remaining on the filesystem containing your database files and the amount of lock space available to the application. Consider increasing the maximum log size, maximum storage for the lock list, or the percent of the locklists available to a single application in the database configuration file.

SQL3322N An operating system semaphore error occurred.

Explanation: An error occurred in the wait/post semaphores.

The utility stops processing. For the EXPORT utility, data may be incomplete on the media. For the IMPORT utility, data not already committed is rolled back.

User response: Stop and restart DB2 and resubmit the utility.

SQL3324N Column *name* has a type of *type* which is not recognized.

Explanation: A column of data returned by the SQL statement is not supported.

Federated system users: The data type of the data that you want is not supported by either the federated server or the data source that you want to access.

User response: Correct the error and retry the command.

Federated system users: Specify a supported data type and resubmit the program.

SQL3325W All the columns in row *row-number* have NULL values; the row will not be included in the WSF data file.

Explanation: When you are doing an export of a WSF file and the SELECT statement results in a row of all NULL values, the row will not be added to the WSF file. The total number of rows specified in message SQL3105N is the number of rows resulting from the SELECT statement and not the number of rows in the WSF file.

The command continues processing.

User response: No action required. This is an informational message.

SQL3326N The column list following the table name in the Action String parameter is invalid.

Explanation: When you call IMPORT or LOAD with an *Action String* (e.g. "REPLACE into ...") parameter which contains a column list after the table name, this message will result if it is invalid. For example, the following *Action String* parameters will fail:

insert into tablea()

no columns within the parenthesis

insert into tablea(two words)

invalid column name

insert into tablea(grant.col1)

column name should not be qualified

insert into tablea(x1234567890123456789)

column name too long

insert into tablea(col1,col2)

missing column name

The command cannot continue.

User response: Change the *Action String* parameter with a valid column list and call the utility again.

SQL3327N A system error occurred (reason code1 = " reason-code-1 and reason code2 = reason-code-2).

Explanation: A system error occurred during processing.

The utility stops processing.

User response: Record all error information from the SQLCA, if possible. Retain the message file. Terminate all applications using the database. Reboot the system. Restart the database. Try the command again.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

SQL3330W In row *row-number* a character field has an odd length but its target database column is a graphic column. The row was not loaded.

Explanation: Only even length character fields can be loaded into graphic database columns.

The row is not loaded.

User response: Either load the data to a new table using the CREATE option in the IMPORT command or do not load this column into this table.

SQL3331C The permission setting of a file (or directory) does not allow the specified access.

Explanation: This may accompany another error message. It indicates an attempt was made to get access to a file or directory in a way that is incompatible with the attributes of the file. One of the following may be the source of the difficulty:

- Opening a file for writing on a read-only device
- Opening a file for writing on a read-only file
- Opening a directory instead of a file
- Encountering a locking or sharing violation.

The command cannot be processed.

User response: Retry the utility when the file is not in use, or retry the utility directing the output to a path and file that allows writing.

SQL3332C The maximum number of open files has been reached.

Explanation: This message may accompany another error message. It indicates that the maximum number of open files has been reached.

The command cannot be processed.

User response: Terminate other applications to reduce the number of files open and retry the utility.

SQL3333C The file or directory does not exist.

Explanation: This message may accompany another error message. It indicates that a file or directory to be accessed does not exist or cannot be found.

The command cannot be processed.

User response: Resubmit the command with the correct file name, including a valid path.

SQL3334C There is not enough storage available.

Explanation: This message may accompany another error message. It indicates there is not enough storage available to open the file.

The command cannot be processed.

User response: Stop the application. Possible solutions include:

- Verify that your system has sufficient real and virtual memory.
- Remove background processes.

SQL3335C The file system is full.

Explanation: This message may accompany another error message. It indicates there is no available space for writing on the device.

The command cannot be processed.

User response: To make space available on the device, delete unneeded files or direct the output data to a device with space available.

SQL3337N An I/O error occurred while writing data to the server.

Explanation: An I/O error has occurred while attempting to write data to a temporary file on the server (temporary files are created in the tmp directory under the sqllib directory for the instance of the database manager). The file system on the server may be full.

The utility stops processing. The database is unchanged.

User response: Contact the System Administrator for the server to make space available on the server, and resubmit the command.

SQL3338N An I/O error occurred reading a temporary message file on the server.

Explanation: A system I/O error has occurred while attempting to read the temporary message file on the server.

The IMPORT operation is complete; however, the message file on the database client system may be empty or incomplete.

User response: Query the remote database to determine if the utility operation was successful.

SQL3340N Unable to perform a load with concurrent read access to the table.
Reason code = *reason-code*.

Explanation: The ALLOW READ ACCESS option of the LOAD command is not supported in the following cases as specified in the *reason-code*:

1. When using LOAD REPLACE.
2. When using INDEXING MODE DEFERRED.
3. When the target table is in the Set Integrity Pending state and is not in the Read Access only state.
4. When the indexes are marked invalid.
5. When using LOAD TERMINATE or LOAD RESTART on a load that did not use the ALLOW READ ACCESS option, or when temporary files from the original load are missing.

User response: Resubmit the command using the ALLOW NO ACCESS option.

SQL3341N Invalid table space name provided with the USE option. **Reason code =** *reason-code*.

Explanation: Only system temporary table spaces can be used for rebuilding the indexes in a table space other than the index table space. The page size of the system temporary table space must match the page size of the index table space.

User response: Resubmit the command with a table space name referring to a system temporary table space with the correct page size. The *reason-code* describes the failure as follows:

1. Table space name in USE clause not found.
2. Table space must be a system temporary table space.

SQL3400 - SQL3499

SQL3400N The method specified in METHOD is not valid for Non-Delimited ASCII files. It must be 'L' for locations.

Explanation: When loading from a non-delimited ASCII file, columns must be selected by locations in the file.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3401N The method specified in METHOD is not valid for any filetype.

Explanation: The method for selecting columns in the file is not a value allowed for any *filetype*. Choose one

3. Page size in system temporary table space must match page size in index table space.

SQL3342N Insufficient authority to use the LOCK WITH FORCE option.

Explanation: The LOCK WITH FORCE option of the load utility requires SYSADM or SYSCTRL authority.

User response: Reissue the load command from a user ID with sufficient authority.

SQL3343N Load restart not allowed after a rollforward through a failed load.

Explanation: The load that failed prior to the point in time of the end of a rollforward cannot be restarted after the rollforward has completed.

User response: Use the TERMINATE mode to terminate the load or drop the table.

SQL3346W USE TablespaceName option ignored. **Reason code =** *reason-code*.

Explanation: USE TablespaceName is only valid for ALLOW READ ACCESS loads with INDEXING MODE REBUILD. If INDEXING MODE AUTOSELECT is specified, load will use the alternate table space only if it chooses to rebuild the indexes.

User response: Refer to the reason code for an explanation.

1. Indexing mode incompatible with USE TablespaceName option.
2. Table has no indexes.
3. LOAD TERMINATE does not need to use a separate table space.
4. USE TablespaceName is only supported for ALLOW READ ACCESS loads.

of the following method indicators:

- P for positions
- N for names
- L for locations
- D for default

Further restrictions are based on *filetype*.

The command cannot be processed.

User response: Resubmit the command with a valid method indicator.

SQL3402N A beginning-ending location pair with both values zero was specified for non-nullable column *name*.

Explanation: A location pair with both the beginning and the ending location set to zero was specified for the indicated column, but the column is not nullable.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3403N The beginning-ending location pair for inserting into column *name* is not valid.

Explanation: The field specification for locating the input data for the indicated database column within the input non-delimited ASCII file is not valid. The field specification has one of the following errors:

- The beginning location is less than zero.
- The ending location is less than zero.
- The ending location is less than the beginning location.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3404N The beginning-ending location pair for inserting into column *name* is not valid for a number.

Explanation: The field specification for locating the data for the indicated database column within the input non-delimited ASCII file is not valid. The location pair defines a field longer than 50 bytes.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3405N The beginning-ending location pair for inserting into column *name* is not valid for a date.

Explanation: The field specification for locating data for the indicated database column within the non-delimited ASCII file is not valid. The location pair defines a field length that is not valid for an external representation of a date.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3406N The beginning-ending location pair for inserting into column *name* is not valid for a time.

Explanation: The field specification for locating the data in the indicated database column within the input non-delimited ASCII file is not valid. The location pair

defines a field length that is not valid for an external representation of a time.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3407N The beginning-ending location pair for inserting into column *name* is not valid for a timestamp.

Explanation: The field specification for locating the data for the indicated database column within the input non-delimited ASCII file is not valid. The location pair defines a field length that is not valid for an external representation of a timestamp.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the file.

SQL3408W The beginning-ending location pair for inserting into column *name* defines a field larger than the target column. Data may be truncated.

Explanation: The field specification for obtaining data from the input non-delimited ASCII file defines a field larger than the size (or maximum size) of the target database column.

The utility continues processing. Truncation occurs when necessary.

User response: No action is required.

SQL3409W The beginning-ending location pair for inserting into column *name* defines a field shorter than the target fixed-length column. Data will be padded.

Explanation: The indicated database column is a fixed-length column. The field specification for obtaining data from the input non-delimited ASCII file defines a field smaller than the size of the target database column.

The utility continues processing. Values input to the indicated database column are padded with spaces as necessary, on the right.

User response: No action is required.

SQL3410N The beginning-ending location pair for inserting into column *name* is not valid for a graphic column.

Explanation: The field specification for locating the input data in the ASCII file that is to be inserted into the indicated database column defines a field with an odd number of bytes.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3411W The field value in row *row-number* and column *column-number* is not valid for a graphic column. A null was inserted.

Explanation: The value in the field indicated is not an acceptable graphic column value. The value may contain an odd number of bytes. For DEL files, the value of the column number specifies a field in the indicated row. For ASCII files, the value of the column number specifies the byte location within the row where the value begins.

The row is not inserted.

User response: If a null is not acceptable, correct the input file and resubmit the command, or edit the data in the table.

SQL3412W The field value in row *row-number* and column *column-number* is not valid for a graphic column but the target column is not nullable. The row was not inserted.

Explanation: The value in the field indicated is not an acceptable graphic column value. The value may contain an odd number of bytes. A null cannot be inserted because the target column is not nullable. For DEL files, the value of the column number specifies a field in the indicated row. For ASCII files, the value of the column number specifies the byte location within the row where the value begins.

The row is not inserted.

User response: No action is required. If the row is necessary, correct the input file and resubmit the command, or edit the data in the table.

SQL3413W The field value in row *row-number* and column *column-number* is too short for the target column. A null was inserted.

Explanation: The value in the specified field is not acceptable because it is too short for the target column. The value of the column number specifies the byte location within the row where the field begins.

A null value is inserted.

User response: No action is required. If a null is not acceptable, correct the inner field and resubmit the command, or edit the data in the table.

SQL3414N The temporary file *filename* could not be found.

Explanation: At the end of the load phase a temporary file is created with information necessary to restart the load. If the load is interrupted before this point, this file is not created.

This message indicates that this file could not be found during load restart.

The utility stops.

User response: Depending on where the interrupt occurred, it may be possible to restart the load at the build phase.

SQL3415W Failed to convert the field value in row *row-number* and column *column-number* from the codepage of the input data file to the codepage of the database. A null value was loaded.

Explanation: The value in the field indicated cannot be converted from the codepage of the input data file to the codepage of the database.

User response: If a null value is not acceptable, correct the input data file and resubmit the command, or edit the data in the table.

SQL3416W Failed to convert the field value in row *row-number* and column *column-number* from the codepage of the input data file to the codepage of the database. The row was not loaded.

Explanation: The value in the field indicated cannot be converted from the codepage of the input data file to the codepage of the database.

User response: No action is required. If the row is necessary, correct the input data file and resubmit the command, or edit the data in the table.

SQL3417N A beginning-ending location pair *pair-number* is invalid for the codepage *codepage*.

Explanation: The location pair is invalid for the codepage because the codepage has a pure DBCS encoding. This means that every character in the codepage is 2 bytes long. An even number of bytes should be specified in the location pair.

The command cannot be processed.

User response: Resubmit the command with a valid set of locations for the columns in the source file.

SQL3418W The NOCHARDEL file type modifier should not be specified if the data was exported using DB2. It is provided to support vendor data files that do not have character delimiters.

Explanation: The NOCHARDEL file type modifier is designed to support vendor data files that do not have character delimiters. It was not intended to be used when the data file was created by DB2 EXPORT. In the DEL file format, the character delimiters are used to

avoid data loss or corruption and thus are part of the default behaviour.

User response: Verify that NOCHARDEL is the required in the import or load command.

SQL3419W The specified sort option is not supported by the vendor sort. The default DB2 sort will be used to continue with the operation.

Explanation: The vendor sort library is activated by

SQL3500 - SQL3599

SQL3500W The utility is beginning the *phase* phase at time *timestamp*.

Explanation: This is an informational message indicating that a phase is about to begin and that the previous phase has ended. The phases are (in order of appearance):

- LOAD
- BUILD
- DELETE

During the LOAD phase, data is loaded into your table. If there are any indexes to be built, BUILD phase will follow the LOAD phase. If there were any duplicate keys found for a unique index, the DELETE phase will follow the BUILD phase.

If the LOAD is terminated before the end of the LOAD, you need to know the phase at which you should restart the LOAD.

User response: No action is required.

SQL3501W The table space(s) in which the table resides will not be placed in backup pending state since forward recovery is disabled for the database.

Explanation: COPY NO was specified on the invocation of LOAD which results in the table space(s) in which the table resides being placed into backup pending state unless forward recovery is disabled for the database.

The utility continues.

User response: No action is required.

SQL3502N The utility has encountered *number* warnings which exceeds the total number of warnings allowed.

Explanation: The number of warnings issued during the command has exceeded the total number of warnings that the user specified at invocation of the utility.

setting the DB2 registry variable DB2SORT. The current sort specification requires a feature that is not supported by this vendor sort library. DB2 will use the default sort to continue with the operation. Possible features not supported by vendor sort:

- Database created using IDENTITY_16BIT collation.
- Database configuration parameter ALT_COLLATE is set to IDENTITY_16BIT.

User response: No action required.

The utility terminates.

User response: Ensure that the correct data is being loaded with the appropriate options or increase the number of warnings allowed. Resubmit the command.

SQL3503W The utility has loaded *number* rows which equals the total count specified by the user.

Explanation: The number of rows loaded has equaled the total number of rows that the user specified at invocation of the utility.

The utility has successfully completed.

User response: No response required.

SQL3504W A consistency point is being established.

Explanation: Consistency points will be established at times other than the regular interval specified in the SAVECOUNT parameter at invocation when:

- the threshold for the amount of meta-data kept in memory or in temporary files has been reached.
- A device error occurred for the copy image and the load must terminate.

User response: If the LOAD continues after this message, no action is required. If the LOAD terminates, it can be restarted after all errors are corrected (such as activating a device or decreasing the interval at which consistency points are to be established).

SQL3505N The length specified in the filelmod for the RECLen option is not in the valid range of 1 to 32767.

Explanation: In the *filelmod* parameter, the RECLen option was specified for an ASC file. The length specified is not valid.

User response: Correct the length specified and resubmit the command.

SQL3506W The value specified in the null indicator in row *row-number* and column *column-number* is not valid. A value of 'N' will be assumed.

Explanation: For ASC files, a null indicator column can be specified for each data column and should contain either a 'Y' or a 'N'. A 'Y' indicates that the column is a null value and a 'N' indicates that the column contains data. If neither of these values are in the null indicator column, it is assumed to be a 'N' and data will be loaded into the column.

User response: If the data or the null indicator are incorrect, correct the input file and resubmit the command.

SQL3507N The column number specified for a null indicator is not in the valid range of 0 to 32767 or the null indicator parameter is not valid.

Explanation: In the *null_ind* parameter, columns for null indicators were specified for an ASC file but one of the columns is not valid or the pointer passed in for the null indicators is not valid.

User response: Correct the parameter and resubmit the command.

SQL3508N Error in accessing a file or path of type *file-type* during load or load query.
Reason code: *reason-code*. **Path:** *path/file*.

Explanation: An error occurred while trying to access a file during load or load query processing. The utility stops processing.

User response: If doing a load and the table space is not in load pending state, correct the problem and invoke the load utility again. If the table is in load pending state, then invoke the load utility in RESTART or REPLACE mode, or restore a backup of the table space(s). The state of the table space can be determined using the LOAD QUERY command.

The following is a list of reason codes:

- 1 Unable to open the file.

This could be caused by an incorrect file name or insufficient authority to access the file/directory. Correct the problem and either restart or rerun the load.

The load temporary file could have been destroyed or the database could have been restored from an earlier backup. Load restart is not supported under these circumstances. Use load terminate to bring the table out of load pending state.
- 2 Unable to read/scan the file.

This could be the result of a hardware error. If the error is a hardware error, take the appropriate action and restart or rerun the load.

- 3 Unable to write to or change size of the file.

This could be the result of a disk full condition or a hardware error. Refer to the file type list below and either ensure there is enough space to run the load or specify a different location to be used. Restart or rerun the load. If the error is a hardware error, take the appropriate action an restart or rerun the load.
- 4 The file contains invalid data.

A file required by the load contains incorrect data. See the action described for `TEMPFILES_PATH`.
- 5 Unable to close the file.

If the load cannot be restarted or rerun, contact your IBM service representative.
- 6 Unable to delete the file.

If the load cannot be restarted or rerun, contact your IBM service representative.
- 7 Parameter specified incorrectly. Refer to the list of file types to determine the parameter in error and rerun the load with a valid parameter.

The following is a list of file types:

SORTDIRECTORY

Ensure that the `workdirectory` parameter is specified properly. There must be enough combined space in all the directories to hold twice the size of the index keys for the loaded data. For load insert and load restart there must also be room for twice the size of the index keys of the existing data in the table.

MSGFILE

Ensure that the `messagefile` parameter is specified properly. There must be enough disk space to write out the messages that occur during the load.

If this is a load query, ensure that the local message file parameter is NOT the same as the messagefile parameter used for the load whose status is being queried.

TEMPFILES_PATH

Ensure that the `tempfiles path` parameter is specified properly. See the *Data Movement Utilities Guide and Reference* for more details on this parameter.

SQL3509W The utility has deleted *number* rows from the table.

Explanation: When a table with a unique index is loaded, rows causing violation of uniqueness of an index will be deleted from the table during the delete phase. This message provides information on how many rows have been deleted.

User response: No action is required.

SQL3510N The working directory for the sort phase cannot be accessed.

Explanation: One or more of the specified working directories for the sort phase either does not exist or has no read/write permission.

User response: Ensure that the specified working directories exist and the read/write permission is setup correctly and resubmit the command.

SQL3511W The file named in row *row-number* and column *column-number* cannot be found. A null was loaded.

Explanation: The filename in the specified field cannot be found. There may be a data type mismatch.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

A null value is loaded.

User response: Examine the input value. If necessary, correct the input file and resubmit the command or edit the data in the table.

SQL3512W The file named in row *row-number* and column *column-number* cannot be found, but the target column is not nullable. The row was not loaded.

Explanation: The filename in the specified field cannot be found. A null cannot be loaded because the output column in the table is not nullable.

For delimited ASCII (DEL) files, the value of the column number specifies the field within the row that contains the value in question. For ASCII files, the value of the column number specifies the byte location within the row where the value in question begins.

The row is not loaded.

User response: Correct the input file and resubmit the command or edit the data in the table.

SQL3513N The codepage of the file does not match the codepage of the database. The file cannot be loaded.

Explanation: DB2CS files cannot be loaded into a database with a codepage that differs from the original database.

User response: Change the codepage of the database and resubmit the command or use another filetype (such as PC/IXF) to move your data from the original database to the new database.

SQL3514N A utility system error occurred. Function code: *function*. Reason code: *reason-code*. Error code: *error-code*.

Explanation: A system error occurred during database utility processing.

User response: Different actions are required depending on the value of *function*.

The possible function codes are:

- 1 - An error occurred while Load was sorting.
Try to restart the load. If the error persists, provide the function, reason code and error code to your technical service representative.
 - 2 - An error occurred using the vendor sort utility.
Try the load again using the DB2 Client/Server sort utility instead of the vendor sort. To do this, reset the Profile Registry value at the server to blank. You may have to restart the Database Manager in order to pick up the new Profile Registry value. If the error persists, provide the function, reason code and error code to your vendor sort technical service representative.
-

SQL3515W The utility has finished the *phase* phase at time *timestamp*.

Explanation: This is an informational message indicating that a phase has finished. The phases are (in order of appearance):

- LOAD
- BUILD
- DELETE

User response: No action is required.

SQL3516N The utility could not restart the load as specified.

Explanation: The Load Utility detected discrepancies in the last consistency point performed by Load before failure occurred. This condition might be caused either by a system error or an invalid log file.

User response: Restart the Load at the Build phase, to bring the table to a consistent state and create indexes

(if applicable), or perform Load with the REPLACE option.

SQL3517N An unexpected record was read from the input source.

Explanation: The utility has encountered a record that is in a format that is not valid. The source may have been corrupted when copied from the original source.

Processing terminates.

User response: Copy the record from the original source in binary and restart the LOAD.

SQL3518N The data in the source is not compatible to the table to be loaded.

Explanation: The source cannot be used to load this table because one of the following reasons:

- the table definition does not match the table definition of the source.
- the source was created on a different platform than the table that is being loaded.
- the source was created from a table that had a different codepage from the table that is being loaded.

User response: Ensure that both the table and source are correctly specified. If you want to load data from a table with a different definition or from a different platform or codepage, use another filetype such as IXF or DEL.

SQL3519W Begin Load Consistency Point. Input record count = *count*.

Explanation: The Load Utility is about to attempt to perform a Consistency Point to commit the table data that has already been loaded.

User response: If message SQL3520W is not printed immediately after this message, then the Consistency Point failed. The Load will have to be restarted at the Build phase, to ensure that the table is brought back to a consistent state and all indexes (if any) created. It will then be possible to check which records have been loaded. Start the Load again with a RESTARTCOUNT set to the number of records successfully loaded to skip those rows and load the rest of the file.

If this message is followed by messages SQL3520W, then this message is informational only and no response is required.

SQL3520W Load Consistency Point was successful.

Explanation: The Consistency Point performed by Load was successful.

User response: This is an informational message only. No response is required.

SQL3521N The input source file *sequence-num* was not provided.

Explanation: A load was invoked with multiple input files but not all the files were provided. For the DB2CS filetype, all the input source files that were created originally must be provided. For the IXF filetype, all the input source files must be provided in the correct order.

The utility terminates.

User response: Restart the utility providing all the input source files and setting the RESTARTCOUNT appropriately for the data that was already loaded.

SQL3522N A copy target cannot be provided when both log retain and user exits are disabled.

Explanation: A copy target has been specified on invocation of load for a database that has both log retain and user exits disabled. Copy targets are not valid for such databases.

The utility stops processing.

User response: Verify that the database should have log retain and user exits disabled and invoke the load without specifying a copy target.

SQL3523W There are no messages to be retrieved from the message file. Reason code: *rc*.

Explanation: No messages are returned from a query of the LOAD temporary message file. The possible return codes are:

- 1 No LOAD temporary message file exists.
- 2 There are no messages in the LOAD temporary message file.

User response: Ensure that a valid table name has been specified. If the table name is specified correctly and messages are expected, check the database monitor to verify that the utility is active and it is not waiting for resources such as locks. Note that the LOAD temporary message file will not be created until the LOAD utility is in progress and it will be deleted after the completion of the LOAD utility.

The syntax of the CLP command includes the keyword TABLE, for example:

```
LOAD QUERY TABLE <tablename>
```

Neglecting the TABLE keyword will result in load query opening a binary load message file with the name *tablename*.

SQL3524N Option *option* has an invalid value of *value*.

Explanation: The value provided must be an integer value. Its range for each option is as follows:

1. TOTALFREESPACE: the value must be in the range of 0 to 100, and is interpreted as a percentage of the total pages in the table that are to be appended to the end of the table as free space.
2. PAGEFREESPACE: the value must be in the range of 0 to 100, and is interpreted as a percentage of each data page that is to be left as free space.
3. INDEXFREESPACE: the value must be in the range of 0 to 99, and is interpreted as a percentage of each index page that is to be left as free space when loading indexes.

The utility stops processing.

User response: Correct the value and resubmit the command.

SQL3525N The *option-1* option is incompatible with the *option-2* option.

Explanation: Incompatible options have been provided to the utility.

User response: Remove or modify one of the options and resubmit the command. See the Command Reference for more information on valid options.

SQL3526N The modifier clause *clause* is inconsistent with the current load command. Reason code: *reason-code*.

Explanation: The load file type mode (modifier) indicated, is incompatible with your load/import/export command. This is because of one of the following reasons:

- 1 The current option requires you to specify the RECLEN and NOEOFCHAR file type modifiers. One or more of these options are missing from your command.
- 2 The indicated option, such as DEL or ASC, is inconsistent with the format of the input or output data file.
- 3 Generated or identity related file type modifiers have been specified but the target table contains no such columns.
- 4 When a pre-Version 8 client is used, it is not possible to load a table having a non-identity generated column in a unique index, unless the column is specified in the INCLUDE clause of the CREATE INDEX statement or the GENERATEDOVERRIDE file type modifier is used. For pre-Version 8 clients, it is also necessary to specify the GENERATEDOVERRIDE file type modifier

when loading a table that has a non-identity generated column in its ORGANIZE BY clause.

- 5 The IDENTITYOVERRIDE file type modifier cannot be used when loading a table with a GENERATED BY DEFAULT identity column.
- 6 The LOBSINFILE file type modifier cannot be specified in a partitioned database load when a generated column, that is part of the partitioning key, is defined in terms of a long field or LOB column.
- 7 Use of the GENERATEDMISSING or IDENTITYMISSING modifier in the current load or import command would result in all columns in the table being excluded from the load operation.
- 8 If an identity column is part of the partitioning key or a generated column in the partitioning key depends upon an identity column that is not in the partitioning key, the IDENTITYOVERRIDE file type modifier must be specified if the current loading mode is either PARTITION_ONLY, LOAD_ONLY or LOAD_ONLY_VERIFY_PART, or if the value of the SAVECOUNT option is greater than 0.
- 9 When the target table contains a generated column that is defined in terms of an identity column and the GENERATEDOVERRIDE file type modifier is specified, then the IDENTITYOVERRIDE file type modifier must be specified as well. This ensures that the generated column values are computed in a way that is consistent with the identity column values in the table.
- 10 The DUMPFILEACCESSALL file type modifier is only valid when the user has SELECT privileges on the load target table, DUMPFILE modifier is specified, and the DB2 server database partition resides on an UNIX based operating system.
- 11 The USEDEFAULTS file type modifier cannot be used in conjunction with the IXF file type or ASC file type with RECLEN modifier.
- 12 Security label related file type modifiers have been specified, but the target table contains no such columns.

User response: Check the requirements of the option you are using. Reissue the command using modifier clauses (file type modes) and utility options that are consistent.

SQL3527N The number specified in the FILETMOD parameter for the CODEPAGE option is not valid.

Explanation: In the FILETMOD parameter, the CODEPAGE option was invalid.

User response: Correct the codepage number and resubmit the command.

SQL3528W The delimiter (column delimiter, string delimiter, or decimal point) specified in the CLP command may get translated from the application codepage to the database codepage.

Explanation: When a CLP command is sent from the client to the server, it may get translated from the codepage of client to the codepage of server, if they are different.

User response: To ensure that delimiters are not converted, they should be specified in hex format.

SQL3529N The *operation-name* operation encountered the unsupported data type *data-type* in column *column-number*.

Explanation: The *operation-name* operation does not support data type *data-type* found in column *column-number*.

User response: Please check your table definition and the Data Movement Guide for supported data types.

SQL3530I The Load Query utility is monitoring *agenttype* progress on partition *partitionnumber*.

Explanation: The Load Query utility was invoked in an MPP environment.

User response: No action is necessary.

SQL3531I A LOAD RESTART has occurred.

Explanation: The RESTART option was given for the Load currently being queried.

User response: No action is necessary.

SQL3532I The Load utility is currently in the *phase* phase.

Explanation: This is an informational message indicating the phase of the Load currently being queried.

User response: No action is necessary.

SQL3533I The Load utility is currently building index *number* of *number*.

Explanation: This is an informational message returned if the Load currently being queried is in the BUILD phase.

User response: No action is necessary.

SQL3534I The Load DELETE phase is approximately *number* percent complete.

Explanation: This is an informational message returned if the Load currently being queried is in the DELETE phase.

User response: No action is necessary.

SQL3535W The LOAD command parameter *parameter-name* is no longer supported; its value will be ignored by the LOAD utility.

Explanation: Your LOAD command contains a parameter that is no longer supported.

User response: Please refer to the DB2 documentation for information on temporary sort space for LOAD and suggestions related to LOAD performance tuning.

SQL3536N System temporary table space *table-space-name* is full.

Explanation: The LOAD utility has encountered a table space full condition while sorting index keys.

User response: Ensure that there is enough space allocated to the system temporary table space *table-space-name*, at least two times the total size of the indexes being built. Restart the LOAD utility.

SQL3537N Sort memory could not be allocated during the execution of the LOAD utility.

Explanation: Insufficient process virtual memory is available to the LOAD utility for sort processing.

User response: Terminate the application on receipt of this message. Ensure there is enough virtual memory available for sort processing.

Possible solutions include:

- Disconnect all applications from the database and decrease the size of the sort heap parameter (sortheap) in the corresponding database configuration file.
 - Remove background processes and/or terminate other currently executing applications.
 - Increase the amount of virtual memory available.
-

SQL3538N The LOAD QUERY utility failed because multiple LOADs are using the same temporary files path.

Explanation: At least one other LOAD was invoked using the same TEMPFILES PATH as the queried LOAD and is still in progress. The LOAD QUERY utility cannot uniquely determine which LOAD to query.

User response: Use the TABLE parameter of LOAD QUERY instead.

SQL3539N LOAD RESTART cannot proceed because LOAD TERMINATE has been attempted at least once.

Explanation: LOAD TERMINATE can only be followed by LOAD TERMINATE.

User response: User can proceed with LOAD TERMINATE only.

SQL3550W The field value in row *row-number* and column *column-number* is not NULL, but the target column has been defined as GENERATED ALWAYS.

Explanation: A non NULL field value was encountered in the input file. Because the target column is of type GENERATED ALWAYS, the value cannot be loaded. The column number specifies the field within the row of the missing data.

SQL3600 - SQL3699

SQL3600N The IMMEDIATE CHECKED option of the SET INTEGRITY statement is not valid since the table *table-name* is a user maintained materialized query table or is not in the Set Integrity Pending state.

Explanation: The IMMEDIATE CHECKED option of the SET INTEGRITY statement is only valid if the table has been placed in the Set Integrity Pending state, is not a user maintained materialized query table, or if one of its ancestors that has been placed into the Set Integrity Pending state is also in the invocation list and all intermediate ancestors are also in the list.

User response:

1. Use the SET INTEGRITY statement with the OFF option to place a table in the Set Integrity Pending state.
2. Use the IMMEDIATE UNCHECKED option for a user maintained materialized query table.
3. Include an ancestor of the table to the list of tables to be checked. The ancestor must be in the Set Integrity Pending state and all intermediate ancestors must also be in the list.

User response: For LOAD, an explicit, non NULL field value can be loaded into a GENERATED ALWAYS identity column only if the identityoverride file type modifier is used. For non-identity GENERATED ALWAYS columns, the generatedoverride file type modifier can be used to load explicit, non NULL values into a row. If using these modifiers is not appropriate, the field value must be replaced with a NULL if LOAD is to accept the row.

For IMPORT there is no way to override a GENERATED ALWAYS column. The field value must be removed and replaced with a NULL if the utility is to accept the row.

SQL3551W The table contains at least one GENERATED ALWAYS column that the utility will override.

Explanation: An “override” file type modifier (for example, IDENTITYOVERRIDE or GENERATEDOVERRIDE) has been specified.

For IDENTITYOVERRIDE, this may violate the uniqueness property of an identity column defined as GENERATED ALWAYS.

For GENERATEDOVERRIDE, this may result in a non-identity GENERATED ALWAYS column containing a value that does not correspond to its column definition.

User response: No action is required.

4. If the table is in the No Data Movement state but it is not in the Set Integrity Pending state, specify the SET INTEGRITY statement with the FULL ACCESS option to force the table out of the No Data Movement state. Note that all dependent immediate materialized query tables that remain in the Set Integrity Pending state are also forced to be fully recomputed in subsequent REFRESH TABLE statement, and all dependent immediate staging tables that remain in the Set Integrity Pending state can no longer be used to refresh their dependent materialized query tables.

sqlcode: -3600

sqlstate: 51027

SQL3601W The statement caused one or more tables to automatically be placed in the Set Integrity Pending state.

Explanation: Tables have been placed in the Set Integrity Pending state to enforce integrity constraints or to enforce the data relationship between the base table, the descendent immediate materialized query tables, and the descendent staging tables. Specifically,

the following statements caused at least one of the listed tables to be placed in the Set Integrity Pending state.

- ALTER TABLE ... ATTACH statement forced the target table of the ATTACH into the Set Integrity Pending state
- ALTER TABLE ... DETACH statement forced descendent immediate materialized query tables or descendent staging tables into the Set Integrity Pending state
- SET INTEGRITY statement forced descendent foreign key tables, descendent immediate materialized or descendent staging tables into the Set Integrity Pending state

A detached partition that is a newly created detached table is not accessible until its detached dependent materialized query tables and staging tables are maintained.

User response: To validate the integrity for tables in the Set Integrity Pending state execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option for these tables. To determine which tables are in the Set Integrity Pending state, issue the following query:

```
SELECT TABSCHEMA, TABNAME, STATUS
FROM SYSCAT.TABLES
WHERE STATUS = 'C'
```

To determine which detached tables have been created by the ALTER TABLE ... DETACH statement and are not yet accessible, issue the following query:

```
SELECT TABSCHEMA, TABNAME, TYPE
FROM SYSCAT.TABLES
WHERE TYPE = 'L'
```

sqlcode: +3601

sqlstate: 01586

SQL3602W Check data processing found constraint violations and moved them to exception tables.

Explanation: There are rows that violate constraints that were specified to be checked by the SET INTEGRITY statement execution. These were moved to exceptions tables.

User response: Check the exception tables for rows that violate constraints. The rows have been deleted from the original table but can be corrected and transferred back from the exception tables.

sqlcode: +3602

sqlstate: 01603

SQL3603N Check data processing through the SET INTEGRITY statement has found integrity violation involving a constraint or a unique index with name *name*.

Explanation: A row has been found to violate a constraint or unique index defined on a table specified to be checked by the SET INTEGRITY statement. The name *name* is either a constraint name or the name of a generated column or a unique index name.

User response: The row has not been deleted from the table since the FOR EXCEPTION option was not used.

It is advisable to execute the SET INTEGRITY statement using the FOR EXCEPTION option when checking the data. The data may be corrected with the information from the exception table(s).

sqlcode: -3603

sqlstate: 23514

SQL3604N Exception table *excp-table-name* corresponding to table *table-name* in the SET INTEGRITY statement or LOAD utility does not have the proper structure, has been defined with unique indexes, constraints, generated columns, or triggers, or is in the Set Integrity Pending state, or is of invalid type. Reason code *reason-code*.

Explanation: The exception table corresponding to a table must have its definition similar to that of the original table. Optional columns that can be defined for an exception table are as specified in the relevant section of the documentation describing the exception tables. There may not be any generated columns in the exception table. There must not be any constraints, triggers, or unique indexes defined on the exception table. The exception table itself should not be in the Set Integrity Pending state. The exception table cannot be a data partitioned table nor a range clustered table nor a detached table. The exception table cannot have any refresh immediate materialized query tables nor dependent propagate immediate staging table nor can the exception table itself be a materialized query table or a staging table. The exception table must have the same security policy and the same set of protected columns as the table being checked.

Reason code corresponds to:

- 1 The exception table is in the Set Integrity Pending state
- 2 The exception table does not have the proper column structure
- 3 The exception table has constraints
- 4 The exception table has triggers
- 5 The exception table has generated columns

- 6 The exception table has unique indexes
- 7 The exception table is a materialized query table or is a staging table
- 8 The exception table has dependent refresh immediate materialized query table(s) or dependent propagate immediate staging table(s)
- 9 The exception table is the same as the table being loaded into
- 10 The exception table is a range clustered table
- 11 The exception table is a data partitioned table
- 12 The exception table is a detached table
- 13 The exception table does not have the same security policy or does not have the same set of protected columns as the table being checked.

User response: Create the exception table as indicated in the relevant section of the documentation and re-run the statement or utility.

sqlcode: -3604

sqlstate: 428A5

SQL3605N Table *table-name* named in the SET INTEGRITY statement is either not listed to be checked or is an exception table specified more than once.

Explanation: When the FOR EXCEPTION clause is specified in the SET INTEGRITY statement, this error could be caused by one of the following :

- The table is missing from the list of tables to be checked
- The table to be checked is the same as an exception table
- The exception table is specified for more than one table to be checked

User response: Correct the table names and execute the command again.

sqlcode: -3605

sqlstate: 428A6

SQL3606N There is a mismatch in the number of tables being checked and in the number of exception tables specified in the SET INTEGRITY statement.

Explanation: There must be a one-to-one correspondence between the exception tables and the tables that are not materialized query tables or staging tables provided in the invocation list. The tables in the invocation list that are materialized query tables or

staging tables must not have corresponding exception tables.

User response: Create the missing exception table for the table that is not a materialized query table or staging table if it does not already exist and specify it in the invocation list in order to execute the command again. Do not specify exception tables for materialized query tables and staging tables.

sqlcode: -3606

sqlstate: 428A7

SQL3608N Cannot check a dependent table *dependent-table-name* using the SET INTEGRITY statement while the parent table or underlying table *parent-table-name* is in the Set Integrity Pending state or if it will be put into the Set Integrity Pending state by the SET INTEGRITY statement.

Explanation: The parent table or underlying table must not be in the Set Integrity Pending state either before or after the SET INTEGRITY statement, or it must be included in the invocation list in order to check a dependent table.

User response: Ensure that the parent table is not in the Set Integrity Pending state by executing the SET INTEGRITY statement to check the parent table. If the dependent table is a materialized query table or staging table, ensure that the underlying table is not in the Set Integrity Pending state by executing the SET INTEGRITY statement to check the underlying table.

If the dependent table is not a materialized query table or staging table, it is recommended to check the parent table first. It is also possible to check the dependent table and include the parent table in the invocation list. In this case, the statement could still fail if there are rows in the parent table which violate the constraint and these rows are not deleted and put into an exception table. This can happen if the FOR EXCEPTION option is not used.

If the dependent table is a materialized query table or staging table, it is recommended to check the underlying table first. It is also possible to refresh the dependent materialized query table and include the underlying table in the invocation list. In this case, the statement could still fail if there are rows in the parent table which violate the constraint and these rows are not deleted and put into an exception table. This can happen if the FOR EXCEPTION option is not used.

In the case of a referential cycle, all tables must be included in the invocation list.

sqlcode: -3608

sqlstate: 428A8

SQL3700 - SQL3799

SQL3700W Device *device* is full. There are *active-devices* other active devices. Please mount new media or take appropriate action.

Explanation: The media on the specified device is full. This device is one of the *active-devices* + 1 target devices to which unloaded data is being directed.

User response: Take ONE of the following actions:

- Mount a new target media on the specified device and continue unloading by invoking unload with caller action 1 (SQLU_CONTINUE).
- OR
- If *active-devices* is not zero, continue the unload without this device by invoking the UNLOAD utility with the caller action 4 (SQLU_DEVICE_TERMINATE).
- OR
- Cancel the unload by invoking the UNLOAD utility with caller action 2 (SQLU_TERMINATE).

SQL3701W The *lobpaths* parameter was specified, but the table does not contain any LOB or Long data. This parameter will be ignored.

Explanation: The *lobpaths* parameter specifies a separate target for LOB and Long data. The table does not contain any LOB or Long data, so the targets specified by the *lobpaths* parameter will not be used.

User response: No action required.

SQL3702W Warning. SQLCODE *sqlcode* was received for device *device*. Unload will attempt to continue without this device.

Explanation: SQLCODE *sqlcode* was detected for the specified device which is one of the targets for the unload. Unload will continue but will ignore this device.

User response: The media loaded on the specified device will not contain any unloaded data and should not be included with the media supplied to the LOAD utility when the unloaded data is being loaded. In order to fix the problem with the device, look up the returned SQLCODE in the Message Reference.

SQL3703W *xxx* of *yyy* number of type *type* pages have been unloaded and sent to be written out to the target media.

Explanation: The table being unloaded consists of *yyy* pages of the specified type of data. *xxx* of these have been processed by the UNLOAD utility and have been sent to a media writer which will write the data to the target media.

type is one of:

- 0 for regular data
- 2 for Long data and allocation information
- 3 for LOB data
- 4 for LOB allocation information

Note that for Long and LOB data, *xxx* may be less than *yyy* when unload is complete, because unused space is not unloaded, but will be recreated when the data is reloaded.

Even for regular data, a final message where *xxx* = *yyy* may not be issued. Instead message 3105 is used to indicate that the unload completed successfully.

User response: This is an informational message. No action is required.

SQL3704N The *num_buffers* parameter specified is invalid.

Explanation: The *num_buffers* parameter determines the number of buffers that the utility will use. The minimum is 2 if the *lobpaths* parameter is not specified and 3 if the *lobpaths* parameter is specified. This is the minimum required to allow the utility to work. There is, however, an optimal number of buffers that the utility will use if this parameter is not specified. This optimal number is based on the number of internal processes that the utility will have running and whether or not the *lobpaths* parameter was specified. If the number of buffers specified is less than the optimal number, some processes will be waiting for buffers to use. Therefore, it is recommended to specify 0 for this parameter and let the utility choose the number of buffers. Only specify this parameter if, due to the size of the utility storage heap, it is necessary to limit the amount of memory that the utility uses.

User response: Resubmit the command using a valid *num_buffers* parameter.

SQL3705N The *buffer size* parameter specified is not valid. The *buffer size* must be specified as 0 or be between 8 and 250000 inclusive. For multiple buffers, the total *buffer size* must not exceed 250000.

Explanation: The application calling the utility has supplied a *buffer size* parameter that is not valid. The *buffer size* is used to determine the internal *buffer size*. The value is the number of 4K pages that are obtained for this buffer. The value must be specified as 0 or be between 8 and 250000 inclusive. If there are multiple buffers, the number of buffers multiplied by the *buffer size* must not exceed 250000.

When 0 is specified:

- for a table whose regular data is in a database managed storage table space, the default buffer size chosen is the extent size for the table space or 8, whichever is larger.
- for a table whose regular data is in a system managed storage table space, the default buffer size chosen is 8.

User response: Reissue the command with a valid buffer size.

SQL3706N A disk full error was encountered on *path/file*.

Explanation: A disk full error was encountered during the processing of a database utility. The utility stops.

User response: Ensure enough disk space is available for the utility or direct the output to other media such as tape.

SQL3707N The sort memory size parameter specified *size1* is not valid. The minimum size required is *size2*.

Explanation: The sort memory size is not large enough for sorting the keys of the index(es).

User response: Reissue the command with a valid sort memory size.

To ensure that only the minimum amount of storage is used, specify a value of 0 (to let it default). However, using more than the minimum should improve the performance of the sort.

SQL3783N An error was encountered while opening the copy location file. Open file error code is *errcode*.

Explanation: During load recovery, an error was encountered while opening the copy location file. The operating system file open return code is returned.

User response: Look at the error code in the message for more information. Correct the error, if possible, and resubmit the command.

SQL3784W Invalid data was encountered while reading from the copy location file. Failure occurred at line *line-no* with error type *errtype*

Explanation: During load recovery, invalid data was encountered while reading from the copy location file. The line number and error type are returned. The

SQL3800 - SQL3899

SQL3802N An invalid quiesce mode *quiesce-mode* was encountered.

utility waits for a response to continue.

User response: Correct the data in the copy location file and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL3785N Load recovery for table *schema.tablename* at time *timestamp* on node *node-number* failed due to error *sqlcode* with additional information *additional-info*.

Explanation: A severe error occurred during load recovery. The utility stops processing.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Examine the error code in the message for more information. Take corrective action and resubmit the command.

SQL3798W An invalid value was used for parameter *parameter* to invoke the roll-forward recovery API to continue load recovery.

Explanation: Load recovery is in progress and one of the parameters passed in is not valid for the current state of load recovery.

User response: Correct the value in error and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

SQL3799W Load recovery for table *schema.tablename* at time *timestamp* on node *node-number* is pending due to warning *sqlcode* with additional information *additional-info*.

Explanation: A warning condition is encountered during load recovery. The utility waits for a response to continue.

(Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Examine the error code in the message for more information. Take corrective action and return to the utility with the correct caller action parameter to indicate if processing should continue or terminate.

Explanation: An invalid quiesce mode was passed to the quiesce API.

User response: Resubmit the command with the correct parameters.

SQL3804N The index is invalid.

Explanation: An invalid index was encountered during the processing of a utility command.

User response: Check in the *Administration Guide* to determine the appropriate way to revalidate the index and resubmit the command after the condition is corrected.

SQL3805N The state of the application or of one or more table spaces for the table specified prohibits the loadapi action or quiescemode action. Reason code = reason-code.

Explanation: The loadapi action (either quiescemode or callerac) passed to the load API is in conflict with either the state of the application or the state of one or more table spaces for the table.

The possible reason codes are as follows:

- 01 the state of one of the table spaces for the table specified prohibits the loadapi action or quiescemode.
- 02 the application is not at the start of its logical unit of work. This condition prohibits the load action specified.
- 03 the state of the application prohibits the load action specified.
- 04 one or more of the table spaces for the table is already quiesced by the maximum number of quiescers.
- 05 system catalog table space cannot be quiesced.
- 06 load copy not allowed when table space is in backup pending state.
- 07 Attempt to restart a load at an incorrect phase
- 08 Attempt to restart a load into a table whose partitioning key depends on an identity column and where not all of the table partitions are restarting from the load phase. Such a load is not allowed as hashing of rows during the restarted load may be different from the hashing in the initial load due to the dependence on the identity column.

User response: Corresponding to each of the above reasons:

SQL3900 - SQL3999

SQL3901N A non-severe system error occurred. Reason code reason-code.

- 01 Resubmit the command with the correct loadapi action or quiescemode, or correct the state of the table spaces for the table.
- 02 Resubmit the command with the correct load action or complete the current logical unit of work by issuing either a COMMIT or ROLLBACK.
- 03 Resubmit the command with the correct load action.
- 04 Determine which table spaces for the table have reached the maximum number of quiescers. QUIESCE RESET these table spaces.
- 05 Resubmit the command with a table which is not in the system catalog table space.
- 06 Resubmit the command omitting the copy parameter
- 07 Determine at which phase the load should be restarted and resubmit the command with the correct phase.
- 08 Terminate the load operation using the TERMINATE action then resubmit the original load command.

SQL3806N Not all table constraints are off for the table to be loaded.

Explanation: One or more constraints for the table to be loaded are still on when the load API is invoked.

User response: Resubmit the command after all table constraints are turned off.

SQL3807N Instance or database name quiesce is pending.

Explanation: Another user has submitted the quiesce command and it has not yet completed.

User response: Wait for the quiesce to complete.

SQL3808N Instance or database name unquiesce is pending.

Explanation: Another user has submitted the unquiesce command and it has not yet completed.

User response: Wait for the unquiesce to complete.

Explanation: Processing ended because of a non-severe system error.

User response: If trace was active, invoke the

Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

- Problem description
- SQLCODE and embedded reason code
- SQLCA contents if possible
- Trace file if possible.

SQL3902C A system error occurred. Further processing is not possible. Reason code = *reason-code*.

Explanation: A system error occurred.

User response: If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact your technical service representative with the following information:

- Problem description
- SQLCODE and embedded reason code
- SQLCA contents if possible
- Trace file if possible.

SQL3910I Synchronization session completed successfully.

Explanation:

User response:

SQL3911I Test synchronization session completed successfully.

Explanation:

User response:

SQL3912I STOP completed successfully.

Explanation:

User response:

SQL3913I STOP issued, but no synchronization session is currently active.

Explanation:

User response:

SQL3914I A user interrupt was issued. The synchronization session stopped successfully.

Explanation:

User response:

SQL3915I A user interrupt was issued before the results were uploaded to the satellite control server. The results will be uploaded during the next synchronization session.

Explanation:

User response:

SQL3916I A STOP request was received. Synchronization session stopped successfully.

Explanation:

User response:

SQL3917I A STOP request was received before the results were uploaded to the satellite control server. The results will be uploaded during the next synchronization session.

Explanation:

User response:

SQL3918I Synchronization progress information was obtained successfully.

Explanation:

User response:

SQL3919I A STOP request was received before the satellite could contact the satellite control server. Synchronization stopped successfully.

Explanation:

User response:

SQL3920I The application version on this satellite does not match one that is available for the group of this satellite. Synchronization cannot occur.

Explanation: The application version reported by the satellite does not exist at the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3921I This satellite is disabled at the satellite control server. Synchronization cannot occur.

Explanation: When disabled, the satellite cannot synchronize.

User response: Contact the help desk or your system administrator.

SQL3930W There are no synchronization scripts to execute.

Explanation: No synchronization scripts were downloaded to the satellite for execution.

User response: Contact the help desk or your system administrator to ensure that synchronization scripts are available on the satellite control database for this satellite.

SQL3931W The test synchronization session completed successfully. The satellite ID, however, could not be found in the satellite control database.

Explanation: Either the satellite ID is not defined correctly on the satellite or this satellite has not been defined in the satellite control database.

User response: If you use the DB2SATELLITEID registry variable, ensure that it is set to the unique ID for the satellite. If you are using the operating system logon ID as the satellite ID, ensure you log on using it.

SQL3932W The test synchronization session completed successfully. The satellite's application version, however, is not set locally, or does not exist for this satellite's group at the satellite control server.

Explanation: The application version on the satellite is different from any that are available for this satellite's group.

User response: Ensure that the application version on the satellite is set to the correct value.

SQL3933W The test synchronization session completed successfully. The release level of the satellite, however, is not supported by the release level of the satellite control server.

Explanation: The release level of the satellite must be within the range of one level above to two levels below that of the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3934W The test synchronization session completed successfully. This satellite, however, is disabled at the satellite control server.

Explanation: The satellite has been placed in the disabled state at the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3935W The test synchronization session completed successfully. This satellite, however, is in the failed state at the satellite control server.

Explanation: The satellite is in the failed state at the control server.

User response: Contact the help desk or your system administrator.

SQL3936W No progress information is available.

Explanation: The synchronization session has not reached a stage where the progress information has been logged, or there is no active synchronization session for this satellite.

User response: Ensure the synchronization session is active, or try querying for progress information later.

SQL3937W The application version for this satellite does not match one that is available for this satellite's group.

Explanation: A satellite can only synchronize with a particular application version for its group. The application version for this satellite is not available for the satellite's group at the control server.

User response: Ensure that the application version on the satellite is set to the correct value.

SQL3938W An interrupt was issued during script execution. The synchronization session was stopped, but the satellite may be in an inconsistent state.

Explanation: An interrupt was issued while the script execution phase of the synchronization process was being performed. The synchronization session was stopped but the satellite may be in an inconsistent state because a script may have been halted at an inappropriate place.

User response: Contact the help desk or your system administrator.

SQL3942I Synchronization session identifier was set successfully for the satellite.

Explanation: The session identifier was set successfully for the satellite.

User response: No action is required.

SQL3943N Synchronization session identifier exceeds the maximum length of *length* characters.

Explanation: The specified synchronization session identifier is longer than the allowed length of *length* characters.

User response: Ensure that the identifier is no more than nnn characters.

SQL3944I Synchronization session identifier was reset successfully for the satellite.

Explanation: The session identifier was reset successfully for the satellite.

User response: No action is required.

SQL3945I Synchronization session identifier for the satellite was retrieved successfully.

Explanation: The session identifier for this satellite was found and returned successfully.

User response: No action is required.

SQL3946N Synchronization session identifier operation failed.

Explanation: The synchronization session identifier operation has failed for an unknown reason.

User response: Ensure that the product is installed correctly. If the failure persists, contact DB2 service.

SQL3950N A synchronization session is active. Only one synchronization session can be active.

Explanation: Only one synchronization session can be active at a time.

User response: Wait until the current synchronization session completes successfully before initiating another session.

SQL3951N The satellite ID cannot be found locally.

Explanation: Either the operating system logon was bypassed or the DB2SATELLITEID registry variable was not set.

User response: If you are using the operating system logon ID as the satellite ID, log on to the operating system. If you use the DB2SATELLITEID registry variable, ensure that it is set to the unique ID for the satellite.

SQL3952N The satellite ID could not be found at the satellite control server.

Explanation: Either the satellite ID is not defined correctly on this satellite or this satellite has not been defined at the satellite control server.

User response: If you use the DB2SATELLITEID registry variable, ensure that it is set to the unique ID for the satellite. If you are using the operating system logon ID as the satellite ID, ensure you log on using it.

Otherwise, contact the help desk or your system administrator.

SQL3953N This satellite has been disabled at the satellite control server.

Explanation: The satellite ID has been disabled at the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3954N This satellite is in the failed state at the satellite control server.

Explanation: The satellite is in the failed state because a previous synchronization session failed.

User response: Contact the help desk or your system administrator.

SQL3955N The satellite control database name or its alias could not be found.

Explanation: The satellite control database is not cataloged correctly.

User response: Contact the help desk or you system administrator.

SQL3956N The application version for this satellite is not defined locally.

Explanation: The application version is not defined locally on this satellite or is not defined correctly.

User response: Ensure that the application version is set to the correct value.

**SQL3957N Cannot connect to the satellite control server because of a communication failure: `SQLCODE=sqlcode`
`SQLSTATE=sqlstate`, `tokens=token1`,
`token2`, `token3`.**

Explanation: An error has been detected by the communication subsystem. Refer to *sqlcode* for more details.

User response: Contact the help desk or your system administrator.

**SQL3958N Error occurred during synchronization session: `SQLCODE=sqlcode`
`SQLSTATE=sqlstate`, `tokens=token1`,
`token2`, `token3`.**

Explanation: An unknown error has been detected by the communication subsystem. Refer to *sqlcode* for more details.

User response: Contact the help desk or your system administrator.

SQL3959N Synchronization session cannot start because of a communication failure: **SQLCODE=sqlcode SQLSTATE=sqlstate, tokens=token1, token2, token3.**

Explanation: An error has been detected by the communication subsystem. Refer to *sqlcode* for more details.

User response: Contact the help desk or your system administrator.

SQL3960N Cannot upload results to the satellite control server because of a communication failure: **SQLCODE=sqlcode SQLSTATE=sqlstate, tokens=token1, token2, token3.**

Explanation: An error has been detected by the communication subsystem. Refer to *sqlcode* for more details.

User response: Contact the help desk or your system administrator.

SQL3961N Cannot authenticate with the satellite control server.

Explanation: An authentication error was detected while trying to connect to the satellite control database.

User response: Either the remote administrative user ID or the password required to connect to the satellite control database was not correct, or both. Either provide the correct user ID and password, or contact the help desk or your system administrator.

SQL3962N Synchronization could not be started because of a database error: **SQLCODE=sqlcode SQLSTATE=sqlstate, tokens=token1, token2, token3.**

Explanation: An error preventing synchronization occurred at the satellite control server.

User response: Attempt to synchronize again. If failure persists, contact the help desk or your system administrator.

SQL3963N Results cannot be uploaded because of a database error: **SQLCODE=sqlcode SQLSTATE=sqlstate, tokens=token1, token2, token3.**

Explanation: An error occurred while uploading results to the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3964N Synchronization failed because the release level of the satellite is not supported by the satellite control server.

Explanation: The release level of the satellite must be within the range of one level above to two levels below that of the satellite control server.

User response: Contact the help desk or your system administrator.

SQL3965N Cannot download the synchronization scripts because of a satellite control server failure: **SQLCODE=sqlcode SQLSTATE=sqlstate, tokens=token1, token2, token3.**

Explanation: The satellite cannot download the scripts that are required to synchronize the satellite. One possible reason for this failure is that the control server cannot instantiate parameterized scripts with the attributes of the satellite. Another reason is that the satellite control server was temporarily unable to complete the request because of resource constraints.

User response: Try the request again. If the failure persists, contact the help desk or your system administrator.

SQL3966N Synchronization session failed. Reason code *reason-code*.

Explanation: The synchronization session failed to complete for one of the following reasons:

- (01) Missing authentication information.
- (02) Some scripts required for synchronization are missing.
- (03) System files are corrupted or missing.
- (04) A system error prevented scripts from executing.

User response: Try the request again. If failure persists, contact the help desk or your system administrator.

SQL3967N Progress information cannot be retrieved.

Explanation: Progress on this satellite's synchronization session cannot be retrieved. Either the data is corrupt, or it does not exist.

User response: If a synchronization session is active and no progress information is available, contact the help desk or your system administrator.

SQL3968N Synchronization failed to complete successfully because of a script failure. The results of the execution, however, were sent to the satellite control server.

Explanation: One of the synchronization scripts failed

during execution. Either a return code was not in the defined success code set, or the script failed to execute.

User response: Contact the help desk or your system administrator.

SQL3969N Synchronization failed because an interrupt was received during script execution.

Explanation: Script execution fails when an interrupt is received. An abnormal termination of this type will cause the synchronization session to fail because the system may be in an inconsistent state.

SQL4000 - SQL4099

SQL4001N The character *character* in column *column* on line *line* is not valid.

Explanation: The specified character is not a valid character in SQL statements.

The statement cannot be processed.

User response: Remove or replace the character that is invalid.

SQL4002N *token-1* and *token-2* are undeclared host variables that cannot both be used as descriptor names in a single SQL statement.

Explanation: The specified identifiers have not been declared as host variables. Descriptor names are not declared before using. Because more than one descriptor name in a single statement is not valid, at least one of the host variables is not valid.

The statement cannot be processed.

User response: Correct the use of descriptor names or undeclared host variables in the statement. Note that the statement can contain additional undeclared host variables.

SQL4003N The SQL statement on line *line* is not supported by this version of the precompiler.

Explanation: The release numbers of the precompiler and the installed version of the database manager are not compatible. The specified statement is supported by the database manager but not the precompiler.

The statement cannot be processed.

User response: Repeat the precompile process with the current version of the precompiler.

SQL4004N The package name is not valid.

Explanation: The package name contains characters that are not valid. Either the name is too long or no

User response: Contact the help desk or your system administrator.

SQL3970N Synchronization session failed with, **SQLCODE** *sqlcode* **SQLSTATE** *sqlstate*
The error was detected at location *location*.

Explanation: Script execution failed because of an unknown error.

User response: Contact the help desk or your system administrator.

name was specified with the PACKAGE option.

No package is created.

User response: Resubmit the command with a valid package name or without the PACKAGE option.

SQL4005N An invalid token *token* was found starting in position *position* on line *line*.

Explanation: A syntax error in the SQL statement was detected at the specified token *token*.

The statement cannot be processed.

User response: Examine the statement, especially around the specified token. Correct the syntax.

SQL4006N The structures are nested too deeply.

Explanation: The number of nested structures exceeded the maximum of 25.

The statement cannot be processed.

User response: Reduce the number of nested structures.

SQL4007N The host structure *host-structure* has no fields.

Explanation: No field can be found within the host structure *host-structure*.

The statement cannot be processed.

User response: Add a field to the host structure.

SQL4008N The host variable *name* cannot be uniquely referenced even with full qualification.

Explanation: The host variable *name* matches with at least one other unqualified or partially qualified host variable even with full qualification.

The command cannot be processed.

User response: Rename the host variable.

SQL4009N The expression for data length is invalid.

Explanation: The expression for data length has syntax errors or is too complex.

The statement cannot be processed.

User response: Check the syntax of the size expression.

SQL4010N Illegal nesting of Compound SQL statements.

Explanation: This error is returned when a BEGIN COMPOUND clause is detected as a sub-statement of a Compound SQL statement.

User response: Resubmit the precompilation without the nested BEGIN COMPOUND.

SQL4011N Invalid SQL sub-statement in a Compound SQL statement.

Explanation: This error is returned when an invalid sub-statement is detected in a Compound SQL statement. Valid statements are:

- ALTER TABLE
- COMMENT ON
- CREATE INDEX
- CREATE TABLE
- CREATE VIEW
- Positioned DELETE
- Searched DELETE
- DROP
- GRANT
- INSERT
- LOCK TABLE
- REVOKE
- SELECT INTO
- Positioned UPDATE
- Searched UPDATE

User response: Resubmit the precompilation without the invalid sub-statement.

sqlcode: -4011

sqlstate: 42910

SQL4012N Invalid use of COMMIT in a Compound SQL statement.

Explanation: This error is returned when a sub-statement is detected after a COMMIT has been found in a COMPOUND SQL statement.

User response: Make the COMMIT sub-statement the last sub-statement, and resubmit the precompilation.

SQL4013N An END COMPOUND statement was found without a previous BEGIN COMPOUND statement.

Explanation: This error is returned when an END COMPOUND statement has been found without a preceding BEGIN COMPOUND.

User response: Either remove the END COMPOUND, or add a BEGIN COMPOUND, and resubmit the precompilation.

SQL4014N Invalid Compound SQL syntax.

Explanation: This error is returned when a Compound SQL statement contains a syntax error. Possible causes include:

- END COMPOUND is missing
- one of the substatements is empty (zero length or blank).

User response: Fix the syntax error and re-precompile.

SQL4015N An error has occurred during preprocessing.

Explanation: The external preprocessor has terminated with one or more errors.

The command cannot be processed.

User response: Please refer to the ".err" file for the corresponding source file for more details.

SQL4016N The preprocessor specified cannot be found.

Explanation: The preprocessor specified through the PREPROCESSOR option cannot be found.

The command cannot be processed.

User response: Ensure that the preprocessor can be executed from the current directory, and also check the syntax of the PREPROCESSOR option.

SQL4017W Preprocessing has completed successfully.

Explanation: Preprocessing of the input file has completed successfully using the external command specified through the PREPROCESSOR option.

User response: No action is required.

SQL4018W Starting to process the preprocessed file *preprocessed-file*.

Explanation: The precompiler is now processing the preprocessed file.

User response: No action is required.

SQL4019W Completed processing the preprocessed file *preprocessed-file*.

Explanation: The precompiler has completed processing the preprocessed file.

User response: No action is required.

SQL4020N The 'long' host variable *token-1* is not valid. Use 'sqlint32' instead.

Explanation: If the LONGERROR YES precompile option is in effect or the precompile option LONGERROR has not been specified and the platform

has 8-byte 'long's, then the INTEGER host variable must be declared with the data type 'sqlint32', not 'long'.

On 64 bit platforms with 8-byte 'long' types the precompile option LONGERROR NO can be used to specify that 'long' host variables are to be used for BIGINT data types. For maximum portability the use of 'sqlint32' and 'sqlint64' are recommended for INTEGER and BIGINT data types respectively.

User response: Replace the current data type of the host variable with the data type specified in the message.

SQL4100 - SQL4199

SQL4100I The *sqlflag-type* SQL language syntax is used for syntax checking by the flagger.

Explanation: The SQL statements that have passed the precompiler checking will be subject to checking against the specified syntax by the flagger. Warning message will be issued against the statement when there is a syntax deviation.

Processing continues.

User response: None. This is an informational message only.

SQL4102W An SQL syntax deviation has occurred at the token starting with the text *text*.

Explanation: The flagger has detected a deviation from the SQL language syntax specified in the SQLFLAG precompiler option.

Processing continues.

User response: Correct the SQL statement.

SQL4103W A data definition statement is not within a CREATE SCHEMA statement.

Explanation: The FIPS standard requires that all data definition statements are contained within a CREATE SCHEMA statement.

Processing continues.

User response: Correct the SQL statement.

SQL4104W There is a non-standard embedded comment.

Explanation: A comment embedded in an SQL statement does not meet the requirements of the standard being flagged. The comment does not begin with at least two consecutive hyphens

Processing continues.

User response: Correct the SQL statement.

SQL4105W An SQL syntax deviation has occurred. The statement is not complete.

Explanation: The SQL statement has terminated before all required elements have been found.

Processing continues.

User response: Correct the SQL statement.

SQL4106W The identifier *identifier* is more than 18 characters.

Explanation: Authorization identifier, table identifier, column name, correlation name, module name, cursor name, procedure name, or parameter name has a length of more than 18 characters.

Processing continues.

User response: Correct the SQL statement.

SQL4107W Column *column* has an invalid length, precision, or scale attribute.

Explanation: One of the following conditions has not been met:

- Length value should be greater than zero.
- Precision value should be greater than zero.
- Scale value should not be greater than precision.

Processing continues.

User response: Correct the SQL statement.

SQL4108W An indicator variable has data type other than exact numeric, or has a non-zero scale.

Explanation: Data type of an indicator variable should be exact numeric with a scale of zero.

Processing continues.

User response: Correct the SQL statement.

SQL4109W The SET FUNCTION SPECIFICATION references column *column*.

Explanation: One of the following conditions has not been met:

- The COLUMN REFERENCE of a DISTINCT SET FUNCTION cannot reference a column derived from a SET FUNCTION SPECIFICATION.
- COLUMN REFERENCES in the VALUE EXPRESSION of an ALL SET FUNCTION cannot reference a column derived from a SET FUNCTION SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4110W A VALUE EXPRESSION containing *column* cannot include operators.

Explanation: A VALUE EXPRESSION cannot include operators in an OUTER REFERENCE COLUMN REFERENCE.

Processing continues.

User response: Correct the SQL statement.

SQL4111W The COLUMN REFERENCE is missing or is invalid for the ALL column function *function*.

Explanation: The VALUE EXPRESSION of an ALL SET FUNCTION SPECIFICATION should include a COLUMN REFERENCE.

Processing continues.

User response: Correct the SQL statement.

SQL4112W Column *column* is not unique and requires qualification.

Explanation: The specified column is not unique within the current scope. Qualification must be given to uniquely identify the required column.

Processing continues.

User response: Correct the SQL statement.

SQL4113W A VALUE EXPRESSION may not contain a SET FUNCTION SPECIFICATION.

Explanation: The VALUE EXPRESSION of an ALL SET FUNCTION may not contain SET FUNCTION SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4114W Column *column* does not identify a column of a table within the current scope.

Explanation: One of the following conditions has not been met:

- The table or correlation name used as a qualifier does not exist.
- The column name does not exist within the current scope or the scope of the qualifier.

Processing continues.

User response: Correct the SQL statement.

SQL4115W A column function that contains the OUTER REFERENCE column *column* is not in the subquery of a HAVING clause.

Explanation: A column function must be contained in a subquery of a HAVING clause if it contains an OUTER REFERENCE COLUMN REFERENCE.

Processing continues.

User response: Correct the SQL statement.

SQL4116W The result of a SUM or AVG function cannot be a character string.

Explanation: Character string is not valid for the result of a SUM or AVG SET FUNCTION SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4117W Operator *operator* is invalid in this context.

Explanation: One of the following conditions has not been met:

- A VALUE EXPRESSION containing a DISTINCT SET FUNCTION cannot include dyadic operators.
- First character following a monadic operator cannot be a plus or minus sign.
- VALUE EXPRESSION should not contain operators if PRIMARY is of type character string.

Processing continues.

User response: Correct the SQL statement.

SQL4118W The *exptype* EXPRESSION is comparing incompatible data types.

Explanation: The data types of one of the following (identified by *exptype*) do not match:

- *exptype* = COMPARISON - Comparison operators must match

- `exptype = BETWEEN` - The three VALUE EXPRESSIONs must match
- `exptype = IN` - VALUE EXPRESSION, subquery and all VALUE SPECIFICATIONs must match
- `exptype = QUANTIFIED` - VALUE EXPRESSION and subquery must match

Processing continues.

User response: Correct the SQL statement.

SQL4119W The operand in the LIKE predicate is not a character string.

Explanation: One of the following conditions has not been met:

- Data type of the column in a LIKE predicate is not a character string.
- Data type of the pattern in a LIKE predicate is not a character string.

Processing continues.

User response: Correct the SQL statement.

SQL4120W The ESCAPE character must be a one-byte character string.

Explanation: Escape character in a LIKE predicate must have the data type of character string with a length of 1.

Processing continues.

User response: Correct the SQL statement.

SQL4121W The WHERE clause, GROUP BY clause, or HAVING clause is invalid for the grouped view *schema-name.view*.

Explanation: If the table identified in the FROM clause is a grouped view, then the TABLE EXPRESSION must not contain a WHERE clause, GROUP BY clause, or HAVING clause.

Processing continues.

User response: Correct the SQL statement.

SQL4122W *schema-name.name* occurs more than once in a FROM clause.

Explanation: One of the following conditions has not been met:

- Table name occurs more than once in a FROM clause.
- Correlation name is identical to a table name or to another correlation name in a FROM clause.

Processing continues.

User response: Correct the SQL statement.

SQL4123W Only one table reference is allowed in the FROM clause for a GROUPed view.

Explanation: If the table identified by table name is a GROUPed view, then the FROM clause must contain exactly one table reference.

Processing continues.

User response: Correct the SQL statement.

SQL4124W A reference to column *column* derived from a column function is invalid in a WHERE clause.

Explanation: A VALUE EXPRESSION directly contained in the SEARCH CONDITION of a WHERE clause must not include a reference to a column derived from a column function.

Processing continues.

User response: Correct the SQL statement.

SQL4125W A HAVING clause must contain the WHERE clause when the WHERE clause has a column function.

Explanation: If a VALUE EXPRESSION directly contained in the SEARCH CONDITION is a column function, then the WHERE clause must be contained in a HAVING clause.

Processing continues.

User response: Correct the SQL statement.

SQL4126W The COLUMN REFERENCE for *column* must be an OUTER REFERENCE.

Explanation: If a VALUE EXPRESSION directly contained in the SEARCH CONDITION is a function, then the COLUMN REFERENCE in the column function expression must be an OUTER REFERENCE.

Processing continues.

User response: Correct the SQL statement.

SQL4127W Column *column* is duplicated within the current scope.

Explanation: The specified column is duplicated within the current scope.

Processing continues.

User response: Correct the SQL statement.

SQL4128W The COLUMN REFERENCE for *column-name* should be a grouping column or should be specified within a column function.

Explanation: Each COLUMN REFERENCE contained

in a subquery in the SEARCH CONDITION of a HAVING clause must reference a grouping column or be specified within a column function.

Processing continues.

User response: Correct the SQL statement.

SQL4129W DEGREE of table *schema-name.table* should be 1 when using a SELECT LIST of *.

Explanation: The DEGREE of the TABLE EXPRESSION must be 1 if a SELECT LIST of * is specified in a subquery of any predicate other than an EXISTS predicate.

Processing continues.

User response: Correct the SQL statement.

SQL4130W The column function is not valid for the TABLE EXPRESSION beginning with table *schema-name.table*.

Explanation: One of the following conditions has not been met:

- If the TABLE EXPRESSION is a grouped view, the SELECT LIST of a subquery cannot contain a SET FUNCTION SPECIFICATION.
- If the TABLE EXPRESSION is a grouped view, the SELECT LIST of a QUERY SPECIFICATION cannot contain a column function.

Processing continues.

User response: Correct the SQL statement.

SQL4131W The COLUMN REFERENCE for *column* is invalid.

Explanation: One of the following conditions has not been met:

- For a GROUPed table, the COLUMN REFERENCE must reference a GROUPing column or be specified within a SET FUNCTION SPECIFICATION.
- If not a GROUPed table and VALUE EXPRESSION includes a SET FUNCTION SPECIFICATION, then each COLUMN REFERENCE must be specified within a SET FUNCTION SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4132W DISTINCT is specified more than once.

Explanation: One of the following conditions has not been met:

- DISTINCT must not be specified more than once in a QUERY SPECIFICATION, excluding any subquery of that QUERY SPECIFICATION.

- DISTINCT must not be specified more than once in a subquery, excluding any subquery contained in that subquery.

Processing continues.

User response: Correct the SQL statement.

SQL4133W The COMPARISON PREDICATE subquery cannot contain a GROUP BY or HAVING clause.

Explanation: If a subquery is specified in a COMPARISON PREDICATE, then the TABLE EXPRESSION whose FROM clause identifies the named table must not contain a GROUP BY clause or a HAVING clause.

Processing continues.

User response: Correct the SQL statement.

SQL4134W The COMPARISON PREDICATE subquery cannot identify a GROUPed view.

Explanation: If a subquery is specified in a COMPARISON PREDICATE, then the TABLE EXPRESSION whose FROM clause identifies the named table must not identify a GROUPed view.

Processing continues.

User response: Correct the SQL statement.

SQL4135W There is an invalid AUTHORIZATION IDENTIFIER *authid*.

Explanation: The AUTHORIZATION IDENTIFIER prefixed to the table name is invalid.

Processing continues.

User response: Correct the SQL statement.

SQL4136W Table or view *schema-name.name* already exists.

Explanation: The table name or view name specified already exists in the catalog.

Processing continues.

User response: Correct the SQL statement.

SQL4137W The COLUMN DEFINITION is missing.

Explanation: At least one COLUMN DEFINITION should be specified for a CREATE TABLE.

Processing continues.

User response: Correct the SQL statement.

SQL4138W The data type *type1* of the target is not compatible with the data type *type2* of the source.

Explanation: Data types should match:

- In a FETCH statement, between source and target.
- In a SELECT statement, between source and target.

Processing continues.

User response: Correct the SQL statement.

SQL4139I You must specify a VIEW COLUMN LIST for *schema-name.table*.

Explanation: If any two columns in the table specified by the QUERY SPECIFICATION have the same column name, or if any column of that table is an unnamed column, then a VIEW COLUMN LIST must be specified.

Processing continues.

User response: Correct the SQL statement.

SQL4140W An error has occurred causing the flagger to stop. Module name = *module-name*. Internal error code = *error-code*.

Explanation: The flagger has encountered an internal error. If the syntax, bindfile or package option is also specified, processing continues but flagger operation is discontinued. Otherwise, processing is terminated.

User response: Record this message number (SQLCODE), module name and error code in the message. Contact your technical service representative with the information.

SQL4141W An error has occurred when attempting to produce message *message-number* in module *module-name*.

Explanation: The FLAGGER has attempted to produce an undefined message.

Processing continues.

User response: Record this message number (SQLCODE), module name and error code in the message. Contact your technical service representative with the information.

SQL4142W There is not enough memory for flagger operation. Internal error code = *error-code*.

Explanation: There is not enough memory for the flagger to operate. If the syntax, bindfile or package option is also specified, processing continues but flagger operation is discontinued. Otherwise, processing is terminated.

User response: Ensure that your system has sufficient real and virtual memory, and remove any unnecessary background processes.

SQL4143W An error has occurred when releasing flagger memory. Internal error code = *error-code*.

Explanation: The flagger cannot release allocated memory. If the syntax, bindfile or package option is also specified, processing continues but flagger operation is discontinued. Otherwise, processing is terminated.

User response: Restart precompilation if flagging is required.

SQL4144W Internal error on call to the FLAGGER found in module *module-name*. Internal error code = *error-code*.

Explanation: The FLAGGER encountered an internal error.

Preprocessing continues but FLAGGER operation is discontinued.

User response: Record this message number (SQLCODE), module name and error code in the message. Contact your technical service representative with the information.

SQL4145W Error during FLAGGER access to the system catalog. Flagging continues to check syntax only. SQLCODE = *nnn* SQLERRP = *modname* SQLERRD = *nnn* Creator = *creatorname* Table = *tablename*

Explanation: An internal error has occurred during FLAGGER access to the system catalog.

Processing continues but with flagger syntax checking only.

User response: Record this message number (SQLCODE), module name and error code in the message. Contact your technical service representative with the information.

SQL4146W Internal error occurred causing the semantics processing to stop. Module name = *module-name*. Internal error code = *error-code*.

Explanation: The FLAGGER has encountered a severe internal error in a semantics analysis routine.

Processing continues but with flagger syntax checking only.

User response: Record this message number (SQLCODE), module name and error code in the

message. Contact your technical service representative with the information.

SQL4147W Invalid flagger version number.

Explanation: An invalid flagger version number is passed to the Precompiler Services COMPILE SQL STATEMENT API. If the syntax, bindfile or package option is also specified, processing continues but flagger operation is discontinued. Otherwise, processing is terminated.

User response: Provide a valid flagger version number. Refer to the *Command Reference* manual.

SQL4170W You must declare column *column* as NOT NULL.

Explanation: All columns identified as UNIQUE must be defined with the NOT NULL option.

Processing continues.

User response: Correct the SQL statement.

SQL4171W The viewed table *schema-name.table* must be updatable.

Explanation: When the WITH CHECK OPTION clause is specified then the viewed table must be updatable.

Processing continues.

User response: Correct the SQL statement.

SQL4172W Invalid number of column names.

Explanation: The number of column names in the VIEW COLUMN LIST should be the same as the DEGREE of the table specified by the QUERY SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4173W You must declare cursor *cursor* before using it.

Explanation: The cursor specified has not been declared in a DECLARE CURSOR statement.

Processing continues.

User response: Correct the SQL statement.

SQL4174W Cursor *cursor* is already declared.

Explanation: Cursor specified has already been declared in a DECLARE CURSOR statement.

Processing continues.

User response: Correct the SQL statement.

SQL4175W Only * or column names are valid in this context.

Explanation: When UNION is specified, the SELECT LIST for the specification of the two TABLE EXPRESSIONs identified by the QUERY EXPRESSION and QUERY TERM should consist of * or COLUMN REFERENCE(s).

Processing continues.

User response: Correct the SQL statement.

SQL4176W The descriptions of tables identified by the QUERY EXPRESSION beginning with *schema-name1.table1* and the QUERY TERM beginning with *schema-name2.table2* should be identical.

Explanation: When UNION is specified, the descriptions of the two tables should be identical, except for the column names.

Processing continues.

User response: Correct the SQL statement.

SQL4177W The SORT SPECIFICATION *number* is outside the DEGREE of cursor *cursor*.

Explanation: If the SORT SPECIFICATION contains an unsigned integer, it should be greater than 0 and not greater than the number of columns in the table.

Processing continues.

User response: Correct the SQL statement.

SQL4178W Table *schema-name.table* is a read-only table.

Explanation: A DELETE, an INSERT, or an UPDATE was specified on a read-only table.

Processing continues.

User response: Correct the SQL statement.

SQL4179W Table *schema-name.table* must not be identified in a FROM clause of any subquery contained in a SEARCH CONDITION.

Explanation: A table specified in a DELETE or an UPDATE cannot be used in a FROM clause of any subquery contained in its SEARCH CONDITION.

Processing continues.

User response: Correct the SQL statement.

SQL4180W Table *schema-name1.table1* is not the first table *schema-name2.table2* specified in the DECLARE CURSOR statement.

Explanation: Table specified in a DELETE or an UPDATE statement should be the first table specified in the FROM clause of the DECLARE CURSOR statement.

Processing continues.

User response: Correct the SQL statement.

SQL4181W The number of TARGET SPECIFICATIONS does not match the DEGREE of cursor *cursor*.

Explanation: The number of TARGET SPECIFICATIONS in the FETCH statement does not match the DEGREE of the table specified.

Processing continues.

User response: Correct the SQL statement.

SQL4182W Target table *schema-name.table* of the INSERT statement is also in the FROM clause or in the subquery.

Explanation: The named table must not be identified in a FROM clause of a QUERY SPECIFICATION or of any subquery contained in the QUERY SPECIFICATION.

Processing continues.

User response: Correct the SQL statement.

SQL4183W The number of columns specified does not match the number of values specified.

Explanation: In an INSERT statement, the number of columns specified does not match the number of values specified.

Processing continues.

User response: Correct the SQL statement.

SQL4184W The number of columns specified does not match the DEGREE of the QUERY SPECIFICATION beginning with table *schema-name.table*.

Explanation: In an INSERT statement, the number of columns specified does not match the DEGREE of the table specified in the QUERY SPECIFICATION

Processing continues.

User response: Correct the SQL statement.

SQL4185W There is a data type or length mismatch between column *column* and the INSERT or UPDATE item.

Explanation: One of the following conditions has not been met:

- If the data type of the column name is character string, then the corresponding item in the INSERT or UPDATE statement should be character string of length equal to or less than the length of the column name.
- If the data type of the column name is exact numeric, then the corresponding item in the INSERT or UPDATE statement should be exact numeric.
- If the data type of the column name is approximate numeric, then the corresponding item in the INSERT or UPDATE statement should be approximate numeric or exact numeric.

Processing continues.

User response: Correct the SQL statement.

SQL4186W You cannot use a GROUP BY or HAVING clause or identify a GROUPed view in this context.

Explanation: The table identified in the FROM clause of the TABLE EXPRESSION in a SELECT statement should not include a GROUP BY or HAVING clause and should not identify a GROUPed view.

Processing continues.

User response: Correct the SQL statement.

SQL4187W The number of elements specified in the SELECT LIST should match the number in the SELECT TARGET LIST.

Explanation: In the SELECT statement, the number of elements specified in the SELECT LIST should match the number of elements in the SELECT TARGET LIST.

Processing continues.

User response: Correct the SQL statement.

SQL4188W A column function is not allowed in a SET clause of an UPDATE statement.

Explanation: A VALUE EXPRESSION in a SET clause of an UPDATE statement should not include a column function.

Processing continues.

User response: Correct the SQL statement.

SQL4189W You cannot specify NULL for NOT NULL column *column*.

Explanation: If NULL is specified in the SET clause of the UPDATE statement, then the corresponding column should allow nulls.

Processing continues.

User response: Correct the SQL statement.

SQL4190W A host variable of an unrecognized data type is referenced. Host variable position is *position*.

Explanation: The host variable reference at position *position* is of a data type not recognized by the standard.

Processing continues.

SQL4300 - SQL4399

SQL4300N Java support is not installed or properly configured on this platform.

Explanation: Support for Java stored procedures and user-defined functions is not installed and configured on this server.

User response: Ensure that a compatible Java Runtime Environment or Java Development Kit for the server is installed. Ensure that the "JDK_PATH" configuration parameter is correctly set.

sqlcode: -4300

sqlstate: 42724

SQL4301N Java or .NET interpreter startup or communication failed, reason code *reason-code*.

Explanation: An error occurred while attempting to start or communicate with a Java interpreter. The reason codes are:

- 1 Java environment variables or Java database configuration parameters are invalid.
- 2 A Java Native Interface call to the Java interpreter failed.
- 3 The "db2java.zip" file may be corrupt or missing.
- 4 The Java interpreter has terminated itself and cannot be restarted.
- 5 Unable to load a dependent .NET library.
- 6 A call to the .NET interpreter failed.

User response: For Java, ensure that the Java database configuration parameters (jdk_path and java_heap_sz) are correctly set. Ensure that a supported Java runtime environment is installed. Ensure that internal DB2

User response: Correct the SQL statement.

SQL4191W The data type of column *column-name* is not recognized.

Explanation: The data type of the column is not recognized by the standard.

Processing continues.

User response: Correct the SQL statement.

SQL4192W Table *schema-name.table* is not found in the catalog.

Explanation: The named table or view does not exist in the system catalog.

classes (COM.ibm.db2) are not overridden by user classes.

For .NET, ensure that the DB2 instance is configured correctly to run a .NET procedure or function (mscorlib.dll must be present in the system PATH). Ensure that db2clr.dll is present in the sqllib/bin directory, and that IBM.Data.DB2 is installed in the global assembly cache.

sqlcode: -4301

sqlstate: 58004

SQL4302N Procedure or user-defined function *name*, specific name *spec-name* aborted with an exception *string*.

Explanation: The procedure or user-defined function aborted with an exception. The administration notification log contains a stack traceback for the aborted routine.

User response: Debug the routine to eliminate the exception.

sqlcode: -4302

sqlstate: 38501

SQL4303N Java stored procedure or user-defined function *name*, specific name *spec-name* could not be identified from external name *string*.

Explanation: The CREATE PROCEDURE or CREATE FUNCTION statement that declared this stored procedure or user-defined function had a badly formatted EXTERNAL NAME clause. The external name must be formatted as follows: "package.subpackage.class!method".

User response: Submit a corrected CREATE PROCEDURE or CREATE FUNCTION statement.

sqlcode: -4303

sqlstate: 42724

SQL4304N Java stored procedure or user-defined function *name*, specific name *spec-name* could not load Java class *class*, reason code *reason-code*.

Explanation: The Java class given by the EXTERNAL NAME clause of a CREATE PROCEDURE or CREATE FUNCTION statement could not be loaded. The reason codes are:

- 1 The class was not found on the CLASSPATH.
- 2 The class did not implement the required interface ("COM.ibm.db2.app.StoredProc" or "COM.ibm.db2.app.UDF") or lacked the Java "public" access flag.
- 3 The default constructor failed or was unavailable.
- 4 Could not load driver for "jdbc:default:connection".
- 5 Could not establish default context.

SQL4400 - SQL4499

SQL4400N *authorization-ID* does not have the authority to perform the administration task at the DB2 Administration Server.

Explanation: The user does not have the necessary authority at the DB2 Administration Server to perform the attempted administrative action.

User response: Submit the request to the DB2 Administration Server using a user ID with DASADM authority. DASADM authority is required to perform any administrative actions against the DB2 Administration Server. The DASADM group is a DB2 Administration Server configuration parameter. Verify the current setting of the DASADM group by viewing the DB2 Administration Server configuration parameters using the GET ADMIN CONFIGURATION command. To modify the value of any configuration parameter, use the UPDATE ADMIN CONFIGURATION command.

SQL4401C The DB2 Administration Server encountered an error during startup.

Explanation: An error was encountered during startup of the DB2 Administration Server.

User response: Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information. Take the appropriate action as necessary and attempt to restart the DB2 Administration Server.

User response: Ensure that the compiled ".class" file is installed in the CLASSPATH, for example under "sqllib/function". Ensure it implements the required Java interfaces and is "public".

sqlcode: -4304

sqlstate: 42724

SQL4306N Java stored procedure or user-defined function *name*, specific name *spec-name* could not call Java method *method*, signature *string*.

Explanation: The Java method given by the EXTERNAL NAME clause of a CREATE PROCEDURE or CREATE FUNCTION statement could not be found. Its declared argument list may not match what the database expects, or it may not be a "public" instance method.

User response: Ensure that a Java instance method exists with the "public" flag and the expected argument list for this call.

sqlcode: -4306

sqlstate: 42724

If the problem persists contact your technical service representative.

SQL4402W The DB2ADMIN command was successful.

Explanation: All processing completed normally.

User response: No further action is required.

SQL4403N The syntax of the command is invalid.

Explanation: The command was entered using invalid arguments or an invalid number of parameters.

User response: Re-submit the command with valid argument(s).

SQL4404N The DB2 Administration Server does not exist.

Explanation: The DB2 Administration Server was not found on the machine.

User response: Create the DB2 Administration Server on the machine.

- On Windows operating systems, issue the following command:
db2admin create
- On UNIX platforms, ensure that you have root authority, and issue the following command from the

DB2DIR/instance directory, where DB2DIR is the installation path of DB2. <ASName> represents the name of the Administration Server:

```
dascrt <ASName>
```

SQL4405W The DB2 Administration Server already exists.

Explanation: The DB2 Administration Server already exists on the machine

User response: No further action is required.

SQL4406W The DB2 Administration Server was started successfully.

Explanation: All processing completed normally.

User response: No further action is required.

SQL4407W The DB2 Administration Server was stopped successfully.

Explanation: All processing completed normally.

User response: No further action is required.

SQL4408N The DB2 Administration Server was not dropped because it is active.

Explanation: The DB2 Administration Server must be stopped before it can be dropped.

User response: To stop the DB2 Administration Server, enter the following command:

```
DB2ADMIN STOP
```

SQL4409W The DB2 Administration Server is already active.

Explanation: The DB2ADMIN START command cannot be processed because the DB2 Administration Server is already active.

User response: No further action is required.

SQL4410W The DB2 Administration Server is not active.

Explanation: The DB2ADMIN STOP command cannot be processed because the DB2 Administration Server is not active.

User response: No further action is required.

SQL4411N The requested operation is not allowed because the server instance is not the DB2 Administration Server.

Explanation: The requested operation is only valid when issued against the DB2 Administration Server.

User response: The DB2 Administration Server should

be set up using the DB2ADMIN command. Refer to the *Quick Beginnings* for further information about the DB2ADMIN command.

SQL4412N The logon user account for the DB2 Administration Server is invalid.

Explanation: To perform the requested task, the DB2 Administration Server must be running under a valid logon user account. This error is either caused by the account not being setup, or the logon user account does not contain a valid DB2 user ID.

User response: If a logon user account has been set up, then ensure that the account uses a valid DB2 user ID.

You can set up the logon user account for the DB2 Administration Server by using the following command:

```
DB2ADMIN SETID <userid>
                <password>
```

SQL4413W Usage: DB2ADMIN creates, drops, starts, or stops the DB2 Administration Server.

Explanation: The DB2ADMIN command syntax is:

```
DB2ADMIN CREATE [
                /USER:<username>
                /PASSWORD:<password>
                ]
                DROP
                START
                STOP [/FORCE]
                SETID <username>
                    <password>
                SETSCHEDID <username> <password>
                /h
```

The command options are:

CREATE

create the DB2 Administration Server

DROP

delete the DB2 Administration Server

START

start the DB2 Administration Server

STOP

stop the DB2 Administration Server

SETID

set the logon account for the DB2 Administration Server

SETSCHEDID

set the logon account used by the scheduler to connect to the tools catalog database. Only required if the scheduler is enabled and the tools catalog database is remote to the DB2 Administration Server.

/USER

specify the logon account name during DB2ADMIN CREATE

/PASSWORD

specify the logon account password during DB2ADMIN CREATE

/FORCE

stop the DB2 Administration Server during DB2ADMIN STOP regardless of whether or not it is in the process of servicing any requests

/h display the usage information

User response: Issue the DB2ADMIN command with

one of the valid command options.

SQL4414N The DB2 Administration Server is not active.

Explanation: The request cannot be processed unless the DB2 Administration Server is active.

User response: Start the DB2 Administration Server by issuing the command DB2ADMIN START, and reissue the request.

SQL4700 - SQL4799

SQL4701N Maximal number of partitions (*max-number*) exceeded.

Explanation: An attempt was made to exceed the maximum number of data partitions.

User response: If the error occurred on a CREATE TABLE statement with an EVERY clause, the interval was not large enough. Specify a larger interval to reduce the number of data partitions required.

If the error occurred on a CREATE TABLE statement without an EVERY clause, too many partitions were

listed. Reduce the number of data partitions specified.

If the error occurred on an ALTER TABLE ... ATTACH PARTITION or an ALTER TABLE ... ADD PARTITION statement, the table already has the maximum number of data partitions allowed. Data partitions must be detached before additional data partitions can be added or attached.

sqlcode: -4701

sqlstate: 54054

SQL4900 - SQL4999

SQL4901N Precompiler Services requires reinitialization because of a previous error.

Explanation: On a previous function call, an error occurred. The requested function call cannot be processed until Precompiler Services is reinitialized.

The function cannot be completed.

User response: Call the sqlainit function to reinitialize Precompiler Services

User response: Correct the specified parameter and call the function again.

SQL4904N The pointer to parameter *n* of function *function* is not valid.

Explanation: The pointer to the specified parameter in the specified function is not valid.

The function cannot be completed.

User response: Correct the specified parameter and call the function again.

SQL4902N At least one of the characters in parameter *n* of function *function* is not valid.

Explanation: The specified parameter in the specified function contains at least one character that is not valid.

The function cannot be completed.

User response: Correct the specified parameter and call the function again.

SQL4905N The value of parameter *n* of function *function* is not within the valid range.

Explanation: The value of the specified parameter in the specified function is outside the valid range for that parameter. If the specified parameter is a structure, it may contain values that are within the valid range but are not valid when considered together. Some structures contain headers that specify the allocated size and how much of that size is being used. It is not valid for the allocated size to be less than the used size.

The function cannot be completed.

User response: Correct the specified parameter and call the function again.

SQL4903N The length of parameter *n* of function *name* is not valid.

Explanation: The length of the specified parameter in the specified function is not valid.

The function cannot be completed.

SQL4906N The list of table space names specified is an incomplete set for the rollforward operation.

Explanation: The list of table space names is incomplete for one of the following reasons:

- For point-in-time table space recovery, a table space list must be specified.
- For point-in-time table space recovery, a self-contained list of table space names must be specified. The table spaces in the list must contain all objects of every table included in the table spaces.
- Point-in-time table space recovery is not allowed for the system catalogs.
- End-of-logs table space recovery is allowed for the system catalogs but it can be the only table space name in the list.
- The CANCEL option for rollforward must have a table space list if there are no table spaces in "rollforward-in-progress" state.

User response: Check the table space list and resubmit the rollforward command with the complete table space list.

SQL4907W Database *name* is recovered but one or more of the tables in the table space list included for the rollforward operation are placed in the Set Integrity Pending state.

Explanation: One or more of the tables involved in the point-in-time tablespace recovery have referential constraints with tables outside of the table space list used for recovery, or have dependent materialized query tables or dependent staging tables outside of the table space list used for recovery. All these tables are placed in the Set Integrity Pending state. Rollforward operation has otherwise completed successfully.

User response: Check the state for the tables in the table spaces and take appropriate actions if necessary.

SQL4908N The table space list specified for roll-forward recovery on database *name* is invalid on node(s) *node-list*.

Explanation: Check for one or more of the following conditions:

- The tablespace list contains duplicate names.
- If starting a new table space rollforward, one or more of the table spaces specified in the list to be rolled forward is not in rollforward pending state on the specified nodes.
- If continuing a table space rollforward that is already in progress, one or more of the table spaces specified in the list to be rolled forward is not in rollforward in progress state or is offline on the specified nodes.

User response: Ensure that there are no duplicate

table space names in the list.

Use the LIST TABLESPACES SHOW DETAIL command on the nodes specified to find out which table spaces are not ready to be rolled forward. Use the QUERY STATUS option of the rollforward command to determine the status of the table space rollforward. If the rollforward status is "TBS pending", a new table space rollforward can be started. If the rollforward status is "TBS working", a table space rollforward is already in progress.

If starting a new table space rollforward, put the tablespaces into rollforward pending state by restoring them.

If continuing a table space rollforward and one or more of the table spaces involved have been restored and put into rollforward pending state, the table space rollforward in progress must be canceled. Submit the rollforward command again with the CANCEL option and the same table space list. When the rollforward in progress is canceled, the table spaces will have been put into restore pending state. Restore the table spaces and submit the original rollforward command again.

If continuing a table space rollforward and one or more of the table spaces involved is offline, there are three options:

- Bring the tablespace back online and submit the original rollforward command again.
- Re-submit the rollforward command but remove the offline tablespaces from the tablespace list. These tablespaces will be put into restore pending state.
- Submit the rollforward command again with the CANCEL option and the same table space list. When the rollforward in progress is canceled, the table spaces will have been put into restore pending state.

SQL4909W Roll forward recovery has completed successfully but one or more table spaces have their tables put in DRP/DRNP state. Check the administration notification log for details on node(s) *node-list*.

Explanation: One or more table spaces have tables in DATALINK Reconcile Pending (DRP) state or DATALINK Reconcile Not Possible (DRNP) state for one of the following reasons:

- Restore is done specifying the WITHOUT DATALINK option and rollforward to a point-in-time follows the restore. Any tables with DATALINK columns are placed in DRP state.
- Restoring from a backup image with a different database name, alias, hostname, or instance and rollforward follows the restore. Any tables with DATALINK columns are placed in DRNP state.

- Restoring from a backup image that has become unusable and rollforward follows the restore. Any tables with DATALINK columns are placed in DRNP state.
- Rollforward was to a point-in-time, not to the end of logs. Any tables with DATALINK columns in that tablespace are placed in DRP state.
- DATALINK column information does not exist at the DB2 Data Links Manager(s). Affected tables are placed in DRNP state.
- Rollforward involved DATALINK columns defined with the "RECOVERY NO" option. Affected tables are placed in DRP state.

If "... " is displayed at the end of the node list, see the diagnostic log for the complete list of nodes.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Look in the db2diag.log file to find out what tables are put in DRP/DRNP state. See the Administration Guide for information on reconciling tables that are in DRP/DRNP state.

SQL4910N Overflow log path *log-path* is not valid.

Explanation: The overflow log path specified on the ROLLFORWARD command is not valid. The overflow log path must be a directory in a file system. This directory must be accessible by the instance owner id.

User response: Resubmit the command with a valid overflow log path.

SQL4911N The host variable data type is not valid.

Explanation: The data type of the host variable is not valid.

The function cannot be completed.

User response: Correct the data type of the host variable and call the function again.

SQL4912N The host variable data length is out of range.

Explanation: The length of the host variable is not valid.

The function cannot be completed.

User response: Correct the length of the host variable and call the function again.

SQL4913N The host variable token ID has already been used.

Explanation: The token ID of the host variable has already been used. The token ID must be unique within the module.

The function cannot be completed.

User response: Correct the token ID of the host variable and call the function again.

SQL4914N The host variable token ID is not valid.

Explanation: The token ID of the host variable is not valid.

The function cannot be completed.

User response: Correct the token ID of the host variable and call the function again.

SQL4915N The "sqlainit" function has already been called.

Explanation: Precompiler Services has already been initialized.

User response: No action is required. Continue processing.

SQL4916N The "sqlainit" function has not been called.

Explanation: Precompiler Services must be initialized before the requested function call can be processed.

The function cannot be completed.

User response: Issue an sqlainit function call to initialize Precompiler Services.

SQL4917N Element *number* in the option array is not valid.

Explanation: The option array contains an element with an *option.type* or *option.value* that is not valid. The element number in the message is the *n*th element in the option portion of the option array.

The function cannot be completed.

User response: Correct the values stored in the option array. Call the function again.

SQL4918N The term_option parameter of function "sqlainit" is not valid.

Explanation: The *term_option* parameter is not valid.

The function cannot be completed.

User response: Correct the *term_option* parameter and call the function again.

SQL4919N The task_array parameter of function "sqlacmpl" is too small.

Explanation: The task array structure passed to Precompiler Services on the sqlacmpl function call is too short.

The function did not complete successfully.

User response: Increase the size of the precompiler task array structure allocated by the precompiler. Recompile the application program.

SQL4920N The token_id_array parameter of function "sqlacmpl" is too small.

Explanation: The token id array structure passed to Precompiler Services on the sqlacmpl() function call is too small.

The function did not complete successfully.

User response: Increase the size of the precompiler token id array structure allocated by the precompiler. Recompile the application program.

SQL4921N The rollforward command failed due to a prior point in time recovery currently in process on all database partitions.

Explanation: The database is currently in the process of a point in time recovery on all database partitions. A subsequent rollforward command cannot be issued until the prior point in time recovery has been completed or canceled.

User response: Re-issue the ROLLFORWARD DATABASE command using the STOP option without specifying the ON database partition clause.

SQL4930N Bind or precompile option or option value option-name is invalid.

Explanation: Either *option-name* is an invalid bind or precompile option or the value specified for this option is invalid. The bind or precompile cannot continue.

User response: Correct the bind or precompile option or option value and retry the bind or precompile command.

SQL4940N The clause clause is not permitted or is required.

Explanation: The indicated clause is either not allowed in the context where it appears in the SQL statement or it is required in the statement.

A subquery, an INSERT statement, or a CREATE VIEW statement cannot have INTO, ORDER BY, or FOR UPDATE clauses. An embedded SELECT statement cannot have ORDER BY or FOR UPDATE clauses. An embedded SELECT statement cannot contain a set operator except in a subquery. SELECT statements used

in cursor declarations cannot have an INTO clause.

An embedded SELECT statement must have an INTO clause.

The function cannot be completed.

User response: Remove or add the clause to correct the statement.

SQL4941N The SQL statement is blank or empty.

Explanation: The text following EXEC SQL was blank or empty.

The function cannot be completed.

User response: Ensure that a valid SQL statement is provided following the word EXEC SQL.

SQL4942N The statement selects an incompatible data type into host variable name.

Explanation: An embedded SELECT statement selects into a host variable *name* but the data type of the variable and the corresponding SELECT list element are not compatible. If the data type of the column is date and time, the data type of the variable must be character with an appropriate minimum length. Both must either be numeric, character, or graphic. For a user-defined data type, the host variable might be defined with an associated built-in data type that is not compatible with the result type of the FROM SQL transform function defined in the transform group for the statement.

The function cannot be completed.

User response: Verify that the table definitions are current and that the host variable has the proper data type.

SQL4943W The number of host variables in the INTO clause is not the same as the number of items in the SELECT clause.

Explanation: The number of host variables specified in both the INTO clause and the SELECT clause must be the same.

The function is processed.

User response: Correct the application program to specify the same number of host variables as SELECT list expressions.

SQL4944N An update or insert value is NULL but the object column cannot contain NULL values.

Explanation: One of the following occurred:

- The update or insert value was NULL but the object column is declared as NOT NULL in the table definition. Therefore, null values cannot be inserted

into that column, and values in that column cannot be set to NULL by an update.

- The column name list for the INSERT statement omits a column that was declared as NOT NULL in the table definition.
- The view for the INSERT statement omits a column that was declared as NOT NULL in the base table definition.

The function cannot be completed.

User response: Examine the definition of the object table to determine which columns of the table have the NOT NULL attribute, and correct the SQL statement.

SQL4945N The use of a parameter marker is not valid.

Explanation: Parameter markers can be used only in dynamic SQL statements.

The function cannot be completed.

User response: Use host variables instead of parameter markers for static SQL statements.

SQL4946N The cursor or statement name *name* is not defined.

Explanation: The cursor or statement name *name* specified in the statement is not defined.

The function cannot be completed.

User response: Check the application program for completeness and possible spelling errors in the cursor or statement names.

SQL4947W An INCLUDE SQLDA statement was encountered and ignored.

Explanation: The FORTRAN precompiler shipped by the database manager does not support the INCLUDE SQLDA statement.

The statement is ignored. Processing continues.

User response: No action is required. To prevent this message, remove the INCLUDE SQLDA statement from the program.

SQL4950N Compound SQL statements containing user-defined SQLDAs are not supported in this environment.

Explanation: Compound SQL statements containing user-defined SQLDAs are not supported in a 16-bit application.

User response: Move the statement out of the compound SQL block or replace the statement with one that uses host variables instead of an SQLDA.

SQL4951N The *sqlda_id* parameter of function *name* is not valid.

Explanation: The *sqlda_id* parameter of the specified function in the application program is not valid. The *sqlda_id* parameter cannot be null.

The function cannot be completed.

User response: Correct the *sqlda_id* parameter in the application program.

SQL4952N The *sqlvar_index* parameter of function *name* is not valid.

Explanation: The *sqlvar_index* parameter of the specified function in the application program is not valid. The *sqlvar_index* may be larger than the number of sqlvar elements in the SQLDA.

The function cannot be completed.

User response: Correct the *sqlvar_index* parameter in the application program.

SQL4953N The *call_type* parameter of function *name* is not valid.

Explanation: The *call_type* parameter of the specified function in the application is not valid.

The function cannot be completed.

User response: Correct the *call_type* parameter in the application program.

SQL4954N The *section_number* parameter of function *name* is not valid.

Explanation: The *section_number* parameter of the specified function in the application program is not valid. Note that for the following SQL statements, the *section_number* parameter of the function *sqlacall()* is used to pass in the statement type:

- CONNECT
- SET CONNECTION
- RELEASE
- DISCONNECT

The function cannot be completed.

User response: Correct the *section_number* parameter in the application program.

SQL4970N Roll-forward recovery on database *name* cannot reach the specified stop point (end-of-log or point-in-time) because of missing or corrupted log file(s) on database partition(s) *database-partition-list*. Roll-forward recovery processing has halted on log file *log-file*.

Explanation: This message is returned in the following situations:

1. The file(s) the Rollforward Database utility cannot access are either missing or have data integrity issues.
 - A request was made to bring the specified database out of roll-forward pending state but the Rollforward Database utility cannot find the necessary archive log file(s) in the database log directory or the overflow log directory on the specified database partition(s) to reach the stopping point from the previous ROLLFORWARD DATABASE command.
 - In a multi-node environment, if the Rollforward Database utility cannot find the necessary archive log file(s) to bring a node into synchronization with the catalog node.
2. This was a point-in-time roll-forward, in which the point-in-time timestamp specified was not reachable in the log files. This may indicate there are missing log files.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

Roll-forward recovery has stopped. The database is left in roll-forward pending state.

Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.

User response:

1. Ensure that *log-file* is present, moving the file to the appropriate location if necessary:
 - Check in the database log directory or the overflow log path (if specified).
 - If log archiving is enabled ensure that *log-file* exists in the archive location. Ensure also that the log archiving retrieval method is working: check the administration notification log for the presence of message ADM0083I and make corrections to the retrieval method if necessary.

After verifying the above, re-issue the ROLLFORWARD DATABASE command.

If the log file is present and re-issuing ROLLFORWARD DATABASE fails (potential data integrity issues with the log file), or the log file cannot be found, restore and roll-forward the database to an earlier point in time referenced in a log file preceding *log-file* (use a timestamp that is earlier than that of the earliest missing file).

2. If the point-in-time timestamp was correct, and there are no missing log files, then the point-in-time specified may actually be beyond any work

performed against the database. In this case, issue the ROLLFORWARD DATABASE command with the STOP option which will complete the roll-forward recovery at the current position in the log files.

For more information on the Rollforward Database utility, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using phrases such as "rollforward recovery".

SQL4971N Roll-forward recovery on database *name* on node *node-number* failed previously while stopping. Roll-forward recovery must be stopped.

Explanation: A request was made to continue rolling forward the specified database by specifying caller action SQLUM_ROLLFWD. The previous iteration of roll-forward recovery failed while stopping. If rolling forward at the database level, this means that it failed during log truncation. Roll-forward recovery for this database must now be stopped by specifying caller action SQLUM_ROLLFWD_STOP, SQLUM_STOP, SQLUM_ROLLFWD_COMPLETE, or SQLUM_COMPLETE.

Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.

User response: Reissue the ROLLFORWARD DATABASE command with caller action SQLUM_ROLLFWD_STOP, SQLUM_STOP, SQLUM_ROLLFWD_COMPLETE, or SQLUM_COMPLETE. Any stoptime specified will be ignored since the previous stoptime is already being processed.

SQL4972N Log extent *extent* on node *node-number* could not be moved to the database logpath.

Explanation: The Rollforward utility was invoked with the STOP option. As part of roll-forward processing, the log extent *extent* has to be truncated. This extent must exist in the database logpath. Currently, the extent exists in the overflow log path. An attempt was made to move the extent from the overflow log path to the database logpath. The attempt failed. Roll-forward processing has been stopped.

Note : if you are using a partitioned database server, the node number indicates which node the error occurred on. Otherwise, it is not pertinent and should be ignored.

User response: Move the extent from the overflow log path to the database logpath and then resubmit the ROLLFORWARD DATABASE command.

SQL4973N Forward recovery on database *name* cannot complete because the log information on node(s) *node-list* does not match the corresponding record(s) on the catalog node.

Explanation: The Rollforward utility processed all the log files found on each node, but the stop points on the specified nodes do not match the corresponding records on the catalog node. This can be caused by missing log files on either the catalog node or on the specified nodes, or the catalog node must be included in the list of nodes to be rolled forward.

The ROLLFORWARD DATABASE processing stops.

User response: Do one of the following:

- Check if the catalog node needs to be rolled forward. If it does, submit the ROLLFORWARD DATABASE command again and include the catalog node.
- Use the ROLLFORWARD DATABASE command with the QUERY STATUS option to determine which log files are missing. When you find the log files, put them in the log path or overflow log path and resume forward recovery.
- If you cannot find the missing log files, restore the database on all nodes, then do point-in-time recovery using a stoptime that is earlier than that of the earliest missing log file.

SQL4974W The ROLLFORWARD DATABASE QUERY STATUS command encountered sqlcode *sqlcode*.

Explanation: The ROLLFORWARD DATABASE QUERY STATUS command encountered an error with the sqlcode *sqlcode*. The query might not be successful on some nodes for various reasons. The most severe error is indicated by *sqlcode*. The roll-forward status is only returned for the successful nodes.

User response: Look up the sqlcode *sqlcode* in the *Message Reference*, or online to determine the problems on the failed nodes. Take the required corrective actions, then continue the forward recovery on these nodes.

SQL4975W Roll-forward operation was cancelled successfully. The database or selected table spaces have to be restored on node(s) *node-list*.

Explanation: A roll-forward operation was cancelled before it successfully completed, and the database or selected table spaces are left in an inconsistent state. The database or selected table spaces are in restore pending state on the listed nodes.

If "... " is displayed at the end of the node list, see the administration notification log for the complete list of nodes.

Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.

User response: Restore the database or selected table spaces on the listed nodes. The table spaces that are in restore pending state can be identified on the specified node(s) by the LIST TABLESPACES command or the db2dart utility.

SQL4976N The ROLLFORWARD DATABASE command cannot be submitted on a non-catalog node.

Explanation: The ROLLFORWARD DATABASE command is only accepted on the catalog node.

User response: Submit the command on the catalog node.

SQL4977N Dropped table export directory *directory* is not valid.

Explanation: The export directory path specified on the ROLLFORWARD command is not valid. The export directory path must be a directory in a file system. This directory must be accessible by the instance owner id.

User response: Resubmit the command with a valid export directory path.

SQL4978N The dropped table can not be accessed.

Explanation: The dropped table can not be accessed. This may be due to the table being put into unavailable state because of a LOAD without copy or a NOT LOGGED INITIALLY operation.

User response: The table can not be recovered using the DROPPED TABLE RECOVERY option.

SQL4979W Unable to export the dropped table data.

Explanation: The command was unable to export the data of the dropped table whose recovery is being attempted. This can happen when the dropped table id specified on the ROLLFORWARD command is invalid, or when not all of the logs are available for roll forward. This warning will be generated when an error occurs during a dropped table recovery using a ROLLFORWARD ... AND STOP command.

User response: Resubmit the command after ensuring that the dropped table id provided is valid, and that all of the logs are available for roll forward.

SQL4980N Recovery on database *name* has encountered a corrupt log file *log file* on database partition *dbpart-num*.

Explanation: A corrupt log file has been encountered during recovery of the database.

It is possible that a checksum error occurred on a log page. A checksum error indicates that the information in a log page on disk does not match the information that is expected by DB2. The content of this log page cannot be trusted.

User response: Possible actions include:

- Run hardware diagnostics to check if the system is experiencing any hardware problems.
- If there is another copy of this log file available, put the file in the database log directory or the overflow log path and reissue the command.
- For a database rollforward operation in a non-partitioned database environment where a copy of the log file is unavailable, issue a rollforward stop command. This will bring the database to a point before the corrupted log file was encountered. It is important to note that log data beyond this point will not be available.
- For a database rollforward operation in a partitioned database environment where a copy of the log file is unavailable, restore each database partition and issue a point in time rollforward to a stop time before the corrupt log file is encountered. It is important to note that log database beyond this point will not be available.
- If the problem persists, save a copy of this corrupted file for analysis by IBM Support. IBM support will be able to determine which page is corrupted.

SQL4981W Data was exported from a dropped table, but the table spaces containing one or more data partitions were not included in the rollforward list. Data for those data partitions will not be present in the export directory.

Explanation: The command was unable to export the data of one or more data partitions for the dropped table. This can happen if not every table space over which the partitioned table is defined was included on the ROLLFORWARD command. This may be intentional if you are recovering the data from the partitioned table in several passes to limit the size of the file(s) in the export directory. See the administration notification log for the full list of data partitions whose data was not exported.

User response: Resubmit the command after ensuring that the table spaces containing the data partitions listed in the administration notification log are included. If recovering only the previously skipped data partitions, specify a different export file path to avoid overwriting the existing export file(s).

SQL4990N A maximum number of *number* literals is supported in an SQL statement. Each literal can be a maximum of *value* bytes in length.

Explanation: The COBOL precompiler only supports a maximum number of *number* literals in an SQL statement. Each literal can be a maximum of *value* bytes in length. A literal represents any input element that is not a host variable (that is, string constant, delimited identifier, non-delimited identifier).

The statement cannot be processed.

User response: Reduce the number of literals present in the SQL statement. Ensure that each literal is not greater than *value* bytes in length.

SQL4994N Precompilation was ended because of a user interrupt request.

Explanation: Precompilation was terminated because of an interrupt. The user may have pressed an interrupt key sequence.

Processing is terminated. No package was created.

User response: Resubmit the precompilation if needed.

SQL4997N The authorization ID is not valid.

Explanation: The authorization ID for the application was specified previously but it was defined with more than 8 characters or with characters that are not valid for an authorization ID.

The authorization ID must not be PUBLIC (public) and it must not begin with SYS (sys), IBM (ibm), or SQL (sql). Also, it must not contain the underscore character or any characters outside the database manager base character set.

The function cannot be processed.

User response: Retry the application with a valid authorization ID.

SQL4998C The application state is in error; the database connection has been lost.

Explanation: The connection to the database has been lost.

The function cannot be processed.

User response: Reconnect to the database.

SQL4999N A Precompiler Services or Run-Time Services error occurred.

Explanation: A database manager error occurred that prevents Precompiler Services or Run-Time Services from processing function calls.

No Precompiler Services or Run-Time Services function calls can be processed.

User response: Record the message number (SQLCODE) and all error information from the SQLCA if possible.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt.

- Environment: Outer Precompiler Using Precompiler Services API
- Required information:

- Problem description
- SQLCODE
- SQLCA contents if possible
- Trace file if possible.

SQL5000 - SQL5099

SQL5001N *authorization-ID* does not have the authority to change the database manager configuration file.

Explanation: The user attempted to Update or Reset the database manager configuration file without having SYSADM authority.

The requested change is not made.

User response: Do not attempt to change the database manager configuration file without appropriate authorization. Contact a user with SYSADM authority if a change is required.

- The host variable is a decimal data type, but the scale is not zero. Decimal data types must have zero decimal digits to have a scale of zero.

The statement cannot be processed.

User response: Change the host variable to be an exact numeric data type.

sqlcode: -5012

sqlstate: 42618

SQL5005C System Error.

Explanation: A system error, probably an I/O error, was encountered while accessing a configuration file.

The command cannot be processed.

User response: Resubmit the command.

If the error persists, check the db2diag.log file for details and ensure that the configuration file is accessible. If unable to resolve the problem, contact an IBM Service Representative for assistance.

SQL5018N The entry in the database manager configuration file for the maximum number of remote connections to the workstation (numrc) is not in the valid range.

Explanation: The value for the maximum number of remote connections to the workstation must be between 1 and 255.

The requested change is not made.

User response: Resubmit the command with a valid value for the maximum number of remote connections to the workstation.

SQL5010N The path name to the database manager configuration file is not valid.

Explanation: An error occurred while determining the path for the database manager configuration file. The database manager directory structure may have been altered.

The command cannot be processed.

User response: Resubmit the command. If the error continues, reinstall the database manager.

SQL5020N The entry in the database manager configuration file for the node name for the workstation (nname) is not valid.

Explanation: The node name specified in the configuration command is not valid. The node name may be 1 to 8 characters. All the characters must be chosen from the database manager base character set.

The command cannot be processed.

User response: Resubmit the command with a valid node name.

SQL5012N Host variable *host-variable* is not an exact numeric data type.

Explanation: A host variable *host-variable* was specified, but it is not valid in the context in which it was used. Host variable *host-variable* was specified as part of ABSOLUTE or RELATIVE in a FETCH statement, or in a ROWS clause of a FETCH or INSERT statement. The host variable was not usable for one of the following reasons:

- The host variable is not an exact numeric data type. Decimal data types with a scale of zero and integer data types are exact numeric data types.

SQL5021N The entry in the database manager configuration file for the index recreation parameter (INDEXREC) is not valid.

Explanation: An invalid value was passed to Configuration Services for the Index Recreation parameter (INDEXREC) in the database manager configuration file. The invalid value may have been entered through the Command Line Processor or through a program API call. The valid values for the API call and for the command line processor are 1

(ACCESS), 2 (RESTART), 3 (RESTART_NO_REDO) and 4 (ACCESS_NO_REDO).

The update to the database manager configuration file is rejected.

User response: Repeat the update request, entering one of the possible values.

SQL5022N The entry in the database configuration file for the index recreation parameter (INDEXREC) is not valid.

Explanation: An invalid value was passed to Configuration Services for the Index Recreation parameter (INDEXREC) in a database configuration file. The invalid value may have been entered through the Command Line Processor or through a program API call. The valid values for the API call and for the command line processor are 0 (SYSTEM), 1 (ACCESS), 2 (RESTART), 3 (RESTART_NO_REDO) and 4 (ACCESS_NO_REDO).

The update to the database configuration file is rejected.

User response: Repeat the update request, entering one of the possible values.

SQL5025C The database manager configuration file is not current.

Explanation: The database manager configuration file has been updated since you connected to the database. It is not compatible with the configuration for the database to which you are connected.

No access is allowed to the database manager configuration file.

User response: Wait until all applications disconnect from the databases. Issue the stop database manager command, and then issue the start database manager command.

If installing the sample database, drop it and install the sample database again.

SQL5028N The value of sysadm_group must be the primary group of the instance owner.

Explanation: An attempt was made to update sysadm_group in the database manager configuration file. For Version 2 of DB2 on Unix-based platforms, this value is only allowed to be the primary group of the instance owner.

User response: Use the primary group of the instance owner to update this field in the database manager configuration file on Unix-based platforms.

SQL5030C The release number is not valid.

Explanation: The release number in the database manager configuration file or database configuration file is not valid.

The command cannot be processed.

User response: Verify that the release levels of your database and DB2 match.

If installing the sample database, drop it and install the sample database again.

sqlcode: -5030

sqlstate: 58031

SQL5035N The database requires migration to the current release.

Explanation: The database was created on a lower level system release. The Migrate Database command must be used to convert the database to the current release level.

The command cannot be processed.

User response: Perform the Migrate Database command before attempting to use the database with the current system release.

If this message is received during a restore, drop the existing database before proceeding.

sqlcode: -5035

sqlstate: 55001

SQL5040N One of the socket addresses required by the TCP/IP server support is being used by another process.

Explanation: One of the socket addresses required by the server either is in use by another program, or has not been freed completely by the TCP/IP subsystem after the database manager has been stopped.

User response: If you have just issued db2stop, wait for a couple of minutes so that the TCP/IP subsystem has enough time to clean up its resources. Otherwise, make sure no other programs on your workstation are using the port numbers reserved for your service name in the /etc/services file. The port number is a component of a socket address.

SQL5042N One of the communication protocol server support processes failed to start up.

Explanation: Due to system call failure, or a communication subsystem call failure, one of the communication protocol server support processes did not start up successfully.

User response: You can investigate the problem by either:

- examine the system log records;
- turning on trace, run db2start again, then examine the trace record.

SQL5043N Support for one or more communications protocols failed to start successfully. However, core database manager functionality started successfully.

Explanation: Communication protocol support did not start successfully for one or more protocols. Possible reasons can include the following:

- Communication subsystem configuration error.
- Communication subsystem call failure.
- Database manager configuration error.
- System call failure.
- Database manager licensing error.

You can still connect to the server with communication protocols that did start successfully. Local clients can also connect to the server.

User response: The database manager attempts to start all communication protocols specified by the DB2COMM environment variable.

Check the administration notification log for details on this error. The log will contain more information on the cause of the error and also which communication protocol(s) did not start successfully.

This error only affects communication protocols specified by the DB2COMM environment variable.

SQL5047C Insufficient memory to execute this function.

Explanation: There is not enough memory available to execute this function.

The function cannot be completed.

User response: Stop the application. Possible solutions include:

- Terminate other processes.
- Decrease the values of the configuration parameters that define allocation of memory.
- Ensure that your system has sufficient real and virtual memory.

SQL5048N The release level of the database client is not supported by the release level of the database server.

Explanation: Database clients can only access database servers with a release level which is in the range of one

level lower than the client to two levels higher than the client.

User response: One or more of the following:

- Upgrade the client release level to fall within the range of releases supported by the current server release level.
- Upgrade the server release level to a level supported by the current client release level.

SQL5050C The content of the database manager configuration file is not valid.

Explanation: The database manager configuration file is not valid. The file may have been altered by a text editor or a program other than the database manager.

The command cannot be processed.

User response: Reinstall the database manager.

SQL5051N An object qualified by *qualifier* cannot be created in schema *schema-name*.

Explanation: An object created in a CREATE SCHEMA statement is qualified by *qualifier* which is different from the schema name. All objects created in a CREATE SCHEMA statement must be either qualified by the schema name *schema-name* or not qualified. Unqualified objects are implicitly qualified by the schema name.

The statement cannot be processed.

User response: Explicitly qualify the object in the schema with *schema-name* or remove *qualifier* from the object name.

sqlcode: -5051

sqlstate: 42875

SQL5055C The content of the database configuration file is not valid.

Explanation: The database configuration file for the database is not valid. The file may have been altered by a text editor or a program other than the database manager.

User response: Recreate the database or restore it from a backup version.

sqlcode: -5055

sqlstate: 58031

SQL5060N The configuration parameter token specified is invalid.

Explanation: A token number specified in the sqlfupd structure passed to a Configuration Services API is not valid. It does not represent any of the supported configuration parameters. Alternatively, if an UPDATE was attempted, the token specified may be that of an

unmodifiable configuration parameter.

User response: Choose a valid token number from those specified in the description of the Configuration Services API in the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>). Recode the call to the API, and rerun the program.

SQL5061N An invalid pointer to structure `sqlfupd` was passed to Configuration Services.

Explanation: The pointer to structure `sqlfupd` passed as a parameter to one of the Configuration Services APIs was invalid. It is either NULL, or does not point to an allocated block of memory of the size indicated by the count parameter.

User response: Correct the code which invokes the Configuration Services API, and retry the API call.

SQL5062N An invalid pointer was passed within the `sqlfupd` structure to Configuration Services.

Explanation: The structure `sqlfupd` passed as a parameter to one of the Configuration Services APIs contained an invalid pointer. The pointer is either NULL, or does not point to an allocated block of memory. Each token passed in the structure must have a corresponding pointer to a field that is either passed in or out of the API.

User response: Correct the code which invokes Configuration Services, and rerun the program.

SQL5065C The `nodetype` value in database manager configuration file is not valid.

Explanation: The `nodetype` parameter in the database manager configuration file is not valid.

The command cannot be processed.

User response: Reinstall the database manager.

SQL5066W The database configuration parameter value for token `token-name` has been truncated.

Explanation: The database configuration parameter value is larger than the specified token can contain.

A new token now represents this database configuration parameter value and should be used if the value is larger than can be contained by the old token.

User response: Use the new token for this database configuration parameter.

SQL5070N The count parameter in the configuration command is not valid. It must be greater than 0.

Explanation: The count value passed as a parameter to a Configuration Services API must be greater than 0.

The command cannot be processed.

User response: Correct the code which invokes Configuration Services, and rerun the program.

SQL5075N The configuration utility was interrupted.

Explanation: An interrupt was received by the configuration utility. The user may have pressed the interrupt key sequence.

The command was not processed. Any requested change is not made.

User response: Resubmit the command.

SQL5076W The update completed successfully. The current value of `NOTIFYLEVEL` will cause some health monitor notifications not to be issued to the notification log.

Explanation: Health Monitor issues notifications to the notification log and to specified e-mail and page contacts. The current value of `NOTIFYLEVEL` is set too low to have notifications be issued for alarms and warnings. `NOTIFYLEVEL` must be set to 2 or higher for alarm notifications and 3 or higher for warning notifications.

User response: Increase the value of the database manager configuration parameter `NOTIFYLEVEL`.

SQL5077N The parameter `parameter` is not supported by the Configuration Advisor for this server release. Supported parameters include `supported-parameters`.

Explanation: The parameter specified is not supported by this server release.

User response: Reissue the command without the parameter or replace it with another supported parameter.

SQL5081N The entry in the database configuration file for the size of the buffer pool (`buffpage`) is not in the valid range.

Explanation: The minimum value for the size of the buffer pool is two times the maximum number of active processes (`maxappls`). The maximum value for the size of the buffer pool is 524288 (number of 4KB pages) and is operating system dependent. The maximum value under AIX is 51000 (204000 for Extended Server Edition) (4KB pages). Under HP-UX,

the value must be between 16 and 150000 (4KB pages).

The requested change is not made.

User response: Resubmit the command with a valid value for the size of the buffer pool.

SQL5083N The entry in the database configuration file for the initial log file size (logfile) is not in the valid range.

Explanation: The value for the initial log file size must be between 12 and $(2^{*}32 - 1)$.

The requested change is not made.

User response: Resubmit the command with a valid value for the initial log file size.

SQL5091N The entry in the database configuration file for the size of one log file extension (logext) is not in the valid range.

Explanation: The value for the size of one log file extension must be between 4 and 256.

The requested change is not made.

User response: Resubmit the command with a valid value for the size of one log file extension.

SQL5092N The entry in the database configuration file for the maximum allowable number of log file extensions (logmaxext) is not in the valid range.

Explanation: The value for the maximum allowable number of log file extensions must be between 0 and $(2 * 10^{*}6)$.

The requested change is not made.

User response: Resubmit the command with a valid value for the maximum allowable number of log file extensions.

SQL5093N The entry for the database configuration parameter for the size of the agent heap is not in the valid range.

Explanation: The value for the size of the agent heap must be between 2 and 85.

The requested change is not made.

User response: Resubmit the command with a valid value for the agent heap size.

SQL5099N The value *value* indicated by the database configuration parameter *parameter* is not valid, reason code *reason-code*.

Explanation: The path is not valid for one of the following reasons:

- 1 The path string is longer than 242 bytes.
- 2 The path does not exist.
- 3 The first directory in the path has a name in the form SQLNNNNN, where NNNNN is a value from 00001 to 99999.
- 4 A file with the correct name was found in the specified path, but is not a log file for this database.
- 5 The path is currently being used by another database.
- 6 The path is currently being used by the same database for another purpose.
- 7 The device specified by the path is not big enough to hold the log files.
- 8 A raw device cannot be specified as a MIRRORLOGPATH, OVERFLOWLOGPATH, FAILARCHPATH, LOGARCHMETH1, or LOGARCHMETH2.
- 9 The path cannot be accessed.
- 10 The path string is longer than 206 bytes.
- 11 When specifying DISK for a method, the target must be a directory.
- 12 When specifying VENDOR for a method, the target must be a directory.
- 13 LOGARCHMETH2 must be set to OFF if LOGARCHMETH1 is set to USEREXIT or LOGRETAIN.
- 14 When specifying DISK or VENDOR, a target value must be specified.
- 15 A target value cannot be specified when using LOGRETAIN or USEREXIT.
- 16 Invalid method specified. Valid values include DISK, TSM, VENDOR, USEREXIT, LOGRETAIN, and OFF.
- 17 Cannot switch to circular logging when database is rollforward pending.

The requested change is not made.

User response: Resubmit the command with a valid value for the path.

sqlcode: -5099

sqlstate: 08004

SQL5100 - SQL5199

SQL5100N The entry in the database manager configuration file for the number of allowed concurrent databases is too large.

Explanation: The requested change would cause (1) the number of allowed concurrent databases to be too large or (2) the number of segments allowed for DB2 to be too small.

The number of allowed concurrent databases is restricted by the maximum number of segments allowed for DB2. The following condition must always be true:

```
segments >=
((number of databases * 5) + 1)
```

The requested change is not made.

User response: Do one of the following:

- Increase the maximum number of segments allowed for DB2.
- Decrease the number of allowed concurrent databases.

SQL5101N The entries in the database configuration file define log file parameters (logprimary and logsecond) that are not in the valid range.

Explanation: The requested change would cause the total number of logfiles to be out of range. The following condition must always be true:

```
logprimary + logsecond <= 128
```

The requested change is not made.

User response: Do one or both of the following:

- Decrease the number of primary log files.
- Decrease the number of secondary log files.

SQL5103N The entry in the database configuration file for the size of the buffer pool (buffpage) is too small for the maximum number of active applications (maxappls).

Explanation: The requested change would cause the maximum number of active applications to be too large for the size of the buffer pool. The following condition must always be true:

```
bufferpool_size >
(number of active_processes * 2)
```

The requested change is not made.

User response: Do one or both of the following:

- Increase the size of the buffer pool.
- Decrease the maximum number of active processes allowed.

SQL5112N The value of the configuration parameter *parameter* must be either 0 or 1.

Explanation: The request is not completed because the value given for *parameter* is invalid.

User response: Ensure that the value specified for *parameter* is either 0 or 1, then try the request again.

SQL5113N ALT_COLLATE cannot be updated for a Unicode database.

Explanation: The alternate collating sequence (ALT_COLLATE) database configuration parameter can only be updated for a non-Unicode database. In a Unicode database, all tables must be collated using the collating sequence specified when the database was created.

User response: Do not update the ALT_COLLATE database configuration parameter for a Unicode database.

SQL5120N Old and new log parameters cannot both be modified at the same time.

Explanation: The user is attempting to modify both the previous log parameters and the new parameters. The application should only support the parameters of the current release.

The request is denied.

User response: Modify only the parameters of the current release and retry the command.

SQL5121N The entry in the database configuration file for configuration options is not valid.

Explanation: The value set for database options (SQLF_DETS) is not valid. Valid settings are between 0 and 15. The requested change is not made.

The requested change is not made.

User response: Resubmit the command with a valid database options value.

SQL5122N Access to the database was invalid because of a machine dependent check.

Explanation: The database and database configuration file cannot be accessed because of copy protection.

The user request is denied.

User response: Return to the original database and modify the configuration file to turn the copy protection off, then create a new backup which may be used to restore the database. This must be done by an individual with SYSADM authority. If the original

database is no longer available, contact your service representative.

SQL5123N Database name cannot be configured because an I/O error occurred while accessing the log control file.

Explanation: An error occurred while accessing SQLLOGCTL.LFH for the specified database.

The requested change is not made.

User response: Restore the database from a backup copy or recreate the database.

SQL5124N DB2 failed to update the database configuration on one or more nodes. Reason code reason-code.

Explanation: Possible reason code values are:

- 1 The database configuration was not changed because the update failed on at least one node. See the db2diag.log file for more details.
- 2 The database configuration is inconsistent among the nodes because the update failed on at least one node. See the db2diag.log file for more details.

User response: Solutions according to reason code are provided below:

- 1 Make sure all nodes are up and running and resubmit the request.
- 2 Make sure all nodes are up and running. Resubmit the request or review the configuration updates and apply them manually on all nodes.

SQL5126N An attempt was made to modify the database manager configuration parameter parm which is not valid for a node type of node-type-code.

Explanation: The user attempted to modify a database manager configuration parameter which is invalid for the given node type. "<node-type-code"> is defined as follows:

- 1 Database server with local and remote clients
- 2 Client
- 3 Database server with local clients
- 4 Partitioned Database Server with local and remote clients
- 5 Satellite Database Server with local clients

The requested change is not made.

User response: Resubmit the request with a valid parameter for the given nodetype.

SQL5130N The value specified for the configuration parameter parameter is not in the valid range of start-of-range to end-of-range.

Explanation: The request is not done because the value of *parameter* is not within the valid range.

User response: Ensure that the value specified for *parameter* is within the valid range, then try the request again.

SQL5131N The value specified for the configuration parameter parameter is not in the valid range. The valid range is "-1", or from start-of-range to end-of-range.

Explanation: The request is not done because the value of *parameter* is not within the valid range.

User response: Ensure that the value specified for *parameter* is within the valid range, then try the request again.

SQL5132N The configuration parameter is null or too long. The maximum length is maximum-length.

Explanation: The configuration parameter is not set or too long.

User response: Change the value of the configuration parameter to within the maximum length given.

SQL5133N The value value for configuration parameter parm is invalid. The valid set of values is value-list.

Explanation: *value* was the value specified for the configuration parameter *parm*. This value is not one of the allowable values shown in the *value_list*.

Consult the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) for the meanings of these values.

User response: Change the value of the configuration parameter to one of the values shown in the valid list.

SQL5134N The configuration parameter tpname contains invalid characters.

Explanation: One or more characters in the *tpname* is not in the valid range. The characters in the *tpname* must be one of the following:

- A - Z
- a - z
- 0 - 9
- \$
- #
- @

- . (period)

User response: Change the *tpname* and retry the command or function call.

SQL5135N The settings of the *maxlocks* and *maxappls* configuration parameters do not use all of the locklist space.

Explanation: The number of active processes (*maxappls*) times the maximum percentage of lock list space for each application (*maxlocks*) must be greater than or equal to 100. That is:

$maxappls * maxlocks \geq 100$

This ensures that all of the allocated locklist space can be used.

User response: Increase the setting for *maxappls*, *maxlocks*, or both.

SQL5136N The entry in the database manager configuration file for the default database path (*dftdbpath*) is invalid.

Explanation: An invalid value was specified by *dftdbpath*. The rules for the default database path on UNIX-based systems are:

1. the path must follow the operating system's naming conventions
2. the path must exist
3. the path must be less than or equal to 215 characters

The rules for other platforms are:

1. the path must be a drive letter
2. the drive must exist

User response: Change the *dftdbpath* and retry the command or function call.

SQL5137N The entry in the database manager configuration file for the diagnostic directory path (*diagpath*) is invalid.

Explanation: An invalid value was specified for *diagpath*. The rules for the diagnostic directory path are:

1. the path must follow the operating system's naming conventions
2. the path must exist
3. the path must be less than or equal to 215 characters

User response: Change the *diagpath* and retry the command or function call.

SQL5140N The entry in the database manager configuration parameter "authentication" must be one of SERVER, CLIENT, DCE, KERBEROS, SERVER_ENCRYPT, DCE_SERVER_ENCRYPT, or KRB_SERVER_ENCRYPT.

Explanation: The allowed values for the configuration parameter "authentication" are:

- SERVER = 0
- CLIENT = 1
- DCE = 3
- SERVER_ENCRYPT = 4
- DCE_SERVER_ENCRYPT = 5
- KERBEROS = 7
- KRB_SERVER_ENCRYPT = 8

The requested change is not made.

User response: Resubmit the command with a valid value for "authentication".

SQL5141N The configuration parameter *avg_appls* is out of range. The valid range is from 1 to the value of *maxappls*.

Explanation: The allowable range for *avg_appls* is from 1 to the value of *maxappls*.

The requested change is not made.

User response: One or more of the following:

- Change the value of *avg_appls* to a value in the valid range.
- Increase the value of *maxappls* to a higher value, then set *avg_appls* again.

SQL5142N The configuration parameter *agentpri* is not in the valid range.

Explanation: The valid values for *agentpri* are -1, or a three digit number of which the first digit is a priority class ranging from 2 to 4 and the last two digits are a priority level within the class in the range of 00 to 31. The priority class is defined as follows:

- | | |
|---|------------------|
| 2 | REGULAR |
| 3 | TIMECRITICAL |
| 4 | FOREGROUNDSERVER |

For example, the number 304 would correspond to a priority class of 3 (TIMECRITICAL), with a priority level of 4.

User response: Change the value of the configuration parameter to a value within the valid range.

SQL5143N Unable to alter the buffer pool *bufferpool-name* to AUTOMATIC because the DB2_AWE registry variable is set for the specified buffer pool.

Explanation: The buffer pool *bufferpool-name* configured to use AWE cannot be altered to become AUTOMATIC.

User response: Disable AWE by setting the DB2_AWE registry variable to NULL before altering the buffer pool to AUTOMATIC.

sqlcode: -5143

sqlstate: 53040

SQL5144W The parameter update took effect but self tuning of the automatic parameters will not occur until the database configuration parameter SELF_TUNING_MEMORY is set to ON.

Explanation: Self tuning of the AUTOMATIC memory parameters is not active when SELF_TUNING_MEMORY is set to OFF.

User response: Update the database configuration parameter SELF_TUNING_MEMORY to ON to enable self tuning of the AUTOMATIC memory parameters.

SQL5145W The parameter update took effect however tuning of the AUTOMATIC memory parameters was deactivated because an insufficient number of parameters or buffer pools are set to AUTOMATIC.

Explanation: Self tuning of the AUTOMATIC memory parameters is active when 2 or more tunable parameters or buffer pools are set to AUTOMATIC and SELF_TUNING_MEMORY is ON. Self tuning was active but the configuration update caused its deactivation.

User response: Self tuning of the AUTOMATIC memory parameters will resume when one or more tunable parameters or buffer pools are set to AUTOMATIC.

SQL5146W *Parameter_1* must be set to *Parameter_3* when *Parameter_2* is *Parameter_3*. *Parameter_1* has been set to *Parameter_3*.

Explanation: If *Parameter_2* is AUTOMATIC then *Parameter_1* must be set to AUTOMATIC as well. To this end, *Parameter_1* was set to AUTOMATIC.

User response: *Parameter_1* was set to AUTOMATIC by DB2. To set this parameter to a different value, first set *Parameter_2* to a value and then set *Parameter_1* to a value using the MANUAL option of the db2 update database configuration command.

SQL5147N *Parameter_1* cannot be set to MANUAL if *Parameter_2* is AUTOMATIC.

Explanation: If *Parameter_2* is AUTOMATIC then *Parameter_1* needs to be AUTOMATIC as well.

User response: To set *Parameter_1* to another value, *Parameter_2* must be set to a value other than AUTOMATIC first.

SQL5148W The database configuration parameter *Parameter_1* was successfully updated to AUTOMATIC but self tuning of *Parameter_1* will not take effect until the database manager parameter SHEAPTHRES is set to 0.

Explanation: Self tuning of the database configuration parameter *Parameter_1* is only allowed when the database manager configuration parameter SHEAPTHRES is set to 0.

User response: If you wish to enable self tuning of the database configuration parameter *Parameter_1* set the database manager configuration parameter SHEAPTHRES to 0.

SQL5150N The value specified for the configuration parameter *parameter* is less than the minimum allowable value of *minimum-value*.

Explanation: The request is not completed because the value given for *parameter* is too low. *parameter* may not be less than *minimum value*

User response: Ensure that the value specified for *parameter* is within the valid range, then try the request again.

SQL5151N The value specified for the configuration parameter *parameter* is less than the minimum allowable value of *minimum-value* and is not -1.

Explanation: The request is not completed because the value given for *parameter* is invalid. Except for an allowable value of -1, *parameter* may not be less than *minimum value*.

User response: Ensure that the value specified for *parameter* is within the valid range, then try the request again.

SQL5152N The value specified for the configuration parameter *parameter* is greater than the maximum allowable value of *maximum-value*.

Explanation: The request is not completed because the value given for *parameter* is too high. *parameter* may not be greater than *maximum value*

User response: Ensure that the value specified for *parameter* is within the valid range, then try the request again.

SQL5153N The update cannot be completed because the following relationship would be violated: *condition*

Explanation: A valid configuration file must maintain the following relationship:

condition.

The update request could not be completed because the resulting configuration would violate that relationship.

User response: Resubmit the request, ensuring that the relationship is satisfied.

SQL5154N The requested combination of configuration values for "authentication" and *parameter* is not allowed. Reason code = *reason-code*.

Explanation: The explanation corresponding to the reason code is:

1. The database manager configuration parameter "authentication" must have the value "CLIENT" if the value of *parameter* is non-default.
2. Unable to update the database manager configuration parameter AUTHENTICATION or SRVCON_AUTH to GSSPLUGIN or GSS_SERVER_ENCRYPT before the database manager configuration parameter *parameter* is set.
3. Unable to update the database manager configuration parameter AUTHENTICATION or SRVCON_AUTH to KERBEROS or KRB_SERVER_ENCRYPT before the database manager configuration parameter *parameter* is set.

The requested change is not made.

User response: The user response corresponding to the reason code is:

1. Resubmit the command with a valid combination of configuration parameter values.
2. Set the database manager configuration parameter *parameter* and then resubmit the statement.
3. Set the database manager configuration parameter *parameter* and then re submit the statement.

SQL5155W The update completed successfully. The current value of SORTHEAP may adversely affect performance.

Explanation: The value of SORTHEAP is currently greater than half the value of the database manager configuration parameter SHEAPTHRES. This may cause performance to be less than optimal.

User response: Increase the value of the database

manager configuration parameter SHEAPTHRES and/or decrease the value of SORTHEAP so that SHEAPTHRES is at least twice as large as SORTHEAP.

A larger ratio is desirable in most cases. See the *Administration Guide* for recommendations on configuration parameter tuning.

SQL5156N The value of the database manager configuration parameter "trust_allclnts" must be one of NO, YES, or DRDAONLY.

Explanation: The allowed values for the configuration parameter "trust_allclnts" are:

- NO = 0
- YES = 1
- DRDAONLY = 2

The requested change is not made.

User response: Resubmit the command with a valid value for "trust_allclnts".

SQL5180N DB2 is unable to read the federation configuration file *file-name*.

Explanation: The federated configuration file could not be found, or it could not be opened for reading.

User response: Specify the federation configuration file in the DB2_DJ_INI registry variable. Be sure that the file exists and is readable. Ensure a fully qualified path is specified for the location of the file.

SQL5181N The format of line *line-number* in the federation configuration file *file-name* is invalid.

Explanation: The specified line is not in the correct format. Entries must follow the format <evname> = <value>, where <evname> is the name of the environment variable and <value> is the corresponding value.

The entries should comply with the following restrictions:

- The environment variable name has a maximum length of 255 bytes.
- The environment variable value has a maximum length of 765 bytes.
- The maximum length of any line in the file is 1021 bytes. Data beyond this length will be ignored.
- If the environment variable value specifies a file or directory name, then the name should be fully qualified and should not contain any of the following:
 - Filename meta characters such as ~ (tilde).
 - Environment variables such as \$HOME.

User response: Put the specified line in the format

described in the preceding paragraph.

SQL5182N A required environment variable, *variable-name*, has not been set.

Explanation: In the federated configuration file `db2dj.ini`, the environment variable *variable-name* is unlisted, or it is listed but has no value.

User response: Refer to the federation documentation for information about updating the federated configuration file.

SQL5500 - SQL5599

SQL5500N DB2 is unable to read the vendor configuration file *file-name*.

Explanation: The vendor configuration file could not be found, or it could not be opened for reading.

User response: Specify the vendor configuration file in the `DB2_VENDOR_INI` registry variable. Ensure that the file exists and that the file permissions enable it to be opened by DB2. Ensure a fully qualified path is specified for the location of the file.

SQL5501N The format of line *line-number* in the vendor configuration file *file-name* is invalid.

Explanation: The specified line is not in the correct format. Entries must follow the format `<evname> = <value>`, where `<evname>` is the name of the environment variable and `<value>` is the corresponding value.

SQL6000 - SQL6099

SQL6000N DB2 Conversion of QMF Data.

Explanation: This is the normal termination message.

User response: No action is required.

SQL6001N The prefix for the filename was not specified.

Explanation: The user executed a module of the SQLQMF facility directly rather than using the SQLQMF facility command.

The command cannot be processed.

User response: Use the provided SQLQMF facility command.

SQL6002N Communications Manager encountered a download error.

Explanation: Communications Manager encountered an error during the download of the host file.

The command cannot be processed.

SQL5185N Pass-through to *server-type* data sources is not supported.

Explanation: The Pass-Through facility cannot be used to access *server-type* data sources.

User response: None required.

sqlcode: -5185

sqlstate: 428EV

The entries should comply with the following restrictions:

- The environment variable name has a maximum length of 255 bytes.
- The environment variable value has a maximum length of 765 bytes.
- The maximum length of any line in the file is 1021 bytes. Data beyond this length will be ignored.
- If the environment variable value specifies a file or directory name, then the name should be fully qualified and should not contain any of the following:
 - Filename meta characters such as `~` (tilde).
 - Environment variables such as `$HOME`.

User response: Ensure the specified line matches the previously described format.

User response: Review the Communications Manager message log.

SQL6003N The file exported from QMF contains rows that are too long. The row length is *number*.

Explanation: The computed row size (the sum of the computed column sizes) exceeds the maximum of 7000 bytes.

The command cannot be processed.

User response: Return to your QMF host session and run a query with fewer data columns selected. EXPORT the data again and then try the SQLQMF facility command again.

SQL6004N *function* returned the unexpected return code *code*.

Explanation: An unexpected error occurred during processing. The Communications Manager or DB2 may not be installed or configured correctly.

The command cannot be processed.

User response: Ensure that Communications Manager has been installed and the appropriate host communications session is active. Retry the command after checking for other errors. If the problem persists, contact your Communications Manager system administrator.

SQL6005N An error occurred while reading the downloaded QMF file.

Explanation: One of the following conditions was encountered:

- The file could not be opened.
- The end of file was encountered prematurely.
- There was an I/O error while reading the file.

The command cannot be processed.

User response: Review the Communications Manager message log. Retry the command. If the error continues, contact your Communications Manager system administrator.

SQL6006N An error occurred while writing to an output file.

Explanation: One of the following conditions was encountered:

- Not enough space exists on the C: drive to write the data.
- An output file could not be opened.
- An I/O error occurred while writing the file.
- An I/O error occurred while closing the file.

Federated system users: there isn't enough space to hold the db2djlink output. Additional space is required for the temporary files that db2djlink creates and uses.

The command cannot be processed.

User response: Check for sufficient disk space on the C: drive. Retry the command.

Federated system users: increase the size of the file system where the federated server is installed. To estimate the amount of free space db2djlink needs on an AIX operating system, enter:

```
ls -e /  
install_directory/lib/libdb2euni.a
```

This command returns the number of bytes used by the listed file. Multiply that number by 3. The result is an estimate of how much free space is needed on the file system. Increase the size of the file system as necessary and retry the command.

SQL6007N The decimal number in row *row*, column *column* cannot be converted to ASCII.

Explanation: The indicated decimal field could not be converted.

The command cannot be processed.

User response: Verify that the host column data type is DECIMAL. Retry the QMF EXPORT and then try the SQLQMF facility command again. If the error continues, rerun the QMF query without the named column.

SQL6008N The file specified in the command is not in QMF data format.

Explanation: The file specified by the *filename* parameter is not in the expected QMF format.

The command cannot be processed.

User response: Verify that you have typed the name correctly. If correct, return to your QMF host session and issue the command EXPORT DATA TO *filename* again. Be sure to export using the QMF data format.

SQL6009N The file exported from QMF contains Column *name* with a width *width* that is too long. The maximum column width is 4000 bytes.

Explanation: The downloaded QMF file has a column width greater than 4000 bytes.

The command cannot be processed.

User response: Return to your QMF host session, rerun the QMF query without the named column, and export the data again. Then run the SQLQMF facility command again.

SQL6010N The downloaded QMF file has more than 255 data columns.

Explanation: The file being processed has more than 255 data columns.

The command cannot be processed.

User response: Return to your QMF host session and rerun a query, selecting 255 or fewer data columns. EXPORT the data again and then run the SQLQMF facility command again.

SQL6011N The data type *number* (*type-text*) of column *name* (positioned at column *number*) cannot be processed.

Explanation: The QMF file contains a column with data type that is not supported.

The SQLQMF facility does NOT support the following data types:

- LONG VARCHAR

- LONG VARGRAPHIC.

Only the SQLQMF facility SQLQMFDB supports graphic data types.

The command cannot be processed.

User response: Return to your QMF host session and rerun the query without selecting the named column. Then run the SQLQMF facility command again.

SQL6012N Too many parameters were specified for the command.

Explanation: Too many parameters were specified with the command.

The command cannot be processed.

User response: Retry the command with the correct number of parameters.

SQL6013N Host filename *host-filename* is either too long or does not begin with an alphabetic character.

Explanation: The *host filename* does not begin with an alphabetic character; or, if the host is a VM System, the *host filename*, *filetype*, or *filemode* are too long.

The command cannot be processed.

User response: Retry the command with a correct *host filename* syntax.

SQL6014N Invalid command syntax, colon (':') should follow a keyword.

Explanation: Keyword parameters with operands require the keyword to be immediately followed by a ":" character and then the operand.

The command cannot be processed.

User response: Verify the command syntax and retry the command.

SQL6015N The keyword is not recognized.

Explanation: The keyword parameter indicator ("/'") was followed by a value that is not a keyword.

The command cannot be processed.

User response: Retry the command using a different keyword value.

SQL6016N Too many operands for the System/370 filename *name*.

Explanation: If the host is a VM System, the host file name contains more than three space-separate tokens. If the host is an MVS System, the host filename contains embedded blanks.

The command cannot be processed.

User response: Retry the command using a different keyword value.

SQL6017N More information may be contained in the Import message log *name*.

Explanation: The database IMPORT operation terminated with warning or error messages.

The command has left its work files allocated.

User response: Use the message preceding this message and the IMPORT message log, if it exists, to decide if the IMPORT was successful and to determine corrective action. If the import was successful, erase the DEL, CRE, COL, and IML files.

SQL6018N No S/370 filename was specified.

Explanation: The S/370 filename is a required parameter.

The command cannot be processed.

User response: Retry the command with a host filename.

SQL6019N Communications short session ID *ID* is either too long or is invalid.

Explanation: The value provided for the communications short session ID is either longer than one byte or is not alphabetic.

The command cannot be processed.

User response: Retry the command with a valid value.

SQL6020N An import option was specified without also providing a database name.

Explanation: No database name was provided and an import option was specified.

The command has terminated.

User response: Retry the command and include a database name.

SQL6021N Data was successfully imported.

Explanation: This is a normal ending message when the SQLQMF facility imports data to a database.

User response: No action is required.

SQL6022N System database directory is not shared by all nodes.

Explanation: All nodes should be accessing one physical copy of the system database directory.

The command cannot be processed.

User response: Ensure that all nodes are accessing the system database directory that resides in the sqllib directory, then try the request again.

SQL6023N The user does not have the authority to run the Get Table Partitioning Information utility on table *name*.

Explanation: The user attempted to retrieve partitioning information on the specified table without the appropriate authorization (either the SYSADM or DBADM authority or the CONTROL or SELECT privilege on the table).

The utility stops processing.

User response: Do not attempt to call the Get Table Partitioning Information utility without appropriate authorization. Contact your system administrator for assistance.

SQL6024N Table or index *name* is not defined on node *node-number*.

Explanation: The application is connected to node *node-number*, and the table or index *name* is not defined.

The cause is one of the following:

- The node to which the application is connected is not a member of the nodegroup in which the table or index was created.
- The node is not in use by that nodegroup.

The utility stops processing.

User response: Connect the application to a node on which the table or index is defined. Determine the nodegroup in which the table was created and obtain the list of nodes in the nodegroup by selecting the appropriate rows from the NODEGROUPDEF catalog view. The nodes whose IN_USE value is set to Y are the ones on which the table or index is defined.

SQL6025N Database backed up on node *node1* cannot be restored to node *node2*.

Explanation: The backup image used for the restore is a backup of the database on a different node.

User response: Ensure that you have the correct backup image for the node, then try the request again.

SQL6026N Database with catalog node *node1* cannot be restored to a database with catalog node *node2*.

Explanation: The catalog node can exist on only one node and there is a discrepancy between the backup image and the node being restored to. This can occur in the following cases:

- The backup image specified catalog node *node1* and the restore was attempted on an existing database whose catalog node is node *node2*.
- The restore was attempted to a new database and the catalog node has not been restored first. (Restore the catalog node first to create the database on all nodes).

User response: Verify that the correct backup image is being restored.

If you are restoring to an existing database and want to change the catalog node to *node2*, the existing database must be dropped first.

If you are restoring to a new database, restore the catalog node *node1* first.

SQL6027N The path *path* for the database directory is not valid.

Explanation: The path *path* specified for either the CREATE DATABASE or the CATALOG DATABASE command starts with the character '.' or contains the character string './'.

The command cannot be processed.

User response: Ensure that the specified path is a fully qualified path, does not start with the character '.', and does not contain the character string './'. Then try the request again.

SQL6028N Catalog database failed because database *dbname* was not found in the local database directory.

Explanation: When cataloguing a local database into the system database directory, the command/API has to be issued from a node on the server where the database resides.

User response: Reissue the command/API from a node where the database resides.

SQL6030N START or STOP DATABASE MANAGER failed. Reason code *reason-code*.

Explanation: The reason code indicates the error. The statement cannot be processed.

- (1) Cannot access the sqllib directory of the instance.
- (2) The full path name added to the profile filename is too long.
- (3) Cannot open the profile file.
- (4) The nodenum parameter value is not defined in the db2nodes.cfg file in the sqllib directory.
- (5) The nodenum parameter must be specified when a command option is specified.

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| <ul style="list-style-type: none"> (6) The port parameter value is not valid. (7) The new couple hostname/port is not unique. (8) The FORCE option cannot be specified when the NODENUM option is specified. (9) The hostname and port parameters must be specified when using the ADDNODE option. (10) Cannot update the db2nodes.cfg file in the sqllib directory for the ADDNODE or RESTART option. (11) The hostname parameter value is not valid. (12) The pointer to the sqledbstrtopt or sqledbstopopt structure is not valid. (13) No port value is defined for your DB2 instance id (/etc/services file on UNIX-based systems). (14) The port value is not in the valid port range defined for your DB2 instance id (/etc/services file on UNIX-based systems). (15) A hostname value has no corresponding port 0 defined in the db2nodes.cfg file in the sqllib directory. (16) The value specified for the command or option parameter is not valid. (17) The DROP option cannot be specified when the NODENUM option is not specified. (18) The value specified for the callerac parameter is not valid. (19) Unable to create the UNIX socket directory /tmp/db2_<ver>_<rel> /\$DB2INSTANCE. (20) The node number specified with the ADDNODE option already exists in the db2nodes.cfg file or the node has been already been added since the last stop database manager command was issued. (21) The tablespace type specified with the ADDNODE option is not valid. (22) The tablespace node specified with the ADDNODE option is out of range. (23) The computer name parameter must be specified for the ADDNODE option. (24) The user name parameter must be specified for the ADDNODE option. (25) The computer name is not valid. (26) The user name is not valid. (27) The password is not valid. (28) The password is expired. (29) The user account specified is either disabled, expired, or restricted. (31) The netname parameter is not valid. | <p>User response: The action corresponding to the reason code is:</p> <ul style="list-style-type: none"> (1) Ensure that the \$DB2INSTANCE userid has the required permissions to access the sqllib directory of the instance. (2) Change the profile name to a shorter name so that the total length of the fully qualified path added to the profile name length is smaller than the SQL_PROFILE_SZ defined in the file sqlenv.h. (3) Ensure that the profile file exists. (4) Ensure that the nodenum value specified is defined in the db2nodes.cfg file in the sqllib directory and is between 0 and 999. (5) Resubmit the command with the nodenum parameter specified. (6) Ensure that the port value is between 0 and 999. If a value is not specified, the port value defaults to 0. (7) Ensure that the new couple hostname/port is not already defined in the db2nodes.cfg file in the sqllib directory. (8) Do not specify the FORCE option when you specify the NODENUM option. (9) Ensure that the hostname and the port values are specified when you specify the ADDNODE option. (10) Ensure that the \$DB2INSTANCE username has write access to the sqllib directory of the instance, that there is sufficient disk space, and the file exists. (11) Ensure that the specified hostname is defined on the system. (12) Ensure that the pointer is not NULL and points to the sqledbstrtopt for the sqlepstr() API, or to the sqledbstopopt structure for the sqlepstp() API. (13) Ensure that the services file (/etc/services on UNIX-based systems) contains an entry for your DB2 instance id. (14) Ensure that you only use port values that are specified in the services file (/etc/services file on UNIX-based systems) for your instance. (15) Ensure that all the hostname values have a port 0 defined in the db2nodes.cfg file in the sqllib directory including the restart option parameters. (16) Ensure that the value specified for the option parameter is within the valid range. (17) Specify the NODENUM option when you specify the DROP option. |
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| <p>(18) Ensure that the value specified for the callerac parameter is within the valid range.</p> <p>(19) Check the permission of the /tmp filesystem to make sure all intermediate directories of /tmp/db2_<ver>_<rel>/ \$DB2INSTANCE can be created.</p> <p>(20) Ensure that the correct node number is being specified. You must stop the database manager to update the db2nodes.cfg file with nodes that have been added to the system since the previous stop database manager command.</p> <p>(21) Ensure that the value specified for the tablespace type is within the valid range.</p> <p>(22) Ensure that the tablespace node value specified is defined in the db2nodes.cfg and is between 0 and 999.</p> <p>(23) Specify the computer name of the system on which the new node is created using the COMPUTER option.</p> <p>(24) Specify a valid domain account user name and password for the new node using the USER and PASSWORD options.</p> <p>(25) Resubmit the command with a valid computer name.</p> <p>(26) Resubmit the command with a valid user name.</p> <p>(27) Resubmit the command with a valid password.</p> <p>(28) Change/update the account password and resubmit the command.</p> <p>(29) Resubmit the command with a valid user account.</p> <p>(31) Ensure that the length of the netname is not longer than SQL_HOSTNAME_SZ.</p> | <p>(6) The nodenum value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is out of sequence.</p> <p>(7) The nodenum value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not unique.</p> <p>(8) The port value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not valid.</p> <p>(9) The hostname/port couple at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not unique.</p> <p>(10) The hostname at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not valid.</p> <p>(11) The port value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not defined for your DB2 instance id in the services file (/etc/services on UNIX-based systems).</p> <p>(12) The port value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not in the valid port range defined for your DB2 instance id in the services file (/etc/services on UNIX-based systems).</p> <p>(13) The hostname value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory has no corresponding port 0.</p> <p>(14) A db2nodes.cfg file with more than one entry exists, but the database manager configuration is not MPP.</p> <p>(15) The netname at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not valid.</p> <p>(16) The hostname at line <i>line</i> of the db2nodes.cfg file in the sqllib directory conflicts with the value of DB2FCMCOMM registry variable.</p> |
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User response: The action corresponding to the reason code is:

SQL6031N Error in the db2nodes.cfg file at line number *line*. Reason code *reason-code*.

Explanation: The statement cannot be processed because of a problem with the db2nodes.cfg file, as indicated by the following reason codes:

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| <p>(1) Cannot access the sqllib directory of the instance.</p> <p>(2) The full path name added to the db2nodes.cfg filename is too long.</p> <p>(3) Cannot open the db2nodes.cfg file in the sqllib directory.</p> <p>(4) A syntax error exists at line <i>line</i> of the db2nodes.cfg file in the sqllib directory.</p> <p>(5) The nodenum value at line <i>line</i> of the db2nodes.cfg file in the sqllib directory is not valid.</p> | <p>(1) Ensure that the \$DB2INSTANCE userid has the required permissions to access the sqllib directory of the instance.</p> <p>(2) Make the instance home directory path name shorter.</p> <p>(3) Ensure that the db2nodes.cfg file exists in the sqllib directory and is not empty.</p> <p>(4) Ensure that at least 2 values are defined per line in the db2nodes.cfg file and that the file does not contain blank lines.</p> <p>(5) Ensure that the nodenum value defined in the db2nodes.cfg file is between 0 and 999.</p> <p>(6) Ensure that all the nodenum values defined in the db2nodes.cfg file are in ascending order.</p> <p>(7) Ensure that each nodenum value defined in the db2nodes.cfg file is unique.</p> |
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- (8) Ensure that the port value is between 0 and 999.
- (9) Ensure that the new couple hostname/port is not already defined in the db2nodes.cfg file.
- (10) Ensure the hostname value defined in db2nodes.cfg at line *line* is both defined on the system and operational.
- (11) Ensure that the services file (/etc/services on UNIX-based systems) contains an entry for your DB2 instance id.
- (12) Ensure that you only use port values that are specified in the services file (/etc/services file on UNIX-based systems) for your instance.
- (13) Ensure that the port value 0 has been defined for the corresponding hostname in the db2nodes.cfg file.
- (14) Perform one of the following actions:
 - Remove the db2nodes.cfg file.
 - Alter the db2nodes.cfg file to contain exactly one entry.
 - Install Enterprise Server Edition.
- (15) Ensure the netname value defined in db2nodes.cfg at line *line* is both defined on the system and operational.
- (16) Ensure that the hostname value and the DB2FCMCOMM registry variable are set correctly.

SQL6032W Start command processing was attempted on *total-number* node(s). *number-started* node(s) were successfully started. *number-already-started* node(s) were already started. *number-not-started* node(s) could not be started.

Explanation: The database manager did not start successfully on all the nodes. Not all of the data in the database may be accessible. Data on the nodes that started successfully or were already running is accessible.

User response: Check the log file created in the log directory of the sqllib directory for the instance to see which nodes did not start.

SQL6033W Stop command processing was attempted on *total-number* node(s). *number-stopped* node(s) were successfully stopped. *number-already-stopped* node(s) were already stopped. *number-not-stopped* node(s) could not be stopped.

Explanation: The database manager did not stop successfully on all the nodes. The database manager is still active on the nodes that could not be stopped.

User response: Check the log file created in the log

directory of the sqllib directory for the instance to see which nodes did not stop.

SQL6034W Node *node* is not being used by any databases.

Explanation: During DROP NODE VERIFY processing, all databases are scanned to verify that this node does not exist in the nodegroups of any database, and that no event monitor is defined on this node.

User response: This node can now be removed from the system by issuing the 'db2stop drop nodenum <node>' command.

SQL6035W Node *node* is being used by database *database*.

Explanation: During DROP NODE VERIFY processing, databases are scanned to verify that this node does not exist in the nodegroups of any database, and that no event monitor is defined on this node. Node *node* is being used by database *database* and cannot be dropped.

User response: You must do the following before dropping the node:

1. Redistribute the data to remove it from the node using the REDISTRIBUTE NODEGROUP command. Use either the DROP NODE option of the REDISTRIBUTE NODEGROUP command or the ALTER NODEGROUP statement to drop the node from the nodegroup. This must be done for all nodegroups in which the node to be dropped is a member.
2. Determine if there are any bufferpool size exceptions defined for the node by querying SYSCAT.BUFFERPOOLDBPARTITIONS. If rows exist, they can be removed by using the ALTER BUFFERPOOL statement to change the size of the bufferpool on the node to match NPAGES for the bufferpool in SYSCAT.BUFFERPOOLS.
3. Drop any event monitors that are defined on the node.
4. Issue the 'db2stop drop nodenum <node>' command to drop the node.

SQL6036N START or STOP DATABASE MANAGER command is already in progress.

Explanation: A START DATABASE MANAGER or a STOP DATABASE MANAGER command is already in progress on the system.

User response: Wait for the command in progress to complete, then try the request again.

SQL6037N START or STOP DATABASE MANAGER timeout value was reached.

Explanation: The start_stop_time value defined in the database manager configuration was reached at the node. This value specifies the time, in minutes, in which a node must respond to a Start Database Manager, Stop Database Manager or Add Node command.

User response: Do the following:

- Check the administration notification log to see if an error message has been logged for the node which timed out. If an error has not been logged, and timeouts persist, you may need to increase the start_stop_time value specified in the database manager configuration file.
- If the timeout occurred during a Start Database Manager command, you should issue a Stop Database Manager command for all nodes which timed out.
- If the timeout occurred during a Stop Database Manager command, you should issue a Stop Database Manager command for all nodes which timed out or for all nodes. Any node which is already stopped will return with a message stating that the node is stopped.

SQL6038N No partitioning key is defined.

Explanation: The user attempted to use the Get Row Partitioning Information utility without specifying a partitioning key.

The utility stops processing.

User response: Ensure that you specify a partitioning key, then try the request again.

SQL6039N Partitioning column *column-number* is currently defined as not nullable.

Explanation: An attempt was made to assign a null value to partitioning column *column-number*, which is not nullable.

The utility stops processing.

User response: Assign a non-null value or change the type of the partitioning column to be nullable.

SQL6040C No FCM buffers are available.

Explanation: No FCM buffer is available.

The statement cannot be processed.

User response: Try the request again.

If the error persists, increase the number of FCM buffers (*fcm_num_buffers*) specified in the database manager configuration file, then try the request again.

sqlcode: -6040

sqlstate: 57011

SQL6041C No FCM connection entries are available.

Explanation: No FCM connection entry is available. FCM is unable to increase the number of connection entries automatically because the maximum value has been reached.

The statement cannot be processed.

User response: Try the request again after other processes have freed up some of this resource.

sqlcode: -6041

sqlstate: 57011

SQL6042C No FCM message anchors are available.

Explanation: No FCM message anchor is available. FCM is unable to increase the number of message anchors automatically because the maximum value has been reached.

The statement cannot be processed.

User response: Try the request again after other processes have freed up some of this resource.

sqlcode: -6042

sqlstate: 57011

SQL6043C No FCM request blocks are available.

Explanation: No FCM request block is available. FCM is unable to increase the number of request blocks automatically because the maximum value has been reached.

The statement cannot be processed.

User response: Try the request again after other processes have freed up some of this resource.

sqlcode: -6043

sqlstate: 57011

SQL6044N The syntax of the string representation *string* with value of datatype *datatype-value* and length *length* is not correct.

Explanation: The specified string cannot be recognized as the target data type. (The *Application Development Guide* contains information on data types.) Either the syntax is not valid or the value is out of range.

The utility stops processing.

User response: Ensure that the string representation or the data type is correct, then try the request again.

SQL6045N The datatype *datatype-value* of length *datatype-length* is not supported.

Explanation: The data type and data length are not supported for a partitioning key.

The utility stops processing.

User response: See the *Administration Guide* for information about data types. See the *API Reference* for information about the Get Row Partitioning Information API.

SQL6046N Specified DROP NODE action is not valid.

Explanation: The value specified for the action parameter of the DROP NODE command is not valid. Only the verify mode is supported for the DROP NODE command. The parameter must be set to the value SQL_DROPNODE_VERIFY.

The command cannot be processed.

User response: Ensure that the action is set to SQL_DROPNODE_VERIFY, then try the request again.

SQL6047N Database partition group cannot be redistributed because table *name* does not have a partitioning key.

Explanation: At least one table in the single-node database partition does not have a partitioning key. All tables in the single-node database must have a partitioning key before the database partition group can be redistributed to a multiple-node database partition group.

The operation was not performed.

User response: Use the ALTER TABLE command to specify partitioning keys for tables that do not have one. Then try the request again.

SQL6048N A communication error occurred during START or STOP DATABASE MANAGER processing.

Explanation: A TCP/IP communication error occurred while the START or STOP DATABASE MANAGER command was trying to establish connection with all the nodes defined in the sqllib/db2nodes.cfg file including the new node you attempted to add.

User response: Do the following:

- Ensure that the node has the proper authorization defined in the .rhosts or the host.equiv files.
- Ensure that the application is not using more than (500 + (1995 - 2 * total_number_of_nodes)) file descriptors at the same time.
- Ensure all the Enterprise Server Edition environment variables are defined in the profile file.

- Ensure the profile file is written in the Korn Shell script format.
- Ensure that all the host names defined in the db2nodes.cfg file in the sqllib directory are defined on the network and are running.
- Ensure that the DB2FCMCOMM registry variable is set correctly.

SQL6049N The log control file for database *name* could not be found on node(s) *node-list*.

Explanation: The SQLOGCTL.LFH file for the database is not in the database directory on the specified node(s).

The database was not started.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Either restore the database from a backup on the specified node(s), or re-create the database.

SQL6050N An I/O error occurred while accessing the log control file for database *name* on node(s) *node-list*.

Explanation: An error occurred while accessing the SQLOGCTL.LFH file for the database on the specified node(s).

The database cannot be used.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Either restore the database from a backup on the specified node(s), or re-create the database.

SQL6051N Database *name* is not configured for roll-forward recovery on node(s) *node-list*.

Explanation: The specified database is not configured for roll-forward recovery on the specified node(s).

The database is not rolled forward on all nodes.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Ensure that recovery is required on the specified node(s), then restore the most recent backup version of the database on these nodes.

SQL6052N Cannot roll forward database *name* because it is not in roll-forward pending state on node(s) *node-list*.

Explanation: The specified database is not in the roll-forward pending state on the specified node(s). This may be because the database has not been

restored, or was restored with the WITHOUT ROLLING FORWARD option, or roll-forward recovery is complete on these nodes.

The database is not rolled forward.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Do the following:

1. Ensure that recovery is required on the specified node(s).
2. Restore a backup version of the database on these nodes.
3. Issue the ROLLFORWARD DATABASE command.

SQL6053N Error exists in file *file*. Reason code = *reason-code*.

Explanation: There is an error in the specified file as indicated by the reason code:

- (1) The number of values in the partitioning map file is not 1 or 4,096.
- (2) The number of values in the distribution file is not 4,096.
- (3) The data in the distribution file is not in a valid format.
- (4) The node number in the partitioning map is not between 0 and 999.
- (5) The sum of all the values in the distribution file is greater than 4,294,967,295.
- (6) The specified target partition map contains a node number that is not defined in SYSCAT.NODEGROUPDEF for the specified nodegroup.

User response: The action corresponding to the reason code is:

- (1) Ensure that the partitioning map file contains only a single value (if the resultant nodegroup is a single-node nodegroup) or exactly 4,096 values (if the resultant nodegroup is a multinode nodegroup).
- (2) Ensure that the distribution file contains exactly 4,096 values, one per hash partition.
- (3) Ensure that the values in the distribution file are integers greater than or equal to 0, and that the sum of all the distribution values is less than or equal to 4,294,967,295.
- (4) Ensure that the node numbers are in the range of greater than or equal to 0 and less than or equal to 999.
- (5) Ensure that the sum of all the distribution values for the 4,096 partitions is less than or equal to 4,294,967,295.

- (6) Either issue ALTER NODEGROUP to add the missing node(s) or change the partitioning map file to exclude the node(s) not defined in sysibm.sysnodegroupdef.

SQL6054N The archive file *name* is not a valid log file for the database *name* on node *node-number*.

Explanation: An archive log file exists in the log directory on the specified node, but it is not valid.

The ROLLFORWARD DATABASE processing stops.

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct archive log file to the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file and issue the ROLLFORWARD DATABASE command again.

SQL6055N The archive file *name* does not belong to database *name* on node *node-number*.

Explanation: An archive log file in the log directory on the specified node does not belong to the specified database.

The ROLLFORWARD DATABASE processing stops.

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct archive log file to the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file and issue the ROLLFORWARD DATABASE command again.

SQL6056N Nodegroup cannot be redistributed. Reason code = *reason-code*.

Explanation: The operation cannot be executed. The reason code indicates the error.

- (1) The nodegroup specification is not legal. The resulting nodegroup after redistribution would not contain any nodes.
- (2) A previous redistribution operation did not complete successfully.
- (3) A redistribution operation is already in progress.
- (4) There is no previously aborted redistribution command to CONTINUE or ROLLBACK.
- (5) No data redistribution is performed because the data in the nodegroup is already distributed as specified.
- (6) The REDISTRIBUTE NODEGROUP command was not submitted from the catalog node.
- (7) The REDISTRIBUTE NODEGROUP command

is not available nor applicable in this non-partitioned version of the product.

- (8) Redistribution is not allowed if there are user temporary table spaces in the nodegroup with existing declared temporary tables.
- (9) The REDISTRIBUTE DATABASE PARTITION GROUP command is not allowed if there are table spaces in the database partition group with tables in the No Data Movement state (ACCESS_MODE='D' in SYSCAT.TABLES).
- (10) The REDISTRIBUTE DATABASE PARTITION GROUP command is not allowed if there are table spaces in the database partition group with tables having attached partition (SYSCAT.DATAPARTITIONS.STATUS = 'A').
- (11) The REDISTRIBUTE DATABASE PARTITION GROUP command is not allowed if there are table spaces in the database partition group with tables having detached partitions and there are dependent tables that need to be incrementally maintained with respect to these detached partitions (SYSCAT.DATAPARTITIONS.STATUS = 'D').
- (12) The REDISTRIBUTE DATABASE PARTITION GROUP command is not allowed if there are table spaces in the database partition group with tables having detached partitions pending index cleanup (SYSCAT.DATAPARTITIONS.STATUS = 'I').

User response: The action corresponding to the reason code is:

- (1) Do not drop all the nodes of the nodegroup during redistribution.
- (2) Identify why the previous redistribution failed and take the required corrective action. Submit the REDISTRIBUTE NODEGROUP command using either the CONTINUE or ROLLBACK option. CONTINUE will complete the previously aborted redistribution operation and ROLLBACK will undo the effects of the previously aborted operation.
- (3) Issue the next REDISTRIBUTION NODEGROUP command after the current one completes.
- (4) You cannot invoke the CONTINUE or ROLLBACK option on a nodegroup that is not associated with a failed redistribution operation.
- (5) Try using a different target partitioning map or distribution file. Otherwise, redistribution is not necessary.
- (6) Issue the command again from the catalog node.

- (7) Do not issue the REDISTRIBUTE NODEGROUP command using this version of the product.
- (8) Request redistribution again when there are no declared temporary tables using the user temporary table spaces in the nodegroup.
- (9) Execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option on the dependent immediate materialized query and staging tables of the tables in the No Data Movement state and then issue the REDISTRIBUTE DATABASE PARTITION GROUP command again.
- (10) Execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option on the tables with attached partitions and then issue the REDISTRIBUTE DATABASE PARTITION GROUP command again.
- (11) Execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option on the dependent immediate materialized query and staging tables of the tables that still need to be incrementally maintained with respect to the detached partitions. Query the SYSCAT.TABDETACHEDDEP catalog view to locate these detached dependent tables. Then issue the REDISTRIBUTE DATABASE PARTITION GROUP command again.
- (12) Issue the REDISTRIBUTE DATABASE PARTITION GROUP command again once the index cleanup for the detached partition is completed.

SQL6057N Archive file *name* is not associated with the database *name* that was restored, or with the log file previously processed on node *node-number*.

Explanation: An archive log file is found in the log directory on the specified node, but does not belong to the specified database.

The ROLLFORWARD DATABASE processing stops.

User response: To determine the correct archive log file, issue the ROLLFORWARD DATABASE command with the QUERY STATUS option. Move the correct archive log file to the database log directory or, if the database is in a consistent state, change the log path to point to the correct archive file and issue the ROLLFORWARD DATABASE command again.

SQL6058N Roll-forward recovery stopped because of error *error* while retrieving log file *name* for database *name* on node *node-number*.

Explanation: Roll-forward processing invokes the *db2uexit* to retrieve the log file for the database on the

specified node. The error may have occurred in the *db2uexit*.

The ROLLFORWARD DATABASE processing stops.

User response: See the user exit documentation in the *Administration Guide* for a description of the error, and either resume or terminate the roll-forward recovery.

SQL6059N The point-in-time passed to the Rollforward utility must be greater than or equal to *timestamp*, because database name on node(s) *node-list* contains information later than the specified time.

Explanation: An advanced virtual timestamp is in the database backup.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Do one of the following:

- Issue the command again with a point-in-time that is greater than or equal to *timestamp*.
- Restore an earlier backup on node(s), then issue the ROLLFORWARD DATABASE command again.

SQL6061N Roll-forward recovery on database *name* cannot reach the specified stop point (end-of-log or point-in-time) because of missing log file(s) on node(s) *node-list*.

Explanation: The Rollforward Database utility cannot find the necessary log file(s) in the logpath.

User response: Do one of the following:

- Use the ROLLFORWARD DATABASE command with the QUERY STATUS option to determine which log files are missing. When you find the log files, put them in the log path and resume forward recovery.
- If you cannot find the missing log files, restore the database on all nodes, then do point-in-time recovery using a timestamp that is earlier than that of the earliest missing log file.

SQL6062N Roll-forward recovery on database *name* cannot complete because the log information on node(s) *node-list* does not match the corresponding record(s) on the catalog node.

Explanation: The Rollforward utility processed all the log files found on each node, but the stop points on the specified nodes do not match the corresponding records on the catalog node. This can be caused by missing log files on either the catalog node or on the specified nodes, or the catalog node must be included in the list of nodes to be rolled forward.

The ROLLFORWARD DATABASE processing stops.

User response: Do one of the following:

- Check if the catalog node needs to be rolled forward. If it does, submit the ROLLFORWARD command again and include the catalog node.
- Use the ROLLFORWARD DATABASE command with the QUERY STATUS option to determine which log files are missing. When you find the log files, put them in the log path and resume forward recovery.
- If you cannot find the missing log files, restore the database on all nodes, then do point-in-time recovery using a timestamp that is earlier than that of the earliest missing log file.

SQL6063N Roll-forward recovery on database *name* has stopped on node(s) *node-list* due to a change in log file size.

Explanation: The Rollforward Database utility has stopped rolling forward because the log files have changed in size. It must be restarted to establish the new log file size.

If "... " is displayed at the end of the node list, see the diagnostic log for the complete list of nodes.

Roll-forward recovery has stopped.

(Note : if you are using a partitioned database server, the node number(s) indicate which node(s) the error occurred on. Otherwise, it is not pertinent and should be ignored.)

User response: Reissue the ROLLFORWARD command to continue.

SQL6064N SQL error *sqlcode* occurred during data redistribution.

Explanation: An error occurred during data redistribution.

The utility stops processing.

User response: Look at the SQLCODE (message number) in the message for more information. Make any required changes and try the request again.

SQL6065N An error occurred while writing to file *file*.

Explanation: One of the following conditions was encountered:

- The file could not be opened.
- An I/O error occurred while writing to the file.
- An I/O error occurred while closing the file.

The command or the utility cannot be processed.

User response: Ensure that the file exists and that the file permissions allow write access. Try the command or the utility again.

SQL6067W ROLLFORWARD DATABASE QUERY STATUS command encountered sqlcode *sqlcode*.

Explanation: The ROLLFORWARD DATABASE QUERY STATUS command encountered an error with the sqlcode *sqlcode*. The query might not be successful on some nodes for various reasons. The most severe error is indicated by *sqlcode*. The roll-forward status is only returned for the successful nodes.

User response: Look up the sqlcode *sqlcode* in the *DB2 Messages Reference*, or online to determine the problems on the failed nodes. Take the required corrective actions, then continue the forward recovery on these nodes.

SQL6068W Rollforward operation was cancelled successfully. The database has to be restored on node(s) *node-list*.

Explanation: A Rollforward operation was cancelled before it successfully completed, and the database is left in an inconsistent state. The restore pending flag is on for the listed nodes.

If "... " is displayed at the end of the node list, see the syslog file for the complete list of nodes.

User response: Restore the database on the listed nodes.

SQL6069N The ROLLFORWARD DATABASE command cannot be submitted on a non-catalog node.

Explanation: The ROLLFORWARD DATABASE command is only accepted on the catalog node.

User response: Submit the command on the catalog node.

SQL6071N The requested operation cannot be processed because a new node has been added to the system. The system must be stopped and started again before the operation can be done.

Explanation: One of the following:

- The request was issued from the new node, and this node cannot communicate with other nodes.
- A CREATE or DROP DATABASE operation was requested before all nodes were stopped and started again to include the new node.

User response: Issue db2stop to stop all the nodes. When all nodes are successfully stopped, issue db2start to start all the nodes, including the new node, then try the request again.

sqlcode: -6071

sqlstate: 57019

SQL6072N DB2START with the RESTART option cannot proceed because the specified node is already active.

Explanation: The node specified for restart is already active on the system.

User response: If necessary, issue a DB2STOP specifying the node to stop and issue the DB2START command again to restart the node.

SQL6073N Add Node operation failed. SQLCODE = *sqlcode*.

Explanation: The Add Node operation failed with sqlcode *sqlcode*.

User response: Check the message associated with the sqlcode that is returned in either the *DB2 Messages Reference*, or online.

Take any required corrective action, then try the request again.

SQL6074N Add Node operation failed because a Create or Drop Database operation is currently executing.

Explanation: An Add Node operation cannot execute concurrently with a Create or Drop Database operation.

User response: Wait for the Create or Drop Database operation to complete, then try the request again.

SQL6075W The Start Database Manager operation successfully added the node. The node is not active until all nodes are stopped and started again.

Explanation: The db2nodes.cfg file is not updated to include the new node until all nodes are simultaneously stopped by the STOP DATABASE MANAGER (db2stop) command. Until the file is updated, the existing nodes cannot communicate with the new node.

User response: Issue db2stop to stop all the nodes. When all nodes are successfully stopped, issue db2start to start all the nodes, including the new node.

SQL6076W Warning! This command will remove all database files on the node for this instance. Before continuing, ensure that there is no user data on this node by running the DROP NODE VERIFY command.

Explanation: This procedure will remove all the database partitions from the specified node.

User response: Ensure that the DROP NODE VERIFY command was run before dropping this node. If using

the API, ensure that the callerac parameter is specified correctly.

SQL6077W The db2stop DROP NODENUM procedure ended successfully, but could not remove all the files. See the file *file* for details.

Explanation: The db2stop DROP NODENUM procedure ended successfully, but some user data files are still on the node.

User response: Information in *file* file will indicate the directory structure from which files could not be deleted.

SQL6078N The db2stop DROP NODENUM procedure could not update the database information for database *dbname*.

Explanation: The db2stop DROP NODENUM procedure could not access the catalog node for database *dbname*.

User response: Try the request again. If the problem persists, contact your service representative.

SQL6079W The db2stop DROP NODENUM command was cancelled successfully.

Explanation: The db2stop DROP NODENUM command was stopped before it began processing.

User response: None.

SQL6080W The Start Database Manager operation successfully added in the node, but no database partitions have been created on the node. The node is not active until

SQL6100 - SQL6199

SQL6100N The partitioning map in the data file and the partitioning map for the database are not the same.

Explanation: The data to be loaded has either not been partitioned, or was partitioned with a partitioning map other than the current one for the nodegroup to which the table belongs. The data cannot be loaded.

User response: If the data was not partitioned, use the db2split program to partition the data, then load the partitioned data.

If the data was partitioned, do one of the following:

- Use the partitioning map from the header of the data file to redistribute the nodegroup to which the table belongs. Then try the request again.
- Repartition the data with the current partitioning map for the nodegroup. Then try the request again to load the newly partitioned data.

all nodes are stopped and started again.

Explanation: The db2nodes.cfg file is not updated to include the new node until all nodes are simultaneously stopped by the STOP DATABASE MANAGER (DB2STOP) command. Until the file is updated, the existing nodes cannot communicate with the new node.

User response: Issue DB2STOP to stop all the nodes. When all nodes are successfully stopped, issue DB2START to start all the nodes, including the new node. When all nodes are successfully started, the database system can be used.

SQL6081N A communication error caused a DB2STOP FORCE command to time out on this node.

Explanation: A communication error occurred on one or more of the database nodes, causing the DB2STOP FORCE command to time out on the current node, or, DB2STOP FORCE terminated because a severe error occurred during FORCE on one or more nodes. Any node where the communication error occurred will receive the SQL6048N message.

User response: Do the following:

1. Correct the communication error on the node (or nodes) that received the SQL6048N message.
2. Issue a DB2START command and ensure that all nodes that received the SQL6048N message started successfully.
3. Issue the DB2STOP FORCE command again from any node.

SQL6101N This data file contains data for node *node-1* but the Load utility is connected to node *node-2*.

Explanation: The data to be loaded is associated with a node number that differs from the node number of the node to which the application is connected. The data cannot be loaded.

User response: Either find the data file associated with this node and try the request again with that data file, or connect to the node associated with this data file and issue the request at that node.

SQL6102W The parameter *name* is reserved for future use. Its value should be set to *default-value*.

Explanation: A parameter reserved for future capabilities has been set to a value that is not its

default value. It should be set to the default value to ensure future compatibility.

User response: Ensure that the parameter *name* is set to the value, *default-value*, then try the request again.

SQL6103C An unexpected utility error occurred.
Reason code = *reason-code*.

Explanation: An unexpected utility error occurred.

User response: Record the message number (SQLCODE) and reason code in the message.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. See the *Administration Guide* for information on how to use this facility. Then contact your technical service representative with the following information:

- Problem description
- SQLCODE and embedded reason code
- SQLCA contents if possible
- Trace file if possible

SQL6104N The load utility does not support the creation of indexes.

Explanation: The load utility does not support the creation of indexes, but the table to be loaded has at least one index defined on it. The index may have been explicitly created with the CREATE INDEX statement or implicitly created when a primary key was defined for the table.

User response: Drop all indexes defined on the table with the DROP INDEX statement. Drop the primary key with the ALTER TABLE statement. Resubmit the command.

Use CREATE INDEX and ALTER TABLE as required to recreate indexes and primary key after the load completes successfully.

SQL6105W The Load utility has completed processing. A Rollforward done to a point in time after the load will not succeed. Take a database backup now if database recoverability is required.

Explanation: No logging is done by the Load utility. If you try to roll forward with a backup made before the load, the operation will fail when it encounters references to the data that was loaded.

User response: To ensure database recoverability after the load, do a backup before the data is modified.

SQL6106N The filetype modifier "NOHEADER" was specified, but the nodegroup on which the table is defined is not a single-node nodegroup.

Explanation: The data to be loaded was specified as having no header information. However the target table specified is not a single-node table. The data cannot be loaded.

User response: The data must be split using db2split, then loaded without the "NOHEADER" option.

SQL6107N The partitioning key information in the data file is not correct.

Explanation: Either the data was not split with db2split or the db2split operation was not successful.

User response: Use the db2split program to partition the data and then try the request again with the partitioned data. If the insert-column option is being used, ensure that all of the partitioning columns are specified in the column list.

If the problem persists, contact your technical service representative with the following information:

- Problem description
- SQLCODE and embedded reason code
- SQLCA contents if possible
- Trace file if possible

SQL6108N The number of partitioning keys defined in the data file header (*number-1*) does not match the number of partitioning keys defined for the table (*number-2*).

Explanation: The partitioning columns specified in the db2split configuration file were not correct. The data was not correctly split.

User response: Do the following:

1. Ensure that the correct partitioning columns are specified in the db2split configuration file.
2. Split the data.
3. Issue the Load operation with the newly partitioned data.

SQL6109N Utility expected partitioning column *column-name-1*, but found partitioning column *column-name-2*.

Explanation: In the db2split configuration file:

- One of the partitioning columns defined for the table was not specified.
- The order of the partitioning columns was incorrect
- A column was specified that is not a partitioning column for the table.

User response: Do the following:

1. Ensure that the db2split configuration file is correct.
2. Split the data.
3. Issue the Load operation with the newly partitioned data.

SQL6110N Utility expected partitioning column type *column-type-1* for column *column-name-1*, but the data file lists it as type *column-type-2*.

Explanation: The db2split configuration file is not correct.

User response: Do the following:

1. Ensure that the db2split configuration file is correct.
2. Split the data.
3. Issue the Load operation with the newly partitioned data.

SQL6111N Cannot create a subdirectory under the path specified by newlogpath.

Explanation: When the newlogpath parameter is updated, the system attempts to create a subdirectory under the specified path using the node name as the name of the subdirectory. One of the following operating system errors prevented the creation of the subdirectory:

- The file system or path does not have the appropriate permissions for file creation.

SQL6500 - SQL6599

SQL6500W RESTARTCOUNT in the load command may cause some problems.

Explanation: Since multiple loading processes for the same table are completely independent, it is almost impossible to have an identical restartcount for those multiple loading processes.

User response: Please make sure you have the correct load command.

SQL6501N Database name was not given in the load command.

Explanation: Database name has to be specified in the load command.

User response: Please specify the database name and rerun the command.

SQL6502N The path name (parameter: data_path) for data file was not specified.

Explanation: If the input data file is remote, the file will be transferred locally. The path to the file on the remote machine must be supplied.

- The file system does not have enough disk space.
- The file system does not have enough file blocks or inodes.

The requested change is not made.

User response: Do one of the following, then try the request again:

- Ensure that the specified path exists and that the filesystem and path have read/write permissions.
- Specify a different newlogpath.

If the problem persists, see your system administrator.

SQL6112N The requested change cannot be done. The resulting configuration parameter settings are not valid. Reason code *reason-code*.

Explanation: Three rules govern the settings of some configuration parameters. The rule that would be violated is indicated by the *reason-code*:

- (1) $\text{max_coordagents} + \text{num_initagents} \leq \text{maxagents}$
- (2) $\text{num_initagents} \leq \text{num_poolagents}$
- (3) $\text{maxdari} \leq \text{max_coordagents}$

User response: Ensure that the values you specify do not violate any of the above rules, then try the request again.

User response: Please specify the path name to the remote data file and rerun the command.

SQL6504N There are errors in the output node list specification (parameter: outputnodes) in the configuration file.

Explanation: The output node list specification is not valid.

User response: Check the sample configuration file, correct your output node list specification, and rerun the command.

SQL6505N There are errors in the partitioning database partition list specification (parameter: PARTITIONING_DBPARTNUMS) in the load command.

Explanation: The partitioning database partition list specification is not valid.

User response: Correct your partitioning database partition list specification, and rerun the command.

SQL6506N The program failed to extract partitioning key information for table *table-name* from the system catalog table.

Explanation: Either the table is not defined, or it is not defined in an MPP environment.

User response: Make sure you have the table properly defined.

SQL6507N Checking level (parameter: *check_level*) in the configuration file is not valid.

Explanation: Checking level (parameter: *check_level*) can be either CHECK or NOCHECK. The default is CHECK.

User response: Correct the parameter in the configuration file, and rerun the command.

SQL6508N The program failed to create the output pipe for the ftp process.

Explanation: If input data files are remote, they will be transferred to a local pipe. If this local pipe already exists, the process will fail.

User response: Please ensure your working space is clean.

SQL6509N The program failed to create input pipes for the partitioning agents.

Explanation: The program can not create temporary input pipes for the splitter processes.

User response: Please ensure your working space is clean.

SQL6510N The program failed to create the temporary directory at local non-NFS space of partition *partition-num*.

Explanation: The program needs a temporary working directory at local non-NFS space of all partitioning and loading partitions.

User response: Please ensure your working space is clean.

SQL6511N Load failed to create output for the partitioning agent at partition *partition-num*.

Explanation: The program can not create temporary output pipes for the partitioning agent at partition *partition-num*.

User response: Please ensure your working space is clean.

SQL6512N Load failed to create input pipes for the merging agent at partition *partition-num*.

Explanation: The program can not create temporary input pipes for the merging agent at partition *partition-num*.

User response: Please ensure your working space is clean.

SQL6513N Load failed to create the input pipe for the loading agent at partition *partition-num*.

Explanation: The program can not create temporary input pipe for the loading agent at partition *partition-num*.

User response: Please ensure your working space is clean.

SQL6514N The program can not read the node configuration file: *node-cfg-file*.

Explanation: Either the file does not exist, or it is not readable.

User response: Please check the existence and permissions of the node configuration file.

SQL6515N The program failed to find a load command in the configuration file.

Explanation: A CLP load command must be supplied in the configuration file.

User response: Please specify a CLP load command in the configuration file.

SQL6516N The program failed to connect to database *db-name*.

Explanation: Either the database manager has not been started yet, or it encountered problems.

User response: Check your database manager status.

SQL6517N Load failed to extract the partition list, where the table *tbl-name* is defined, from the system catalog table.

Explanation: Either the table is not defined, or it is not defined in an MPP environment.

User response: Check how the table was defined in the database.

SQL6518N The record length (reclen in the load command) is not valid.

Explanation: Valid record is between 1 to 32768.

User response: Please correct the record length, and rerun the command.

SQL6519N The mode (parameter: mode) *mode* in the configuration file is not valid.

Explanation: The running mode of this program can be: SPLIT_ONLY, LOAD_ONLY, SPLIT_AND_LOAD (default), or ANALYZE.

User response: Please correct the mode in the configuration file.

SQL6520N The program failed to create output pipes for the process, which generates the header information for split file.

Explanation: The program can not create output pipes for the process, which generates the header information for split file.

User response: Please ensure your working space is clean.

SQL6521N The configuration file *cfg-file* for this program doesn't exist.

Explanation: The program needs a configuration file.

User response: Please create a configuration file.

SQL6522N The program found a path name for the input data files in the load command.

Explanation: Path name for input data files in the load command is not allowed. There is a separate parameter (data_path) for this purpose.

User response: Please correct the configuration file.

SQL6523N The element *partition-num* in the partitioning database partition list (parameter: PARTITIONING_DBPARTNUMS) is not defined in the node configuration (db2nodes.cfg) file.

Explanation: All partitions in the partitioning database partition list must have an entry in the node configuration file.

User response: Please correct your partitioning database partition list.

SQL6524N The element *partition-num* in the output partition list (parameter: OUTPUT_DBPARTNUMS) is not a member of the partition list where the table is defined.

Explanation: All partition in the output partition list must be members of the partition list where the table is defined.

User response: Please correct your output partition list.

SQL6525N The program can not read the input data file *file-name*.

Explanation: Either the input data file was not found, or it is not readable.

User response: Please check the existence and permissions of the input data file.

SQL6526N The program can not write in current working directory *cwd*.

Explanation: The current working directory is not writable.

User response: Please check the permission of current working directory.

SQL6527N The partition where statistic data will be collected, (parameter: RUN_STAT_DBPARTNUM), is not a member of the output partition list.

Explanation: The partition where statistic data will be collected must be a member of the output partition list.

User response: Please correct the RUN_STAT_DBPARTNUM parameter.

SQL6528N Record length was not specified in the load command.

Explanation: If the BINARYNUMERICS or PACKEDDECIMAL modifier is specified in the load command, record length (reclen) must be specified in the load command as well.

User response: Please correct the load command.

SQL6529N The No Header option (NOHEADER) was not specified in the load command.

Explanation: If a table is defined in a single node nodegroup, the NOHEADER modifier must be specified in the load command.

User response: Please correct the load command.

SQL6530N The data type of one partitioning key is float or double.

Explanation: If the input file is a non-binary data file, float or double columns can not be defined as partitioning key.

User response: Supply a binary data file, or change the definition of your table.

SQL6531N The program failed to reset tablespace quiesce.

Explanation: There are probably on-going loading processes. Make sure all previous loading processes are completed before another AutoLoader session can be started.

User response: Check the processes status on your machine.

SQL6532N A savecount in the load command can not be set to non-zero.

Explanation: The savecount in the load command can not be set to non-zero if there are multiple partitioning nodes, the mode is PARTITION_AND_LOAD, and the command is either a REPLACE INTO or INSERT INTO load command.

User response: Please correct the load command.

SQL6533N A restartcount in the load command can not be set to non-zero.

Explanation: Because multiple partitioning nodes produce random order of records for loading process(es), using RESTART INTO with a restartcount can not guarantee a successful recovery.

User response: Please correct the load command.

SQL6534N There is an error in the .netrc file *netrc-file*.

Explanation: Either the .netrc file could not be found, or there is no entry for remote host *machine*, or the permissions of the file are not correct.

User response: Please check the existence and permission of the .netrc file.

SQL6535N The mode PARTITION_ONLY or ANALYZE is not valid.

Explanation: If a table is defined in a single node nodegroup, either partitioning or analyzing is not necessary.

User response: Please change the mode to LOAD_ONLY or PARTITION_AND_LOAD.

SQL6536N The program *progname* failed to open file *filename* for reading.

Explanation: An AutoLoader process can not successfully open a file or pipe for reading.

User response: Please ensure everything is correct in the configuration file.

SQL6537N The program *progname* failed to open file *filename* for writing.

Explanation: An AutoLoader process can not successfully open a file or pipe for writing.

User response: Please ensure everything is correct in the configuration file.

SQL6538N Load failed to read the partitioned file *partitioned-file*.

Explanation: When Load is invoked in LOAD_ONLY mode, the input data file must have already been partitioned, and all partitioned files must be readable by the Load.

User response: Check whether or not the input data file has been partitioned, and the access permissions of the resulting partitioned files.

SQL6539N There is at least one command in *cmd-list* not found in the working environment.

Explanation: The execution of this program depends on a number of common Unix commands. The process fails if any one of them is not available in the working environment.

User response: Make sure you have all necessary commands properly installed on your system.

SQL6540N File type *file-type* specified in the load command is not valid.

Explanation: Valid file types are ASC (positional ASCII) or DEL (delimited ASCII).

User response: Correct the load command in the configuration file.

SQL6550N The partitioning map file *map-file-name* could not be opened for writing.

Explanation: The file name and path for the partitioning map could not be opened. An error occurred.

User response: Confirm that the partitioning map file name and file path were specified correctly and that the file can be opened for writing.

SQL6551N An error occurred while attempting to write to the partition map file.

Explanation: A filesystem error occurred when writing to the partitioning map file.

User response: Check that the file path is correct, and that the target device has sufficient space to hold the partitioning map output.

SQL6552N An error occurred while attempting to open a temporary configuration file *filename* for writing.

Explanation: The file name and path for a temporary file could not be opened. An error occurred.

User response: Confirm that the utility temporary file storage path was specified correctly and that the path allows for files to be opened for writing.

SQL6553N An error occurred while attempting to write to a temporary configuration file *filename*.

Explanation: A filesystem error occurred when writing to a temporary file.

User response: Check that the file path is correct, and that the target device has sufficient space for the file data.

SQL6554N An error occurred when attempting to remotely execute a process.

Explanation: The utility attempted to start a child process on a different database partition, but an error occurred.

User response:

- If no user ID or password was provided to the utility for remote access, ensure that the user ID invoking the utility is authorized to execute programs on the target node(s).
- If a user ID and password were supplied to the utility confirm that they were supplied correctly.
- If running on NT make sure the DB2 installation has correctly defined an NT Service for the splitter operation on all nodes.
- If you are unable to resolve this problem, please contact DB2 service.

SQL6555N The load utility encountered an unexpected communications error.

Explanation: The utility encountered an error attempting one of the following operations:

- Attempting to connect to a TCP/IP socket.
- Attempting to read or write a TCP/IP msg.
- Attempting to initialize TCP/IP communications
- Attempting to retrieve a complete host name.
- Attempting to select an active TCP/IP socket.
- Attempting to close an active socket.
- Attempting to retrieve a port number.

User response:

- If service name setup was required for the version of the load utility you are using, ensure that the service names have been defined correctly.

- If you are running concurrent load utility jobs, ensure that you have followed the documented setup requirements to avoid service name conflicts between the concurrent utility jobs.
- If the problem persists, contact your DB2 Service representative.

SQL6556W An incomplete record was detected at the end of file *filename*.

Explanation: An incomplete data record was found at the end of a data file provided to the utility by the user.

User response: Examine the source data for syntactical correctness.

SQL6557N Failed to retrieve the default node number.

Explanation: The utility attempted to determine a default node number, but was unable to.

User response: State source and target node numbers explicitly in the utility configuration file, or contact DB2 Service for assistance.

SQL6558N The utility failed to determine the current working directory and/or drive.

Explanation: The utility attempted to determine the current working directory and/or drive but encountered an error.

User response: Contact DB2 Service for assistance.

SQL6559N An invalid command line option was provided to the AutoLoader utility.

Explanation: The user specified a command line option for the AutoLoader utility which is either not supported, or obsolete.

User response: Refer to the AutoLoader documentation, or online help, for the supported options and features.

SQL6560N Node *node-number* which is an execution node for partitioning does not appear in the *db2nodes.cfg* file.

Explanation: A node specified as an execution node for partitioning does not appear to be a member in the *db2nodes.cfg* file. The work intended to complete on this node can not be started.

User response: Add the node to the node list definition in the *db2nodes.cfg* file, or specify an alternate node for the partition operation which is a member of the node configuration.

SQL6561N Target node *node-number* for load does not appear in the nodegroup.

Explanation: A node was specified as a target node for loading, but this node is apparently not a member of the node group being loaded.

User response: Check the nodegroup definition and confirm that the target node specified for loading is part of this nodegroup. If the node is not part of the nodegroup correct the utility target node specification to include the correct list of nodes. If the node is part of the nodegroup, please contact DB2 Service for assistance.

SQL6562N The utility is unable to retrieve the instance name.

Explanation: The utility attempted to retrieve the instance name but encountered an error.

User response: Confirm that the utility is running on a node with DB2 installed, and a valid instance is running. For additional help, please contact DB2 Service.

SQL6563N Failed to retrieve the current user ID.

Explanation: The utility attempted to retrieve the current user ID for the ID, but an error was encountered.

User response: Contact DB2 Service.

SQL6564N The password supplied is not valid.

Explanation: The user supplied an explicit password to the utility, but the password is not valid.

User response: Supply a valid password.

SQL6565I Usage: db2xxld [-config config-file] [-restart] [-terminate] [-help]

Explanation:

- The '-config' option will run this program using a user specified configuration file; the default is autoload.cfg.
- The '-restart' option will run this program in restart mode; the configuration file should not be modified since the last incomplete AutoLoader job.
- The '-terminate' option will run this program in terminate mode; the configuration file should not be modified since the last incomplete AutoLoader job.
- The '-help' option will generate this help message.

The AutoLoader configuration file is a user supplied file which contains the LOAD command to be executed, the target database, and several optional parameters that the user may specify. The sample configuration file, 'AutoLoader.cfg', supplied in the

samples directory contains inline comments which describe the available options and their defaults. When running this program with '-restart' and '-terminate' option, user should not modify the configuration file from their last incomplete job.

User response: Refer to the DB2 documentation for further details about the AutoLoader utility.

SQL6566N The LOAD command is missing from the AutoLoader configuration file.

Explanation: The LOAD command is missing from the AutoLoader configuration file. The parameter must be specified.

User response: Ensure that you have specified the correct configuration file for the AutoLoader, and that the LOAD command is specified inside.

SQL6567N The *option-name* option appears multiple times in the AutoLoader configuration file.

Explanation: An option parameter was specified multiple times inside the AutoLoader configuration file.

User response: Correct the configuration file so that each option appears at most only once.

SQL6568I The Load utility is now issuing all *request-type* requests.

Explanation: The Load utility is now dispatching the *request-type* operation on each of the partitions.

User response: This is an informational message.

SQL6569I The AutoLoader is now issuing all split requests.

Explanation: The AutoLoader is now issuing the split operation on each of the target split partitions.

User response: This is an informational message.

SQL6570I The AutoLoader is waiting for all splitters to complete.

Explanation: The AutoLoader is waiting for all splitters to complete.

User response: This is an informational message.

SQL6571I The Load utility is waiting for all operations to complete.

Explanation: The Load utility is waiting for operations to complete.

User response: This is an informational message.

SQL6572I The LOAD operation has begun on partition *node-number*.

Explanation: The LOAD operation has begun on the specified partition.

User response: This is an informational message.

SQL6573I The remote execution of the splitter utility on partition *node-number* finished with remote execution code *code*.

Explanation: The remote execution of the splitter utility on the specified partition has completed.

User response: This is an informational message.

SQL6574I The utility has read *MB-count* megabytes from the source data.

Explanation: This information is generated periodically to provide status to the user on the progress of large Load jobs.

User response: This is an informational message.

SQL6575I The utility has completed reading *MB-count* megabytes from the user data.

Explanation: This message is written at the completion of the Load to indicate the total volume of user data that has been processed.

User response: This is an informational message.

SQL6576N The AutoLoader utility encountered a threading error. Reason code *reason-code*, return code *ret-code*.

Explanation: The following is an explanation of the reason code *reason-code*:

- 1 - The AutoLoader utility tried to create a thread but failed with return code *ret-code*.
- 2 - The AutoLoader utility tried to wait for a thread to finish, but failed with return code *ret-code*.

User response: Ensure that you are running on an operating system which supports threaded applications, and that your thread limit per process is sufficient. The thread requirements are as follows:

- One thread for every load process which must be started,
 - One thread for every splitter process,
 - One thread for data feeding to the splitter processes.
-

SQL6577N The AutoLoader utility does not support the ROWCOUNT option in the load command.

Explanation: The ROWCOUNT option in the load command is not supported in the AutoLoader utility.

User response: Correct your load command in the AutoLoader configuration file, and resubmit your command.

SQL6578N Invalid AutoLoader option. RESTART/TERMINATE option can only be specified with SPLIT_AND_LOAD or LOAD_ONLY mode.

Explanation: RESTART/TERMINATE option in AutoLoader can only work with SPLIT_AND_LOAD or LOAD_ONLY mode.

User response: Please check the AutoLoader configuration file or the autloader option flags.

SQL6579N Invalid LOAD command in the AutoLoader configuration file. RESTART and TERMINATE options of the AutoLoader are used to perform LOAD RESTART and LOAD TERMINATE operation respectively.

Explanation: Users should not specify RESTART nor TERMINATE in the LOAD command. Instead, the RESTART and TERMINATE options of the AutoLoader should be used.

User response: Without modifying the AutoLoader configuration file, users should launch db2xxld with option RESTART or TERMINATE.

SQL6580I LOAD is restarting on node *node-num* in phase *restarting-phase*.

Explanation: AutoLoader has acknowledged that LOAD is restarting in either LOAD/BUILD/DELETE phase.

User response: This is an informational message.

SQL6581I Load cannot restart on node *node-num*.

Explanation: AutoLoader has acknowledged that LOAD cannot be restarted on a given node.

User response: This is an informational message.

SQL6582I Restarting LOAD on node *node-num* is not required.

Explanation: AutoLoader has acknowledged that LOAD does not need to be restarted on a given node.

User response: This is an informational message.

SQL6583N The partitioning key definition is incompatible with partitioned database load mode *load-mode*.

Explanation: An identity column was specified as part of the partitioning key definition, but the load mode specified was not PARTITION_AND_LOAD and the

identityoverride modifier was not specified.

User response: Either change the load mode to PARTITION_AND_LOAD, specify the identityoverride

modifier, or remove the identity column from the partitioning key definition.

SQL7000 - SQL7099

SQL7001N Unknown command *command* was requested.

Explanation: The command submitted to REXX could not be recognized.

The command cannot be processed.

User response: Verify that the command is a valid SQL statement and rerun the procedure. Note that all commands must be in uppercase.

User response: Specify the correct keyword format.

SQL7007N REXX variable *variable* does not exist.

Explanation: A REXX variable that did not exist in the REXX variable pool was passed.

The command cannot be processed.

User response: Verify that all variable names in the host-variable list are assigned before the command that failed. Then run the procedure again.

SQL7002N The cursor name is invalid.

Explanation: The user specified an incorrect cursor name.

The command cannot be processed.

User response: Verify that the cursor name is one of the form "c1" through "c100".

SQL7008N REXX variable *variable* contains inconsistent data.

Explanation: A variable that contained inconsistent data was passed to REXX.

The command cannot be processed.

User response: If the variable is an SQLDA, verify that the data and length fields have been assigned correctly. If it is a REXX variable, verify that the type of data is appropriate to the command where it is being used.

SQL7003N The statement name is invalid.

Explanation: The user has specified an incorrect statement name.

The command cannot be processed.

User response: Verify that the statement name is of the form "s1" through "s100".

SQL7009N Truncated REXX variable *variable*.

Explanation: The variable *variable* passed to REXX contained inconsistent data. The data string from *variable* was truncated.

The command cannot be processed.

User response: Verify that the data length is consistent with the length given in the input SQLDA, and run the procedure again.

SQL7004N The syntax of the request is invalid.

Explanation: REXX was unable to parse the command string submitted.

The command cannot be processed.

User response: Use proper command syntax.

SQL7010N Invalid scan ID *ID*.

Explanation: The scan ID *variable* passed to REXX did not exist or contained inconsistent or missing data.

The command cannot be processed.

User response: Verify that the data contained in the scan ID has been assigned correctly, and run the procedure again.

SQL7005W The cursor used by this OPEN statement has not been declared.

Explanation: An OPEN statement was attempted without a declaring a cursor.

The command cannot be processed.

User response: Insert a DECLARE statement before the OPEN statement and rerun the procedure.

SQL7011N Required parameter *parameter* not given.

Explanation: The parameter *parameter* is required by REXX command syntax but was not specified.

The command cannot be processed.

User response: Specify the required parameter value, and run the procedure again.

SQL7006N Invalid keyword *keyword* given on request.

Explanation: The statement contains a not valid keyword *keyword*.

The command cannot be processed.

SQL7012N Attempted ISL change while connected to a database.

Explanation: Isolation level (ISL) may not be changed while connected to a database.

The command is ignored.

User response: If a change in isolation level is necessary, disconnect from the current database, then set the isolation level and connect to the database.

SQL7013N Mismatched cursor and statement name or hold attribute.

Explanation: In REXX, the cursor and statement name form must be 'cnn' and 'snn,' where 'nn' is a number from 1 to 100. The numbers must be the same for a cursor and statement pair. Also, c1 through c50 are declared without hold and c51 through c100 with hold.

The command is ignored.

User response: Verify that the cursor and statement numbers match and rerun the procedure.

SQL7014N Incorrect number of host variable components.

Explanation: In REXX, the first component of a compound host variable lists a number which is not equal to the actual number of components defined.

The command is ignored.

User response: Verify that the number in the first component matches the number of components actually defined and rerun the procedure.

SQL7015N The variable name *variable* is not valid in REXX.

Explanation: The variable name specified is not valid in REXX. The name must conform to the language requirements.

The command cannot be processed.

User response: Change the name to one that conforms to the REXX requirements and resubmit the command.

SQL7016N Invalid syntax provided to the SQLDB2 interface. Related Error: *db2-error*. The command cannot be processed.

Explanation: Invalid syntax was provided to the SQLDB2 interface, e.g. both an input file and a command were specified.

User response: Look up the related error code for more information.

SQL7032N SQL procedure *procedure-name* not created. Diagnostic file is *file-name*.

Explanation: SQL Procedure *procedure-name* was not created. One of the following has occurred:

- Support for SQL stored procedures is not installed and configured on this server. You need to have the DB2 Client and a C compiler installed on the server to create SQL procedures. You may need to set the DB2 registry variable `DB2_SQLROUTINE_COMPILER_PATH` to point to a script or batch file that contains environment settings for the C compiler on your platform.
- DB2 failed to precompile or compile the SQL stored procedure. DB2 creates an SQL procedure as a C program that contains embedded SQL. Errors not found during the initial parsing of the CREATE PROCEDURE statement can be found during the precompile or compile stage.

For UNIX platforms, the full path of the file that contains diagnostic information is:

```
$DB2PATH/function/routine/sqlproc/ \  
$DATABASE/$SCHEMA/tmp/file-name
```

where \$DATABASE represents the name of the database, and \$SCHEMA represents the schema name of the SQL procedure.

For Windows operating systems, the full path of the file that contains diagnostic information is:

```
%DB2PATH%\function\routine\sqlproc\ \  
%DATABASE%\%SCHEMA%\tmp\file-name
```

where %DATABASE% represents the name of the database, and %SCHEMA% represents the schema name of the SQL procedure.

User response: Ensure that both a compatible C compiler and a DB2 Application Development Client are installed on the server. If a precompile or compile error occurred, refer to the messages from the precompiler or compiler in the diagnostic file *file-name*.

Ensure that the DB2 registry variable `DB2_SQLROUTINE_COMPILER_PATH` is set to point to a script or batch file that sets up the C compiler environment. On a UNIX operating system, for example, you may create a script called "sr_cpath" in the `/home/DB2INSTANCE/sqllib/function/routine` directory. To set the DB2 registry variable `DB2_SQL_ROUTINE_COMPILER_PATH` accordingly, issue the following command:

```
db2set DB2_SQLROUTINE_COMPILER_PATH = \  
" \  
  /home/DB2INSTANCE/sqllib/function/ \  
  routine/sr_cpath"
```

sqlcode: -7032

sqlstate: 42904

SQL7035W The executable of the SQL procedure *procedure-name* is not saved in the database catalog.

Explanation: The executable of the SQL procedure exceeds the limit of 2 megabytes and therefore cannot be stored in the database catalog. It will not be recovered automatically at database restore time or on ROLLBACK of a DROP PROCEDURE statement.

User response: If the warning resulted from a CREATE PROCEDURE statement, ensure that you keep a backup of the executable associated with SQL procedure *procedure-name*. If the warning was issued during a restore operation or a ROLLBACK of a DROP

PROCEDURE statement, then the executable associated with *procedure-name* must be manually synchronized with the SQL procedure that is defined in the catalog.

sqlcode: +7035

sqlstate: 01645

SQL7099N Invalid error *error* has occurred.

Explanation: A REXX internal error has occurred.

The command cannot be processed.

User response: Verify that REXX is installed properly and rerun the procedure. If the error continues, note the error number and call the dealer.

SQL8000 - SQL8099

SQL8000N DB2START processing failed; a valid product license was not found. If you have licensed this product, ensure the license key is properly registered. You can register the license via the License Center or db2licm command line utility. The license key can be obtained from your licensed product CD.

Explanation: A valid license key could not be found and the evaluation period has expired.

User response: Install a license key for the fully entitled version of the product. You can obtain a license key for the product by contacting your IBM representative or authorized dealer.

SQL8001N An attempt to connect to the database failed due to a product licence problem.

Explanation: The connection attempt failed due to one of the following DB2 licensing issues:

- A license key is not present.
- A license key has not been correctly installed.
- A license key has expired.
- This DB2 product edition does not support a license key.

User response: Instruct your database administrator to verify that a valid license key for the DB2 product is installed correctly, and has not expired.

- Use the db2licm -l command or DB2 License Center to view licenses.
- Use the db2licm -a command or DB2 License Center to register a license.
- You can obtain a license key for the product by contacting your IBM representative or authorized dealer.

sqlcode: -8001

sqlstate: 42968

SQL8002N An attempt to connect to a host failed due to a missing DB2 Connect product or invalid license.

Explanation: If connecting directly to a host server, a DB2 Connect product with a valid license may not be present on your machine.

If connecting to a host server through a DB2 Connect gateway, a valid license may not be present on the DB2 Connect gateway.

User response: Instruct your database administrator to check the following:

If connecting directly to the host, first ensure that a DB2 Connect product is present and that the appropriate license key is installed on your machine and is unexpired.

If connecting through a DB2 Connect gateway, ensure that the appropriate license key is installed on the gateway and is unexpired.

- To view licenses, use the db2licm -l command or DB2 License Center.
- To register a license, use the db2licm -a command or DB2 License Center.
- You can obtain a license key for the product by contacting your IBM representative or authorized dealer.

Note: Some DB2 product editions may not support connections to a host server.

sqlcode: -8002

sqlstate: 42968

SQL8003N A valid license key was not found for the requested function.

Explanation: The current license key(s) do not allow the requested functionality.

User response: Purchase the license key for this function from your IBM representative or authorized dealer and update your license using the License Center or the db2licm command line utility. For more information on updating licenses refer to the Quick Beginnings manual for your platform. For more information on the db2licm utility, refer to the DB2 Command Reference.

SQL8004N A valid license key was not found for the requested function.

Explanation: The current license key(s) do not allow the requested functionality.

User response: Examine the administration notification log for more information.

SQL8006W The product *product-name* does not have a valid license key registered. If you have licensed this product, ensure the license key is properly registered. You can register the license via the License Center or db2licm command line utility. The license key can be obtained from your licensed product CD. If a license key is not registered, this product will be enabled for a *number* day evaluation period. USE OF THE PRODUCT FOR THE EVALUATION PERIOD CONSTITUTES ACCEPTANCE OF THE TERMS OF THE IBM LICENSE AGREEMENT located in the installation path of this product in the license directory.

Explanation: A valid license key has not been installed for this product. The product will be enabled to operate for a limited period of time for evaluation purposes. THE EVALUATION PERIOD IS CONTROLLED BY A TIME DISABLING DEVICE.

User response: If you have purchased a fully entitled version of this product, please install your license key as described in the product installation documentation. If you have already installed the license key, please verify your license file for accuracy.

USE OF THE PRODUCT FOR THE EVALUATION PERIOD IS SUBJECT TO THE TERMS OF THE IBM LICENSE AGREEMENT AND LICENSE INFORMATION DOCUMENT FOR THIS PRODUCT. YOUR USE OF THE PRODUCT DURING THE EVALUATION PERIOD CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS.

If you do not accept the terms, you are not authorized to use the product and you must de-install it. You can obtain a license key for the fully authorized program

with the product by contacting your IBM representative or authorized dealer.

SQL8007W There are *number* day(s) left in the evaluation period for the product *product-name*. For evaluation license terms and conditions, refer to the License Agreement document located in the license directory in the installation path of this product. If you have licensed this product, ensure the license key is properly registered. You can register the license via the License Center or db2licm command line utility. The license key can be obtained from your licensed product CD.

Explanation: A valid license key has not been installed for this product. The evaluation period will expire after the specified number of days.

User response: The product is operating in evaluation mode, and is enabled for a limited period of time. When the evaluation period has expired it will not execute until a license key for the fully entitled version of the product is installed.

You can obtain a license key for the product by contacting your IBM representative or authorized dealer.

SQL8008N The product *text* does not have a valid license key installed and the evaluation period has expired. Functions specific to this product are not enabled.

Explanation: A valid license key could not be found and the evaluation period has expired.

User response: Install a license key for the fully entitled version of the product. You can obtain a license key for the product by contacting your IBM representative or authorized dealer.

SQL8009W The number of concurrent users of the DB2 Workgroup product has exceeded the defined entitlement of *number*. Concurrent user count is *number*.

Explanation: The number of concurrent users has exceeded the number of defined DB2 concurrent user entitlements.

User response: Contact your IBM representative or authorized dealer to obtain additional DB2 user entitlements and update the DB2 license information in the License Center.

sqlcode: +8009

sqlstate: 01632

SQL8010W The number of concurrent users of the DB2 Connect product has exceeded the defined entitlement of *number*. Concurrent user count is *number*.

Explanation: The number of concurrent users has exceeded the number of defined DB2 concurrent user entitlements.

User response: Contact your IBM representative or authorized dealer to obtain additional DB2 user entitlements and update the DB2 license information in the License Center.

sqlcode: +8010

sqlstate: 01632

SQL8011W One or more database partitions does not have a valid DB2 license key installed for the *product-name* product.

Explanation: A valid license key has not been installed for this product on all database partitions. The product will be enabled to operate for a limited period of time for evaluation purposes. THE EVALUATION PERIOD IS CONTROLLED BY A TIME DISABLING DEVICE.

User response: If you have purchased a fully entitled version of this product, please install your license key as described in the product installation documentation. If you have already installed the license key, please verify your license file for accuracy.

USE OF THE PRODUCT FOR THE EVALUATION PERIOD IS SUBJECT TO THE TERMS OF THE IBM EVALUATION AGREEMENT IN THE EVALUATE.ARG FILE. YOUR USE OF THE PRODUCT DURING THE EVALUATION PERIOD CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS.

If you do not accept the terms, you are not authorized to use the product and you must de-install it. You can obtain a license key for the fully authorized program with the product by contacting your IBM representative or authorized dealer.

SQL8012W The number of concurrent users of the DB2 Enterprise product has exceeded the defined entitlement of *number*. Concurrent user count is *number*.

Explanation: The number of concurrent users has exceeded the number of defined DB2 concurrent user entitlements.

User response: Contact your IBM representative or authorized dealer to obtain additional DB2 user entitlements and update the DB2 license information in the License Center.

sqlcode: +8012

sqlstate: 01632

SQL8013W The number of concurrent database connections to the DB2 Connect product has exceeded the defined entitlement of *number*. Database connection count is *number*.

Explanation: The license for the DB2 Connect product you are using supports a limited number of concurrent database connections. You have requested a number of connections that exceeds this limit.

User response: Upgrade to a version of the DB2 Connect product with a higher limit of concurrent database connections.

DB2 Connect Enterprise Edition users: obtain licenses for additional users by purchasing Additional User Packs.

sqlcode: +8013

sqlstate: 01632

SQL8014N The version of the DB2 Connect product you are using is not licensed for use with TCP/IP protocol. Upgrade to a full function DB2 Connect product to use TCP/IP.

Explanation: This version of DB2 Connect is limited to SNA connectivity. TCP/IP connections are not supported.

User response: Upgrade to a full function DB2 Connect product such as DB2 Connect Personal Edition or DB2 Connect Enterprise Edition to use TCP/IP.

sqlcode: -8014

sqlstate: 42968

SQL8015N The version of the DB2 Connect product you are using is not licensed for updating multiple databases in the same transaction.

Explanation: This version of DB2 Connect is limited to working with a single database in a transaction. It does not support 2-phase commit protocol.

User response: Upgrade to a full function DB2 Connect product such as DB2 Connect Personal Edition or DB2 Connect Enterprise Edition to be able to update multiple databases in a single transaction.

sqlcode: -8015

sqlstate: 42968

SQL8016N The user *user-name* is not defined as a registered user for the product *product-name*.

Explanation: The user has not been registered to use this product.

User response: Contact your IBM representative or authorized dealer to obtain additional DB2 registered user entitlements and update the registered user list for this product in the License Center.

SQL8017W The number of processors on this machine exceeds the defined entitlement of *licensed-quantity* for the product *product-name*. The number of processors on this machine is *processor-quantity*. You should purchase additional processor based entitlements from your IBM representative or authorized dealer and update your license using the License Center or the `db2licm` command line utility. For more information on updating processor based licenses, refer to the Quick Beginnings manual. For more information on the `db2licm` utility, refer to the Command Reference.

User response: `sqlcode: +8017`

SQL8018W The number of concurrent users of this product has exceeded the defined entitlement of *number*. Concurrent user count is *number*.

Explanation: The number of concurrent users has exceeded the number of defined concurrent user entitlements.

User response: Contact your IBM representative or authorized dealer to obtain additional user entitlements and update the DB2 license information in the License Center.

`sqlcode: +8018`

`sqlstate: 01632`

SQL8019N There was an error updating the license for the OLAP Starter Kit. RC = *reason-code*.

Explanation: The license utility could not update the OLAP Starter Kit license because of an unknown error.

User response: Try the command again. If the problem persists, please contact an IBM service representative.

`sqlcode: -8019`

SQL8020W The number of concurrent connectors for one server has exceeded the defined entitlement of *number-sources*. Current number of connectors is *number-entitled*.

Explanation: The number of concurrent connectors has exceeded the number of defined entitlements.

User response: Contact your IBM representative or

authorized dealer to obtain additional entitlements and then update the DB2 license information in the License Center.

`sqlcode: +8020`

SQL8021W The data source *source-name* is not defined as a registered data source for *product-name*.

Explanation: The data source has not been configured as a registered data source. You must purchase entitlements for all non-DB2 data sources.

User response: Contact your IBM representative or authorized dealer to obtain additional data source entitlements and update the registered data source list for this product in the License Center.

`sqlcode: +8021`

SQL8022N Database partitioning feature is being used without database partitioning license. DB2 has detected that the database partitioning feature is being used but the database partitioning feature license has not been installed. Ensure that you have purchased database partitioning feature entitlements from your IBM representative or authorized dealer and have updated your license using the DB2 License Center or the `db2licm` command line utility. For more information on updating licenses refer to the Quick Beginnings manual for your platform. For more information on the `db2licm` utility, refer to the DB2 Command Reference.

SQL8023N The number of concurrent users for *product-name* product has exceeded the defined entitlement of *entitlement*. Concurrent user count is *count*. You should purchase additional user based entitlements from your IBM representative or authorized dealer and update your license using the License Center or the `db2licm` command line utility. For more information on updating user based licenses, refer to the Quick Beginnings manual for your platform.

SQL8024N A valid license key was not found for the requested function. The current license key for *product-name* product does not allow the requested functionality. Purchase the license key for this function from your IBM representative or authorized dealer and update your license using the License Center or the db2licm command line utility. For more information on updating licenses refer to the Quick Beginnings manual for your platform. For more information on the db2licm utility, refer to the DB2 Command Reference.

SQL8025W The connection to the server *server-name* is not allowed. A valid WebSphere Federated Server license could not be found.

Explanation: Your current WebSphere Federated Server license does not allow connection to the specified data source.

User response: Refer to the Administration Notification log for possible causes of this error. If this problem persists, contact IBM Support.

SQL8026W DB2 server has detected that a valid license for this product has not been registered.

Explanation: Registration of a valid license key is required in order to comply with the terms and conditions of your License Agreement. The license keys for this product are located on this product's media in the 'license' directory.

User response: Use DB2 License Center or db2licm command line utility to register the appropriate licenses that you have purchased. The License Agreement text is located in the 'license' directory in the installation directory of this product.

SQL8027N The table partitioning feature is being used without a DB2 Enterprise Server Edition license. DB2 has detected that the table partitioning feature is being used without a DB2 Enterprise Server Edition license. Ensure that you have purchased a valid DB2 Enterprise Server Edition entitlement from your IBM representative or authorized dealer and have updated your license using the DB2 License Center or the db2licm command line utility. For more information on updating licenses, refer to the Quick Beginnings manual for your platform. For more information on the db2licm utility, refer to the DB2 Command Reference.

SQL8028N The *feature* feature is being used without a *license* license. DB2 has detected that this feature is being used without the appropriate entitlements. Ensure that you have purchased appropriate entitlements from your IBM representative or authorized dealer and have updated your license using the DB2 License Center or the db2licm command line utility. For more information on updating licenses, refer to the Quick Beginnings manual for your platform. For more information on the db2licm utility, refer to the DB2 Command Reference.

SQL8029N A valid license key was not found for the requested function. The current license key for this product does not allow the requested functionality. Purchase the license key for this function from your IBM representative or authorized dealer and update your license using the License Center or the db2licm command line utility. For more information on updating licenses refer to the Quick Beginnings manual for your platform. For more information on the db2licm utility, refer to the DB2 Command Reference.

SQL8030W The license for the product *product* will expire in *number* day(s). You can register and update your license via the License Center or db2licm command line utility. The license key can be obtained from your licensed product CD.

SQL8100 - SQL8199

SQL8100N The table is full.

Explanation: When creating a database the following parameters may be specified:

- maximum number of pages per segment per file
- number of segments

Each table part may now have multiple files within the database segments. The file can grow until it reaches its maximum size in a segment (maximum number of pages per segment) and then it moves to the next segment to add more data. This occurs until it has used the maximum number of pages per segment in all configured segments, and the table becomes full.

Therefore, the total amount of space per database part is the product of the maximum number of pages and the number of segments. The table will be full if any of the table parts use all of their configured space.

Federated system users: this situation can also be detected by the data source.

User response:

- Delete rows from the table
- Reorganize the table to make more space
- Create a new database with larger values for maximum pages per segment and number of segments, back up the original database and restore to the new database.

SQL9300 - SQL9399

SQL9301N An invalid option is specified or an option parameter is missing.

Explanation: Either the option specified is invalid or an option parameter is not specified.

The command cannot be processed.

User response: Correct the option and resubmit the command.

SQL9302N Invalid option parameter:
option-parameter.

Explanation: The option parameter specified is invalid.

The command cannot be processed.

User response: Correct the option parameter and resubmit the command.

SQL9303N No option is specified.

Explanation: The required option *option* is not specified.

The command cannot be processed.

User response: Resubmit the command with the required option.

SQL9304N Unable to open file *filename* for writing.

Federated system users: isolate the problem to the data source failing the request (refer to the Troubleshooting Guide to determine which data source is failing to process the SQL statement) and:

- Take the necessary steps to increase the space in the table at the data source.
- If the table is on the federated server, create a new database with larger values for maximum pages per segment and number of segments. Back up the original database and restore to the new database.

SQL8101N A database segment may be incorrect.

Explanation: This error could occur in two ways:

1. Every database segment has an identifier file. The file may be missing or the contents of the file may be incorrect.
2. One, or more, previously allocated database segments are missing.

User response:

- Check to ensure that the file systems are mounted correctly
- Restore the database from a backup
- Call your IBM service representative

Explanation: The command cannot be processed.

User response: Ensure that the system can access the file.

SQL9305N The *name* is too long. The maximum length is *max-length*.

Explanation: The <name> is longer than the maximum length of <max-length>.

The command cannot be processed.

User response: Ensure that the <name> does not exceed the maximum length.

SQL9306N One or more of the field names are too long. The maximum length is *max-length*.

Explanation: The total length of a field name includes the specified prefix and/or a column suffix, which can either be its name or its number. This total length must not exceed the maximum length.

The command cannot be processed.

User response: Ensure that all the field names do not exceed the maximum length.

SQL9307N Remarks cannot be retrieved from the database. Error code = *sqlcode*.

Explanation: An error has occurred when attempting

to retrieve the remarks of a column from the database.

The command cannot be processed.

User response: Check the error code for more information.

SQL9308W SQL data type *sqltype* of the column *colname* is not supported.

Explanation: The SQL data type *sqltype* is not supported in the specified host language.

No declaration is generated for this column.

User response: Ensure that this is the desired table.

SQL9320I Connecting to the database *database...*

Explanation: The utility is attempting to connect to the database *database*.

User response: See the error message for details if it fails.

SQL9321I Binding the utility automatically...

Explanation: The utility is attempting to bind itself to the database.

User response: See the error message for details if it fails.

SQL10000 - SQL10099

SQL10002N The password supplied is too long.

Explanation: The length of the password is expected to be 18 characters or less. However, if the password is to be verified for an APPC conversation, it must be 8 characters or less.

User response: Ensure that the password is not longer than the limit allowed.

sqlcode: -10002

sqlstate: 28000

SQL10003C There are not enough system resources to process the request. The request cannot be processed.

Explanation: The database manager could not process the request due to insufficient system resources. The resources that can cause this error include:

- The amount of memory in the system
- The number of message queue identifiers available in the system.

User response: Stop the application. Possible solutions include:

- Remove background processes.

SQL9322I Retrieving column information from the table *table...*

Explanation: The utility is attempting to retrieve column information from the table *table*.

User response: See the error message for details if it fails.

SQL9323I Generating declarations to the file *filename...*

Explanation: The utility is attempting to generate declarations to the file *filename*.

User response: See the error message for details if it fails.

SQL9324I Disconnecting from the database *database...*

Explanation: The utility is attempting to disconnect from the database *database*.

User response: See the error message for details if it fails.

- Terminate other applications using the above resources.
- If you are using Remote Data Services, increase the Remote Data Services heap size (*rsheapsz*) in the server and client configuration because at least one block is used per application.
NOTE: This is applicable only for releases of DB2 prior to Version 2.
- Decrease the values of the configuration parameters that define allocation of memory, including *ASLHEAPSZ* if UDFs are involved in the failing statement.
- Avoid accessing large files or use non-buffered I/O. To use non-buffered I/O, set the DB2 registry variable *DB2NTNOCACHE* to YES.

sqlcode: -10003

sqlstate: 57011

SQL10004C An I/O error occurred while accessing the database directory.

Explanation: Either the system database directory or the local database directory cannot be accessed. This error may occur not only when the system is cataloging or uncataloging a database but also when the system is

accessing a database that is cataloged in the directory.

The command cannot be processed.

User response:

- Run LIST DB DIRECTORY ON <path> (where path is where the databases were created).
- If you are successfully able to list the databases with the above command, then only the instance level directory is having problems.
 - Move all the files under <inst_home>/sqllib/sqlldir to another location (note: cataloging information will be lost).
 - Recatalog the databases on the same path. Test by running LIST DB DIRECTORY.
- If you were unable to list databases with the LIST DB DIRECTORY ON <path> command, then the local database directories are the problem. Restore the databases that were cataloged there from backup versions and catalog them.

sqlcode: -10004

sqlstate: 58031

SQL10005N The mode parameter *parameter* in the CONNECT TO statement is not valid. It must be SHARE for shared access, EXCLUSIVE for exclusive use or EXCLUSIVE MODE ON SINGLE NODE for exclusive use on single node. For DB2 Connect connections, only SHARE mode is supported. EXCLUSIVE MODE ON SINGLE NODE is only supported in MPP configuration.

Explanation: The *mode* parameter of the CONNECT TO statement must be SHARE for shared, EXCLUSIVE for exclusive use or EXCLUSIVE MODE ON SINGLE NODE for exclusive use on single node. If connecting to a database using DB2 Connect, only shared access is allowed. EXCLUSIVE MODE ON SINGLE NODE is only supported in MPP configuration.

The command cannot be processed.

User response: Resubmit the command with a valid *mode* parameter.

SQL10007N Message *msgno* could not be retrieved. Reason code: *code*.

Explanation: The requested message <msgno> could not be retrieved from the message file. Reason code <code> is one of the following:

1. The environment variable "DB2INSTANCE" is either not set, or is set to an invalid instance. Correct it and try again.
2. The message file was found, but the file could not be opened because of permissions. Check the file permissions of the files under the message directory.

3. The message file could not be found. Either the file does not exist, or the directory the message file should be in does not exist. Check that either a default directory or a directory with the same name as the 'LANG' environment variable exists under the message directory.
4. The requested message does not exist in the message file. Either the message file is outdated, or it is the wrong one.
5. Either DB2CODEPAGE is set to a code page which the database does not support, or the client's locale is not supported by the database.
6. An unexpected system error occurred. Try execution again. If problem persists, contact your IBM representative.
7. Not enough memory. An attempt to get private memory failed. Try again.

User response: Reissue the command after verifying the following:

- ensure that the DB2INSTANCE environment variable is set to the correct literal string for the username attempting this command
- ensure that correct home directory is specified for the username attempting this command (i.e. in the /etc/passwd file)
- ensure that the LANG environment variable is set to the correct value for the installed language, or is set to 'C', on the username attempting this command

If all of the above are correct and the error still occurs, reinstall DB2.

SQL10009N The codeset *codeset* and/or territory *territory* that has been specified is not valid.

Explanation: This version of the database manager does not support the active codeset or territory or both, as specified by the Create Database command.

The command cannot be processed.

User response: Refer to the Create Database command in the *Administration Guide* for details of valid codeset and territory pairs supported by the database manager.

SQL10010N The specified library, *name*, was loaded, but the function *function* could not be executed.

Explanation: The function routine within the library cannot be found.

The command cannot be processed.

User response:

1. If it is a DARI library, ensure the DARI library is built correctly. Make sure that the function routine is exported through the 'export file'.

- For other libraries, user may have to reinstall the database manager instance or the database manager product.

sqlcode: -10010

sqlstate: 42724

SQL10011N An interrupt was received while loading the specified DARI library *name*.

Explanation: When loading the DARI library, the command was interrupted, perhaps by the interrupt key (usually Ctrl+Break or Ctrl+C).

Processing is stopped.

User response: Resubmit the command.

sqlcode: -10011

sqlstate: 42724

SQL10012N An unexpected operating system error was received while loading the specified library *name*.

Explanation: An unexpected error occurred when trying to load the library module specified in the program name field.

User response: Resubmit the current command. If the error continues, stop the database manager and start it again. If the error continues, reinstall the database manager.

If reinstallation does not correct the error, record the message number (SQLCODE) and all information in the SQLCA if possible.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Then contact IBM as specified in this guide.

sqlcode: -10012

sqlstate: 42724

SQL10013N The specified library *name* could not be loaded.

Explanation: The library module could not be found.

User response: For DARI users, ensure that the specified library is available.

- If the client application uses a fully qualified path name to specify the DARI library, the DARI library must be stored in the given directory path. If the client application does not use the path name, the DARI library must be stored in the default directory (<InstanceHomeDir>/sqllib/function). Where <InstanceHomeDir> is the home directory of the database manager instance.

- If the error message occurs during database manager start time then the user will have to reinstall the DB2 instance or the database manager product.

Federated system users: if the error message occurs as a result of issuing db2start on the federated system and the *name* is "from DB2_DJ_COMM" then the federated server experienced a problem loading one of the wrapper modules identified by the DB2_DJ_COMM environment variable. The DB2_DJ_COMM environment variable must be updated to contain only valid wrapper modules.

If the error message occurs as a result of issuing db2start on the federated system and the *name* is not "from DB2_DJ_COMM", the user must re-install the federated instance.

If the library identifies a wrapper module, that module must be installed, link-edited (as required), and available in the correct directory. The data source client libraries (used by the wrapper module) must also be installed and available in the correct directory. Refer to the *Installation and Configuration Supplement* for more information about configuring wrapper modules.

sqlcode: -10013

sqlstate: 42724

SQL10014N The invoking DARI program name *name* specified is not valid.

Explanation: The DARI library module or the DARI program name syntax is not correct.

User response: Ensure that the DARI library or program name is specified correctly.

sqlcode: -10014

sqlstate: 42724

SQL10015N There are not enough system resources to load the specified library *name*.

Explanation: There is not enough memory to load the library module.

User response: Stop the application. Possible solutions are:

- Remove background processes.
- Decrease the values of the configuration parameters that define the allocation of memory.
- Install more memory.

sqlcode: -10015

sqlstate: 42724

SQL10017N The SQL CONNECT RESET statement is not allowed in a Database Application Remote Interface (DARI) procedure.

Explanation: The remote procedure contains an SQL CONNECT RESET statement.

User response: Remove the SQL CONNECT RESET statement and retry the remote procedure.

sqlcode: -10017

sqlstate: 38003

SQL10018N The disk is full. Processing was ended.

Explanation: The disk is full. During the export to a PC/IXF file, either the PC/IXF data file is on a fixed disk, or the PC/IXF data file and the database are on the same file system, or the PC/IXF data file and the message file are on the same file system.

The EXPORT utility stops processing. The exported data is not complete.

User response: Provide more space on the disk or specify that the data file be located on a different file system than the database or the message file and resubmit the command.

SQL16000 - SQL16099

SQL16000N An XQuery expression cannot be processed because the *context-component* component of the static context has not been assigned. Error QName=err:XPST0001.

Explanation: Static analysis of an expression relies on a component of the static context, *context-component*, that has not been assigned a value.

The XQuery expression cannot be processed.

User response: Assign a value to the *context-component*.

sqlcode: -16000

sqlstate: 10501

SQL16001N An XQuery expression starting with token *token* cannot be processed because the focus component of the dynamic context has not been assigned. Error QName=err:XPDY0002.

Explanation: Evaluation of the expression starting with token *token* requires that the focus component of the dynamic context be assigned. The token is being considered as the beginning of a path expression which does not have an associated context item or context sequence. This might be the result of not defining or retrieving a sequence as a context for the path

SQL10019N The database cannot be accessed in the specified path.

Explanation: The database cannot be accessed for one of the following reasons:

- The path does not contain a database image.
- Permissions on the path are incorrect.

User response: Ensure that the path references a valid database and that the permissions are correct.

sqlcode: -10019

sqlstate: 58031

SQL10021N The file permissions do not allow write access to the database.

Explanation: A write operation was attempted to a database residing on a file system which does not allow write access.

The statement cannot be processed.

User response: Verify that the file permissions for the file system on which the database resides allow write access.

expression. Other common causes for this error:

- The value in token *token* was intended to be a literal string but delimiting quotations characters are missing.
- The value in token *token* was intended to be a function but the opening and closing parentheses are missing.

The XQuery expression cannot be processed.

User response: Investigate occurrences of token *token* in the XQuery expression. Correct the XQuery expression around an occurrence of this token to assign a focus component or make other changes so that the token is no longer expecting an assigned focus component.

sqlcode: -16001

sqlstate: 10501

SQL16002N An XQuery expression has an unexpected token *token* following *text*. Expected tokens may include: *token-list*. Error QName=err:XPST0003.

Explanation: The *token* that follows *text* is not valid where it occurs in the expression. The *token-list* includes one or more possible tokens that are valid replacements for the unexpected token.

The XQuery expression cannot be processed.

User response: Use the correct syntax for the expression.

sqlcode: -16002

sqlstate: 10505

SQL16003N An expression of data type *value-type* cannot be used when the data type *expected-type* is expected in the context. Error QName=err:XPTY0004.

Explanation: An XQuery expression includes a value of the type *value-type* in a context where the expected type is *expected-type*.

The XQuery expression cannot be processed.

The following rules apply to types that are used in expressions:

- The operands of a range expression must each be convertible to a single integer.
- The operands of a union, intersect, or except operator must contain items that are nodes only.
- The operands of an arithmetic expression cannot be sequences of length greater than one.
- The operands of a node comparison must be either single nodes or empty sequences.
- In general, atomization must not result in more than one atomic value.
- When atomization is applied to a comparison expression, the result of atomization must be single atomic values, where the value of the first atomized operand is comparable with the value of the second atomized operand.
- When atomization is applied to a name expression, the result of atomization must be a single atomic value of type *xs:QName*, *xs:string*, or *xdt:untypedAtomic*.
- The content sequence of a document node constructor cannot contain attribute nodes.
- The orderspec values in an order by clause must be convertible to a common type.
- A value that is bound to a variable must match the declared type (if a type is declared).
- The cast of a value of source type *value-type* to target type *expected-type* must be a supported cast. In cases where SQL processing invokes XQuery to perform a cast from an XML data type to an SQL data type other than XML, an XQuery cast is performed with a temporary derived XML schema type that is generated using a name based on the SQL data type and associated size restrictions. For example, the *target-type* token value is "VARCHAR_50" for an XMLCAST to VARCHAR(50) and "DECIMAL_9_2" for an XMLCAST to DECIMAL(9,2).

User response: Specify a value of the correct type.

sqlcode: -16003

sqlstate: 10507

SQL16004N The fn:data function cannot be applied to an XQuery node for which the type annotation denotes a complex type with element-only content. Error QName=err:FOTY0012.

Explanation: An XQuery expression attempted to apply the fn:data function to an XQuery node. However, because the type annotation of the node denotes a complex type with element-only content, the typed value of the node is undefined. The fn:data function raises a type error when applied to a node whose type is undefined.

The XQuery expression cannot be processed.

User response: Try one of the following actions:

- Replace the call to the fn:data function with a function call that is appropriate for complex types with element only content.
- Call the fn:data function on a node that is annotated as a simple type, or as a complex type that contains mixed content.

sqlcode: -16004

sqlstate: 10507

SQL16005N An XQuery expression references an element name, attribute name, type name, function name, namespace prefix, or variable name *undefined-name* that is not defined within the static context. Error QName=err:XPST0008.

Explanation: During the static analysis phase, the static context is used to resolve element names, attribute names, type names, function names, namespace prefixes, and variable names. If an expression uses an *undefined-name* that is not found in the static context, a static error is raised.

The XQuery expression cannot be processed.

User response: Use a name that is defined within the static context. If the QName includes a prefix, verify that the namespace prefix has been bound to a namespace through a namespace declaration. If the error resulted from a variable reference, verify that the variable is in-scope for the expression.

sqlcode: -16005

sqlstate: 10506

SQL16006N XML schemas cannot be imported. Error QName=err:XQST0009.

Explanation: DB2 XQuery does not support the Schema Import Feature.

The schema cannot be imported.

User response: Remove the schema import statement from the query prolog.

sqlcode: -16006

sqlstate: 10502

SQL16007N The XQuery path expression references an axis *axis-type* that is not supported. Error QName=err:XQST0010.

Explanation: The *axis-type* that is specified is not supported because DB2 XQuery does not support the Full Axis Feature. The supported axes include: child, attribute, descendant, self, descendant-or-self, and parent.

The XQuery expression cannot be processed.

User response: Specify an axis that is supported.

sqlcode: -16007

sqlstate: 10505

SQL16008N XQuery library modules cannot be declared or imported. Error QName=err:XQST0016.

Explanation: A module declaration or module import exists in an XQuery statement, but DB2 XQuery does not support the Module Feature.

The module cannot be declared or imported.

User response: Remove all module declarations or module imports from the query prolog.

sqlcode: -16008

sqlstate: 10502

SQL16009N An XQuery function named *function-name* with *number-of-parms* parameters is not defined in the static context. Error QName=err:XPST0017.

Explanation: The expanded QName and *number-of-parms* in a call to the function *function-name* do not match the function name and number of parameters of a function signature in the static context.

The XQuery expression cannot be processed.

User response: Try one of the following actions:

- Verify that you are passing the correct number of parameters to the function call.
- If the function call uses a function name with no prefix, verify that the local name of the function

matches a function that is in the default function namespace, or use the correct prefix.

sqlcode: -16009

sqlstate: 10506

SQL16010N The result of the last step in an XQuery path expression contains both nodes and atomic values. Error QName=err:XPTY0018.

Explanation: The last step in the XQuery path expression contains at least one XQuery node and one XQuery atomic value. This combination of types is not allowed as the last step in an XQuery path expression.

The XQuery expression cannot be processed.

User response: Ensure that the last step in each XQuery path expression returns only XQuery nodes or only XQuery atomic values.

sqlcode: -16010

sqlstate: 10507

SQL16011N The result of an intermediate step expression in an XQuery path expression contains an atomic value. Error QName=err:XPTY0019.

Explanation: Each intermediate step in an XQuery expression must evaluate to a (possibly empty) sequence of XQuery nodes. Such sequences must not include any XQuery atomic values.

The XQuery expression cannot be processed.

User response: Modify the expression to ensure that each intermediate step in an XQuery expression returns a sequence of nodes.

sqlcode: -16011

sqlstate: 10507

SQL16012N The context item in an axis expression must be an XQuery node. Error QName=err:XPTY0020.

Explanation: In an axis expression, the context item (the item currently being processed) must be an XQuery node.

The XQuery expression cannot be processed.

User response: Modify the axis expression to ensure that the context item is a node.

sqlcode: -16012

sqlstate: 10507

SQL16014N The value of the namespace declaration attribute must be a literal string. Error QName=err:XQST0022.

Explanation: An XQuery expression contains a namespace declaration attribute that is not a literal string. The value of a namespace declaration attribute must be either a literal string containing a valid URI, or a zero-length string.

The XQuery expression cannot be processed.

User response: Specify a literal string for the value of the namespace declaration attribute.

sqlcode: -16014

sqlstate: 10502

SQL16015N An element constructor contains an attribute node named *attribute-name* that follows an XQuery node that is not an attribute node. Error QName=err:XQTY0024.

Explanation: The content sequence of an element constructor contains an attribute node named *attribute-name* that follows an XQuery node that is not an attribute node.

The XQuery expression cannot be processed.

User response: Modify the content sequence to ensure that attribute nodes follow other attribute nodes.

sqlcode: -16015

sqlstate: 10507

SQL16016N The attribute name *attribute-name* cannot be used more than once in an element constructor. Error QName=err:XQDY0025.

Explanation: An XQuery expression uses an *attribute-name* more than once in an element constructor. This is not allowed because the attribute names that are used in an element constructor must be unique.

The XQuery expression cannot be processed.

User response: Specify a unique name for each attribute.

sqlcode: -16016

sqlstate: 10503

SQL16017N The string “?>” is not allowed in the name expression or content expression of a computed processing instruction. Error QName=err:XQDY0026.

Explanation: The name expression or content expression of a computed processing instruction cannot

contain the string “?>” because these characters are reserved for use as end delimiters in XML processing instructions.

The XQuery expression cannot be processed.

User response: Remove the string “?>” from the name expression or content expression.

sqlcode: -16017

sqlstate: 10508

SQL16018N For the target data type *type-name*, a string literal is not specified as the operand of a cast expression or as the argument of a constructor function. Error QName=err:XPST0083.

Explanation: The target data type *type-name* is either xs:QName or a type derived from the xs:QName or xs:NOTATION predefined XML schema types. For any of these types, a string literal must be specified as the operand of a cast expression or as the argument of a constructor function.

The XQuery expression cannot be processed.

User response: Perform one of the following actions:

- If *type-name* is the target data type of a cast expression, change the operand to a string literal or specify a different target data type.
- If *type-name* is used as the name of a constructor function, change the argument to a string literal or use a different constructor function.

sqlcode: -16018

sqlstate: 10510

SQL16020N The context node in a path expression does not have an XQuery document node root. Error QName=err:XPDY0050.

Explanation: The root node above the context node in a path expression must be an XQuery document node.

The XQuery expression cannot be processed.

User response: Change the each path expression so that the context node has a root node that is an XQuery document node.

sqlcode: -16020

sqlstate: 10507

SQL16021N The XQuery version declaration specifies a number *version-number* that is not supported. Error QName=err:XQST0031.

Explanation: DB2 XQuery does not support the XQuery *version-number* that is specified in a version declaration.

The XQuery expression cannot be processed.

User response: Specify a *version-number* that is supported by DB2 XQuery. DB2 XQuery currently supports XQuery version 1.0.

sqlcode: -16021

sqlstate: 10502

SQL16022N A value of type *value-type* is not valid in an expression that uses operation *operator*. Error QName=err:XPTY0004.

Explanation: The type *value-type* that is defined for an operand of an XQuery expression is not valid because the expression uses the constructor or operator *operator*.

The XQuery expression cannot be processed.

User response: Specify a value that is the correct type to use with the constructor or operator *operator*.

sqlcode: -16022

sqlstate: 10507

SQL16023N The XQuery prolog cannot contain multiple declarations for the same namespace prefix *ns-prefix*. Error QName=err:XQST0033.

Explanation: The prolog contains multiple declarations for the namespace prefix *ns-prefix*. Although a namespace declaration in a prolog can override a prefix that has been predeclared in the static context, the same namespace prefix cannot be declared more than once in the prolog.

The XQuery expression cannot be processed.

User response: Remove any extra declarations for the prefix from the prolog, or change the prefix that is assigned to the extra declarations. Verify that the prefixes used in the query reference the correct namespaces.

sqlcode: -16023

sqlstate: 10503

SQL16024N The prefix *prefix-name* cannot be redeclared or cannot be bound to the URI <http://www.w3.org/XML/1998/> namespace. Error QName=err:XQST0070.

Explanation: A namespace declaration or a namespace declaration attribute cannot redeclare the predefined namespace prefixes "xml" or "xmlns".

- If the namespace prefix *prefix-name* is one of these predefined namespace prefixes, it is being used in a namespace declaration or namespace declaration attribute, which is not allowed.
- If the prefix name is not "xml" or "xmlns", the declaration of the prefix *prefix-name* specifies the

namespace URI associated with the prefix "xml", which can only be bound to the namespace prefix "xml".

The XQuery expression cannot be processed.

User response: Perform one of the following actions:

- If the prefix name is "xml" or "xmlns", change the prefix name to a different namespace prefix.
- If the prefix name is not "xml" or "xmlns", change the namespace URI specified in the declaration of the namespace prefix.
- Remove any namespace declaration or namespace declaration attribute that specifies the prefix *prefix-name*.

sqlcode: -16024

sqlstate: 10503

SQL16025N The result of the content expression of an XQuery computed comment constructor contains two adjacent hyphens or ends with a hyphen character. Error QName=err:XQDY0072.

Explanation: The content specified for an XQuery computed comment constructor includes combinations of characters that are not allowed. This could be two adjacent hyphen (or dash) characters or the last character is a hyphen.

The XQuery expression cannot be processed.

User response: Remove the invalid uses of hyphen characters from the content expression of each XQuery computed comment constructor.

sqlcode: -16025

sqlstate: 10508

SQL16026N The name *attribute-name* is used for more than one attribute in the constructor for the element named *element-name*. Error QName=err:XQST0040.

Explanation: The name *attribute-name* in *element-name* cannot be used more than once because element constructors must use unique names for attributes.

The XQuery expression cannot be processed.

User response: Use unique names for all attributes in *element-name*.

sqlcode: -16026

sqlstate: 10503

SQL16027N The value of the name expression *value* in a computed processing instruction constructor is not valid. Error QName=err:XQDY0041.

Explanation: The atomized value of the name expression *value* is of type xs:string or xdt:untypedAtomic, but the value cannot be cast to xs:NCName.

The XQuery expression cannot be processed.

User response: Change the *value* of the name expression to a value that can be atomized and then cast to the type xs:NCName.

sqlcode: -16027

sqlstate: 10508

SQL16029N Two or more namespaces within the same XQuery element constructor use the same namespace prefix *prefix-name*. Error QName=err:XQST0071.

Explanation: The namespace prefix *prefix-name* cannot be used more than once in the same XQuery computed element constructor. If *prefix-name* is "xmlns", then more than one default namespace is specified in the XQuery computed element constructor.

The XQuery expression cannot be processed.

User response: Use unique namespace prefixes for local namespace declarations in the computed element constructor. Also, verify that the expression does not include more than one local namespace declaration that has no prefix.

sqlcode: -16029

sqlstate: 10503

SQL16030N The value *value* returned by the name expression of a computed attribute constructor is in the namespace for the prefix xmlns, or is in no namespace and has the local name xmlns. Error QName=err:XQDY0044.

Explanation: It is an error for the name expression of a computed attribute constructor to return a QName that is in the namespace <http://www.w3.org/2000/xmlns/> (corresponding to namespace prefix xmlns), or return a QName that is in no namespace and has the local name xmlns. The namespace prefix xmlns is used in XQuery to identify namespace declaration attributes.

The XQuery expression cannot be processed.

User response: Modify the name expression of the computed attribute constructor to return a value that is not in the namespace for the prefix xmlns.

sqlcode: -16030

sqlstate: 10508

SQL16031N XQuery language feature using syntax *string* is not supported.

Explanation: The XQuery expression includes the syntax indicated in *string* that is defined by the standard XQuery language specifications but is not supported in DB2 XQuery.

The XQuery expression cannot be processed.

User response: Remove the unsupported expression starting with the syntax *string* from the XQuery expression.

sqlcode: -16031

sqlstate: 10509

SQL16032N The string *string* is not a valid URI. Error QName=err:XQST0046.

Explanation: A namespace declaration or namespace declaration attribute specifies a string value that is not a valid URI.

The XQuery expression cannot be processed.

User response: Specify a string value that is a valid URI. A valid URI must conform to the generic URI syntax specified by the World Wide Web Consortium (W3C).

sqlcode: -16032

sqlstate: 10504

SQL16033N The target data type *type-name* of a cast expression is not an atomic data type defined for the in-scope XML schema types or is a data type that cannot be used in a cast expression. Error QName=err:XPST0080.

Explanation: The cast expression specifies a target data type *type-name* that cannot be used. The predefined XML schema types xs:NOTATION, xs:anySimpleType, and xdt:anyAtomicType cannot be used as the target type of a cast expression. If *type-name* is not one of these restricted types, then either the data type is not defined for the in-scope XML schema types or the data type is not an atomic type.

The XQuery expression cannot be processed.

User response: Perform one of the following actions:

- If the target data type is xs:NOTATION, xs:anySimpleType, or xdt:anyAtomicType, specify a different target data type or remove the cast expression.
- If the target data type is not defined by the in-scope XML types, specify a data type that is in-scope or change the XML schema to include the data type.

- If the target data type is not atomic, specify a different target data type or remove the cast expression.

sqlcode: -16033

sqlstate: 10507

SQL16034N The QName *qname* is used as an atomic type in a sequence type, but is not defined in the in-scope schema type definitions as an atomic type. Error QName=err:XPST0051.

Explanation: The QName *qname* cannot be used as an atomic type because it is not defined in the in-scope schema type definitions as an atomic type. Error QName=err:XPST0051.

User response: Use a QName that is defined as an atomic type.

sqlcode: -16034

sqlstate: 10503

SQL16035N A validate expression is not supported in DB2 XQuery. Error QName=err:XQST0075.

Explanation: The validation feature is not supported in DB2 XQuery, so a validate expression cannot be used as an XQuery expression.

The XQuery expression cannot be processed.

User response: Remove all validate expressions from the XQuery expression.

sqlcode: -16035

sqlstate: 10509

SQL16036N The URI that is specified in a namespace declaration cannot be a zero-length string. Error QName=err:XQST0085.

Explanation: The URI that is specified in a namespace declaration must be a valid URI that conforms to the generic URI syntax specified by the World Wide Web Consortium (W3C). The URI cannot be a zero-length string.

The XQuery expression cannot be processed.

User response: Specify a valid URI in the namespace declaration.

sqlcode: -16036

sqlstate: 10504

SQL16038N The arguments of fn:dateTime have different timezones. Error QName=err:FORG0008.

Explanation: The function fn:dateTime includes arguments that have different timezones. The timezone of both arguments could be explicitly part of the value or may be result from the use of the implicit timezone for the XQuery execution environment for one of the arguments.

The XQuery expression cannot be processed.

User response: Ensure that the same timezone is used for both arguments of fn:dateTime.

sqlcode: -16038

sqlstate: 10608

SQL16039N The function *function name* expected a string literal for argument *argument-number*.

Explanation: The function identified by *function name* requires that the argument number *argument-number* be specified as a string literal. The XQuery expression includes an invocation of function *function name* that does not use a string literal.

The XQuery expression cannot be processed.

User response: Change argument *argument-number* of function *function name* to a string literal.

sqlcode: -16039

sqlstate: 10608

SQL16040N The argument of function *function name* does not identify a single column with SQL data type XML.

Explanation: The function *function name* requires that the argument specify an SQL result table with a single column of data type XML. For db2-fn:xmlcolumn this is done by specifying a column within a table or view with the SQL data type XML. For db2-fn:sqlquery, the SQL query provided as an argument must specify a single column in the outer fullselect that has an SQL data type of XML.

User response: Correct the argument of function *function name* to return a single column with SQL data type XML.

sqlcode: -16040

sqlstate: 10608

SQL16041N An implicit or explicit invocation of the fn:boolean function in the XQuery expression could not compute the effective boolean value of the sequence. Error QName=err:FORG0006.

Explanation: This error occurs if the effective boolean value of the sequence operand of an explicit or implicit invocation of the `fn:boolean` function cannot be computed for the sequence operand. The effective boolean value can be computed only if the sequence operand is one of the following sequences:

- An empty sequence
- A sequence where the value of the first item is a node
- A singleton sequence with a value of type `xs:string`, `xdt:untypedAtomic`, or a type derived from one of these types
- A singleton sequence with a value of any numeric type or derived from any numeric type

The XQuery expression cannot be processed.

User response: Determine the possible expressions within the XQuery expression where an effective boolean value is calculated either implicitly or explicitly. An implicit invocation of the `fn:boolean` function can occur when processing the following types of expressions:

- Logical expressions (and, or)
- An `fn:not` function invocation
- The where clause of a FLWOR expression
- Certain types of predicates, such as `a[b]`
- Conditional expressions, such as `if`
- Quantified expressions (some, every)

Ensure that the sequence operand of each effective boolean value calculation would have a valid sequence operand (one described in the explanation).

sqlcode: -16041

sqlstate: 10608

SQL16042N The name expression in a computed processing instruction constructor cannot be equal to "XML" in any combination of upper and lower case characters. Error QName=err:XQDY0064.

Explanation: The NCName that results from the name expression of a computed processing instruction constructor cannot be equal to the string of characters XML in any combination of upper or lower case characters.

The XQuery expression cannot be processed.

User response: Modify the name expression to result in an NCName that is not equal to XML.

sqlcode: -16042

sqlstate: 10508

SQL16045N An unidentified error was issued from an XQuery expression. Error QName=err:FOER0000.

Explanation: An XQuery expression resulted in an unidentified error.

User response: Fix the problem in the XQuery expression.

sqlcode: -16045

sqlstate: 10611

SQL16046N A numeric XQuery expression attempted to divide by zero. Error QName=err:FOAR0001.

Explanation: A division or modulus operation attempted to divide an integer or decimal value by zero.

The XQuery expression cannot be processed.

User response: Use a value for the divisor that is not equal to zero.

sqlcode: -16046

sqlstate: 10601

SQL16047N An XQuery expression resulted in arithmetic overflow or underflow. Error QName=err:FOAR0002.

Explanation: An arithmetic operation resulted in a number that either exceeded the maximum or was below the minimum value allowed.

The XQuery expression cannot be processed.

User response: Modify the expression to result in a number that does not result in an arithmetic overflow or underflow.

sqlcode: -16047

sqlstate: 10601

SQL16048N An XQuery prolog cannot contain more than one *declaration-type* declaration. Error QName=err:error-qname.

Explanation: Declaring more than one *declaration-type* declaration in a prolog results in an error. The *declaration-type* declaration type is one of the following declarations that can be specified in an XQuery prolog:

- `copy-namespaces`
- `ordering`
- `default element namespace`
- `default function namespace`
- `construction`
- `boundary-space`
- `default empty order`

This error could be returned for a variety of error QNames such as err:XQST0055, err:XQST0065, err:XQST0066, err:XQST0067, err:XQST0068, and err:XQST0069.

The XQuery expression cannot be processed.

User response: Remove the extra declaration of type *declaration-type* from the prolog.

sqlcode: -16048

sqlstate: 10502

SQL16049N The lexical value *value* is not valid for the *type-name* data type in the function or cast. Error QName=err:FOCA0002.

Explanation: A cast expression or function call includes a *value* that does not have the correct lexical form for the *type-name* data type.

The XQuery expression cannot be processed.

User response: Try one of the following actions:

- If the error results from a function invocation, verify that the string parameters used for QNames or local names have the correct lexical form.
- If the error results from a cast expression, verify that the source value is not one of the special float or double values NaN, INF, or -INF.

sqlcode: -16049

sqlstate: 10602

SQL16051N The value *value* of data type *source-type* is out of range for an implicit or explicit cast to target data type *target-type*. Error QName=err:error-name.

Explanation: An XQuery expression requires that the value *value* with a data type of *source-type* be cast, either implicitly or explicitly to the target data type *target-type*. The value is outside the defined range of values for that data type. If the *target-type* is xs:dateTime or a data type derived from xs:dateTime, then the range is based on the value converted to UTC using the timezone component of the value.

This error could be returned for a variety of error QNames such as err:FOAR0002, err:FOCA0001, err:FOCA0003, err:FODT0001, err:FODT0002, and err:FORG0001.

The XQuery expression cannot be processed.

User response: Change the XQuery expression to use a target data type with a range that supports the specific value *value*, or change the value to be within the defined range of the target data type *target-type*.

sqlcode: -16051

sqlstate: 10602

SQL16052N NaN cannot be used as a float or double value in a datetime operation. Error QName=err:FOCA0005.

Explanation: NaN was passed as an argument to a datetime operation, but NaN is not a valid parameter value for datetime operations.

The XQuery expression cannot be processed.

User response: Pass a valid float or double value to the datetime operation.

sqlcode: -16052

sqlstate: 10602

SQL16053N The codepoint *codepoint* is not valid in a character string. Error QName=err:FOCH0001.

Explanation: A value that was passed to the fn:codepoints-to-string function in an XQuery expression contains a *codepoint* that is not a legal XML character.

The XQuery expression cannot be processed.

User response: Modify the argument to pass in valid codepoints only, or remove the expression.

sqlcode: -16053

sqlstate: 10603

SQL16054N The normalization form *form* that is specified as an argument of the function fn:normalize-unicode is not supported. Error QName=err:FOCH0003.

Explanation: The effective value *form* that was passed as the normalization form argument to the fn:normalize-unicode function is not supported. The effective value of the normalization form is computed by removing leading and trailing blanks, if present, and converting to upper case.

The XQuery expression cannot be processed.

User response: Pass a supported normalization form to the fn:normalize-unicode function.

sqlcode: -16054

sqlstate: 10603

SQL16055N An arithmetic operation involving a datetime value resulted in overflow. Error QName=err:FODT0001.

Explanation: An arithmetic operation involving a datetime value resulted in a number that exceeded the maximum value allowed.

The XQuery expression cannot be processed.

User response: Modify the XQuery expression to

result in a number that does not exceed the maximum value allowed.

sqlcode: -16055

sqlstate: 10605

SQL16056N An arithmetic operation involving a duration value resulted in overflow. Error QName=err:FODT0002.

Explanation: An arithmetic operation involving a duration value resulted in a number that exceeded the maximum value allowed.

The XQuery expression cannot be processed.

User response: Modify the XQuery expression to result in a number that does not exceed the maximum value allowed.

sqlcode: -16056

sqlstate: 10605

SQL16057N A timezone value *value* is not valid. Error QName=err:FODT0003.

Explanation: An XQuery expression specifies a timezone *value* that is less than -PT14H00M or greater than PT14H00M.

The XQuery expression cannot be processed.

User response: Specify a timezone value that is greater than -PT14H00M or less than PT14H00M.

sqlcode: -16057

sqlstate: 10605

SQL16058N No context item is defined for the function or operation *name*. Error QName=err:FONC0001.

Explanation: The function or operation *name* relies on a context item, but no context item is defined.

The XQuery expression cannot be processed.

User response: Modify the XQuery expression to ensure that a context item is defined for the function or operation *name*. If the function or operation uses the context item because an argument is omitted, then modify the expression to ensure that the context item is defined before the function is invoked.

sqlcode: -16058

sqlstate: 10606

SQL16059N No statically known namespace exists for the prefix in the value *value* cast to xs:QName. Error QName=err:FONS0003.

Explanation: An XQuery expression that casts to xs:QName specifies a *value* that uses a prefix, but the

prefix cannot be mapped to a URI because there is no statically known namespace for the specified prefix.

The XQuery expression cannot be processed.

User response: In the cast expression, specify a prefix in the value that exists as a statically known namespace. If the prefix is correct, ensure that there is a namespace declaration for the specified prefix.

sqlcode: -16059

sqlstate: 10607

SQL16060N No namespace was found for the prefix in the QName *qname*. Error QName=err:FONS0004.

Explanation: The expanded QName of an element could not be resolved because no namespace exists for the prefix that is specified in the QName.

The XQuery expression cannot be processed.

User response: Add a namespace declaration to bind the prefix to a URI, or specify a different prefix in the QName.

sqlcode: -16060

sqlstate: 10607

SQL16061N The value *value* cannot be constructed as, or cast (using an implicit or explicit cast) to the data type *data-type*. Error QName=err:FORG0001.

Explanation: An XQuery expression attempted to use the value *value* as a *data-type* value but the value is not valid for the data type. The following situations might cause this error:

- A *value* was passed to a constructor function that required a value of data type *data-type*.
- A *value* was explicitly passed to a cast function or specified in a cast expression with a target data type of *datatype*.
- An expression that included *value* implicitly cast the value to the target data type of *data-type*. Many XQuery expressions use implicit casting to process the expressions. For example, implicit casting is used in general comparisons of numeric values that require the values to be of data type xs:double.
- In cases where SQL processing invokes XQuery to perform a cast from an XML value *value* to an SQL data type other than XML, an XQuery cast is performed with a temporary derived XML schema type that is generated using a name based on the SQL data type and associated size restrictions. For example, the *data-type* token value is "VARCHAR_50" for an XMLCAST to VARCHAR(50) and "DECIMAL_9_2" for an XMLCAST to DECIMAL(9,2).

The XQuery expression cannot be processed.

User response: Try one of the following actions:

- Use a value in the constructor or cast expression that is valid for the data type *data-type*.
- If the error occurs in an expression that casts from one primitive type to another, verify that casting from the source type to the target type is supported. If the cast is not supported, either remove the expression or cast the value to a different data type.
- Check for expressions that would result in implicit casting with values that may not conform to the data type of the implicit cast and add conditions to the expression to avoid the error.

sqlcode: -16061

sqlstate: 10608

SQL16062N The argument passed to the function *fn:zero-or-one* is not valid because the sequence contains more than one item. Error QName=err:FORG0003.

Explanation: A sequence that was passed as an argument to the function *fn:zero-or-one* contains more than one item.

The XQuery expression cannot be processed.

User response: Modify the expression to ensure that the sequence passed to the function *fn:zero-or-one* contains only one item or is an empty sequence.

sqlcode: -16062

sqlstate: 10608

SQL16063N The argument passed to the function *fn:one-or-more* is not valid because the sequence is empty. Error QName=err:FORG0004.

Explanation: A sequence that was passed as an argument to the function *fn:one-or-more* is empty.

User response: Modify the expression to ensure that the sequence passed to the function *fn:one-or-more* is not an empty sequence.

sqlcode: -16063

sqlstate: 10608

SQL16064N The argument passed to the function *fn:exactly-one* is not valid because the sequence is empty or contains more than one item. Error QName=err:FORG0005.

Explanation: A sequence that was passed as an argument to the function *fn:exactly-one* does not contain exactly one item.

User response: Modify the expression to ensure that the sequence passed to the function *fn:exactly-one* contains exactly one item.

sqlcode: -16064

sqlstate: 10608

SQL16065N An empty sequence cannot be constructed as, or cast to, the data type *datatype*. Error QName=err:FORG0006.

Explanation: The data type *datatype* that is specified in a constructor or cast expression does not support casting or constructing an empty sequence of the specified type.

User response: Pass a value that is not an empty sequence to the constructor or cast expression.

sqlcode: -16065

sqlstate: 10608

SQL16066N The argument passed to the aggregate function *function-name* is not valid. Error QName=err:FORG0006.

Explanation: The argument that was passed to the aggregate function *function-name* is not valid because the argument does not meet any of the conditions that are required for arguments to the function *function-name*.

User response: Try one of the following actions:

- If the function is *fn:avg*, verify that the following conditions are met: If the input sequence contains duration values, the values must be either all *xdt:yearMonthDuration* values or all *xdt:dayTimeDuration* values. If the input sequence contains numeric values, the values must all be promotable to a single common type that is one of the four numeric types, *xdt:yearMonthDuration* or *xdt:dayTimeDuration* or one if its subtypes.
- If the function is *fn:max* or *fn:min*, verify that the following conditions are met: All items in the input sequence must be numeric or derived from a single base type for which the *gt* operator (for *fn:max*) or *lt* operator (for *fn:min*) is defined. If the input sequence contains numeric values, the values must all be promotable to a single common type and the values in the sequence must have a total order. If the input sequence contains duration values, the values must be either all *xdt:yearMonthDuration* values or all *xdt:dayTimeDuration* values.
- If the function is *fn:sum*, verify that the following conditions are met: All items in the input sequence must be numeric or derived from a single base type. The type must support addition. If the input sequence contains numeric values, the values must all be promotable to a single common type. If the input sequence contains duration values, the values

must be either all xdt:yearMonthDuration values or all xdt:dayTimeDuration values.

sqlcode: -16066

sqlstate: 10608

SQL16067N The flags argument *value* passed to the function *function-name* is not valid. Error QName=err:FORX0001.

Explanation: The function *function-name* includes a *value* that was passed to the function as a regular expression flag parameter. However, the string that was passed to the function includes characters that are not defined as flags.

User response: Modify the function call to pass in a string argument that contains only characters that are defined as flags. Valid characters include s, m, i, or x.

sqlcode: -16067

sqlstate: 10609

SQL16068N The regular expression argument *value* passed to the function *function-name* is not valid. Error QName=err:FORX0002.

Explanation: The *value* that was passed to the function *function-name* is not valid according to the rules that are specified for regular expressions in XQuery. These rules are based on the regular expression syntax specified in XML Schema, with some extensions added to the syntax to accommodate XQuery. See the product documentation for a description of XQuery-specific extensions to the regular expression syntax for XML Schema.

User response: Specify a valid *value* for the regular expression.

sqlcode: -16068

sqlstate: 10609

SQL16069N A regular expression argument *value* passed to the function *function-name* matches a zero-length string. Error QName=err:FORX0003.

Explanation: The *value* that was specified for the pattern parameter in a call to the function *function-name* matches a zero-length string. A zero-length string is not a valid pattern for this function because the pattern will never match a substring in the input string.

User response: Pass a valid pattern to the function call, or remove the function call from the expression.

sqlcode: -16069

sqlstate: 10609

SQL16070N The replacement string argument *value* passed to the function fn:replace is not valid. Error QName=err:FORX0004.

Explanation: The *value* that was specified for the replacement string parameter in a call to the function fn:replace is not valid because the value includes one or more of the following invalid characters:

- A "\$" character that is not immediately followed by a digit 0-9 and not immediately preceded by a "\".
- A "\" character that is not part of a "\\" pair or immediately followed by a "\$" character.

User response: Use a *value* for the replacement string that includes valid characters only.

sqlcode: -16070

sqlstate: 10609

SQL16071N The function *function-name* cannot be processed because the context item assumed to be the argument is not an XQuery node. Error QName=err:FOTY0011.

Explanation: The function *function-name* relies on a context node, but the context item is not a node.

User response: Modify the XQuery expression to ensure that the context item is a node. If the function uses the context item because an argument is omitted, then modify the expression to ensure that the context item is a node before the function is invoked.

sqlcode: -16071

sqlstate: 10610

SQL16072N The items of the sequence argument of function fn:index-of are not comparable with the search argument. Error QName=err:FOTY0012.

Explanation: The sequence argument that was passed to the fn:index-of function is not valid because the items in the sequence are not comparable with the search argument.

User response: Pass a sequence to the function fn:index-of that contains items that are comparable with the search argument.

sqlcode: -16072

sqlstate: 10610

SQL16074N An XQuery atomic value with the lexical representation starting with *value* of type *type-name* cannot be processed in the XQuery operation or function *name* because the length exceeds the operation or function limit of *size* bytes.

Explanation: An XML document contains an atomic value with the lexical representation starting with *value* that exceeds *size* bytes, which is the size limit for the XQuery data type *type-name* when used in the XQuery operation or function indicated by *name*. The statement attempts to use the atomic value in *name*.

The statement cannot be processed.

User response: Possible ways to avoid this length limitation include:

- Change the value in the XML document to a length no greater than *size* bytes, possibly by using the `fn:substring` function.
- Avoid using the value in the XQuery operation or function *name* that limits the length.

sqlcode: -16074

sqlstate: 10902

SQL16075N The sequence to be serialized contains an item that is an attribute node. Error QName=err:SEN0001.

Explanation: A request was made to serialize an XML value. The XML value is a sequence containing an item that is an XQuery attribute node. There is no defined sequence normalization for an attribute node as an item in a sequence and therefore the sequence cannot be serialized.

SQL16100 - SQL16199

SQL16100N XML document contains duplicate declarations for `<!notation notation-name>`.

Explanation: While parsing an XML document the XML parser encountered more than one declaration for the notation with name *notation-name*.

Parsing or validation did not complete.

User response: Remove the duplicate notations from the XML document and try the operation again.

sqlcode: -16100

sqlstate: 2200M

SQL16101N XML schema contains an attribute *attribute-name* that has been declared more than once for element *element-name*.

Explanation: While parsing an XML document, two or more attributes with the same name *attribute-name* were found for an element named *element-name*.

Parsing or validation did not complete.

User response: Correct the XML schema and try the operation again.

The statement cannot be processed.

User response: Remove any items in the sequence containing just an attribute node or do not attempt to serialize the sequence.

sqlcode: -16075

sqlstate: 2200W

SQL16076N The internal identifier limit of *limit* has been exceeded for the number of matched XQuery nodes.

Explanation: An XQuery expression that is matching XQuery nodes is limited to *limit* matching nodes. The XQuery expression that returned this error has exceeded the limit for the number of matching XQuery nodes.

The statement cannot be processed.

User response: The XQuery expression should be modified to avoid the use of wildcards, the `node()` kind test, or descendant axes. Alternatively, the XQuery expression should be performed over a value with a reduced number of XQuery nodes, possibly by splitting the value into smaller values.

sqlcode: -16076

sqlstate: 10903

sqlcode: -16101

sqlstate: 2200M

SQL16102N XML document contains a notation declaration with name *notation-name* that is not found, is not a valid notation declaration, or does not have a valid QName.

Explanation: While parsing an XML document, the declaration for the identified XML notation identified by *notation-name* was not found in the document or associated schema/DTD, is incorrectly declared, or does not have a valid QName.

Parsing or validation did not complete.

User response: Correct the XML notation identified by *notation-name* and try the operation again.

sqlcode: -16102

sqlstate: 2200M

SQL16103N A character was found in an XML document that is invalid or cannot be represented in the document encoding.

Explanation: While parsing an XML document the parser found a character that was invalid or is not represented in the document encoding.

Parsing did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16103

sqlstate: 2200M

SQL16104N Internal error encountered in XML parser. Parser error is *parser-error*.

Explanation: While parsing an XML document the parser encountered an internal error *parser-error*. The value of *parser-error* is the internal parser error code.

Parsing or validation did not complete.

User response: Try the operation again and if the error persists, contact IBM service.

sqlcode: -16104

sqlstate: 2200M

SQL16105N Incorrect XML data. Expected data of type *type-name* and found value *value* which is not a valid value for that type.

Explanation: While processing an XML document or XML schema the XML parser expected to find data of a certain type and found a value that could not be converted to that type.

If the data type is listed as 'datetime' the data type is one of the date or time data types such as date, time, duration, gDay, gMonth, gMonthDay, gYear.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16105

sqlstate: 2200M

SQL16106N Invalid XML facet specified for data type *type-name* of the node.

Explanation: While parsing an XML document the parser found a facet specified that was not legal or supported for the specified data type of the node.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16106

sqlstate: 2200M

SQL16107N XML schema contains an error in facet *facet-name*. One reason is *reason-code*.

Explanation: While processing an XML schema the XML parser found an error with the specified facet. One or more of the following reasons hold true:

1. The value of the facet is not legal or supported for that facet
2. The facet was specified multiple times for the same object. A given facet may only be specified once per object.
3. The facet name is invalid or unknown
4. The value of that facet of a complex type was invalid. Valid values are '#all' or 'list(restriction, extension)'
5. The value of that facet of an element was invalid. Valid value are '#all' or 'list(restriction, extension)'
6. The only allowable value of the whitespace facet in this context is 'collapse'

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16107

sqlstate: 2200M

SQL16108N XML schema contains an invalid combination of facets *facet1* and *facet2*. One reason is *reason-code*.

Explanation: While parsing an XML document the parser found specified facets identified by *facet1* and *facet2* that are either mutually exclusive or have conflicting or invalid values. The *reason-code* indicates one of the possible reasons as described here.

- 1 The length facet and maxLength facet are both specified and are mutually exclusive.
- 2 The length facet and minLength facet are both specified and are mutually exclusive.
- 3 The maxInclusive facet and maxExclusive facet are both specified and are mutually exclusive.
- 4 The minInclusive facet and minExclusive facet are both specified and are mutually exclusive.
- 5 The value of the maxLength facet must be greater than the value of the minLength facet.
- 6 The value of the maxExclusive facet must be greater than the value of the minExclusive facet.
- 7 The value of the maxExclusive facet must be greater than the value of the minInclusive facet.

- 8 The value of the maxInclusive facet must be greater than the value of the minExclusive facet.
- 9 The value of the maxInclusive facet must be greater than the value of the minInclusive facet.
- 10 The value of the totalDigits facet must be greater than the value of the fractionDigits facet.
- 11 The value of the maxInclusive facet for a derived type is greater than or equal to the value of maxExclusive facet for the base type.
- 12 The value of the maxInclusive facet for a derived type is greater than the value of the maxInclusive facet for the base type.
- 13 The value of the maxInclusive facet for a derived type is less than the value of the minInclusive facet for the base type.
- 14 The value of the maxInclusive facet for a derived type is less than or equal to the value of the minExclusive facet for the base type.
- 15 The value of the maxExclusive facet for a derived type is greater than the value of the maxExclusive facet for the base type.
- 16 The value of the maxExclusive facet for a derived type is greater than the value of the maxInclusive facet for the base type.
- 17 The value of the maxExclusive facet for a derived type is less than or equal to the value of the minInclusive facet for the base type.
- 18 The value of the maxExclusive facet for a derived type is less than or equal to the value of the minExclusive facet for the base type.
- 19 The value of the minExclusive facet for a derived type is greater than or equal to the value of the maxExclusive facet for the base type.
- 20 The value of the minExclusive facet for a derived type is greater than the value of the maxInclusive facet for the base type.
- 21 The value of the minExclusive facet for a derived type is less than or equal to the value of the minInclusive facet for the base type.
- 22 The value of the minExclusive facet for a derived type is less than or equal to the value of the minExclusive facet for the base type.
- 23 The value of the minInclusive facet for a derived type is greater than or equal to the value of the maxExclusive facet for the base type.
- 24 The value of the minInclusive facet for a derived type is greater than the value of the maxInclusive facet for the base type.
- 25 The value of the minInclusive facet for a derived type is less than the value of the minInclusive facet for the base type.
- 26 The value of the minInclusive facet for a derived type is less than or equal to the value of the minExclusive facet for the base type.
- 27 The value of the maxInclusive facet for a derived type is not equal to the value of the maxInclusive facet for the base type. The maxInclusive facet for the base type was defined with the fixed attribute set to "true".
- 28 The value of the maxExclusive facet for a derived type is not equal to the value of the maxExclusive facet for the base type. The maxExclusive facet for the base type was defined with the fixed attribute set to "true".
- 29 The value of the minInclusive facet for a derived type is not equal to the value of the minInclusive facet for the base type. The minInclusive facet for the base type was defined with the fixed attribute set to "true".
- 30 The value of the minExclusive facet for a derived type is not equal to the value of the minExclusive facet for the base type. The minExclusive facet for the base type was defined with the fixed attribute set to "true".
- 31 The value of the minOccurs attribute exceeds the value of the maxOccurs attribute.
- 32 The totalDigits facet value of a derived type must be less than or equal to the totalDigits facet value for the corresponding base type.
- 33 The fractionDigits facet value of a derived type must be less than or equal to the totalDigits facet value for the corresponding base type.
- 34 The fractionDigits facet value of a derived type must be less than or equal to the fractionDigits facet value for the corresponding base type.
- 35 The totalDigits facet value of a derived type must be equal to the value of the totalDigits facet with the fixed attribute set to "true" for the corresponding base type.
- 36 The fractionDigits facet value of a derived type must be equal to the value of the fractionDigits facet with the fixed attribute set to "true" for the corresponding base type.
- 37 The maxLength facet value of a derived type must be equal to the value of the maxLength facet with the fixed attribute set to "true" for the corresponding base type.

- 38 The minLength facet value of a derived type must be equal to the value of the minLength facet with the fixed attribute set to "true" for the corresponding base type.
- 39 The length facet value of a derived type must be equal to the value of the length facet with the fixed attribute set to "true" for the corresponding base type.
- 40 The whitespace facet value of a derived type must be equal to the value of the whitespace facet with the fixed attribute set to "true" for the corresponding base type.
- 41 A fractionDigits facet value exceeded the totalDigits facet value. The fractionDigits facet value represents the number of digits to the right of the decimal and cannot exceed that totalDigits facet value.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16108

sqlstate: 2200M

SQL16109N XML document contains an invalid comment. Reason code = *reason-code*.

Explanation: While parsing an XML document the parser encountered an invalid comment. Possible values for *reason-code* include:

1. Comment did not start with <!--
2. Comment contained --
3. Comment was not terminated.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16109

sqlstate: 2200M

SQL16110N XML syntax error. Expected to find *construct*.

Explanation: While parsing an XML document, the parser expected to find a certain construct and did not. The XML is either not well formed, or not valid depending on the operation.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16110

sqlstate: 2200M

SQL16111N XML Document contains an invalid CDATA section. Reason code = *reason-code*.

Explanation: While parsing an XML document the parser encountered an invalid or ill formed CDATA section indicated by *reason-code*. Possible reason codes are:

1. There are nested CDATA sections,
2. A CDATA section is not terminated
3. a CDATA section contains the sequence ']]<'
4. a CDATA section is found outside the root element.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16111

sqlstate: 2200M

SQL16112N XML schema contains an element or attribute definition in error because '*name*' or '*ref*' was missing and required. Reason code = *reason-code*.

Explanation: While processing an XML schema the XML parser encountered an incorrect element or attribute definition. Value for *reason-code* corresponds to one of the following reasons:

1. A globally declared attribute in an XML schema had no name. All globally declared attributes must have a name.
2. An attribute declared in an XML schema without a name or a ref. All attributes must have a name or a ref.
3. A globally declared element in an XML schema had no name. All globally declared elements must have a name.
4. An attribute declared in an XML schema without a name or a ref.. All elements must have a name or a ref.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16112

sqlstate: 2200M

SQL16113N XML document or XML schema contains an attribute *attribute-name* that is in error. Reason code = *reason-code*.

Explanation: While parsing an XML document the parser encountered an attribute that is not correctly defined or used. Possible reasons given by *reason-code* are:

- 1 The attribute had both a name and a ref specified. An attribute may have either a name or a ref but not both.
- 2 The attribute has previously been declared within the same scope. Attribute names must be unique within their scope.
- 3 The attribute should be qualified and was not
- 4 The attribute was qualified and should not have been
- 5 The attribute is already defined in a base and should not appear in derivation by extension
- 6 The ID attribute was referenced but never declared
- 7 The attribute does not match its defined enumeration or notation list
- 8 The values for the attribute must be names or name tokens
- 9 The attribute does not support multiple values
- 10 No data type validator was found for this attribute
- 11 The attribute must not be changed by normalization in a standalone document
- 12 The value of the attribute is invalid. Prefixed namespace bindings may not be empty
- 13 This attribute is a top level attribute and it could not be found
- 14 An attribute list in a DTD is missing the type definition for the attribute type, which must be one of the following: 'CDATA', 'ID', 'IDREF', 'IDREFS', 'ENTITY', 'ENTITIES', 'NMTOKEN', or 'NMTOKENS'.
- 15 The attribute refers to an unknown entity
- 16 The content of the attribute is invalid. The content must conform to the format (annotation?, (simpletype?))
- 17 The attribute has a default value. That value must be specified in a standalone document.
- 18 The attribute has already been used in the element. An attribute name must be unique within it's parent element.
- 19 The attribute has both 'fixed' and 'default' facets specified for it. Either one or the other can be specified but not both.
- 20 The value of the attribute did not match any of the allowable enumerated values for that attribute.
- 21 The attribute is not defined within the element
- 22 The attribute has an invalid value

- 23 The attribute was not defined in the associated schema.
- 24 The attribute was not declared
- 25 There is a bad ID value for this attribute
- 26 The attribute is required but was not found
- 27 The simple type of the attribute is not found
- 28 The value of the attribute does not match a 'fixed' value.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16113

sqlstate: 2200M

SQL16114N XML document contains an ID with a duplicate value *value*.

Explanation: While parsing an XML document the parser encountered an ID value *value* that had previously been declared with the document. ID values must be unique with a document.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16114

sqlstate: 2200M

SQL16115N XML document contains an element or attribute named *name* with an unresolved namespace prefix.

Explanation: While parsing an XML document the parser encountered an element or attribute, identified by the name *name*, whose namespace prefix cannot be resolved to a URI.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16115

sqlstate: 2200M

SQL16116N XML document contains a duplicate value *value* in a type declaration.

Explanation: While parsing an XML document the parser encountered a duplicate value in the type declaration. A type declaration can only specify 'substitution', 'union', 'extension', 'list', or 'restriction' once.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16116

sqlstate: 2200M

SQL16117N XML document declares an entity *entity-name* that is not terminated.

Explanation: While parsing an XML document the parser encountered an entity declaration for *entity-name* without the expected termination character.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16117

sqlstate: 2200M

SQL16118N XML document declares an element with name *element-name* that is not terminated.

Explanation: While parsing an XML document the parser encountered an element declaration with name *entity-name* without the expected termination character.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16118

sqlstate: 2200M

SQL16119N XML document contains an entity reference to *entity-name* that is not terminated.

Explanation: While parsing an XML document the parser encountered an entity reference to *entity-name* without the expected termination character.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16119

sqlstate: 2200M

SQL16120N Document Type Definition (DTD) contains a content model specification for element *element-name* that was not terminated.

Explanation: While processing a DTD, the XML parser encountered a content model that was not terminated for an element named *element-name*.

Parsing or validation did not complete.

User response: Correct the DTD and try the operation again.

sqlcode: -16120

sqlstate: 2200M

SQL16121N XML document contains an entity literal that is not terminated for an entity named *entity-name*.

Explanation: While parsing an XML document the parser encountered an entity literal that was not terminated that is associated with an entity named *entity-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16121

sqlstate: 2200M

SQL16122N XML document contains an invalid character reference *codepoint*.

Explanation: While parsing an XML document the parser encountered an invalid character reference that has the code point value of *codepoint*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16122

sqlstate: 2200M

SQL16123N XML document contains an element *element-name* with empty content where the content model requires content for this element.

Explanation: While parsing an XML document the parser encountered an element named *element-name* that included no content. The content model for the element does not allow empty content.

Parsing or validation did not complete.

User response: Add content to the element or remove the element from the document and try the operation again.

sqlcode: -16123

sqlstate: 2200M

SQL16124N XML document contains an end tag that is not terminated for a tag with name *tag-name*.

Explanation: While parsing an XML document the parser encountered an end tag that was not terminated

that is associated with an tag named *entity-name*.
Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16124

sqlstate: 2200M

SQL16125N XML document contains an invalid character with code point *codepoint* in the internal subset.

Explanation: While parsing an XML document, the parser encountered an invalid character defined with code point *codepoint* in the internal subset.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16125

sqlstate: 2200M

SQL16126N Document Type Definition (DTD) contains an element *element-name* in the content model that was not declared.

Explanation: While parsing a DTD the parser encountered an element with name *element-name* in the content model that was not declared.

Parsing or validation did not complete.

User response: Correct the DTD and try the operation again.

sqlcode: -16126

sqlstate: 2200M

SQL16127N A DTD contains unexpected whitespace before the character '?', '*', or '+

Explanation: While parsing a DTD, the parser encountered unexpected whitespace before an occurrence of the character '?', '*', or '+'. Whitespace is not allowed in this context.

Parsing or validation did not complete.

User response: Remove the unexpected whitespace characters and try the operation again.

sqlcode: -16127

sqlstate: 2200M

SQL16128N XML document contains an invalid character with code point *codepoint* in attribute value *attribute-name*.

Explanation: While parsing an XML document the parser encountered an invalid character with code

point *codepoint* in an attribute value identified by *attribute-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16128

sqlstate: 2200M

SQL16129N XML document expected end of tag *tag-name*.

Explanation: While parsing an XML document the parser expected to encounter the end of a tag with name *tag-name* and did not.

Parsing or validation did not complete.

User response: Add or correct the missing end tag and try the operation again.

sqlcode: -16129

sqlstate: 2200M

SQL16130N XML document contains an invalid or not terminated processing instruction. Reason code = *reason-code*.

Explanation: While processing an XML document or XML schema the XML parser encountered an processing instruction that is not valid. One or more of the following reasons make the processing instruction not valid:

1. The processing instruction was not terminated
2. The processing instruction starts with the characters 'xml' (in any combination of upper or lower case), which is prohibited.

Parsing or validation did not complete.

User response: Correct the XML processing instruction and try the operation again.

sqlcode: -16130

sqlstate: 2200M

SQL16131N XML document contains a start tag *tag-name* that is not terminated.

Explanation: While parsing an XML document the parser encountered a start tag identified by *tag-name* that is not terminated. The content following the start tag may be missing the end tag or the content is not well-formed between the start tag and the end tag.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16131

sqlstate: 2200M

SQL16132N XML document contains an invalid document structure.

Explanation: While parsing an XML document, the parser encountered an invalid document structure. The parser encountered non-whitespace character data in the prolog of an instance document or in the external subset of a DTD.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16132

sqlstate: 2200M

SQL16133N XML document contains an invalid namespace declaration.

Explanation: While parsing an XML document, the parser encountered an invalid namespace declaration in a DOM instance. The namespace has the prefix "xmlns" and the URI `http://www.w3.org/2000/xmlns/`.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16133

sqlstate: 2200M

SQL16134N XML document contains an invalid target namespace associated with *name*.

Explanation: While parsing an XML document the parser encountered an attribute declaration with *nname name* with a target namespace that matched the XML schema namespace for instance documents (`'http://www.w3.org/2001/XMLSchema-instance'`). This URI cannot be used as a target namespace in an attribute declaration.

Parsing or validation did not complete.

User response: Correct the element or attribute name and try the operation again.

sqlcode: -16134

sqlstate: 2200M

SQL16135N XML document contains an attribute list that references an element *element-name* that is not declared.

Explanation: While parsing an XML document the parser encountered an attribute list with a reference to an element named *element-name* that was not declared.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16135

sqlstate: 2200M

**SQL16136N XML schema contains a facet error.
Reason code = *reason-code*.**

Explanation: While parsing an XML document the parser encountered an error with a facet. Possible reasons given by *reason-code* are:

1. The only valid 'constraining' facet for a boolean data type is PATTERN
2. An invalid facet tag was encountered
3. The value of an 'enumeration' facet in a derived object is not from the value space of the corresponding base object.
4. The value of a 'whiteSpace' facet must be one of 'preserve', 'replace', or 'collapse'
5. The value of a 'whiteSpace' facet must not be 'preserve' or 'replace' if the value of the 'whiteSpace' facet of the corresponding base type is 'collapse'
6. The value of a 'whitespace' facet of a derived object must not be 'preserve' if the value of the whitespace facet of the corresponding base object is 'replace'

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16136

sqlstate: 2200M

SQL16137N XML document contains an unknown simpleType *type-name*.

Explanation: While parsing an XML document the parser encountered a type name *type-name* that is an unknown simple type.

Parsing or validation did not complete.

User response: Correct the type name and try the operation again.

sqlcode: -16137

sqlstate: 2200M

SQL16138N XML document contains an unknown complexType *type-name*.

Explanation: While parsing an XML document the parser encountered a type name *type-name* that is an unknown complex type.

Parsing or validation did not complete.

User response: Correct the type name and try the operation again.

sqlcode: -16138

sqlstate: 2200M

SQL16139N XML schema contains an error in the content of simpleType *type-name*.

Explanation: While parsing an XML document the parser encountered an error in the content of simpleType with name *type-name*. The simpleType element definition is only allowed one of restriction, list or union. In some cases, the token may not be available.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16139

sqlstate: 2200M

SQL16140N XML document contains a <group> or <attributeGroup> specification without a name or ref attribute.

Explanation: While parsing an XML document the parser encountered a <group> or <attributeGroup> specification that did not have a name or ref attribute.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16140

sqlstate: 2200M

SQL16141N XML schema contains an invalid derivation by RESTRICTION or EXTENSION. Reason code = *reason-code*.

Explanation: While processing an XML schema the XML parser encountered a problem with a type derived by RESTRICTION or EXTENSION. The possible reasons are described by the *reason-code* values that follow.

- 1 There is an invalid child following the RESTRICTION or EXTENSION element in a simpleContent definition.
- 2 There is an invalid child following the RESTRICTION or EXTENSION element in a complexContent definition.
- 3 The BASE attribute was not specified for the RESTRICTION or EXTENSION. Every derivation by RESTRICTION or EXTENSION must include an identification of the base type for that derivation.

4 Derivation by RESTRICTION or EXTENSION is prohibited by the base type or by XML schema.

5 The schema contains a forbidden restriction of 'any'. Valid restrictions for 'any' include 'choice', 'sequence', 'all', and 'element'

6 The schema contains a forbidden restriction of 'all'. Valid restrictions for 'all' include 'choice', 'sequence', and 'element'

7 The schema contains a forbidden restriction of 'choice'. Valid restrictions for 'choice' include 'sequence', 'all', and 'leaf'

8 The schema contains a forbidden restriction of 'sequence'. Valid restrictions for 'sequence' include 'element'.

9 The schema attempts to use a simple type in a derivation by RESTRICTION for a complexType

10 The schema attempts to use a simple type with a value of 'final' in a derivation by EXTENSION.

Parsing or validation did not complete.

User response: Correct the XML schema and try the operation again.

sqlcode: -16141

sqlstate: 2200M

SQL16142N XML document contains an undefined entity *entity-name*.

Explanation: While parsing an XML document the parser encountered an entity identified by *entity-name* that is not defined.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16142

sqlstate: 2200M

SQL16143N XML document contains an unexpected end of entity *entity-name*.

Explanation: While parsing an XML document, the parser encountered an end of entity named *entity-name* that was not expected.

Parsing or validation did not complete.

User response: Correct the entity and try the operation again.

sqlcode: -16143

sqlstate: 2200M

SQL16144N XML document contains an open angle bracket character ('<') in the attribute *attribute-name* without specifying it as an entity.

Explanation: While parsing an XML document, the parser encountered an open angle bracket character ('<') in an attribute value for attribute named *attribute-name*. If the open angle bracket character is desired, it must be specified as the entity '<'. It cannot be specified as the character literal '<'.

Parsing or validation did not complete.

User response: Correct the attribute value and try the operation again.

sqlcode: -16144

sqlstate: 2200M

SQL16145N XML document contains a hex radix character reference specified using "X" and not "x".

Explanation: While parsing an XML document, the parser encountered a hex radix character reference where the value was specified with upper case "X" instead of lower case "x". A hex radix character reference must use the lower case "x".

Parsing or validation did not complete.

User response: Correct the hex radix character reference to use lower case "x" and try the operation again.

sqlcode: -16145

sqlstate: 2200M

SQL16146N The main XML document is empty.

Explanation: While parsing an XML document the parser encountered an empty main XML document. The main XML document cannot be empty.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16146

sqlstate: 2200M

SQL16147N XML document contains an invalid use of the namespace for *xmlns* or the namespace prefix '*xmlns*'.

Explanation: While parsing an XML document, the parser encountered either an attempt to explicitly bind a reserved prefix such as 'xml' or 'xmlns' to a namespace, or an attempt to explicitly bind a reserved namespace such as the namespace for xml or xmlns to a prefix. Reserved prefixes cannot be explicitly bound

to any namespace but their own, nor can any reserved namespaces be bound to any prefix but their own.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16147

sqlstate: 2200M

SQL16148N XML document contains an invalid element *element-name1* with abstract set to true and substitutionGroup to *element-name2*.

Explanation: While parsing an XML document, the parser encountered element *element-name1* with abstract set to true and defined as a member of a substitution group of element *element-name*. The abstract is required to be false for *element-name1* as a member of the substitution group with head element *element-name2*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16148

sqlstate: 2200M

SQL16149N XML document contains an empty targetNamespace attribute value.

Explanation: While parsing an XML document, the parser encountered an empty targetNamespace attribute value. The attribute must be absent or contain a value that is not empty. Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16149

sqlstate: 2200M

SQL16150N XML document contains a keyref field *keyref-name* that refers to key field *key-name* with a different cardinality.

Explanation: While parsing an XML document, the parser encountered a mismatch in the cardinality of a keyref field *keyref-name* that refers to key field *key-name*. The cardinality in the keyref must match the key.

Parsing or validation did not complete.

User response: Correct the cardinality of the keyref field or the key field in the XML document and try the operation again.

sqlcode: -16150

sqlstate: 2200M

SQL16151N XML document contains a keyref field *keyref-name* that refers to key with name *key-name* that is not found.

Explanation: While parsing an XML document, the parser encountered a keyref field *keyref-name* that refers to a key field *key-name* that is not known in the document.

Parsing or validation did not complete.

User response: Correct the name of the key field in the XML document and try the operation again.

sqlcode: -16151

sqlstate: 2200M

SQL16152N XML document contains multiple attributes derived from one type ID in the same complex type or attribute group. One of the attributes is *attribute-name*.

Explanation: While parsing an XML document, the parser encountered multiple attributes derived from one type ID in the same complex type or attribute group. One of the attributes with this property is identified by *attribute-name*.

Parsing or validation did not complete.

User response: Correct the attributes of the complex type or attribute in the XML document and try the operation again.

sqlcode: -16152

sqlstate: 2200M

SQL16153N XML schema contains an attribute type definition with a default value or a fixed value that is different from the fixed value constraint of the reference type *type-name*.

Explanation: While parsing an XML document, the parser encountered a mismatch in the value constraint of the attribute and attribute reference type. Either the attribute specified a default and the reference type is fixed or the attribute specified a different fixed value than specified in reference type *type-name*.

Parsing or validation did not complete.

User response: Correct the value constraint of the attribute reference in the XML document and try the operation again.

sqlcode: -16153

sqlstate: 2200M

SQL16154N XML schema contains an element *element-name* that has more than one attribute defined with the ID property.

Explanation: While parsing an XML schema (or DTD), two or more attributes with the ID property were declared for the element named *element-name*.

Parsing or validation did not complete.

User response: Correct the XML schema or DTD and try the operation again.

sqlcode: -16154

sqlstate: 2200M

SQL16155N XML document contains an incorrectly specified or invalid URL. Reason code = *reason-code*.

Explanation: While parsing an XML document the parser encountered an incorrectly specified or invalid URL. The *reason-code* indicates which of the following conditions was found.

- 1 The URL was not correctly formed.
- 2 The URL uses an unsupported protocol.
- 3 Only 'localhost' is supported at this time.
- 4 No protocol prefix is present.
- 5 Expected // after protocol.
- 6 % must be followed by two hex digits.
- 7 The host component is not terminated.
- 8 The base part of the URL cannot be relative.
- 9 A relative URL could not be resolved using the specified base URL because the base URL does not contain enough path segments.
- 10 The port field must be a 16 bit decimal value.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16155

sqlstate: 2200M

SQL16156N XML document has a primary document entity that could not be opened. System Id=*system-id*.

Explanation: While parsing an XML document, the parser encountered a primary document entity that could not be opened. The document is identified by the system identifier *system-id*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16156

sqlstate: 2200M

SQL16157N XML schema contains invalid relationships involving inclusion or exclusion facet value *value* of a derived type and the value space of the base type. Reason code = *reason-code*.

Explanation: While processing an XML schema the XML parser encountered an invalid relationship between inclusion facet values or exclusion facet values for a derived type and the value space of the base type. The *reason-code* indicates which of the following conditions was found. One or more of the following conditions hold true:

1. The *maxInclusion* value *value* for the derived type is not in the value space for the base type.
2. The *maxExclusion* value *value* for the derived type is not in the value space for the base type.
3. The *minInclusion* value *value* for the derived type is not in the value space for the base type.
4. The *minExclusion* value *value* for the derived type is not in the value space for the base type.

Parsing or validation did not complete.

User response: Correct the facet value that is outside the value space of the base type and try the operation again.

sqlcode: -16157

sqlstate: 2200M

SQL16158N XML schema contains an invalid relationship involving *minLength*, *maxLength*, or *length* facet value *dt-length* in a derived type compared to the base type value *base-length*. Reason code = *reason-code*.

Explanation: While parsing an XML document, the parser encountered an invalid relationship between facets of a derived type and the base type. The *reason-code* indicates which of the following conditions was found.

1. The length value *dt-length* of the derived type is not equal to the length value *base-length* of the base type.
2. The *minLength* value *dt-length* of the derived type is less than or equal to the *minLength* value *base-length* of the base type.
3. The *minLength* value *dt-length* of the derived type is greater than the *maxLength* value *base-length* of the base type.

4. The *maxLength* value *dt-length* of the derived type is greater than the *maxLength* value *base-length* of the base type.
5. The *maxLength* value *dt-length* of the derived type is less than or equal to the *minLength* value *base-length* of the base type.
6. The length value *dt-length* of the derived type is less than the *minLength* value *base-length* of the base type.
7. The length value *dt-length* of the derived type is greater than the *maxLength* value of *base-length* the base type.
8. The *minLength* *dt-length* of the derived type is greater than the length value *base-length* of the base type.
9. The *maxLength* value *dt-length* of the derived type is less than the length value *base-length* of the base type.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16158

sqlstate: 2200M

SQL16159N XML document contains an anonymous complex type with a name attribute in element *element-name*.

Explanation: While parsing an XML document, the parser encountered an anonymous complex type in an element named *element-name*, yet the complexType had a name attribute. The combination of complexType and name attribute is not permitted in this context.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16159

sqlstate: 2200M

SQL16160N XML document contains an anonymous simple type in element *element-name* with a name attribute.

Explanation: While parsing an XML document, the parser encountered an anonymous simple type in an element named *element-name*, yet that element had a name attribute. The combination of anonymous type and name attribute is not permitted.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16160

sqlstate: 2200M

SQL16161N XML document contains an element with an information item that is not expected.

Explanation: While parsing an XML document, the parser encountered an information item that does not match (annotation?, (simpletype | complextype)?, (unique | key | keyref)*).

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16161

sqlstate: 2200M

SQL16162N XML document contains an element *element-name* that cannot be part of the substitution group headed by *substitution-name*.

Explanation: While parsing an XML document, the parser encountered an element *element-name* that cannot be part of the specified substitution group *substitution-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16162

sqlstate: 2200M

SQL16163N XML document contains a duplicate element declaration for *element-name*.

Explanation: While parsing an XML document, the parser encountered duplicate element declaration in the same scope for the specified element.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16163

sqlstate: 2200M

SQL16164N XML document contains duplication <annotation> elements in the content.

Explanation: While parsing an XML document, the parser encountered duplicate <annotation> elements in the contents. At most one <annotation> element is expected.

Parsing or validation did not complete.

User response: Correct the XML document to remove the duplicate <annotation> and try the operation again.

sqlcode: -16164

sqlstate: 2200M

SQL16165N XML document contains unexpected text before the root element.

Explanation: While parsing an XML document, the parser encountered unexpected text before the root element.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16165

sqlstate: 2200M

SQL16166N XML document contained partial markup in an entity value.

Explanation: While parsing an XML document the parser encountered partial markup in an entity value. The parser was expanding an entity in the XML document and the resulting XML mark up is not well-formed XML.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16166

sqlstate: 2200M

SQL16167N XML document contained NDATA for a parameter entity.

Explanation: While parsing an XML document, the parser encountered NDATA for a parameter entity. NDATA is not legal for parameter entities.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16167

sqlstate: 2200M

SQL16168N XML document contained an invalid XML declaration. Reason code = *reason-code*.

Explanation: While processing an XML document or XML schema the XML parser encountered a missing or invalid XML declaration. The *reason-code* indicates which of the following conditions was found.

- 1 The XML declaration strings must be in the order 'version', 'encoding', and 'standalone'.
- 2 The declaration must start <?xml, not <?XML. The string 'xml' must be in lower case.

- 3 The XML or text declaration must start at the first column of the first line.
- 4 The XML declaration must include the 'version=' string.
- 5 The XML declaration is required and not present.
- 6 The specified XML version is unsupported, or invalid.
- 7 The specified document encoding was invalid or contradicts the automatically sensed encoding.
- 8 The XML declaration is not terminated.
- 9 The value of the standalone attribute is invalid or unsupported.
- 10 Only attributes 'version', encoding', and 'standalone' are supported.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16168

sqlstate: 2200M

SQL16169N XML document contained an element or attribute name that is invalid with respect to namespaces. Reason code = *reason-code*.

Explanation: While parsing an XML document, the parser encountered an invalid XML element or attribute name caused by namespaces. The *reason-code* indicates which of the following conditions was found.

1. When namespaces are enabled, a name can only have one colon character.
2. When namespaces are enabled the colon cannot be the first or last character.
3. When namespaces are enabled colons are not allowed in names except to separate the name from the namespace prefix.
4. If namespaces are enabled, it is invalid for an attribute of type ID, IDREF, IDREFS, ENTITY, ENTITIES, or NOTATION to contain a colon.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16169

sqlstate: 2200M

SQL16170N XML document contains a type *type-name1* with an unknown base type *type-name2*.

Explanation: While parsing an XML document, the parser encountered a type *type-name1* with an unknown base type *type-name2*.

Parsing or validation did not complete.

User response: Correct the base type for *type-name1* in the XML document and try the operation again.

sqlcode: -16170

sqlstate: 2200M

SQL16171N XML document contained an error in the content of derivation by list for simple type *type-name*.

Explanation: While parsing an XML document, the parser encountered an illegal specification of the 'list' derivation in the declaration of simpleType *type-name*.

Parsing or validation did not complete.

User response: Correct the the type declaration in the XML document and try the operation again.

sqlcode: -16171

sqlstate: 2200M

SQL16172N XML document contains a *declaration-type* declaration that has both a ref attribute and child contents.

Explanation: While parsing an XML document, the parser encountered an *declaration-type* declaration that included a ref attribute and child contents. A ref attribute and child contents cannot both be included in a *declaration-type* declaration.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16172

sqlstate: 2200M

SQL16173N XML document contains an attribute *attribute-name* that is not allowed.

Explanation: While parsing an XML document, an attribute *attribute-name* was encountered that is not allowed in the element.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16173

sqlstate: 2200M

SQL16174N XML document contains an XML schema *uri1* whose target namespace does not match the one specified in the instance document *uri2*.

Explanation: While parsing an XML document, the parser encountered a target namespace mismatch. The target namespace in the XML schema does not match the target namespace in the instance document.

Parsing or validation did not complete.

User response: Correct the target namespace in the XML document and try the operation again.

sqlcode: -16174

sqlstate: 2200M

SQL16175N XML document contains a schema where the root element *element-name* could not be resolved.

Explanation: While parsing an XML document, the parser encountered a problem resolving the root element of a schema document.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16175

sqlstate: 2200M

SQL16176N XML Schema contains an illegal use of List, Union, or Restriction content for type *type-name*.

Explanation: While parsing an XML document, the specified type *type-name* is not permitted to be declared with List, Union, or Restriction. A list or union cannot be used with a type that is not a simple type. A simple type that derives from another type requires that the other type must also be a simple type.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16176

sqlstate: 2200M

SQL16177N XML schema contains a derived type whose base type *type-name* could not be found.

Explanation: While parsing an XML document, a derived type was encountered and the base type *type-name* for that derived type could not be found.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16177

sqlstate: 2200M

SQL16178N XML document contains a derived attribute *attribute-name* that is inconsistent with the definition for the base attribute. Reason code = *reason-code*.

Explanation: While parsing an XML document, a derived attribute was discovered that is inconsistent in some way with the base type for that attribute. Possible reasons given by *reason-code* are:

1. The REQUIRED setting is inconsistent
2. The derived type cannot be validly derived from the base type
3. The value is not fixed or has a different value from the base
4. The target namespace is invalid with respect to a base wildcard constraint, or the base has no wildcard.
5. Cannot modify the 'use' attribute of the derived type if the base attribute use is prohibited.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16178

sqlstate: 2200M

SQL16179N XML document contains an element or attribute *name* with a *derivation-type* declaration that expected a simpleType.

Explanation: While parsing an XML document, a *derivation-type* declaration was expecting a simpleType for the specified element or attribute *name*. A type other than a SimpleType was found.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16179

sqlstate: 2200M

SQL16180N XML document contains empty simpleType content.

Explanation: While parsing an XML document, the parser encountered a simpleType that has no children. There must be one child defined for the simpleType.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16180

sqlstate: 2200M

SQL16181N XML document contains invalid simpleContent.

Explanation: While parsing an XML document, some invalid simpleContent was encountered. The content must be RESTRICTION or EXTENSION.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16181

sqlstate: 2200M

SQL16182N XML document contains invalid complexContent.

Explanation: While parsing an XML document, some invalid complexContent was encountered. The content must be RESTRICTION or EXTENSION.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16182

sqlstate: 2200M

SQL16183N XML document contains an invalid child in a complexType. Reason code = reason-code.

Explanation: While parsing an XML document an invalid child was found in a complexType. Possible reasons given by *reason-code* are:

1. Found an invalid child following the simpleContent child in the complexType
2. Found an invalid child following the complexContent child in the complexType

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16183

sqlstate: 2200M

SQL16184N XML document contains duplicate annotation for type *type-name*.

Explanation: While parsing an XML document, duplicate annotation for the type *type-name* was encountered. A type can be annotated at most once.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16184

sqlstate: 2200M

SQL16185N XML document contains a syntax error. Reason code = reason-code.

Explanation: While parsing an XML document the parser encountered a syntax error. Possible reasons given by *reason-code* are:

- 1 Expected [to follow INCLUDE or IGNORE
- 2 The document contains a top level complexType with no name
- 3 The 'standalone=' string is only allowed in the main XML entity
- 4 The 'encoding=' string is required in a text declaration
- 5 The Root element is different from DOCTYPE
- 6 ID attributes must be #IMPLIED or #REQUIRED
- 7 Attributes of type ENTITY/ENTITIES must refer to an external, unparsed, entity
- 8 No character data is allowed by the content model
- 9 Element types cannot be duplicated in mixed content models
- 10 The content attribute must be 'textOnly' if you specify a type attribute
- 11 Next element declarations are only allowed in elementOnly content
- 12 Element reference are only allowed in mixed or elementOnly content
- 13 Can only have one of 'type' and 'ref' attributes
- 14 The type of the element has already been declared
- 15 Illegal xml:space declaration
- 16 Error in content of <schema> element information item
- 17 Attribute declarations may not contain both a type and simpleType declaration
- 18 Ref cannot appear with any of 'type', 'abstract', 'block', 'final', 'nilable', 'default', or 'fixed'
- 19 Ref is present and simpleType/form/type found

- 20 The base type specified in the complexContent element must itself be a complexType.
- 21 'anyAttribute' elements can contain at most one 'annotation' element in their children
- 22 The namespace of an <import> element must be different from the targetNamespace of the <import>ing schema
- 23 If the namespace on an <import> element is not present, the <import>ing schema must have a targetNamespace
- 24 The content of a complexType that is derived by restriction is empty, but the base type is not empty and cannot be made empty using a derivation by restriction.
- 25 The content type is not a valid restriction of the content type of the base
- 26 The {item type definition} must have {variety} of atomic or union (where all member types must be atomic)
- 27 The {member type definition} must all have {variety} of atomic or list
- 28 The child of a model group definition must not specify either the minOccurs or maxOccurs attribute
- 29 A group whose content is 'all' must only appear as the content type of a complex type definition.
- 30 When a model group has {compositor} 'all' which constitutes the {content type} of a complex type, minOccurs=maxOccurs=1
- 31 In an 'all' schema component, the value of minOccurs/maxOccurs of an element must be '0' or '1'
- 32 The intentional intersection of {attribute wildcard}s must be expressible
- 33 The base type definition does not have any attributes
- 34 An attribute wildcard is present in the derived type, but not in the base
- 35 The attribute wildcard in the derived type is not a valid subset of that in the base
- 36 The wildcard attribute in the derived type must be identical to, or stronger than, the one in the base
- 37 A simpleType child of a <redefine> must have a restriction element as a child
- 38 The base attribute of the restriction child of a simpleType must be the same as the redefine simpleType's name attribute.
- 39 A complexType child of a <redefine> must have a restriction of extension element as a grandchild.
- 40 The base attribute of a restriction/extension must be the same as the complexType
- 41 If a group child of a <redefine> element contains a group referencing itself, it must have exactly one reference.
- 42 If an attributeGroup of a <redefine> element contains a reference to itself, such reference must be exactly 1
- 43 The content of an identity constraint must match (annotation?, selector, field+)
- 44 The XPath expression is either missing or empty
- 45 An <xs:all> model group that is part of a complex type definition must constitute the entire content type of the complex type definition.
- 46 An <annotation> can only contain <appinfo> and <documentation> elements
- 47 The root element name of an XML schema should be 'schema'
- 48 Repetition of individual elements is not legal for mixed content models
- 49 Bad default attribute declaration
- 50 Expected default attribute declaration
- 51 Attribute list syntax error
- 52 Not valid after content
- 53 No root element in DOCTYPE
- 54 Unterminated DOCTYPE declaration
- 55 Text declaration not legal here
- 56 Conditional section in internal subset
- 57 A parameter entity propagated out of the internal or external subset
- 58 Parameter entity references are not allowed inside markup in the internal subset
- 59 An entity propagated out of the content section into Miscellaneous
- 60 External entities cannot be referred to from attribute values
- 61 If 'default' and 'use' are both present, 'use' must have the value 'optional'
- 62 Only numeric character entities or special character entities are legal here
- 63 The schemaLocation attribute does not contain pairs of values

64	Partial markup in parameter entity replacement text in a complete declaration	90	There is not a complete functional mapping between the particles
65	The start and the end tag were in different entities	91	Invalid content spec node type
66	The document contained a recursive entity expansion	92	Empty string encountered
67	Facets are inconsistent with base type	93	String contains whitespace only
68	Whitespace must not occur between externally declared elements with element content in a standalone document.	94	More than one decimal points encountered
69	Partial markup in parameter entity replacement text.	95	Invalid chars encountered
70	Field matches more than one value within the scope of its selector; fields must match unique values	96	Null pointer encountered
71	Non-whitespace characters are not allowed in schema elements other than 'appinfo' and 'documentation'	97	Occurrence range of a group is not a valid restriction of occurrence range of base group
72	The index given was beyond the max attribute index	98	There is not a complete functional mapping between the particles
73	The passed AttTypes value is not known	99	The document contained an unterminated character reference
74	The passed DefAttType value is not known	100	The number of entity expansions exceeded the allowed limit
75	The binary operation node had a unary node type	101	This type of attribute cannot have an empty value
76	The content type must be mixed or children	102	Complex type definition representation is ok - <restriction> must have a <simpleType> child
77	PCDATA nodes are not valid here	103	The element name/uri in the restriction does not match that of the corresponding base element
78	The unary operation node had a binary node type	104	Selectors cannot select attributes
79	Unknown content model type	105	Not allowed to have ' ' at the beginning of an XPath value
80	Unknown content spec type	106	Not allowed to have ' ' in an XPath value
81	The parent element has no content spec node	107	Missing attribute name in XPath
82	The creation reason enum has an unknown value	108	Not allowed to have double colon in the XPath expression
83	The enumerator contain no more element	109	Expected step following token 'AXISNAME_CHILD::'
84	The auto encoding enum has an unknown value	110	Expected step following '/' in XPath
85	Unbalanced start/end tags found, cannot continue	111	Expected step following '/' in XPath
86	Wildcard's occurrence range not a restriction of base wildcard's range	112	'/' not allowed after '/' in XPath
87	Wildcard is not a subset of corresponding wildcard in base	113	'/' only allowed after '.' At the beginning of an XPath
88	Group's occurrence range not a restriction of base wildcard's range	114	Not allowed to have '/' at the beginning of an XPath value
89	There is not a complete function mapping between the particles	115	Not allowed to select the root of an XPath
		116	Empty XPath expression
		117	The XPath expression cannot end with ' '
		118	Invalid character following '.' in XPath
		119	XPath token not supported
		120	Enabling the NEL options

- 121 No scheme was found in the URI
- 122 The derived complexType has content while the base type is empty
- 123 The parser expected to find an XML notation name and did not.
- 124 An unterminated notation declaration was found
- 125 The parser did not find a document encoding but one was required.
- 126 The document contained more end tags than start tags

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16185

sqlstate: 2200M

SQL16186N XML document encountered invalid unparsed entity reference *entity-name*.

Explanation: While parsing an XML document, an unparsed entity reference *entity-name* was encountered. That is invalid.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16186

sqlstate: 2200M

SQL16187N XML document contains an abstract type *type-name* used in an xsi:type attribute.

Explanation: While parsing an XML document, the parser encountered use of an abstract type *type-name* in an xsi:type attribute.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16187

sqlstate: 2200M

SQL16188N XML document contains an invalid content annotation specification for type *type-name*.

Explanation: While parsing an XML document, the parser encountered Content (Annotation?...) which is incorrect for the data type *type-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16188

sqlstate: 2200M

SQL16189N XML document contains a ref element *element-name* not found in the XML schema.

Explanation: While parsing an XML document, the parser encountered a ref element *element-name* that is not found in the XML schema.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16189

sqlstate: 2200M

SQL16190N XML document contains a type *prefix:type-name* that is not found in the namespace.

Explanation: While parsing an XML document, the parser encountered a type that is not found in the namespace. The type is identified by *prefix:type-name*.

Parsing or validation did not complete.

User response: Correct the use of the type in the XML document and try the operation again.

sqlcode: -16190

sqlstate: 2200M

SQL16191N XML document contained an invalid child in the complex type *type-name*.

Explanation: While parsing an XML document, the parser encountered an invalid child in the complex type *type-name*. A child of a complexType can be a group, sequence, choice, all, attribute, or attributeGroup.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16191

sqlstate: 2200M

SQL16192N XML document contains a circular attributeGroup reference for *attribute-name*.

Explanation: While parsing an XML document the parser encountered a circular attributeGroup reference. This use is disallowed outside a <redefine>.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16192

sqlstate: 2200M

SQL16193N XML document contains a prefix *prefix-name* that has not been mapped to any URI.

Explanation: While parsing an XML document, the parser encountered a prefix *prefix-name* that has not been mapped to any URI.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16193

sqlstate: 2200M

SQL16194N XML document contains a type *type-name* that is used in an *xsi:type* attribute but is not derived from the type of the element *element-name*.

Explanation: While parsing an XML document, the parser encountered an *xsi:type* attribute that specified *type-name* but this type is not derived from the type of the element *element-name*.

Parsing or validation did not complete.

User response: Correct the type used in the *xsi:type* attribute in the XML document and try the operation again.

sqlcode: -16194

sqlstate: 2200M

SQL16195N XML document contains an invalid *namespace-uri* has already been included or redefined.

Explanation: While parsing an XML document, the parser encountered an invalid *namespace-uri*. The *namespace-uri* has already been included or redefined.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16195

sqlstate: 2200M

SQL16196N XML document contains an element *element-name* that is not correctly specified. Reason code = *reason-code*

Explanation: While parsing an XML document the parser encountered an error with an element named

element-name. Possible reasons given by *reason-code* are:

- 1 The element is nillable in the restriction but not in the base
- 2 The element is either not fixed, or is fixed but does not have the same value as the base
- 3 The disallowed substitutions for the element are not a superset of those of the base
- 4 The element has a type that does not derive from the base
- 5 The element belongs to a group of a variety different from that of the base
- 6 The key for the identity constraint of the element is not found
- 7 The element is declared with a type that is abstract. Use *xsi:type* to specify a type that is not abstract
- 8 The element has a blocking constraint and does not permit substitution
- 9 The element cannot have both a type attribute and a child with a type that is a *simpleType* or *complexType*
- 10 The element must have a fixed or default value and must have a simple or mixed simple content model
- 11 The element must have a *schemaLocation* attribute specified
- 12 The namespace of the element must be from the schema namespace
- 13 The element has a type which does not derive from the type of the element at the head of the substitution group.
- 14 The element is globally declared and cannot have a *ref* attribute
- 15 No content specification expression was found for the element
- 16 Expected *'* or *'* characters or close parenthesis in the content model of the element
- 17 The element cannot have *'xmlns'* as a prefix
- 18 The element has already been declared
- 19 The element cannot have element children within simple type content.
- 20 The element has a *simpletype* but no data type validator was found
- 21 The element has a key that matches an element that has nillable set to true
- 22 There is a duplicate key value declared for the identity constraint of the element

- 23 There is a duplicate unique value declared for the identify constraint of the element
- 24 The element has a key with no value
- 25 There are not enough values specified for the unique identify constraint of the element
- 26 The element was used in the DOCTYPE but never declared
- 27 The content model for the element is ambiguous
- 28 The particle of the content type is not emptyable but the content type of the element is mixed.
- 29 Content for the element is different from the fixed attribute value in the schema declaration of the element
- 30 There is a circular substitution group for the element
- 31 The element is not valid for the associated content model
- 32 The value of the element is 'xsi:nil'. This is inconsistent with the elements declaration as non-nillable.
- 33 The element is untyped
- 34 The specified element must be qualified
- 35 The specified element cannot be qualified
- 36 The specified element was not empty yet specified xsi:nil=true. Any element specifying xsi:nil=true should be empty.
- 37 The element is not defined.
- 38 The element has both 'fixed' and 'default' facets specified for it. Either one or the other can be specified but not both.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16196

sqlstate: 2200M

SQL16197N XML document contains key or keyref name *name* identity constraint that does not have enough values specified for

SQL16200 - SQL16299

SQL16200N XML document contains a duplicate reference attribute *prefix:name* in a complexType.

Explanation: While parsing an XML document the parser encountered a duplicate reference attribute

element *element-name*.

Explanation: While parsing an XML document the parser encountered an element *element name* where the key or keyref *name* identity constraint does not have enough values specified.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16197

sqlstate: 2200M

SQL16198N XML document contains the declaration of an *object-type* object with an invalid name *name*.

Explanation: While parsing an XML document the parser encountered a declaration for an *object-type* object with a name *name* that is not valid.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16198

sqlstate: 2200M

SQL16199N XML document contains a type *type-name* which has complexContent and cannot be specified as the base in a simpleContent element.

Explanation: While parsing an XML document, the parser encountered a type *type-name* which has complexContent specified as the base in a simpleContent element.

Parsing or validation did not complete.

User response: Correct the XML document to specify a different type as the base and try the operation again.

sqlcode: -16199

sqlstate: 2200M

named *prefix:name* in a complexType.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16200

sqlstate: 2200M

SQL16201N XML document contains invalid Unicode character *hex-value* in a public identifier.

Explanation: While parsing an XML document the parser encountered an invalid Unicode character in a public id. The invalid character is identified by the hexadecimal value *hex-value*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16201

sqlstate: 2200M

SQL16202N XML document contains invalid digit *value* for the associated radix.

Explanation: While parsing an XML document the parser encountered an invalid digit *value* for the associated radix. The radix could be base 10 or base 16.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16202

sqlstate: 2200M

SQL16203N XML document input ended before all started tags were ended. Last tag started was *tag-name*.

Explanation: While parsing an XML document the parser encountered an end of input before all start tags were closed. The last tag that was started is indicated by *tag-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16203

sqlstate: 2200M

SQL16204N XML document contains reference to an external entity declaration *ext-entity-name* in a standalone document.

Explanation: While parsing an XML document the parser referenced an external entity identified by *ext-entity-name* in a standalone document.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16204

sqlstate: 2200M

SQL16205N XML document contains too few elements to match content model *name*.

Explanation: While parsing an XML document, the parser did not find enough elements to match the content model identified by *name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16205

sqlstate: 2200M

SQL16206N XML document contains reference to a URI *uri-string* for which no grammar is available.

Explanation: While parsing an XML document the parser attempted to locate a grammar for the URI *uri-string*. The grammar is not available.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16206

sqlstate: 2200M

SQL16207N XML document contains an entity *entity-name* that was not defined.

Explanation: While parsing an XML document, the parser found an entity identified by *entity-name* that was not defined.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16207

sqlstate: 2200M

SQL16208N XML document contains an invalid type *type-name* in *xsi:type*.

Explanation: While parsing an XML document, the parser found an invalid type *type-name* in an *xsi:type* definition. Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16208

sqlstate: 2200M

SQL16209N XML document requires specification of a member of the substitution group for abstract element *element-name*.

Explanation: While parsing an XML document the parser encountered a missing member of a substitution group for the abstract element *element-name*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16209

sqlstate: 2200M

SQL16210N XML document contained a value *value* that violates a facet constraint. Reason code = *reason-code*.

Explanation: While processing an XML document, the XML parser encountered a value that failed a facet constraint test. Possible reasons given by *reason-code* are:

- 1 The length of the value exceeds the maxLen facet
- 2 The length of the value was less than the minLen facet
- 3 The length of the value was not equal to the len facet.
- 4 The value was not in the enumeration
- 5 The total digits in the value exceeded the totDigits facet
- 6 The fractal digits in the value exceeded the fractDigits facet
- 7 The value was greater than the maxInclusive facet
- 8 The value was greater than or equal to the maxExclusive facet
- 9 The value was less than the minInclusive facet
- 10 The value was less than or equal to the minExclusive facet
- 11 The value is not whitespace replace
- 12 The value is not whitespace collapsed
- 13 The value does not match the regular expression facet
- 14 The value does not match any member types of the union
- 15 The value exceeds the scale facet
- 16 The value exceeds the precision facet

Parsing or validation did not complete.

User response: Correct the value that violates the constraint facet in the XML document and try the operation again.

sqlcode: -16210

sqlstate: 2200M

SQL16211N XML document contained an invalid URI. Token 1=*token1*. Token 2=*token2*. Reason code = *reason-code*.

Explanation: While parsing an XML document the parser encountered an invalid URI. Possible reasons given by *reason-code* are:

- 1 The URI *token1* must have all required components.
- 2 The URI *token1* contains component *token2* that is only valid for generic URIs
- 3 The URI *token1* contains invalid escape sequence *token2*.
- 4 The URI *token1* contains an invalid character *token2*.
- 5 The URI contains a non-nullable component that is set to null
- 6 The URI *token1* contains a non-conformant component *token2*.
- 7 The URI *token1* contains a component *token2* that is not valid if the 'host' component is not specified
- 8 The URI *token1* contains a component *token2* that is not valid if the 'path' component is not specified.
- 9 The URI *token1* contains component *token2* that cannot be included in a path specification.
- 10 A URI contains a port value *token1* that is not in the range (0, 65535).

Parsing or validation did not complete.

User response: Correct the URI in the XML document and try the operation again.

sqlcode: -16211

sqlstate: 2200M

SQL16212N XML document does not allow circular definitions for *name*.

Explanation: While parsing an XML document, the parser encountered the a use of *name* within the definition of *name*. XML does not allow circular definitions.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16212

sqlstate: 2200M

SQL16213N XML schema contains an element *element-name* that must not have a *constraint-type* constraint because the type is derived from ID.

Explanation: While parsing an XML schema, the parser encountered an element that must not have a *constraint-type* constraint because it is derived from ID.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16213

sqlstate: 2200M

SQL16214N XML document contains an imported schema *import-uri* that has a different *targetNamespace* *targetns-uri* than what is declared *declared-uri*.

Explanation: While parsing an XML document the parser encountered a namespace mismatch. The XML schema that was imported *import-uri* has a target namespace *targetns-uri* that is different from the declared namespace *declared-uri* in the XML document.

Parsing or validation did not complete.

User response: Correct the mismatch in namespaces for the XML document and try the operation again.

sqlcode: -16214

sqlstate: 2200M

SQL16215N XML document contains an included schema *include-uri* that has a different target namespace *targetns-uri*.

Explanation: While parsing an XML document, the parser encountered a namespace mismatch. The XML schema that was included with URI *include-uri* has a different target namespace URI *targetns-uri*.

Parsing or validation did not complete.

User response: Correct the mismatch in namespaces for the XML document and try the operation again.

sqlcode: -16215

sqlstate: 2200M

SQL16216N XML document is missing attribute *attribute-name* that must appear in *element-type* *element-name* declarations.

Explanation: While parsing an XML document the parser encountered an *element-type* *element-name*

declaration that is missing a required attribute *attribute-name*.

Parsing or validation did not complete.

User response: Add the missing attribute to the global or local declaration in the XML document and try the operation again.

sqlcode: -16216

sqlstate: 2200M

SQL16217N XML document contains attribute *attribute-name* that cannot appear in *element-type* *element-name* declarations.

Explanation: While parsing an XML document the parser encountered an attribute named *attribute-name* that is not allowed in a *element-type* *element-name* declaration.

Parsing or validation did not complete.

User response: Remove the attribute from the global or local declaration in the XML document and try the operation again.

sqlcode: -16217

sqlstate: 2200M

SQL16218N XML document contains a global declaration for *component* named *name1* that is declared more than once.

Explanation: While parsing an XML document the parser encountered a duplicate global declaration for a *component* identified by *name*. The *component* could be an "element", "group", or "attributeGroup".

Parsing or validation did not complete.

User response: Remove the duplicate declaration from the XML document and try the operation again.

sqlcode: -16218

sqlstate: 2200M

SQL16219N XML document contains a global type declaration for a *type1* named *name* that is declared more than once or also declared as *type2*

Explanation: While parsing an XML document the parser encountered a duplicate global type declaration for a *type1* identified by *name* or *name* is also declared as a *type2*. The global type declarations could be a *simpleType* or a *complexType*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16219

sqlstate: 2200M

SQL16220N XML document contains an element or attribute *name* where NOTATION was used directly in the schema for that element or attribute.

Explanation: While parsing an XML document, the parser encountered an element or attribute where the schema used NOTATION directly for that element or attribute..

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16220

sqlstate: 2200M

SQL16221N XML document contains a mismatch in the definition of the base type *base-type-name* and the derived type *derived-type-name*.

Explanation: While parsing an XML document, the parser encountered a mismatch in the definition of a base type *base-type-name* and the derived type *derived-type-name*. If the content type of the base type is mixed then the derived type must also be mixed content. If the content of the base type is element-only, then the derived type must also be element-only content.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16221

sqlstate: 2200M

SQL16222N XML document contains a global *declaration-type* declaration without a name

Explanation: While parsing an XML document, the parser encountered a global *declaration-type* declaration without a name. The global declaration must have a name.

Parsing or validation did not complete.

User response: Correct the global declaration in the XML document and try the operation again.

sqlcode: -16222

sqlstate: 2200M

SQL16223N XML document contained a <redefine> element with a child of type *type-name* that is not allowed.

Explanation: While parsing an XML document, the parser encountered a redefine element with a child defined with data type *type-name*. A <redefine> element cannot contain a child of that type.

Parsing or validation did not complete.

User response: Correct the <redefine> element in the XML document and try the operation again.

sqlcode: -16223

sqlstate: 2200M

SQL16224N XML document contains a mismatch in the definition of the base element *base-element-name* and the derived element *derived-element-name*. Reason code = *reason-code*.

Explanation: While parsing an XML document, the parser encountered a mismatch in the definition of a base element with name *base-element-name* and an associated derived element with name *derived-element-name*. Possible reasons given by *reason-code* are:

1. The derived element has fewer identify constraints than the base element
2. The derived element has an identity constraint that does not appear on the base element.

Parsing or validation did not complete.

User response: Correct the base element or the derived element in the XML document and try the operation again.

sqlcode: -16224

sqlstate: 2200M

SQL16225N XML document contains a namespace of *namespace-uri* that is not allowed by a wildcard in the base type.

Explanation: While parsing an XML document, the parser encountered an invalid namespace caused by a type which is derived from a base type with an "any" element that has an element definition with a namespace URI that does not match *namespace-uri*.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16225

sqlstate: 2200M

SQL16226N XML schema contains an invalid group specification for group *group-name*.
Reason code = *reason-code*.

Explanation: While processing an XML schema the XML parser encountered an invalid group specification. Possible reasons given by *reason-code* are:

1. The group must contain (all | choice | sequence)
2. The group contains a reference to a group being redefined that must have minOccurs = maxOccurs = 1.
3. The attribute group specification does not match (annotation?.((attribute | attributeGroup)*, anyAttribute?))

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16226

sqlstate: 2200M

SQL16227N XML document contains object *object-type* named *uri:object-name* that was not found in the schema.

Explanation: While parsing an XML document, the parser encountered an object of type *object-type* with name *uri:object-name* that could not be found in the XML schema.

User response: Correct the XML document or the XML schema and try the operation again.

Parsing or validation did not complete.

sqlcode: -16227

sqlstate: 2200M

SQL16228N The content of <all> is restricted to <xs:element> but *tag-name* was encountered.

Explanation: While parsing an XML schema document, the parser encountered the element *tag-name*. XML Schema restricts the content of <all> to <xs:element>.

User response: Correct the XML schema document and try the operation again.

sqlcode: -16228

sqlstate: 2200M

SQL16229N XML document contains a redefine schema *schema-uri* with a different target namespace *targetns-uri*.

Explanation: While parsing an XML document, the

parser encountered a redefine schema with a different target namespace.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16229

sqlstate: 2200M

SQL16230N XML document contains more than one identity constraint named *constraint-name*.

Explanation: While parsing an XML document, the parser encountered multiple identity constraints that used the name *constraint-name*.

Parsing or validation did not complete.

User response: Change the duplicate identity constraint names in the XML document and try the operation again.

sqlcode: -16230

sqlstate: 2200M

SQL16231N XML document contains a reference to namespace *uri* without an <import> declaration.

Explanation: While parsing an XML document, the parser encountered a reference to namespace *uri* without an import declaration for that namespace.

Parsing or validation did not complete.

User response: Include and import for the namespace in the XML document and try the operation again.

sqlcode: -16231

sqlstate: 2200M

SQL16232N XML document contains a duplicate setting of *attribute-name* in the XML declaration.

Explanation: While parsing an XML document, the parser encountered duplicate declaration settings of *attribute-name* in the XML declaration. The XML declaration can only have one setting of "version", "encoding" and "standalone" attributes.

Parsing or validation did not complete.

User response: Remove the duplicate attribute setting in the XML declaration for the XML document and try the operation again.

sqlcode: -16232

sqlstate: 2200M

SQL16233N XML document contains a duplicate ID value *ID-value*.

Explanation: While parsing an XML document the parser encountered duplicate ID value *ID-value*.

Parsing or validation did not complete.

User response: Change the duplicate ID values to unique ID values in the XML document and try the operation again.

sqlcode: -16233

sqlstate: 2200M

SQL16234N XML document contains an invalid declaration for data type *type-name*.
Reason code = *reason-code*.

Explanation: While parsing an XML document, the parser encountered an invalid data type declaration. Possible reasons given by *reason-code* are:

1. There is no validator for the data type *type-name*
2. It is an incorrect data type.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16234

sqlstate: 2200M

SQL16235N XML document contained a value *value* **that is out of range. Range value 1=*rvalue1*. **Range value 2=*rvalue2*. **Reason code =** *reason-code*.****

Explanation: While parsing an XML document the parser encountered an invalid value. Possible reasons given by *reason-code* are:

1. The value *value* is less than the maximum negative value *rvalue1*.
2. The value *value* is greater than the maximum positive value *rvalue1*.
3. The number *value* is outside the allowed range of *rvalue1* to *rvalue2*.
4. The number *value* is required to have an exponent.

Parsing or validation did not complete.

User response: Correct the out of range value in the XML document and try the operation again.

sqlcode: -16235

sqlstate: 2200M

SQL16236N Error encountered processing regular expression. Reason code = *reason-code*.
Possible token = *token*.

Explanation: While processing a regular expression an error was encountered. The *reason-code* provides further information regarding the error along with a description of the possible token *token* if it is not empty.

- 1 There was an invalid category name *token* in the regular expression.
- 2 There was an unknown option in the regular expression.
- 3 There was an unknown keyword *token* in the regular expression.
- 4 ComplementRanges - Argument must be a RangeToken
- 5 Reference number must be more than zero.
- 6 Unknown token type.
- 7 Invalid child index.
- 8 Invalid or zero length replace pattern.
- 9 Invalid Unicode hex notation or Unicode code point.
- 10 The range end code point *token* is less than the start code point.
- 11 Invalid regular expression syntax. Expected to find a string or character listed in *token*.
- 12 Overflow in a hex notation.
- 13 An unexpected character was found in a regular expression.
- 14 Invalid reference number.
- 15 A character is required after the back slash character ('\').
- 16 Unexpected end of the pattern in a modifier group, conditional group, or a character class.
- 17 A back reference, an anchor, a lookahead, or a lookbehind is expected in a conditional pattern.
- 18 There are more than three choices in a conditional group.
- 19 A character in U+0040 to u+005f must follow \c.
- 20 Unexpected meta character.
- 21 Unknown property.
- 22 Unknown name of a POSIX character class.
- 23 Invalid use of '-' character in a regular expression.
- 24 An anchor is not in the correct position in the regular expression.

- 25 An expression is used that is not supported in the current option setting.
- 26 An invalid quantifier was used in *token*. Possible problems are an expected digit, expected '}' character, invalid quantity, a minimum quantity that exceeds the maximum quantity, or a quantity value overflow.
- 27 *token* is not a valid character range.
- 28 *token* is an invalid escape character.
- 29 Internal regular expression processing error. Error code *token*. Retry and if problem occurs again contact IBM support with this message and the value of *token*.

Parsing or validation did not complete.

User response: Correct the regular expression and try the operation again.

sqlcode: -16236

sqlstate: 2200M

SQL16237N XML schema contains an occurrence range for element *element-name* that is not a valid restriction of range for the base element.

Explanation: While parsing an XML schema, the parser encountered an occurrence range in the element *element-name* that is not a valid restriction of the occurrence range for the base element.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16237

sqlstate: 2200M

SQL16238N XML schema contains a prefix *prefix-name* that is not bound to a namespace URI in an XPath value.

Explanation: While processing an XML schema, the XML parser encountered a prefix *prefix-name* without a corresponding URI in an XPath value.

Parsing or validation did not complete.

User response: Correct the XML schema and try the operation again.

sqlcode: -16238

sqlstate: 2200M

SQL16239N XML document contains a redefine for a type *type-name* that does not already have an existing declaration.

Explanation: While parsing an XML document, the parser did not encounter a declaration corresponding to *type-name* in the schema. The redefine request cannot be performed without a prior declaration.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16239

sqlstate: 2200M

SQL16240N XML document contained *tag* which is only allowed in elementOnly content.

Explanation: While parsing an XML document, the parser encountered contents that are only valid in elementOnly content.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16240

sqlstate: 2200M

SQL16241N XML document has *tag* content in a choice model group which is limited to 'element', 'group', 'choice', 'sequence', and 'any'.

Explanation: While parsing an XML document the parser encountered invalid content. A choice model group include the content *tag* that is not one of 'element', 'group', 'choice', 'sequence', or 'any'.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16241

sqlstate: 2200M

SQL16242N XML document has *name1* and *name2* which violate the unique particle attribution rule.

Explanation: While parsing an XML document the parser encountered values that violate the unique particle attribution rule.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16242

sqlstate: 2200M

SQL16243N XML document contains keyref value referencing a key or unique constraint that is out of scope.

Explanation: While parsing an XML document, the parser encountered an invalid keyref. The keyref *value* is the name of a key or unique constraint that is defined but is not in the scope of the keyref.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16243

sqlstate: 2200M

SQL16244N XML document contains an operation operation-name that is invalid for the spec type.

Explanation: While parsing an XML document, the parser encountered an operation that is invalid for the spec type.

Parsing or validation did not complete.

User response: Correct the XML document and try the operation again.

sqlcode: -16244

sqlstate: 2200M

SQL16245N Unqualified SQL identifier string found at or near line lineno in XML schema document uri.

Explanation: The identifier *string* is missing a relational schema name and there is no global annotation db2-xdb:defaultSQLSchema specified in the XML schema. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Either the global annotation db2-xdb:defaultSQLSchema must be defined or any table used in any mapping must be declared with a db2-xdb:table annotation that specifies a relational schema.

sqlcode: -16245

sqlstate: 225DE

SQL16246N Incomplete annotation mapping at or near line lineno in XML schema document uri. Reason code = reason-code.

Explanation: The annotation mapping the XML schema item near *line* in *uri*, to a database object is missing some information. Possible values for reason code include:

1. A rowset name is not specified or is not fully qualified.
2. Any mapping must specify either a target column or a condition. Neither a target column nor a condition is specified.
3. Processing of XML content is specified, but no target column specified. Mapping indicates that the content from the XML document is to be truncated, normalized or transformed via an expression but the mapping does not indicate where the processed content is to be stored.

The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Modify the annotations in the XML schema. Possible actions based on the *reason-code* include:

1. Specify a rowset name or fully qualify the rowset name.
2. Specify either a target column or a condition.
3. Specify a target column for XML content that has associated processing specified.

Consult annotated XML schema documentation on the specified annotation to make sure that all required components have supplied values.

sqlcode: -16246

sqlstate: 225DE

SQL16247N Source XML type source-data-type cannot be mapped to target SQL type target-data-type in the annotation at or near line lineno in XML schema document uri.

Explanation: Annotation at or around line *lineno* in XML schema document *uri* maps a XML schema type *source-data-type* to an incompatible SQL type *target-data-type*. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Consult annotated XML schema

documentation on compatibility between XML schema types and SQL types. Correct the annotation appropriately.

sqlcode: -16247

sqlstate: 225DE

SQL16248N Error in annotation at or near line *lineno* in XML schema document *uri*.
Additional information for the error includes *errordetails*.

Explanation: The annotated XML schema document *uri* contains an error in the annotation at or near line number *lineno*. Types of errors include: invalid value, unknown elements or attributes inside an annotation, mal-formed XML. Any available additional information on the type of error or the erroneous value is provided in *errordetails*.

The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Consult annotated XML schema documentation for list of legal annotations and their syntax. Correct or remove the unknown annotation.

sqlcode: -16248

sqlstate: 225DE

SQL16249N The db2-xdb:expression or db2-xdb:expression annotation *expression* at or near line *lineno* in XML schema document *uri* is invalid according to reason code *reasoncode*.

Explanation: The identified db2-xdb:expression or db2-xdb:expression annotation is not valid, as indicated by one of the following reason codes:

1. String length of the specified expression exceeded the maximum allowed.
2. The number of occurrences of the keyword \$DECOMP_CONTENT or \$DECOMP_ELEMENTID in the expression exceeded the maximum of 10 occurrences.

The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Consult annotated XML schema documentation regarding the syntax and limits for db2-xdb:expression or db2-xdb:expression annotations. Correct the expression appropriately.

sqlcode: -16249

sqlstate: 225DE

SQL16250N The db2-xdb:defaultSQLSchema with value *schema-name* at or near line *lineno* in XML schema document *uri* conflicts with another db2-xdb:defaultSQLSchema specified in one of the XML schema documents within the same XML schema.

Explanation: There can only be one value for the db2-xdb:defaultSQLSchema annotation across all XML schema documents that comprise an annotated XML schema. The specified SQL schema name *schema-name* at or near the line number *lineno* in the XML schema document *uri* conflicts with another value for db2-xdb:defaultSQLSchema annotation in this or another XML schema document of the XML schema. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Correct the annotated XML schema such that all specifications of db2-xdb:defaultSQLSchema are consistent.

sqlcode: -16250

sqlstate: 225DE

SQL16251N Duplicate db2-xdb:table annotation defined for table *table-name* at or near line *lineno* in XML schema document *uri*.

Explanation: There is more than one db2-xdb:table annotation for the table *table-name* in the annotated XML schema. A second db2-xdb:table annotation has been found for this table at or around line *lineno* in XML schema document *uri*. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Correct the annotated XML schema by removing any duplicate db2-xdb:table annotations for the table *table-name* from the XML schema documents of the XML schema.

sqlcode: -16251

sqlstate: 225DE

SQL16252N The db2-xdb:rowSet name *rowset-name* specified at or near line *lineno* in the XML schema document *uri* is already associated with another table.

Explanation: A rowset in an annotated XML schema must correspond to exactly one table. The rowset declaration at or near line *lineno* declares an association between rowset *rowsetname* and the table specified in the enclosing db2-xdb:table annotation. The specified rowset has already been associated to a different table

in another db2-xdb:table annotation. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Correct the annotated XML schema such that each rowset name is uniquely associated with exactly one table across the annotated XML schema documents of the XML schema.

sqlcode: -16252

sqlstate: 225DE

SQL16253N The db2-xdb:condition annotation *condition* at or near line *lineno* in XML schema document *uri* is too long.

Explanation: The length of the string associated with db2-xdb:condition that starts with *condition* exceeds the maximum allowed. The db2-xdb:condition is found at or around line number *lineno* in XML schema document *uri*. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Reduce the size of the condition string for db2-xdb:condition in the XML schema document. Consult annotated XML schema documentation on the limit for strings specified in db2-xdb:condition annotations.

sqlcode: -16253

sqlstate: 225DE

SQL16254N A db2-xdb:locationPath *locationpath* at or near line *lineno* in XML schema document *uri* is not valid with reason code *reason-code*.

Explanation: A value specified in the annotated schema for db2-xdb:locationPath is not valid. Possible values for reason code include:

1. Some element or attribute has a namespace prefix that is not mapped to a URI. All namespace prefixes used in the location path must have been associated with a namespace in the XML schema document containing the annotation specifying this location path.
2. Invalid syntax for a location path.
3. The specified path does not match any possible path from a root node to a location where the element or attribute may appear in an instance document.
4. An element or attribute name in the locationPath does not correspond to any element or attribute name in the XML schema.

The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Modify the annotations in the XML schema. Possible actions based on the *reason-code* include:

1. Ensure that namespace prefixes in the db2-xdb:locationPath are correct or add a declaration for the missing namespace.
2. Ensure that the syntax of the value for db2-xdb:locationPath is valid syntax for a location path.
3. Ensure that the value for db2-xdb:locationPath corresponds to a possible path from the root node to the element or attribute at the end of the location path.
4. Make sure all element and attribute names in the locationPath correspond to valid element and attribute names in the XML schema.

sqlcode: -16254

sqlstate: 225DE

SQL16255N A db2-xdb:rowSet value *rowset-name* used at or near line *lineno* in XML schema document *uri* conflicts with a db2-xdb:table annotation with the same name.

Explanation: The annotated XML schema contains a db2-xdb:table annotation which declares a table named *rowsetname*, but the annotated XML schema does not have any db2-xdb:rowSet annotation declaration to associate *rowsetname* to any table. If a rowset is not declared in any db2-xdb:table annotation, it is implicitly associated to a table with the same name qualified by the value of db2-xdb:defaultSQLSchema. The annotated XML schema cannot use a db2-xdb:rowSet annotation that relies on an implicit association between a rowset and a table with the same name of *rowset-name*, and at the same time declare a table named *rowset-name* using a db2-xdb:table annotation. The XML schema document can be determined by matching *uri* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Correct the annotated XML schema by adding a db2-xdb:rowSet child element to the db2-xdb:table element with name *rowset-name*. This will explicitly associate the rowset to the table.

sqlcode: -16255

sqlstate: 225DE

SQL16256N XML schema is missing a global complexType required to enable for decomposition.

Explanation: The XML schema has no global elements of complexType which would serve as a potential root element for instance documents. The XML schema must contain at least one global element of complexType in order to be enabled for decomposition.

The XML schema is not enabled for decomposition.

User response: Ensure that the XML schema contains at least one global element of complexType before attempting to enable the XML schema for decomposition.

sqlcode: -16256

sqlstate: 225DE

SQL16257N Feature *feature-number* at or near line *lineno* in XML schema document *uri*, is not supported for decomposition. Any additional information on the error includes *errordetails*.

Explanation: An unsupported feature was detected, as indicated by one of the following feature numbers:

1. A mapping to a column of a type not supported by decomposition. Consult annotated XML schema documentation for the allowed target column types.
2. A mapping of an element in a choice model group containing a condition or expression.
3. An element or attribute is mapped to a non-table. Decomposition into views, aliases, nicknames or any objects other than tables (as indicated by a value 'T' in SYSCAT.TABLES.TYPE) is not supported.

In some cases, the presence of the unsupported feature in the XML schema results in failure to enable for decomposition. In other cases, having annotations in the decomposition namespace on the unsupported feature results in failure to enable for decomposition. Any additional available information pertaining to the error is given in *token*.

The XML schema is not enabled for decomposition.

User response: Remove the feature from the XML schema or remove the decomposition annotations associated with the feature, as appropriate. Consult decomposition documentation on the restrictions on use of the specified XML schema feature.

sqlcode: -16257

sqlstate: 225DE

SQL16258N The XML schema contains a recursive element which is an unsupported feature for decomposition. The recursive element is identified as *elementnamespace:elementname* of type *typenamespace:typename*.

Explanation: XML schemas with recursive elements are not supported for decomposition. At least one recursive element was found identified as *elementnamespace:elementname* of type *typenamespace:typename*.

The XML schema is not enabled for decomposition.

User response: Remove the use of recursion from the XML schema.

sqlcode: -16258

sqlstate: 225DE

SQL16259N Invalid many-to-many mappings detected in XML schema document *uri1* near line *lineno1* and in XML schema document *uri2* near line *lineno2*.

Explanation: The two identified annotations specify an invalid many-to-many relationship between elements that map to the same rowset. If two element declarations have a sequence model group as their lowest common ancestor then only one of the paths from the element declaration up to that model group can have *maxOccurs*>1 on one or more elements declarations or modelgroups in that path. The XML schema documents can be determined by matching *uri1* and *uri2* to the SCHEMALOCATION column of catalog view SYSCAT.XSROBJECTCOMPONENTS.

The XML schema is not enabled for decomposition.

User response: Correct the annotations such that there are no many-to-many mappings. Consult annotated XML schema documentation for rules on mapping elements and attributes.

sqlcode: -16259

sqlstate: 225DE

SQL16260N XML schema annotations include no mappings to any column of any table.

Explanation: The XML schema contains no annotations that map an XML element or attribute to any column of any table.

The XML schema is not enabled for decomposition since it provides no information for performing decomposition.

User response: Add annotations to the XML schema so that at least one XML element or attribute is mapped to a column of a table.

sqlcode: -16260

sqlstate: 225DE

SQL16261N The number of namespace constraints specified for the wildcard exceeds the limit of *max-namespaces*.

Explanation: The number of namespaces explicitly listed in the namespace attribute of <xsd:any> or <xsd:anyAttribute> is more than the limit of *max-namespaces* namespaces. If the list contains the special values *##targetNamespace* or *##local*, these also count toward the limit.

The XML schema is not enabled for decomposition.

User response: Reduce the number of namespace constraints specified in the wildcard definition to not more than *max-namespaces* namespaces.

sqlcode: -16261

sqlstate: 225DE

SQL16262N The annotated XML schema has no columns mapped for rowset *rowsetname*.

Explanation: The set of annotations involving rowset *rowsetname* contain no mappings to any column. In order for a rowset to be target for decomposition, at least one column must be mapped to some XML element or attribute.

User response: Add an annotation that maps a column of the specified rowset to some XML element or attribute. If the rowset is not intended to be a target for decomposition, remove references to the rowset from the annotated XML schema.

sqlcode: -16262

sqlstate: 225DE

SQL16265N The XML document cannot be decomposed using XML schema *xsubject-name* which is not enabled or is inoperative for decomposition.

Explanation: The XML schema identified by *xsubject-name* is not in the correct state to perform decomposition. The XML schema could be in one of the following states:

- Not enabled for decomposition (possibly never enabled)
- Disabled for decomposition
- Inoperative for decomposition because of changes to the definitions of one or more tables specified in the annotations.

Decomposition can only be performed using XML schemas that are enabled for decomposition.

XML decomposition was not started.

User response: Ensure that the XML schema is

enabled for decomposition before attempting to use it for decomposition of an XML document. The decomposition status of an XML schema can be checked by selecting the DECOMPOSITION column of SYSCAT.XSROBJECTS for the XML schema identified by *xsubject-name*.

sqlcode: -16265

sqlstate: 225D1

SQL16266N An SQL error occurred during decomposition of document *docid* while attempting to insert data. Information returned for the error includes SQLCODE *sqlcode*, SQLSTATE *sqlstate*, and message tokens *token-list*.

Explanation: An SQL error occurred during decomposition of an XML document with document identifier *docid*. The error occurred while attempting an SQL insert operation based on some piece of data from the XML document. Some possible causes: format of data is incompatible with the target column's data type; length of data exceeds column size; providing null value for a column defined as non-null. The sqlcode, sqlstate and message token list (each token is separated by the vertical bar character) are provided. The message tokens may be truncated. See the corresponding message for the *sqlcode* for further explanation of the error.

The XML document *docid* was not decomposed.

User response: Check the message associated with the SQLCODE. Follow the action suggested by that message. See db2diag.log for complete information about the error condition.

sqlcode: -16266

sqlstate: 225D2

SQL16267N An XML value *string* at or near line *lineno* in document *docid* is not valid according to its declared XML schema type *type-name* or is outside the supported range of values for the XML schema type.

Explanation: The specified XML value *string* is not supported as a value of data type *type-name*. This error could occur for one of the following reasons.

- The XML value is not in the value space of the XML schema type *type-name*. In this case, the XML document is not valid according to the XML schema that is used for decomposition.
- The XML value is outside the range of values supported in DB2 for the XML schema type *type-name*. In this case, the XML value cannot be inserted into its currently mapped table column .

However, the lexical representation of the XML value can be inserted if the value is mapped to a column of character type.

The XML document *docid* was not decomposed.

User response: Consult the W3C recommendation on XML schema to determine the value space of the XML schema type. Validate that the XML document is consistent with the annotated XML schema you are using for decomposition. If the value appears to be in the value space for the type, check the range limits for the value in DB2 as documented in the XQuery Reference. If the XML value is out of range for the data type, map the elements or attributes that contains such values to a character string column. If the XML schema requires correction, it must be registered again in the XML schema repository (XSR) and enabled for decomposition. Then retry the decomposition.

sqlcode: -16267

sqlstate: 225D3

SQL16268N The special numeric values INF, -INF, or NaN found at or near *lineno* of document *docid* cannot be assigned to a column.

Explanation: Decomposition processing found one of the special numeric values INF, -INF, or NaN at or near line number *lineno* in the document with identifier *docid*. These special values for XML schema floating point types are not valid values for assignment to numeric columns.

The XML document *docid* was not decomposed.

User response: Possible methods of resolution:

- Substitute any occurrence in the instance document of XML schema floating point special values with a valid DB2 floating point value
- Map the XML floating point to a character column, instead of a double or float column
- Write special purpose user-defined functions that can be called using the expression annotation to transform these values into a numeric value that can be assigned to a numeric column.

sqlcode: -16268

sqlstate: 225D4

SQL16269N Element *namespace:elementname* at or near line *lineno* in document *docid* is not recognized.

Explanation: The element *namespace:elementname* at or near line *lineno* in document *docid* is not recognized based on the annotated XML schema in use for decomposition. Possible causes:

- The element was not defined in the registered annotated XML schema
- A member of a substitution group appears in the instance document, in a position where the group head appears in the XML schema
- Another element of compatible type was substituted in the instance document for the element expected at that position according to the XML schema.

The XML document *docid* was not decomposed.

User response: Check that the XML document *docid* is consistent with the annotated XML schema you are using for decomposition. One method of checking is to run XML decomposition again with validation turned on to ensure that document is valid. You should also check for use of features that are not supported for decomposition, such as substitution groups and *xsi:type*.

If the annotated XML schema requires correction, it must be registered again in the XML schema repository (XSR) and enabled for decomposition.

sqlcode: -16269

sqlstate: 225D5

SQL16270N Element *namespace:elementname* at or near line *lineno* in document *docid* is not valid in the context where it was found.

Explanation: The location with respect to the root element in the XML document of the element *namespace:elementname* at or near line *lineno* in document *docid* does not correspond to its position relative to the root as specified in the annotated XML schema used for decomposition or the element might be unreachable because it violates the cardinality specified in the annotated XML Schema.

The XML document *docid* was not decomposed.

User response: Check that the XML document *docid* is consistent with the annotated XML schema you are using for decomposition. One method of checking is to run XML decomposition again with validation turned on to ensure that document is valid.

If the annotated XML schema requires correction, it must be registered again in the XML schema repository (XSR) and enabled for decomposition.

sqlcode: -16270

sqlstate: 225D5

SQL16271N Unknown attribute *namespace:attributename* at or near line *lineno* in document *docid*.

Explanation: The specified attribute encountered in the document is not found in the annotated XML schema you are using for decomposition.

The XML document *docid* was not decomposed.

User response: Check that the XML document is consistent with the annotated XML schema you are using for decomposition. One method of checking is to run XML decomposition again with validation turned on to ensure that document is valid.

If the annotated XML schema requires correction, it must be registered again in the XML schema repository (XSR) and enabled for decomposition.

sqlcode: -16271

sqlstate: 225D5

SQL16272N Annotated XML schema requires migration from version *xdbversion* to the current version.

Explanation: The generated meta data for the annotated XML schema is from version *xdbversion* which is not valid for the current version of DB2. Decomposition cannot be performed for XML documents using this annotated XML schema until it has been migrated to the current version.

Decomposition of the XML document was not started.

User response: Run `db2xdbmig` to migrate the meta data to the current version and then try the decomposition operation again.

sqlcode: -16272

sqlstate: 225D6

SQL16273N The XML document *docid* has root element *namespace:elementname* that is not a global element of complexType in the XML schema.

Explanation: To decompose a document using an annotated XML schema, the root element of the document must be one of the global complexType elements of the XML schema. The root element *namespace:elementname* of document *docid* is not one of the global complexType elements declared in the XML schema.

The XML document *docid* was not decomposed.

User response: Check that the XML document is consistent with its XML schema. This may be done by rerunning XML decomposition with validation turned on.

sqlcode: -16273

sqlstate: 225D7

SQL16274N An SQL error occurred while preparing to insert data for rowset *rowsetname*. Information returned for the error includes SQLCODE *sqlcode*, SQLSTATE *sqlstate*, and message tokens *token-list*.

Explanation: An SQL error occurred preparing to perform the operation on the table associated with the specified rowset *rowsetname* based on the annotated XML schema. Some possible causes are:

- The syntax of a `db2-xdb:expression` or a `db2-xdb:condition` specified for the rowset is not a valid SQL expression or predicate;
- A declared parameter for an SQL function or user-defined function invoked in an expression or predicate is incompatible with the type of the argument passed to the function.

The *sqlcode*, *sqlstate* and message token list (each token is separated by the vertical bar character) are provided. The message tokens may be truncated. See the corresponding message for the *sqlcode* for further explanation of the error.

Decomposition of the XML document was not started.

User response: Check the message associated with the SQLCODE. Follow the action suggested by that message. See `db2diag.log` for complete information about the error condition.

sqlcode: -16274

sqlstate: 225D2

SQL16275N A name starting with *string* is not a valid QName. It was intended as a QName for *structure-type*.

Explanation: During parsing of an XML document or XML schema for a QName, a string starting with *string* was encountered that is not a valid QName. It may have started with an invalid character or contained invalid characters for a QName.

Parsing or validation did not complete.

User response: Correct the invalid QName in the XML document or XML schema and try the operation again.

sqlcode: -16275

sqlstate: 2200M

SQL16276N The number of tables that are mapped in the annotated XML schema exceeds the limit of *maxtables*.

Explanation: The total number of distinct tables referenced in `<db2-xdb:table>` and `db2-xdb:rowSet` (where this refers to an actual database table, rather than a `rowSet`) annotations in the entire XML schema exceeds the maximum number of tables *maxtables*.

The XML schema is not enabled for decomposition.

User response: Reduce the number of distinct tables referenced in these annotations to not more than *maxtables*.

sqlcode: -16276

sqlstate: 225DE

SQL20000 - SQL20099

SQL20005N The internal identifier limit of *limit* has been exceeded for object type *object-type*.

Explanation: An internal identifier uniquely identifies objects of type *object-type*. The limit for internal identifiers for this type of object has been exceeded. This can happen during a CREATE DISTINCT TYPE, CREATE TYPE, CREATE FUNCTION, CREATE PROCEDURE or CREATE SEQUENCE statement, or an ALTER TABLE or CREATE TABLE statement that defines an identity column. This can happen during a CREATE INDEX when the maximum number of indexes on a table has been exceeded.

The statement cannot be processed.

User response: Drop objects of type *object-type* that are no longer being used.

sqlcode: -20005

sqlstate: 54035

SQL20010N Mutation method *method-ID* is not allowed when the instance of the structured type is NULL.

Explanation: The method *method-ID* is a mutator method that is specified with an instance of a structured type that is null. Mutator methods cannot be processed on a null instance. In some cases, the method name is not available.

The statement cannot be processed.

User response: Determine the null instance that is used with a mutator method. Use a constructor function to create a non-null instance of the structured type before using any mutator methods on the instance.

To determine the method name associated with the *method-ID*, use the following query:

```
SELECT FUNCHEMA, FUNCNAME,
       SPECIFICNAME
FROM SYSCAT.FUNCTIONS
WHERE
      FUNCID = INTEGER(
                method-ID
                )
```

sqlcode: -20010

sqlstate: 2202D

SQL20011N Transform group *group-name* is already defined for a subtype or supertype of data type *type-name*.

Explanation: A transform group called *group-name* already exists for a type in the same hierarchy as *type-name*. It may be defined for a supertype or subtype of *type-name*. A transform group name can only be used once within a structured type hierarchy.

The statement cannot be processed.

User response: Change the name of the transform group.

sqlcode: -20011

sqlstate: 42739

SQL20012N Type *type-name* does not have any associated transform groups to drop.

Explanation: There are no transforms defined for *type-name*. There is nothing to drop.

The statement did not drop any transform groups.

User response: Ensure the name of the type (including any required qualifiers) is correctly specified in the SQL statement and that the type exists.

sqlcode: -20012

sqlstate: 42740

SQL20013N The object *super-object-name* is not valid as a supertype, supertable, or superview of object *sub-object-name*.

Explanation: If the statement resulting in the error is creating a type, then *super-object-name* is a type that cannot be a supertype of *sub-object-name* because it is not a user-defined structured type.

If the statement resulting in the error is creating a table, then *super-object-name* is a table that cannot be a supertable of table *sub-object-name* because it is not defined as a typed table or the type of table *super-object-name* is not the direct supertype of the type used in defining table *sub-object-name*.

If the statement resulting in the error is creating a view, then *super-object-name* is a view that cannot be a superview of view *sub-object-name* because it is not defined as a typed view or the type of view *super-object-name* is not the direct supertype of the type used in defining view *sub-object-name*.

The statement cannot be processed.

User response: Specify a valid type, table, or view in the UNDER clause of the CREATE statement.

sqlcode: -20013

sqlstate: 428DB

SQL20014N The transform group *group-name* *transform-type* transform function for type *type-name* is not valid. Reason code = *reason-code*.

Explanation: The *transform-type* transform function in transform group *group-name* is not valid. The reason is based on the *reason-code* as follows.

- 1 There can only be one parameter for a FROM SQL transform function.
- 2 The parameter of a FROM SQL transform function must be of type *type-name*.
- 3 The RETURNS data type of a TO SQL transform function must be of type *type-name*.
- 4 The RETURNS type of a FROM SQL transform function that returns a scalar must be a built-in data type other than DECIMAL.
- 5 All of the RETURNS types of a FROM SQL transform function that returns a scalar must be built-in data types other than DECIMAL.
- 6 There must be at least one parameter for a TO SQL transform function.
- 7 The parameter types for a TO SQL transform function must all be built-in data types other than DECIMAL.
- 8 The TO SQL transform function must be a scalar function.
- 9 The FROM SQL transform function must be written using LANGUAGE SQL, or must use another FROM SQL transform function that is written using LANGUAGE SQL.
- 10 The TO SQL transform function must be written using LANGUAGE SQL or use a TO SQL transform function that is written using LANGUAGE SQL.

The statement cannot be processed.

User response:

- 1 Specify a FROM SQL transform function with a signature that has only one parameter.
- 2 Specify a FROM SQL transform function where the type of the parameter is the same as *type-name*.
- 3 Specify a TO SQL transform function where the RETURNS type is the same as *type-name*.

- 4 Specify a FROM SQL transform function with a RETURNS type that is a built-in data type other than DECIMAL.
- 5 Specify a FROM SQL transform function where each element of the row has a RETURNS type that is a built-in data type other than DECIMAL.
- 6 Specify a TO SQL transform function with a signature that has at least one parameter.
- 7 Specify a TO SQL transform function where all the parameter types are built-in data types other than DECIMAL.
- 8 Specify a TO SQL transform function that is a scalar function.
- 9 Specify a FROM SQL transform function that is written using LANGUAGE SQL, or that uses another FROM SQL transform function that is written using LANGUAGE SQL.
- 10 Specify a TO SQL transform function that is written using LANGUAGE SQL or that uses a TO SQL transform function that is written using LANGUAGE SQL.

sqlcode: -20014

sqlstate: 428DC

SQL20015N A transform group *group-name* is not defined for data type *type-name*.

Explanation: A specified transform group *group-name* is not defined for the data type *type-name*. The data type *type-name* may have been explicitly specified in the statement or may be implicit based on the use of a structured type that requires the existence of the transform group for the data type.

If *group-name* is empty, either the TRANSFORM GROUP bind option or the CURRENT DEFAULT TRANSFORM GROUP special register was not specified and therefore there was no transform for *type-name*.

The statement cannot be processed.

User response: Define transform group *transform-type* for data type *type-name* using the CREATE TRANSFORM statement. If the error occurred when dropping the transform, no action is required because the transform group did not exist for the data type.

If *group-name* is empty, specify the TRANSFORM GROUP bind option on the CURRENT DEFAULT TRANSFORM GROUP special register.

sqlcode: -20015

sqlstate: 42741

SQL20016N The value of the inline length associated with type or column *type-or-column-name* is too small.

Explanation: For the definition of structured type *type-or-column-name*, it has an INLINE LENGTH value specified that is smaller than the size returned by the constructor function (32 + 10 * number_of_attributes) for the type and is less than 292. For the altering of column *type-or-column-name*, the INLINE LENGTH specified is smaller than the current inline length.

The statement cannot be processed.

User response: Specify an INLINE LENGTH value that is large enough. For a structured type, that is at least the size returned by the constructor function for the type or is at least 292. For a column, it must be larger than the current inline length. If this error occurs when altering the type (or some supertype of this type) to add an attribute, either the attribute cannot be added or the type must be dropped and re-created with a larger INLINE LENGTH value.

sqlcode: -20016

sqlstate: 429B2

SQL20017N Addition of this subtype exceeds the maximum number of levels of a type hierarchy.

Explanation: The maximum number of levels in a type hierarchy is 99. Adding this type would exceed the maximum.

The statement cannot be processed.

User response: Do not add any more subtypes to this type hierarchy.

sqlcode: -20017

sqlstate: 54045

SQL20018N Row function *function-name* must return at most one row.

Explanation: The function is defined to return a single row. The result of the processing the function is more than one row.

User response: Ensure that the function is defined in such a way that at most one row is returned.

sqlcode: -20018

sqlstate: 21505

SQL20019N The result type returned from the function body cannot be assigned to the data type defined in the RETURNS clause.

Explanation: The data type of each column returned by the function body must be assignable to the

corresponding column specified in the RETURNS clause. If the function is a scalar function, there is only one column.

User response: Change the RETURNS type or the type returned from the function body so that the data types of corresponding columns are assignable.

sqlcode: -20019

sqlstate: 42866

SQL20020N Operation *operation-type* is not valid for typed tables.

Explanation: The operation identified by *operation-type* cannot be performed on a typed tables.

The statement cannot be processed.

User response: Remove the ADD COLUMN clause or SET DATATYPE clause from the ALTER statement. Columns can only be added by re-defining the table with a structured type that includes the new column as an attribute. Similarly, the data type of a column can only be changed by re-defining the table with a type that includes the column with a different data type.

sqlcode: -20020

sqlstate: 428DH

SQL20021N Inherited column or attribute *name* cannot be changed or dropped.

Explanation: The value of *name* identifies either a column name or an attribute name (depending on the statement context) that is inherited from a typed table, typed view, or structured type above it in the table, view, or type hierarchy.

- In the CREATE TABLE statement, the WITH OPTIONS clause cannot be specified for column *name* in the CREATE TABLE statement because it is inherited from a supertable in the table hierarchy.
- In the ALTER TABLE statement, the SET SCOPE clause or COMPRESS clause cannot be specified for column *name* because it is inherited from a supertable in the table hierarchy.
- In the CREATE VIEW statement, the WITH OPTIONS clause cannot be specified for column *name* in the CREATE VIEW statement because it is inherited from a superview in the view hierarchy.
- In the ALTER TYPE statement, the DROP ATTRIBUTE clause cannot be specified for attribute *name* because it is inherited from a supertype in the type hierarchy.

The statement cannot be processed.

User response: The options for a column may only be set or altered for the table or view in the typed table hierarchy or typed view hierarchy where the column is introduced. An attribute can only be dropped from the

data type in the type hierarchy where the attribute was introduced.

sqlcode: -20021

sqlstate: 428DJ

SQL20022N The scope for the reference column *column-name* is already defined.

Explanation: The scope for the reference column *column-name* cannot be added because it is already defined.

The statement cannot be processed.

User response: Remove the ADD SCOPE clause from the ALTER TABLE statement.

sqlcode: -20022

sqlstate: 428DK

SQL20023N Parameter *parm-number* of the external or sourced function has a scope defined.

Explanation: A reference type parameter should not have a scope defined when used with external or sourced user defined functions.

The statement cannot be processed.

User response: Remove the SCOPE specification from the definition of the parameter.

sqlcode: -20023

sqlstate: 428DL

SQL20024N The scope table or view *target-name* is not defined with structured type *type-name*.

Explanation: The scope table or view *target-name* is not valid for use as the scope of this reference because it is:

- not a typed table or
- not a typed view or
- the type of the table or view is not the same as the target type of the REF type.

The statement cannot be processed.

User response: Specify the scope of the reference using a typed table or typed view with the same type as the target type of the REF type.

sqlcode: -20024

sqlstate: 428DM

SQL20025N SCOPE is not specified in the RETURNS clause of an external function or is specified in the RETURNS clause of a sourced function.

Explanation: There are two possible causes:

- A reference type must have a scope defined when used as the result of a user-defined external function.
- A reference type cannot have a scope defined when used as the result of an user-defined sourced function. The function will use the scope of the source function.

The statement cannot be processed.

User response: When defining an external function with a reference type as a returns type, ensure that the SCOPE clause is specified. When defining SOURCED function with a reference type as a returns type, ensure that the SCOPE clause is not specified.

sqlcode: -20025

sqlstate: 428DN

SQL20026N The type *type-name* is not a structured type or is not an instantiable structured type.

Explanation: The statement requires a structured type that can be instantiated. The type *type-name* is either:

- not a structured type; or
- a structured type that is defined as not instantiable.

The statement cannot be processed.

User response: Verify that the correct type name is used in the statement.

sqlcode: -20026

sqlstate: 428DP

SQL20027N The subtable or subview *sub-object-name* was not created because subtable or subview *object-name* with type *type-name* already exists.

Explanation: Within a typed table or view hierarchy, only one subtable or subview may exist of a particular subtype. The table or view *sub-object-name* cannot be created since there is already a table or view of type *type-name* defined. The table or view that already exists is *object-name*.

The statement cannot be processed.

User response: Verify that the subtable or subview is being created with the correct type and that the subtable is being created under the correct supertable or the subview is being created under the correct superview.

sqlcode: -20027

sqlstate: 42742

SQL20028N The table or view *table-name* cannot have a different schema name from the other tables or views in the same hierarchy.

Explanation: All tables in a typed table hierarchy must have the same schema name and all views in a typed view hierarchy must have the same schema name.

The statement cannot be processed.

User response: Verify that the schema name of the table or view is correct. If a hierarchy name is specified, verify that its schema name matches the schema name of the root table or view. If a subtable is being created, verify that it is being created under the correct supertable. If a subview is being created, verify that it is being created under the correct superview.

sqlcode: -20028

sqlstate: 428DQ

SQL20029N *operation* cannot be applied to a subtable or subview.

Explanation: The operation *operation* was applied to a table or view that is not the root of a table hierarchy or view hierarchy.

The statement cannot be processed.

User response: Specify the root table of the table hierarchy or root view of the view hierarchy in the operation.

sqlcode: -20029

sqlstate: 428DR

SQL20030N Attributes of a structured type *type-name* cannot be added or dropped when a typed table, typed view, or index extension *object-name* is dependent on the type.

Explanation: The attributes of a structured type cannot be added or dropped if a typed table or typed view of the structured type or any of its subtypes currently exists. Attributes of a structured type also cannot be added or dropped when a column exists in the table that directly or indirectly uses *type-name*. Also, attributes of a structured type cannot be added or dropped when the type *type-name* or one of its subtypes is used in an index extension. The table, view, or index extension *object-name* is one table, view, or index extension that is dependent on the structured type *type-name*. There may be other tables, views, or index extensions that are dependent on the type or one of its proper subtypes.

The statement cannot be processed.

User response: Verify that the right type is being altered or drop any tables, views, and index extensions that are dependent on the structured type *type-name*.

sqlcode: -20030

sqlstate: 55043

SQL20031N Object may not be defined on a subtable.

Explanation: Primary key and unique constraints can only be defined on the root table of a typed table hierarchy. Similarly, unique indexes can only be defined on the root table of a typed table hierarchy.

The statement cannot be processed.

User response: Unique indexes, Primary key or unique constraints can only be defined on the root table of a table hierarchy.

sqlcode: -20031

sqlstate: 429B3

SQL20032N Index on the specified columns cannot be defined on subtable *table-name*.

Explanation: The columns specified for the index were all introduced at a higher level in the typed table hierarchy than subtable *table-name*. Therefore, the index cannot be created on this subtable.

The statement cannot be processed.

User response: Determine the table in the table hierarchy where all of the columns are included for the first time. Use this as the table name when creating the index.

sqlcode: -20032

sqlstate: 428DS

SQL20033N An expression including *partial-expression* does not include a valid scoped reference.

Explanation: The expression that includes *partial-expression* requires an operand that is reference type with a scope defined. If the expression includes the Deref function, the argument of the function must be a reference type with a scope defined.

For the dereference operator (->), the left operand needs to be a reference type with a scope defined.

The statement cannot be processed.

User response: Correct the SQL statement syntax so the operand or argument is a reference type with a scope defined.

sqlcode: -20033

sqlstate: 428DT

SQL20034N The data type *list-type-name* is not included in a structured data type hierarchy that includes the data type *left-type-name* of the left operand of the TYPE predicate.

Explanation: All the data types listed in the TYPE predicate must be included in a data type hierarchy that includes the data type of the left operand of the TYPE predicate. The data type *left-type-name* is not a structured data type (not part of any type hierarchy) or the data type *list-type-name* is not included in the data type hierarchy that includes *left-type-name*.

The statement cannot be processed.

User response: Ensure that the data type of the expression and all listed data types in the TYPE predicate are structured data types within the same data type hierarchy. If *left-type-name* is SYSIBM.REFERENCE, use Deref to make the result data type of the expression a structured data type.

sqlcode: -20034

sqlstate: 428DU

SQL20035N Invalid left operand of a dereference operator. Path expression starts with *expression-string*.

Explanation: The left operand of the dereference operator in a path expression is not valid. Possible causes are:

- The left operand includes a column function that uses a column function as an argument.
- The left operand expression includes a column function and a reference to a column that is not in the GROUP BY clause.

User response: Correct the left operand of the dereference operator for the path expression that starts with *expression-string*.

sqlcode: -20035

sqlstate: 428DV

SQL20036N The object identifier column *column-name* cannot be referenced using the dereference operator.

Explanation: The dereference operator is used with *column-name* as the right operand. This column is the object identifier column of the target table of the dereference and is not valid for this operator.

The statement cannot be processed.

User response: Correct the name of the column in the dereference operation.

sqlcode: -20036

sqlstate: 428DW

SQL20037N Object identifier column is required to create the root table or root view *object-name* of a typed table or view hierarchy.

Explanation: When creating the root table of a typed table hierarchy, an object identifier (OID) column must be defined (using the REF IS clause) on the CREATE TABLE statement.

When creating the root view of a typed view hierarchy, an object identifier (OID) column must be defined (using the REF IS clause) on the CREATE VIEW statement.

The statement cannot be processed.

User response: Add the required OID column (REF IS clause) to the CREATE TABLE or CREATE VIEW statement.

sqlcode: -20037

sqlstate: 428DX

SQL20038N The *keywords* clause cannot be specified with the EXTEND USING clause.

Explanation: The EXTEND USING clause in the CREATE INDEX statement cannot be specified with the *keywords* clause.

The statement cannot be processed.

User response: Remove the specification of *keywords* clause or the EXTEND USING clause from the CREATE INDEX statement.

sqlcode: -20038

sqlstate: 42613

SQL20039N The definition of index *index-name* does not match the definition of index extension *index-ext-name*.

Explanation: The index definition and the index extension definition do not match. The following lists the possibilities for where the definitions do not match.

- The number of arguments following the index extension name in the EXTEND USING clause is not the same as the number of instance parameters of the index extension.
- The data types of the arguments following the index extension name in the EXTEND USING clause do not match exactly (including length or precision and scale) the data types of the corresponding instance parameters of the index extension.
- The number of columns specified for the index is not same as the number of source key parameters of the index extension.
- The data types of the index columns do not match exactly (including length or precision and scale) the data types of the corresponding source key

parameters of the index extension. There is an exception to exact matching of data types for the case of subtypes. The column of the index may be a subtype of the data type specified as the corresponding source key parameter.

The statement cannot be processed.

User response: Change the index definition so that the index extension matches.

sqlcode: -20039

sqlstate: 428E0

SQL20040N Number or type of the result of the range-producing table function *range-function-name*, is inconsistent with that of key transformation table function *transform-function-name* for index extension *index-ext-name*.

Explanation: The range-producing function must:

- return up to twice as many columns as returned by the key transformation function
- have an even number of columns (the first half of the return columns are the start key values and the second half of the return columns are the stop key values)
- have the each start key column with the same type as the corresponding stop key column
- have the type of each start key column be the same as the corresponding transformation function column.

More precisely, let $a_1:t_{1'}, \dots, a_n:t_n$ be the function result columns and data types of the key transformation function. The function result columns of the range-producing function must be $b_1:t_{1'}, \dots, b_m:t_{m'}, c_1:t_{1'}, \dots, c_m:t_{m'}$, where $m \leq n$ and the "b" columns are the start key columns and the "c" columns are the stop key columns.

The statement cannot be processed.

User response: Specify a range-producing table function that is consistent with the key transformation table function.

sqlcode: -20040

sqlstate: 428E1

SQL20041N Number or the type of target key parameters does not match with the number or type of key transform function *function-name* for index extension *index-ext-name*.

Explanation: The number of target key parameters has to match with the number of results returned by the key transform function. In addition, the type of the

target key parameters must exactly match the corresponding function result types.

The statement cannot be processed.

User response: Specify the correct number and type of parameters as the target key parameters.

sqlcode: -20041

sqlstate: 428E2

SQL20042N The maximum allowable *parm-type* parameters is exceeded in index extension *index-ext-name*. The maximum is *max-value*.

Explanation: Too many parameters were specified. If *parm-type* is INDEX EXTENSION, then up to *max-value* instance parameters may be specified. If *parm-type* is INDEX KEYS, then up to *max-value* key source parameters may be specified.

The statement cannot be processed.

User response: Specify no more than the maximum number of parameters.

sqlcode: -20042

sqlstate: 54046

SQL20043N Argument for routine *routine-name* is not valid. Reason code = *reason-code*.

Explanation: The routine *routine-name* could be the transformation function, the range-producing function, or a routine (function or method) referenced in the FILTER USING clause. The reason code indicates why an argument is not valid:

- 1 For a key transformation function, the argument is not an observer method or an index extension instance parameter.
- 2 The expression used as the argument uses a routine that specifies LANGUAGE SQL.
- 3 The expression used as the argument is a subquery.
- 4 The data type of an expression used as the argument cannot be a structured type.
- 5 The argument of a key transformation function cannot have a data type of structured data type, LOB, DATALINK, XML, LONG VARCHAR, or LONG VARGRAPHIC.
- 6 The expression used as an argument contains an XMLQUERY or XMLEXISTS expression.

The statement cannot be processed.

User response: Specify a valid argument for the function.

sqlcode: -20043

sqlstate: 428E3

SQL20044N The routine *routine-name* or the CASE expression is not valid in a CREATE INDEX EXTENSION or CREATE FUNCTION statement. Reason code = *reason-code*.

Explanation: A routine (function or method) *routine-name* used in the CREATE INDEX EXTENSION or CREATE FUNCTION statement is not valid where it is used. If *routine-name* is empty, then the CASE expression used for filtering is not valid. The reason code indicates the reason.

- 1 The key transformation function is not a table function.
- 2 The key transformation function is not an external function.
- 3 The key transformation function is a variant function.
- 4 The key transformation function is an external action function.
- 5 The range-producing function is not a table function.
- 6 The range-producing function is not an external function.
- 7 The range-producing function is a variant function.
- 8 The range-producing function is an external action function.
- 9 The index-filter function is not an external function.
- 10 The index-filter function is a variant function.
- 11 The index-filter function is an external action function.
- 12 The result type of a filter function or CASE expression is not an integer data type.
- 13 A subquery is used in a CASE expression or as an argument of a filter function.
- 14 The key transformation function does not have the same encoding scheme as the database.
- 15 The range-producing function does not have the same encoding scheme as the database.
- 16 The index-filter function does not have the same encoding scheme as the database.
- 17 The filter function is not an external function.
- 20 An XMLQUERY or XMLEXISTS is used in a CASE expression or as an argument of a filter function.

The statement cannot be processed.

User response: If *routine-name* is not empty, specify a routine that conforms to the rules for a function or method specified in the specific clause of the CREATE INDEX EXTENSION or CREATE FUNCTION statement. Otherwise, specify a CASE expression that conforms to the rules for a CASE expression in the FILTER USING clause.

sqlcode: -20044

sqlstate: 428E4

SQL20045N The data type of instance parameter *parameter-name* is invalid in index extension *index-ext-name*.

Explanation: An instance parameter must be one of the following data types: VARCHAR, VARGRAPHIC, INTEGER, DECIMAL, or DOUBLE.

The statement cannot be processed.

User response: Specify a valid data type for the instance parameter *parameter-name*.

sqlcode: -20045

sqlstate: 429B5

SQL20046N SELECTIVITY clause following *predicate-string* can only be specified for a valid user-defined predicate.

Explanation: The SELECTIVITY clause is specified with a predicate that does not include a valid user-defined function. A valid user-defined function includes a PREDICATES clause with a WHEN clause that matches the predicate. The SELECTIVITY clause cannot be specified except with a user-defined predicate.

The statement cannot be processed.

User response: Remove the SELECTIVITY clause following the predicate.

sqlcode: -20046

sqlstate: 428E5

SQL20047N The search method *method-name* is not found in the index extension *index-ext-name*.

Explanation: The method *method-name* referenced in an exploitation rule of the user-defined predicate has to match one of the search methods specified in the index extension *index-ext-name*.

The statement cannot be processed.

User response: Specify a method defined in the index extension.

sqlcode: -20047

sqlstate: 42743

SQL20048N The search argument of method *method-name* does not match the one in the corresponding search method in the index extension *index-ext-name*.

Explanation: The search argument provided for method *method-name* does not match the argument of the corresponding search method in the index extension *index-ext-name*. Either the number of arguments or the type of the arguments do not match the defined number or type of the parameters.

The statement cannot be processed.

User response: Specify a search argument that matches the parameters defined in the index extension.

sqlcode: -20048

sqlstate: 428E6

SQL20049N Type of an operand following the comparison operator in the AS PREDICATE WHEN clause does not exactly match the RETURNS type.

Explanation: The definition of the user-defined predicate is not valid. In the AS PREDICATE WHEN clause, the type of the operand following the the comparison operator is not an exact match with the RETURNS type of the function.

The statement cannot be processed.

User response: Specify an the operand with the correct data type.

sqlcode: -20049

sqlstate: 428E7

SQL20050N The search target or search argument *parameter-name* does not match a name in the function being created.

Explanation: Each search target in an index exploitation rule has to match some parameter name of the function that is being created. Each search argument in an index exploitation rule must match either an expression name in the EXPRESSION AS clause or a parameter name of the function being created. Parameter names must be specified in the parameter list for the function.

The statement cannot be processed.

User response: Specify only valid names of the function in the search target or search argument.

sqlcode: -20050

sqlstate: 428E8

SQL20051N The argument *parameter-name* cannot appear as both a search target and a search argument in the same exploitation rule.

Explanation: In the exploitation clause, a function parameter cannot be specified as an argument following KEY and as an argument of the method specified following the USE keyword.

The statement cannot be processed.

User response: Specify a parameter name of the function in no more than on of the search target or the search argument.

sqlcode: -20051

sqlstate: 428E9

SQL20052N Column *column-name* is an object identifier column which cannot be updated.

Explanation: The UPDATE statement includes setting a column that is an object identifier (OID) column. An OID column cannot be updated.

The statement cannot be processed.

User response: Remove the SET of *column-name* from the UPDATE statement.

sqlcode: -20052

sqlstate: 428DZ

SQL20053N Fullselect in typed view *view-name* is not valid. Reason code = *reason-code*.

Explanation: The fullselect specified in the definition of typed view *view-name* does not conform to the rules for the fullselect of a typed view. Possible reason codes follow.

- 1 A subview definition contains a common table expression, OR a branch in a subview definition does not range over a single table, view, nickname or an alias.
- 2 The row-set of a branch over a table-hierarchy cannot be proven by the database manager to be distinct from the row-set of all branches over the same table-hierarchy in the rest of the typed view hierarchy.
- 3 The first expression of a branch over a hierarchy in the root view is:
 - not the object identifier column of the typed table or typed view referenced in the FROM clause and the UNCHECKED option in the REF IS clause is not used OR
 - if the table in the FROM clause is not typed, the column is nullable or does not have a

unique index defined on only that column and the UNCHECKED option in the REF IS clause is not used OR

- not identical to the expression in the branch over the same hierarchy in the subview.

- 4 A table or view over which a branch of a subview ranges is not a subtable or subview of the table or view referenced in any branch of the superview and either the subview uses EXTEND AS or the root view does not have the UNCHECKED option in the REF IS clause turned on.
- 5 The fullselect includes references to the NODENUMBER or PARTITION functions, non-deterministic functions, or functions defined to have external action.
- 6 A branch in a subview cannot range over an OUTER table or view if any branch in its superview ranges over a table or view in the same hierarchy without using OUTER.
- 7 A subview ranges over a view in its own view hierarchy.
- 8 A subview uses a set operation other than UNION ALL in its definition OR UNION ALL is used in the definition without specifying the UNCHECKED option in the REF IS clause of the root view.
- 9 A subview contains two branches of a UNION ALL that range over the same table hierarchy or view hierarchy.
- 10 The subview definition contains a GROUP BY or HAVING clause.

User response: Change the fullselect of the view definition based on the *reason-code*.

- 1 Use only one table or view in the FROM clause. Encapsulate complex selects into views that the typed view can range over using the UNCHECKED option of the root view's REF IS clause.
- 2 Specify a different table or view in the FROM clause of each branch that is not the same as one already used in the view hierarchy or use a predicates that clearly define the row-set for each branch as distinct compared to the row-sets for other branches in the typed view hierarchy.
- 3 Ensure that the first column of the root view conforms to the rules to be a valid object identifier column for the typed view. Consider using the UNCHECKED option in the ref is clause.
- 4 Specify a subtable or subview of the table or view specified in the FROM clause of a branch of the superview. Or use the UNCHECKED

option in the root view definition in conjunction with the AS (without EXTEND) clause in the subview definition.

- 5 Remove the reference to the function from the fullselect.
- 6 If this is the first subview to use OUTER in a branch over this hierarchy, change the FROM clause so that OUTER is not used. If the superview uses OUTER, include OUTER in the FROM clause of the subview.
- 7 Do not source a subview on other views in the same hierarchy.
- 8 If UNION ALL was used, use the UNCHECKED option in the REF IS clause of the rootview to allow multiple branches in the subview definition. For other set operations encapsulate the set operation into a view and use the UNCHECKED option in the subview to allow sourcing on common views.
- 9 Unify the branches to a select over their common supertable or superview and use predicates (e.g. the type predicate) to filter for the desired rows.
- 10 Encapsulate the GROUP BY and HAVING clause into a view and use the UNCHECKED option in the root view to allow sourcing on common views.

sqlcode: -20053

sqlstate: 428EA

SQL20054N The table *table-name* is in an invalid state for the operation. Reason code = *reason-code*.

Explanation: The table is in a state that does not allow the operation. The reason code indicates the state of the table that prevents the operation.

- 21 The table is in Datalink Reconcile Pending (DRP) state or Datalink Reconcile Not Possible (DRNP) state.
- 22 The generated column expression cannot be added or altered because the table is not in check pending mode.
- 23 The maximum number of REORG-recommended alters have been performed. Up to three REORG-recommended operations are allowed on a table before a reorg must be performed, to update the tables rows to match the current schema.
- 24 Alter table add LOB or LONG column is not allowed in the same unit of work as an alter table drop column of the last LOB or LONG column in the table.

- 25 The table is in check pending state.
- 26 Executing the ALTER TABLE ... ATTACH PARTITION or the ALTER TABLE ... DETACH PARTITION statement on a table whose database partition group is currently being redistributed is not allowed.
- 27 The alter table or copy schema operation called an internal procedure to manage database objects. The SYSTOOLS.DB2LOOK_INFO table used by the procedure is not in a valid state for the alter or copy operation. The SYSTOOLS.DB2LOOK_INFO table could be an older version, or totally different from what the procedure expects.

The statement cannot be processed.

User response: The action is based on the reason code as follows.

- 21 Refer to the Administration Guide for information on Datalink Reconcile Pending (DRP) and Datalink Reconcile Not Possible (DRNP) states to take appropriate action.
- 22 Use SET INTEGRITY FOR <table-name> OFF before altering the table. Then alter the table and use SET INTEGRITY FOR <table-name> IMMEDIATE CHECKED FORCE GENERATED to generate the values for the new or altered column.
- 23 Reorg the table using the reorg table command.
- 24 Complete the unit of work that dropped the last LOB or LONG column, and re-issue the command.
- 25 The table must be taken out of check pending state via 'set integrity' before the alter can be performed.
- 26 Wait for the REDISTRIBUTE DATABASE PARTITION GROUP command to complete and then reissue the ALTER TABLE statement.
- 27 Either rename or drop the SYSTOOLS.DB2LOOK_INFO table. The internal procedure will create the correct version of the SYSTOOLS.DB2LOOK_INFO table. Resubmit the alter table or copy schema operation.

sqlcode: -20054

sqlstate: 55019

SQL20055N A result column data type in the select list is not compatible with the defined data type for column *column-name*.

Explanation: The data type of the select list expression corresponding to *column-name* is incompatible with the data type for the attribute of the structured type. Both must be:

- Numeric
- Character
- Graphic
- Dates or character
- Times or character
- Timestamps or character
- Datalinks
- the same distinct types
- reference types where the target type of the select list expression is a subtype of the target type of the attribute.

The statement cannot be processed.

User response: Examine the current definition for the table and the associated structured type. Ensure the select list expression data type for the specified column is a compatible type.

sqlcode: -20055

sqlstate: 42854

SQL20056N Processing on DB2 Data Links Manager *name* encountered an error. Reason code = *reason-code*.

Explanation: The processing on the DB2 Data Links Manager for the statement encountered an error as indicated by the following reason codes.

- 01 An inconsistency was detected between the data on the DB2 Data Links Manager and a DATALINK value in a table.
- 02 The DB2 Data Links Manager reached a resource limit during the processing.
- 03 The DB2 Data Links Manager does not support file pathnames longer than 128 characters.
- 99 The DB2 Data Links Manager encountered an internal processing error.

The statement cannot be processed.

User response: The action is based on the reason code as follows.

- 01 Run the reconcile utility on the table.
- 02 The DB2 Data Links Manager administrator should identify the resource from the diagnostic logs and take corrective action.

03 You should ensure that the file pathname (excluding the file system prefix) to be stored in the DATALINK column does not exceed 128 characters. For example, in the URL "http://server.com/dlfiles/dir1/.../file1" -- assuming the DLFS file system prefix is "/dlfiles" -- the file pathname "/dir1/.../file1" must not exceed 128 characters.

99 Save the diagnostic logs from the DB2 Data Links Manager and the database manager and contact IBM service.

sqlcode: -20056

sqlstate: 58004

SQL20057N Column *column-name* in subview *view-name* cannot be defined as read only when the corresponding column is updatable in the superview.

Explanation: The column identified by *column-name* in the subview *view-name* is defined (implicitly) as read only. The superview of *view-name* includes the corresponding column that is updatable. A column cannot be changed from updatable to read only in a typed view hierarchy.

The statement cannot be processed.

User response: Change the CREATE VIEW statement so that the column of the subview *view-name* is updatable or drop the superview(s) and recreate them using the READ ONLY clause to force the column to be read only.

sqlcode: -20057

sqlstate: 428EB

SQL20058N The fullselect specified for the materialized query table *table-name* is not valid. Reason code = *reason-code*.

Explanation: The materialized query table definition has specific rules regarding the contents of the fullselect. Some rules are based on the materialized query table options (REFRESH DEFERRED or REFRESH IMMEDIATE) while others are based on whether or not the table is replicated. The fullselect in the CREATE TABLE statement that returned this condition violates at least one of the rules as described in the SQL Reference.

This error may occur during the creation of a staging table. In such a case, the error applies to the query used in the definition of the materialized query table with which the staging table is associated.

The statement cannot be processed because it violates a restriction as indicated by the following reason code:

1 Every select list element must have a name.

2 The fullselect must not reference any of the following object types:

- materialized query table
- staging table
- declared global temporary table
- typed table
- system catalog table
- view that violates any of the materialized query table restrictions
- A protected table
- A nickname that was created using the DISALLOW CACHING clause in the CREATE NICKNAME or ALTER NICKNAME statement
- A view that depends, either directly or indirectly, on a protected table

3 The fullselect must not contain any column references or expressions of the following data types:

- LOB, LONG, DATALINK, XML, reference, user defined structured type or any distinct type based on these data types

4 The fullselect must not contain references to functions that:

- depend on physical characteristics of the data, for example DBPARTITIONNUM, HASHEDVALUE
- are defined as EXTERNAL ACTION
- are defined as LANGUAGE SQL, CONTAINS SQL, READS SQL DATA or MODIFIES SQL DATA

5 When REPLICATED is specified, the following restrictions apply:

- aggregate functions and the GROUP BY clause are not allowed
- the materialized query table must only reference a single table; that is, it cannot include a join, union or subquery
- the PARTITIONING KEY clause cannot be specified

6 When REFRESH IMMEDIATE is specified, the fullselect must not contain:

- a reference to a nickname
- SELECT DISTINCT
- a reference to a special register
- functions that are not deterministic
- OLAP functions, sampling functions, and text functions
- any expressions using the result of aggregate functions
- an aggregate function without the fullselect also containing a GROUP BY clause

- a recursive common table expression
 - subqueries
- 7 When REFRESH IMMEDIATE is specified:
- the materialized query table must not contain duplicate rows
 - when a GROUP BY clause is specified, all GROUP BY items must be included in the select list
 - when a GROUP BY clause is specified which contains GROUPING SETS, CUBE, or ROLLUP, then no grouping sets can be repeated, and if C is a nullable GROUP BY item that appears within GROUPING SETS, CUBE, or ROLLUP, then GROUPING(C) must appear in the select list
 - when no GROUP BY clause is present, then the underlying tables must each have at least one unique key defined, and all columns of these keys must appear in the select list of the materialized query table definition
- 8 When REFRESH IMMEDIATE is specified, the following restrictions apply when the fullselect contains a GROUP BY clause:
- the select list must contain COUNT(*) or COUNT_BIG(*)
 - for each nullable column, C, if the select list contains SUM(C), then COUNT(C) is also required
 - at least one of the following aggregate functions, and no other aggregate function, must appear: SUM(), COUNT(), COUNT_BIG() or GROUPING()
 - the HAVING clause must not be specified
 - in a partitioned database environment, the GROUP BY columns must contain the partitioning key of the materialized query table
 - nesting of aggregate functions is not allowed
- 9 When REFRESH IMMEDIATE is specified, the fullselect must be a subselect, with the exception that UNION ALL is supported in the input table expression of a GROUP BY.
- 10 When REFRESH IMMEDIATE is specified and the FROM clause references more than one table, only an inner join, without using the explicit INNER JOIN syntax, is supported.
- 11 When REFRESH IMMEDIATE is specified, then the input table expressions of a UNION ALL or a JOIN must not contain aggregate functions.
- 12 The incremental maintenance of this materialized query table requires a system temporary table with a row width or number

of columns that exceeds the limit that can be accommodated by the largest system temporary table space currently available in the database.

User response: Change the fullselect in the CREATE TABLE statement so that it conforms to the rules based on the materialized query table options and whether or not the materialized query table is replicated.

The action corresponding to the reason code is:

- 1 Correct the CREATE TABLE statement to ensure that all elements have a name (you can use the AS clause to name expressions, or explicitly name all the columns in the column list of the materialized query table definition).
- 2 Correct the CREATE TABLE statement to ensure that no unsupported objects are referenced.
- 3 Correct the CREATE TABLE statement to ensure that no unsupported column or expression types are referenced.
- 4 Correct the CREATE TABLE statement to ensure that no unsupported functions are referenced.
- 5 Create the materialized query table as not replicated, or correct CREATE TABLE statement to ensure that the query refers to a single table and does not contain subqueries, aggregation, or the PARTITIONING clause.
- 6 Create the materialized query table as REFRESH DEFERRED, or
 - remove nickname references
 - remove DISTINCT
 - remove special registers
 - remove the not deterministic function or replace it with a deterministic function
 - remove all OLAP, sampling and text functions
 - remove the aggregate function from the expression or change the expression to be a simple reference to the aggregate function
 - remove the aggregate functions or add a GROUP BY clause
 - correct the CREATE TABLE statement to ensure that no recursive common table expression is referenced
 - remove the subquery
- 7 Create the materialized query table as REFRESH DEFERRED, or
 - correct the CREATE TABLE statement to ensure all GROUP BY items are in the select list
 - correct the GROUP BY clause to ensure there are no duplicate grouping sets

- remove the nullable column, C, or add GROUPING(C) in the select list
- correct the CREATE TABLE statement to ensure at least one unique key from each table referenced in the query appears in the select list

- 8 Create the materialized query table as REFRESH DEFERRED, or
- add COUNT(*) or COUNT_BIG(*) to the select list or remove the GROUP BY clause
 - add COUNT(*) to the select list or remove SUM(C), or alter the column C to be not nullable
 - remove unsupported aggregate functions or replace them with supported functions
 - remove the HAVING clause
 - correct the CREATE TABLE statement to ensure that the GROUP BY clause contains all of the partitioning key columns
- 9 Create the materialized query table as REFRESH DEFERRED, or change the table definition to a subselect or to a UNION ALL in the input table expression of a GROUP BY.
- 10 Create the materialized query table as REFRESH DEFERRED, or use an inner join without the explicit INNER JOIN syntax.
- 11 Create the materialized query table as REFRESH DEFERRED, or remove the aggregate functions from the input table of the UNION ALL or JOIN.
- 12 Create the materialized query table as REFRESH DEFERRED, or reduce the total row width, or number of columns, or create a system temporary table space with suitable page size.

sqlcode: -20058

sqlstate: 428EC

SQL20059W The materialized query table *table-name* may not be used to optimize the processing of queries.

Explanation: The materialized query table is defined with REFRESH DEFERRED and a fullselect that is currently not supported by the database manager when optimizing the processing of queries. The rules are based on the materialized query table options (REFRESH DEFERRED or REFRESH IMMEDIATE). The fullselect in the CREATE TABLE statement that returned this condition violates at least one of the rules as described in the SQL Reference.

The materialized query table is successfully created.

User response: No action is required. If the

materialized query table was intended for use as a summary table to optimize the processing of queries, redefine the fullselect to ensure that it is a subselect that includes a GROUP BY clause.

sqlcode: +20059

sqlstate: 01633

SQL20060N The key transform table function used by the index extension of index *index-id* of table *table-id* in *tblspace-id* generated duplicate rows.

Explanation: The key transform table function specified by the GENERATE USING clause of the index extension used by index *index-id* generated duplicate rows. For a given invocation of the key transform table function, no duplicate rows should be produced. This error is occurred when inserting or updating the key value for the index *index-id* of table *table-id* in table space *tblspace-id*.

The statement cannot be processed.

User response: The code for the key transform table function used by the index extension of index *index-id* must be modified to avoid the creation of duplicate rows.

To determine the index name, use the following query:

```
SELECT IID, INDSHEMA, INDNAME
FROM SYSCAT.INDEXES AS I,
     SYSCAT.TABLES AS T
WHERE IID = <index-id>
      AND TABLEID = <table-id>
      AND TBSPACEID = <tblspace-id>
      AND T.TBASCHHEMA = I.TBASCHHEMA
      AND T.TABNAME = I.TABNAME
```

sqlcode: -20060

sqlstate: 22526

SQL20062N Transform function *transform-type* in transform group *group-name* for type *type-name* cannot be used for a function or method.

Explanation: The transform function defined in the transform group *group-name* for type *type-name* cannot be used for a function or method because the transform function is not written in SQL (defined with LANGUAGE SQL). The transform group cannot be used for this function or method.

The statement cannot be processed.

User response: Specify a transform group for type *type-name* that has the transform functions defined with LANGUAGE SQL.

sqlcode: -20062

sqlstate: 428EL

SQL20063N TRANSFORM GROUP clause must be specified for type *type-name*.

Explanation: The function or method includes a parameter or returns data type of *type-name* that does not have a transform group specified.

The statement cannot be processed.

User response: Specify a TRANSFORM GROUP clause with a transform group name that is defined for *type-name*.

sqlcode: -20063

sqlstate: 428EM

SQL20064N Transform group *group-name* does not support any data type specified as a parameter or returned data type.

Explanation: The transform group *group-name* specified in the TRANSFORM GROUP clause is not defined for any data type that is included in the parameter list or the RETURNS clause of a function or method.

The statement cannot be processed.

User response: Remove the transform group from the function or method definition.

sqlcode: -20064

sqlstate: 428EN

SQL20065N Transform group *group-name* for data type *type-name* cannot be used to transform a structured type for use with a client application.

Explanation: The transform group *group-name* for data type *type-name* defines a transform function that cannot be used when performing transforms for client applications. The possible reasons for this are based on the definition of the transform function that is not supported for client applications. The unsupported transform function may be:

- a FROM SQL function that is a ROW function
- a TO SQL function has more than one parameter

The statement cannot be processed.

User response: For static embedded SQL, specify a different transform group using the TRANSFORM GROUP bind option. For dynamic SQL, specify a different transform group using the SET DEFAULT TRANSFORM GROUP statement.

sqlcode: -20065

SQL20066N The *transform-type* transform function is not defined in the transform group *group-name* for data type *type-name*.

Explanation: The *transform-type* transform function of transform group *group-name* for data type *type-name* is required for a transform group used in a function or method definition.

The statement cannot be processed.

User response: If creating a function or method, specify a different transform group in the function or method definition. If referencing a structured type in a dynamic SQL statement, specify a different transform group for the CURRENT DEFAULT TRANSFORM GROUP special register. Alternatively, add a *transform-type* transform function to the transform group *group-name* for data type *type-name*.

sqlcode: -20066

sqlstate: 42744

SQL20067N The *transform-type* transform function is defined more than once in the transform group *group-name* for data type *type-name*.

Explanation: A TO SQL or FROM SQL transform function can only be specified once in a transform group. The transform group *group-name* for data type *type-name* has at least two FROM SQL or TO SQL (or both) transform functions defined.

The statement cannot be processed.

User response: Delete the TO SQL or FROM SQL definitions from *group-name* in the transform definition so that there is only one of each.

sqlcode: -20067

sqlstate: 42628

SQL20068N The structured type *type-name* may not be defined so that one of its attribute types directly or indirectly uses itself. The attribute *attribute-name* causes the direct or indirect use.

Explanation: Direct use: Type A is said to directly use type B if one of the following is true:

- Type A has an attribute of type B
- Type B is a subtype of A, or a supertype of A.

Indirect use: Type A is said to indirectly use type B if the following is true:

- Type A uses type C, and type C uses type B.

You cannot define a type so that one of its attribute types directly or indirectly uses itself. The type for attribute *attribute-name* is the cause of the direct or indirect use.

User response: Evaluate the type and remove the attribute type that causes the direct or indirect use.

sqlcode: -20068

sqlstate: 428EP

SQL20069N The RETURNS type of the *routine-type* *routine-name* is not the same as the subject type.

Explanation: The method *method-name* specifies SELF AS RESULT. The RETURNS data type of the method must be the same as the subject data type of the method.

User response: Change the RETURNS type of the method *method-name* to match the subject type.

sqlcode: -20069

sqlstate: 428EQ

SQL20075N The index or index extension *index-name* cannot be created or altered because the length of *column-name* is more than 255 bytes.

Explanation: The index could not be created or altered because the key column length is greater than 255.

- *index-name* is the index name.
- *column-name* is the name of the key column. If this error was returned from an ALTER TABLE or ALTER NICKNAME operation, then the value of *column-name* is the column number.

The index extension could not be created because a column returned by the GENERATE KEY function is greater than 255 bytes.

- *index-name* is the index extension name.
- *column-name* is the name of a column returned by the GENERATE KEY function.

The statement could not be processed. The specified index or index extension was not created, or the table or nickname could not be altered.

User response: If creating an index, eliminate the column from the index definition. If altering a table, reduce the new column length to the permitted maximum. If creating an index extension, specify a different GENERATE KEY function, or redefine the function to eliminate the column.

sqlcode: -20075

sqlstate: 54008

SQL20076N The instance for the database is not enabled for the specified action or operation. Reason code = *reason-code*.

Explanation: An error has been detected at the instance level. The requested operation cannot be completed because a specified functional area was not installed or because a specified functional area was not enabled to the instance.

The following is the list of reason codes and associated functional areas you can enable at the instance level:

1. The ability to execute distributed request operations against multiple data sources in a single statement.

User response: Enable the instance for the requested action or operation. First, install the specified functional area if it is missing. Then, enable the specified functional area. Enablement steps vary by *reason-code*:

1. For a federated server, set the DBM variable <FEDERATED> to YES and then restart the database manager.

sqlcode: -20076

sqlstate: 0A502

SQL20077N Cannot construct structured type objects that have Datalink type attributes.

Explanation: An attempt was made to invoke the constructor of a structured type which has a Datalink and/or a Reference type attribute. This functionality is currently not supported. In Version 6.1 or earlier, this error may also be issued for a structured type object with a Reference type attribute.

The statement cannot be processed.

User response: The error can be corrected by doing one of the following:

1. Removing the invocation of the constructor of the type from the program.
2. Removing any Datalink (or Reference) type attributes from the definition of the structured type (this may not be possible if there are any tables that depend on this type).

sqlcode: -20077

sqlstate: 428ED

SQL20078N Hierarchy object *object-name* of type *object-type* can not be processed using operation *operation-type*.

Explanation: The operation *operation-type* was attempted using a hierarchy object named *object-name* of type *object-type*. This operation does not support processing of a hierarchy object.

The statement could not be processed.

User response: Verify that the correct object name was used. For objects types TABLE or VIEW, the object must be the name of a subtable in the table or view hierarchy. In some cases, the object must specifically name the root table. For objects of type index, the name must be a name of an index created on a subtable.

sqlcode: -20078

sqlstate: 42858

SQL20080N Method specification for *method-name* cannot be dropped because a method body exists.

Explanation: The method specification *method-name* still has an existing method body that must be dropped before the method specification can be dropped.

The statement cannot be processed.

User response: Use the DROP METHOD statement with the same method specification to drop the method body and then issue the ALTER TYPE statement again to drop the method specification.

sqlcode: -20080

sqlstate: 428ER

SQL20081N The method body cannot be defined for a LANGUAGE *language-type* method specification *method-name*.

Explanation: The method specification *method-name* is defined with LANGUAGE *language-type*. If the LANGUAGE is SQL, the method body must be an SQL control statement. For other languages, the EXTERNAL clause must be specified.

The statement cannot be processed.

User response: Change the method body to match the LANGUAGE specified in the method specification.

sqlcode: -20081

sqlstate: 428ES

SQL20082N The dynamic type *expression-type-id* of the expression is not a subtype of the target data type *target-type-id* in a TREAT specification.

Explanation: The dynamic data type of the result of the expression specified in the TREAT specification is *expression-type-id*. The specified target data type *target-type-id* is a proper subtype of *expression-type-id* which is not allowed.

The statement cannot be processed.

User response: Change the *target-type-id* of the TREAT specification to a supertype of *expression-type-id* or change the expression so that the dynamic data type of the result is a subtype of *target-type-id*.

To determine the data type names for *expression-type-id* and *target-type-id*, use the following query:

```
SELECT TYPEID, TYPESHEMA, TYPENAME
FROM SYSCAT.DATATYPES
WHERE TYPEID IN INTEGER(
    expression-type-id),
    INTEGER(
    target-type-id
    )
)
```

sqlcode: -20082

sqlstate: 0D000

SQL20083N The data type of the value returned by routine-type *routine-id* does not match the data type specified as RESULT.

Explanation: The method *routine-id* specifies SELF AS RESULT and therefore requires that the data type of the value returned must be the same as the subject data type used to invoke the method. The RETURN statement in either the SQL method body or in the TO SQL transform function for the type of an external method resulted in the incorrect data type.

The statement cannot be processed.

User response: Change the RETURN statement of the method or transform function to ensure that the data type of the returned value is always the subject type used to invoke the method.

To determine the routine name associated with the *routine-id*, use the following query:

```
SELECT FUNCSHEMA, FUNCNAME,
    SPECIFICNAME
FROM SYSCAT.FUNCTIONS
WHERE FUNCID = INTEGER(
    routine-id
    )
```

sqlcode: -20083

sqlstate: 2200G

SQL20084N The routine-type *routine-name* would define an overriding relationship with an existing method.

Explanation: A method MT, with subject type T, is defined to override another method MS, with subject type S, if all of the following conditions are true:

- MT and MS have the same unqualified name and the same number of parameters.
- T is a proper subtype of S.
- The non-subject parameter-types of MT are the same as the corresponding non-subject parameter-types of MS. (Here, "same" applies to the basic type, such as VARCHAR, disregarding length and precision).

A function and a method may not be in an overriding relationship. This means that if the function were a method with its first parameter as subject *S*, it must not override another method of any supertype of *S* and it must not be overridden by another method of any subtype of *S*.

Furthermore, overriding relationships are not supported for:

- table and row methods
- external methods with PARAMETER STYLE JAVA
- system generated mutator and observer methods

The statement cannot be processed.

User response: Change the routine that is being defined to use a different routine name than *routine-name* or change the parameters of the routine.

sqlcode: -20084

sqlstate: 42745

SQL20085N A routine defined with PARAMETER STYLE JAVA cannot have structured type *type-name* as a parameter type or as the returns type.

Explanation: A routine is defined with PARAMETER STYLE JAVA and one of the parameter types or a returns type is defined using the structured type *type-name*. This is not supported by this version of DB2.

The statement cannot be processed.

User response: Change to a different parameter style for the routine or remove the structured type from the routine definition.

sqlcode: -20085

sqlstate: 429B8

SQL20086N Length of the structured type value for a column exceeds the system limit.

Explanation: The value for a structured type column exceeds 1 gigabyte in overall size, including descriptor data for the instance. The column could be one that is being inserted or updated directly or it may be a column that is generated.

The statement cannot be processed.

User response: Reduce the size of the structured type value that is being assigned to the column.

sqlcode: -20086

sqlstate: 54049

SQL20087N DEFAULT or NULL cannot be used in an attribute assignment.

Explanation: The UPDATE statement is using an attribute assignment to set the value of an attribute in a structured type column. This form of assignment statement does not allow the use of the keyword DEFAULT or the keyword NULL as the right hand side of the assignment.

The statement cannot be processed.

User response: Specify an expression for the right hand side of the attribute assignment or change the assignment so it is not using the attribute assignment syntax.

sqlcode: -20087

sqlstate: 428B9

SQL20089N A method name cannot be the same as a structured type name within the same type hierarchy.

Explanation: A specified method name is the same as the structured type which is defined for one of the supertypes or subtypes of the structured type.

The statement cannot be processed.

User response: Specify a different name for the method.

sqlcode: -20089

sqlstate: 42746

SQL20090W The use of the structured type having attribute *attribute-name* of type DATALINK is effectively limited to the type of a typed table or type view.

Explanation: The attribute *attribute-name* is defined with a type of DATALINK or a distinct type based on a DATALINK. A structured type that includes such an attribute can only be used as the type of a table or view. If used as the type of a column of a table or view it can only be assigned the null value.

The statement continued processing.

User response: Consider the intended use of the structured type. If the type will be used as a column data type, then remove the attribute *attribute-name* from the structured type or use a data type other than DATALINK for the attribute.

sqlcode: +20090

sqlstate: 01641

SQL20093N The table *table-name* cannot be converted to or from a materialized query table.
Reason code = *reason-code*.

Explanation: The ALTER TABLE statement is being used to change a table from a materialized query table to DEFINITION ONLY or to convert a regular table to a materialized query table. The ALTER TABLE statement failed as indicated by the following reason codes.

- 1 The table is a typed table or hierarchy table.
- 2 The table is not a materialized query table and DEFINITION ONLY was specified.
- 3 The table is a replicated materialized query table and DEFINITION ONLY was specified.
- 4 The table has at least one trigger defined.
- 5 The table has at least one check constraint defined.
- 6 The table has at least one unique constraint or unique index defined.
- 7 The table has at least one referential constraint defined.
- 8 The table is referenced in the definition of an existing materialized query table.
- 9 The table is referenced directly or indirectly (through a view, for example) in the fullselect.
- 10 The table is already a materialized query table.
- 11 The number of columns of the existing table does not match the number of columns defined in the select list of the fullselect.
- 12 The data types of the columns of the existing table do not exactly match the corresponding columns in the select list of the fullselect.
- 13 The column names of the columns of the existing table do not exactly match the corresponding column names in the select list of the fullselect.
- 14 The nullability characteristics of the columns of the existing table do not exactly match the nullability characteristics of the corresponding columns in the select list of the fullselect.
- 15 The conversion cannot be performed if there are any other table alterations in the same ALTER TABLE statement.
- 16 The table is referenced in the definition of an existing view enabled for query optimization.
- 17 The table is a protected table.
- 18 The fullselect refers to a nickname on which caching is not allowed.

User response: The action is based on the reason code as follows.

- 1 The table cannot be converted to a materialized query table. Create a new materialized query table instead.
- 2 There is no need to convert this table. No action required.
- 3 A replicated table can only be a materialized query table. Create a new table instead.
- 4 Drop any triggers and try the ALTER TABLE statement again.
- 5 Drop any check constraints and try the ALTER TABLE statement again.
- 6 Drop any unique constraints and unique indexes. Try the ALTER TABLE statement again.
- 7 Drop any referential constraints and try the ALTER TABLE statement again.
- 8 Drop the materialized query table that references the table and try the ALTER TABLE statement again.
- 9 A materialized query table cannot reference itself. Modify the fullselect to remove the direct or indirect reference to the table being altered.
- 10 The operation is not allowed since the table is already a materialized query table.
- 11 Modify the fullselect to include the correct number of columns in the select list.
- 12 Modify the fullselect so that the result column data types exactly match the data types of the corresponding existing columns.
- 13 Modify the fullselect so that the result column names exactly match the column names of the corresponding existing columns.
- 14 The table cannot be converted to a materialized query table unless the nullability characteristics can be matched. Create a new materialized table instead.
- 15 Perform the other table alterations in an ALTER TABLE statement that does not include the SET MATERIALIZED QUERY AS clause.
- 16 Disable the view enabled for query optimization that references the table and try the ALTER TABLE statement again.
- 17 Either remove the protection from the table or do not convert it to a materialized query table.
- 18 Correct the fullselect specified in the ALTER TABLE statement so that it does not reference a nickname on which caching is not allowed.

sqlcode: -20093

sqlstate: 428EW

SQL20094N The column *column-name* is GENERATED using an expression or is of type DB2SECURITYLABEL and cannot be used in the BEFORE trigger *trigger-name*.

Explanation: The value for column *column-name* is generated using an expression or the column is of type DB2SECURITYLABEL and cannot be named in the

column name list of a BEFORE UPDATE trigger or referenced as a new transition variable in a BEFORE trigger.

User response: Remove the reference to *column-name* in the trigger *trigger-name*.

sqlcode: -20094

sqlstate: 42989

SQL20100 - SQL20199

SQL20102N The CREATE or ALTER statement for the routine *routine-name* specified the *option-name* option which is not allowed for the routine.

Explanation: The option *option-name* was specified when creating or altering the routine *routine-name*. The option does not apply to the routine because of other characteristics of the routine.

User response: For an ALTER statement, ensure that the correct routine is being specified. Otherwise, remove the failing option and reissue the statement.

sqlcode: -20102

sqlstate: 42849

SQL20108N A result set contains an unsupported data type in position *position-number* for the cursor *cursor-name* opened by the stored procedure *procedure-name*.

Explanation: The stored procedure named by *procedure-name* cannot return at least one of its query result sets named by *cursor-name* because at least one of the columns, column *position-number* contains a data type which is not supported by either the DRDA Application Requestor (client) or the DRDA Application Server (server). As such the call to the stored procedure fails.

User response: Modify the OPEN statement (and subsequent FETCH statements) for cursor *cursor-name* in the stored procedure *procedure-name* on the server to not select the unsupported data type in column *position-number*. The client application which invoked the stored procedure may need to be modified to reflect the change in the stored procedure.

sqlcode: -20108

sqlstate: 56084

SQL20109W Error in DB2 debugger support. Reason code: *reason-code*.

Explanation: The debugger support had an error situation which will disable debugging, but not affect normal execution. The following is a list of reason codes:

1. The debugger support is not installed.
2. There has been a syntax error in IP address of debugger client in the debugger table.
3. A timeout in the communication between the debugger backend and the debugger client occurred.
4. A problem occurred accessing the debugger table DB2DBG.ROUTINE_DEBUG.

User response:

1. Verify that you install the debugger option on the DB2 server machine.
2. Make sure that the IP address in the debugger table has the correct syntax.
3. Check that the debugger demon on the client is started and that the ports on the client and server match.
4. Verify that you have created the debugger tables with the correct layout.

sqlcode: +20109

sqlstate: 01637

SQL20111N A SAVEPOINT, RELEASE SAVEPOINT, or ROLLBACK TO SAVEPOINT statement cannot be issued in this context. Reason code = *reason-code*.

Explanation: The statement cannot be processed because it violates a restriction as indicated by the following reason code:

1. Savepoint cannot be issued inside a trigger.
2. Savepoint cannot be issued inside a global transaction.

The statement cannot be processed.

User response: Remove the SAVEPOINT, RELEASE SAVEPOINT, or ROLLBACK TO SAVEPOINT statement in the trigger or global transaction.

sqlcode: -20111

sqlstate: 3B503

SQL20112N A SAVEPOINT cannot be set because a SAVEPOINT already exists and nested

SAVEPOINTS are not supported.

Explanation: An error occurred in a SAVEPOINT or atomic compound SQL statement. A savepoint already exists and nested savepoints are not supported in this environment.

User response: If re-establishing an existing savepoint is necessary, issue the RELEASE SAVEPOINT statement to free the existing savepoint, and then reissue the SAVEPOINT statement. For atomic compound SQL, a SAVEPOINT cannot be set until after the end of the compound statement.

sqlcode: -20112

sqlstate: 3B002

SQL20113N Null cannot be returned from method *method-id* defined with SELF AS RESULT.

Explanation: The method with method identifier *method-id* is defined with SELF AS RESULT. The invocation of the method used a non-null instance of a structured type so the method cannot return a null instance.

User response: Change the method implementation to ensure that a null value is not returned as the return value for the method. One possibility is to set all the attributes of the returned structured type to null value. To determine the name of the method that failed, use the following query:

```
SELECT FUNCSCHEMA, FUNCNAME,  
       SPECIFICNAME  
   FROM SYSCAT.FUNCTIONS  
  WHERE FUNCID = method-id
```

sqlcode: -20113

sqlstate: 22004

SQL20114W Column *column-name* in table *table-name* is not long enough for the defined length of the USER default value.

Explanation: The column *column-name* is defined with a length that is less than 128 bytes. The clause DEFAULT USER has been specified for this column. Since the USER special register is defined as VARCHAR(128), any attempt to assign the default value for *table-name* by a user with a user ID longer than the column length results in an error. A user with a user ID longer than the column length would never be able to insert or update this column to the default value.

User response: If your system standards would not allow a user ID to exceed the length of the column, then this warning may be ignored. To prevent this warning from occurring, the length of the column must be at least 128 bytes. You can change the column length

by dropping and creating the table again, or, if the data type is VARCHAR, by using ALTER TABLE to increase the length of the column.

sqlcode: +20114

sqlstate: 01642

SQL20115N The routine-type routine-name cannot be used as a transform-type transform function in transform group *group-name*.

Explanation: If *routine-type* is FUNCTION, then the function defined by *routine-name* cannot be used as a transform function because it is a built-in function. If *routine-type* is METHOD, then the method defined by *routine-name* cannot be used as a transform function because it is a method.

The statement cannot be processed.

User response: Specify a different function for the *transform-type* transform function of transform group *group-name*.

sqlcode: -20115

sqlstate: 428EX

SQL20116N The data type of the search target *parameter-name* does not match that of the source key specified in the index extension *index-extension-name*.

Explanation: If the search target is of a built-in or distinct data type, its type must exactly match that of the source key specified in the index extension. If the data type of the search target is a structured type, it must be in the same structured type hierarchy as the data type of the source key in the index extension.

The statement cannot be processed.

User response: Specify a search target with a data type that matches that of the source key in the index extension.

sqlcode: -20116

sqlstate: 428EY

SQL20117N A window specification for an OLAP function is not valid. Reason code = *reason-code*.

Explanation: The window specification (OVER clause) of an OLAP function invocation is not correctly specified. The incorrect specification is indicated by the *reason-code*.

- 1 RANGE or ROWS is specified without an ORDER BY in the window specification.
- 2 RANGE is specified and the window ORDER BY clause includes more than one sort-key-expression.

- 3 RANGE is specified and the data type of the range value cannot be used in a subtraction expression with the data type of the sort-key-expression in the window ORDER BY clause.
- 4 UNBOUNDED PRECEDING is specified after CURRENT ROW or UNBOUNDED FOLLOWING is specified before CURRENT ROW.

The statement cannot be processed.

User response: Change the window specification to correct the invalid specification indicated by the *reason-code*.

- 1 Add a window ORDER BY clause to each window specification that specifies RANGE or ROWS.
- 2 Ensure that each window specification that includes RANGE has exactly one sort-key-expression in the window ORDER BY clause.
- 3 For each window specification that includes RANGE, ensure that the range value can be subtracted from the sort-key-expression in the window ORDER BY clause, which must be a numeric type or a datetime type. For datetime sort-key-expressions, the range value must be the specific datetime duration DECIMAL type with the correct precision and scale.
- 4 Ensure that any window specification using "BETWEEN" and "CURRENT ROW" has the "UNBOUNDED PRECEDING" before "AND CURRENT ROW" or "UNBOUNDED FOLLOWING" after "CURRENT ROW AND".

sqlcode: -20117

sqlstate: 428EZ

SQL20118N Structured type *type-name* has more than the maximum number of allowable attributes. The maximum is *max-value*.

Explanation: The maximum number of attributes, including inherited attributes, allowed for each structured type has been exceeded with the definition of structured type *type-name*. The maximum number of attributes, including inherited attributes, is *max-value*.

The statement cannot be processed.

User response: Ensure that the number of attributes for the structured type does not exceed the limit.

sqlcode: -20118

sqlstate: 54050

SQL20119N A ROW function must define at least two columns.

Explanation: A function that specifies ROW in the RETURNS clause must include a column list with at least two columns.

User response: Either remove the ROW keyword from the RETURNS clause to make it a scalar function or specify multiple columns in the column list of the RETURNS clause.

sqlcode: -20119

sqlstate: 428F0

SQL20120N An SQL TABLE function must return a table result.

Explanation: An SQL function that specifies TABLE in the RETURNS clause must return a result that is a table. With the exception of a scalar fullselect, a scalar expression cannot be returned as the result of an SQL TABLE function.

User response: Either remove the TABLE keyword from the RETURNS clause to make it a scalar function or specify a fullselect in the RETURN statement of the TABLE function body.

sqlcode: -20120

sqlstate: 428F1

SQL20121N Only one of WITH RETURN or SCROLL can be specified for cursor *cursor-name*.

Explanation: Both WITH RETURN and SCROLL were specified for cursor *cursor-name*, but this is not allowed.

The statement cannot be processed.

User response: Change the DECLARE CURSOR statement to either specify NO SCROLL (or remove the SCROLL keyword), or remove the WITH RETURN clause.

sqlcode: -20121

sqlstate: 428F3

SQL20123N CALL to stored procedure *procedure* failed because the result set returned for a scrollable cursor is not positioned before the first row.

Explanation: A scrollable result set has been returned by a CALL to stored procedure *procedure*, and one or more of these cursors is not positioned before the first row.

The CALL to the stored procedure was not successful. All result set cursors defined in the stored procedure were closed before returning to the caller. The scrollable cursor cannot be used to FETCH from the result set.

Actions done by the stored procedure are not rolled back, and any external actions initiated by the stored procedure have completed because the error was detected at the end of the execution of the stored procedure.

User response: Modify the content of the stored procedure to make sure that the result set cursors are positioned before the first row before returning to the caller.

sqlcode: -20123

sqlstate: 560B1

SQL20128N Cursor *cursor-name* is scrollable, but the result table cannot include output from a table function.

Explanation: The cursor *cursor-name* is defined to be scrollable, but the result table includes output from a table function. This combination is not supported.

The statement cannot be processed.

User response: Either modify the definition of the cursor so it is not scrollable, or ensure that the result table does not include output from a table function.

sqlcode: -20128

sqlstate: 428F6

SQL20131N Object number *object-number* of type *object-type* was specified more than once in a list of objects.

Explanation: In a list of object names of type *object-type*, the object numbered *object-number* was specified more than once. The operation of the statement cannot be performed on the object more than once.

User response: Correct the duplicated object in the list removing duplicate occurrences. (In the MDC case, the object type will be "dimension".)

sqlcode: -20131

sqlstate: 42713

SQL20133N Operation *operation-name* cannot be performed on external routine *routine-name*. The operation can only be performed on SQL routines.

Explanation: You attempted to perform operation *operation-name* on external routine *routine-name*. However, you can only perform that operation on SQL routines. The operation did not complete successfully.

User response: Ensure the name you provide identifies an SQL routine.

sqlcode: -20133

sqlstate: 428F7

SQL20134N The SQL Archive (SAR) file for routine *routine-name* could not be created on the server.

Explanation: The creation of the SQL archive (SAR) for routine *routine-name* failed because DB2 could not find either the library or the bind file for the specified routine. Bind files are only available for SQL routines created with DB2 Version 7.1, FixPak 2 or later.

User response: Recreate the procedure on a server with DB2 Version 7.1, FixPak 2 or later, and try the operation again.

sqlcode: -20134

sqlstate: 55045

SQL20135N The specified SQL archive does not match the target environment. Reason code = *reason-code*.

Explanation: The specified SQL archive does not match the target environment for one of the following reasons:

- 1 The operating system of the target environment is not the same as the operating system on which the SQL archive was created.
- 2 The database type and level of the target environment is not the same as the database type and level on which the SQL archive was created.

User response: Ensure that the environment on which the SQL archive was created matches the target environment and reissue the command. If the environments do not match, you must manually create the SQL routine using the target environment.

sqlcode: -20135

sqlstate: 55046

SQL20136N Routine *routine-name* (specific name *specific-name*) attempted to access a federated object.

Explanation: An SQL statement in an external function or method attempted to access one or more federated objects. This statement is executed from routine *routine-name* (specific name *specific-name*). It is currently not supported to access a federated object from an external function or method.

User response: Remove the references to federated objects from the routine.

sqlcode: -20136

sqlstate: 55047

SQL20138N The statement may not be explained because the routine *routine-name* (specific name *specific-name*) is not defined as MODIFIES SQL DATA.

Explanation: The routine *routine-name* (specific name *specific-name*) is defined as either CONTAINS SQL or READS SQL DATA and attempted to explain an SQL statement. Explaining an SQL statement requires writing to the explain tables, which is only permitted in a MODIFIES SQL DATA routine.

User response: Do not attempt to explain SQL statements from a routine defined as either CONTAINS SQL or READS SQL DATA.

sqlcode: -20138

sqlstate: 42985

SQL20139N SQL statements may not be issued in routine *routine-name* (specific name *specific-name*) because of a previous statement failed or was interrupted.

Explanation: During the execution of routine *routine-name* (specific name *specific-name*), or a nested routine, either a statement failed and requires a roll back or an interrupt occurred. It is necessary for all routines invoked from the outer-most statement to finish executing and for control to be passed back to the outer-most statement so that the database manager may perform the necessary recovery. Until this recovery has been completed, SQL statements may not be issued.

User response: The routine continues to execute. The routine should not execute any further SQL statements and should return control to the invoking statement as quickly as possible.

The recovery for the initial failure of interrupt will be automatically performed by the database manager once all routines have completed.

sqlcode: -20139

sqlstate: 51038

SQL20140W COMPRESS column attribute ignored because VALUE COMPRESSION is deactivated for the table.

Explanation: One of the following situations occurred.

1. The COMPRESS SYSTEM DEFAULT specified for the column was ignored because VALUE COMPRESSION is deactivated for the table.
2. DEACTIVATED VALUE COMPRESSION was specified and columns are defined with COMPRESS SYSTEM DEFAULT.

User response: To allow COMPRESS to be specified for the column, ALTER the table and activate VALUE COMPRESSION for the table.

sqlcode: 20140

sqlstate: 01648

SQL20142N Sequence *sequence-name* cannot be used as specified.

Explanation: *sequence-name* was referenced in a context in which it cannot be used. *sequence-name* is a sequence generated by the system for an identity column. These sequences cannot be referenced in a COMMENT ON SEQUENCE, DROP SEQUENCE, GRANT or REVOKE statement, or in a NEXTVAL or PREVVAL expression.

User response: Specify the name of a user-defined sequence object in this context.

sqlcode: -20142

sqlstate: 428FB

SQL20143N The encryption or decryption function failed, because the ENCRYPTION PASSWORD value is not set.

Explanation: The ENCRYPTION PASSWORD value is not set.

User response: Issue the SET ENCRYPTION PASSWORD statement to set the ENCRYPTION PASSWORD value. The length of the password must be a minimum of 6 bytes and a maximum of 127 bytes.

sqlcode: -20143

sqlstate: 51039

SQL20144N The encryption password is invalid because the length of the specified password was less than 6 bytes or greater than 127 bytes.

Explanation: The data must be encrypted with a password length between 6 and 127.

User response: Ensure that the password length is between 6 and 127.

sqlcode: -20144

sqlstate: 428FC

SQL20145N The decryption function failed. The password used for decryption does not match the password used to encrypt the data.

Explanation: The data must be decrypted using the same password that was used to encrypt the data.

User response: Ensure that the same password is used to encrypt and decrypt the data.

sqlcode: -20145

sqlstate: 428FD

SQL20146N The decryption function failed. The data is not encrypted.

Explanation: The data must be a result of the ENCRYPT function.

User response: Ensure that the data type is a result of the ENCRYPT function.

sqlcode: -20146

sqlstate: 428FE

SQL20147N The ENCRYPT function failed. Multiple pass encryption is not supported.

Explanation: Data that has already been encrypted cannot be encrypted again.

User response: Ensure that the data has not already been encrypted.

sqlcode: -20147

sqlstate: 55048

SQL20148N Routine *routine-name* with specific name *specific-name* must have the RETURN statement as the last SQL statement of the compound body.

Explanation: The RETURN statement must be the last SQL statement of the compound body in an SQL ROW or TABLE function. No other RETURN statement is allowed within the routine body.

User response: Ensure there is only one RETURN statement and it is the last SQL statement of the compound body.

sqlcode: -20148

sqlstate: 429BD

SQL20149W The buffer pool operation has completed but will not take effect until the next database restart.

Explanation: The buffer pool has been successfully created or altered, but the changes will not take effect immediately. The changes will take effect when the database is restarted.

The changes have been deferred for one of the following reasons:

- The DEFERRED option was specified.
- If an alter was specified and the operation changed either NUMBLOCKPAGES or BLOCKSIZE, then the request was deferred because all such alters are always deferred.
- If an alter was specified, a previous alter of the block based area has not taken effect yet (no database restart has been done), and the new proposed size of the buffer pool is smaller than the current size of the block area of the buffer pool, then the alter must be

deferred so that it takes effect when the changes to the block area also come into effect.

User response: To have the changes take effect at next database restart time, no further action is required.

sqlcode: 20149

sqlstate: 01649

SQL20150N The number of block pages for a buffer pool is too large for the size of the buffer pool.

Explanation: The number of block pages, as specified by NUMBLOCKPAGES, must not be greater than 98 percent of the number of pages for the buffer pool, as specified by SIZE.

User response: Either disable block-based I/O for this buffer pool by setting NUMBLOCKPAGES to zero or ensure the value of NUMBLOCKPAGES is not greater than 98 percent of the value for SIZE.

sqlcode: -20150

sqlstate: 54052

SQL20151N The value specified for BLOCKSIZE is not in the valid range.

Explanation: The valid range for the value of BLOCKSIZE is 2 to 256.

User response: Change the value for BLOCKSIZE to be greater than or equal to 2 and less than or equal to 256. An optimal value would be the extent size.

sqlcode: -20151

sqlstate: 54053

SQL20152N The specified buffer pool is not currently block-based.

Explanation: The BLOCKSIZE option was used without specifying the number of pages to use in the block area of the buffer pool.

User response: Specify a value for NUMBLOCKPAGES along with the BLOCKSIZE option.

sqlcode: -20152

sqlstate: 428FF

SQL20153N The database's split image is in the suspended state.

Explanation: The database split image cannot be used while it is in the suspended state.

User response: Issue the db2inidb command with one of the following three options to resume I/O for this database split image:

- db2inidb <db-name> as mirror
- db2inidb <db-name> as snapshot
- db2inidb <db-name> as standby

In a multi-node environment, the db2inidb tool must be run on every node before the database can be used.

The db2inidb tool can run concurrently on each node of a multi-node database.

sqlcode: -20153

sqlstate: 55040

SQL20154N The requested insert or update operation into view *view-name* is not allowed because no target table can be determined for a row. Reason code = *reason-code*.

Explanation: The specified view contains a UNION ALL query. The *reason-code* indicates that a given row either:

1. does not satisfy the check constraint of any underlying base table, or
2. satisfies all the check constraints for more than one underlying base table.

Federated system users: Some other data source specific limitation may be preventing the row from being inserted.

User response: Ensure that the check constraints used by the underlying base tables to partition their rowsets cover the set of rows to be inserted. Also, ensure that for a view defined with UNION ALL for its fullselect that WITH ROW MOVEMENT is also specified if updates are to move rows from one underlying table to another. For example, given the check constraints (T1.c1 in (1,2)) on T1, and (T2.c1 in (2,3)) on T2, and view V1 as a union of T1 and T2,

1. the row c1 = 4 does not satisfy the check constraints of either underlying base table and
2. the row c1 = 2 satisfies the check constraints of both underlying base tables.

Federated system users: If the reason is unknown, isolate the problem to the data source failing the request (see the problem determination guide) and examine the object definition and the update restrictions for that data source.

sqlcode: -20154

sqlstate: 23513

SQL20155N The specified event monitor target tables are invalid. Reason code = *reason-code*.

Explanation: While processing a CREATE EVENT MONITOR statement, or while activating an event monitor, it was determined that a target table is not valid *reason-code* is one of the following:

1. At least one column name does not match an event monitor data element identifier.
2. At least one column has a data type that is incompatible with the data type for an event monitor data element identifier.
3. At least one column name matches an event monitor data element identifier, but that element is not allowed in the target table.
4. The row size for the table is too large for the page size of the table space.
5. A mandatory column is missing.
6. The table must not be declared with CCSID UNICODE if the database is not a Unicode database.
7. The table is partitioned.

User response: Check the administration notification log for detailed information and correct the table definition.

sqlcode: -20155

sqlstate: 55049

SQL20156W The event monitor was activated successfully, however some monitoring information may be lost.

Explanation: An event monitor activated successfully, however it was determined that the event monitor may lose some information because of one of the following:

- The data type for a column is smaller than the data type required to hold an event monitor element identifier. This data will be truncated.
- A target table was found in the SYSCAT.EVENTTABLES, but that table does not exist in the database. All monitor information for the corresponding table will not be recorded.

User response: Check the administration notification log for detailed information. If necessary, recreate the event monitor to create all target tables.

sqlcode: 20156

sqlstate: 01651

SQL20157N User *authorization-ID* does not have the QUIESCE_CONNECT privilege.

Explanation: The specified authorization ID does not have the QUIESCE_CONNECT privilege to access a database or instance that is currently in a quiesced

mode. The QUIESCE_CONNECT privilege must be granted before the user can connect to a quiesced database or instance.

User response: Wait for the unquiesce to complete or contact the system administrator or database administrator for the database and request a GRANT QUIESCE_CONNECT for the authorization ID. Resubmit the command.

sqlcode:-20157

sqlstate:08004

SQL20158N DB2 Data Links Manager is not supported.

Explanation: The DB2 Data Links Manager is not supported with this version of DB2 and an attempt was made to do one of the following:

- RESTORE of a backup image from a database enabled for Datalinks.
- Migration of a database which uses the DATALINK data type.
- Creation of a database object which uses the DATALINK data type.
- Database objects which could use a DATALINK data type include tables, views, functions, methods, distinct types and structured data types.

User response:

- RESTORE the backup image using a previous release of DB2 that supports Datalinks, disable Datalinks and then recreate your backup image before attempting to RESTORE using the current release of DB2.
- Using a previous release of DB2 that supports Datalinks, disable Datalinks and then resubmit the database migration command.
- Resubmit the statement after removing all references to the DATALINK data type.

sqlcode: -20158

sqlstate: 42997

SQL20159W The isolation clause is ignored because of the statement context.

Explanation: The isolation clause is specified on a statement that is included in a compound statement that is processed as inline SQL. The isolation clause is ignored and the default isolation level is used for all statements in the compound statement.

User response: No response required. Remove the isolation clause to prevent this warning.

sqlcode: 20159

sqlstate: 01652

SQL20160W The authorizations were granted to USER *userid*. Groups were not considered because the authorization name is more than 8 bytes.

Explanation: The authorization name has a length of more than 8 bytes. The privilege is granted to the user with authorization name *userid* without considering groups defined in the system that might have a matching name. Processing continues.

User response: If the grant was intended for a user, no action is required. If the grant was intended for a group, consider choosing an alternate group because group names greater than 8 bytes are not supported. To avoid this warning message, specify the USER keyword before the authorization name.

sqlcode: 20160

sqlstate: 01653

SQL20161W The column name *column-name* is not a valid column for an event monitor table.

Explanation: The column name specified in the INCLUDES or EXCLUDES clause does not match any valid column for the event monitor table(s) being created.

User response: Examine and correct the specified column name.

sqlcode: -20161

sqlstate: 428AA

SQL20162N Buffer pools cannot use both block-based I/O and extended storage.

Explanation: An attempt was made to create or alter a buffer pool to use both block-based I/O and extended storage.

User response: Ensure that the buffer pool is not using both block-based I/O and extended storage.

sqlcode: -20162

sqlstate: 428FF

SQL20165N An SQL data change statement within a FROM clause is not allowed in the context in which it was specified.

Explanation: An SQL data change statement can be specified in the FROM clause in specific contexts. The SQL data change statement must be the only table-reference in the FROM clause that is used in:

- the outer fullselect of a SELECT statement
- a SELECT INTO statement
- the outer fullselect of a common table expression
- the only fullselect in an assignment statement.

If any input variables are used in other parts of the query, a multiple row INSERT in the FROM clause must not include the USING DESCRIPTOR clause. A multiple row INSERT statement in the FROM clause cannot specify NOT ATOMIC. A SQL fullselect within an XQuery statement cannot include an SQL data change statement in the FROM clause.

The statement cannot be processed.

User response: Change the statement so that the SQL data change statement within a FROM clause is used in a supported context and is the only table-reference in the FROM clause.

sqlcode: -20165

sqlstate: 428FL

SQL20166N An SQL data change statement within a SELECT specified a view *view-name* which is not a symmetric view or could not have been defined as a symmetric view.

Explanation: The target view of the SQL data change statement within a SELECT statement must be defined WITH CASCADED CHECK OPTION or the fullselect in the view definition (or the fullselect of a view definition of a referenced view) must be able to be defined using WITH CASCADED CHECK OPTION.

A symmetric view is a view defined implicitly or explicitly with the WITH CASCADED CHECK OPTION.

The statement cannot be processed.

User response: Do not use the SQL data change statement within a SELECT with the specified view.

sqlcode: -20166

sqlstate: 428FM

SQL20167N The shared memory set is not large enough to process the request.

Explanation: There is insufficient memory in a shared memory set for one of the following resource requests:

- FCM connection entries
- FCM message anchors
- FCM request blocks

User response: Try the request again. If the error persists, stop and restart the instance to allow the larger shared memory set size (automatically updated by DB2) to take effect and try the request again.

sqlcode: -20167

sqlstate: 57011

SQL20168N The ALTER BUFFERPOOL statement is currently in progress.

Explanation: A buffer pool cannot be dropped or altered if an ALTER operation is already in progress.

User response: Wait until the ALTER operation has completed. Use the snapshot monitor to check the progress of the ongoing ALTER operation.

sqlcode: -20168

sqlstate: 55051

SQL20169W The buffer pool is not started.

Explanation: The statement was successful, but it will only take effect when the buffer pool is started.

User response: The statement has completed successfully, and will take effect when the database is activated. This happens after all applications disconnect. For the statement to take effect immediately, re-submit it when the buffer pool is started. To start the buffer pool, it is possible in some cases to drop and re-create the buffer pool using the IMMEDIATE option.

sqlcode: +20169

sqlstate: 01654

SQL20170N There is not enough space in the table space *tablespace-name* for the specified action. Reason code = *reason-code*.

Explanation: Space is being removed from a tablespace using one or more of the DROP, REDUCE, and RESIZE container actions resulting in one of the following scenarios:

- 1 The amount of space being removed is greater than the amount of space above the high-water mark.
- 2 The amount of space being removed would result in the tablespace having less than the required 5 extents.

User response:

- 1 Use the snapshot monitor to find the number of useable pages in the tablespace and the tablespace high-water mark. The difference between these values is the maximum number of pages that can be removed.
- 2 Use the snapshot monitor to find the number of useable pages in the tablespace and the tablespace extentsize. The number of useable extents in the tablespace is equal to the useable pages divided by the extentsize. There must be at least 5 extents worth of useable pages in the tablespace.

sqlcode: -20170

sqlstate: 57059

SQL20173W The event monitor was created successfully but at least one event monitor target table already exists.

Explanation: While an event monitor was being created, the database manager tried to create one or more target tables but determined that tables with those names already exist. The event monitor was successfully created and target tables were not created to replace tables of the same name that already exist. When the event monitor is activated, it will attempt to use these tables. Event monitor activation may fail if activation processing determines these tables are not suitable.

User response: Check the administration notification log for detailed information. If necessary, drop all target tables and recreate the event monitor to create all target tables.

sqlcode: 20173

sqlstate: 01655

SQL20178N View *view-name* already has an INSTEAD OF operation trigger defined.

Explanation: The view *view-name* already has an INSTEAD OF trigger defined for the indicated operation (UPDATE, DELETE, INSERT). Only one INSTEAD OF trigger can be defined for each operation on the view.

The statement cannot be processed. The INSTEAD OF trigger was not created.

User response: If a new INSTEAD OF trigger is required, drop the existing trigger and then create the new trigger.

sqlcode: -20178

sqlstate: 428FP

SQL20179N The INSTEAD OF trigger cannot be created because the view *view-name* is defined using the WITH CHECK OPTION or is nested in a view defined with the WITH ROW MOVEMENT clause.

Explanation: An INSTEAD OF trigger cannot be defined on:

- a view defined using WITH CHECK OPTION
- a view on which such a view has been defined either directly or indirectly

An INSTEAD OF UPDATE trigger cannot be defined on:

- a view nested in a view defined with the WITH ROW MOVEMENT clause

The view *view-name* may be the target view of the INSTEAD OF trigger or it may be a view that depends directly or indirectly on the target view of the trigger.

The statement cannot be processed. The INSTEAD OF trigger was not created.

User response: If *view-name* is defined using WITH CHECK OPTION, remove the WITH CHECK OPTION clause

If *view-name* is a view nested in a view defined with the WITH ROW MOVEMENT clause, remove the WITH ROW MOVEMENT clause.

sqlcode: -20179

sqlstate: 428FQ

SQL20183N The table *table-name* is not compatible with the specified table partitioning operation.

Explanation: The partitioning clause for table *table-name* is not valid because:

ADD PARTITION BY was specified on an ALTER TABLE statement CREATE INDEX statement or CREATE TABLE statement, but the table is already a partitioned table.

ADD PARTITION, ALTER PARTITION, DROP PARTITION, or DROP DISTRIBUTION was specified on an ALTER TABLE statement, but the table is not a partitioned table, the table is a materialized query table, or a materialized query table is defined on this table.

ADD PARTITION for HASH partitions was specified on an ALTER TABLE statement, but the table is not partitioned using hashing.

DROP PARTITION of a RANGE partition was specified on the ALTER TABLE statement, but the PRESERVE ROWS clause was used. The PRESERVE ROWS clause is only valid for partitioned tables that have HASH partitioning.

User response: Change the statement to one that is valid or specify a different table and reissue the statement.

sqlcode: -20183

sqlstate: 428FT

SQL20188N The primary key or a unique key identified by *name* is a subset of the columns in the ORGANIZE BY clause.

Explanation: All the columns in a primary or unique key are included in the table's ORGANIZE BY clause. This is not allowed, since each block of pages in the table would contain just one row, wasting all the rest of the space in the block.

name is the constraint name, if specified, of the primary

key or unique constraint. If a constraint name was not specified, *name* is the first column name specified in the primary key or unique constraint clause followed by three periods. If a unique index is being created, *name* is the name of the unique index.

The statement cannot be processed.

User response: Modify the primary or unique key definition, the unique index definition or the ORGANIZE BY clause, if possible, so that the key is not a subset of the dimensions.

sqlcode: -20188

sqlstate: 429BE

SQL20189W The buffer pool operation (CREATE/ALTER) will not take effect until the next database startup due to insufficient memory.

Explanation: The CREATE or ALTER BUFFERPOOL statement was issued and completed successfully, however due to insufficient memory the create/alter was done DEFERRED. The changes will take effect on the next database startup.

User response: If you do not want to wait until the next startup to activate or resize the buffer pool, you can free memory resources and try again (with the same or different size). Memory resources that can be reduced include other buffer pools, the database heap, the catalog cache, the package cache, and the utility heap. These can be reduced using the ALTER/DROP BUFFERPOOL or UPDATE DATABASE CONFIGURATION command depending on the resource. In the future, to reserve extra memory for the dynamic allocation of buffer pool memory, you can increase the DATABASE_MEMORY database configuration parameter.

If you do not try again:

1. If it is an ALTER BUFFERPOOL that failed, you will continue to run with the current runtime size of the buffer pool. You can use the database monitor to see the current runtime size of the buffer pool.
2. If it is a CREATE BUFFERPOOL that failed, any table spaces that are created in the buffer pool will temporarily (until next startup) be put in a hidden buffer pool with the matching pagesize. Since the hidden buffer pools are small, this can result in lower than desired performance.

To try again:

1. For ALTER BUFFERPOOL, resubmit the command.
2. For CREATE BUFFERPOOL drop the buffer pool and then resubmit the command.

sqlcode: 20189

sqlstate: 01657

SQL20190N Federated insert, update, or delete operation cannot be compiled because of potential data inconsistency.

Explanation: When the data source does not provide application savepoint support and the server option 'iud_app_svpt_enforce' is set to 'Y', the federated insert, update, or delete operation is blocked during precompile. This will prevent potential data inconsistency, which may occur at runtime execution if an error is encountered in the middle of federated insert, update, or delete processing.

User response: Possible solutions include:

- Change server option 'iud_app_svpt_enforce' to 'N'.
- Apply the insert, update, or delete directly on the data source.

sqlcode: -20190

sqlstate: 0A503

SQL20191N For an INOUT parameter in a dynamically prepared CALL statement, the same host variable must be used in both the USING and INTO clauses.

Explanation: In a CALL statement, an INOUT parameter must correspond to a single host variable. When executing a dynamically prepared CALL statement, it is necessary to specify the same host variable in both the USING and INTO clauses of the EXECUTE statement.

User response: When specifying a host variable that corresponds to a parameter marker for an INOUT parameter, use the same host variable in both the USING and INTO clauses of the EXECUTE statement. When using SQLDAs to specify a host variable that corresponds to a parameter marker for an INOUT parameter, then the SQLDATA pointers of the corresponding SQLVARs must point to the same host variable.

sqlcode: -20191

sqlstate: 560BB

SQL20192N The specified modes are only supported in a partitioned database environment.

Explanation: Either RECOMMEND PARTITIONINGS or EVALUATE PARTITIONINGS was not invoked in a partitioned database environment. These two modes are only supported in a partitioned database environment.

User response: Invoke RECOMMEND PARTITIONINGS or EVALUATE PARTITIONINGS in a partitioned database environment.

sqlcode: -20192

sqlstate: 56038

SQL20193N An error has occurred when accessing the file *file-name*. Reason code: *reason-code*.

Explanation: An attempt was made to access the file *file-name* on the server but an error occurred. For reason codes 4 to 10, *file-name* may be in the directory specified by the DB2_UTIL_MSGPATH registry variable, or possibly in the directory which is the tmp directory of the instance. The specified error encountered is indicated by the reason code as follows:

- 1 File format error.
- 2 Communication error.
- 3 Memory allocation error.
- 4 The directory path indicated by the DB2_UTIL_MSGPATH registry variable does not exist.
- 5 The file does not exist.
- 6 The fenced user ID cannot create the file (no execute access to the directory).
- 7 The fenced user ID cannot read the file (no read access).
- 8 The fenced user ID cannot write to the file (no write access).
- 9 Out of disk space (disk full).
- 10 The file cannot be removed.

User response: Use the reason code information to determine how to make the file accessible and resubmit the statement.

sqlcode: -20193

sqlstate: 560BC

SQL20194N Buffer pool *bufferpool-name* does not exist on database partition *dbpartitionnum*.

Explanation: The ALTER BUFFERPOOL statement is specifying a buffer pool, *bufferpool-name*, that does not exist on the database partition *dbpartitionnum*.

User response: Using the ALTER DATABASE PARTITION GROUP statement, add the database partition *dbpartitionnum* to a database partition group that has the buffer pool *bufferpool-name* already defined for it. If the buffer pool is not associated with any specific database partition group, then add the database partition to any database partition group or create a new database partition group for this database partition. Issue the ALTER BUFFERPOOL statement again.

sqlcode: -20194

sqlstate: 53040

SQL20195N An error was encountered while processing line number *line-number* in the path rename configuration file *config-file*. Reason code = *reason-code*.

Explanation: The path rename configuration file *config-file* is being used to rename containers during the current crash or rollforward recovery process. However, while processing the statements in this file, an error was encountered at line *line-number* that is preventing the recovery process from proceeding. An explanation of the error is indicated by the following reason code:

1. Invalid syntax.
2. The length of the container path exceeds the maximum allowed length for a container path.
3. The container path specified has already been listed on a previous line.
4. The length of the database path exceeds the maximum allowed length for a database path.
5. The database path specified has already been listed on a previous line.
6. The database path must be an absolute path.
7. The database path is specified incorrectly.
8. The wildcard character ("*") is being used incorrectly.

User response: Make the corresponding change to the configuration file as described below and reissue the command again.

1. Correct the syntax error.
2. Specify a shorter container path.
3. Remove the duplicate container path from the file.
4. Specify a shorter database path.
5. Remove the duplicate database path from the file.
6. Use an absolute database path instead of a relative one.
7. Specify the database path in the form of a drive letter followed by a colon (for example C:).
8. If using the wildcard character, it must be the last character in both the old and new paths.

sqlcode: -20195

sqlstate: 08504

SQL20196N The one or more built-in types which are returned from the FROM SQL function or method does not match the corresponding built-in types which are parameters of the TO SQL function or method.

Explanation: The built-in types which are returned by a FROM SQL transform function or method have to match the types in the parameter list of the corresponding TO SQL transform function or method.

User response: Choose a different FROM SQL transform function or method or TO SQL transform function or method or alter either the FROM SQL transform function or method or TO SQL transform function or method to make sure that each built-in type returned from the FROM SQL function or method matches the corresponding built-in type that is a parameter of the TO SQL transform function or method.

sqlcode: -20196

sqlstate: 428FU

SQL20197N Cannot define *method-name* as an overriding method. Reason code *reason-code*.

Explanation: An attempt was made to define *method-name* as an overriding method. An overriding relationship between this method and an original method cannot be created because of one of the following reasons, as specified by *reason-code*:

- 1 Cannot find an original method with the same name.
- 2 The original method and the overriding method do not have the same number of parameters.
- 3 The data type of the parameter of the overriding method does not match the data type of the corresponding parameter of the original method.
- 4 The parameter name of the parameter of the overriding method does not match the parameter name of the corresponding parameter of the original method.
- 5 The locator indication of the parameter of the overriding method does not match the locator indication of the corresponding parameter of the original method.
- 6 The FOR BIT DATA indication of the parameter of the overriding method does not match the FOR BIT DATA indication of the corresponding parameter of the original method.
- 7 The RETURNS clause of the overriding method contains an AS LOCATOR clause, a CAST FROM clause or a FOR BIT DATA clause.
- 8 One of the following inherited method attributes is specified: SELF AS RESULT, SQL routine characteristics, or external routine characteristics.
- 9 Return type of the overriding method does not match the return type of the original method.

- 10 The return type of the overriding method is a structured type that is not a subtype of either:
 - the return type of the original method or
 - every return type for all methods that already override the original method.

User response: Modify the method definition based on the reason specified by the *reason-code* as follows:

- 1 Use a method name that identifies an existing method for the supertype of the structured type.
- 2 Define the same number of parameters for the overriding method as exists for the original method.
- 3 Change the data type to match the data type of the corresponding parameter of the original method.
- 4 Change the parameter name to match the name of the corresponding parameter of the original method.
- 5 Change the locator indication to match the locator indication of the corresponding parameter of the original method.
- 6 Change the FOR BIT DATA indication to match the FOR BIT DATA indication of the corresponding parameter of the original method.
- 7 Remove the AS LOCATOR clause, CAST FROM clause and FOR BIT DATA clause for the overriding method.
- 8 Remove the SELF AS RESULT method attribute and any SQL routine characteristic or external routine characteristic.
- 9 Change the return type to match the return type of the original method.
- 10 Change the return type so that it is a subtype of the original method and all methods that already override the original method.

sqlcode: -20197

sqlstate: 428FV

SQL20198N Method *method-name* calls itself recursively.

Explanation: A method attempted to call itself recursively. The recursion might be direct or indirect in nature.

User response: Modify the method definition.

sqlcode: -20198

sqlstate: 55054

SQL20199N The key transform table function used by the index extension of index *index-id* of table *table-id* in *tbspace-id* generated duplicate rows.

Explanation: The key transform table function specified by the GENERATE USING clause of the index extension used by index *index-id* generated duplicate rows. For a given invocation of the key transform table function, no duplicate rows should be produced. This error is occurred when inserting or updating the key value for the index *index-id* of table *table-id* in table space *tbspace-id*.

The statement cannot be processed.

User response: The code for the key transform table function used by the index extension of index *index-id*

must be modified to avoid the creation of duplicate rows.

To determine the index name, use the following query:

```
SELECT IID, INDSHEMA, INDNAME
FROM SYSCAT.INDEXES AS I,
     SYSCAT.TABLES AS T
WHERE IID = <index-id>
      AND TABLEID = <table-id>
      AND TBSpaceID = <tbspace-id>
      AND T.TBASchema = I.TBASchema
      AND T.TABNAME = I.TABNAME
```

sqlcode: -20199

sqlstate: 22526

SQL20200 - SQL20299

SQL20200N The install or replace of *jar-id* failed as *url* could not be located.

Explanation: The URL specified on the install or replace jar procedure did not identify a valid jar file.

User response: Reissue the install or replace jar procedure with a URL that identifies a valid jar file.

sqlcode: -20200

sqlstate: 46001

sqlstate: 46003

SQL20203N User defined function or procedure *function-name* has a Java method with an invalid signature.

Explanation: The signature of the java method used to implement the function or procedure was invalid. For example, the method may have parameters that are not mappable to the parameters on the corresponding create statement or the method for a procedure may specify a return value.

User response: Reissue the corresponding CREATE statement specifying parameters that match the Java method, or correct the parameters or return type of the Java method and rebuild the class.

sqlcode: -20203

sqlstate: 46007

SQL20201N The install, replace or remove of *jar-id* failed as the jar name is invalid.

Explanation: The jar name specified on the install, replace or remove jar procedure was invalid. For example, the jar id may be of the improper format, may not exist to be replaced or removed, or can not be installed as it already exists.

User response: Ensure the jar id is of the correct format. If the jar id exists, it may need to be removed before it can be installed. For the remove or replace procedures, ensure the jar id exists.

sqlcode: -20201

sqlstate: 46002

SQL20204N The user defined function or procedure *function-name* was unable to map to a single Java method.

Explanation: The identified function or procedure either failed to find a matching Java method, or found more than 1 matching Java method.

User response: Correct either the Java method or corresponding create statement so that the function or procedure call resolves to a single Java method.

sqlcode: -20204

sqlstate: 46008

SQL20202N The replace or remove of *jar-id* failed as class is in use by routine *routine-name* (specific name *specific-name*).

Explanation: The specified class in the jar file is currently in use by a defined procedure, or the replacement jar file does not contain the specified class for which a procedure is defined.

User response: Ensure all procedures referencing the classes being removed are dropped and resubmit the replace or remove procedure.

sqlcode: -20202

SQL20205N The user defined function or procedure *function-name* has an input argument with a null value that could not be passed to the method.

Explanation: A function created with "CALLED ON

NULL INPUT" or procedure has an input parameter with a null value but the Java datatype of this argument does not support null values. Examples of Java datatypes that do not support null values are BOOLEAN, BYTE, SHORT, INT, LONG or DOUBLE.

User response: If the method is to be called with null values, ensure the input Java types are capable of accepting a null value. For functions, the function could also be created with "RETURNS NULL ON NULL INPUT".

sqlcode: -20205

sqlstate: 39004

SQL20206W The procedure *function-name* returned too many result sets.

Explanation: The specified procedure returned more results sets than were specified on the CREATE PROCEDURE statement.

User response: Modify the procedure to return fewer result sets, or drop and recreate the procedure specifying the correct number of result sets.

sqlcode: +20206

sqlstate: 0100E

SQL20207N The install or remove jar procedure for *jar-id* specified the use of a deployment descriptor.

Explanation: The DEPLOY or UNDEPLOY parameter of the install or replace jar procedure was non-zero; this parameter is not supported and must be zero.

User response: Reissue the procedure with the DEPLOY or UNDEPLOY parameter set to zero.

sqlcode: -20207

sqlstate: 46501

SQL20208N Table *table-name* cannot be created. Reason code = *reason-code*

Explanation: The table cannot be created because it violates a restriction as indicated by the following reason code:

1. The table used to define a staging table is not a materialized query table with the REFRESH DEFERRED option.
2. The table used to define the staging table already has a staging table associated with it.
3. A materialized query table that references nicknames cannot be created if the CREATE TABLE statement is issued from a non-catalog database partition.
4. A materialized query table that references a nickname on which caching is not allowed cannot be created.

5. A security policy cannot be added to a materialized query table or to a staging table.

The statement cannot be processed.

User response: The action corresponding to the reason code is:

1. Specify a materialized query table with the REFRESHED DEFERRED option to define the staging table.
2. Specify a materialized query table that is not associated with a staging table.
3. Issue the CREATE TABLE statement from the catalog database partition.
4. Correct the fullselect specified in the CREATE TABLE statement so that it does not reference a nickname on which caching is not allowed.
5. Remove the SECURITY POLICY clause from the CREATE TABLE statement

sqlcode:-20208

sqlstate:428FG

SQL20209N The *option-type* option is not valid for table *table-name* with reason code *reason-code*

Explanation: The specified option is not valid as indicated by the following reason codes:

- 1 The READ ACCESS option cannot be specified on a table that is in the Set Integrity Pending No Access state.
- 2 The FULL ACCESS option is not valid if the table still has integrity types that are not checked.
- 3 The FULL ACCESS option is only valid on a table in the Normal No Data Movement state or on a detached table.
- 4 The FULL ACCESS option cannot be specified with the IMMEDIATE UNCHECKED option if the table is in the Normal No Data Movement state.
- 5 The PRUNE option is not valid on a table that is not a staging table.
- 6 The PRUNE and INCREMENTAL options cannot be specified simultaneously.
- 7 The ALL option cannot be specified with the IMMEDIATE UNCHECKED option if the table needs integrity checking due to an operation that involved data partitioning.
- 8 The ALL or GENERATED COLUMN option cannot be specified with the IMMEDIATE UNCHECKED option if the table's database partitioning key, data partitioning key,

multidimensional clustering key, or range-clustering key references a generated column whose expression has been altered through an ALTER TABLE statement or the table contains attached data partitions.

- 9 Neither the ALLOW READ ACCESS option nor the ALLOW WRITE ACCESS option can be specified on a table that is to have its identity column values generated for all rows nor on a materialized query table that is to be fully refreshed nor on a table that have been loaded and is to have its generated column or identity column values computed.
- 10 The ALLOW QUERY OPTIMIZATION USING REFRESH DEFERRED TABLES option can only be specified on a REFRESH DEFERRED materialized query table.

User response:

- 1 Do not specify the READ ACCESS option.
- 2 Use the FULL ACCESS option with the IMMEDIATE CHECKED option, or specify ALL as the integrity option with the IMMEDIATE UNCHECKED option.
- 3 Use the FULL ACCESS option with the IMMEDIATE CHECKED option.
- 4 Use the FULL ACCESS option without the IMMEDIATE UNCHECKED option.
- 5 Remove the table that is not a staging table from the statement.
- 6 Specify only one of PRUNE or INCREMENTAL.
- 7 Instead of specifying the ALL option, specify explicitly those integrity-options that are desired to be unchecked with the IMMEDIATE UNCHECKED option. Then issue another SET INTEGRITY statement with the IMMEDIATE CHECKED option to check the integrity of data partitioning for the table.
- 8 Omit the ALL or GENERATED COLUMN option from those integrity-options that are desired to be unchecked with the IMMEDIATE UNCHECKED option. Then issue another SET INTEGRITY statement with the IMMEDIATE CHECKED and FORCE GENERATED options to recompute the generated column values based on the new expression. The FORCE GENERATED option can be omitted if the data in the table are guaranteed to satisfy the new generated column expressions.
- 9 Specify the ALLOW NO ACCESS option on a table.
- 10 Remove the ALLOW QUERY OPTIMIZATION USING REFRESH DEFERRED TABLES option.

sqlcode: -20209

sqlstate: 428FH

SQL20211N The specification ORDER BY or FETCH FIRST n ROWS ONLY is invalid.

Explanation: An ORDER BY or FETCH FIRST n ROWS ONLY is not allowed in:

- the outer fullselect of a view
- the outer fullselect in the RETURN statement of an SQL Table function
- a materialized query table definition
- a subselect which is not enclosed in parenthesis

User response: In case of:

subselect

Enclose the subselect including the ORDER BY or FETCH FIRST n ROWS ONLY in parenthesis.

FETCH FIRST n ROWS ONLY

Use the ROW_NUMBER() OVER() clause in conjunction with a predicate in the where clause. Example:

```
SELECT name FROM
  (SELECT
    ROW_NUMBER() OVER() AS m, name
  FROM emp
  ) AS e
WHERE m < 10
```

ORDER BY

Use ORDER BY in the query using the view, the materialized query table, or the SQL table function instead.

sqlcode: -20211

sqlstate: 428FJ

SQL20212N User defined routine *function-name* encountered an exception attempting to load Java class *class-name* from JAR *JAR-name*. Original exception *underlying-exception*.

Explanation: A ClassNotFoundException has occurred. The ClassNotFoundException may reference an original Java exception which further describes why the class wasn't found. For example, the underlying exception might be an I/O error that occurred trying to read a JAR file, or an SQL error occurred reading the JAR from the data dictionary. As much of the following tokens that will fit within the SQLCA limits will be returned, as appropriate.

The *function-name* identifies the specific name of the external Java function or procedure whose execution encountered the ClassNotFoundException.

The *class-name* identifies the Java class whose definition could not be found.

The *JAR-name* optionally identifies the installed JAR expected to contain the identified class. '(none)' will be present unless the external Java function or procedure is defined to be in an installed JAR.

The *underlying-exception* optionally contains the toString() of the underlying exception that resulted in this ClassNotFoundException, if any. '(none)' will be present if there is no underlying exception.

User response: Execute an ALTER PROCEDURE to specify where the class is to be found, make sure the class is in the specified JAR or the system classpath, or correction the condition reported by the *underlying-exception*.

sqlcode: -20212

sqlstate: 46103

SQL20223N The ENCRYPT or DECRYPT function failed. Encryption facility not available.

Explanation: The encryption facility is not available to service the encryption or decryption request.

User response: If the encryption facility is not installed, then install it before using the ENCRYPT or DECRYPT functions. If the encryption facility is installed, then verify that it is working correctly.

sqlcode: -20223

sqlstate: 560BF

SQL20225W The buffer pool operation (DROP) will not take effect until the next database startup because the buffer pool is in use.

Explanation: The DROP BUFFERPOOL statement was issued and completed successfully, however a table space is still using this buffer pool. Even though a table space may be reassigned to a different buffer pool, the table space reassignment may only take effect on the next database restart. If the table space in question is dropped by the time this operation commits, then this buffer pool will be removed from memory at that time. Until the next database restart, this buffer pool may remain in memory and a CREATE or ALTER of any other buffer pool that would reuse this buffer pool ID may be deferred.

User response: Restart the database to delete the buffer pool from memory.

sqlcode: 20225

sqlstate: 01657

SQL20227N Required clause is missing for argument number of expression.

Explanation: *expression* expression requires that a clause be specified for argument number *number*. If *expression* is XMLATTRIBUTES, then an AS clause is required for the XML attribute name. If *expression* is XMLFOREST, then an AS clause is required for the XML element name. The statement cannot be processed.

User response: Correct the statement by providing the required clause for the argument.

sqlcode: -20227

sqlstate: 42633

SQL20230N The procedure name may not be specified by a host variable in the CALL statement and the arguments may not be specified with a USING DESCRIPTOR clause.

Explanation: The procedure name must be specified as an identifier in the CALL statement and the arguments must be explicitly provided. A host variable may not be used for the procedure name. The USING DESCRIPTOR clause may not be used to specify the arguments.

User response: The CALL statement must be rewritten to provide an identifier for the procedure name and to explicitly list the arguments. If either the procedure name or the arguments are not known until run time, use a dynamically prepared CALL statement.

For applications being migrated from a release previous to V8, the CALL_RESOLUTION DEFERRED precompile option can be used until the applications are rewritten to use the dynamically prepared CALL statement.

sqlcode: -20230

sqlstate: 42601

SQL20238N The table *table-name* is defined as CCSID UNICODE and cannot be used in an SQL function or SQL method.

Explanation: In a non-Unicode database, only tables with the ASCII encoding scheme may be referenced inside an SQL function or SQL method. Since the table *table-name* is defined as CCSID UNICODE, it may not be used in an SQL function or an SQL method.

User response: Do not use CCSID UNICODE tables in an SQL function or SQL method.

sqlcode: -20238

sqlstate: 560C0

SQL20239N Tables created in the Unicode encoding scheme cannot be a typed table, or contain graphic types or user-defined types.

Explanation: In a non-Unicode database, tables created in the Unicode encoding scheme cannot be a typed table and also cannot contain columns defined with any graphic type or user-defined type.

User response: Remove the CCSID UNICODE clause from the table definition or remove the graphic type or user-defined type from the table definition.

sqlcode: -20239

sqlstate: 560C1

SQL20240N Invalid specification of a column *column-name* of type DB2SECURITYLABEL. Reason code *reason-code*.

Explanation: For a column of type DB2SECURITYLABEL the specification of an attribute in a CREATE TABLE or ALTER TABLE statement may be invalid for the following reason. 10 A column of type DB2SECURITYLABEL cannot be defined as a generated column.

User response: Correct the specification of the column of type DB2SECURITYLABEL and resubmit the statement.

sqlcode: -20240

sqlstate: 42963

SQL20241N Writing a history file entry for dropped table *table-name* failed.

Explanation: Dropped table recovery is enabled on the table space in which the dropped table *table-name* resides. When a table space has dropped table recovery enabled, a history file entry is created as part of a table drop. This history file contains data which is useful during the recovery of a dropped table. The writing of the new history file entry for the dropped table failed. As a result, the table drop could not be completed.

A possible cause for such a failure is a full file system where the history file is located.

User response: Ensure that the history file can be written to by the database manager. If you are not concerned about dropped table recovery, disable this feature and reissue the drop table statement.

sqlcode: -20241

sqlstate: 560C2

SQL20242N The sample size specified in the TABLESAMPLE clause is not valid.

Explanation: The sample size specified in the TABLESAMPLE clause must be a positive numeric value greater than zero and less than or equal to 100.

The statement was not processed.

User response: Change the sample size specified in the TABLESAMPLE clause to a valid numeric value greater than zero and less than or equal to 100.

sqlcode: -20242

sqlstate: 2202H

SQL20243N The view *view-name* is the target in the MERGE statement, but is missing the INSTEAD OF trigger for the *operation* operation.

Explanation: The view *view-name* is a direct or indirect target in the MERGE statement and has an INSTEAD OF trigger defined for it, but does not have INSTEAD OF triggers defined for all operations. The trigger for the *operation* operation is not present.

User response: Create INSTEAD OF triggers for the UPDATE, DELETE and INSERT operations on view *view-name*, or drop all INSTEAD OF triggers for the view.

sqlcode: -20243

sqlstate: 428FZ

SQL20247N Table *table-name* cannot be partitioned and contain a column with data type DATALINK.

Explanation: An attempt was made to create or alter table *table-name* in such a way that would create a partitioned table that contained a column with data type DATALINK. A table cannot be both partitioned and contain such a column.

User response: Create or alter the table to be either partitioned or to include a column of data type DATALINK, but not both.

sqlcode: -20247

sqlstate: 429BH

SQL20250N The number of data partitions exceeds the number of table spaces for the table.

Explanation: The partitioned table was defined with NO CYCLE and there are not enough table spaces defined for the number of specified table partitions.

The statement cannot be processed.

User response: In the CREATE TABLE statement, either specify additional table spaces for the table or

remove the NO CYCLE specification for the table.

sqlcode: -20250

sqlstate: 428G1

SQL20251N The last data partition cannot be dropped from the table *table-name*.

Explanation: The ALTER TABLE statement would have resulted in the the last remaining data partition being detached from the table. This operation is not allowed. A partitioned table must have at least one data partition whose status is normal or attached. A partitioned table cannot have only data partitions whose status is detached. To determine the status of partitions, query the catalog view, SYSCAT.DATAPARTITIONS.

The statement cannot be processed.

User response: Ensure that the ALTER TABLE statement leaves at least one data partition in the table.

sqlcode: -20251

sqlstate: 428G2

SQL20253N The BEFORE trigger or generated column *name* cannot be created or altered because doing so would cause the table on which the BEFORE trigger or generated column is defined to be delete-connected to at least one of its ancestor tables through multiple relationships with conflicting delete rules. The conflict is between the delete rules of constraints *constraint-name1* and *constraint-name2*. Reason code = *reason-code*.

Explanation: The definition for the BEFORE trigger or generated column *name* in the CREATE TRIGGER, CREATE TABLE or ALTER TABLE statement is not valid for the reason specified by the *reason-code* as follows:

1. The execution of the delete rule of constraint *constraint-name1* will fire the BEFORE trigger *name* and the body of this BEFORE trigger modifies a column that is part of the foreign key of constraint *constraint-name2* or modifies a column that is referenced by a generated column which is part of the foreign key of constraint *constraint-name2*.
2. The execution of the delete rule of constraint *constraint-name1* will trigger the update of the generated column *name* and the generated column itself is part of the foreign key of constraint *constraint-name2*.
3. With the addition of the BEFORE trigger or generated column, *name*, the execution of both constraints *constraint-name1* and *constraint-name2* would cause an update of the same column.

The statement cannot be processed.

User response: The action corresponding to the reason code is:

1. Change the BEFORE trigger definition so that the BEFORE trigger will not be fired when the delete rule of constraint *constraint-name1* is executed, or change the body of the BEFORE trigger so that it does not modify a column that is part of the foreign key of constraint *constraint-name2* nor modify a column that is referenced by a generated column which is part of the foreign key of constraint *constraint-name2*.
2. Change the generated column expression so that the generated column will not be updated when the delete rule of constraint *constraint-name1* is executed or change foreign key of constraint *constraint-name2* so that it does not include the generated column.
3. Change the BEFORE trigger definition or generated column expression so that the execution of both constraints *constraint-name1* and *constraint-name2* would not cause an update of the same column.

sqlcode: -20253

sqlstate: 42915

SQL20254N FOREIGN KEY *name* is not valid since it would cause table *table-name* to be delete-connected to itself through a cycle that contains a delete rule of either RESTRICT or SET NULL. Reason code = *reason-code*.

Explanation: A referential cycle must not contain a delete rule of RESTRICT or SET NULL. The delete rule specified for FOREIGN KEY *name* in the CREATE TABLE or ALTER TABLE statement is not valid for the reason specified by the *reason-code* as follows:

1. The delete rule specified is RESTRICT or SET NULL and the referential relationship would cause table *table-name* to be delete-connected to itself.
2. The delete rule specified is CASCADE but the referential relationship would cause table *table-name* to be delete-connected to itself by a cycle that contains a delete rule of either RESTRICT or SET NULL.

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods.

The statement cannot be processed.

User response: The action corresponding to the reason code is:

1. Change the delete rule to CASCADE or NO ACTION or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
2. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.

sqlcode: -20254

sqlstate: 42915

SQL20255N FOREIGN KEY *name* is not valid because it would cause a descendent table *descendent-table-name* to be delete-connected to its ancestor table *ancestor-table-name* through multiple relationships with conflicting delete rules. The conflict is between the delete rules of constraints *constraint-name1* and *constraint-name2* on the descendent table. Reason code = *reason-code*.

Explanation: The referential constraint definition specified for FOREIGN KEY *name* in the CREATE TABLE or ALTER TABLE statement is not valid for the reason specified by the *reason-code* as follows:

1. The relationship is self-referencing and is specified with a delete rule of RESTRICT or SET NULL and the table is a dependent in a relationship with a delete rule of CASCADE.
2. The relationship is specified with a delete rule of CASCADE, and a self-referencing relationship with the delete rule of RESTRICT or SET NULL already exists on the table.
3. The foreign key overlaps with a foreign key of an existing relationship and their delete rules are either not the same or one of them is SET NULL.
4. The relationship is specified with a delete rule of CASCADE which would cause the descendent table to be delete-connected to its ancestor table through multiple relationships where at least two such relationships have overlapping foreign keys and their delete rules are either not the same or one of them is SET NULL.
5. At least one of the conflicting referential constraints is specified with a delete rule of SET NULL and its foreign key definition overlaps with either the partitioning key, or a dimension of an MDC table.
6. The relationship is specified with a delete rule of CASCADE which would cause the descendent table to be delete-connected to its ancestor table through multiple relationships where at least one of the relationships is specified with a delete rule of SET NULL and its foreign key definition overlaps with either the partitioning key, or a dimension of an MDC table.

7. The new referential constraint definition conflicts with existing referential constraints when BEFORE triggers and generated columns are considered.
8. The new referential constraint will cause another pair of conflicting referential constraints to co-exist in the delete-connected graph when BEFORE trigger and generated columns are considered.

name is the constraint name, if specified, in the FOREIGN KEY clause. If a constraint name was not specified, *name* is the first column name specified in the column list of the FOREIGN KEY clause followed by three periods. The same convention applies to *constraint-name1* and *constraint-name2*.

The statement cannot be processed.

User response: The action corresponding to the reason code is:

1. Change the delete rule to CASCADE or NO ACTION or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
2. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
3. Do not specify a column in the foreign key definition that is already contained in the existing foreign key definition or if the delete rule of the existing referential constraint is not SET NULL, change the delete rule of the new constraint to be the same.
4. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
5. Do not specify a column in the foreign key definition that is already contained in the existing partitioning key definition or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
6. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
7. Change the delete rule to NO ACTION or remove the triggers fired by the referential constraint or do not create the new referential constraint.
8. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from ALTER TABLE statement.

sqlcode: -20255

sqlstate: 42915

SQL20256N FOREIGN KEY *name* is not valid because it would cause two tables *table-name1* and *table-name2* to be delete-connected to each other while they are delete-connected to the same ancestor table *ancestor-table-name* through CASCADE relationships. Reason code = *reason-code*.

Explanation: When two tables are delete-connected to the same table through CASCADE relationships, the two tables must not be delete-connected to each other where the delete rule of the last relationship in each path is RESTRICT or SET NULL. The delete rule specified in a FOREIGN KEY clause of the CREATE TABLE or ALTER TABLE statement is not valid for the reason specified by the *reason-code* as follows:

1. The relationship is specified with a delete rule of RESTRICT or SET NULL and would cause the two tables to be delete-connected to each other.
2. The relationship is specified with a delete rule of CASCADE and would cause two tables to be delete-connected to each other where the delete rule of the last relationship in each path is RESTRICT or SET NULL. The statement cannot be processed.

User response: The action corresponding to the reason code is:

1. Change the delete rule to CASCADE or NO ACTION or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.
2. Change the delete rule to NO ACTION, RESTRICT, or SET NULL or eliminate the particular FOREIGN KEY clause from the CREATE TABLE or ALTER TABLE statement.

sqlcode: -20256

sqlstate: 42915

SQL20257N FINAL TABLE is not valid when the target view *viewname* of the SQL data change statement in a fullselect has an INSTEAD OF trigger definition.

Explanation: The fullselect includes an INSERT or UPDATE statement that targets a view that has an INSTEAD OF trigger defined for the SQL data change operation. The FINAL TABLE results of an INSTEAD OF trigger cannot be returned.

The statement cannot be processed.

User response: Change FINAL TABLE to NEW TABLE or drop the INSTEAD OF trigger.

sqlcode: -20257

sqlstate: 428G3

SQL20258N Invalid use of INPUT SEQUENCE ordering.

Explanation: The ORDER BY clause specifies INPUT SEQUENCE and the FROM clause of the fullselect does not specify an INSERT statement.

The statement cannot be processed.

User response: Use INPUT SEQUENCE when the FROM clause of the fullselect specifies an INSERT statement.

sqlcode: -20258

sqlstate: 428G4

SQL20259N Column *column-name* cannot be selected from the target of the data change statement in the FROM clause of the fullselect.

Explanation: A column has been selected that cannot be specified in the select list of this query. This column is based on a column in a view or fullselect that is the target of an INSERT or UPDATE statement that is specified in a FROM clause using either NEW TABLE or FINAL TABLE. The column selected is based on:

- A subquery
- A function that reads or modifies SQL data
- A function that is deterministic or has external action
- An OLAP function
- A next value for a sequence.

The statement cannot be processed.

User response: Change the select list to remove the column.

sqlcode: -20259

sqlstate: 428G6

SQL20260N The assignment clause of the UPDATE statement must specify at least one column that is not an INCLUDE column.

Explanation: The UPDATE statement has specified INCLUDE columns and the only assignments are made to INCLUDE columns. At least one of the assignments in an UPDATE statement must be to a column of the target of the UPDATE statement.

The statement cannot be processed.

User response: Change the statement to specify an assignment to a column of the target of the UPDATE statement.

sqlcode: -20260

sqlstate: 428G5

SQL20261N Invalid row movement to table *table-name* within the UNION ALL view *view-name*.

Explanation: A check-constraint on table *table-name* caused an updated row to be rejected. When attempting to insert the row into another underlying table of *view-name*, the table *table-name* accepted the row. The destination table of a moved row cannot be identical to the table from which it originated.

The statement cannot be processed.

User response: Verify the interaction between before update and before insert triggers on the target table. When performing row movement, DB2 executes before update triggers first, which may modify the row. The rejected row may then be processed by before insert triggers which may again modify the row in a way that it is now accepted by the check constraints of the target table.

Change the triggers so that this does not happen.

sqlcode: -20261

sqlstate: 23524

SQL20262N Invalid usage of WITH ROW MOVEMENT in view *view-name*. Reason code = *reason-code*.

Explanation: The view *view-name* has been defined with the WITH ROW MOVEMENT clause. This clause is not applicable for the view because of one of the following:

1. The view's outermost fullselect is not a UNION ALL.
2. The view contains nested UNION ALL operations other than in the outermost fullselect.
3. Not all view columns are updatable.
4. Two columns of the view are based on the same column of the base table.
5. One of the underlying views has an INSTEAD OF UPDATE trigger defined on it.

The view cannot be created.

User response: Depending on the reason code, do the following:

1. Omit the WITH ROW MOVEMENT clause. It is not applicable for views without UNION ALL.
2. Rewrite the view body so that UNION ALL only occurs on the outermost fullselect.
3. Omit columns that are not updatable from the view definition.
4. Rewrite the view body so that each column of a base table is only referenced once in the view definition.

5. Omit the WITH ROW MOVEMENT clause and use an INSTEAD OF UPDATE trigger on the newly defined view.

sqlcode: -20262

sqlstate: 429BJ

SQL20263N Invalid attempt to update view *view-name1* because view *view-name2* is defined WITH ROW MOVEMENT.

Explanation: The attempt to update *view-name1* failed because it directly or indirectly contains a UNION ALL operation involving view *view-name2* which is defined with the WITH ROW MOVEMENT clause.

The statement cannot be executed.

User response: Drop the view *view-name2* and recreate it without the WITH ROW MOVEMENT clause.

sqlcode: -20263

sqlstate: 429BK

SQL20264N For table *table-name*, authorization ID *auth-id* does not have *access-type* access to the column *column-name*.

Explanation: While accessing the table named *table-name*, the authorization ID *auth-id* is attempting *access-type* access on column *column-name*. The authorization ID does not have the LBAC credentials necessary to access the column in that way.

If you get this error when creating a generated column, note that you must have the LBAC credentials necessary to read the column in order to include it in a generation-expression.

User response: Contact a user that has SECADM authority and ask them to grant the authorization ID *authid* LBAC credentials that allow *access-type* access to the column *column-name*.

sqlcode: -20264

sqlstate: 42512

SQL20267N The function *function-name* (specific *specific-name*) modifies SQL data and is invoked in an illegal context. Reason code = *reason-code*.

Explanation: The function *function-name* with specific name *specific-name* is defined with the MODIFIES SQL DATA property. Functions with this property are only allowed as the last table reference in a select-statement, common-table-expression, RETURN statement that is a subselect, SELECT INTO statement, or row-fullselect in a SET statement. As well, each argument to the table function must be correlated to a table reference in the same FROM clause as the table function, and every

table reference must be correlated to by some argument in the table function. An argument is correlated to a table reference when it is a column of that table reference.

Reason-code:

1. There are table references following the table function.
2. The table function is not referenced in the outer most subselect.
3. The table function is preceded by a table reference which is not referenced by a function argument.
4. The table function is used in the body of a view definition.
5. The table function is used in a fullselect within an XQuery context.
6. The table function is referenced by an OUTER JOIN operator or is nested within other explicit joins (using parentheses in a joined-table clause).

The statement cannot be processed.

User response:

1. Rewrite the query so that the table function is the last table reference in the FROM clause.
2. Move the table function to be in the outermost subselect.
3. Remove the table reference not correlated to in the table function or include an argument in the table function that correlates to the table reference.
4. Remove the table function from the body of the view definition.
5. Remove the table function from the fullselect in the XQuery context.
6. Remove the OUTER JOIN operator or do not place table function in a nested explicit join.

For reason codes 1, 2, and 3, the query can be rewritten using a common table expression to isolate the table function invocation.

For example:

```
SELECT c1 FROM
  (SELECT c1 FROM t1, t2,
    TABLE(tf1(t1.c1) AS tf), t3)
  AS x, t4
```

Can be rewritten as:

```
WITH cte1 AS (SELECT c1 FROM t1,
  TABLE(tf1(t1.c1) AS tf),
  AS (SELECT c1 FROM t2, cte1, t3)
  SELECT c1 FROM x, t4;
```

sqlcode: -20267

sqlstate: 429BL

SQL20269 The nickname *nickname* cannot be referenced in an enforced referential constraint.

Explanation: A referential constraint in the CREATE TABLE statement is invalid. The constraint definition specifies ENFORCED but refers to a nickname.

The statement cannot be processed.

User response: Change the referential constraint to specify NOT ENFORCED or remove the reference to the nickname.

sqlstate: -20269

sqlcode: 428G7

SQL20271W The name at ordinal position *number* in the statement, with name *column-or-param-name*, was truncated.

Explanation: At least one name in the described statement was truncated. The first name that was truncated is identified by ordinal position *number* and name *column-or-param-name*. If performing a describe output of a prepared query, the ordinal position is relative to the select list column of the query. If performing a describe output of a CALL statement, the ordinal position is relative to the OUT or INOUT parameters of the procedure to which the CALL resolved. If performing a describe input of a CALL statement, the ordinal position is relative to the IN or INOUT parameters of the procedure to which the CALL resolved.

The column name or parameter name was either too long, or became too long after code page conversion.

User response: For a column name, if the exact name of the column is significant, change the table, view, or nickname so the column has a shorter name, or use a client whose code page does not cause expansion of the column name beyond the supported maximum length. For a parameter name, if the exact name of the parameter is significant, change the procedure so the parameter has a shorter name, or use a client whose code page does not cause expansion of the parameter name beyond the supported maximum length.

sqlcode: +20271

sqlstate: 01665

SQL20273N The nickname statistics cannot be updated because the database is not enabled for federation.

Explanation: An error has been detected at the instance level. The requested operation cannot be completed because federation was not enabled for the instance.

User response: Set the DBM variable FEDERATED to YES and then restart the database manager.

sqlcode: -20273

sqlstate: 55056

SQL20274W Some of the nickname statistics cannot be updated.

Explanation: Either DB2 cannot execute a query against a nickname to gather the statistics, or DB2 cannot write the results of the updates to the federated database system catalog.

User response: The nickname statistics update errors are listed in the log file, if a log file path was specified.

sqlcode: +20274

sqlstate: 550C8

SQL20275N The XML name *xml-name* is not valid. Reason code = *reason-code*.

Explanation: The statement cannot be processed because it violates a constraint as indicated by the following reason code:

1. xmlns is used as an attribute name, or prefix for an element or attribute name.
2. The namespace prefix in a qualified name is not declared within its scope.
3. The name for an element or attribute is not an XML QName.
4. The name of the XML processing instruction is not an XML NCName.
5. The name of the XML processing instruction cannot contain "xml" (in any combination of upper or lower case).
6. The name for an argument of XMLTABLE, XMLQUERY or XMLEXISTS expression is not an XML NCName.

User response: Correct the XML name and resubmit the statement.

sqlcode: -20275

sqlstate: 42634

SQL20276N The XML namespace prefix *xml-namespace-prefix* is not valid. Reason code = *reason-code*.

Explanation: The statement cannot be processed because it violates a constraint as indicated by the following reason code:

1. The namespace prefix is not an XML NCName.
2. xml or xmlns cannot be re-declared as a namespace prefix.
3. Duplicate namespace prefixes were declared.

User response: Correct the XML namespace prefix and resubmit the statement.

sqlcode: -20276

sqlstate: 42635

SQL20277W Characters were truncated while performing conversion from code page *source-code-page* to code page *target-code-page*. The maximum size of the target area was *max-len*. The source string length was *source-len* and its hexadecimal representation was *string*.

Explanation: During the execution of the SQL statement, a code page conversion operation has resulted in a string that is longer than the maximum size of the target object. Characters were truncated so the result would fit in the target area.

User response: If the truncation has caused an unexpected consequence, then expand the length of the target column and issue the statement again.

sqlcode: +20277

sqlstate: 01004

SQL20278W The view *viewname* may not be used to optimize the processing of queries.

Explanation: The fullselect of the view includes elements that prohibit the use of the statistics on the view for optimization when the view is not referenced directly in a query. These elements of the fullselect may include:

- aggregations functions
- distinct operations
- set operations (union, except or intersect).

The view is successfully altered to enable query optimization.

User response: No action is required. If the intent of the view is to optimize queries that do not directly reference the view, then the view could be dropped or have query optimization disabled. You could also consider defining the fullselect of the view to remove the elements that prevent optimization.

sqlcode: +20278

sqlstate: 01667

SQL20279N The view *view-name* cannot be enabled for query optimization. Reason code = *reason-code*.

Explanation: The view cannot allow the ENABLE QUERY OPTIMIZATION option because the fullselect does not conform to the set of queries that can take advantage of this capability. The statement failed for one of the following reasons:

1. The view directly or indirectly references an existing materialized query.

2. The view is a typed view.
3. The view references a function with external action.

The statement cannot be processed.

User response: The action is based on the reason code as follows:

1. Remove the reference to the materialized query table.
2. There is no way to specify statistics on a typed view. It may be possible to define a similar view that is not a typed view to enable optimization using the statistics.
3. Remove the reference to any function with external action from the view query.

sqlcode: -20279

sqlstate: 428G8

SQL20280W Insufficient permission to create or write to the *log-file-path* file.

Explanation: The statement completed successfully, but the user does not have permission to create or write to the specified log file, *log-file-path*.

User response: To write the details to the log file, make sure that you have write access to the log file path specified. Alternatively, omit the optional log file path.

sqlcode: -20280

sqlcode: 42501

SQL20282N .Net procedure or user-defined function *name*, specific name *specific-name* could not load .NET class *class*. Reason code *reason-code*.

Explanation: The .NET class given by the EXTERNAL NAME clause of a CREATE PROCEDURE or CREATE FUNCTION statement could not be loaded. The reason codes are:

1. The assembly of the .NET routine was not found.
2. Class was not found in the assembly specified.
3. A method with types matching those specified in the database catalogs could not be found in the class specified.

User response:

1. Ensure that correct assembly file is given, including any file extensions. If the full path is not specified, ensure that only one instance of the assembly exists in the system PATH, as the first instance of the assembly found in the PATH will be loaded.
2. Ensure that the assembly was specified correctly as described in response 1. Ensure that the case

sensitive class name was specified correctly and that it exists in the specified assembly.

3. Ensure that the class was specified correctly as described in response 2. Ensure that the case sensitive method name was specified correctly, and that it exists in the specified class as a "public static void" method.

sqlcode: -20282

sqlstate: 42724

SQL20284N No plan was possible to create for federated data source *server-name*. Reason = *reason-code*.

Explanation: While building a federated query access plan, the query fragment for one or more data sources cannot be processed because of a missing predicate or a problem with the query syntax as indicated by the following reason code:

1. A required predicate is missing.
2. A predicate that can be processed by the data source is combined with another predicate either using the OR operator or a BETWEEN predicate.

User response: See the federation documentation for this data source. Correct the query syntax as needed and resubmit the statement. The action corresponding to the reason code is:

1. Supply the missing predicate.
2. Change the statement syntax so that predicates for one data source are separated from predicates for another data source using the AND operator and not the OR operator.

sqlcode: -20284

sqlcode: 429BO

SQL20285N The statement or command is not allowed while table *table-name* has detached dependents.

Explanation: This table has detached dependents that are required to be incrementally maintained with respect to the current content of this table in order to preserve the integrity of the detached dependents. The statement or command is not allowed as doing so would prevent the detached dependents from being incrementally maintained.

User response: Query SYSCAT.TABDETACHEDDEP to identify the detached dependents of the table and issue the SET INTEGRITY statement with the IMMEDIATE CHECKED option for these detached dependents before re-issuing the failing statement or command. If it is imperative for the failing statement or command to be executed immediately (before the maintenance of the detached dependents using the SET

INTEGRITY statement), then issue the SET INTEGRITY statement with the FULL ACCESS option on the table to reset its detached property and re-issue the failing statement or command. Be aware that this latter approach will force remaining detached dependents to require full integrity processing on subsequent SET INTEGRITY statements.

The following query can be used to identify the detached dependents of a table, where <schema name> is the qualifier of *table-name* and <table name> is the table name portion of *table-name*.

```
SELECT DEPTABSCHEMA, DEPTABNAME
FROM SYSCAT.TABDETACHEDDEP
WHERE TABSCHEMA=<schema name> AND
      TABNAME=<table name>
```

sqlcode: -20285

sqlstate: 55057

SQL20287W The environment of the specified cached statement is different than the current environment. The current environment will be used to reoptimize the specified SQL statement.

Explanation: The Explain facility has been invoked to explain a statement that has been previously reoptimized with REOPT ONCE, but the current environment is different than the environment in which the cached statement was originally compiled. The current environment will be used to reoptimize the specified statement.

The statement will be processed.

User response: In order to ensure that the plan matches the plan in the cache, reissue the EXPLAIN in an environment that matches the one in which the original statement was reoptimized and cached.

sqlcode: -20287

sqlstate: 01671

SQL20288N Statistics could not be updated for object *object-name* of type *object-type*. Reason code = *reason-code*.

Explanation: Statistics could not be set for the target object of RUNSTATS or UPDATE for the reason given by the reason code. Possible reason codes are as follows:

1. Statistics are not supported for the target object type.
2. The RUNSTATS options specified are prohibited on a view.
3. Update on certain statistics of the target object type is not supported. Data page statistics is not applicable for XML paths indexes. For more information on certain statistics that cannot be

updated please see SYSSTAT.INDEXES catalog view description in the SQL Reference.

4. System sampling not supported on view definition.

The statement cannot be processed.

User response:

1. Verify that the object name specified as the target of the RUNSTATS or UPDATE can have statistics.
2. Remove RUNSTATS options that are prohibited on a view enabled for optimization.
3. Verify that the statistics of the target object type can be updated.
4. If sampling is desired, change the RUNSTATS options to specify BERNOULLI sampling.

sqlcode: -20288

sqlstate: 428DY

SQL20289N Invalid string length unit *unit* in effect for function *function-name*.

Explanation: The statement invoked a built-in function using a string length unit that is not valid with the type of data that is provided to the function. This can occur for the following reasons:

1. non-string data that is specified with an explicit string length unit *unit* for the LENGTH function. A string length unit cannot be specified for non-string data.
2. bit data or binary data was specified with a string length unit other than OCTETS. CODEUNITS16 or CODEUNITS32 are not valid with bit data or binary string data.
3. for the SUBSTRING function, OCTETS was used with graphic data and the *start* parameter is not odd or the *length* parameter is not even.
4. for the LOCATE function, OCTETS was used with graphic data and the *start* parameter is not odd.

The statement cannot be executed.

User response: Change the invocation of the function to remove the invalid string length unit or change it to a unit valid for the data type and values being processed.

sqlcode: -20289

sqlstate: 428GC

SQL20290N The SQL statement references routine *routine-name* (specific name *specific-name*) which cannot be run on partition *partition-number*.

Explanation: The routine *routine-name* (specific name *specific-name*) was called with an invalid partition number *partition-number*.

User response: Specify -1 for the partition number parameter to run the routine on the current partition.

sqlcode: -20290

sqlstate: 560CA

SQL20296N The ALTER TABLE statement is not allowed as it modifies some physical attribute of the table *table-name* that has detached partitions and there are dependent tables that need to be incrementally maintained with respect to these detached partitions.

Explanation: The table has detached partitions and there are dependent tables that need to be incrementally maintained with respect to these detached partitions. Modifying any physical attribute of the table is not allowed as doing so would invalidate the incremental maintenance of the dependent tables. The restricted physical attribute modification may include: adding a column, altering a column; or altering one of the following values: data capture, value compression, append, compact, logged, activate not logged initially.

User response: Identify the dependent tables that require incremental maintenance and issue the SET INTEGRITY statement with the IMMEDIATE CHECKED option on these dependent tables before re-issuing the failing ALTER TABLE statement.

The following query can be used to identify the dependent tables that require incremental maintenance, where <schema name> is the qualifier of *table-name* and <table name> is the table name portion of *table-name*.

```
WITH  
DEP_CNT(TOTAL_DEP) AS  
(SELECT COUNT(*) FROM SYSCAT.TABDEP),
```

SQL20300 - SQL20399

SQL20301W The table space *tablespace-name1* does not have the same prefetch size as *tablespace-name2*.

Explanation: All data table spaces used by a partitioned table should have the same prefetch size for optimal query performance.

Query performance will usually be enhanced by assuring that all data table spaces used by a partitioned table have the same prefetch size. This allows the optimizer to more accurately estimate the cost of alternative query plans and thus more effectively select the best plan. Significantly different prefetch sizes reduce the optimizer's ability to accurately estimate the cost of alternative query plans. The optimizer picks the most frequently occurring prefetch size to cost alternative query plans.

User response: The prefetch size for a table space can be found in SYSCAT.TABLESPACES. To find all of the

```
DEP_TAB(SCHEMA, NAME, TYPE, PROPERTY, REFRESH,  
        STATUS, CONST_CHECKED, LEVEL) AS  
(SELECT TABLES.TABSCHEMA, TABLES.TABNAME,  
        TABLES.TYPE, TABLES.PROPERTY,  
        TABLES.REFRESH, TABLES.STATUS,  
        TABLES.CONST_CHECKED, 0  
 FROM SYSCAT.TABLES TABLES  
 WHERE TABLES.TABSCHEMA='<schema name>' AND  
        TABLES.TABNAME='<table name>'  
 UNION ALL  
 SELECT TABDEP.TABSCHEMA, TABDEP.TABNAME,  
        TABDEP.DTYPE, TABLES.PROPERTY,  
        TABLES.REFRESH, TABLES.STATUS,  
        TABLES.CONST_CHECKED, DEP_TAB.LEVEL + 1  
 FROM SYSCAT.TABDEP TABDEP, DEP_TAB,  
        SYSCAT.TABLES TABLES  
 WHERE TABDEP.DTYPE IN ('S', 'V', 'W', 'T') AND  
        TABDEP.BSCHEMA = DEP_TAB.SCHEMA AND  
        TABDEP.BNAME = DEP_TAB.NAME AND  
        TABLES.TABSCHEMA = TABDEP.TABSCHEMA AND  
        TABLES.TABNAME = TABDEP.TABNAME AND  
        DEP_TAB.LEVEL <  
        (SELECT DEP_CNT.TOTAL_DEP FROM DEP_CNT))  
 SELECT DISTINCT * FROM  
(SELECT DEP_TAB.SCHEMA, DEP_TAB.NAME  
 FROM DEP_TAB  
 WHERE STATUS='C' AND  
        (DEP_TAB.TYPE = 'S' AND  
        DEP_TAB.REFRESH = 'I' AND  
        SUBSTR(DEP_TAB.CONST_CHECKED,5,1)<>'F' OR  
        DEP_TAB.TYPE = 'T' AND  
        SUBSTR(DEP_TAB.PROPERTY,2,1) = 'Y' AND  
        SUBSTR(DEP_TAB.CONST_CHECKED,7,1)<>'F')  
 ) X;
```

sqlcode: -20296

sqlstate: 55057

data table spaces used by a table 'table-name', and their corresponding prefetch sizes, issue the query:

```
SELECT  
        SUBSTR(DATAPARTITIONNAME,1,15)  
        DATAPARTITIONNAME,  
        SUBSTR(TBSPACE,1,15) TBSPACE,  
        SYSCAT.DATAPARTITIONS.TBSPACEID TBSPACEID,  
        PREFETCHSIZE  
 FROM  
        SYSCAT.TABLESPACES,  
        SYSCAT.DATAPARTITIONS  
 WHERE  
        SYSCAT.TABLESPACES.TBSPACEID =  
        SYSCAT.DATAPARTITIONS.TBSPACEID AND  
        TABNAME = 'table-name'
```

In order to match the prefetch size across all table spaces used by the table, the following options are available, depending on the statement issued that caused this warning:

- Alter the table space to set the prefetch size to match other table spaces for the table.
- If you issued a CREATE TABLE statement, drop the table and recreate the table with a set of compatible table spaces.
- If you issued an ALTER TABLE statement with the ADD PARTITION clause, detach the newly added partition and resubmit the ALTER TABLE statement with a partition in a compatible table space.
- If you issued an ALTER TABLE statement with the ATTACH clause, detach the newly attached partition and resubmit the ALTER TABLE statement with a table in a compatible table space.

sqlcode: +20301

sqlstate: 01674

SQL20302W More table spaces than required were specified in the IN or LONG IN clause. The extra table spaces are ignored.

Explanation: If the table being created is a non-partitioned table, then more than one table space is specified in the IN or LONG IN clause. The first table space specified is used to store the table data or long data. Only one table space should be specified in the IN or LONG IN clause for a non-partitioned table.

If the table being created is a partitioned table, then the number of table spaces specified in the IN or LONG IN clause was more than the number of partitions defined for the table. When adding partitions to a partitioned table that was created with the long data in the same table space as regular data, the LONG IN clause provided in the ADD PARTITION clause is ignored.

The statement was processed successfully, but the extra table spaces were ignored.

User response: None.

sqlcode: +20302

sqlstate: 01675

SQL20303N A unique partitioned index must contain all partitioning columns of the partitioned table.

Explanation: To create a unique partitioned index on a partitioned table, the index key must contain all of the partitioning columns.

User response: Ensure that all the partitioning columns are specified in the index key.

sqlcode: -20303

sqlstate: 42990

SQL20304N Invalid index definition involving an XMLPATTERN clause or a column of data type XML. Reason code = reason-code.

Explanation: A column defined with a data type of XML is included (or missing) in the columns for the index. The index definition is not valid for one of the following possible reason codes.

- 1 There is one column specified that is defined with a data type of XML, but the definition is missing the XMLPATTERN clause to specify the index keys to generate for each XML value.
- 2 An XMLPATTERN clause is present but there are multiple index columns specified.
- 3 The index is defined as UNIQUE and the XMLPATTERN includes descendant, descendant-or-self axes, '///', xml-wildcards, node(), or processing-instruction().
- 4 An XMLPATTERN clause is present but the single index column specified is not defined with data type XML.
- 5 The path expression specified in the XMLPATTERN clause does not start with '/' or '///'.
- 6 The pattern expression does not include a name test or kind test following '/'.
- 7 The pattern expression uses an unsupported axis in an axis step. Only the following forward axes are supported: child, attribute, descendant, self, and descendant-or-self.
- 8 The pattern expression specifies an invalid kind test, or some syntax that is not a valid name test or kind test as supported in a pattern expression.
- 9 The pattern expression specifies a predicate (an expression enclosed in square brackets), but predicates are not supported for pattern expressions in an XMLPATTERN clause.
- 10 The pattern expression includes other XQuery syntax not supported in an XMLPATTERN clause to which the preceding reason codes do not apply.
- 11 On a z/OS database server, the number of steps in the pattern expression exceeds the limit of 50 steps.

User response:

- 1 Specify the XMLPATTERN clause.
- 2 If the index is intended as a key for XML data, ensure that only one column defined with a data type of XML is specified. Otherwise, remove the XMLPATTERN clause.

- 3 Either remove the UNIQUE specification or change the XMLPATTERN definition to remove descendant, descendant-or-self axes, '//', xml-wildcards, node(), or processing-instruction().
- 4 Either remove the XMLPATTERN clause or change the specified column to a single column defined with a data type of XML.
- 5 Ensure that the pattern expression begins with '/' or '//'. The XQuery syntax for which '/' or '/' is an abbreviation is not supported for the XMLPATTERN clause of the CREATE INDEX statement.
- 6 Add a name test or a kind test to the pattern expression following '/'.
- 7 Remove any reverse axes from the pattern expression. For example, the parent axis must not be used in a pattern expression.
- 8 Check the pattern expression for kind tests or name tests that do not match the syntax specification for the XMLPATTERN clause of the CREATE INDEX statement. Correct or remove unsupported syntax.
- 9 Remove any predicates from the pattern expression in the XMLPATTERN clause.
- 10 Change the pattern expression to remove any syntax that is not supported for the XMLPATTERN clause of the CREATE INDEX statement. If the pattern expression includes an asterisk (*), ensure that the name tests in the pattern expression correctly use the wildcard. If used with a QName, there must be a colon before or after the wildcard character, otherwise it becomes a multiplication operator. The asterisk cannot be used as a multiplication operator in the pattern expression. You should also ensure that the XMLPATTERN clause does not include any other XQuery operators, XQuery functions or XQuery FLWR expressions (for, let, where, return).
- 11 Reduce the number of steps in the pattern expression. If the value to be indexed in the XML documents requires more than 50 steps, the index cannot be created.

sqlcode: -20304

sqlstate: 429BS

SQL20305N An XML value cannot be inserted or updated because of an error detected when inserting or updating the index identified by *index-id* on table *table-name*. Reason code = *reason-code*. For reason codes related to an XML schema the XML schema identifier = *xml-schema-id* and XML schema data type = *xml-schema-data-type*.

Explanation: The insertion or update of an XML value failed during insertion or update of the specified index. The statement cannot proceed and the table and index remain unchanged. The schema data type and schema identifier are not applicable for all reason codes. See specific reason codes for details.

The error occurred because of one of the following possible reason codes:

- 1 One or more XML node values in an XML value being inserted or updated exceeds a length constraint imposed by the identified index. The index on an XML column is defined to use the SQL type VARCHAR with a specific length specified. The length of one or more XMLPATTERN result values exceeds the user-specified length constraint for the VARCHAR data type.
- 2 One or more XML node values in an XML value being inserted or updated is a list data type node that cannot be indexed by the identified index. List data type nodes are not supported in the index.
- 3 One or more XML node values is a valid XML value but cannot be cast to the schema data type because of DB2 limitations. DB2 does not support the entire range of XML values.
- 4 One or more XML node values is a valid XML value but cannot be cast to the index data type for the identified index because of DB2 limitations. DB2 does not support the entire range of XML values.

User response: Determine the index name and the XML pattern clause.

The index name (<index-name>,<index-schema>) can be obtained from SYSCAT.INDEXES by issuing the following query using index-id:

```
SELECT INDNAME, INDSHEMA
FROM SYSCAT.INDEXES
WHERE IID =index-id AND
      TABSCHEMA = 'schema ' AND TABNAME = 'table-name'
```

After the index name (<index-name>,<index-schema>) is found, it can be used to obtain the index data type and XML pattern from SYSCAT.INDEXES by issuing the following query:


```

SELECT DATATYPE, PATTERN
FROM SYSCAT.INDEXXMLPATTERNS
WHERE INDSHEMA = 'index-schema' AND
      INDNAME = 'index-name'

```

If the `<xml-schema-id>` is not `"*N"`, obtain the name of the XML schema containing the identified schema data type by issuing the following query using `<xml-schema-id>`:

```

SELECT OBJECTNAME
FROM SYSCAT.XSROBJECTS
WHERE OBJECTID = 'xml-schema-id'

```

- 1 Use the XML pattern information to identify the set of matching XML nodes to inspect to determine which string values are beyond the limit of the length constraint specified by the index.
- 2 Obtain the name of the XML schema. Use the XML pattern information to identify the set of matching XML nodes to inspect and compare against the identified schema data type `xml-schema-data-type` found in the corresponding schema. Determine which node values are list data type nodes.
- 3 Obtain the name of the XML schema. Use the XML pattern information to find the set of matching XML nodes to inspect and compare against the identified schema data type `xml-schema-data-type` found in the corresponding schema. Determine which node values exceed the range of values supported by DB2 for the schema data type.
- 4 Use the XML pattern information to identify the set of matching XML nodes to inspect and compare against the data type specified for the identified index. Determine which node values exceed the range of values supported by DB2 for the index data type.

sqlcode: -20305

sqlstate: 23525

SQL20306N An index on an XML column cannot be created because of an error detected when inserting the XML values into the index. Reason code = *reason-code*. For reason codes related to an XML schema the XML schema identifier = *xml-schema-id* and XML schema data type = *xml-schema-data-type*.

Explanation: The statement cannot proceed and the table remains unchanged. The schema data type and schema identifier are not applicable for all reason codes. See specific reason codes for details. The creation of the index on an XML column failed for one of the following possible reason codes:

- 1 One or more XML node values in an XML value being inserted or updated exceeds a length constraint imposed by the index that is being created. The index on an XML column is defined to use the SQL type VARCHAR with a specific length specified. The length of one or more XMLPATTERN result values exceeds the user-specified length constraint for the VARCHAR data type.
- 2 One or more XML node values in an XML value being inserted into the index during index creation is a list data type node that cannot be indexed by the specified index. List data type nodes are not supported in the index.
- 3 One or more XML node values is a valid XML value but cannot be cast to the schema data type because of DB2 limitations. DB2 does not support the entire range of XML values.
- 4 One or more XML node values is a valid XML value but cannot be cast to the index data type for the index being created because of DB2 limitations. DB2 does not support the entire range of XML values.

User response: Determine the XMLPATTERN clause from the index definition.

If the `<xml-schema-id>` is not `"*N"`, obtain the name of the XML schema containing the identified schema data type by issuing the following query using `<xml-schema-id>`:

```

SELECT OBJECTNAME
FROM SYSCAT.XSROBJECTS
WHERE OBJECTID = 'xml-schema-id'

```

- 1 Use the XML pattern information to identify the set of matching XML nodes to inspect to determine which string values are beyond the limit of the length constraint specified by the index.
- 2 Obtain the name of the XML schema. Use the XML pattern information to identify the set of matching XML nodes to inspect and compare against the identified schema data type `xml-schema-data-type` found in the corresponding schema. Determine which node values are list data type nodes.
- 3 Obtain the name of the XML schema. Use the XML pattern information to find the set of matching XML nodes to inspect and compare against the identified schema data type `xml-schema-data-type` found in the corresponding schema. Determine which node values exceed the range of values supported by DB2 for the schema data type.
- 4 Use the XML pattern information to identify the set of matching XML nodes to inspect and compare against the data type specified for the

index being created. Determine which node values exceed the range of values supported by DB2 for the index data type.

sqlcode: -20306

sqlstate: 23526

SQL20307N Table *source-tablename* cannot be attached to table *target-tablename*. Reason code = *reason code*.

Explanation: The characteristics of the target table do not sufficiently match the characteristics of the source table in the ALTER TABLE...ATTACH statement.

The *reason-code* indicates the type of mismatch.

- 1 The number of columns (the COLCOUNT column in SYSCAT.TABLES) of the source and target table does not match.
- 2 Compression clause (VALUE COMPRESSION or SYSTEM COMPRESSION DEFAULT) does not match.
- 3 The APPEND mode of the tables does not match.
- 4 The code pages of the source and target table do not match.
- 5 The source table is a partitioned table with more than one data partition or with ATTACHED or DETACHED data partitions. A source table that is partitioned can only be attached if it has only one data partition and no ATTACHED or DETACHED data partitions.
- 6 The source table is a system table, a view, an MQT, a typed table, a table ORGANIZED BY KEY SEQUENCE or a declared global temporary table. The source table must be a base table.
- 7 The target and source table are the same. You cannot attach a table to itself.
- 8 The NOT LOGGED INITIALLY clause was specified for either the source table or the target table, but not both.
- 9 The DATA CAPTURE CHANGES clause was specified for either the source table or the target table, but not both.
- 10 The distribution clauses of the tables do not match. The distribution key must be the same for the source table and the target table.
- 11 The ORGANIZE BY DIMENSIONS clauses of the tables do not match. Only one of the tables has an ORGANIZE BY DIMENSIONS clause specified or the organizing dimensions are different.

- 15 The security protection on the tables is not identical. The tables are protected by different security policies.
- 16 Compress clause (COMPRESS NO or COMPRESS YES) does not match.
- 99 The target table exists in a table space that has been converted to a large table space, and its indexes have not yet been reorganized or rebuilt to support large RIDs.

User response: Correct the mismatch between the tables by modifying the source table to match the characteristics of the target table, or by modifying the target table to match the characteristics of the source table.

For reason codes 4, 5, 6 and 11 the characteristics of neither the source or target table can be easily modified for compatibility. (For reason code 5, *source tablename* is partitioned, so it must have exactly one visible (neither attached or detached) data partition.)

In cases where it is difficult to modify the characteristics of either the source or target table for compatibility, you can create a new table that is compatible with the target table, and copy the data from *source-tablename* to this new table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 1 You can add columns to the table which is missing one or more columns using the statement:
ALTER TABLE ... ADD COLUMN ... DEFAULT ...

Make sure that the default value of the added column is the same as the default value of the column in the table where the column already exists. Query SYSCAT.COLUMNS.IMPLICITVALUE for the column in the table where the column already exists. If the value is not NULL, then use the default clause of the ALTER TABLE ADD COLUMN statement to set the default value to match the value in SYSCAT.COLUMNS.IMPLICITVALUE.

Note: You can only add columns after the last existing column of the table. If the missing column is not the last column, create a new source table.

Alternatively, you can drop a column from the table that has the extra column:

```
ALTER TABLE ... DROP COLUMN ...
```

- 2 To achieve agreement between value compression values use one of the following statements:

```
ALTER TABLE ... ACTIVATE VALUE COMPRESSION
ALTER TABLE ... DEACTIVATE VALUE
                                COMPRESSION
```

To achieve row compression agreement use one of the following statements:

```
ALTER TABLE ... COMPRESS YES
ALTER TABLE ... COMPRESS NO
```

- 3 To achieve append mode agreement use one of the following statements:

```
ALTER TABLE ... APPEND ON
ALTER TABLE ... APPEND OFF
```

- 4 Create a new source table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 5 Detach data partitions from the source table until there is a single visible data partition using the statement:

```
ALTER TABLE ... DETACH PARTITION
```

Include any necessary set integrity statements. Otherwise, create a new source table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 6 Create a new source table that is not one of the disallowed types. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 7 Determine the correct table to use as the source or target table.

- 8 Either make the table which is not logged initially be logged by issuing the COMMIT statement, or make the table which is logged be not logged initially by entering the statement:

```
ALTER TABLE .... ACTIVATE NOT LOGGED
                                INITIALLY
```

- 9 To enable data capture changes on the table that does not have data capture changes turned on, run the statement:

```
ALTER TABLE ... DATA CAPTURE CHANGES
```

To disable data capture changes on the table that does have data capture changes turned on, run the statement:

```
ALTER TABLE ... DATA CAPTURE NONE
```

- 10 It is recommended that you create a new source table in this case, because you cannot change the distribution key of a table spanning multiple database partitions. To change a distribution key on tables in single-partition database, run the statements:

```
ALTER TABLE ... DROP DISTRIBUTION
ALTER TABLE ... ADD DISTRIBUTION
                                (key-specification)
```

- 11 Create a new source table which matches the target table with respect to the ORGANIZE BY DIMENSIONS clause. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 15 The two tables must be protected using the same security policy, have the same column defined as type SYSPROC.DB2SECURITYLABEL, and have the same set of protected columns.

- 16 Use ALTER TABLE *tablename* COMPRESS [YES | NO], to ensure that the COMPRESS attributes of the source and target table match.

- 99 Convert the indexes on the target table to support large RIDs by issuing the command: REORG INDEXES ALL FOR TABLE *target-tablename* ALLOW NO ACCESS.

sqlcode: -20307

sqlstate: 428GE

SQL20308N Parsing with the STRIP WHITESPACE option is not allowed when the input includes a text node string value with only whitespace characters that is more than 1000 bytes long.

Explanation: The option to STRIP WHITESPACE during XML parsing will fail if a text node string value is encountered that consists only of whitespace characters and has a length of more than 1000 bytes.

The statement cannot be processed.

User response: Use the PRESERVE WHITESPACE option or modify the input to remove whitespace in excess of 1000 bytes from any text nodes with a string value consisting of only whitespace characters.

sqlcode: -20308

sqlstate: 54059

SQL20309N Invalid use of an error tolerant nested-table-expression.

Explanation: An error tolerant nested-table-expression (a nested-table-expression that specifies the RETURN DATA UNTIL clause) cannot be referenced in the following places:

- The fullselect of a materialized-query-definition.
- The same statement or compound statement that contains an insert, update, or delete operation.
- The SELECT statement for a cursor of a positioned DELETE or positioned UPDATE statement.

The statement cannot be processed.

User response: Remove the RETURN DATA UNTIL clause of the nested-table-expression and resubmit the statement.

sqlcode: -20309

sqlstate: 428GG

**SQL20316N Invalid compilation environment.
Reason code = reason-code**

Explanation: The compilation environment provided is invalid for the reason specified in the accompanying reason code.

1. The format of the compilation environment provided is not correct.
2. The version of the compilation environment provided is not supported.
3. The size of the compilation environment provided is not valid.
4. The codepage used by the compilation environment provided is not compatible with this database.

The statement cannot be executed.

User response: The action is based on the reason codes as follows:

1. Acquire the compilation environment again and ensure that it is not altered in any fashion prior to use.
2. Acquire the compilation environment again using a compatible level of software.
3. Acquire the compilation environment again and ensure that it is not altered in any fashion prior to use.
4. Acquire the compilation environment again using a database with the same codepage as this one.

sqlcode: -20316

sqlstate: 51040

SQL20317N Automatic storage has not been defined for the database.

Explanation: Either an attempt has been made to create a table space where the storage is managed automatically, or an attempt has been made to add new storage paths to the database, but automatic storage has not been defined for the database.

User response: Automatic storage cannot be enabled on existing databases. To enable automatic storage for a new database, specify the AUTOMATIC STORAGE clause on the CREATE DATABASE command.

sqlcode: -20317

sqlstate: 55060

SQL20318N Table space *tablespace-name* of type *tablespace-type* cannot be altered using the operation *operation*.

Explanation: The ALTER TABLESPACE statement on table space *tablespace-name* attempted to perform the operation *operation* but the table space type is *tablespace-type*.

A table space defined as MANAGED BY AUTOMATIC STORAGE has its containers managed by the database manager. These containers cannot be altered.

User response: Do not issue the ALTER TABLESPACE statement since the database manager will automatically extend existing containers or create new containers based on the automatic storage defined for the database. Use the ALTER DATABASE STORAGE command to add new paths to the database's automatic storage collection.

sqlcode: -20318

sqlstate: 42858

SQL20319N The SET TABLESPACE CONTAINERS command is not allowed on an automatic storage table space.

Explanation: Containers associated with automatic storage table spaces are under the control of the database and cannot be redefined via the SET TABLESPACE CONTAINERS command.

User response: To specify a new set of paths for all automatic storage table spaces in the database, use the ON option of the RESTORE DATABASE command and specify one or more paths.

sqlcode: -20319

sqlstate: 55061

SQL20320N The maximum size specified for the table space is not valid.

Explanation: The maximum size specified in the CREATE TABLESPACE or ALTER TABLESPACE statement is not valid. If creating the table space, the maximum size must be greater than or equal to the initial size specified. If altering an existing table space, the maximum size must be greater than or equal to the current size of the table space.

User response: Specify a larger value for the maximum size as described above.

sqlcode: -20320

sqlstate: 560B0

SQL20321N Storage paths cannot be provided because the database is not enabled for automatic storage.

Explanation: The database in the backup image is not enabled for automatic storage but storage paths are being provided in one of the following ways:

- Storage paths are being included in a call to the RESTORE DATABASE API.
- Storage paths are being specified with the ON option of the RESTORE DATABASE command.

User response: Resolve the problem using the appropriate action:

- Do not include any storage paths when calling the RESTORE DATABASE API.
- Do not specify the ON option of the RESTORE DATABASE command.

sqlcode: -20321

sqlstate: 55062

SQL20322N The database name provided does not match *server-name*, the name of the database that the application is connected to.

Explanation: The database name does not match *server-name*, the name of the database that the application is currently connected to. The database name was either explicitly specified or determined by the specified database alias name.

User response: If the intention is to alter the database that you are currently connected to, either remove the database name from the statement or specify the correct name. If the intention is to alter the database with the given name, and not the database you are currently connected to, disconnect from the current database and connect to the specified database before resubmitting the statement. If you are backing up or restoring a database, connect to that database and provide the correct database name or database alias name.

sqlcode: -20322

sqlstate: 42961

SQL20323N The storage path *storage path* already exists for the database or is specified more than once.

Explanation: Either a storage path being added already exists for the database, or there are duplicates within the list being provided.

User response: Remove the path from the command or statement and resubmit the command or statement.

sqlcode: -20323

sqlstate: 42748

SQL20324N The operation *operation* is already in progress.

Explanation: The operation *operation* has already been issued in this transaction or it has been issued as part of a separate uncommitted transaction.

User response: Commit the transaction with the outstanding operation and reissue the statement.

sqlcode: -20324

sqlstate: 25502

SQL20325N Adding, extending, or setting containers for table space *tablespace-name* would exceed the maximum size *max-size*.

Explanation: Table space *tablespace-name* has AUTORESIZE set to YES with a defined maximum size. However, the amount of space being added to the table space by the ALTER TABLESPACE statement or set by the SET TABLESPACE CONTAINERS command is resulting in the size of the table space being greater than this maximum size.

User response: If executing an ALTER TABLESPACE statement then before resubmitting the statement, increase MAXSIZE for the table space such that it is greater than or equal to the current size of the table space plus the amount of space being added. Alternately, set AUTORESIZE to NO for the table space. Note that disabling auto-resize will result in the current values of MAXSIZE and INCREASESIZE being lost.

If executing the SET TABLESPACE CONTAINERS command then specify a set of containers that has a total size less than or equal to the maximum size of the table space.

sqlcode: -20325

sqlstate: 54047

SQL20326N An XML element name, attribute name, namespace prefix or URI ending with *string* exceeds the limit of 1000 bytes.

Explanation: The system is processing an element name, attribute name, namespace prefix or a URI to generate an internal identifier for the string. The length of the string exceeds the limit of 1000 bytes for the string when represented in UTF8. The value of *string* gives the ending characters of the string that exceeded the limit.

The statement cannot be processed.

User response: Try to use shorter element names, attribute names, namespace prefixes or URIs and then try the operation again.

sqlcode: -20326

sqlstate: 54057

SQL20327N The internal representation of an XML path exceeds the limit of 125 levels.

Explanation: The system is generating an internal representation of an XML path. The path may exist in an XML document that is being parsed or validated or in an XML value that is being constructed. The limit is reached because the document is nested too deep.

The statement cannot be processed.

User response: For a document or constructed XML value, reduce the number of levels of elements and attributes that are used.

sqlcode: -20327

sqlstate: 54058

SQL20328N The document with target namespace *namespace* and schema location *location* already has been added for the XML schema identified by *schema-name*.

Explanation: This error can occur while invoking the XSR_ADDSCHEMADOC stored procedure. Within an XML schema, there cannot be two documents with the same targetnamespace and schemalocation.

The statement cannot be processed.

User response: Change either the namespace or schemalocation of the document that is being added.

sqlcode: -20328

sqlstate: 42749

SQL20329N The completion check for the XML schema failed because one or more XML schema documents is missing. One missing XML schema document is identified by *uri-type* as *uri*.

Explanation: The XML schema registration completion processing determined that more than one XML schema document is required for a complete XML schema and at least one XML schema document is missing from the XML schema repository. The missing XML schema document is identified by the either targetnamespace or schemalocation *uri-type* and the value for the namespace or XML schema location *uri*. The reference to the missing XML schema document may be included in one of the XML schema documents that is defined for the XML schema.

The statement cannot be processed.

User response: Add any missing XML schema documents for the XML schema to the XML schema repository. The document identified by *uri-type* as *uri* must be added.

sqlcode: -20329

sqlstate: 428GI

SQL20330N The *xsubject-type* identified by the XML *uri-type1* *uri1* and XML *uri-type2* *uri2* is not found in the XML schema repository.

Explanation: Processing of the statement or command required the use of an XSROBJECT from the XML schema repository that could not be found.

If the *xsubject-type* is XMLSCHEMA, then an XML schema is required for validation of an XML value. The *uri-type1* is NAMESPACE and the XML schema target namespace *uri1* may have been identified explicitly in the statement using the ACCORDING TO XMLSCHEMA URI clause or may be identified in the XML value. If the optional LOCATION clause is also specified, then *uri-type2* is LOCATION and *uri2* indicates this value, otherwise it is an empty string.

If the *xsubject-type* is EXTERNAL ENTITY, then an XML external entity is required for parsing or validation of an XML value. The identification of the external entity is based on *uri-type1* of SYSTEM ID with the system identifier as *uri1* and *uri-type2* of PUBLIC ID with the public identifier as *uri2*. If *uri2* is empty, then no public identifier was available.

The statement or command cannot be processed.

User response: Register the XML schema or XML external entity identified by *uri1* and *uri2* before processing the XML value.

sqlcode: -20330

sqlstate: 22532 or 4274A

SQL20331N The XML comment value *string* is not valid.

Explanation: The XML comment cannot contain two adjacent hyphens and cannot end in a hyphen.

User response: Ensure the value for the XML comment is valid.

sqlcode: -20331

sqlstate: 2200S

SQL20332N The XML processing instruction value *string* is not valid.

Explanation: The XML processing instruction must not contain the substring '?>'.

User response: Ensure the value for the XML processing instruction is valid.

sqlcode: -20332

sqlstate: 2200T

SQL20333N The operation could not be performed because it violated an integrity constraint at data source *data-source*. Associated text and tokens are *tokens*.

Explanation: The insert, update, or delete operation violated an integrity constraint defined at a federated data source. The violation could be due to the interaction of a trigger at the data source.

The statement could not be executed. The contents of the object table are unchanged.

Some data sources do not provide specific information about the constraint that was violated. Other data sources provide more information in the db2diag.log file.

User response: Examine the constraints on the object referenced by the operation to determine the cause of the violation. Look in the db2diag.log file for more information about the constraint that was violated.

sqlcode: -20333

sqlstate: 23527

SQL20334N A SOAP Fault was received from the web services data source *data-source-name*. Associated text and tokens are *tokens*.

Explanation: The web services data *sourcedata-source-name* that is using the Simple Object Access Protocol (SOAP) sent a SOAP Fault to the federated server. Further information about this error situation is in *tokens*.

User response: Use the information provided in *tokens* to identify and correct the root cause of the SOAP Fault at the data source, *data-source-name*.

sqlcode: -20334

sqlstate: 560CB

SQL20335N More than one *xsobject-type* exists identified by XML *uri-type1 uri1* and *uri-type2 uri2* exists in the XML schema repository.

Explanation: There is more than one registered XSROBJECT that matches the URI used to identify an XML schema or external entity.

If *xsobject-type* is XMLSCHEMA, then identification for the XML schema is based on *uri-type1* of NAMESPACE with the XML schema target namespace as *uri1* and *uri-type2* of LOCATION with XML schema location as *uri2*. If *uri2* is empty, then no schema location was specified.

If *xsobject-type* is EXTERNAL ENTITY, then identification for the external entity is based on *uri-type1* of SYSTEM ID with the system identifier as

uri1 and *uri-type2* of PUBLIC ID with the public identifier as *uri2*. If *uri2* is empty, then no public identifier was specified.

The statement cannot be processed.

User response: If both *uri1* and *uri2* are indicated, then either drop duplicate XSROBJECTs of type *xsobject-type* from the XML schema repository or, for XML schemas, explicitly specify the XMLSCHEMA ID for one of these XML schemas. If the schema location (*uri2*) is empty, it may also be possible to explicitly specify XMLSCHEMA URI and LOCATION to uniquely identify an XML schema.

sqlcode: -20335

sqlstate: 22533 or 4274B

SQL20336N A value with data type *source-data-type* cannot be XMLCAST to type *target-data-type*.

Explanation: The statement contains a CAST with the first operand having a data type of *source-data-type* to be cast to the data type *target-data-type*. This cast is not supported.

User response: Change the data type of either the source or target so that the cast is supported. For predefined data types these are documented in the SQL Reference. For a cast involving a user-defined distinct type, the cast can be between the base data type and the user-defined distinct type or from a data type that is promotable to the base data type to the user-defined distinct type.

sqlcode: -20336

sqlstate: 42846

SQL20337N The BY REF clause is missing or used incorrectly. Reason code=*reason-code*.

Explanation: The following explain the error based on possible values for *reason-code*.

1. The BY REF clause cannot be specified when the corresponding data type is other than XML for an argument of a XMLQUERY, XMLEXISTS, or XMLTABLE function. This error may also occur when the BY REF clause is issued within an XMLTABLE column definition and the type of the column is not XML.
2. The BY REF clause must be specified when XMLTABLE clause defines a column with data type XML.
3. The BY REF clause must be specified in an XMLQUERY function that returns an XML sequence. The BY REF clause can be specified explicitly following the RETURNING SEQUENCE clause or in the PASSING clause.

User response: Take the following action based on the *reason-code*.

1. Remove the BY REF clause where it is associated with a data type other than XML.
2. Specify the BY REF clause where the data type argument of an XMLTABLE function is XML.
3. Specify the BY REF clause following the RETURNING SEQUENCE keywords or specify a PASSING BY REF clause.

sqlcode: -20337

sqlstate: 42636

SQL20338N The data type of either the source or target operand of an XMLCAST specification must be XML.

Explanation: The XMLCAST specification must have one operand that has the data type XML. The XMLCAST operation can be from an XML type value to an SQL type value or from an SQL type value to an XML type value. The XMLCAST specification also accepts having both the source and target operands as XML but no actual casting operation is performed in this case.

User response: If both operands are SQL data types other than XML, use the CAST specification. Otherwise, change the XMLCAST specification so that at least one operand is the XML data type.

sqlcode: -20338

sqlstate: 42815

SQL20339N The XML schema *xmlschema-name* is not in the correct state to perform operation *operation*.

Explanation: The operation specified by *operation* cannot be performed on the XML schema identified by the XML schema identifier *xmlschema-name* because it is not in the correct state. For example, the XML schema has already been completed and the operation is attempting to add additional XML schema documents.

The statement cannot be processed.

User response: Check the current state of the XML schema to determine the operations that are valid for the XML schema. If the XML schema is completed, no further XML schema documents can be added.

sqlcode: -20339

sqlstate: 55063

SQL20340N The XML schema *xmlschema-name* includes at least one XML schema document in namespace *namespace* with component ID *component-id* that is not connected to the other XML schema documents in the same namespace using an include or redefine.

Explanation: The XML schema identified by identifier *xmlschema-name* includes multiple XML schema documents in the namespace *namespace*. At least one of these XML schema documents is not connected to the other XML schema documents in the same namespace using an include or redefine. One such XML schema document is identified in the XML schema repository with component identifier *component-id*.

The statement cannot be processed.

User response: Correct the XML schema documents so that all XML schema documents within a namespace are connected using an include or a redefine. The *component-id* can be used to query SYSCAT.XSROBJECTCOMPONENTS for further information about the specifically reference XML schema document that is not connected within the namespace.

sqlcode: -20340

sqlstate: 22534

SQL20341W Transfer operation ignored since *auth-ID* is already the owner of the database object.

Explanation: The TRANSFER statement specified to transfer the database object to authorization ID *auth-ID*. The authorization ID is already the owner of the database object. There is no need to transfer the database object.

User response: No action is required.

sqlcode: +20341

sqlstate: 01676

SQL20342N *auth-ID* does not have one or more required privileges *privilege-list* on object *object-name* of type *object-type* necessary for ownership of the object.

Explanation: The TRANSFER statement attempted to transfer ownership of the object to authorization ID *auth-ID* which does not have the necessary privileges to be the owner of the object. The privileges *privilege-list* on the object *object-name* are the privileges that are missing.

The statement cannot be processed.

User response: Grant the authorization ID *auth-ID* all the privileges necessary, as indicated by *privilege-list*, on object *object-name*, for the authorization ID to be the owner of the object being transferred.

sqlcode: -20342

sqlstate: 42514

SQL20344N Transfer ownership of *object-name1* failed because of a dependency involving *object-name2*. Reason code = *reason-code*.

Explanation: Transfer ownership failed because of a dependency as indicated by the following reason code:

- 1 The table *object-name1* in table hierarchy *object-name2* cannot be transferred because it is a subtable.
- 2 The view *object-name1* in view hierarchy *object-name2* cannot be transferred because it is a subview.
- 3 The index *object-name1* cannot be transferred because the table *object-name2* that the index is defined on is a declared global temporary table.
- 4 The method body or function *object-name1* cannot be transferred because it was implicitly generated when user-defined type *object-name2* was created.
- 5 The package *object-name1* cannot be transferred because it depends on SQL procedure *object-name2*.
- 6 The event monitor *object-name1* cannot be transferred because it is active.

User response: The action corresponding to the reason code is:

- 1 Transfer the whole table hierarchy.
- 2 Transfer the whole view hierarchy.
- 3 Drop the declared global temporary table.
- 4 Drop the type that created this method or function.
- 5 Transfer the SQL procedure.
- 6 Set the event monitor state to inactive.

sqlcode: -20344

sqlstate: 429BT

SQL20345N The XML value is not a well-formed document with a single root element.

Explanation: The XML value is not a well-formed document. An XML value that is being stored in a table or validated must be a well-formed XML document with a single root element.

The statement cannot be processed.

User response: Storing or validating the XML value requires that the XML value be modified so that it is a well-formed document with a single root element. Otherwise, do not attempt store or validate the XML value.

sqlcode: -20345

sqlstate: 2200L

SQL20346N The XML schema *xmlschema-id* does not contain a global element named *element-local-name* in namespace *namespace-uri*.

Explanation: A validation operation specified that an explicit element local name *element-local-name* in namespace *namespace-uri* should be the root element of the XML document to be validated. However, the XML schema with SQL identifier *xmlschema-id* does not have *element-local-name* declared as a global element in namespace *namespace-uri*.

The statement cannot be processed.

User response: Check that the element local name *element-local-name* in namespace *namespace-uri* is correct for the XML schema and the XML document that is being validated. Change the element local name, namespace or the XML schema and try the validation again.

sqlcode: -20346

sqlstate: 22535

SQL20347N The XML value does not contain a root element named *element-local-name* in namespace *namespace-uri*.

Explanation: The root element of the XML document does not match the required element local name *element-local-name* in namespace *namespace-uri* specified for validation.

The statement cannot be processed.

User response: Provide an XML value where the root element matches with the specified element local name and namespace. If the XML value is correct, change the specified element local name or namespace.

sqlcode: -20347

sqlstate: 22536

SQL20349N The user mappings from the user mapping repository for plugin *plugin-name* cannot be accessed. Reason code *reason-code*.

Explanation: The user mapping from the user mapping repository for plugin *plugin-name* cannot be accessed. The cause of the error is indicated by the *reason-code*:

1. The user mapping plugin cannot be loaded.
2. The version of the user mapping plugin API reported by the user mapping plugin is not compatible with the version federation supports.

3. A connection to the user mapping repository cannot be established or the connection request timed out.
4. The user mapping entry cannot be found on the user mapping repository.
5. A decryption error occurred while processing the user mapping entry from the user mapping repository.
6. Disconnection from the user mapping repository has failed.
7. Invalid parameter has been passed to the user mapping plugin.
8. Unauthorized invocation of the user mapping plugin has been detected.
9. Unexpected exception detected

User response: See the federation documentation for details on user mapping plugins. The action is based on the *reason-code* as follows:

1. Verify that the user mapping plugin exists and is in the correct location.
2. Ensure that the user mapping plugin is using a federation supported version of the user mapping plugin API and that it is reporting the correct version number.
3. Verify that the user mapping repository is up and running and that the repository connection parameters of the user mapping plugin are correct.
4. Create a corresponding user mapping entry on the user mapping repository.
5. Ensure that the decryption logic in the user mapping plugin is implemented correctly.
6. Check if the user mapping repository and network are up and running.
7. Ensure that all the parameter values passed onto the user mapping plugin are correct.
8. Verify that federation has the authority to invoke the user mapping plugin.
9. Ensure the plugin maps the exception to one of the defined exceptions. Trace information for the exception may be available in the db2diag.log file.

sqlcode: -20349

sqlstate: 429BU

SQL20350N Authentication at the user mapping repository for plugin *plugin-name* failed.

Explanation: The user mapping from the user mapping repository for plugin *plugin-name* cannot be accessed because authentication at the user mapping repository failed.

User response: See the federation documentation for details on user mapping plugins. Correct the repository connection credential parameters of the plugin.

sqlcode: -20350

sqlstate: 42516

SQL20351W Wrapper options were ignored for servers of wrapper *wrapper-name* that already have the plugin defined.

Explanation: The existing DB2_UM_PLUGIN related options specified for a server are not overwritten when DB2_UM_PLUGIN related options of the corresponding wrapper are created or altered.

User response: To change the DB2_UM_PLUGIN related options that are already specified for a server, alter the server options directly.

sqlcode: +20351

sqlstate: 01677

SQL20352W Changes to the user mapping apply only to the federated catalog table and not to the external user mapping repository.

Explanation: The DB2_UM_PLUGIN option has been set for the server. User mappings for this server are read from the external user mapping repository, however CREATE USER MAPPING, ALTER USER MAPPING, and DROP (USER MAPPING) statements only affect user mappings in the federated catalog table.

User response: Use another interface to the external user mapping repository to create, alter, or drop the user mappings.

sqlcode: +20352

sqlstate: 01678

SQL20353N An operation involving comparison cannot use operand *name* defined as data type *type-name*.

Explanation: The use of the value identified by *name* defined as data type *type-name* is not permitted in operations involving comparisons. An expression resulting in a *type-name* data type is not permitted in:

- A SELECT DISTINCT statement
- A GROUP BY clause
- An ORDER BY clause
- An aggregate function with DISTINCT
- A SELECT or VALUES statement of a set operator other than UNION ALL.

The statement cannot be processed.

User response: The requested operation on the data type *type-name* is not supported. You may be able to change the data type of the value to a data type that is supported using a cast or some other function.

sqlcode: -20353

sqlstate: 42818

SQL20357N One or more federated one-phase commit data source sites have failed commit or rollback processing. As a result, the transaction outcome might not be consistent across all sites. Subsequent SQL statements can be processed. Reason code *reason-code*.

Explanation: A federated server has sent a transaction commit or rollback request and one or more of the federated one-phase commit data source sites cannot complete the request. This may be caused by a server failure, communication link failure, or other failure. The transaction is not completely committed or rolled back.

The reason code indicates the specific situation.

1. Commit failure does not involve an update federated data source.
2. Commit failure involves an update federated data source.
3. Rollback failure does not involve an update federated data source.
4. Rollback failure involves an update federated data source.
5. Commit or rollback processing encountered an error due to db2fmp process abnormal termination at the federated server, error '-430'.

User response: Check the administration notification log for details. Compensating actions may need to be applied manually at the federated one-phase commit data source sites. It may be necessary to contact the system administrator for assistance.

For reason 5, disconnect the application from the federated server, e.g. issue a 'connect reset' clp command and reconnect.

sqlcode: -20357

sqlstate: 40003

SQL20358N Commit or rollback processing encountered an error. The transaction at some federated two-phase commit data source sites could be indoubt. Subsequent SQL statements can be processed. Reason code *reason-code*.

Explanation: A federated server has sent a transaction commit or rollback request and one or more of the federated two-phase commit data source sites cannot complete the request. This may be caused by a server failure, communication link failure, or other failure. The transaction might be indoubt at the federated two-phase commit data source site.

The reason code indicates the specific situation.

1. Missing commit acknowledgement from federated data source site.

2. Missing abort acknowledgement from federated data source site.
3. Rollback processing encountered an error. The transaction might be indoubt at the federated two-phase commit data source site.
4. Commit or rollback processing encountered an error due to db2fmp process abnormal termination at the federated server, error '-430'.

User response: Determine the cause of the error. It may be necessary to contact the system administrator for assistance since the most common cause of the error is a federated server failure, federated data source site failure, or connection failure. For a federated server failure, the RESTART DATABASE command will complete the commit or rollback processing for this transaction. For a federated data source site failure, restart the failed data source. For a connection failure, consult with your network administrator and/or communication expert to determine the cause of the problem.

For reason 3, check possible indoubt transactions on the federated data source site, and manually resolve them if existing.

For reason 4, disconnect the application from the federated server, e.g. issue a 'connect reset' clp command and reconnect.

sqlcode: -20358

sqlstate: 08007

SQL20360W A trusted connection cannot be established for the specified authorization ID.

Explanation: A trusted connection cannot be established for the specified authorization ID. A matching trusted context is not currently defined or the server does not support trusted context.

The attempt to create a trusted connection was not successful and a normal connection was created.

User response: Ensure that the server supports trusted contexts and that the trusted context has been correctly defined, and try to re-establish a trusted connection.

sqlcode: +20360

sqlstate: 01679

SQL20377N An illegal XML character *hex-char* was found in an SQL/XML expression or function argument that begins with string *start-string*.

Explanation: An SQL/XML expression or function attempted to convert an SQL string value from one of the arguments to an XML string, but the string included a character at Unicode code point *hex-char* that is not a legal XML 1.0 character. The character is

included in a string that begins with the string *start-string*. The value for *hex-char* represents the illegal character as a Unicode code point in the form "#xH", where H is one or more hexadecimal characters. The following set of Unicode characters (defined using a regular expression) are allowed: #x9 | #xA | #xD | [#x20-#xD7FF] | [#xE000-#xFFFF] | [#x10000-#x10FFFF]. Examples of the SQL/XML expression or function that may encounter this error are XMLCAST, XMLELEMENT, XMLFOREST, XMLAGG, XMLDOCUMENT, XMLTEXT, XMLATTRIBUTES, XMLQUERY, or XMLTABLE.

The statement cannot be processed.

User response: Remove the illegal character *hex-char* or replace it with a character that is allowed.

sqlcode: -20377

sqlstate: 0N002

SQL20379N An authorization ID cannot use its SECADM authority to transfer the ownership of an object to itself.

Explanation: An authorization ID that has the SECADM authority cannot transfer the ownership of an object it does not already own to itself. It can, however, transfer the ownership of the object to another authorization ID.

The statement cannot be processed.

User response: Choose a different authorization ID as the new owner of the object.

sqlcode: -20379

sqlstate: 42502

SQL20383W Errors were encountered and tolerated as specified by the RETURN DATA UNTIL clause.

Explanation: At least one error as specified by the RETURN DATA UNTIL clause was encountered and tolerated, with execution continuing for the query. The results of the query might not be the same as they would be if the error had not occurred.

User response: Be aware that the query results might not be complete. If appropriate, check the source of the tolerated error and correct the situation.

sqlcode: +20383

sqlstate: 02506

SQL20384W The specified locale is not supported. The message was returned in the English locale.

Explanation: The specified locale is not supported by the database manager.

User response: Refer to the Administration Guide: Planning for the "Supported code pages and territories" or refer to the DB2 infocenter for the supported server languages and the corresponding locale values.

sqlcode: +20384

sqlstate: 01684

SQL20386N An XQuery expression cannot be specified in a DECLARE CURSOR statement.

Explanation: The DECLARE CURSOR statement does not allow an XQuery expression to be specified directly following the FOR keyword. An XQuery expression can only be associated with a cursor using a prepared statement name.

User response: Remove the XQuery expression from the DECLARE CURSOR statement and replace it with a statement name. Prepare the XQuery expression by issuing a PREPARE statement using the same statement name.

sqlcode: -20386

sqlstate: 42637

SQL20387N Two or more elements are specified for the security label component *component-name*.

Explanation: A security label cannot have multiple elements for a component of type ARRAY.

User response: Specify only one element for the security label component *component-name*.

sqlcode: -20387

sqlstate: 428GP

SQL20388N Too many elements are specified for the security label component *component-name*.

Explanation: A security label component of type SET or TREE can have no more than 64 elements. More than this number are specified for security label component *component*.

User response: Remove elements so that there are no more than 64.

sqlcode: -20388

sqlstate: 54061

SQL20389N The component element *element* is not defined in the security label component *component-name*.

Explanation: The component element *element* does not exist in the definition of security label component *component-name*.

User response: Provide a valid element for the component. You can submit the following query to list the valid elements for the security label components:

```
SELECT ELEMENTVALUE FROM
      SYSCAT.SECLABELCOMPONENTELEMENTS
WHERE COMPID=(SELECT COMPID FROM
      SYSCAT.SECLABELCOMPONENTS
      WHERE COMPNAME =
            component-name)
```

If you get this error when executing the scalar function `SECLABEL`, then also check the security label string to make sure that the values are listed in the same order that their components are listed in the security policy.

sqlcode: -20389

sqlstate: 4274F

SQL20390N The security label component *component-name* is not defined in the security policy *security-policy* so that component cannot be used in the security label *security-label*.

Explanation: Security labels can only contain values for those components that are defined in the security policy that the label is part of. The security label component *component-name* is not part of the security policy *security-policy*. The security label *security-label* is part of that security policy so the component *component-name* cannot be used in that security label.

User response: Provide a security label component that is part of the security policy *security-policy*. You can execute the following query to list the security label components that are part of the security policy:

```
SELECT COMPNAME FROM SYSCAT.SECLABELCOMPONENTS
      WHERE COMPID =
      (SELECT COMPID FROM
      SYSCAT.SECURITYPOLICYCOMPONENTRULES
      WHERE SECPOLICYID =
      (SELECT SECPOLICYID FROM
      SYSCAT.SECURITYPOLICIES
      WHERE SECPOLICYNAME = security-policy) )
```

sqlcode: -20390

sqlstate: 4274G

SQL20391N Label-based access control cannot be applied to the column *column-name* because there is no security policy associated with the table.

Explanation: In order to use the `SECURED WITH` clause with column *column-name* or to define it with a data type of `DB2SECURITYLABEL`, a security policy must be associated with the table.

User response: Add a security policy to the table using the `SECURITY POLICY` clause of the `CREATE`

`TABLE` statement or the `ADD SECURITY POLICY` clause of the `ALTER TABLE` statement.

sqlcode: -20391

sqlstate: 55064

SQL20392N The table *table-name/* already has a security policy.

Explanation: A table can have at most one security policy. Once associated, a security policy cannot be changed for a table.

User response: Do not try to assign another security policy to the table.

sqlcode: -20392

sqlstate: 55065

SQL20393N The maximum number of components in security policy *security-policy* has been exceeded.

Explanation: A security policy can have maximum of 16 components.

User response: Reduce the number of components specified for the security policy *security-policy*.

sqlcode: -20393

sqlstate: 54062

SQL20394N The access rule *access-rule* does not exist for in the rule set used by the security policy *policy-name*.

Explanation: The access rule *access-rule* specified in the `GRANT EXEMPTION` or `REVOKE EXEMPTION` statement is not part of the LBAC rule set that is used by the security policy *policy-name*.

User response: The specified access rule does not exist for in the rule set used by the specified security policy.

sqlcode: -20394

sqlstate: 4274H

SQL20395N The `GRANT` of security label *security-label* conflicts with an existing granted security label for the component *component-name*.

Explanation: If the user is granted two distinct labels, one for `WRITE` access and another for `READ` access, they must satisfy the following rules:

1. For security label components of type `ARRAY`, the value must be the same in both security labels.
2. For security label components of type `SET`, the values given in the security label used for `WRITE`

access must be a subset of the values given in the security label used for READ access.

3. For security label components of type TREE, either the values must be the same, or the values given in the security label used for WRITE access must be one of the sub tree values of the security label used for READ access.

User response: Grant a different security label or make one of these modifications to the security label that is being granted:

1. If *component-name* is of type ARRAY, then make sure the value given is the same in both security labels.
2. If *component-name* is of type SET, then make sure the values given in the security label used for WRITE access are a subset of the values given in the security label used for READ access.
3. If *component-name* is of type TREE, then make sure either the values are the same or the value given in the security label used for WRITE access is one of the sub tree values of the security label used for READ access.

sqlcode: -20395

sqlstate: 428GQ

SQL20396N The security label named *security-label-name* cannot be found for the security policy *policy-name*.

Explanation: The security label named

SQL20400 - SQL20499

SQL20401N The table cannot be protected by a security policy because an MQT or staging table named *object-name* depends on the table.

Explanation: The table cannot be protected with LBAC because, a materialized query table (MQT) or staging table depends on the table.

User response: If appropriate, drop the MQT or staging table *object-name* and resubmit the statement.

sqlcode: -20401

sqlstate: 55067

SQL20402N Authorization ID *auth-id* does not have the LBAC credentials to perform the *operation-name* operation on table *table-name*.

Explanation: The authorization ID *auth-id* is not allowed to perform operation *operation-name* on the table *table-name*. A user is not allowed to insert, update or delete a row in a protected table or alter the table to become a protected table if they do not have

security-label-name cannot be found for the security policy *policy-name*. This caused execution of the built-in function SECLABEL_BY_NAME to fail.

User response: Check the spelling of *security-label-name*. Make sure you are using the correct security policy name.

sqlcode: -20396

sqlstate: 4274I

SQL20397W Routine *routine-name* execution has completed, but at least one error, *error-code*, was encountered during the execution. More information is available.

Explanation: Routine *routine-name* execution has completed. At least one error was encountered during the internal execution of the requested function. The last error encountered was *error-code*. More detailed information on the errors encountered is available.

For the ADMIN_CMD routine, its output parameter and result set, if any, have been populated.

User response: Retrieve the output parameter and result set, if any, for more information on the errors encountered. If message files were generated during the execution, examine their content and resolve the error situations. If appropriate, reinvoke the routine again.

sqlcode: +20397

sqlstate: 01H52

appropriate security label and/or exemption credentials.

User response: Ask your database security administrator to grant the authorization ID *auth-id* the proper security label or exemptions required to perform the insert, update or delete operation. To alter the table to become a protected table, a grant of a security label for WRITE access is required.

sqlcode: -20402

sqlstate: 42519

SQL20403N The authorization ID *auth-id* already has a security label (*security-label*) for *access-type* access.

Explanation: Each authorization ID can have at most one security label for WRITE access and at most one for READ access. The security label *security-label* has already been granted to the authorization ID *auth-id* for *access-type* access.

User response: If you want to change the security label used for *access-type* access you must first use the REVOKE SECURITY LABEL statement to revoke the

security label *security-label* from authorization ID *auth-id*.

sqlcode: -20403

sqlstate: 428GR

SQL20404N The security label object *policy-name.object-name* cannot be dropped because it is currently in use. Reason code *reason-code*.

Explanation: The security label object *object-name* could not be dropped. The reason it could not be dropped is specified by the reason code *reason-code*:

1. It is granted to one or more users.
2. It is being used to protect one or more columns.

User response: The user response corresponding to the reason code is:

1. Revoke this label from all users who have been granted this security label for this security policy. The following query can be used to find all the users who has been granted with this label.

```
SELECT GRANTEE FROM SYSCAT.SECURITYLABELACCESS
WHERE SECLABELID =
  (SELECT SECLABELID FROM
    SYSCAT.SECURITYLABELS
   WHERE SECLABELNAME = object-name AND
    SECPOLICYID =
      (SELECT SECPOLICYID FROM
        SYSCAT.SECURITYPOLICIES
       WHERE SECPOLICYNAME =
         policy-name ) )
```

2. For all the tables that use this security label to protect a column, either alter the table to drop this security label or drop the table. The following query can be used to find all protected tables and all the columns that are protected with this label.

```
SELECT TABNAME, COLNAME FROM SYSCAT.COLUMNS
WHERE SECLABELNAME = object-name AND
  TABNAME =
    (SELECT TABNAME FROM SYSCAT.TABLES
     WHERE SECPOLICYID =
       (SELECT SECPOLICYID FROM
         SYSCAT.SECURITYPOLICIES
        WHERE SECPOLICYNAME =
          policy-name ) )
```

sqlcode: -20404

sqlstate: 42893

SQL20405N The security policy object *object-name* cannot be dropped because it is currently in use. Reason code *reason-code*.

Explanation: The security object *object-name* could not be dropped. The reason it could not be dropped is specified by the reason code *reason-code*:

1. It is being used to protect one or more tables.

2. There are one or more security labels that use it.
3. There are one or more exemptions granted on one or more of its rules.

User response: The user response corresponding to the reason code is:

1. Drop all tables that are being protected by this security policy. The following query can be used to find all the tables protected by this policy:

```
SELECT TABNAME FROM SYSCAT.TABLES
WHERE SECPOLICYID=
  (SELECT SECPOLICYID FROM
    SYSCAT.SECURITYPOLICIES
   WHERE SECPOLICYNAME = object-name )
```

2. Drop all the security labels that are part of this security policy. The following query can be used find all security labels that belongs to this security policy:

```
SELECT SECLABELNAME FROM SYSCAT.SECURITYLABELS
WHERE SECPOLICYID=
  (SELECT SECPOLICYID FROM
    SYSCAT.SECURITYPOLICIES
   WHERE SECPOLICYNAME = object-name )
```

3. Revoke all the exemptions granted on rules used by this security policy from all users. The following query can be used find all users that have been granted exemptions on rules used by this policy.

```
SELECT GRANTEE, ACCESSRULENAME FROM
SYSCAT.SECURITYPOLICYEXEMPTIONS
WHERE SECPOLICYID=
  (SELECT SECPOLICYID FROM
    SYSCAT.SECURITYPOLICIES
   WHERE SECPOLICYNAME = object-name )
```

sqlcode: -20405

sqlstate: 42893

SQL20406N The security label component object *object-name* cannot be dropped because it is part of a security label policy.

Explanation: The security label component object *object-name* cannot be dropped because one or more security policies refer to it.

User response: Drop all the security policies that refer to this security component. The following query can be used find all the security policies that refer to this security component:

```
SELECT SECPOLICYNAME FROM SYSCAT.SECURITYPOLICIES
WHERE SECPOLICYID =
  (SELECT SECPOLICYID FROM
    SYSCAT.SECURITYPOLICYCOMPONENTRULES
   WHERE COMPID =
     (SELECT COMPID FROM
       SYSCAT.SECURITYLABELCOMPONENTS
      WHERE COMPNAME = object-name ) )
```

sqlcode: -20406

sqlstate: 42893

SQL20408N Table *source-tablename* cannot be attached to table *target-tablename* because column *source-columnname* of the source table and its associated column *target-columnname* of the target table do not match. Reason code = *reason-code*.

Explanation: An attribute of the target table column does not match the attribute of the corresponding column (aligned by ordinal position) in the source table in the ALTER TABLE ... ATTACH PARTITION statement. The *reason-code* indicates the type of mismatch and in which column of the SYSCAT.COLUMNS view to find the table attribute.

In cases where it is difficult or impossible to modify the characteristics of either the source or target table for compatibility, you can create a new table that is compatible with the target table, and copy the data from *source-tablename* to this new table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.

- 1 The data type of the columns (TYPENAME) does not match.
- 2 The nullability of the columns (NULLS) does not match.
- 3 The implicit default value (IMPLICITVALUE) of the columns are incompatible.
Implicit defaults must match exactly if both the target table column and source table column have implicit defaults (if IMPLICITVALUE is not NULL). Refer to the SQL Reference Manual for details on interpreting the values in IMPLICITVALUE.
- 4 The code page (COMPOSITE_CODEPAGE) of the columns does not match.
- 5 The system compression default clause (COMPRESS) does not match.
- 6 The security label protecting the *source-columnname* for the source table is not identical to that of *target-columnname* for the target table. The two tables must have the same set of protected columns and each pair of corresponding columns must be protected with same security label.

User response: Correct the mismatch in the tables.

- 1 To correct a mismatch in data type, issue the statement:
ALTER TABLE ... ALTER COLUMN ...
SET DATA TYPE ...
- 2 Alter the nullability of the column that does not match for one of the tables by issuing one of the following statements:

```
ALTER TABLE... ALTER COLUMN...  
DROP NOT NULL  
ALTER TABLE... ALTER COLUMN...  
SET NOT NULL
```

- 3 Create a new source table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.
- 4 Create a new source table. For details on creating a compatible source table, see the task, "Creating a new source table" in the DB2 Information Center.
- 5 To alter the system compression of the column issue one of the following statements to correct the mismatch:
ALTER TABLE ... ALTER COLUMN ...
COMPRESS SYSTEM DEFAULT
ALTER TABLE ... ALTER COLUMN ...
COMPRESS OFF

sqlcode: -20408

sqlstate: 428GE

SQL20409N An XML document or constructed XML value contains a combination of XML nodes that causes an internal identifier limit to be exceeded.

Explanation: An internal identifier that must be associated with each XML node of an XML value cannot be generated because the combination of the number of levels of XML nodes and the number of children nodes within these levels causes the identifier to overflow.

User response: For a document or constructed XML value, reduce the number of levels of XML nodes or the number of children nodes especially at the deeper levels of XML nodes.

sqlcode: -20409

sqlstate: 560CG

SQL20410N The number of children nodes of an XML node in an XML value has exceeded the limit of *limit-number* children nodes.

Explanation: An expression generated an XML value with an XML node that has a number of children nodes which exceeds the limit of *limit-number* children nodes.

User response: Rewrite the expression generating the XML value such that the number of children nodes does not exceed the limit.

sqlcode: -20410

sqlstate: 560CH

SQL20413N The built-in function SECLABEL_TO_CHAR could not be executed because authorization ID *auth-id* has had its security label for READ access revoked.

Explanation: To execute the built-in function SECLABEL_TO_CHAR authorization ID must have a security label for READ access. The security label for READ access has been revoked from authorization ID *auth-id*.

User response: Contact the database security administrator or a user with SECADM authority and ask that the security label be granted again.

sqlcode: -20413

sqlstate: 42520

SQL20414N The *authority-or-privilege* authority or privilege cannot be granted to authorization ID *authorization-ID*.

Explanation: The GRANT statement attempted to grant an authority or privilege to an authorization name that is not allowed to receive that authority or privilege. The SECADM authority cannot be granted to an authorization name that identifies a group.

The statement cannot be processed

User response: Grant a different authority or privilege or grant it to an authorization ID that can receive the authority or privilege.

sqlcode: -20414

sqlstate: 42521

SQL20415N Update, delete, or Insert into a UNION ALL view failed because one of the underlying tables is protected.

Explanation: Updates, deletes, and Inserts are not allowed into a UNION ALL view if that view is created on one or more protected tables.

The statement cannot be processed

User response: Do not update, delete, or insert into the UNION ALL view.

sqlcode: -20415

sqlstate: 429BZ

SQL20416N The value provided (*seclabel*) could not be converted to a security label. Labels for the security policy with a policy ID of *policy-id* should be *correct-length* characters long. The value is *value-length* characters long.

Explanation: An INSERT or UPDATE statement specified a value for a column of type

DB2SECURITYLABEL. The value cannot be converted to a valid security label because it is not the correct length for security labels that are part of the security policy that is protecting the table. If the *seclabel* value is *N, then the actual value has been written in the db2diag.log file.

User response: Check the INSERT or UPDATE statement and make sure that the value being set in the security label column is valid for the security policy protecting the table. Sometimes an invalid value can be generated as a result of a SELECT done from a table that is not protected with the same security policy as the target table. You should only copy security labels between tables protected by the same security policy. To get the security policy name for the given policy ID use this SQL query. Replace *policy-id* with the policy ID number given in the error message.

```
SELECT SECPOLICYNAME
      FROM SYSCAT.SECURITYPOLICIES
      WHERE SECPOLICYID = policy-id
```

sqlcode: -20416

sqlstate: 23523

SQL20417W The SQL compilation completed without connecting to the data source *data-source-name*. Connection error *error-text* was encountered.

Explanation: The federated server could not connect to the data source *data-source-name* during SQL compilation to determine which features the data source supports. The SQL query has been compiled using default settings. At runtime an error may be received because the remote server's capabilities were not correctly determined at compilation time. The *error-text* contains information about what connection error was encountered.

User response: Recompile the statement or bind the package again when the data source is available, or if an error tolerant nested table expression is used in the SQL statement, execute the package immediately after the compilation to reduce the chance of the connection state changing between compilation and runtime. Use the information in *error-text* to resolve the error connecting to the data source, if necessary. For information on testing the connection to a data source server, search for "testing connection server" in the Information Center.

sqlcode: +20417

sqlstate: 01689

SQL20418N The database partition group is already assigned to the buffer pool.

Explanation: The database partition group that you

are attempting to add has already been assigned to the buffer pool.

User response: Choose another database partition group and try again.

sqlcode: -20418

sqlstate: 4274J

SQL20419N For table *table-name*, authorization ID *auth-id* does not have LBAC credentials that allow using the security label *security-label-name* to protect column *column-name*

Explanation: A user cannot use a security label to protect a column unless that user has LBAC credentials that allow writing to a column protected by the security label. Authorization ID *auth-id* does not have LBAC credentials that allow write access to data protected by the security label *security-label-name* and therefore cannot use it to protect column *column-name* in table *table-name*.

User response: Ask a database security administrator to grant the authorization ID *authid* LBAC credentials that allow write access to a column protected by security label *security-label-name*.

sqlcode: -20419

sqlstate: 42522

SQL20420N For table *table-name*, authorization ID *auth-id* does not have LBAC credentials that allow removing the security label *security-label-name* from column *column-name*.

SQL21000 - SQL21099

SQL21000N DB2 Net Search Extender is not installed or properly configured on this platform.

Explanation: Support for DB2 Net Search Extender is not installed and configured on this server. This support is required to use one of the following functions: CONTAINS, SCORE or NUMBEROFMATCHES.

SQL22000 - SQL22099

SQL22000W Cannot find the requested configuration for object *object-name*. Returning default configuration for *object-type*.

Explanation: The object does not have a specific configuration of its own so the default configuration for that object type will be returned.

User response: If the behavior of the default configuration is correct, no action has to be taken.

Explanation: To be able to drop or replace a security label that is protecting a column, an authorization ID must have LBAC credentials that allow both reading from and writing to a column. The authorization ID *auth-id* does not have LBAC credentials that allow both reading from and writing to a column protected by the security label *security-label-name* and therefore cannot drop or replace that security label.

User response: Ask a database security administrator to grant the authorization ID *authid* LBAC credentials that allow both read and write access to a column protected by security label *security-label-name*.

sqlcode: -20420

sqlstate: 42522

SQL20421N The table *table-name* is not protected with a security policy.

Explanation: A security policy cannot be dropped from a table that is not protected with a security policy.

User response: Specify a table that is protected with a security policy.

sqlcode: -20421

sqlstate: 428GT

User response: Ensure that DB2 Net Search Extender is installed.

sqlcode: -21000

sqlstate: 42724

SQL22001W Cannot find the default configuration for object *object-name*. Returning install configuration for *object-type*.

Explanation: The object does not have a specific configuration of its own so the install configuration for that object type will be returned.

User response: If the behavior of the install configuration is correct, no action has to be taken.

SQL22004W Cannot find the requested configuration for the given object. Returning default configuration for *object-name*.

Explanation: The object does not have a specific configuration of its own so the default configuration for that object type will be returned.

User response: If the behavior of the default configuration is correct, no action has to be taken.

SQL22005W Cannot find the default configuration for the given object, returning install configuration for *object-name*.

Explanation: The object does not have a specific configuration of its own so the install configuration for that object type will be returned.

User response: If the behavior of the install configuration is correct, no action has to be taken.

SQL22006N Cannot update or delete *object-action-or-contact-name* because it does not exist.

Explanation: The API was requested to update the configuration of an element which does not exist.

User response: Create the element and then re-issue the API call.

SQL22007N The specified Health Indicator identifier or name, *Health-Indicator-name*, is invalid.

Explanation: The requested action can only be performed against a valid Health Indicator. The supplied Health Indicator does not exist.

User response: Determine the correct the identifier or name, and resubmit the request.

SQL22008N The value *parameter-value* of parameter *parameter-name* is not of the correct format, type, or value.

Explanation: The requested action can not be taken because the supplied value for this parameter is not of an acceptable format, type, or value.

User response: Determine the correct format and type of, or value for, this parameter, and resubmit the request.

SQL22009W There is no health contact information for this instance.

Explanation: There is no health contact information for this instance.

User response: If the current contact information is correct, no action has to be taken.

SQL22010N The value *parameter-value* of parameter *parameter-name* is not within the acceptable range of values for this parameter, which is greater than *parameter-max-value* and/or less than *parameter-min-value*.

Explanation: The requested action can not be taken because the supplied value for this parameter is not within the acceptable range of values.

User response: Resubmit the request with an acceptable value for this parameter.

SQL22011W Cannot find the configuration for *object-name-or-type*.

Explanation: The object or object type does not have a specific or default configuration of its own.

User response: No action required.

SQL22012W Implicit instance attach failed.

Explanation: An explicit instance attachment does not exist and an implicit attachment to the default instance failed. The command cannot be executed.

User response: Make sure that DB2 is started and that environment variables are set properly.

SQL22013N Cannot add *obj-act-contact* because it already exists.

Explanation: The API was requested to add an action or notification which already exists.

User response: Modify or delete the existing actions and notifications.

SQL22014W The health monitor returned no health related data.

Explanation: There is no health data for this instance or the health monitor is off.

User response: Verify that the health monitor is running on this instance.

SQL22015N The specified Health Indicator identifier or name, *Health-Indicator-name*, is invalid for this object type.

Explanation: The supplied Health Indicator does not exist for this object type.

User response: Verify the object type and identifier or name, and resubmit the request.

SQL22016N The health monitor returned no recommendations for health indicator *Health-Indicator-name*. Reason Code = *reason-code*.

Explanation: The health monitor was unable to return any recommendations. The explanation corresponding to the reason code is:

1. The health indicator is not in an alert state.
2. The health indicator has not yet been evaluated.
3. The health indicator is disabled.

User response: The action corresponding to the reason code is:

1. Verify that the health indicator is in an alert state. The problem may have already been resolved. It is also possible that the health indicator is fluctuating between alert and normal states. If the indicator is fluctuating, the sensitivity for the health indicator may be set too low and the health indicator may be reacting to changes in system usage. If this is the case, consider increasing the sensitivity using the UPDATE ALERT CONFIGURATION command.
2. Wait for at least one full refresh interval for the health indicator, to ensure that the health indicator has been evaluated. Resubmit the request.
3. Enable the health indicator using the UPDATE ALERT CONFIGURATION command. Wait until the health indicator has been evaluated, then resubmit the request.

If the problem persists, contact IBM Support.

SQL22017N A non-severe error occurred while generating recommendations at the health monitor. SQLCODE = *sqlcode*.

Explanation: The health monitor encountered a non-severe error while trying to retrieve recommendations for the specified health indicator.

User response: Correct the error as indicated in the SQLCODE. Resubmit the recommendation request.

If the problem persists, contact IBM Support.

SQL22018W The collection data for this health indicator could not be retrieved.

Explanation: Collection data is stored in tables in the database. The table data could not be retrieved either because the table could not be accessed or the table has been altered from its original definition and the correct columns no longer exist.

User response: If the problem persists, contact IBM Support.

SQL22019N Health monitor processing was halted due to an unexpected error. Reason code = *reason-code*.

User response: If the problem persists, contact IBM Support.

SQL22020N Health monitor processing was halted because its shared memory segment upper limit was reached. The current size is *size*.

User response: If the problem persists, contact IBM Support.

SQL22021N Automation is turned off.

Explanation: The required utility cannot be performed because the automation switch is turned off currently.

User response: Attempt one of the following:

- Resolve the problem according to the recommendation provided by the health monitor.
- Turn on the corresponding automation switch.

SQL22022N The duration of the maintenance window is not long enough to run the maintenance activity.

Explanation: The required utility cannot be performed because the maintenance window defined in the automatic maintenance configuration does not have an adequate duration.

User response: Attempt one of the following:

- Resolve the problem according to the recommendation provided by the health monitor.
- Increase the duration of the maintenance window for the corresponding automatic maintenance activity.

SQL22025N An invalid input argument was specified for the reorgchk stored procedure.

Explanation: Only 'T' and 'S' are supported for the first argument of the stored procedure. If 'T' is specified as the first argument, the second argument to the stored procedure must be a fully qualified table name as <schema.table-name>.

User response: Resubmit with valid input arguments.

SQL22200 - SQL22299

SQL22200N The DB2 Administration Server cannot be stopped.

Explanation: The DB2 Administration Server cannot be stopped because it is currently handling at least one request from a client.

User response: Issue the DB2ADMIN STOP command with the /FORCE option to cancel all current requests being handled by the DB2 Administration Server and force the DB2 Administration Server to stop.

SQL22201N The DB2 Administration Server failed to authenticate the user *authorization-ID* on the host *hostname*. Reason code *reason-code*.

Explanation: The DB2 Administration Server was unable to authenticate the user *authorization-ID* for the following reason:

1. Invalid user ID or password.
2. Password expired.
3. User account is disabled.
4. User account is restricted.
5. The DB2 Administration Server is unable to process requests submitted as the root user.
6. Authorization failed.

User response: Depending on the reason code, try the following:

1. Verify that a valid user ID and password were specified for the host *hostname*.
2. Change the password on host *hostname* for user *authorization-ID*. Contact your system administrator for assistance. Attempt the request again once the password has been changed.
3. Contact your system administrator to unlock the account.
4. Contact your system administrator to find out the restrictions placed on the account.
5. Resubmit the request as a user other than root.
6. An internal authentication error has occurred.

If you continue to receive this message after attempting the suggested solutions, contact IBM Support.

SQL22202W The DB2 Administration Server cannot be quiesced. Reason code *reason-code*.

Explanation: The DB2 Administration Server quiesce operation failed for one of the following reasons:

1. The DB2 Administration Server is already quiesced.
2. The DB2 Administration Server is currently processing requests on behalf of DB2 clients.

User response: Depending on the reason for the failure, attempt one of the following:

1. No action required.

2. Wait until the DB2 Administration Server is not processing any requests, or resubmit the quiesce request and specify the force option. Forcing a quiesce will terminate any requests that are currently being processed.

SQL22203W The DB2 Administration Server cannot be unquiesced. Reason code *reason-code*.

Explanation: The DB2 Administration Server unquiesce operation failed for one of the following reasons:

1. The DB2 Administration Server is not quiesced.
2. There is at least one administration request in progress.

User response: Depending on the reason for the failure, attempt one of the following:

1. No action required.
2. Wait until the DB2 Administration Server has completed processing all administration requests, or resubmit the unquiesce request and specify the force option. Forcing the unquiesce operation will allow normal requests to be handled concurrently with the administration requests, which may prevent the administration requests from completing successfully.

SQL22204N The DB2 Administration Server encountered a non-severe error while executing a request.

Explanation: A non-severe error occurred in the DB2 Administration Server while it was processing a request.

User response: Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact IBM Support with the following required information:

- Problem description
- SQLCODE or message number
- SQLCA contents if possible
- Trace file if possible

SQL22205C The DB2 Administration Server encountered an unexpected error while executing a request.

Explanation: An unexpected error occurred in the DB2 Administration Server while it was processing a request.

User response: Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact IBM Support with the following required information:

- Problem description
- SQLCODE or message number
- SQLCA contents if possible
- Trace file if possible

SQL22206N An error occurred while accessing a message queue. Reason code *reason-code*.

Explanation: An unexpected error or bad message was received on a message queue. The following is a list of reason codes:

1. Unable to create a message queue. The number of message queues allowed may have been exceeded.
2. An error was encountered while reading from a message queue.
3. An error was encountered while writing to a message queue.
4. An invalid message was received from a message queue.
5. An error was encountered while opening a message queue.
6. An error was encountered while closing a message queue.
7. An error was encountered while querying a message queue.
8. An error was encountered while deleting a message queue.

User response: Ensure the number of message queues allowed is not reached. Reduce the number of message queues in use if necessary and resubmit the request.

If you continue to receive this error message after attempting the suggested solutions, please contact IBM Support.

SQL22207N The DB2 Administration server cannot execute the script at host *hostname*. Reason code *reason-code*.

Explanation: The DB2 Administration Server failed to execute the script for one of the following reasons:

1. The user specified an existing script and the script does not exist.
2. The script working directory is invalid.
3. The last line of the script failed to run because a statement termination character could not be found.
4. A system error occurred while attempting to execute the script.

User response: Depending on the reason for the failure, attempt one of the following:

1. Verify that the script specified exists on host *hostname* at the path provided.

2. Verify that the working directory is valid on host *hostname*.
3. Verify the script contents and resubmit the request.
4. Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

If you continue to receive this error message after attempting the suggested response, refer to the DB2 Administration Server's First Failure Data Capture Log for additional information or contact IBM Support.

SQL22208N The DB2 Administration Server failed to execute function/method *function-name* in library/class *library-name* at host *hostname*. Reason code *reason-code*.

Explanation: The DB2 Administration server encountered an error while trying to execute a function/method in a library/class for one of the following reasons:

1. The library/class *library-name* could not be found.
2. The function/method *function-name* could not be found in the library/class *library-name*.
3. The version of the function/method invoked at the DB2 Administration Server is not supported.

User response: Depending on the reason for the failure, attempt one of the following:

1. Verify that the library *library-name* exists on host *hostname*.
2. Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information. If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact IBM Support with the following required information:
 - Problem description
 - SQLCODE or message number
 - SQLCA contents if possible
 - Trace file if possible
3. See response for reason code 2.

SQL22209N The DB2 Administration Server encountered an unexpected Java error on host *hostname*.

Explanation: An error occurred while the DB2 Administration Server was attempting to start or communicate with a Java Interpreter. The following could be the cause of the problem:

1. Java has been improperly installed or configured on host *hostname*.
2. The DB2 Administration Server `jdk_path` configuration parameter has been set incorrectly.

User response: Attempt the following:

1. Contact the system administrator for host *hostname* to verify that Java is properly installed and configured.
2. Verify that the DB2 Administration Server *jdk_path* configuration parameter has been set correctly. The *jdk_path* configuration parameter can be viewed using CLP. The parameter should point to the location where Java is installed on the host *hostname*.

If you continue to receive this error message after attempting the suggested response, please contact IBM Support.

SQL22210N The DB2 Administration server cannot execute the specified request while quiesced.

Explanation: The DB2 Administration Server failed to execute the request because the DB2 Administration Server is currently quiesced. Only administrative requests can be executed while the DB2 Administration Server is quiesced.

User response: Try the request again when the DB2 Administration Server is no longer quiesced. Contact your database administrator to determine when the DB2 Administration Server will be unquiesced.

SQL22211N An error occurred setting the DB2 Administration Server configuration parameter *parameter-token*. Reason code *reason-code*.

Explanation: The DB2 Administration Server configuration was not updated due to the following error:

1. Configuration parameter is unknown.
2. Configuration parameter value is not in the correct range.
3. A system error occurred while updating the DB2 Administration Server configuration parameters.

User response: Depending on the reason code, verify the following:

1. The configuration parameter exists.
2. The value specified for the configuration parameter is in the correct range. See the description of the configuration parameter in the DB2 Administration Guide: Performance volume for the range of allowable values.
3. Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information or contact IBM Support.

SQL22212N A DB2 Administration Server communication error has been detected. Client system: *client-ip-address*. Server system: *server-ip-address*.

Explanation: A DB2 Administration Server communication error has been detected. Possible causes include the following:

1. The DB2 Administration Server at the server system was shut down by the system administrator.
2. The DB2 Administration Server at the server system was terminated due to an internal or system error.
3. The DB2 Administration Server is not installed at the server system.
4. The DB2 Administration Server has not been cataloged correctly at the client system.
5. The communication subsystem at the client system or server system has not been configured correctly, or has not been started successfully.
6. A network error has caused the connection to go down.
7. An internal error in the DB2 Administration Server caused the connection to go down.

User response: Verify the following:

1. The DB2 Administration Server has not been shut down.
2. The DB2 Administration Server has not been terminated.
3. The DB2 Administration Server has been installed at the server system.
4. The remote DB2 Administration Server is cataloged properly on the client system.
5. The communication subsystems on both client and server systems are configured and started up properly.
6. The network is operating properly.
7. Nothing to verify.

If the problem persists, consult with your network administrator or contact IBM Support.

SQL22213N DB2ADMIN processing was successful. The scheduler was not started successfully.

Explanation: The DB2ADMIN command successfully started the DB2 Administration Server, but the DB2 Administration Server was unable to start the scheduler.

User response: Verify the following:

- Ensure the Tools Catalog Database configuration in the DB2 Administration Server configuration parameters is correct. For instructions on configuring the Tools Catalog Database, refer to the section on the DB2 Administration Server in the DB2 Administration Guide.

- Ensure the database manager containing the Tools Catalog Database has been started.
- If the Tools Catalog Database is remote to the Tools Catalog Instance, ensure the scheduler user ID and password are set correctly. The scheduler user ID must have SYSADM authority on the Tools Catalog Database. You can change the scheduler user ID and password using the DB2ADMIN SETSCHEDID command.
- Ensure the Tools Catalog Database is not being used by another scheduler.

After verifying the above, try stopping and then restarting the DB2 Administration Server. If you continue to receive this error message after attempting the suggested response, please contact IBM Support.

SQL22214N The admin node *node-name* does not exist in the DB2 node directory.

Explanation: The admin node *node-name* is invalid. The node name does not exist in the DB2 node directory.

User response: Verify that the node name *node-name* is cataloged in the admin node directory using the LIST ADMIN NODE DIRECTORY command. If the admin node is not listed in the admin node directory, submit a CATALOG ADMIN ... NODE command to catalog the admin node. If you continue to receive this error message after attempting the suggested response, please contact IBM Support.

SQL22215W The DB2 Administration Server configuration parameters were updated successfully.

Explanation: The configuration parameters were updated successfully, however, you must restart the DB2 Administration Server to have the changes become effective.

User response: Restart the DB2 Administration Server to have the changes become effective.

SQL22216N An error occurred while performing an extended console operation. Reason code = *reason-code*.

Explanation: While performing the operation, an unexpected error occurred. The possible reason codes are as follows:

- 1 The console name used to activate the console has more than 8 characters.
- 2 The operator command that was issued is longer than the allowed 126 characters.
- 3 For an activate request, the issuer does not have read authority to resource name, MVS.MCSOPER.*, where * is the name of the console.

- 4 For an activate request, the console was already active.

User response: The action corresponding to the reason code is:

- 1 Check if the user name supplied as the console name has more than 8 characters.
- 2 Check if the operator command is more than 126 characters in length.
- 3 Provide the required read authority to the resource MVS.MCSOPER.*, where * is the name of the console.
- 4 Ensure that the extended console you want to activate is not active.

SQL22220N The DB2 Administration Server encountered a script error. Script error code *error-code*.

Explanation: A script error was encountered while the DB2 Administration server was executing the script. The script exited with error code *error-code*.

User response: Verify that the script is correct.

If you continue to receive this error message after attempting the suggested response, refer to the DB2 Administration Server's First Failure Data Capture Log for additional information or contact IBM Support.

SQL22221N The scheduler is not active. Reason code *reason-code*.

Explanation: The scheduler was unable to handle the request because the scheduler is not active for one of the following reasons:

1. The scheduler is not enabled.
2. The scheduler is not configured properly.

User response: Check the following:

1. Verify that the scheduler has been enabled. The scheduler is enabled using the SCHED_ENABLE DB2 Administration Server configuration parameter. Verify the current setting of the SCHED_ENABLE parameter by viewing the DB2 Administration Server configuration parameters using the GET ADMIN CONFIGURATION command. To modify the value of any configuration parameter, use the UPDATE ADMIN CONFIGURATION command.
2. Verify that the scheduler is properly configured. To configure the scheduler, refer to the section on the DB2 administration server in the DB2 Administration Guide.

If you continue to receive this error message after attempting the suggested response, refer to the DB2 Administration Server's First Failure Data Capture Log for additional information or contact IBM Support.

SQL22222N The logon user account for the Scheduler is invalid.

Explanation: The scheduler requires a valid logon account to connect to the tools catalog database if the tools catalog database is remote to the DB2 Administration Server. This error is caused by the account not being setup, or the logon user account does not contain a valid DB2 user ID.

User response: If a logon user account has been set up, then ensure that the account uses a valid DB2 user ID. You can set up the logon user account for the Scheduler by using the following command:

```
DB2ADMIN SETSCHEDID <userid> <password>
```

SQL22223N The instance *instance-name* does not exist on host *hostname*.

Explanation: The DB2 Administration Server on host *hostname* failed to execute a request because the instance *instance-name* provided in the request does not exist on the host.

User response: Verify the following:

- The remote instance field of the node entry in the local node directory corresponding to the instance *instance-name* is correct.
- The instance *instance-name* exists on host *hostname*.

If you continue to receive this error message after attempting the suggested response, refer to the DB2 Administration Server's First Failure Data Capture Log for additional information or contact IBM Support.

SQL22230N The data set *dataset* could not be located on the system.

Explanation: One of the following reasons may apply:

1. The data set has not been cataloged.
2. The volume on which the data set is located is not mounted.
3. The data set does not exist on the volume specified in the catalog.
4. A data set or PDS/E member name required for this operation was not specified.
5. The data set or PDS/E member name contains invalid characters or is longer than the maximum length allowed by the system.

For more information on the first three of these reasons refer to the MVS system messages IGW01021T, IGW01508T and IGW01511E.

User response: Ensure that the name of the data set is entered correctly, that the data set has been cataloged and that the volume on which it is located is mounted on the system.

SQL22231N The requested operation is not supported for the data set *dataset*.

Explanation: Certain properties of the specified data set prevent it from being used in conjunction with the requested operation, which may include an inapplicable record format or data set type. For example, a member name cannot be specified for a PS data set.

User response: Ensure that the data set has properties that are appropriate for the selected operation. Refer to the DB2 Administration Server's (DAS) First Failure Data Capture Log for additional information.

SQL22232N The job ID *jobid* was not found on the Job Entry Subsystem (JES).

Explanation: Possible reasons include:

1. The job with the specified job ID has not been submitted to the JES.
2. The job with the specified job ID has been purged from the JES.

User response: Ensure that the job ID belongs to a job that has been submitted to the JES and that has not been purged yet.

SQL22236N A file I/O error occurred. Reason code = *reason-code*.

Explanation: An error occurred while accessing the file system. The reasons codes are as follows:

1. An invalid directory was specified.
2. An attempt was made to open a non-existent file.
3. An attempt was made to create an existing file.

User response: The action is based on the reason code as follows.

1. Specify a valid directory.
2. Specify a file that exists.
3. Specify a file that does not already exist.

SQL22237N A file system error occurred when performing an operation on path *path*. Reason code = *reason-code*.

Explanation: An error occurred while accessing the file system. The explanation corresponding to the reason code is:

- 1 The specified path already exists.
- 2 The specified path does not exist.
- 3 An attempt was made to modify the specified file or directory which is currently read-only.
- 4 An attempt was made to modify or delete the specified file or directory which is currently in use by another application.
- 5 The specified file or directory is not accessible.

- 6 The specified path or device is not available.
- 7 The specified non-empty directory was mentioned in an inappropriate context. For example trying to non-recursively delete a non-empty directory.
- 8 The specified path does not refer to a directory.
- 9 The specified path is invalid.
- 10 The specified path name is too long.
- 11 There is no more space available on the file-system.
- 12 The maximum number of files that can be open has been reached.
- 13 The end of the specified file has been reached.
- 14 A physical I/O error occurred.
- 15 An unidentified error occurred.

User response: The user response corresponding to the reason code is:

- 1 Specify a path that does not exist.
- 2 Specify a path that does exist.
- 3 Verify the specified file or directory is not read-only.
- 4 Verify the specified file or directory is not in use by any other applications.
- 5 Verify the specified file or directory is accessible to the current user.
- 6 Verify the specified path or device is still available.
- 7 Verify the specified directory is empty.
- 8 Verify the specified path refers to a directory.
- 9 Verify the specified path is valid.
- 10 Verify the specified path is within the maximum limit for path names on the specific operating system.
- 11 Verify there is space available on the file-system.
- 12 Close one or more files and re-try the operation.
- 13 Verify the operation is not trying to read or seek beyond the end of file.
- 14 Retry the operation. If the problem persists, contact IBM Support.
- 15 Retry the operation. If the problem persists, contact IBM Support.

SQL22245N JCL generation failed. Reason (code[, token]) = *reason-code*.

Explanation: JCL generation failed as indicated by the following reason code:

- 01 A card with the reserved JCL skeleton parameter &JOB is not found or is misplaced in the main JCL skeleton. This card should be the first non-comment card in the main JCL skeleton after the TEMPLATE card.
- 02 Incorrect use of a reserved JCL skeleton parameter. The token in this message contains the name of the parameter that caused the problem.
- 03 There are more occurrences of the reserved JCL skeleton parameter &CTLSTMT in the main JCL skeleton than expected. The token in this message is set to the expected number of the &CTLSTMT parameters.
- 04 There are more occurrences of the reserved JCL skeleton parameter &STEPLIB in the main JCL skeleton than expected. The token in this message is set to the expected number of the &STEPLIB parameters.
- 05 The main JCL skeleton does not begin with the TEMPLATE statement. This statement should be the first non-comment statement in the main JCL skeleton.
- 06 The jobname or stepname in the JCL skeleton does not contain the JCL skeleton built-in function &SEQ required for job or step sequencing. The JCL skeleton built-in function &SEQ should be specified in the jobname or stepname of the JCL skeleton. The token in this message contains a fragment of the incorrect JCL statement.
- 07 The keyword JOB is not found in the first non-comment statement in the JCL skeleton for //JOB-statement. It might be commented out, mistyped, or missed delimiting spaces, especially after the keyword.
- 08 The main JCL skeleton is incomplete or has incorrect structure. The required standard JCL statements may be commented out, missed or misplaced, especially if in-stream JCL procedures are being used in this JCL skeleton.
- 09 The syntax of jobname, stepname, or ddname in the JCL skeleton is invalid. Possible reasons for this: incorrect length of the name field, or the field includes some non-alphanumerical characters. The token in this message contains a fragment of the incorrect JCL statement.
- 10 An incorrect use of ampersand in the JCL skeleton. The JCL skeleton contains one or more stand-alone ampersand characters. An ampersand is the first symbol of any JCL

skeleton parameter and should not be used without an accompanying identifier. The token in this message contains a fragment of the incorrect JCL statement.

- 11 The reserved JCL skeleton parameter &OBJECT was not found in the JCL skeleton.
- 12 A user-defined JCL skeleton parameter should not appear in the JCL skeleton. The token in this message contains the name of the JCL skeleton parameter that caused the problem.
- 13 A reserved JCL skeleton parameter should not appear in the JCL skeleton. The token in this message contains the name of the reserved JCL skeleton parameter that caused the problem.
- 14 The generated JCL is too long and the buffer for it cannot be allocated. The token in this message contains requested size that caused the problem. To avoid this problem, decrease the number of database objects selected for processing.

User response: Correct the problem according to the given explanation. If the problem persists, contact your Database Administrator or IBM Support.

SQL22247N The known discovery operation failed.

Explanation: Discovery is disabled on the target DB2 Administration Server.

User response: Enable discovery by modifying the value of the DISCOVER configuration parameter on the DB2 Administration Server. Change the value to KNOWN if you only want known discovery enabled. Change the value to SEARCH if you want both known and search discovery enabled. To modify the value of the configuration parameter, use the UPDATE ADMIN CONFIGURATION command.

SQL22250W Usage: DASMIGR is a utility to migrate the DB2 Administration Server to run under the DB2 Copy from which the utility was invoked.

Explanation: The DASMIGR command syntax is:
DASMIGR [-h | -p [DAS Profile Path]]

The command options are:

- h Prints this message.
- p Moves the DAS working directory under the install directory of the current DB2 Copy.

DAS Profile Path

Overrides the default location where the DAS working directory is to be moved. This option takes affect only if "-p" option is specified.

Example:

```
dasmigr -p "C:\DB2 PROFILES"
```

User response: Issue the DASMIGR command with one of the valid command options.

SQL22251N Migration of the DB2 Administration Server from *source-dasname* to *target-dasname* failed. Reason code *reason-code*.

Explanation: The DB2 Administration Server *source-dasname* could not be migrated for one of the following reasons:

1. The Tools Catalog Database has not been created at the target DB2 Administration Server.
2. The Tools Catalog Database has been configured improperly at the target DB2 Administration Server.

User response: Attempt the following at the target DB2 Administration Server *target-dasname*:

1. Verify that the Tools Catalog Database exists.
2. Verify the TOOLSCAT_DB and TOOLSCAT_SCHEMA DB2 Administration Server configuration parameters are correct. They should be set to the name and schema of the Tools Catalog Database. View the current settings of TOOLSCAT_DB and TOOLSCAT_SCHEMA using the GET ADMIN CONFIGURATION command. To modify the value of any DB2 Administration Server configuration parameter, use the UPDATE ADMIN CONFIGURATION command

If you continue to receive this error message after attempting the suggested response, please contact IBM Support.

SQL22252N DAS migration failed with reason code *reason-code*.

Explanation: An error has occurred while migrating the DB2 Administration Server. The reason codes are as follows:

1. The system resources available were insufficient to complete the migration.
2. The DB2 Administration Server's configuration parameters do not identify a valid tools catalog.
3. A non-severe error occurred during migration.

User response:

1. Verify that enough system resources are available for DAS migration.
2. Verify that a tools catalog is created and is identified correctly by the DB2 Administration Server's configuration parameters.
3. Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

SQL22255W Usage:

dasauto [-h|-?] -on|-off

Explanation: An incorrect argument was entered. Valid arguments for this command are:

-h|-? display the usage information

-on|-off
enables or disables autostarting of the DB2 Administration Server

User response: Enter the command again as follows:

dasauto [-h|-?] -on|-off

SQL22256W The dasauto command was successful.

Explanation: All processing completed normally.

User response: No further action is required.

SQL22260I The DB2 Administration Server has been updated successfully.

SQL22261N The DB2 Administration Server update command has encountered an unexpected error.

Explanation: An unexpected error occurred while attempting to update the DB2 Administration Server.

User response: Contact IBM Support and, if possible supply a trace file.

SQL22262N Update of the DB2 Administration Server between major releases is not supported.

Explanation: You can only update the DB2 Administration Server between minor releases of DB2.

User response: Please Use DB2 Administration Server migrate command (dasmigr) to update between major releases.

SQL22263I The DB2 Administration Server has been migrated successfully.

SQL22264N The DB2 Administration Server migrate command has encountered an unexpected error.

Explanation: An unexpected error occurred while attempting to migrate the DB2 Administration Server.

User response: Contact IBM Support and, if possible supply a trace file.

SQL22265N Migration of the DB2 Administration Server between minor releases is not supported.

Explanation: You can only migrate the DB2 Administration Server between major releases of DB2.

User response: Use DB2 Administration Server update command (dasupdt) to update between minor releases.

SQL22266N The DB2 Administration Server is already installed under the current installation.

Explanation: The DB2 Administration Server is already installed under the DB2 Copy from which the DB2 Administration Server update command was run.

User response: Run the DB2 Administration Server update command from the DB2 Copy to which you would like the DB2 Administration Server to be moved.

SQL22267W Usage: DASUPDT is a utility to update the DB2 Administration Server to run under the DB2 Copy from which the utility was invoked.

Explanation: The DASUPDT command syntax is:

DASUPDT [-h | -p [DAS Profile Path]rbrk;

The command options are:

-h Prints this message.

-p Moves the DAS working directory under the install directory of the current DB2 Copy.

DAS Profile Path

Overrides the default location where the DAS working directory is to be moved. This option takes affect only if "-p" option is specified.

Example:

dasupdt -p "C:\DB2 PROFILES"

User response: Issue the DASUPDAT command with one of the valid command options.

SQL22270N The contact, or contact group, with name *name* cannot be added to the contact list.

Explanation: The contact, or contact group, already exists in the contact list.

User response: Create a new contact, or contact group, with a unique name.

SQL22271N The contact, or contact group, information with name *name* could not be found.

Explanation: The contact, or contact group, could not be found in the contact list.

User response: Check and correct the name, and try again.

SQL22272N The record with key *key* cannot be inserted.

Explanation: The system tried to insert a record and the new record's key *key* already exists in the system.

User response: Remove the duplicate from the system; or, insert a new record with another key.

SQL22273N The record with key *key* could not be found.

Explanation: The record with key *key* could not be found because the record does not exist.

User response: Check and correct the key, and try again.

SQL22280N This action cannot be performed because the scheduler is quiesced.

Explanation: No action can be performed until the scheduler is activated again.

User response: Activate the scheduler.

SQL22281N The scheduler is already active.

Explanation: The scheduler cannot be made active because it is already active.

User response: No further action is required.

SQL22282N The scheduler is unable to access the Tools Catalog Database. Reason code = *reason-code* and SQLCODE *sqlcode*.

Explanation: The scheduler function cannot be processed because the scheduler is unable to access the Tools Catalog Database for the reason specified by the *reason-code* as follows:

1. The given user ID, or password, is incorrect.
2. Incorrect Tools Catalog Database configuration in the DB2 Administration Server configuration parameters. One or more of the following DB2 Administration Server configuration parameters is incorrect:
 - TOOLSCAT_DB
 - TOOLSCAT_SCHEMA
3. The Tools Catalog Database is already being used by another scheduler on the same system.
4. The Tools Catalog Database is only supported through TCP/IP as a communication protocol.
5. Unexpected errors. Refer to SQLCODE *sqlcode* for more details.

User response: The action corresponding to the reason code is:

1. Check your user ID and password and try again.
2. Verify that the DB2 Administration Server TOOLSCAT_DB and TOOLSCAT_SCHEMA configuration parameters have been set correctly. View the current settings of TOOLSCAT_DB and TOOLSCAT_SCHEMA using the GET ADMIN CONFIGURATION command. To modify the value of any DB2 Administration Server configuration parameter, use the UPDATE ADMIN CONFIGURATION command. If you continue to receive this error message after attempting the suggested response, please contact IBM Support.
3. Contact your system administrator.
4. Attempt the following:
 - If the tools catalog database is local to the scheduler, then set up the instance specified by the DB2 Administration Server configuration parameter *toolscat_inst* to use TCP/IP communications.
 - If the tools catalog database is remote to the scheduler, then ensure that the node used by the *toolscat_db* admin configuration parameter supports TCP/IP as the communication protocol.
5. Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

Contact IBM Support if you continue to receive this message after attempting the suggested solutions.

SQL22283N Task *taskid.suffix* does not exist in the Tools Catalog Database.

Explanation: The scheduler cannot retrieve the task from the Tools Catalog Database. The task might have been removed from the Tools Catalog Database or never existed.

User response: Check for the existence of the task using the Task Center.

SQL22284N Task *taskid.suffix* is not scheduled.

Explanation: The requested action, Run a scheduled task now, cannot be performed because the task is not currently scheduled to run.

User response: Attempt one of the following:

- Perform a Run now instead
- Activate all of the task's schedules and perform Run a scheduled task now again.

SQL22285N The scheduler is unable to get the corresponding hostname from the partitioned database on partition number *partition-number*.

Explanation: The requested partition number does not exist in the partitioned database.

User response: Verify that the partition number exists by displaying the list of nodes using the LIST DBPARTITIONNUMS command.

SQL22286N Unable to execute the required task.

Explanation: The scheduler failed to run the task because an unexpected error occurred.

User response: Refer to the DB2 Administration Server's First Failure Data Capture Log for additional information.

If trace was active, invoke the Independent Trace Facility at the operating system command prompt.

SQL22287N User *userid* does not have permission to execute Task *taskid.suffix*.

Explanation: The task failed to execute because the user does not have sufficient authority to run the task.

User response: Users must be granted run permission by the owner of the task before they can run the task.

SQL22295N Unable to communicate successfully with the SMTP server at host *host-name* using port *port-number*. Reason code = *reason-code*.

Explanation: The SMTP server at host *host-name* using port *port-number* failed to successfully negotiate the protocol to send mail. An explanation of the error is indicated by the following reason code:

1. There is no SMTP server running at *host-name* on port *port-number*.
2. An unexpected error was encountered while communicating with the SMTP server.

User response:

SQL22400 - SQL22499

SQL22400N The function or feature name *function-or-feature-name* is not valid.

Explanation: The function or feature name *function-or-feature-name* is not valid. For valid function and feature names, search the DB2 documentation.

User response: Specify a valid function or feature name, then try the request again.

sqlcode: -22400

sqlstate: 5U001

SQL22401N The application with agent ID *agent-ID* does not exist.

Explanation: The application with agent ID *agent-ID* does not currently exist. To see all active database applications, use LIST APPLICATIONS command.

1. Verify that the SMTP server name is specified correctly and that the SMTP port specified in the services file corresponds to the port number being used by the SMTP server.

2. Invoke the Independent Trace Facility at the operating system command prompt. Contact IBM Support if the problem persists.

SQL22296N Unable to send mail using the SMTP protocol due to invalid recipient addresses.

Explanation: The SMTP server failed to successfully negotiate the send mail protocol for all the specified recipients.

User response: Verify that the recipient addresses are specified correctly.

This error might also be returned if the SMTP server is unable to reach the recipient addresses. This can be independently verified by using any other mail client to send mail to the recipients using the same SMTP server. If this is successful, invoke the Independent Trace Facility at the operating system command prompt. Contact IBM Support if the problem persists.

SQL22297I Configuration changes will not be effective until the DB2 Administration Server is restarted.

Explanation: The DB2 Administration Server has been successfully configured, but the changes will not take effect immediately. The changes will take effect when the DB2 Administration Server is restarted.

User response: To have the change take effect at the next DB2 Administration Server restart, no further action is required.

User response: Specify an agent ID for an active application, then try the request again.

sqlcode: -22401

sqlstate: 5U002

SQL22402N No activity monitor reports can be found.

Explanation: No activity monitor reports can be found because either the report ID or the report type specified is invalid.

User response: Specify a valid report ID or a valid report type, then try the request again.

sqlcode: -22402

sqlstate: 5U003

SQL22403N One or more values provided when saving the monitoring task *monitoring-task-name* are invalid. Reason code: *code*.

Explanation: One or more values provided when saving the monitoring task *monitoring-task-name* are invalid for the reason given by reason code *code*. The possible reason codes are as follows:

- The action mode *action-mode* is invalid.
- The request to create the monitoring task failed because the specified monitoring task name *monitoring-task-name* is not valid.
- The request to create the monitoring task failed because another monitoring task with the same name *monitoring-task-name* was found.
- The request to save the monitoring task failed because the value specified for the availability of application lock chains is not valid.
- The request to save the monitoring task failed. One or more report IDs in *report-IDs* are invalid because there are no associated reports.
- The request to modify or drop the monitoring task failed because the specified monitoring task ID *monitoring-task-ID* is not valid. The associated monitoring task either does not exist or is a system-defined monitoring task. A system-defined monitoring task cannot be modified or dropped.

User response: The action corresponding to the reason code is:

- To create a new monitoring task, specify action mode C. To modify an existing monitoring task, specify action mode M. Try the request again.
- A monitoring task name cannot be null, blank, or exceed 128 characters in length. Specify a valid monitoring task name, then try the request again.
- Monitoring tasks must have unique names. Specify a unique name for the new monitoring task, then try the request again.
- To make application lock chains available for this monitoring task, specify 'Y'; otherwise, specify 'N'. Try the request again.

SQL27900 - SQL27999

SQL27902N LOAD RESTART/TERMINATE is not allowed on a table that is not in LOAD PENDING state.

Explanation: No RESTART or TERMINATE is necessary. The RESTART and TERMINATE modes of the LOAD utility should be used to resume or cancel a previously failed/interrupted LOAD operation. They are only supported on tables where a previous load operation failed and the table is in LOAD PENDING state. For tables that are not in LOAD PENDING state, only the INSERT and REPLACE modes of the LOAD utility are supported.

- Specify one or more IDs for activity monitor reports that exist, then try the request again.
- Specify an existing user-defined monitoring task ID, then try the request again.

sqlcode: -22403

sqlstate: 5U004

SQL22404N The action mode *action-mode* specified when creating or dropping the database objects for function or feature *function-or-feature-name* is not valid.

Explanation: The action mode *action-mode* is invalid. To create the database objects for *function-or-feature-name*, specify action mode C. To drop the database objects for *function-or-feature-name*, specify action mode D.

User response: Specify a valid action mode, then try the request again.

sqlcode: -22404

sqlstate: 5U005

SQL22405N The Activity Monitor is unable to collect the required snapshot data because the monitor switch *monitor-switch* is not turned on at the database manager level.

Explanation: The Activity Monitor is unable to collect the required snapshot data because the monitor switch *monitor-switch* is not turned on at the database manager level.

User response: Turn on the specified monitor switch using the monitor switch database manager configuration parameter, then try the request again.

sqlcode: -22405

sqlstate: 5U006

User response: To populate the table with the contents of the input source re-issue your LOAD command using the INSERT or REPLACE mode. You can use the LOAD QUERY utility to find out the current state of the table.

SQL27903I *agenttype* has started on partition *partitionnumber* at time *timestamp*.

Explanation: This is an informational message indicating that a DB2 agent is about to begin on a given partition.

User response: No action is required.

SQL27904I The input file was not found. Using standard input as the input.

Explanation: This is an informational message indicating that an DB2 agent is about to begin on a given partition.

User response: No action is required.

SQL27907I Maximum input record length *record-length*.

Explanation: This is an informational message indicating the record length used for the Load operation.

User response: No action is required.

SQL27908I Program is running with check level: *check-level*.

Explanation: This is an informational message indicating whether truncation checking is enabled or not.

User response: No action is required.

SQL27909I Tracing *numberofrecords* non-delimited record(s).

Explanation: This is an informational message indicating that tracing is enabled for the first *numofrecords* record(s).

User response: No action is required.

SQL27910I The string delimiter is *chardel*, the column delimiter is *coldel*, and the decimal point is *decept*. Tracing *numofrecords* delimited record(s).

Explanation: This is an informational message indicating what delimiters are used for string, column and decimal point. In addition, this message also shows tracing is enabled for the first *numofrecords* record(s).

User response: No action is required.

SQL27911I The input partition map file *filename* was opened successfully for reading.

Explanation: This informational message indicates the input partition map file was opened successfully for reading.

User response: No action is required.

SQL27912I Reading of input partitioning map is in progress.

Explanation: This informational message indicates that reading of the input partition map file is in progress.

User response: No action is required.

SQL27913I Input partitioning map was successfully read.

Explanation: This informational message indicates that the input partition map file was successfully read.

User response: No action is required.

SQL27914I The mode of operation is *mode*.

Explanation: This informational message indicates the mode of operation for the partitioning agent.

There are two different modes of operation:

- Partition
- Analyze

User response: No action is required.

SQL27915I Output partitioning map file not used.

Explanation: This is an informational message indicating that the output partitioning map file is not used.

User response: No action is required.

SQL27916I The output partitioning map file *filename* was opened successfully.

Explanation: This is an informational message indicating that the output partitioning map file was opened successfully.

User response: No action is required.

SQL27918I Distribution file name: *filename*.

Explanation: This is an informational message indicating the name of the distribution file used in the utility.

User response: No action is required.

SQL27919I The distribution file *filename* was opened successfully for writing.

Explanation: This informational message indicates the distribution file was opened successfully for writing.

User response: No action is required.

SQL27920I This utility is using *numkeys* partitioning keys.

Explanation: This informational message indicates the number of partitioning keys used in the utility.

User response: No action is required.

SQL27921I *keyname* **Start:***index* **Len:***length*
Position:*position* **Type:***type*.

Explanation: This informational message describes attributes of a partitioning key.

User response: No action is required.

SQL27922I Output data files are not created because the run type is ANALYZE.

Explanation: This is an informational message indicating that the output data files are not created because the mode of operation is ANALYZE.

User response: No action is required.

SQL27926I Output data for partition *partitionnum* will be sent to standard output.

Explanation: This is an informational message indicating that the output data on partition *partitionnum* will be sent to standard output.

User response: No action is required.

SQL27927I Processed *numofrecords* records (or lines).

Explanation: This is an informational message indicating that *numofrecords* records (or lines) were processed.

User response: No action is required.

SQL27928I Processing record number *num*.

Explanation: This informational message indicates which record is being processed. This message will only be reported when the TRACE option is specified.

User response: No action is required.

SQL27929I Partitioning number returned from hash function: *hexvalue* (hex) *decvalue* (decimal).

Explanation: This informational message reports the result of the hashing function in both hex and decimal format.

User response: No action is required.

SQL27930N A record was rejected during partitioning with reason code *reason-code* and partition-relative record number *rec-num*.

Explanation: A record was rejected during load while attempting to determine what partition the record belongs to. If the 'dumpfile' load modifier was specified, the rejected record can be found in the partition-relative dumpfile at the partition-relative record number *rec-num* listed above.

An explanation of the error specified by the *reason-code* is as follows:

1. The string representation of the data type of a partitioning column is invalid. Either the syntax is invalid or the value is out of range.
2. The column values corresponding to the partitioning keys are not contained within the first 32K of the record.
3. The record is empty (all space characters).
4. The record length does not match the expected length.
5. The record is incomplete.
6. An error occurred while processing a generated column value.

User response: The action corresponding to the *reason-code* is:

1. Ensure that the string representation or the datatype is correct.
 2. The column values comprising the partitioning keys must be contained within the first 32KB of the record.
 3. If you are concerned that the record is empty, check your data for correctness.
 4. Ensure the record length is not larger or smaller than the expected length.
 5. Ensure the input data file is complete.
 6. Ensure the generated column value is correct and compliant.
-

SQL27931I Writing output partition map to file *filename*.

Explanation: This is an informational message indicating that the output partition map is written to *filename*.

User response: No action is required.

SQL27932I Writing distribution map to *filename*.

Explanation: This is an informational message indicating that the distribution map is written to *filename*.

User response: No action is required.

SQL27935I *agenttype* has ended on partition
partitionnumber at time *timestamp*.

Explanation: This is an informational message indicating that an DB2 agent has just completed operation on a given partition.

User response: No action is required.

SQL27936I Elapsed time: *hr* hours, *min* minutes, *sec* seconds.

Explanation: This informational message reports the total time elapsed.

User response: No action is required.

SQL27937I Throughput: *throughput* records/sec.

Explanation: This is an informational message indicating the throughput of a given DB2 agent.

User response: No action is required.

SQL27939I Record counts for output partitions:
partition number *partitionnum*. Record
count: *numofrecords*.

Explanation: This informational message indicates the number of records processed for a given partition.

User response: No action is required.

SQL27941I Program terminated abnormally.

Explanation: This informational message indicates the utility program has terminated abnormally.

User response: No action is required.

SQL27942I There are *numofwarnings* warning
message(s) and *numofdisrec* discarding
records.

Explanation: This informational message reports there are *numofwarn* warning message(s) and *numofdisrec* discarding record(s) encountered during the operation.

User response: No action is required.

SQL27945I Key Index: *index*. Data: *data1 data2 data3*
data4 data5.

Explanation: This informational message reports the attributes of a given partition key.

User response: No action is required.

SQL27947I The input data file specified at line
linenum of the configuration file is
ignored.

Explanation: The input data file specified at line *linenum* of the configuration file is ignored. The

command line option will be used if it is specified; otherwise, the first specification of input data file in the configuration file will be used.

User response: No action is required.

SQL27948I The output data file specified at line
linenum of the configuration file is
ignored.

Explanation: The output data file specified at line *linenum* of the configuration file is ignored. The command line option will be used if it is specified; otherwise, the first specification of output data in the configuration file will be used.

User response: No action is required.

SQL27949I The distribution data file specified at
line *linenum* of the configuration file is
ignored.

Explanation: The distribution file specified at line *linenum* of the configuration file is ignored. The command line option will be used if it is specified; otherwise, the first specification of distribution file in the configuration file will be used.

User response: No action is required.

SQL27950I The type of the input data file is *filetype*.

Explanation: This is an informational message indicating that the format of the input data is *filetype*.

- 0-ASC
- 1-DEL
- 2-BIN
- 3-CUR

User response: No action is required.

SQL27951I The NEWLINE flag is ignored in case of
binary or delimited input data file

Explanation: This informational message reports that the NEWLINE flag is ignored for binary or delimited input data files.

User response: No action is required.

SQL27952I The NEWLINE flag is turned on.

Explanation: This informational message reports that the NEWLINE flag is in effect.

User response: No action is required.

SQL27953I

Usage: db2split
[-c configuration-file-name]
[-d distribution-file-name]
[-i input-file-name]
[-o output-file-name]
[-h help message]

Explanation:

- c option will run this program using a user specified configuration file
- d option specifies the distribution file
- i option specifies the input file
- o option specifies the output file
- h option will generate the help message

SQL27959N The partitioned database configuration option *option-name* is invalid. Reason code = *reason-code*.

Explanation: The partitioned database configuration option named in the error message is incorrectly specified or is incompatible with one of the other load options specified.

The possible reason codes are as follows:

- 1 Partitioned database configuration options cannot be specified in a non-partitioned database environment or when the DB2_PARTITIONEDLOAD_DEFAULT registry variable is set to OFF.
- 2 Partitioned database configuration options may not be specified more than once.
- 3 Invalid pointer detected in the piPartLoadInfoIn input structure passed to the db2Load API.
- 4 Invalid pointer detected in the poPartLoadInfoOut output structure passed to the db2Load API.
- 5 The argument supplied to the MODE option must be one of the following:
 - PARTITION_AND_LOAD
 - PARTITION_ONLY
 - LOAD_ONLY
 - LOAD_ONLY_VERIFY_PART
 - ANALYZE
- 6 The maximum number of partitioning agents must be less than or equal to the maximum number of partitions allowable in a cluster.
- 7 The maximum number of partition numbers in

a partition list must be less than or equal to the maximum number of partitions allowable in a cluster.

- 8 The arguments supplied to the ISOLATE_PART_ERRS option must be one of the following:
 - SETUP_ERRS_ONLY
 - LOAD_ERRS_ONLY
 - SETUP_AND_LOAD_ERRS
 - NO_ISOLATION
- 9 The value supplied to the STATUS_INTERVAL option must be in the range 1-4000.
- 10 The maximum port number must be greater than or equal to the minimum port number.
- 11 The only legal arguments for the CHECK_TRUNCATION, NEWLINE and OMIT_HEADER options are TRUE and FALSE.
- 12 The argument supplied to RUN_STAT_DBPARTNUM must be a legal partition number.
- 13 If the mode is ANALYZE, the MAP_FILE_OUTPUT option must be specified.
- 14 If the mode is PARTITION_ONLY or LOAD_ONLY and a remote client is being used, then the PART_FILE_LOCATION option must be specified. If the mode is PARTITION_ONLY or LOAD_ONLY then if the file type is CURSOR, the PART_FILE_LOCATION option must be used and must specify a file name.
- 15 The load actions RESTART and TERMINATE can only be used when the mode is PARTITION_AND_LOAD, LOAD_ONLY or LOAD_ONLY_VERIFY_PART.
- 16 The HOSTNAME option cannot be specified unless the FILE_TRANSFER_CMD option is also specified.
- 17 The partition isolation error modes LOAD_ERRS_ONLY and SETUP_AND_LOAD_ERRS cannot be used when both the ALLOW_READ_ACCESS or COPY_YES options of the load command are used.
- 18 The LOAD_ONLY and LOAD_ONLY_VERIFY_PART modes are not compatible with the CLIENT option of the load command.

User response: Resubmit the LOAD command with the correct partitioned database configuration options.

SQL27960N PART_FILE_LOCATION must specify a fully qualified base filename when the file type is CURSOR.

Explanation: When loading from an input file of type CURSOR, the PART_FILE_LOCATION option must specify a fully qualified base filename instead of a directory.

User response: Resubmit the LOAD command with a proper argument for the PART_FILE_LOCATION partitioned database configuration option.

SQL27961N ROWCOUNT cannot be specified in a partitioned database environment unless the mode is ANALYZE.

Explanation: The ROWCOUNT option of the load command is not supported except when the mode is ANALYZE.

User response: Resubmit the load command without the ROWCOUNT option.

SQL27965N The DB2_LOAD_COPY_NO_OVERRIDE registry variable value = *value* is not valid.

Explanation: A Load was issued with the COPY NO recoverability property, but the value of the DB2_LOAD_COPY_NO_OVERRIDE registry variable was not valid.

User response: Refer to the DB2 Information Center for information about the registry variable or unset the registry variable to stop overriding Loads which have COPY NO recoverability.

SQL27966W The DB2_LOAD_COPY_NO_OVERRIDE registry variable value *value* overrides the COPY NO parameter specified in the Load.

Explanation: A Load command was issued with the COPY NO recoverability parameter, however the DB2_LOAD_COPY_NO_OVERRIDE registry variable overrides the parameter.

User response: Refer to the DB2 Information Center for information about the DB2_LOAD_COPY_NO_OVERRIDE registry variable or unset the registry variable to stop overriding Loads which have COPY NO recoverability.

SQL27967W The COPY NO recoverability parameter of the Load has been converted to NONRECOVERABLE within the HADR environment.

Explanation: The COPY NO recoverability parameter of the Load has been converted to

NONRECOVERABLE. This occurred because the Load was issued within an HADR environment and the DB2_LOAD_COPY_NO_OVERRIDE registry variable was not set.

User response: The COPY NO Load parameter is not valid within an HADR environment. The DB2_LOAD_COPY_NO_OVERRIDE registry variable can be set to override the COPY NO parameter or you can accept that the COPY NO parameter will be converted to NONRECOVERABLE.

SQL27970N An incompatible combination of import options is specified. Reason code = *reason-code*.

Explanation: An incompatible combination of import options is specified by the user.

The command cannot be processed.

An explanation of the error specified by the *reason-code* is as follows:

1. The SKIPCOUNT and RESTARTCOUNT options are mutually exclusive.
2. Online import mode (ALLOW WRITE ACCESS) is not compatible with the REPLACE, CREATE and REPLACE_CREATE import options.
3. Online import mode (ALLOW WRITE ACCESS) was specified for the import command using buffered inserts.
4. Online import mode (ALLOW WRITE ACCESS) was specified for the import command inserting into a view.
5. Online import mode (ALLOW WRITE ACCESS) was specified for the target table using table lock size.
6. Commitcount AUTOMATIC was specified for the import command using buffered inserts.
7. Commitcount AUTOMATIC was specified for the import command, but the server does not support this option. The servers supporting automatic commitcount are DB2 UDB on Linux, Unix and Windows V8.1 FixPak 4 and higher DB2 versions.
8. Online import mode (ALLOW WRITE ACCESS) was specified for the import command, but the server does not support this option. The servers supporting online import are Linux, Unix and Windows, zSeries and iSeries.

User response: The action corresponds to the following reason codes:

1. Reissue the command using either the SKIPCOUNT or RESTARTCOUNT option.
2. Reissue the command without specifying ALLOW WRITE ACCESS, or use INSERT or INSERT_UPDATE import option.
3. Reissue the command without specifying ALLOW WRITE ACCESS, or rebind the import packages

(bind files db2uimtb.bnd and db2uimpb.bnd) without using the INSERT BUF option.

4. Reissue the command without specifying ALLOW WRITE ACCESS.
5. Reissue the command without specifying ALLOW WRITE ACCESS, or alter the table using LOCKSIZE ROW.
6. Reissue the command without specifying automatic commitcount, or rebind the import packages (bind files db2uimtb.bnd and db2uimpb.bnd) without using the INSERT BUF option.
7. Do not attempt to use this command option against an incompatible server.
8. Do not attempt to use this command option against an incompatible server.

SQL27971N The target table has changed since the start of the import utility.

Explanation: While online import was running, a concurrent application dropped the target table and created a new table with the same name.

The utility stops processing.

User response: If desired, rerun the operation against newly created table.

SQL27972N A range of rows from the input file, starting at *first-failed-row* and ending at *last-failed-row*, was not inserted into the table. SQLCODE = *sqlcode*.

Explanation: The atomic compound database operation failed to insert a sequence of rows of data read from the input file. One or more of the fields in the input file is not compatible with the database field where the field is being inserted.

Processing continues with the next row of input data.

User response: Examine the input file and the database contents. If desired, modify the database or modify the input file and rerun the operation.

SQL27980W The utility encountered attached or detached data partitions in the target table or the source table.

Explanation: Some of the data partitions are in the attached or detached state. The utility treats these data partitions as invisible. Any input source records belonging to those data partitions will be rejected by the import utility or the load utility. The rows rejected by the load utility can be recovered from the exception table, if one was specified. The export utility will not process any data that might exist in those data partitions.

User response: No action is required.

SQL27981W The utility could not verify presence of attached or detached data partitions in the target table or the source table.

Explanation: Some of the data partitions might be in the attached or detached state, but the utility was unable to confirm this. The utility treats these data partitions as invisible. Any input source records belonging to those data partitions will be rejected by the import utility or the load utility. The rows rejected by the load utility can be recovered from the exception table, if one was specified. The export utility will not process any data that might exist in those data partitions.

User response: No action is required.

SQL27982N Vendor Load API (sqluvtld) is no longer supported.

Explanation: Vendor Load API (sqluvtld) is no longer supported. DB2 Load utility is the only supported bulk loader. DB2 Load utility can be executed via db2Load API.

User response: Do not use the sqluvtld API or any applications that invoke it.

SQL27983N The LOAD utility is unable to rebuild the index.

Explanation: The LOAD target table has detached data partitions and has dependent materialized query tables or dependent staging tables that have not been incrementally refreshed with respect to the detached data partition. This condition prevents the LOAD utility running in insert mode or restart mode from rebuilding a unique index.

User response: Do not specify indexing mode REBUILD with LOAD insert until the dependent materialized query tables or dependent staging tables are refreshed. Use a different LOAD indexing mode, or execute the SET INTEGRITY statement with the IMMEDIATE CHECKED option to maintain the dependent materialized query tables or dependent staging tables with respect to the detached data partition. If a LOAD restart cannot incrementally maintain indexes, the previously failed LOAD operation must be terminated before dependent materialized query tables or dependent staging tables can be refreshed.

SQL27984W Some information has not been saved to the PC/IXF file during Export. This file will not be supported in Import CREATE mode. Reason code=*reason-code*.

Explanation: Reason codes:

- 1 Index information has not been saved because the index column names contain hexadecimal values of 0x2B or 0x2D.

- 2 XML columns are not supported.
- 3 MDC key has not been saved.
- 4 Table partitioning key has not been saved.
- 5 Index name has been truncated due to codepage conversion.
- 6 Protected tables are not supported.
- 7 Action strings other than 'SELECT * FROM <TABLE-NAME>' are not supported.
- 8 Method N is not supported.

User response: Data has not been affected during Export but the file cannot be used in Import CREATE operation to recreate the table. User should recreate the table using db2look tool if necessary prior to running Import. Otherwise no action is necessary.

SQL27985N Autoloader executable (db2atld) is no longer supported.

Explanation: Autoloader executable (db2atld) is no longer supported. The Load utility is the only supported bulk loader. The Load utility is executed via a db2Load API, LOAD CLP command, or SYSPROC.ADMIN_CMD stored procedure.

User response: Do not use the db2atld executable.

SQL27990W During loading, at least one row was found to be on the wrong partition.

Explanation: When loading a partitioned database using the load utility with LOAD_ONLY_VERIFY_PART mode, any rows in the input file that are found to be on the wrong partition will be discarded. If the "dumpfile" modifier is specified, the discarded rows will be saved to the dump file. This message will appear only once per partition per load job, even when there are multiple partition violations present.

User response: If the discarded rows are saved to a dump file, they can be loaded to the correct partition by simply issuing another load command with the MODE option set to PARTITION_AND_LOAD.

SQL27991W Too many partitioning agents specified in the load command.

Explanation: Too many partitioning agents have been specified in the PARTITIONING_DBPARTNUMS partitioned database configuration option of the load command. The maximum number of partitioning agents is specified by the MAX_NUM_PART_AGENTS load option, which defaults to 25 if not specified.

User response: Resubmit the command with the correct number of partitioning agents. Alternatively, the PARTITIONING_DBPARTNUMS option can be omitted and the load utility will automatically select an

appropriate number of partitioning agents.

SQL27992N The data file contains a valid partitioning map, but the load mode is not LOAD_ONLY.

Explanation: Load has detected a valid partitioning map at the beginning of the file. The Load mode specified would cause the utility to treat this as user data, possibly causing undesired results.

User response: If the reason the data file begins with a partitioning map header is that the data in the file has already been partitioned, then use LOAD_ONLY mode to load the file. In this case it will also be necessary to use the OUTPUT_DBPARTNUMS option to specify the single partition to which the data should be loaded.

If the partitioning map detected by load at the beginning of the file is actually user data, then use the IGNOREHEADER modifier to disable the partition map detection and load the entire data file.

SQL27993W The STATISTICS USE PROFILE option of the Load utility was specified, however, a statistics profile does not exist.

Explanation: The statistics profile does not exist in the catalog table SYSIBM.SYSTABLES. The statistics profile must be created before the load is executed.

The load utility continues processing.

User response: To create a statistics profile, use the SET PROFILE or SET PROFILE ONLY options of the RUNSTATS utility. Refer to the RUNSTATS documentation for a detailed description of the utility options.

SQL27994W The length of a special register default column is smaller than the target column length. Load may truncate the values corresponding to this column (column-num).

Explanation: The clause SESSION_USER, CURRENT_USER, SYSTEM_USER, or CURRENT_SCHEMA has been specified for column *column-num*, but this column was either defined with a length that is less than 128 bytes (SESSION_USER only) or the column-value inserted into this column may exceed the target length after codepage conversion. Load may truncate the column-value.

User response: If your system standards would not allow a user ID (SESSION_USER) to exceed the length of the column, then this warning may be ignored. To prevent this warning from occurring, the length of the column must be at least 128 bytes. If codepage conversion resulted in the growth of this register

default column, increase the length of the column to accommodate the growth.

SQL27999N The requested IMPORT operation into a remote target (nickname) cannot be performed. Reason code = *reason-code*.

Explanation: The target of the requested IMPORT operation resides in a remote database and is referenced locally by a nickname. The options specified for the IMPORT command do not meet the constraints required to allow the operation. The operation was rejected.

The explanation corresponding to the reason code is:

- 1 The federated wrapper which manages the operations on the nickname is non-relational. Only nicknames managed by relational wrappers are supported. The ODBC wrapper is also not supported.
- 2 The DATALINK SPECIFICATION clause was specified, but is not supported.
- 3 One of the following unsupported filetype modifiers was specified: *indexif* or *indexschema*.
- 4 The *dldelfiletype* modifier, which is unsupported, was specified.
- 5 One of the following unsupported filetype modifiers was specified: *nodefaults* or *usedefaults*.
- 6 The *no_type_idfiletype* modifier, which is unsupported, was specified.

SQL29000 - SQL29099

SQL29000N The value specified for *DYN_QUERY_MGMT* is not valid. DB2 Query Patroller is not installed on this server.

Explanation: The attempt to update the database configuration parameter *DYN_QUERY_MGMT* to *ENABLE* failed because the DB2 Query Patroller server is not installed.

User response: Install the DB2 Query Patroller server.

SQL29001N This database client level is not compatible with the level of DB2 Query Patroller server you are running on.

Explanation: The client and server code are not compatible.

SQL29002N DB2 Query Patroller is not installed on this server.

Explanation: DB2 Query Patroller server tables do not exist on the server.

07 One of the following unsupported filetype modifiers was specified: *generatedignore*, *generatedmissing*, *identityignore*, or *identitymissing*.

8 The COMMITCOUNT clause was not specified or was specified with the value *AUTOMATIC*. If the COMMITCOUNT clause is used, a non zero number must be specified.

9 The ALLOW WRITE ACCESS clause, which is required, was not specified.

10 An unsupported filetype was specified. Only files of type *IXF*, *ASC*, or *DEL* are supported.

11 An unsupported import action was specified. Only the *INSERT INTO* or *INSERT_UPDATE INTO* actions are supported.

12 Target table contains one of unsupported column types: *LOB* columns, *XML* columns, *generated* columns, *datalink* columns, or target table is a hierarchy table (typed table).

13 The *lobsinfile* filetype modifier, which is unsupported, was specified.

14 The remote target is not a table. Import operation is only permitted when nickname is defined on a table.

15 The necessary stored procedures do not exist against the target database. Run the *db2updv8* utility program against the target database to create the stored procedure.

User response: Correct the options specified and retry the IMPORT command.

User response: Install the DB2 Query Patroller server.

SQL29003N DB2 Query Patroller could not load Java class *class-name*, reason code *reason-code*.

Explanation: An error occurred while trying to load the Java class *class-name*. The reason codes are:

- 1 The class was not found on the CLASSPATH.

User response: Ensure the *class-name* is installed in the CLASSPATH.

SQL29004N DB2 Query Patroller class *class-name* cannot call method *method-name* with signature *signature*.

Explanation: The Java method *method-name* cannot be found.

User response: Ensure that the correct version of the DB2 Query Patroller client is installed.

SQL29005N User *user-ID* does not have an effective

Query Patroller submitter profile.

Explanation: The user *user-ID* does not have an effective Query Patroller submitter profile. This may occur due to one or more of the following reasons:

1. The user may not have a submitter profile.
2. The user and/or group submitter profile(s) belonging to the user may have been suspended.

User response: Request that the database administrator create a submitter profile or have the submitter profile reactivated.

SQL29006N Java exception *exception-string* was thrown.

Explanation: Java exception *exception-string* was thrown.

User response: If the problem persists contact your technical service representative.

SQL29007N Unable to communicate with the Query Controller.

Explanation: The Query Controller may not be running or the communication has timed out.

User response: Request that the database administrator start the Query Controller.

SQL29008N Error encountered during job sequence number generation.

Explanation: An error was encountered during job sequence number generation.

User response: If the problem persists contact your technical service representative.

SQL29009N The query has been rejected. Reason code *reason-code*.

Explanation: The query has been rejected. The reason codes are as follows:

1. DB2 does not allow the query to generate result set, or the query contains host variables, parameter markers, special registers, declared global temporary tables, session variables, IDENTITY_VAL_LOCAL function, NEXTVAL expression, and/or PREVVAL expression. Therefore the query cannot be put on hold or run in the background, as the state might not be valid at the time the query is actually executed.
2. The query would update a DB2 table, therefore it cannot be put on hold or run in background, as the state might no longer be valid at the time the query is actually executed.
3. The query cannot be queued because it contains nested routines.

4. The query cannot be put on hold or run in the background because it contains nested routines.
5. DB2 does not allow this query to be queued. This may occur when the query contains array inserts.
6. DB2 does not allow a query to be queued when the concentrator is turned on.
7. DB2 does not allow a query to be queued when the REOPT ALWAYS option is enabled for the query.

User response: Contact the database administrator to examine the reason code and increase the appropriate cost threshold accordingly.

SQL29010N The query submission has been cancelled.

Explanation: The user has cancelled the query submission. No query was submitted.

SQL29011I Query *query-ID* will be run in the background.

Explanation: The user has chosen to run the query in the background.

SQL29012N Query *query-ID* has been aborted.

Explanation: Query *query-ID* has been aborted.

Explanation: Launch the Query Patroller Center or issue the qp command to determine the reason that the query was aborted.

SQL29013I Query *query-ID* has been held.

Explanation: The query has been put in held state by Query Patroller.

User response: Contact the database administrator to have the query released.

SQL29014N The value specified for DB2 registry variable *registry-variable* is invalid.

Explanation: The value specified for *registry-variable* is invalid because of the following restrictions by *registry-variable*:

DQP_NTIER

The value must be one of OFF, RUN[:timeout], or CHECK[:timeout].

DQP_LAST_RESULT_DEST

The length must not exceed 32 characters.

DQP_TRACEFILE

The length must not exceed 256 characters.

User response: Correct the value of the DB2 registry variable *registry-variable* with the db2set command and resubmit the query.

SQL29015N Error encountered during job cancellation. Reason code: *reason-code*.

Explanation: An error was encountered while trying to cancel a job. The reason code maps to an SQL or DB2 message.

User response: Examine the reason code, correct the error, and retry the action again.

SQL29016N The data source on the client does not match the data source on the DB2 Query Patroller server.

Explanation: The data source to which the client is connected does not match the data source that is used by the DB2 Query Patroller server.

User response: Ensure that the DB2DBDFT profile variable on the DB2 Query Patroller server matches the client data source name.

SQL29017N Query *query-id* has been cancelled.

Explanation: The user has cancelled the query.

SQL29018N The DB2 Query Patroller Client is not installed.

Explanation: The user is querying a database which has enabled the database configuration parameter

SQL30000 - SQL30099

SQL30000N Execution failed because of a Distributed Protocol Error that will not affect the successful execution of subsequent commands or SQL statements: Reason Code *reason-code(subcode)*.

Explanation: A system error occurred that prevented successful processing of the current environment command or SQL statement. This message (SQLCODE) is produced at statement compilation or execution time.

The command or statement cannot be processed. The current transaction is not rolled back and the application remains connected to the remote database.

User response: Record the message number and the reason code. Record all error information from the SQLCA, if possible. Attempt to rerun the application.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Required information:

- Problem description
- SQLCODE and reason code
- SQLCA contents if possible
- Trace file if possible.

DYN_QUERY_MGMT. However, the DB2 Query Patroller client code is not installed on the client machine.

User response: Install the QueryEnabler component of the DB2 Query Patroller client.

SQL29019N Jobs have been scheduled on the DB2 Query Patroller server.

Explanation: Jobs have been scheduled on the DB2 Query Patroller server.

User response: None.

SQL29020N An internal error has occurred. Error = *error*.

Explanation: An error has occurred during internal processing.

User response: Contact IBM Support and provide the db2diag.log and qpdiag.log files.

SQL29021N User *user-ID* is suspended.

Explanation: The user *user-ID* is suspended from submitting a query to the database.

User response: Contact the database administrator to have the user's submitter profile reactivated.

sqlcode: -30000

sqlstate: 58008

SQL30002N The SQL statement cannot be executed due to a prior condition in a chain of statements.

Explanation: An SQL statement was chained to PREPARE, but the PREPARE statement has received a warning SQLCODE that requires the program or end user to either re-issue the chained statement or issue a different SQL request. This error can occur only in a client/server environment.

- A distributed client using DRDA has chained an OPEN statement to a PREPARE, but the PREPARE statement received SQLCODE +1140.

The statement cannot be executed as chained.

User response: The statement must be sent again as a separate request.

sqlcode: -30002

sqlstate: 57057

SQL30005N Execution failed because function not supported by server: location *location* product ID *pppvrrm* reason *reason-code(subcode)*.

Explanation: The current SQL statement failed because the SQL statement was routed to a server that does not support the requested function. The error was such that it will not preclude the successful execution of further SQL statements.

The statement cannot be executed. The SQLCA is formatted.

User response: Notify the DBA for assistance in analyzing the SQL statement that prompted this SQL code.

location identifies the name of the server that could not support the required database protocols to perform the requested function. The product identifier is in the form <pppvrrm>. It is an eight-byte field with alphanumeric characters, and identifies the product that could not support the function. *ppp* identifies the specific database product. *vv* identifies the product version. *rr* identifies the product release. *m* identifies the product modification level.

Possible values for *pppvrrm*:

ppp	DSN for zOS, ARI for VM/VSE, SQL for Linux/Unix/Windows, QSQ for iSeries, and JCC for Java.
vv	Version number
rr	Release level
m	Modification level

To correct the problem, identify the function that is not supported. To determine what function was not supported and why, refer to the *reason-code* that was specified. Here are the possible values for the *reason-code*, and the functions they correspond to:

0010	LONG_STMTS
0020	LONG255_IDS
0030	EXTENDED_DESCRIBE
0040	EXTENDED_DIAGNOSTICS
0050	KEEP_DYNAMIC
0060	MULTI_ROW_FETCH
0070	MULTI_ROW_INSERT
0080	SQL_CANCEL
0090	SCROLLABLE_CURSORS
0100	CURSOR_ATTRIBUTES
0110	MONITORING
0120	SELECT_WITH_INSERT
0130	DATA_ENCRYPTION

0140 PACKAGE_PATH

0150 2PC_INCOMPATIBILITY

Lastly, you may use the *subcode* value to further identify the problem. When non-zero, the *subcode* consists of a one-byte code to indicate how the error was detected in the network:

- If '01'x, then the local DB2 that is acting as the requestor detected the error. The location and PRDID identify the server in error.
- If '02'x, then the server detected the error. The location and PRDID identify the location and level of the local DB2 server.
- If '03'x, then an intermediate server (hop site) detected the error and the error and the location and PRDID identify the server in error.
- If '04'x, then an intermediate server (hop site) detected the error and the error and the location and PRDID identify the server in error.
- If '05'x, then an intermediate server (hop site) detected the error. SYNCLOG mapping error. Unable to map the end server's IPv6 address to a IPv4 address.

sqlcode: -30005

sqlstate: 56072

SQL30020N Execution of the command or SQL statement failed because of a syntax error in the communication data stream that will affect the successful execution of subsequent commands and SQL statements: Reason Code *reason-code(subcode)*.

Explanation: The command or statement cannot be processed. The current transaction is rolled back and the application is disconnected from the remote database.

Some possible reason codes include:

- | | |
|-------------|---|
| 121C | Indicates that the user is not authorized to perform the requested command. |
| 124C | The DRDA data stream for the request contains a syntax error. |
| 1232 | The command could not be completed because of a permanent error. In most cases, the server will be in the process of an abend. |
| 1254 | A command sent from the client has resulted in an unarchitected and implementation specific condition on the remote server for which there is no architected message to return to the client. |

If the remote server is DB2 UDB for OS/390,zOS then check the console log for information about this error.

If the remote server is DB2 UDB for iSeries, the job log of the server job, and/or a first failure data capture (FFDC) spooled file is usually necessary to determine the cause of the error.

If the remote server is DB2 Database for Linux, UNIX, and Windows, then check the remote database server's administration notification log for information regarding this error.

- 220A** The target server has received an invalid data description. If a user SQLDA is specified, ensure that the fields are initialized correctly. Also, ensure that the length does not exceed the maximum allowed length for the data type being used.

If you are using the DB2 Connect product in a gateway server environment with downlevel clients, this error may occur if your application's host variables and the queried table's column descriptions do not match.

User response:

- For reason code 121C, contact your DBA to see if you are authorized to perform requested command.
- For reason code 220A, if programming the SQLDA directly, ensure that fields are initialized correctly and the length does not exceed the maximum allowed length for the data type being used. If you are using DB2 Connect as described in Explanation, check that application host variables and table's column descriptions match.
- For reason code 124C, one common case involves executing a stored procedure. If this case applies, ensure that you have correctly defined the stored procedure parameters, with type and length matching the types of the corresponding table columns.

If you are unable to resolve the problem (or if you have received reason codes not discussed above), refer your DBA to the following instructions:

- Search <http://www.ibm.com/software/data/support/> for APARs which might cover the situation you are experiencing.
- Attempt to connect the remote database and rerun the application. Record the following information for IBM support.
 - For DB2 for z/OS Data Server, invoke the Independent Trace Facility and retry the scenario to collect the trace information. Provide the z/OS trace, the z/OS console log, the db2support output from the DB2 Connect Server, and the db2support output from the DB2 client located with the application (if not coresident with the DB2 Connect Server).
 - For DB2 for iSeries Data Server, collect any FFDC data generated by the failing DRDA server job, the db2support output from the DB2 Connect Server,

and the db2support output from the DB2 client located with the application (if not coresident with the DB2 Connect Server).

- Problem description
 - SQLCODE and reason code
 - SQLCA contents, if possible
 - DB2 client and DB2 Connect Server trace file if possible.
- Contact IBM support and provide the above information.

sqlcode: -30020

sqlstate: 58009

SQL30021N Execution failed because of a Distributed Protocol Error that will affect the successful execution of subsequent commands and SQL statements: Manager *manager* at Level *level* not supported.

Explanation: A system error occurred that prevented successful connection of the application to the remote database. This message (SQLCODE) is produced for SQL CONNECT statement. *manager* and *level* are numeric values that identify the incompatibility between the client and the server.

The command cannot be processed.

User response: Record the message number, the *manager*, and *level* values. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database again.

If the problem persists, invoke the Independent Trace Facility at the operating system command prompt. Then, contact your service representative with the following information:

- Problem description
- SQLCODE and reason code
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30021

sqlstate: 58010

SQL30040N Execution failed because of unavailable resources that will not affect the successful execution of subsequent commands and SQL statements: Reason *reason*. Type of Resource *resource-type*. Resource name *resource-name*. Product ID *product-ID*.

Explanation: The application cannot process the command or SQL statement because the specified

resource has run out. The current transaction is not rolled back and the application remains connected to the remote database.

The command cannot be processed.

User response: Increase the size of the specified resource and resubmit the command.

sqlcode: -30040

sqlstate: 57012

SQL30041N Execution failed because of unavailable resources that will affect the successful execution of subsequent commands and SQL statements: Reason *reason*. Type of Resource *resource-type*. Resource name *resource-name*. Product ID *product-ID*.

Explanation: The application cannot process the command or SQL statement because resources are not available at the remote database. This SQLCODE is produced at statement compilation or processing time.

Federated system users: this situation can also be detected by the data source.

If the *resource name* is "Encrypt" or "Decrypt", the user exits for password encryption or decryption are unavailable or had an error.

The command or statement cannot be processed.

User response: Investigate the remote database system environment.

Federated system users:

- If the password encryption or decryption user exit failed, *reason* is the integer value that the federated server received when invoking the user exit. Ensure that no errors occurred when the encryption and decryption user exits were link-edited with the federated server.

If using a user-supplied user exit, please check the user exit source code to determine why the *reason* was returned. If the error is found in the user exit source code, fix the error, link-edit the object code with the federated server, and reissue the failing command or statement.

- For all other cases, isolate the problem to the data source failing the request (refer to the problem determination guide to determine which data source is failing in processing an SQL statement), correct the problem at the data source, and reissue the failing command or statement.

sqlcode: -30041

sqlstate: 57013

SQL30050N *number* command or SQL statement invalid while bind is in progress.

Explanation: An application attempted to issue a command or SQL statement that is not valid while a precompile/bind operation is in progress. <number> is a numeric value that identifies the erroneous command or SQL statement.

The command or statement is not processed.

User response: If the application is not the database manager precompiler/binder, verify that bind is not active before issuing the command or SQL statement.

If the application is the database manager precompiler/binder, record the message number (SQLCODE) and the <number> value. Record all error information from the SQLCA, if possible. Attempt to perform the bind operation again.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and reason code
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30050

sqlstate: 58011

SQL30051N Bind process with the specified package name and consistency token not active.

Explanation: An attempt has been made to issue a precompile/bind operation when precompile/bind is not active or an attempt was made to use an invalid package name and/or consistency token during an active precompile/bind operation.

The command or statement cannot be processed.

User response: If the application is not the database manager precompiler/binder, verify that precompile/bind is active before issuing the bind operation and that correct information is being passed on the bind operation.

If the application is the database manager precompiler/binder, record the message number (SQLCODE) and all error information from the SQLCA, if possible. Attempt to perform the operation again.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and reason code
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30051

sqlstate: 58012

SQL30052N Program preparation assumptions are incorrect.

Explanation: The SQL statement being compiled is not recognized by the precompiler and cannot be processed by the database.

The statement cannot be processed.

User response: Ensure that the statement is correct and attempt to perform the operation again. If the problem continues, remove the statement from the program.

sqlcode: -30052

sqlstate: 42932

SQL30053N The value for OWNER failed the authorization check at the remote database.

Explanation: The value specified for the OWNER option on the precompile/bind failed the authorization check at the remote database. This SQLCODE is produced during precompile/bind. It is not produced by the database manager precompiler/binder.

The precompile/bind operation cannot be processed.

User response: Ensure that you are authorized to use the ID specified for the OWNER option, or do not use the OWNER option.

sqlcode: -30053

sqlstate: 42506

SQL30060N *authorization-ID* does not have the privilege to perform operation *operation*.

Explanation: Authorization ID <authorization-ID> attempted to perform the specified <operation> without having been granted the proper authorization to do so. This SQLCODE is produced at statement compilation or processing time.

The statement cannot be processed.

User response: Ensure that the <authorization-ID> has been granted the authorization necessary to perform the desired operation.

sqlcode: -30060

sqlstate: 08004

SQL30061N The database alias or database name *name* was not found at the remote node.

Explanation: The database name is not an existing database at the remote database node.

The statement cannot be processed.

User response: Resubmit the command with the correct database name or alias.

Federated system users: check to ensure that the entry in SYSCAT.SERVERS correctly specifies the database name of the data source.

sqlcode: -30061

sqlstate: 08004

SQL30070N *command-identifier* Command is not supported.

Explanation: The remote database received a command that it does not recognize. The current environment command or SQL statement cannot be processed successfully, nor can any subsequent commands or SQL statements.

The current transaction is rolled back and the application is disconnected from the remote database. The statement cannot be processed.

User response: Record the message number (SQLCODE) and the command identifier. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database and rerun the application.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and command identifier
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30070

sqlstate: 58014

SQL30071N *object-identifier* Object is not supported.

Explanation: The remote database received data it does not recognize. The current environment command or SQL statement cannot be processed successfully, nor can any subsequent commands or SQL statements.

The current transaction is rolled back and the application is disconnected from the remote database. The command cannot be processed.

User response: Record the message number (SQLCODE) and the object identifier. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database and rerun the application.

If sufficient memory resources exist and the problem continues,

If trace was active, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and object identifier
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30071

sqlstate: 58015

SQL30072N *parameter-identifier* **Parameter is not supported.**

Explanation: The remote database received data it does not recognize. The current environment command or SQL statement cannot be processed successfully, nor can any subsequent commands or SQL statements.

The command cannot be processed.. The current transaction is rolled back and the application is disconnected from the remote database.

User response: Record the message number (SQLCODE) and the parameter identifier. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database and rerun the application.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and parameter identifier
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30072

sqlstate: 58016

SQL30073N *parameter-identifier* **Parameter value value is not supported.**

Explanation: The remote database received data it does not recognize. The current environment command or SQL statement cannot be processed successfully, nor can any subsequent commands or SQL statements.

The current transaction is rolled back and the application is disconnected from the remote database. The command cannot be processed.

User response: Record the message number (SQLCODE) and the parameter identifier. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database and rerun the application.

If sufficient memory resources exist and the problem continues,

If trace was active, invoke the Independent Trace Facility at the operating system command prompt. Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE, parameter identifier, and value
- SQLCA contents if possible
- Trace file if possible.

Some possible parameter identifiers include:

002F The target server does not support the data type requested by the application requester. For example, when DB2 Connect is used to connect to DB2 2.3, this error will be returned unless the proper PTF is applied to DB2 2.3. Ensure that the level of the server is supported by the requester.

119C, 119D, 119E

The target server does not support the CCSID requested by the application requester. Ensure the CCSID used by the requester is supported by the server.

- 119C - Verify the single-byte CCSID.
- 119D - Verify the double-byte CCSID.
- 119E - Verify the mixed-byte CCSID.

sqlcode: -30073

sqlstate: 58017

SQL30074N *reply-identifier* **Reply is not supported.**

Explanation: The client received a reply it does not recognize. The current environment command or SQL statement cannot be processed successfully, nor can any subsequent commands or SQL statements.

The current transaction is rolled back and the application is disconnected from the remote database. The statement cannot be processed.

User response: Record the message number (SQLCODE) and the reply identifier. Record all error information from the SQLCA, if possible. Attempt to connect to the remote database and rerun the application.

If sufficient memory resources exist and the problem continues, invoke the Independent Trace Facility at the operating system command prompt.

Contact your technical service representative with the following information:

Required information:

- Problem description
- SQLCODE and reply identifier
- SQLCA contents if possible
- Trace file if possible.

sqlcode: -30074

sqlstate: 58018

SQL30080N A communication error *reason-code* occurred sending or receiving data from the remote database.

Explanation: The *reason-code* contains the original error codes reported by Communications Manager.

For APPC error codes, the format is *pppp-sssssss-dddddddd* where *pppp* is the primary return code, *sssssss* is the secondary return code and *dddddddd* is the sense data. Each of these error code values is represented in hexadecimal notation. Possible primary and secondary error codes include 0003-00000004 and 0003-00000005, which indicate that a conversation with the Database Server could not be allocated. Sense data will only be displayed for an APPC ALLOCATE error.

The command cannot be processed. The connection attempted to the database is unsuccessful or the current transaction to the connected database is rolled back and the application is disconnected from the remote database.

Refer to the document *IBM Communications Manager 1.0 APPC Programming Guide and Reference (SC31-6160)* for explanation of the APPC primary and secondary return codes. For details of APPC sense data, refer to the *IBM Communications Manager 1.0 Problem Determination Guide (SC31-6156)*.

User response: Ensure that both the database manager and Communications Manager are started at the Database Server and that all Communications Manager configuration parameters are correct.

Note: If the reason code embedded in your message is 0003-084C0001 one possible cause for this message is that you are trying to make a remote connection to a workstation that is not a server. Verify that the remote workstation is a server. If it is not a server, install the database manager as a server.

sqlcode: -30080

sqlstate: 08001

SQL30081N A communication error has been detected. Communication protocol being used: *protocol*. Communication API being used: *interface*. Location where the error was detected: *location*. Communication function detecting the error: *function*. Protocol specific error code(s): *rc1*, *rc2*, *rc3*.

Explanation: An error has been detected by the communication subsystem.

The following is a description of the token values:

<protocol>, **<location>**

Communication protocol used and information that uniquely identifies the node that detected the error. If the location information is not available at the time that the error occurred, then the <location> token is not filled in. Valid token values are:

- protocol TCP/IP; location is the IPv4 or IPv6 address.
- protocol APPC; location is the fully qualified LU name (networkID.LUname).
- protocol MQ; location is the MQ queue name.
- protocol SOAP, SSL, SOCKS, HTTP; location is the Internet address in dot notation.

<interface>

The application programming interface used to invoke the above protocol services. Valid token values are: SOCKETS, SOCKS, CPI-C, MQI-CLIENT, GSKit, HTTP.

<function>

The name of the communication subsystem function that returned the error code(s).

If <protocol> is TCP/IP:

- Reason codes <rc1>, <rc2>, <rc3> represent:
 - If present, <rc1> contains the errno value returned by the TCP/IP function. On Windows, this is a WSA errno.
 - If present, <rc2> contains the h_errno value returned by a TCP/IP name resolution function. On Windows, this is a WSA errno.

- If <rc3> is present and contains "0", the remote side has terminated the connection. If the error was received on the client, then the remote side could be a server or gateway. If the error was received on the gateway, the remote side could be the client or server.
- If <protocol> = TCP/IP, <rc1>=*, <rc2>=*, and <rc3>=0, possible causes include:
 - The database agent at the server was forced off by the system administrator.
 - A database agent could not be started at the server because the *maxagents* database manager configuration parameter has been exceeded. Check the administration notification log to see if an error message has been logged.
 - The connection might have been closed by the remote server at the TCP/IP level.
 - The database agent at the server was terminated due to an abnormal termination of a key database manager process.
- On Windows, if <protocol> = TCP/IP, <function> = WSASStartup, and <rc1> = 0, then <rc2> contains the Windows Sockets Specification version level requested by DB2, and <rc3> contains the Windows Sockets Specification version level supported by the Windows Sockets DLL. Cause: There was a version level mismatch.
- If <protocol> = TCP/IP, <function> = connect, <rc1> = ECONNREFUSED/WSAECONNREFUSED, AIX (79), Windows (10061), linux (111), SUN (146), HP (239), the attempt to connect was rejected. Possible causes:
 - The remote database server has not been cataloged correctly at the client. In a client-gateway-server scenario, ensure the host entries are cataloged correctly on the gateway. See the Quick Beginnings guide for assistance.
 - The database manager configuration file at the server has not been configured properly with the proper communication parameters. Check that svcname has been configured properly with the TCP/IP service name or port number and that the port number is unique. If database manager configuration parameters have been updated at the server, the database manager must be stopped and re-started for the changes to take effect. There might be a mismatch between the TCP/IP service name or port number specified on the server and on the client. Ensure the service name maps to the correct port number by checking the services file. You can check this by reading the services file or checking the output of "netstat -a".
 - The DB2COMM environment variable at the server does not specify the communication protocol used by the client. Check that TCPIP has been specified. Issue db2set to see what has already been set. Issue db2set DB2COMM = TCPIP to set the value.
- The database manager at the server has not been started, or has not been started successfully, or has gone down. The server should have returned SQL1063, and not SQL5043. If you set the database manager configuration parameter, diaglevel, to 4 using db2 update dbm cfg using diaglevel 4, prior to issuing db2start, the administration notification log will provide detailed information on which protocols were started successfully. Check the administration notification log.
 - The server might be too busy to handle the volume of incoming connections at this time.
 - Network failure, contact your network administrator. You can try a test using the protocol tester, pctl, to verify this is not a DB2 problem.
- If <protocol> = TCP/IP, <function> = connect, <rc1> = ETIMEDOUT/WSAETIMEDOUT, AIX (78), Windows (10060), linux (110), SUN (145), HP (238), attempt to connect timed out before a connection was made. Possible causes:
 - An incorrect hostname or IP address was cataloged in the hostname field of the node directory on the client and/or gateway.
 - The network is slow, or the server might be too busy to respond to the connect request within a reasonable amount of time, you might need to adjust your system TCP connect timeout value and/or the DB2TCP_CLIENT_CONTIMEOUT value.
- If <protocol> = TCP/IP, <function> = recv, <rc1> = ECONNRESET/WSAECONNRESET, AIX (73), Windows (10054), linux (104), SUN (131), HP (232), the connection was reset by the remote side executing a "hard" or "abortive" close. Possible causes:
 - The connection might have been closed by the remote gateway or server at the TCP/IP level (eg. firewall problem, power failure, network failure).
 - Client side connection pooling is enabled and is not handling connection failures. Code the application to retry a connection if a failure is received when connecting to the database and connection pooling is enabled.
 - Might have been caused by a thread timeout on the host machine. Check the system log on the host for the presence of the IDTHTOIN message. Adjust the setting if applicable. If this cannot be adjusted, either disable connection pooling on the gateway, or ensure all objects are properly closed (eg. cursors with hold when the application completes its operation).
 - The database agent at the server was forced off by the database administrator.
 - The database agent at the server was terminated due to an abnormal termination of a key database manager process.

- If <protocol> = TCP/IP, <function> = recv, <rc1> = ETIMEDOUT/WSAETIMEDOUT, AIX (78), Windows (10060), linux (110), SUN (145), HP (238), the connection was dropped because the remote system failed to respond. Possible causes:
 - SQLCancel() was called from a CLI application because the application set the Query Timeout value or there was an explicit cancel request. Adjust the Query Timeout value set by the application. If this is not possible, adjust the QueryTimeoutInterval setting in the db2cli.ini file. Use QueryTimeoutInterval=0 (no timeout) in the db2cli.ini file to test whether QueryTimeout is the cause of your application's failure. The failure of an existing connection is expected in this scenario.
 - The network is slow, or the server might be too busy to respond to the recv request within a reasonable amount of time, you might need to adjust your system TCP recv timeout value.
- If <protocol> = TCP/IP, <function> = selectForConnectTimeout, <rc1> = EINPROGRESS/0, AIX (55), Windows (0), linux (115), SUN (150), HP (245), the connect request timed out before it could complete successfully. Possible causes:
 - Either the system connect timeout or the timeout value set by DB2TCP_CLIENT_CONTIMEOUT caused the timeout. Try adjusting these values.
- If <protocol> = TCP/IP, <function> = selectForRecvTimeout, <rc1> is irrelevant, the recv request timed out before it could complete successfully. Possible causes:
 - Either the system recv timeout or the timeout value set by DB2TCP_CLIENT_RCVTIMEOUT caused the timeout. Try adjusting these values.

The list of TCP/IP errors and causes described above is not exhaustive, search the Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) for more information on the specific TCP/IP communication error codes, searching on phrases such as "-30081 errors".

If <protocol> is APPC

- <rc1> contains the return code from the CPI-C function.
- If present, <rc2> contains the global *errno* value from the CPI-C function call.
- <rc3> is not applicable.

If <protocol> is MQ

- <rc1> contains the function completion code, 1 for a warning and 2 for an error.
- <rc2> contains the MQ-specific error code.
- <rc3> is not used for MQ.

If <protocol> is SOAP, <rc1> contains the return code from the SOAP communication function.

If <protocol> is SSL, <rc1> contains the return code from the Secure Socket Layer (GSKit).

If <protocol> is SOCKS

- <rc1> contains the return code from the SOCKS proxy server.
- <rc2> contains the version (4 or 5) of the protocol.
- <rc3> contains the authentication method used (SOCKS v5.)

If <protocol> is HTTP, <rc1> contains the HTTP return code from the remote HTTP server.

User response: Correct the problem indicated by the combination of reason code and token values returned, as described above.

sqlcode: -30081

sqlstate: 08001

SQL30082N Security processing failed with reason
reason-code (reason-string).

Explanation: An error occurred during security processing. The cause of the security error is described by the *reason-code* and corresponding *reason-string* value.

The following is a list of reason codes and corresponding reason strings:

0 (NOT SPECIFIED)

The specific security error is not specified.

1 (PASSWORD EXPIRED)

The password specified in the request has expired.

2 (PASSWORD INVALID)

The password specified in the request is not valid.

3 (PASSWORD MISSING)

The request did not include a password.

4 (PROTOCOL VIOLATION)

The request violated security protocols.

5 (USERID MISSING)

The request did not include a userid.

6 (USERID INVALID)

The userid specified in the request is not valid.

7 (USERID REVOKED)

The userid specified in the request has been revoked.

8 (GROUP INVALID)

The group specified in the request is not valid.

9 (USERID REVOKED IN GROUP)

The userid specified in the request has been revoked in the group.

10 (USERID NOT IN GROUP)

The userid specified in the request is not in the group.

11 (USERID NOT AUTHORIZED AT REMOTE LU)

The userid specified in the request is not authorized at the remote Logical Unit.

12 (USERID NOT AUTHORIZED FROM LOCAL LU)

The userid specified in the request is not authorized at the remote Logical Unit when coming from the local Logical Unit.

13 (USERID NOT AUTHORIZED TO TP)

The userid specified in the request is not authorized to access the Transaction Program.

14 (INSTALLATION EXIT FAILED)

The installation exit failed.

15 (PROCESSING FAILURE)

Security processing at the server failed.

16 (NEW PASSWORD INVALID)

the password specified on a change password request did not meet the server's requirements.

17 (UNSUPPORTED FUNCTION)

the security mechanism specified by the client is invalid for this server. Some typical examples:

- The client sent a new password value to a server that does not support the change password function.
- The client sent SERVER_ENCRYPT authentication information to a server that does not support password encryption. Authentication type catalog information must be the same at the server and the client.
- The client sent a userid (but no password) to a server that does not support authentication by userid only.
- The client has not specified an authentication type, and the server has not responded with a supported type. This might include the server returning multiple types from which the client is unable to choose.

18 (NAMED PIPE ACCESS DENIED)

The named pipe is inaccessible due to a security violation.

19 (USERID DISABLED or RESTRICTED)

The userid has been disabled, or the userid has been restricted from accessing the operating environment at this time.

20 (MUTUAL AUTHENTICATION FAILED)

The server being contacted failed to pass a mutual authentication check. The server is either an imposter, or the ticket sent back was damaged.

21 (RESOURCE TEMPORARILY UNAVAILABLE)

Security processing at the server was terminated because a resource was temporarily unavailable. For example, on AIX, no user licenses may have been available.

24 (USERNAME AND/OR PASSWORD INVALID)

The username specified, password specified, or both, are invalid. Some specific causes are:

1. If you have recently changed permissions on DB2 critical files such as db2ckpw or moved to a new Fixpak, the db2iupdt command which updates the instance might not have been run.
2. The username being used might be in an invalid format. For example, on UNIX and Linux platforms, usernames must be all be lowercase.
3. An error might have been made in specifying the catalog information. For example, the correct authentication type might not have been specified or, if applicable, the remote server might not have been cataloged on the local system. For more information on authentication, search the DB2 Information Center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) using terms such as "authentication".

25 (CONNECTION DISALLOWED)

The security plugin has disallowed the connection.

26 (UNEXPECTED SERVER ERROR)

The server security plugin encountered an unexpected error. The administration notification log file on the server contains more specific problem information. The following are examples of issues that can cause problems:

- The security service was not started.
- The userid starting the DB2 service did not have admin privileges.

27 (INVALID SERVER CREDENTIAL)

The server security plugin encountered an invalid server credential.

28 (EXPIRED SERVER CREDENTIAL)

The server security plugin encountered an expired server credential.

29 (INVALID CLIENT SECURITY TOKEN)

The server security plugin encountered an invalid security token sent by the client.

30 (CLIENT PLUGIN MISSING API)

The client security plugin is missing a required API.

<p>31 (WRONG CLIENT PLUGIN TYPE) The client security plugin is of the wrong plugin type.</p> <p>32 (UNKNOWN CLIENT GSS-API PLUGIN) The client security plugin does not have a matching GSS-API security plugin available for connection to the database.</p> <p>33 (UNABLE TO LOAD CLIENT PLUGIN) The client security plugin cannot be loaded.</p> <p>34 (INVALID CLIENT PLUGIN NAME) The client security plugin name is invalid.</p> <p>35 (INCOMPATIBLE CLIENT PLUGIN API VERSION) The client security plugin reports an API version that is incompatible with DB2.</p> <p>36 (UNEXPECTED CLIENT ERROR) The client security plugin encountered an unexpected error.</p> <p>37 (INVALID SERVER PRINCIPAL NAME) The server security plugin encountered an invalid principal name.</p> <p>38 (INVALID CLIENT CREDENTIAL) The client security plugin encountered an invalid client credential.</p> <p>39 (EXPIRED CLIENT CREDENTIAL) The client security plugin encountered an expired client credential.</p> <p>40 (INVALID SERVER SECURITY TOKEN) The client security plugin encountered an invalid security token sent by the server.</p> <p>41 (SWITCH USER INVALID) The client is configured to request a trusted connection and switch user in the trusted connection. A trusted connection was not established and so the switch user request is invalid.</p> <p>User response: Ensure that the proper userid and/or password is supplied.</p> <p>The userid may be disabled, the userid may be restricted to accessing specific workstations, or the userid may be restricted to certain hours of operation.</p> <p>17 Retry the command with a supported authentication type. Ensure that catalog information specifies the correct authentication type. For more information on authentication, search the DB2 Information Center (http://publib.boulder.ibm.com/infocenter/db2luw/v9) using terms such as "authentication".</p> <p>20 Make sure the authentication mechanism for the server is started, and retry.</p> <p>24</p>	<p>Solutions to specific problem causes described above are:</p> <ol style="list-style-type: none"> 1. Run DB2IUPDT <InstName> to update the instance. 2. Ensure that the username created is valid. Review the DB2 General Naming Rules. 3. Ensure that catalog information is correct. <p>Change the database name used for the connection or the TCP/IP address used to connect to this database.</p> <p>Fix the problem identified by the plugin error message text in the administration notification log. For more information on using security plugins, examples of security plugins, and additional problem determination information search the DB2 Information Center (http://publib.boulder.ibm.com/infocenter/db2luw/v9) using phrases such as "security plugins".</p> <p>If you are unable to correct the problem, invoke the Independent Trace Facility and retry the scenario to collect information for IBM support.</p> <p>Verify that the server credential is provided during security plugin initialization and that it is in a format recognized by the security plugin. As the credential will be used to accept contexts, it must be an ACCEPT or BOTH credential.</p> <p>Contact your DBA. The server's credential must be renewed before the command is resubmitted. If renewing alters the credential handle, then a db2stop and db2start will be necessary. For information on how to renew your server's credential, consult the documentation available for the authentication mechanism used by the security plugin.</p> <p>Resubmit the statement. If the problem still exists, then verify that the client security plugin is generating a valid security token.</p> <p>Check the administration notification log file for the name of the required missing API. Add the missing API to the security plugin.</p> <p>Specify the right type of security plugin in the appropriate database manager configuration parameter. For example, do not specify a userid-password based security plugin for the SRVCON_GSSPLUGIN_LIST database manager configuration parameter.</p> <p>Install the matching security plugin that the database server used on the client. Ensure that the indicated security plugin is located in the client-plugin directory.</p>	<p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p>
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- 33 Check the administration notification log file on the client for more information. Fix the problem identified by the error message text in the administration notification log.
- 34 Specify a valid security plugin name. The name should not contain any directory path information.
- 35 Ensure that the security plugin is using a supported version of the APIs and that it is reporting a correct version number. For more information about supported versions, see the DB2 information center (<http://publib.boulder.ibm.com/infocenter/db2luw/v9>) and search for "Security plug-in API versioning".
- 36 Check the administration notification log file on the client for more information. Fix the problem identified by the error message text in the administration notification log.
- 37 Check the administration notification log file for the principal name. Make sure the principal name is in a format that is recognized by the security plugin.
- 38 Verify that the client credential (generated by db2secGenerateInitialCred or provided as an inbound delegated credential) is in a format recognized by the security plugin. As the credential will be used to initiate contexts, it must be an INITIATE or BOTH credential.
- 39 The user issuing the statement must obtain the appropriate credentials (or re-obtain their initial credentials) and then resubmit the statement.
- 40 Resubmit the statement. If the problem still exists, then verify that the server security plugin is generating a valid security token.
- 41 Re-establish a trusted connection with valid credentials and re-submit a switch user request.

sqlcode: -30082

sqlstate: 08001

SQL30083N Attempt to change password for user id uid failed with security reason reason-code (reason-string).

Explanation: The attempt to change password was rejected due to invalid or incorrect security information. The cause of the security error is described by the *reason-code* and corresponding *reason-string* values.

The following is a list of reason codes and corresponding reason strings:

0 (NOT SPECIFIED)

The specific security error is not specified.

1 (CURRENT PASSWORD INVALID)

The old password specified in the request is not valid.

2 (NEW PASSWORD INVALID)

The password specified in the request is not valid under the password rules imposed by the system where password was to be changed.

3 (CURRENT PASSWORD MISSING)

The request did not include an old password.

4 (NEW PASSWORD MISSING)

The request did not include a new password.

5 (USERID MISSING)

The request did not include a userid.

6 (USERID INVALID)

The userid specified in the request is not valid.

7 (USERID REVOKED)

The userid specified in the request has been revoked. Passwords can not be changed for revoked userids.

14 (INSTALLATION EXIT FAILED)

The installation security exit failed.

15 (PROCESSING FAILURE)

Security processing at the server failed.

17 (UNSUPPORTED FUNCTION)

Change password function is not supported by the system, or change password function is not supported at this time because of the user account restrictions.

19 (USERID DISABLED or RESTRICTED)

The userid has been disabled, or the userid has been restricted from accessing the operating environment at this time.

23 (CHGPWD_SDN in DCS entry is not configured)

To change an MVS password on a host system connected via SNA, the DCS database must be cataloged with the *,,,,,CHGPWD_SDN* parameter string. The *,,,,,CHGPWD_SDN* parameter string identifies the symbolic destination name for Password Expiration Management (PEM).

24 (USERNAME AND/OR PASSWORD INVALID)

The username specified, password specified, or both, are invalid.

User response: Ensure that the proper userid, current and new passwords are supplied.

The userid may be disabled, the userid may be restricted to accessing specific workstations, or the userid may be restricted to certain hours of operation.

Instructions for some specific reason codes follow:

- 14 Check the file db2pem.log in the instance subdirectory (typically "db2") for a detailed description of the problem encountered.
- 23 Catalog the DCS database using the ,,,,,,CHGPWD_SDN parameter, as specified in the *DB2 Connect User's Guide*.

sqlcode: -30083

sqlstate: 08001

SQL30090N Operation invalid for application execution environment. Reason code = reason-code

Explanation: The operation is invalid for the application execution environment. For example, an operation might be invalid for applications that have special restrictions on statements or APIs - applications such as those that operate in an XA Distributed Transaction Processing environment, such as CICS; those that operate with CONNECT type 2 connection settings; or those that use federated system functionality to update multiple heterogeneous data sources. The operation was rejected.

Possible reason codes are:

- 01 an SQL request that changes data (such as an INSERT or a CREATE) was issued against a read-only database; or, a stored procedure was invoked against a read-only database. Read-only databases include the following types:
- Databases accessed using DRDA when operating in a unit of work which has connection setting SYNCPOINT TWOPHASE and executing in a non-XA/DTP environment when either a Synchpoint Manager is not being used or the remote DRDA database does not support level 2 DRDA protocol.
 - Databases accessed by DRDA in an XA/DTP environment when either a Synchpoint Manager gateway is unavailable or the remote DRDA database does not support level 2 DRDA protocol.
 - Databases which were not the first database updated when the SYNCPOINT ONEPHASE connection setting is in effect for the unit of work.
- 02 an API such as Precompile, Bind, or Reorganize Table which causes internal commits was issued in an application which has the setting CONNECT type 2 or is operating in an XA/DTP environment.
- 03 an SQL OPEN for a held cursor was issued

- 04 while in an XA/DTP environment when using an ENCINA or TUXEDO transaction processing monitor.
- 04 a DISCONNECT statement was issued while in an XA/DTP environment.
- 05 A compound SQL statement which contains a COMMIT statement was issued in a CONNECT type 2 or XA/DTP environment.
- 06 The SET CLIENT API was issued in an XA/DTP environment.
- 07 A second database is being accessed within a unit of work for which two-phase commit coordination is not being supplied by the transaction manager. To ensure data integrity, the operation has been disallowed.
- 08 An attempt was made to access a database for use of commit coordination from a source different from a concurrently connected database. The two types of coordination cannot be mixed, and operations against the current database are rejected.
- 09 An attempt was made to execute an XA/DTP local transaction against a database accessed under Synchpoint Manager coordination.
- 10 An SQL OPEN for a held cursor was issued in either of these cases:
- XA/DTP environment, or
 - federated server accessing a nickname defined on a two phase commit datasource
- Cursor hold is not supported in these environments.
- 11 An operation is not supported for pass-through.
- 12 The insert/update/delete operation requires the existence of a timestamp column and a unique index due to the restriction on the data source. For an update/delete operation accessing data sources:
- Fujitsu RDB2 requires the existence of a unique index.
- 13 A positioned UPDATE or DELETE operation requires the existence of a column in the SELECT list of the cursor, but that column does not exist in the SELECT list of the cursor.
- 14 An illegal combination of updatable cursors, cursor hold, and isolation level of Repeatable Read exists. Invalid combinations are:
- Isolation level Repeatable Read and a WITH HOLD cursor
 - A WITH HOLD cursor with FOR UPDATE
- 15 Reserved for future use

- 16 Illegal type column and protocol column value combination in SYSCAT.SERVERS.
- 17 The REORG utility cannot be issued against a nickname.
- 18 An update request (or, a DDL operation that results in the update of a system catalog table) has been issued that would result in multiple data sources being updated when one or more of the data sources in the unit of work only supports one-phase commit. Possible causes are:
- An attempt was made to update a data source that only supports one-phase commit, but a different data source has already been updated in the same unit of work.
 - An attempt was made to update a data source that supports two-phase commit, but a different data source that only supports one-phase commit has already been updated in the same unit of work.
 - An attempt was made to update a local federated server table, but a data source that only supports one-phase commit has already been updated in the same unit of work.
 - An attempt was made to update a data source that only supports one-phase commit when the application is operating with a CONNECT type 2 connection setting.
- 19 The application host variable data type is not supported by the data source in a pass-through session.
- 20 SET CLIENT INFORMATION was issued while a Unit of Work is in progress.
- 21 The operation that you want performed at the specified data source(s) is not supported by the wrapper by which DB2 accesses the data source(s). Consult the documentation to find out what operations this wrapper supports.
- 22 A federated insert, update, or delete operation, or a call to federated procedure with an SQL data access indication of MODIFIES SQL DATA is invalid in a function, a data-change-table-reference, a dynamic compound statement, a trigger, and an application execution environment where a
- SAVEPOINT is in effect
 - scrollable cursor is used
 - target view contains multiple tables or nicknames
- 23 The API, data structure, or setting is not supported.
- 24 Data type mappings are not supported by the specified wrapper.
- 25 Function mappings are not supported by the specified wrapper.
- 26 In a trusted connection where SPM is used and the concentrator is enabled, the application can only switch the trusted userid after the commit/rollback has been processed.
- 27 Use of multiple 2-phase commit servers of the same wrapper library in the same connection where the client library restricts such usage
- 28 Mix of 1-phase commit server and 2-phase commit server of the same wrapper library in the same connection where the client library restricts such usage
- User response:** Correct the problem by doing one of the following steps:
- For reasons 01, 02, 03, 04, 06, or 19,**
remove the statement or API which is not supported.
- Alternately, for reasons 01, 02, 03, 04, or 06,**
execute the application in a different environment which supports the failing statement or API.
- For reason 05,**
move the COMMIT request outside of the compound statement.
- For reason 07,**
ensure that only one database is accessed within a unit of work for which EXEC SQL COMMIT or EXEC SQL ROLLBACK will be issued in place of syncpoint requests to an external transaction manager. If multiple databases must be accessed within the unit of work, utilize the commitment control interface provided by the external transaction manager product.
- For reason 08,**
ensure that all databases being accessed within a unit of work are under the commitment control of the same type of request: external transaction processing monitor (such as CICS SYNCPOINT) or local COMMIT and ROLLBACK EXEC SQL.
- For reason 09,**
do one of the following steps:
- Execute the transaction as an XA/DTP global transaction.
 - Access the database in a non-XA/DTP environment.
 - Do not use the services of the Syncpoint Manager for the database connection if the transaction is read-only.
- For reasons 10 through 17 (federated server users),**
isolate the problem to the data source failing

the request (see the Troubleshooting Guide) and examine the restrictions for that data source.

For reason 18,

do one of the following steps:

- Submit a COMMIT or ROLLBACK before issuing an update to a different data source.
- If multiple data sources need to be updated within a unit of work, make sure the `db2_two_phase_commit` server option has been set to 'Y' for all the data sources that need to be updated. See the *SQL Reference* for information on setting the value used for the `db2_two_phase_commit` setting.
- If the data source to be updated supports only one-phase commit and the application is operating with a `CONNECT` type 2 connection setting, change the application to operate with a `CONNECT` type 1 connection setting.

For reason 20,

submit a Commit or Rollback before invoking the API.

For reason 22,

Either remove the federated insert, update or delete operation, or the call to the federated procedure with an SQL data access indication of `MODIFIES SQL DATA` or:

- execute the federated insert, update, or delete operation outside of the function, the `data-chagne-table-reference`, they dynamic compound statement or trigger
- execute the call to the federated procedure with an SQL data access indication of `MODIFIES SQL DATA` outside of the function, the dynamic compound statement or trigger
- release the savepoint that is in effect
- remove the use of the scrollable cursor
- redefine the target view to refer to only one table or nickname
- execute the federated insert, update, or delete operation outside of the trigger.

For reason 23,

Refer to the Administrative API Reference for a list of supported APIs, data structures, and settings.

For reason 24,

If the failing statement was `CREATE TYPE MAPPING`, do not resubmit the statement. If the failing statement was `CREATE SERVER`, examine the federation catalog for type mappings for the server type and drop these mappings. In either case, consult the data source documentation for information about types and type mappings supported by the data source.

For reason code 25,

If the failing statement was `CREATE FUNCTIONMAPPING`, do not resubmit the statement. If the failing statement was `CREATE SERVER`, examine the federation catalog for function mappings for the server type and drop these mappings. In either case, consult the data source documentation for information about functions and function mappings supported by the data source.

For reason code 26,

Ensure that the trusted userid is not switched during a transaction.

For reason code 27,

An application cannot access multiple 2-phase commit servers of this data source in the same connection. Execute the application in a different environment.

For reason code 28,

An application cannot access 1-phase commit server while a connection to 2-phase commit server is active, or vice versa. Execute the application in a different environment.

sqlcode: -30090

sqlstate: 25000

SQL30100 - SQL30199

SQL30101W Bind options specified on REBIND request are ignored.

Explanation: Bind options were specified on the REBIND request however the database server does not support respecification of any bind options. The bind options specified will be ignored and the options from the original BIND request will be used.

User response: No action is required. This is a warning situation only.

If the database server returned an additional warning SQLCA, the "sqlerrmc" tokens will indicate the following information about this additional SQLCA in this order:

- `sqlcode` (SQL return code)
- `sqlstate` (universal SQL return code)
- `sqlerrp` (product name)
- `sqlerrmc` (SQL message tokens)

sqlcode: +30101

sqlstate: 01599

SQL30104N Error in BIND or PRECOMPILE option
option-name with value value-name.

Explanation: While processing the BIND or PRECOMPILE parameters, either the BIND or PRECOMPILE option or the value is not acceptable, or the option and value pair is not appropriate.

The statement cannot be processed.

User response: Examine the command options and values to determine the error and resubmit the command.

sqlcode: -30104

sqlstate: 56095

SQL30106N Invalid input data detected for a multiple row INSERT operation. INSERT processing is terminated.

Explanation: An error was detected with the input data for one row of a multiple row INSERT operation. No further rows will be inserted. For an atomic operation, all inserted rows are rolled back. For a non-atomic operation, rows inserted successfully before the row containing the invalid input data was encountered are not rolled back.

User response: Correct the row containing the invalid input data and submit the multiple row INSERT again for the rows that did not get inserted.

sqlcode: -30106

sqlstate: 22527

SQL30108N A connection failed but has been re-established. The hostname or IP address is *host-name* and the service name or port number is *service-name*. Special registers may or may not be re-attempted (Reason code = *reason-code*).

Explanation: A connection to the server failed but the client was able to re-establish the connection. All session resources are set to their initial default values except the values for certain special registers. See the Administration Guide for details. The application is rolled back to the previous COMMIT.

The connection will be re-established to the hostname or IP address *host-name* and service name or port number *service-name*.

For special registers, they may or may not be re-attempted with following reason code:

1. The original server supports to return the set of special registers back for the failed connection. The special register statements will be re-attempted.

2. The original server did not support to return the set of special registers back for the failed connection. The special register statements will not be re-attempted.

User response: The application is responsible for re-building session resources. The operations that are rolled back in the application should be repeated.

sqlcode: -30108

sqlstate: 08506

Chapter 3. SQLSTATE Messages

This section lists the SQLSTATEs and their meaning. The SQLSTATEs are grouped by class code; for subcodes, see the corresponding tables.

Table 1. SQLSTATE Class Codes

Class Code	Meaning	For subcodes, refer to...
00	Unqualified Successful Completion	Table 2 on page 564
01	Warning	Table 3 on page 564
02	No Data	Table 4 on page 568
07	Dynamic SQL Error	Table 5 on page 568
08	Connection Exception	Table 6 on page 568
09	Triggered Action Exception	Table 7 on page 569
0A	Feature Not Supported	Table 8 on page 569
0D	Invalid Target Type Specification	Table 9 on page 569
0F	Invalid Token	Table 10 on page 569
0K	Invalid RESIGNAL Statement	Table 11 on page 569
0N	SQL/XML mapping error	Table 12 on page 569
20	Case Not Found for CASE Statement	Table 14 on page 571
21	Cardinality Violation	Table 15 on page 571
22	Data Exception	Table 16 on page 571
23	Constraint Violation	Table 17 on page 573
24	Invalid Cursor State	Table 18 on page 573
25	Invalid Transaction State	Table 19 on page 574
26	Invalid SQL Statement Identifier	Table 20 on page 574
28	Invalid Authorization Specification	Table 22 on page 574
2D	Invalid Transaction Termination	Table 23 on page 575
2E	Invalid Connection Name	Table 24 on page 575
34	Invalid Cursor Name	Table 25 on page 575
36	Cursor Sensitivity Exception	Table 26 on page 575
38	External Function Exception	Table 27 on page 575
39	External Function Call Exception	Table 28 on page 576
3B	Invalid SAVEPOINT	Table 29 on page 577
40	Transaction Rollback	Table 30 on page 577
42	Syntax Error or Access Rule Violation	Table 31 on page 577
44	WITH CHECK OPTION Violation	Table 32 on page 589
46	Java DDL	Table 33 on page 589
51	Invalid Application State	Table 34 on page 589
53	Invalid Operand or Inconsistent Specification	Table 35 on page 590
54	SQL or Product Limit Exceeded	Table 36 on page 591

Table 1. SQLSTATE Class Codes (continued)

Class Code	Meaning	For subcodes, refer to...
55	Object Not in Prerequisite State	Table 37 on page 592
56	Miscellaneous SQL or Product Error	Table 38 on page 593
57	Resource Not Available or Operator Intervention	Table 39 on page 595
58	System Error	Table 40 on page 596
5U	Utilities	Table 41 on page 596

Class Code 00 Unqualified Successful Completion

Table 2. Class Code 00: Unqualified Successful Completion

SQLSTATE Value	Meaning
00000	Execution of the operation was successful and did not result in any type of warning or exception condition.

Class Code 01 Warning

Table 3. Class Code 01: Warning

SQLSTATE Value	Meaning
01002	A DISCONNECT error occurred.
01003	Null values were eliminated from the argument of a column function.
01004	The value of a string was truncated when assigned to another string data type with a shorter length.
01005	Insufficient number of entries in an SQLDA.
01007	A privilege was not granted.
0100C	One or more adhoc result sets were returned from the procedure.
0100D	The cursor that was closed has been re-opened on the next result set within the chain.
0100E	The procedure generated more than the maximum allowed number of result sets. Only the first integer result sets have been returned to the caller.
01503	The number of result columns is larger than the number of host variables provided.
01504	The UPDATE or DELETE statement does not include a WHERE clause.
01506	An adjustment was made to a DATE or TIMESTAMP value to correct an invalid date resulting from an arithmetic operation.
01509	Blocking was cancelled for a cursor because there is insufficient storage in the user virtual machine.
01515	The null value has been assigned to a host variable, because the non-null value of the column is not within the range of the host variable.
01516	An inapplicable WITH GRANT OPTION has been ignored.
01517	A character that could not be converted was replaced with a substitute character.

Table 3. Class Code 01: Warning (continued)

SQLSTATE Value	Meaning
01519	The null value has been assigned to a host variable, because a numeric value is out of range.
01524	The result of a column function does not include the null values that were caused by evaluating an arithmetic expression.
01526	Isolation level has been escalated.
01527	A SET statement references a special register that does not exist at the AS.
01539	Connection is successful but only SBCS characters should be used.
01543	A duplicate constraint has been ignored.
01545	An unqualified column name has been interpreted as a correlated reference.
01550	The index was not created, because an index with the specified description already exists.
01560	A redundant GRANT has been ignored.
01562	The new path to the log (newlogpath) in the database configuration file is invalid.
01563	The current path to the log file (logpath) is invalid. The log file path is reset to the default.
01564	The null value has been assigned to a host variable, because division by zero occurred.
01586	The statement caused one or more tables to automatically be placed in the Set Integrity Pending state.
01589	A statement contains redundant specifications.
01592	In a CREATE FUNCTION statement that references a SOURCE function, either: <ul style="list-style-type: none"> • an input parameter has a larger length, precision, or scale than that of the corresponding parameter of the source function; or • the RETURNS or CAST FROM parameter has a smaller length, precision, or scale than that of the source function; or • the CAST FROM parameter in the CREATE FUNCTION statement has a larger length, precision, or scale than that of the RETURNS parameter. Truncation may occur at run time (and may result in an error at that time).
01594	Insufficient number of entries in an SQLDA for ALL information (i.e. not enough descriptors to return the distinct name).
01595	The view has replaced an existing, invalidated view.
01596	Comparison functions were not created for a distinct type based on a long string data type.
01598	An attempt has been made to activate an active event monitor or deactivate an inactive event monitor.
01599	Bind options were ignored on REBIND.
01602	The optimization level has been reduced.
01603	CHECK DATA processing found constraint violations and moved them to exception tables.
01604	The SQL statement was explained and not executed.
01605	A recursive common table expression may contain an infinite loop.
01606	The node or system database directory is empty.

Table 3. Class Code 01: Warning (continued)

SQLSTATE Value	Meaning
01607	The difference between the times on nodes in a read-only transactions exceed the defined threshold.
01608	An unsupported value has been replaced.
01609	The procedure generated more than the maximum allowed number of result sets. Only the first integer result sets have been returned to the caller.
01610	One or more ad hoc result sets were returned from the procedure.
01611	The cursor that was closed has been re-opened on the next result set within the chain.
01614	There are fewer locators than the number of result sets.
01616	The estimated CPU cost exceeds the resource limit.
01618	Redistribute nodegroup is required to change database partitioning.
01620	Some base tables of UNION ALL may be the same table.
01621	The retrieved LOB value may have been changed.
01622	Statement completed successfully but a system error occurred after the statement completed.
01623	Value of DEGREE is ignored.
01625	The schema name appears more than once in the CURRENT PATH.
01626	The database has only one active buffer pool.
01627	The DATALINK value may not be valid because the table is in reconcile pending or reconcile is not possible state.
01632	The number of concurrent connections has exceeded the defined entitlement for the product.
01633	The materialized query table may not be used to optimize the processing of queries.
01636	Integrity of non-incremental data remains unverified by the database manager.
01637	Debugging is not enabled.
01639	The federated object may require the invoker to have necessary privileges on data source objects.
01641	Datalink type attributes limit the use of the structured type.
01642	Column not long enough for the largest possible USER default value.
01643	Assignment to an SQLSTATE or SQLCODE variable in an SQL routine may be over-written and does not activate any handler.
01645	The executable for the SQL procedure is not saved in the database catalog.
01648	COMPRESS column attribute ignored because VALUE COMPRESSION is deactivated for the table.
01649	The buffer pool operation has been completed but will not take effect until the next database restart.
01650	Index and table statistics are inconsistent.
01651	The event monitor was activated successfully, however some monitoring information may be lost.
01652	The isolation clause is ignored because of the statement context.

Table 3. Class Code 01: Warning (continued)

SQLSTATE Value	Meaning
01653	The authorizations were granted to USER. Groups were not considered because the authorization name is more than 8 bytes.
01654	The buffer pool is not started.
01655	The event monitor was created successfully but at least one event monitor target table already exists.
01657	The buffer pool operation will not take effect until the next database startup.
01665	The column name or parameter name was truncated.
01667	The view may not be used to optimize the processing of queries.
01669	The statistics for the specified nicknames were not updated completely because of schema inconsistencies between the remote and local catalogs.
01670	No default primary table space exists for the new table.
01671	The environment of the cached statement is different than the current environment. The current environment will be used to reoptimize the specified statement.
01674	Table space attributes are not optimal for query performance.
01675	More table spaces than required were specified. The extra table spaces are ignored.
01676	Transfer operation ignored since the authorization ID is already the owner of the database object.
01677	Wrapper options were ignored for servers that already have the plugin defined.
01678	Changes to the user mapping apply only to the federated catalog table and not to the external user mapping repository.
01679	A trusted connection cannot be established for the specified authorization ID.
01684	The specified locale is not supported. The message was returned in the English locale.
01686	The table space is being converted from REGULAR to LARGE. Indexes on tables in this table space must be reorganized or rebuilt to support large RIDs.
01689	The SQL compilation completed without connecting to the data source.
0168A	The package body for the source procedure at the data source was not found or is invalid.
01H51	An MQSeries Application Messaging Interface message was truncated.
01H52	Routine execution has completed, but at least one error or warning was encountered during the execution. More information is available.
01H53	The routine has encountered a warning. Refer to the SQLCODE for details.
01HXX	Valid warning SQLSTATEs returned by a user-defined function or external procedure CALL.

Class Code 02 No Data

Table 4. Class Code 02: No Data

SQLSTATE Value	Meaning
02000	One of the following exceptions occurred: <ul style="list-style-type: none">• The result of the SELECT INTO statement or the subselect of the INSERT statement was an empty table.• The number of rows identified in the searched UPDATE or DELETE statement was zero.• The position of the cursor referenced in the FETCH statement was after the last row of the result table.
02501	The cursor position is not valid for a FETCH of the current row.
02502	Delete or update hole detected
02506	Errors were encountered and tolerated as specified by the RETURN DATA UNTIL clause.

Class Code 07 Dynamic SQL Error

Table 5. Class Code 07: Dynamic SQL Error

SQLSTATE Value	Meaning
07001	The number of host variables is not correct for the number of parameter markers.
07002	The call parameter list or control block is invalid.
07003	The statement identified in the EXECUTE statement is a select-statement, or is not in a prepared state.
07004	The USING clause or the INTO clause is required for dynamic parameters.
07005	The statement name of the cursor identifies a prepared statement that cannot be associated with a cursor.
07006	An input host variable cannot be used, because of its data type.

Class Code 08 Connection Exception

Table 6. Class Code 08: Connection Exception

SQLSTATE Value	Meaning
08001	The application requester is unable to establish the connection.
08002	The connection already exists.
08003	The connection does not exist.
08004	The application server rejected establishment of the connection.
08007	Transaction resolution unknown.
08502	The CONNECT statement issued by an application process running with a SYNCPOINT of TWOPHASE has failed, because no transaction manager is available.
08504	An error was encountered while processing the specified path rename configuration file.

Class Code 09 Triggered Action Exception

Table 7. Class Code 09: Triggered Action Exception

SQLSTATE Value	Meaning
09000	A triggered SQL statement failed.

Class Code 0A Feature Not Supported

Table 8. Class Code 0A: Feature Not Supported

SQLSTATE Value	Meaning
0A001	The CONNECT statement is invalid, because the process is not in the connectable state.
0A502	The action or operation is not enabled for this database instance.
0A503	Federated insert, update, or delete operation cannot be compiled because of potential data inconsistency.

Class Code 0D Invalid Target Type Specification

Table 9. Class Code 0D: Invalid Target Type Specification

SQLSTATE Value	Meaning
0D000	The target structured data type specification is a proper subtype of the source structured data type.

Class Code 0F Invalid Token

Table 10. Class Code 0F: Invalid Token

SQLSTATE Value	Meaning
0F001	The LOB token variable does not currently represent any value.

Class Code 0K Invalid RESIGNAL statement

Table 11. Class Code 0K: Invalid RESIGNAL statement

SQLSTATE Value	Meaning
0K000	RESIGNAL statement is not within a handler.

Class Code 0N SQL/XML mapping error

Table 12. Class Code 0N: SQL/XML mapping error

SQLSTATE Value	Meaning
0N002	A character cannot be mapped to a valid XML character.

Class Code 10 XQuery error

Table 13. Class Code 10: XQuery error

SQLSTATE Value	Meaning
10000	XQuery error.
10501	An XQuery expression is missing the assignment of a static or dynamic context component.
10502	An error was encountered in the prolog of an XQuery expression.
10503	A duplicate name was defined in an XQuery or XPath expression.
10504	An XQuery namespace declaration specified an invalid URI.
10505	A character, token or clause is missing or invalid in an XQuery expression.
10506	An XQuery expression references a name that is not defined.
10507	A type error was encountered processing an XPath or XQuery expression.
10508	An XQuery expression includes an invalid name expression in a computed constructor.
10509	An unsupported XQuery language feature is specified.
10510	A string literal is not specified as the operand of a cast expression or as the argument of a constructor function.
10601	An arithmetic error was encountered processing an XQuery function or operator.
10602	A casting error was encountered processing an XQuery function or operator.
10603	A character handling error was encountered processing an XQuery function or operator.
10604	A document context was not provided for processing an XQuery function.
10605	A datetime error was encountered processing an XQuery function or operator.
10606	There is no context item for processing an XQuery function or operator.
10607	A namespace error was encountered processing an XQuery function or operator.
10608	An error was encountered in the argument of an XQuery function or operator.
10609	A regular expression error was encountered processing an XQuery function or operator.
10610	A type error was encountered processing an XQuery function or operator.
10611	An unidentified error was encountered processing an XQuery function or operator.
10901	An XQuery atomic value is out of range for the DB2 XQuery data type.
10902	An XQuery atomic value exceeds the length limit for a DB2 XQuery operator or function.
10903	An internal limit has been exceeded for the number of matched XQuery nodes.

Class Code 20 Case Not Found for Case Statement

Table 14. Class Code 20: Case Not Found for Case Statement

SQLSTATE Value	Meaning
20000	The case was not found for the CASE statement.

Class Code 21 Cardinality Violation

Table 15. Class Code 21: Cardinality Violation

SQLSTATE Value	Meaning
21000	The result of a SELECT INTO is a result table of more than one row, or the result of the subquery of a basic predicate is more than one value.
21501	A multiple-row INSERT into a self-referencing table is invalid.
21502	A multiple-row UPDATE of a primary key is invalid.
21504	A multiple-row DELETE from a self-referencing table with a delete rule of RESTRICT or SET NULL is invalid.
21505	A row function must return not more than one row.
21506	The same row of a table cannot be the target for more than one of an update, delete or insert operation.

Class Code 22 Data Exception

Table 16. Class Code 22: Data Exception

SQLSTATE Value	Meaning
22001	Character data, right truncation occurred; for example, an update or insert value is a string that is too long for the column, or a datetime value cannot be assigned to a host variable, because it is too small.
22002	A null value, or the absence of an indicator parameter was detected; for example, the null value cannot be assigned to a host variable, because no indicator variable is specified.
22003	A numeric value is out of range.
22004	A null value cannot be returned either from a procedure defined as PARAMETER STYLE GENERAL, or from a type-preserving method invoked with a non-null argument.
22007	An invalid datetime format was detected; that is, an invalid string representation or value was specified.
22008	Datetime field overflow occurred; for example, an arithmetic operation on a date or timestamp has a result that is not within the valid range of dates.
2200G	The most specific type does not match.
2200L	An XML value is not a well-formed document with a single root element.
2200M	A value failed to parse as a well-formed XML document or validate according to the XML schema.
2200S	The XML comment is not valid.
2200T	The XML processing instruction is not valid.

Table 16. Class Code 22: Data Exception (continued)

SQLSTATE Value	Meaning
2200W	An XML value contained data that could not be serialized.
22011	A substring error occurred; for example, an argument of SUBSTR is out of range.
22012	Division by zero is invalid.
22018	The character value for the CAST, DECIMAL, FLOAT, or INTEGER scalar function is invalid.
22019	The LIKE predicate has an invalid escape character.
22021	A character is not in the coded character set.
22024	A NUL-terminated input host variable or parameter did not contain a NUL.
22025	The LIKE predicate string pattern contains an invalid occurrence of an escape character.
2202D	Null instance used with a mutator method.
2202H	The sample size in the TABLESAMPLE clause is invalid.
22501	The length control field of a variable length string is negative or greater than the maximum.
22504	A mixed data value is invalid.
22506	A reference to a datetime special register is invalid, because the TOD clock is malfunctioning or the operating system timezone parameter is out of range.
22522	A CCSID value is not valid at all, not valid for the data type or subtype, or not valid for the encoding scheme.
22525	Data partitioning key value is not valid.
22526	A key transform function generated no rows or duplicate rows.
22527	Invalid input data detected for a multiple row INSERT operation.
22532	An XSROBJECT is not found in the XML schema repository.
22533	A unique XSROBJECT could not be found in the XML schema repository.
22534	An XML schema document is not connected to the other XML schema documents using an include or redefine.
22535	The XML schema does not declare the specified global element.
22536	The XML value does not contain the required root element.
225D1	The specified XML schema is not enabled for decomposition.
225D2	An SQL Error occurred during decomposition of an XML document.
225D3	Decomposition of XML document encountered a value that is not valid for the XML schema type.
225D4	Decomposition of XML document encountered a value that is not valid for the target SQL type.
225D5	Decomposition of XML document encountered an XML node that is unknown or not valid in context.
225D6	The specified XML schema requires migration to current version to support decomposition.
225D7	Decomposition of XML document encountered root element that is not a global element of complexType in the XML schema.
225DE	An XML schema cannot be enabled for decomposition.

Class Code 23 Constraint Violation

Table 17. Class Code 23: Constraint Violation

SQLSTATE Value	Meaning
23001	The update or delete of a parent key is prevented by a RESTRICT update or delete rule.
23502	An insert or update value is null, but the column cannot contain null values.
23503	The insert or update value of a foreign key is invalid.
23504	The update or delete of a parent key is prevented by a NO ACTION update or delete rule.
23505	A violation of the constraint imposed by a unique index or a unique constraint occurred.
23510	A violation of a constraint on the use of the command imposed by the RLST table occurred.
23511	A parent row cannot be deleted, because the check constraint restricts the deletion.
23512	The check constraint cannot be added, because the table contains rows that do not satisfy the constraint definition.
23513	The resulting row of the INSERT or UPDATE does not conform to the check constraint definition.
23514	Check data processing has found constraint violations.
23515	The unique index could not be created or unique constraint added, because the table contains duplicate values of the specified key.
23520	The foreign key cannot be defined, because all of its values are not equal to a parent key of the parent table.
23521	The update of a catalog table violates an internal constraint.
23522	The range of values for an identity column or sequence is exhausted.
23523	An invalid value has been provided for the security label column.
23524	Invalid row movement within the UNION ALL view.
23525	An XML value could not be inserted or updated because an error was detected during insertion or update of an index on an XML column.
23526	An index on an XML column could not be created because an error was detected during insertion of an XML value into the index.

Class Code 24 Invalid Cursor State

Table 18. Class Code 24: Invalid Cursor State

SQLSTATE Value	Meaning
24501	The identified cursor is not open.
24502	The cursor identified in an OPEN statement is already open.
24504	The cursor identified in the UPDATE, DELETE, SET, or GET statement is not positioned on a row.
24506	The statement identified in the PREPARE is the statement of an open cursor.
24510	An UPDATE or DELETE operation was attempted against a delete hole or update hole.

Table 18. Class Code 24: Invalid Cursor State (continued)

SQLSTATE Value	Meaning
24512	The result table does not agree with base table.
24513	FETCH NEXT, PRIOR, CURRENT or RELATIVE is not allowed because the cursor position is not known.
24514	A previous error has disabled this cursor.
24516	A cursor has already been assigned to a result set.
24517	A cursor was left open by an external function or method.

Class Code 25 Invalid Transaction State

Table 19. Class Code 25: Invalid Transaction State

SQLSTATE Value	Meaning
25000	An insert, update, or delete operation is invalid in the context where it is specified.
25001	The statement is only allowed as the first statement in a unit of work.
25501	The statement is only allowed as the first statement in a unit of work.
25502	Operation cannot occur multiple times in a single transaction.

Class Code 26 Invalid SQL Statement Identifier

Table 20. Class Code 26: Invalid SQL Statement Identifier

SQLSTATE Value	Meaning
26501	The statement identified does not exist.

Class Code 27 Triggered Data Change Violation

Table 21. Class Code 27: Triggered Data Change Violation

SQLSTATE Value	Meaning
27000	An attempt was made to change the same row in the same table more than once in the same SQL statement.

Class Code 28 Invalid Authorization Specification

Table 22. Class Code 28: Invalid Authorization Specification

SQLSTATE Value	Meaning
28000	Authorization name is invalid.

Class Code 2D Invalid Transaction Termination

Table 23. Class Code 2D: Invalid Transaction Termination

SQLSTATE Value	Meaning
2D521	SQL COMMIT or ROLLBACK are invalid in the current operating environment.
2D522	COMMIT and ROLLBACK are not allowed in an ATOMIC Compound statement.
2D528	Dynamic COMMIT is invalid for the application execution environment.
2D529	Dynamic ROLLBACK is invalid for the application execution environment.

Class Code 2E Invalid Connection Name

Table 24. Class Code 2E: Invalid Connection Name

SQLSTATE Value	Meaning
2E000	Connection name is invalid.

Class Code 34 Invalid Cursor Name

Table 25. Class Code 34: Invalid Cursor Name

SQLSTATE Value	Meaning
34000	Cursor name is invalid.

Class Code 36 Invalid Cursor Specification

Table 26. Class Code 36: Invalid Cursor Specification

SQLSTATE Value	Meaning
36001	A SENSITIVE cursor cannot be defined for the specified select-statement.

Class Code 38 External Function Exception

Table 27. Class Code 38: External Function Exception

SQLSTATE Value	Meaning
38XXX	Valid error SQLSTATEs returned by an external routine, or trigger.
38001	The external routine is not allowed to execute SQL statements.
38002	The routine attempted to modify data, but the routine was not defined as MODIFIES SQL DATA.
38003	The statement is not allowed in a routine.
38004	The routine attempted to read data, but the routine was not defined as READS SQL DATA.

Table 27. Class Code 38: External Function Exception (continued)

SQLSTATE Value	Meaning
38501	Error occurred while calling a user-defined function, external procedure, or trigger (using the SIMPLE CALL or SIMPLE CALL WITH NULLS calling convention).
38502	The external function is not allowed to execute SQL statements.
38503	A user-defined function has abnormally terminated (abend).
38504	A user-defined function has been interrupted by the user to stop a probable looping condition.
38505	An SQL statement is not allowed in a routine on a FINAL CALL.
38506	Function failed with error from OLE DB provider.
38552	A function in the SYSFUN schema (supplied by IBM) has abnormally terminated. One of the following reason codes can be found in the message text: 01 Numeric value out of range 02 Division by zero 03 Arithmetic overflow or underflow 04 Invalid date format 05 Invalid time format 06 Invalid timestamp format 07 Invalid character representation of a timestamp duration 08 Invalid interval type (must be one of 1, 2, 4, 8, 16, 32, 64, 128, 256) 09 String too long 10 Length or position in string function out of range 11 Invalid character representation of a floating point number
38553	A routine in a system schema has terminated with an error.
38H01	An MQSeries function failed to initialize.
38H02	MQSeries Application Messaging Interface failed to terminate the session.
38H03	MQSeries Application Messaging Interface failed to properly process a message.
38H04	MQSeries Application Messaging Interface failed in sending a message.
38H05	MQSeries Application Messaging Interface failed to read/receive a message.
38H06	An MQSeries Application Messaging Interface (un)subscription request failed.
38H07	MQSeries Application Messaging Interface failed to commit the unit of work.
38H08	MQSeries Application Messaging Interface policy error.
38H09	MQSeries XA (two phase commit) API call error.
38H0A	MQSeries Application Messaging Interface failed to roll back the unit of work.

Class Code 39 External Function Call Exception

Table 28. Class Code 39: External Function Call Exception

SQLSTATE Value	Meaning
39001	A user-defined function has returned an invalid SQLSTATE.
39004	A null value is not allowed for an IN or INOUT argument.
39501	The eye-catcher associated with an argument was modified.

Class Code 3B Invalid SAVEPOINT

Table 29. Class Code 3B: Invalid SAVEPOINT

SQLSTATE Value	Meaning
3B001	The savepoint is not valid.
3B002	The maximum number of savepoints has been reached.
3B501	A duplicate savepoint name was detected.
3B502	A RELEASE or ROLLBACK TO SAVEPOINT was specified, but a savepoint does not exist.
3B503	A SAVEPOINT, RELEASE SAVEPOINT, or ROLLBACK TO SAVEPOINT is not allowed in a trigger or global transaction.

Class Code 40 Transaction Rollback

Table 30. Class Code 40: Transaction Rollback

SQLSTATE Value	Meaning
40001	Deadlock or timeout with automatic rollback occurred.
40003	The statement completion is unknown.
40504	A system error has caused the unit of work to be rolled back.
40506	The current transaction was rolled back because of an SQL error.
40507	The current transaction was rolled back as a result of a failure creating an index.

Class Code 42 Syntax Error or Access Rule Violation

Table 31. Class Code 42: Syntax Error or Access Rule Violation

SQLSTATE Value	Meaning
42501	The authorization ID does not have the privilege to perform the specified operation on the identified object.
42502	The authorization ID does not have the privilege to perform the operation as specified.
42504	A specified privilege, security label, or exemption cannot be revoked from a specified authorization-name.
42506	Owner authorization failure occurred.
42508	The specified database privileges cannot be granted to PUBLIC.
42509	SQL statement is not authorized, because of the STATICRULES option.
42511	Unable to retrieve a DATALINK value.
42512	The authorization ID does not have access to the protected column.
42514	The authorization ID does not have the privileges necessary for ownership of the object.
42516	Authentication at the user mapping repository failed.
42519	This authorization ID is not allowed to perform the operation on the protected table.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42520	A built-in function could not be executed because the authorization ID does not have a security label.
42521	The authority or privilege cannot be granted to the specified authorization ID.
42522	The authorization ID does not have the credentials to protect a column or remove protection from a column.
42601	A character, token, or clause is invalid or missing.
42602	A character that is invalid in a name has been detected.
42603	An unterminated string constant has been detected.
42604	An invalid numeric or string constant has been detected.
42605	The number of arguments specified for a scalar function is invalid.
42606	An invalid hexadecimal constant has been detected.
42607	An operand of a column function is invalid.
42608	The use of NULL or DEFAULT in VALUES is invalid.
42609	All operands of an operator or predicate are parameter markers.
42610	A parameter marker is not allowed.
42611	The column or argument definition is invalid.
42612	The statement string is an SQL statement that is not acceptable in the context in which it is presented.
42613	Clauses are mutually exclusive.
42614	A duplicate keyword is invalid.
42615	An invalid alternative was detected.
42616	Invalid options are specified.
42617	The statement string is blank or empty.
42618	A host variable is not allowed.
42620	Read-only SCROLL was specified with the UPDATE clause.
42621	The check constraint is invalid.
42622	A name or label is too long.
42623	A DEFAULT clause cannot be specified.
42625	A CASE expression is invalid.
42627	RETURNS clause must be specified prior to predicate specification using the EXPRESSION AS clause.
42628	A TO SQL or FROM SQL transform function is defined more than once in a transform definition.
42629	Parameter names must be specified for SQL routines.
42630	An SQLSTATE or SQLCODE variable declaration must not be in a nested compound statement.
42631	A RETURN statement in an SQL function or method must include a return value.
42633	An AS clause is required for an argument of XMLATTRIBUTES or XMLFOREST.
42634	The XML name is not valid.
42635	The XML namespace prefix is not valid.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42636	The BY REF clause is missing or used incorrectly.
42637	An XQuery expression cannot be specified in a DECLARE CURSOR statement.
42701	A duplicate column name in an insert or update operation or the SET transition-variable statement was detected.
42702	A column reference is ambiguous, because of duplicate names.
42703	An undefined column, attribute, or parameter name was detected.
42704	An undefined object or constraint name was detected.
42705	An undefined server-name was detected.
42707	A column name in ORDER BY does not identify a column of the result table.
42709	A duplicate column name was specified in a key column list.
42710	A duplicate object or constraint name was detected.
42711	Duplicate column name or attribute name was detected in the object definition or ALTER statement.
42712	A duplicate table designator was detected in the FROM clause.
42713	A duplicate object was detected in a list of objects.
42720	The nodename for the remote database was not found in the node directory.
42723	A function with the same signature already exists in the schema.
42724	Unable to access an external program used for a user-defined function or a procedure.
42725	A routine was referenced directly (not by either signature or by specific instance name), but there is more than one specific instance of that routine.
42726	Duplicate names for named derived tables were detected.
42727	No default primary tablespace exists for the new table.
42728	A duplicate node was detected in the nodegroup definition.
42729	The node is not defined.
42730	The container name is already used by another tablespace.
42731	The container name is already used by this tablespace.
42732	A duplicate schema name in the SET CURRENT PATH statement was detected.
42734	A duplicate parameter-name, SQL variable-name, cursor-name, condition-name, or label was detected.
42735	Nodegroup for the table space is not defined for the buffer pool.
42736	The label specified on the LEAVE statement is not found or not valid.
42737	The condition specified in the handler is not defined.
42738	A duplicate column name or unnamed column was specified in a DECLARE CURSOR statement of a FOR statement.
42739	A duplicate transform was detected.
42740	No transforms were found for the specified type. No transforms were dropped.
42741	A transform group is not defined for a data type.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42742	Subtable or subview of the same type already exists in the typed table or typed view hierarchy.
42743	The search method is not found in the index extension.
42744	A TO SQL or FROM SQL transform function is not defined in a transform group.
42745	The routine would define an overriding relationship with an existing method.
42746	A method name cannot be the same as a structured type name within the same type hierarchy.
42748	The storage path already exists for the database or is specified more than once.
42749	An XML schema document with the same target namespace and schema location already exists for the XML schema.
4274A	An XSROBJECT is not found in the XML schema repository.
4274B	A unique XSROBJECT could not be found in the XML schema repository.
4274F	The component element is not defined in security label component.
4274G	The security label component is not defined in the security label policy used by the given security label.
4274H	The specified access rule does not exist for the specified security policy.
4274I	The security label does not exist for the specified security policy.
4274J	The database partition group is already used by this buffer pool.
42802	The number of insert or update values is not the same as the number of columns.
42803	A column reference in the SELECT or HAVING clause is invalid, because it is not a grouping column; or a column reference in the GROUP BY clause is invalid.
42804	The result expressions in a CASE expression are not compatible.
42805	An integer in the ORDER BY clause does not identify a column of the result table.
42806	A value cannot be assigned to a host variable, because the data types are not compatible.
42807	The INSERT, UPDATE, or DELETE is not permitted on this object.
42808	A column identified in the insert or update operation is not updateable.
42809	The identified object is not the type of object to which the statement applies.
42810	A base table is not identified in a FOREIGN KEY clause.
42811	The number of columns specified is not the same as the number of columns in the SELECT clause.
42813	WITH CHECK OPTION cannot be used for the specified view.
42814	The column cannot be dropped, because it is the only column in the table.
42815	The data type, length, scale, value, or CCSID is invalid.
42816	A datetime value or duration in an expression is invalid.
42817	The column cannot be dropped because a view or constraint is dependent on the column and RESTRICT was specified, or the column is part of a partitioning key, or is a security label column.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42818	The operands of an operator or function are not compatible or not comparable.
42819	An operand of an arithmetic operation or an operand of a function that requires a number is not a number.
42820	A numeric constant is too long, or it has a value that is not within the range of its data type.
42821	An update or insert value is not compatible with the column.
42823	Multiple columns are returned from a subquery that is allowed only one column.
42824	An operand of LIKE is not a string, or the first operand is not a column.
42825	The rows of UNION, INTERSECT, EXCEPT, or VALUES do not have compatible columns.
42826	The rows of UNION, INTERSECT, EXCEPT, or VALUES do not have the same number of columns.
42827	The table identified in the UPDATE or DELETE is not the same table designated by the cursor.
42828	The table designated by the cursor of the UPDATE or DELETE statement cannot be modified, or the cursor is read-only.
42829	FOR UPDATE OF is invalid, because the result table designated by the cursor cannot be modified.
42830	The foreign key does not conform to the description of the parent key.
42831	A column of a primary or unique key cannot allow null values.
42832	The operation is not allowed on system objects.
42834	SET NULL cannot be specified, because no column of the foreign key can be assigned the null value.
42835	Cyclic references cannot be specified between named derived tables.
42836	The specification of a recursive, named derived table is invalid.
42837	The column cannot be altered, because its attributes are not compatible with the current column attributes.
42838	An invalid use of a tablespace was detected.
42839	Indexes and long columns cannot be in separate tablespaces from the table.
42840	An invalid use of the AS CAST option was detected.
42841	A parameter marker can not be a user-defined type or reference type.
42842	A column definition is invalid, because a specified option is inconsistent with the column description.
42845	An invalid use of a VARIANT or EXTERNAL ACTION function was detected.
42846	Cast from source type to target type is not supported.
42849	The specified option is not supported for external routines.
42852	The privileges specified in GRANT or REVOKE are invalid or inconsistent. (For example, GRANT ALTER on a view.)
42853	Both alternatives of an option were specified, or the same option was specified more than once.
42854	A result column data type in the select list is not compatible with the defined type in a typed view or materialized query table definition.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42855	The assignment of the LOB to this host variable is not allowed. The target host variable for all fetches of this LOB value for this cursor must be a locator or a LOB variable.
42858	Operation cannot be applied to the specified object.
42863	An undefined host variable in REXX has been detected.
42866	The data type in either the RETURNS clause of the CAST FROM clause in the CREATE FUNCTION statement is not appropriate for the data type returned from the sourced function or RETURN statement in the function body.
42867	Conflicting options have been specified.
42872	FETCH statement clauses are incompatible with the cursor definition.
42875	The object to create within CREATE SCHEMA must have the same qualifier as the schema name.
42877	The column name cannot be qualified.
42878	An invalid function or procedure name was used with the EXTERNAL keyword.
42879	The data type of one or more input parameters in the CREATE FUNCTION statement is not appropriate for the corresponding data type in the source function.
42880	The CAST TO and CAST FROM data types are incompatible, or would always result in truncation of a fixed string.
42881	Invalid use of a row based function.
42882	The specific instance name qualifier is not equal to the function name qualifier.
42883	No routine was found with a matching signature.
42884	No routine was found with the specified name and compatible arguments.
42885	The number of input parameters specified on a CREATE FUNCTION statement does not match the number provided by the function named in the SOURCE clause.
42886	The IN, OUT, or INOUT parameter attributes do not match.
42887	The function is not valid in the context where it occurs.
42888	The table does not have a primary key.
42889	The table already has a primary key.
42890	A column list was specified in the references clause, but the identified parent table does not have a unique constraint with the specified column names.
42891	A duplicate UNIQUE constraint already exists.
42893	The object or constraint cannot be dropped, altered or transferred, or authorities cannot be revoked from the object, because other objects are dependent on it.
42894	The DEFAULT value is invalid.
42895	For static SQL, an input host variable cannot be used, because its data type is not compatible with the parameter of a procedure or user-defined function.
428A0	An error occurred with the sourced function on which the user-defined function is based.
428A1	Unable to access a file referenced by a host file variable.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
428A2	A table cannot be assigned to a multi-node node group, because it does not have a partition key.
428A3	An invalid path has been specified for an event monitor.
428A4	An invalid value has been specified for an event monitor option.
428A5	An exception table named in a SET INTEGRITY statement either does not have the proper structure, or it has been defined with generated columns, constraints, or triggers.
428A6	An exception table named in a SET INTEGRITY statement cannot be the same as one of the tables being checked.
428A7	There is a mismatch in the number of tables being checked and in the number of exception tables specified in the SET INTEGRITY statement.
428A8	Cannot reset the Set Integrity Pending state using the SET INTEGRITY statement on a descendent table while a parent table or underlying table is in the Set Integrity Pending state.
428A9	The node range is invalid.
428AA	The column name is not a valid column for an event monitor table.
428B0	Illegal nesting inside ROLLUP, CUBE, or GROUPING SETS.
428B1	Incorrect number of table space container specifications that are not designated for specific nodes.
428B2	The path name for the container is not valid.
428B3	An invalid SQLSTATE was specified.
428B7	A number specified in an SQL statement is out of the valid range.
428B0	No plan was possible to create for the federated data source.
428C0	The node cannot be dropped, because it is the only node in the nodegroup.
428C1	Only one ROWID, or IDENTITY, or security label column can be specified for a table.
428C2	Examination of the function body indicates that the given clause should have been specified on the CREATE FUNCTION statement.
428C4	The number of elements on each side of the predicate operator is not the same.
428C5	No data type mapping was found for a data type from the data source.
428C9	A ROWID column cannot be specified as the target column of an INSERT or UPDATE.
428CA	A table in append mode cannot have a clustered index.
428CB	The page size for a table space must match the page size of the associated buffer pool.
428D1	Unable to access a file referenced by a DATALINK value.
428D4	A cursor specified in a FOR statement cannot be referenced in an OPEN, CLOSE, or FETCH statement.
428D5	The ending label does not match the beginning label.
428D6	UNDO is not allowed for NOT ATOMIC statements.
428D7	The condition value is not allowed.
428D8	The declaration or use of the SQLSTATE or SQLCODE variable is not valid.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
428DB	An object is not valid as a supertype, supertable, or superview.
428DC	The function or method is not valid as the transform for this type.
428DD	A required transform is not defined.
428DE	PAGESIZE value is not supported.
428DF	Data types specified in CREATE CAST are not valid.
428DG	Function specified in CREATE CAST is not valid.
428DH	Operation is not valid for typed tables.
428DJ	Inherited column or attribute cannot be changed or dropped.
428DK	The scope for the reference column is already defined.
428DL	Parameter of external or sourced function has a scope defined.
428DM	The scope table or view is not valid for the reference type.
428DN	SCOPE is not specified in the RETURNS clause of an external function or is specified in the RETURNS clause of a sourced function.
428DP	The type is not a structured type.
428DQ	A subtable or subview cannot have a different schema name than its supertable or superview.
428DR	Operation cannot be applied to a subtable or a subview.
428DS	Index on the specified columns cannot be defined on subtable.
428DT	Operand of expression is not a valid scoped reference type.
428DU	A type is not included in the required type hierarchy.
428DV	Invalid left operand of a dereference operator.
428DW	Object identifier column cannot be referenced using the dereference operator.
428DX	Object identifier column is required to define the root table or root view of a typed table or typed view hierarchy.
428DY	Statistics cannot be updated for the target object type.
428DZ	An object identifier column cannot be updated.
428E0	Definition of index does not match the definition of the index extension.
428E1	Result of the range-producing table function is inconsistent with that of the key transformation table function for the index extension.
428E2	Number or the type of key-target parameters does not match with the number or type of key transform function for the index extension.
428E3	Argument for function in index extension is not valid.
428E4	Function is not supported in CREATE INDEX EXTENSION statement.
428E5	SELECTIVITY clause can only be specified with a user-defined predicate.
428E6	The search argument of method in the user-defined predicate does not match the one in the corresponding search method of the index extension.
428E7	Type of the operand following the comparison operator in the user-defined predicate does not match the RETURNS data type.
428E8	A search target or search argument parameter does not match a parameter name of the function being created.
428E9	An argument parameter name cannot appear as both a search target and search argument in the same exploitation rule.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
428EA	A fullselect in a typed view is not valid.
428EB	A column in a subview cannot be read only when the corresponding column in the superview is updatable.
428EC	The fullselect specified for the materialized query table is not valid.
428ED	Structured types with Datalink or Reference type attributes cannot be constructed.
428EE	Option is not valid for this data source.
428EF	Value for the option is not valid for this data source.
428EG	Missing required option for this data source.
428EH	Cannot ADD an option that is already defined.
428EJ	Cannot SET or DROP an option that has not been added.
428EK	The qualifier for a declared global temporary table name must be SESSION.
428EL	A transform function is not valid for use with a function or method.
428EM	The TRANSFORM GROUP clause is required.
428EN	A transform group is specified that is not used.
428EP	A structured type cannot depend on itself either directly or indirectly.
428EQ	The returns type of the routine is not the same as the subject type.
428ER	A method specification cannot be dropped before the method body is dropped.
428ES	A method body does not correspond to the language type of the method specification.
428EU	TYPE or VERSION is not specified in the server definition.
428EV	Pass-through facility is not supported for the type of data source.
428EW	The table cannot be converted to or from a materialized query table.
428EX	Routine cannot be used as a transform function because it is either a builtin function or a method.
428EY	The data type of the search target in a user-defined predicate does not match the data type of the source key of the specified index extension.
428EZ	A window specification for an OLAP function is not valid.
428F0	A ROW function must include at least two columns.
428F1	An SQL TABLE function must return a table result.
428F2	The data type of the RETURN statement value in an SQL procedure must be INTEGER.
428F3	SCROLL and WITH RETURN are mutually exclusive.
428F4	The SENSITIVITY specified on FETCH is not allowed for the cursor.
428F6	Cursor is scrollable, but the result table involves output from a table function.
428F7	An operation that applies only to SQL routines was attempted on an external routine.
428F9	A sequence expression cannot be specified in this context.
428FA	The scale of the decimal number must be zero.
428FB	The sequence-name must not be a sequence generated by the system for an identity column.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
428FC	The length of the encryption password is not valid.
428FD	The password used for decryption does not match the password used to encrypt the data.
428FE	The data is not a result of the ENCRYPT function.
428FF	The buffer pool specification is not valid.
428FG	The staging table or materialized query table definition is not valid.
428FH	The SET INTEGRITY option is not valid
428FI	ORDER OF was specified, but the table-designator does not contain an ORDER BY clause.
428FJ	ORDER BY is not allowed in the outer fullselect of a view or materialized query table.
428FL	An SQL data change statement is not allowed in the context in which it was specified.
428FM	An INSERT statement within a SELECT specified a view which is not a symmetric view.
428FP	One INSTEAD OF trigger is allowed for each kind of operation on a subject view.
428FQ	An INSTEAD OF trigger must not specify a view that is defined using WITH CHECK OPTION, a view that is defined on another view that is defined WITH CHECK OPTION, or a view that is nested in a view that is defined with the WITH ROW MOVEMENT clause.
428FT	The table is not compatible with the specified data partitioning operation.
428FU	Built-in type returned from the FROM SQL transform function or method does not match the corresponding built-in type for the TO SQL transform function or method.
428FV	Cannot define the method as an overriding method.
428FZ	A view that has INSTEAD OF triggers defined only for some operations cannot be used as a target in the MERGE statement.
428G1	The number of data partitions exceeds the number of table spaces for the table.
428G2	The last data partition cannot be dropped from the table.
428G3	FINAL TABLE is not valid when the target view of the SQL data change statement in a fullselect has an INSTEAD OF trigger defined.
428G4	Invalid use of INPUT SEQUENCE ordering.
428G5	The assignment clause of the UPDATE statement must specify at least one column that is not an INCLUDE column.
428G6	A column is specified that cannot be selected from the target of the data change statement in the FROM clause of the fullselect.
428G8	The view cannot be enabled for query optimization.
428GA	Federated option cannot be added, dropped, or altered.
428GD	The PARTITION BY clause must specify a single column and it must be the same as the first column of the ORGANIZE BY clause.
428GE	The source table cannot be attached to the partitioned target table.
428GG	Invalid use of an error tolerant nested-table-expression.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
428GO	A column option is invalid in a transparent DDL statement.
428GI	An XML schema is not complete because an XML schema document is missing.
428GP	Multiple elements cannot be specified for a component of type ARRAY.
428GR	A security label with the same access type (READ or WRITE) has already been granted to the authorization ID.
428GQ	The GRANT of the security label conflicts with an existing granted security label for the component.
428GS	The option value specified for the procedure does not match the corresponding option of the source procedure.
428GT	The table is not protected with a security policy.
42901	A column function does not include a column name.
42903	A WHERE clause or SET clause includes an invalid reference, such as a column function.
42904	The SQL procedure was not created because of a compile error.
42907	The string is too long.
42908	The statement does not include a required column list.
42910	The statement is not allowed in a Compound statement.
42911	A decimal divide operation is invalid, because the result would have a negative scale.
42912	A column cannot be updated, because it is not identified in the UPDATE clause of the select-statement of the cursor.
42914	The DELETE is invalid, because a table referenced in a subquery can be affected by the operation.
42915	An invalid referential constraint has been detected.
42916	The alias cannot be created, because it would result in a repetitive chain of aliases.
42917	The object cannot be explicitly dropped or altered.
42918	A user-defined data type cannot be created with a system-defined data type name (for example, INTEGER).
42919	Nested compound statements are not allowed.
42921	Containers cannot be added to the tablespace.
42925	Recursive named derived tables cannot specify SELECT DISTINCT and must specify UNION ALL.
42928	WITH EMPTY TABLE cannot be specified for the table.
42932	The program preparation assumptions are incorrect.
42939	The name cannot be used because the specified identifier is reserved for system use.
42961	The server name specified does not match the current server.
42962	A long column, LOB column, XML column, or structured type column cannot be used in an index, a key, or a constraint.
42963	Invalid specification of a security label column.
42968	The connection failed, because there is no current software license.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
42969	The package was not created.
42972	An expression in a join-condition or ON clause of a MERGE statement references columns in more than one of the operand tables.
42985	The statement is not allowed in a routine.
42987	The statement is not allowed in a procedure or trigger.
42989	A column that is generated using an expression or is a security label column cannot be used in a BEFORE trigger.
42990	A unique index or unique constraint is not allowed because the key columns are not a superset of the partitioned key columns.
42991	The BOOLEAN, BINARY, and VARBINARY data types are currently only supported internally.
42993	The column, as defined, is too large to be logged.
42994	Raw device containers are not supported.
42995	The requested function does not apply to global temporary tables.
42997	Capability is not supported by this version of the DB2 application requester, DB2 application server, or the combination of the two.
429A1	Nodegroup is not valid for the table space.
429A9	SQL statement cannot be processed by DataJoiner.
429B2	Specified inline length value for the structured type or column is too small.
429B3	Object may not be defined on a subtable.
429B4	Data filter function cannot be a LANGUAGE SQL function.
429B5	Data type of instance parameter in index extension is not valid.
429B8	A routine defined with PARAMETER STYLE JAVA cannot have a structured type as a parameter or returns type.
429B9	DEFAULT or NULL cannot be used in an attribute assignment.
429BA	The FEDERATED keyword must be used with a reference to a federated database object.
429BB	A data type specified for a parameter or variable is not supported in a SQL routine.
429BC	There are multiple container actions in the ALTER TABLESPACE statement.
429BE	The primary key or unique key is a subset of the columns in the dimensions clause.
429BG	The function is not supported for range-clustered tables.
429BH	A partitioned table definition contains an unsupported column definition which could be an identity column, datalink column, or XML column.
429BJ	Invalid usage of WITH ROW MOVEMENT in a view.
429BK	Invalid attempt to update a view because of because of row movement involving underlying views.
429BL	A function which modifies SQL data is invoked in an illegal context.
429BO	No plan was possible to create for the federated data source.
429BP	Invalid nickname column expression.
429BS	Invalid index definition involving an XMLPATTERN clause or a column defined with a data type of XML.

Table 31. Class Code 42: Syntax Error or Access Rule Violation (continued)

SQLSTATE Value	Meaning
429BT	Transfer ownership failed because of a dependency.
429BU	The user mappings from the user mapping repository for a plugin cannot be accessed.
429BZ	Update, delete, or Insert into a UNION ALL view failed because one of the underlying tables is protected.
429C0	The query must contain a predicate using the indicated column.

Class Code 44 WITH CHECK OPTION Violation

Table 32. Class Code 44: WITH CHECK OPTION Violation

SQLSTATE Value	Meaning
44000	The insert or update operation is not allowed, because a resulting row does not satisfy the view definition.

Class Code 46 Java DDL

Table 33. Class Code 46: Java DDL

SQLSTATE Value	Meaning
46001	Java DDL - Invalid URL.
46002	Java DDL - Invalid jar name.
46003	Java DDL - Invalid class deletion.
46007	Java DDL - Invalid signature.
46008	Java DDL - Invalid method specification.
46103	A Java routine encountered a ClassNotFoundException.
46501	Java DDL - Optional component not implemented.

Class Code 51 Invalid Application State

Table 34. Class Code 51: Invalid Application State

SQLSTATE Value	Meaning
51002	The package corresponding to an SQL statement execution request was not found.
51003	Consistency tokens do not match.
51004	An address in the SQLDA is invalid.
51005	The previous system error has disabled this function.
51008	The release number of the precompiled program is not valid.
51015	An attempt was made to execute a section that was found to be in error at bind time.
51017	The user is not logged on.

Table 34. Class Code 51: Invalid Application State (continued)

SQLSTATE Value	Meaning
51021	SQL statements cannot be executed until the application process executes a rollback operation.
51022	A CONNECT that specifies an authorization name is invalid when a connection (either current or dormant) already exists to the server named in that CONNECT statement.
51023	The database is already in use by another instance of the database manager.
51024	A view cannot be used, because it has been marked inoperative.
51025	An application in the XA transaction processing environment is not bound with SYNCPOINT TWOPHASE.
51026	An event monitor cannot be turned on, because its target path is already in use by another event monitor.
51027	The IMMEDIATE CHECKED option of the SET INTEGRITY statement is not valid since a table is a user maintained materialized query table or is not in the Set Integrity Pending state.
51028	A package cannot be used, because it is marked inoperative.
51030	The procedure referenced in a ALLOCATE CURSOR, or an ASSOCIATE LOCATORS statement has not yet been called within the application process.
51034	A routine defined with MODIFIES SQL DATA is not valid in the context in which it is invoked.
51035	A PREVVVAL expression cannot be used because a value has not been generated for the sequence yet in this session.
51038	SQL statements may no longer be issued by the routine.
51039	The ENCRYPTION PASSWORD value is not set.
51040	Invalid compilation environment.

Class Code 53 Invalid Operand or Inconsistent Specification

Table 35. Class Code 53: Invalid Operand or Inconsistent Specification

SQLSTATE Value	Meaning
53038	The number of key limit values is zero or greater than the number of columns in the key.
53040	The buffer pool cannot be changed as specified.
53045	The data type of the key limit constant is not the same as the data type of the column.
53090	Only data from one encoding scheme, either ASCII, EBCDIC or Unicode, can be referenced in the same SQL statement.
53091	The encoding scheme specified is not the same as the encoding scheme currently in use for the containing object.

Class Code 54 SQL or Product Limit Exceeded

Table 36. Class Code 54: SQL or Product Limit Exceeded

SQLSTATE Value	Meaning
54001	The statement is too long or too complex.
54002	A string constant is too long.
54004	The statement has too many table names or too many items in a SELECT or INSERT list.
54006	The result of concatenation is too long.
54008	The key is too long, a column of the key is too long, or the key has too many columns.
54010	The record length of the table is too long.
54011	Too many columns were specified for a table or view.
54023	The limit for the number of parameters or arguments for a function or a procedure has been exceeded.
54028	The maximum number of concurrent LOB handles has been reached.
54029	The maximum number of open directory scans has been reached.
54030	The maximum number of event monitors are already active.
54031	The maximum number of files have already been assigned the event monitor.
54032	The maximum size of a table has been reached.
54033	The maximum number of partitioning maps has been reached.
54034	The combined length of all container names for the tablespace is too long.
54035	An internal object limit exceeded.
54036	The path name for the container or storage path is too long.
54037	The container map for the tablespace is too complicated.
54038	Maximum depth of nested routines or triggers was exceed.
54045	Maximum levels of a type hierarchy exceeded.
54046	The maximum allowable parameters is exceeded in an index extension.
54047	The maximum size of a table space is exceeded.
54048	A temporary table space with sufficient page size does not exist.
54049	Length of an instance of a structured type exceeds system limit.
54050	The maximum allowable attributes is exceeded in a structured type.
54052	The number of block pages for a buffer pool is too large for the size of the buffer pool.
54053	The value specified for BLOCKSIZE is not in the valid range.
54054	The number of partitions, or the combination of the number of table space partitions and the corresponding length of the partitioning limit key is exceeded.
54057	An XML element name, attribute name, namespace prefix or URI is too long.
54058	The internal representation of an XML path is too long.
54059	A text node string value with only whitespace characters is too long for STRIP WHITESPACE processing.
54061	Too many elements are specified for the security label component.
54062	The maximum number of components in a security policy has been exceeded.

Class Code 55 Object Not in Prerequisite State

Table 37. Class Code 55: Object Not in Prerequisite State

SQLSTATE Value	Meaning
55001	The database must be migrated.
55002	The explanation table is not defined properly.
55006	The object cannot be dropped, because it is currently in use by the same application process.
55007	The object cannot be altered, because it is currently in use by the same application process.
55009	The system attempted to write to a read-only file or a write-protected diskette.
55012	A clustering index already exists on the table.
55019	The table is in an invalid state for the operation.
55022	The file server is not registered with this database.
55023	An error occurred calling a routine.
55024	The tablespace cannot be dropped, because data related to a table is also in another tablespace.
55025	The database must be restarted.
55026	A temporary tablespace cannot be dropped.
55031	The format of the error mapping file is incorrect.
55032	The CONNECT statement is invalid, because the database manager was stopped after this application was started.
55033	An event monitor cannot be activated in the same unit of work in which it is created or modified.
55034	The event monitor is in an invalid state for the operation.
55035	The table cannot be dropped, because it is protected.
55036	The node cannot be dropped, because it has not been removed from the partitioning map.
55037	The partitioning key cannot be dropped, because the table is in a multi-node nodegroup.
55038	The nodegroup cannot be used, because it is being rebalanced.
55039	The access or state transition is not allowed, because the tablespace is not in an appropriate state.
55041	Containers cannot be added to a tablespace while a rebalance is in progress.
55043	Attributes of a structured type cannot be altered when a typed table or typed view based on the type exists.
55045	The SQL Archive (SAR) file for the routine cannot be created because a necessary component is not available at the server.
55046	The specified SQL archive does not match the target environment.
55047	An external function or method attempted to access a federated object.
55048	Encrypted data cannot be encrypted.
55049	The event monitor table is not properly defined.

Table 37. Class Code 55: Object Not in Prerequisite State (continued)

SQLSTATE Value	Meaning
55051	The ALTER BUFFERPOOL statement is currently in progress.
55054	Cannot define the method as an overriding method.
55056	The nickname statistics cannot be updated because the database is not enabled for federation.
55057	The statement is not allowed as it will invalidate incremental maintenance of some dependent tables.
55060	Automatic storage has not been defined for the database.
55061	Table space storage cannot be changed for an automatic storage table space.
55062	Storage paths cannot be provided because the database is not enabled for automatic storage.
55063	The XML schema is not in the correct state for the operation.
55064	Label-based access control cannot be applied to the column because the table has no security policy.
55065	A table can have at most one security policy.
55066	The table cannot allocate a new page because the index does not yet support large RIDs.
55067	The table cannot be made a protected table because an MQT or a staging table depend on it.

Class Code 56 Miscellaneous SQL or Product Error

Table 38. Class Code 56: Miscellaneous SQL or Product Error

SQLSTATE Value	Meaning
56016	Invalid range specified for data partition.
56031	The clause or scalar function is invalid, because mixed and DBCS data are not supported on this system.
56033	The insert or update value of a long string column must be a host variable or NULL.
56038	The requested feature is not supported in this environment.
56072	Execution failed due to the function not supported by a downlevel server that will not affect the execution of subsequent SQL statements.
56084	LOB data is not supported in DRDA.
56091	Multiple errors occurred as a result of executing a compound SQL statement.
56092	The type of authorization cannot be determined, because the authorization name is both a user id and group id.
56095	A bind option is invalid.
56097	LONG VARCHAR and LONG VARGRAPHIC fields are not permitted in TABLESPACES which are built on DEVICES.
56098	An error occurred during implicit rebind or prepare.
56099	The REAL data type is not supported by the target database.
560A0	Action on a LOB value failed.

Table 38. Class Code 56: Miscellaneous SQL or Product Error (continued)

SQLSTATE Value	Meaning
560AA	The use of this clause or scalar function is supported only for Unicode database graphic data.
560AC	Wrapper definition cannot be used for the specified type or version of data source.
560AF	PREPARE statement is not supported when using gateway concentrator.
560B0	Invalid new size value for table space or table space container resizing.
560B1	Invalid cursor specification in stored procedure.
560B7	For a multiple row INSERT, the usage of a sequence expression must be the same for each row.
560BB	For an INOUT parameter in a dynamically prepared CALL statement, the same host variable must be used in both the USING and INTO clauses.
560BC	An error has occurred when accessing a file.
560BD	A federated server received an unexpected error code from a data source.
560BF	Encryption facility not available.
560C0	Tables created in the Unicode encoding scheme cannot be used in SQL functions or SQL methods.
560C1	Tables created in the Unicode encoding scheme cannot be a typed table, or contain graphic types or user-defined types.
560C2	Writing a history file entry for a dropped table failed.
560C3	An AFTER trigger cannot modify a row being inserted for an INSERT statement.
560C6	A referential constraint cannot modify a row that was modified by an SQL data change statement within a fullselect.
560C8	Some of the nickname statistics cannot be updated.
560C9	The specified statement cannot be explained.
560CB	A federated server received a SOAP Fault from a web services data source.
560CD	One or more values specified when retrieving alert configuration settings are invalid.
560CE	An SQL variable is not available for reference due to a recent commit or rollback operation.
560CF	The table space cannot be converted to be a LARGE table space.
560CG	An XML value contains a combination of XML nodes that causes an internal identifier limit to be exceeded.
560CH	The maximum number of children nodes for an XML node in an XML value is exceeded.
560CI	The result set specified to be returned to the client is invalid.
560CJ	The table space must be created in the IBMCATGROUP database partition group.

Class Code 57 Resource Not Available or Operator Intervention

Table 39. Class Code 57: Resource Not Available or Operator Intervention

SQLSTATE Value	Meaning
57001	The table is unavailable, because it does not have a primary index.
57003	The specified buffer pool has not been activated.
57007	The object cannot be used, because a DROP or ALTER is pending.
57009	Virtual storage or database resource is temporarily unavailable.
57011	Virtual storage or database resource is not available.
57012	A non-database resource is not available. This will not affect the successful execution of subsequent statements.
57013	A non-database resource is not available. This will affect the successful execution of subsequent statements.
57014	Processing was canceled as requested.
57016	The table cannot be accessed, because it is inactive.
57017	Character conversion is not defined.
57019	The statement was not successful, because of a problem with a resource.
57020	The drive containing the database is locked.
57021	The diskette drive door is open.
57022	The table could not be created, because the authorization ID of the statement does not own any suitable dbspaces.
57030	Connection to application server would exceed the installation-defined limit.
57032	The maximum number of concurrent databases have already been started.
57033	Deadlock or timeout occurred without automatic rollback.
57036	The transaction log does not belong to the current database.
57046	A new transaction cannot start because the database or instance is quiesced.
57047	An internal database file cannot be created, because the directory is not accessible.
57048	An error occurred while accessing a container for a tablespace.
57049	The operating system process limit has been reached.
57050	The file server is not currently available.
57051	The estimated CPU cost exceeds the resource limit.
57052	Node is unavailable, because it does not have containers for all temporary table spaces.
57053	The operation cannot be performed on the table because of conflicting operations.
57055	A temporary table space with sufficient page size was not available.
57056	Package is not available because the database is in NO PACKAGE LOCK mode.
57057	The SQL statement cannot be executed due to a prior condition in a DRDA chain of SQL statements.
57059	There is not enough space in the table space for the specified action.

Class Code 58 System Error

Table 40. Class Code 58: System Error

SQLSTATE Value	Meaning
58004	A system error (that does not necessarily preclude the successful execution of subsequent SQL statements) occurred.
58005	A system error (that prevents the successful execution of subsequent SQL statements) occurred.
58008	Execution failed due to a distribution protocol error that will not affect the successful execution of subsequent DDM commands or SQL statements.
58009	Execution failed due to a distribution protocol error that caused deallocation of the conversation.
58010	Execution failed due to a distribution protocol error that will affect the successful execution of subsequent DDM commands or SQL statements.
58011	The DDM command is invalid while the bind process is in progress.
58012	The bind process with the specified package name and consistency token is not active.
58014	The DDM command is not supported.
58015	The DDM object is not supported.
58016	The DDM parameter is not supported.
58017	The DDM parameter value is not supported.
58018	The DDM reply message is not supported.
58023	A system error has caused the current program to be canceled.
58030	An I/O error has occurred.
58031	The connection was unsuccessful, because of a system error.
58032	Unable to use the process for a fenced mode user-defined function.
58034	An error was detected while attempting to find pages for an object in a DMS tablespace.
58035	An error was detected while attempting to free pages for an object in a DMS tablespace.
58036	The internal tablespace ID specified does not exist.

Class Code 5U Utilities

Table 41. Class Code 5U: Utilities

SQLSTATE Value	Meaning
5U001	The specified function or feature is not supported.
5U002	The specified application does not currently exist.
5U003	No activity monitor reports can be found.
5U004	One or more values provided when saving the monitoring task are invalid.
5U005	The specified action mode is invalid.
5U006	Required monitor switch is not turned on.
5U007	CLP error was returned. Refer to the CLP message documentation for details.

Table 41. Class Code 5U: Utilities (continued)

SQLSTATE Value	Meaning
5U008	The utility operation ID is not valid.
5U009	Maximum number of storage paths has been reached.
5U010	The restore operation on a non-catalog database partition cannot specify automatic storage paths.
5U011	The restore operation must specify automatic storage paths.
5U012	Invalid or incorrect use of a database partition expression in the path.
5U013	The restore cannot continue because a database partition is not available.
5U014	The authorization ID does not have the LBAC credentials necessary to run the LOAD command against the table.
5U0ZZ	The routine has encountered an error. Refer to the SQLCODE for details.
ZZZZZ	Placeholder sqlstate for development use only. Must be changed before code is shipped.

Related concepts:

- Chapter 1, “Introduction to Messages,” on page 1

Related reference:

- “SQLCA (SQL communications area)” in *SQL Reference, Volume 1*

Appendix A. Communications Errors (message SQL30081N)

If your application returns an error message SQL30081N (sqlcode -30081), it means that a communications error has been detected. The actual error encountered by the communications subsystem is returned in the list of error tokens for the -30081 error message. The following section lists possible communications errors that can be returned.

The error codes are grouped by protocol as follows:

- "TCP/IP"
- "APPC" on page 603
- "SOAP" on page 605
- "MQ" on page 606
- "SSL" on page 606
- "SOCKS" on page 607
- "HTTP" on page 607

TCP/IP

When using TCP/IP in a Unix environment, the following table lists some of the error numbers (*errno*s) which the user may encounter most frequently. It is *not* a complete list of errors. *Errnos* can be found in the file `/usr/include/sys/errno.h`. On Linux[®], the *errno*s are located in `/usr/include/asm/errno.h`. The *errno* number itself is indicated for each operating system.

Table 42. Unix TCP/IP *errno*s.

Errno	Errno Number				Description
	AIX [®]	HP-UX	Solaris	Linux	
EINTR	4	4	4	4	The function specified was interrupted by a signal.
EBADF	9	9	9	9	Bad socket. The socket may have been corrupted.
EAGAIN	11	11	11	11	Resource temporarily unavailable.
EFAULT	14	14	14	14	Bad address. On connect, bad address. On receive, the data was directed to be received into a nonexistent or protected part of the process address space. The buffer is not valid.
EBUSY	16	16	16	16	Resource busy.
EINVAL	22	22	22	22	Invalid argument passed to the function specified or the socket has been closed. This may be returned if there has been a memory overwrite, buffer overflow problem.

Table 42. Unix TCP/IP errnos. (continued)

Errno	Errno Number				Description
	AIX®	HP-UX	Solaris	Linux	
ENFILE	23	23	23	23	Too many open files in the system.
EMFILE	24	24	24	24	The per-process file descriptor table is full. Number of file descriptors/sockets for the process has been exceeded.
ENOSPC	28	28	28	28	No space left on a device or system table.
EPIPE	32	32	32	32	Broken pipe.
EWOULDBLOCK	54	246	11	11	On the connect function, the range allocated for TCP/UDP ephemeral ports has been exhausted. (On some platforms, returns the same errno as EAGAIN.)
ENOTSOCK	57	216	95	88	Socket operation on a non-socket.
ENOPROTOPT	61	220	99	92	Option is unknown.
EADDRINUSE	67	226	125	98	The specified address is already in use. Perhaps the previous process that established the connection was terminated abnormally or has not been cleaned up properly.
EADDRNOTAVAIL	68	227	126	99	The specified hostname or IP address is not available from the local machine.
ENETDOWN	69	228	127	100	The network is down.
ENETUNREACH	70	229	128	101	No route to the network or host is available.
ENETRESET	71	230	129	102	The network has dropped the connection on reset.
ECONNRESET	73	232	131	104	Connection has been reset by the partner.
ENOBUFS	74	233	132	105	Insufficient memory or resources were available in the system to complete the call.
EISCONN	75	234	133	106	The socket is already connected.
ENOTCONN	76	235	134	107	The socket is not connected.
ETIMEDOUT	78	238	145	110	The connection timed out.

Table 42. Unix TCP/IP errors. (continued)

Errno	Errno Number				Description
	AIX®	HP-UX	Solaris	Linux	
ECONNREFUSED	79	239	146	111	The connection has been refused. If you are trying to connect to the database, check that the database manager and TCP/IP protocol support at the server have been started successfully. If using SOCKS protocol support, also ensure that TCP/IP protocol support at the SOCKS server has been started successfully.
EHOSTDOWN	80	241	147	112	The host is down.
EHOSTUNREACH	81	242	148	113	No route to the host is available.

For more information on Unix TCP/IP communication errors, refer to the technical reference manuals for the appropriate operating system. You can also issue the following command:

```
man function-name
```

where *function-name* represents the name of the function that returned an error. The man pages might provide you with additional information about errors returned by specific functions.

When using TCP/IP on a Windows® operating system, the following is a list of error codes which the user may encounter most frequently. It is *not* a complete list of errors. Errors returned can be found in the file **winsock2.h**. This file may not be installed on your system if you do not have a development environment installed. Detailed information about errors returned by specific functions are documented in the Windows Sockets 2 Application Programming Interface. You can get a copy of this specification from the following website: <http://www.sockets.com/winsock2.htm#Docs>.

- WSAEINTR (10004): Interrupted function call. A blocking operation was interrupted.
- WSAEFAULT (10014): Bad address. The system detected an invalid pointer address during the function call. This error occurs if an application passes an invalid pointer value, or if the length of the buffer is too small.
- WSAEINVAL (10022): An invalid argument was passed to the function. This error can also mean that the socket is no longer valid, or that the current state of the socket is not compatible with the TCP function being called (for example, trying to issue a SQL statement before connecting to the database.)
- WSAEMFILE (10024): Too many open files. Too many open sockets. Each implementation may have a maximum number of socket handles available, either globally, per process, or per thread.
- WSAEWOULDBLOCK (10035): Resource temporarily unavailable. This error is returned from operations on non-blocking sockets that cannot be completed immediately.

- WSAEINPROGRESS (10036): A blocking Windows Sockets operation is in progress. Windows Sockets only allows a single blocking operation to be outstanding per task (or thread), and if any other function call is made, the function fails with WSAEINPROGRESS.
- WSAENOTSOCK (10038): Socket operation on a non-socket. An operation was attempted on something that is not a socket. Either the socket parameter did not reference a valid socket, or for select(), a member of an fd_set was not valid.
- WSAENOPROTOOPT (10042): Bad protocol option. An unknown, invalid, or unsupported option or level was specified in a getsockopt() or setsockopt() call.
- WSAEADDRINUSE (10048): Address already in use. Only one usage of each socket address (protocol/IP address/port) is normally permitted. This error occurs if an application attempts to bind() a socket to an IP address/port that has already been used for an existing socket, or a socket that wasn't closed properly, or one that is still in the process of closing.
- WSAEADDRNOTAVAIL (10049): Cannot assign requested address. The requested address is not valid in its context. Normally results from an attempt to bind() to an address that is not valid for the local machine. This may also result from connect(), sendto() when the remote address or port is not valid for a remote machine.
- WSAENETDOWN (10050): Network is down. A socket operation encountered a dead network. This could indicate a serious failure of the network system (i.e. the protocol stack that the WinSock DLL runs over), the network interface, or the local network itself.
- WSAENETUNREACH (10051): Network is unreachable. A socket operation was attempted to an unreachable network. This usually means the local software knows no route to reach the remote host.
- WSAENETRESET (10052): Network dropped connection on reset. The connection has been broken due to "keep-alive" activity detecting a failure while the operation was in progress. May also be returned by stsockopt() if an attempt is made to set SO_KEEPALIVE on a connection that has already failed.
- WSAECONNABORTED (10053): Software caused connection abort. An established connection was aborted by the software on your machine, possibly due to a data transmission timeout or protocol error.
- WSAECONNRESET (10054): Connection reset by peer. An existing connection was forcibly closed by the remote peer. This normally results if the peer application on the remote machine is suddenly stopped, the machine is rebooted, or the peer application used a "hard close" on the remote socket. This error may also result if a connection was broken due to "keep-alive" activity detecting a failure while one or more operations are in progress. Operations in progress fail with WSAENETRESET. Subsequent operations fail with WSAECONNRESET.
- WSAENOBUFS (10055): No buffer space available. An operation on a socket could not be performed because the system lacked sufficient buffer space or because a queue was full.
- WSAEISCONN (10056): Socket is already connected. A connect request was made on a socket that is already connected.
- WSAENOTCONN (10057): The socket is not connected.
- WSAETIMEDOUT (10060): Connection timed out. A connection attempt failed because the connected party did not properly respond after a period of time, or an established connection failed because the remote node failed to respond. Failure to respond could be due to a network failure or a failure on the remote system.

- WSAECONNREFUSED (10061): Connection refused. No connection could be made because the target machine actively refused it. This usually results from trying to connect to a service that is inactive on the remote host (for example, one with no server application running.) If trying to attach to the instance or to connect to the database, check that the database manager and TCP/IP protocol support at the server have been started successfully.
- WSAEHOSTUNREACH (10065): No route to host. A socket operation was attempted to a machine that is currently unreachable.
- WSASYSNOTREADY (10091): The underlying network subsystem is not ready for network communication. The error is returned by WSASocket() when the Windows Sockets implementation cannot function at this time because the underlying system it uses to provide network services is unavailable. Check that the appropriate Windows Sockets DLL is in the current path, and that there is not more than one WinSock implementation being used simultaneously. If there is more than one WinSock DLL on the system, confirm the one that appears first in the path is appropriate for the network subsystem currently loaded, and that all necessary components are currently installed and configured correctly.
- WSAVERNOTSUPPORTED (10092): The version of Windows Sockets API support requested is not provided by this particular Windows Sockets implementation. Check that no old Windows Sockets DLL files are being accessed.
- WSANOTINITIALISED (10093): Either the application has not called WSASocket(), or WSASocket() failed. The application may be accessing a socket which the current active task does not own (i.e. trying to share a socket between tasks), or WSACleanup() has been called too many times. Or, the connection was terminated.
- WSA_E_NO_MORE (10110), WSAENOMORE (10102): There is no more data available. In Windows Sockets Version 2, conflicting error codes are defined for WSAENOMORE and WSA_E_NO_MORE. The error code WSAENOMORE will be removed in a future version and only WSA_E_NO_MORE will remain.
- WSAHOST_NOT_FOUND (11001): Host not found.
- WSATRY_AGAIN (11002): Host not found. Request to retrieve the hostname's IP address from the name server failed because the local machine did not receive a response from the name server.
- WSANO_DATA (11004): Valid name, no data record of requested type. The name server or hosts file does not recognize the hostname, or the service name is not specified in the services file.

For more information on TCP/IP communication errors under Windows, refer to the Windows Sockets documentation.

APPC

Below is a list of CPI-C function return codes which the user may encounter most frequently. It is *not* a complete list of return codes. The number in parentheses indicates the defined number corresponding to the return code.

- CM_ALLOCATE_FAILURE_NO_RETRY (1): Allocation failed because of a non-temporary condition. For example, the session cannot be activated due to a system definition error or session-activation protocol error. This return code is also returned when the session is deactivated because of a session protocol error before the conversation can be allocated.

- **CM_ALLOCATE_FAILURE_RETRY (2):** Allocation failed because of a temporary condition. For example, the session cannot be activated due to a temporary lack of resources at the local system or remote system.
- **CM_CONVERSATION_TYPE_MISMATCH (3):** Allocation failed because the remote program does not support the conversation type in the allocation request. This is likely a problem with the TP at the server. Ensure that the TP at the server is configured to support a conversation type of *basic*.
- **CM_TPN_NOT_RECOGNIZED (9):** This error occurs when the allocate request is sent to the remote system. It indicates that the remote system does not recognize the transaction program name specified in the request. If you are not using global directory services, ensure that the TP name specified in the CPI-C Side Information profile at the client, matches the TP name specified at the server. If you are using global directory services, request your database administrator's help to ensure that the TP name specified in the global directory entry matches the TP name specified at the server.
- **CM_TP_NOT_AVAILABLE_NO_RETRY (10):** This error occurs when the allocate request is sent to the remote system. It indicates that the remote LU recognizes the TP name sent, but cannot start the program. Also check that the userid specified in the TPN profile at the server is valid.
- **CM_TP_NOT_AVAILABLE_RETRY (11):** This error occurs when the allocate request is sent to the remote system. It indicates that the remote LU recognizes the TP name sent, but for some reason which may be temporary, it cannot start the program. Ensure that the database manager and APPC protocol support at the server have been started successfully.
- **CM_DEALLOCATED_ABEND (17):** This error occurs when the remote program deallocates the conversation. This can occur if the remote program has abnormally terminated, or has encountered a fatal error condition.
- **CM_PRODUCT_SPECIFIC_ERROR (20):** A product-specific error has been detected, and a description of the error has been stored in the product's system error log. Check that the local APPC subsystem has been started successfully. For Communication Server for AIX, to get more information about a product-specific error, it is necessary to check the value of the global variable *errno*. See the section below for more information on possible *errno*s that can be returned.
- **CM_RESOURCE_FAILURE_NO_RETRY (26):** This error occurs when the conversation terminates prematurely (on either the remote or local end) from an error related to resources (such as sessions or links).
- **CM_RESOURCE_FAILURE_RETRY (27):** This error occurs when the conversation terminates prematurely (on either the remote or local end) for about the same reason as the **NO_RETRY** condition described above. The only difference is that the error may not be permanent.

For the most part, CPI Communications return codes are enough to deduce the cause of the error. But when **CM_PRODUCT_SPECIFIC_ERROR** is returned, additional information is provided.

For Communication Server for AIX, the *errno* provides additional information. Below is a list of some of the more common *errno*s. It is NOT a complete list. *Errnos* numbered 101 and higher can be found in the file `/usr/include/luxsna.h`, which contains the Communication Server for AIX specific *errno*s. Most of these *errno*s are translated to CPI-C return codes. Lower-numbered *errno*s are related to AIX problems and can be found in the file `/usr/include/sys/errno.h`. The *errno* number itself is in parentheses.

- EBADF (9): This is a "bad file descriptor" error. If this error occurs when trying to connect to the database, it usually means that the SNA subsystem at the server has not been started, or that there is some problem with the SNA configuration profiles. Check that the SNA subsystem at the server has been started. Check that the link station to the server node can be activated.
- EACCESS (13): This is a "permission denied" error. If this error occurs when trying to connect to the database, it usually means that there is some problem with the SNA configuration profiles.

On HP-UX, for SNAPPlus2, please refer to the /usr/include/sys/errno.h file for a description of the error.

For more information on CPI Communications errors, refer to *Systems Application Architecture*® *Common Programming Interface Communications Reference*.

SOAP

Following is a list of the protocol errors that you might encounter when using SOAP. The number in parentheses indicates the defined number corresponding to the return code.

- SOAP_UNEXPECTED_NULL (38301): One of the inputs (SOAP action, SOAP endpoint or SOAP body) to the SOAP communication functions was NULL.
- HTTP_INITSOCKET (38303): Error initializing socket.
- HTTP_ERROR_UNKNOWN_PROTOCOL (38304): The protocol used in the URL is unknown.
- HTTP_INVALID_URL (38305): The URL syntax is invalid.
- HTTP_ERROR_CREATE_SOCKET (38306): Error creating socket.
- HTTP_ERROR_BIND_SOCKET (38307): Error binding socket (bind function).
- HTTP_ERROR_RESOLVE_HOSTNAME (38308): The specified hostname could not be resolved.
- HTTP_ERROR_SOCKET_CONNECT (38309): Error connecting to socket.
- HTTP_ERROR_GET_PROTO (38310): Error getting TCP protocol name (getprotobyname function).
- HTTP_ERROR_SET_SOCKETOPT (38311): Error setting socket options (setsockopt function).
- HTTP_ERROR_UNEXPECTED_RETURN (38312): Unexpected HTTP return code.
- HTTP_ERROR_RETURN_CONTENTTYPE (38313): Unexpected HTTP Content-type header attribute value.
- SOAP_SAX_INIT (38314): Error initializing SAX parser.
- SOAP_SAX_CREATE_PARSER (38315): Error creating SAX parser.
- SOAP_SAX_CREATE_HANDLER (38316): Error creating SAX parser handler.
- SOAP_SAX_ERROR (38317): Exception during XML parsing of SOAP.
- SOAP_SAX_OUTENCODING (38318): Error during codepage translation of XML message.
- HTTP_ERROR_WRITE_SOCKET (39820): Error writing to socket.
- HTTP_ERROR_READ_SOCKET (38322): Error reading from socket.
- HTTP_ERROR_SELECT_WAITREAD (38323): Socket error in select function.
- SOAP_ERROR_XML_SERIALIZE (38324): Error writing XML SOAP message.
- SOAP_ERROR_NO_NS_END (38325): Error in namespace processing.
- SOAP_ERROR_FAULT (38326): SOAP fault has been returned from web service.

MQ

The following is a list of some of the protocol error codes that you might encounter while using MQ. This list is *not* exhaustive. The number in parentheses indicates the defined number corresponding to the return code. Refer to the MQ protocol documentation for further details.

- MQRC_CHAR_ATTR_LENGTH_ERROR (2006)
- MQRC_CONNECTION_BROKEN (2009)
- MQRC_HANDLE_NOT_AVAILABLE (2017)
- MQRC_HCONN_ERROR (2018)
- MQRC_HOBJ_ERROR (2019)
- MQRC_MSG_TOO_BIG_FOR_Q (2030)
- MQRC_MSG_TOO_BIG_FOR_Q_MGR (2031)
- MQRC_NO_MSG_AVAILABLE (2033)
- MQRC_OBJECT_CHANGES (2041)
- MQRC_Q_FULL (2053)
- MQRC_Q_SPACE_NOT_AVAILABLE (2056)
- MQRC_Q_MGR_NAME_ERROR (2058)
- MQRC_Q_MGR_NOT_AVAILABLE (2059)
- MQRC_UNKNOWN_OBJECT_NAME (2085)

SSL

When using Secure Socket Layer (SSL), errors might be discovered by the SSL support software, GSKit. The following is a list of errors that might be found.

- 4: Insufficient memory.
- 6: Specified key label not found in the keyfile.
- 7: Certificate not received from partner.
- 8: Error validating certificate.
- 102: I/O error reading keyfile.
- 103: Keyfile has incorrect format. Recreate keyfile.
- 104: Keyfile contains duplicate keys.
- 105: Keyfile contains duplicate labels.
- 106: Invalid keyfile password or keyfile has been corrupted.
- 107: The default key in the keyfile has an expired certificate.
- 108: Error loading GSKit libraries. Ensure that GSKit is properly installed.
- 201: Keyfile password not provided.
- 202: Error opening keyfile. Ensure that keyfile path is correct.
- 401: System date was set to an invalid value.
- 403: A required certificate was not received from a partner.
- 404: A required certificate was received from a partner, but the format of the certificate was wrong.
- 405: The received certificate was of an unsupported type.
- 406: An I/O error was encountered while communicating with a partner.
- 407: The specified client certificate label was not found in the keyfile.
- 408: The supplied password for the keyfile was not correct.
- 409: In valid key length (too long.)

- 410: An incorrectly formatted SSL message was received from a partner.
- 412: An unsupported protocol or certificate type was received from a partner.
- 413: The received certificate contained an invalid signature.
- 414: Incorrectly formatted certificate was received from a partner.
- 415: An invalid SSL protocol was received from a partner.
- 417: A self-signed certificate was invalid.
- 420: The partner closed the communication socket before the SSL protocol was complete.
- 428: The specified key did not contain a private key.

SOCKS

When using the SOCKS protocol, the following errors might be encountered:

- 01: General SOCKS server failure
- 02: Connection not allowed by the ruleset defined at SOCKS server
- 03: Destination network is unreachable
- 04: Destination host is unreachable
- 05: Connection refused by the remote host
- 06: TTL expired (the remote host is too far away)
- 07: Command not supported. (Internal error)
- 08: Address type not supported. (Internal error)
- 91: The request was rejected or failed. The user or source program is not authorized to access the proxy server.
- 92: The request was rejected because the SOCKS server could not contact "identd" (the IDENT server.)
- 93: The request was rejected because the client program and identd reported different user identities.

The following values identify the authentication method used:

- 00: No authentication.
- 01: GSSAPI
- 02: USERNAME/PASSWORD
- FF: No acceptable methods were found.

HTTP

When using the HTTP protocol, the following are the most common errors that might be encountered:

- 400: Bad request
- 401: Not authorized.
- 403: Forbidden
- 404: Not found
- 407: Proxy authentication required
- 408: Request timed out
- 413: Request entity too large
- 414: Request URL too long
- 502: Bad gateway. Indicates that the server or proxy received an invalid response from another server (or proxy).

- 503: Service unavailable. Indicates a temporary resource shortage.
- 504: Gateway timed out.
- 505: HTTP version not supported.

Related concepts:

- “Common DB2 Connect problems” in *DB2 Connect User’s Guide*

Appendix B. DB2 Database technical information

Overview of the DB2 technical information

DB2 technical information is available through the following tools and methods:

- DB2 Information Center
 - Topics
 - Help for DB2 tools
 - Sample programs
 - Tutorials
- DB2 books
 - PDF files (downloadable)
 - PDF files (from the DB2 PDF CD)
 - printed books
- Command line help
 - Command help
 - Message help
- Sample programs

IBM® periodically makes documentation updates available. If you access the online version on the DB2 Information Center at ibm.com®, you do not need to install documentation updates because this version is kept up-to-date by IBM. If you have installed the DB2 Information Center, it is recommended that you install the documentation updates. Documentation updates allow you to update the information that you installed from the *DB2 Information Center CD* or downloaded from Passport Advantage as new information becomes available.

Note: The DB2 Information Center topics are updated more frequently than either the PDF or the hard-copy books. To get the most current information, install the documentation updates as they become available, or refer to the DB2 Information Center at ibm.com.

You can access additional DB2 technical information such as technotes, white papers, and Redbooks™ online at ibm.com. Access the DB2 Information Management software library site at <http://www.ibm.com/software/data/sw-library/>.

Documentation feedback

We value your feedback on the DB2 documentation. If you have suggestions for how we can improve the DB2 documentation, send an e-mail to db2docs@ca.ibm.com. The DB2 documentation team reads all of your feedback, but cannot respond to you directly. Provide specific examples wherever possible so that we can better understand your concerns. If you are providing feedback on a specific topic or help file, include the topic title and URL.

Do not use this e-mail address to contact DB2 Customer Support. If you have a DB2 technical issue that the documentation does not resolve, contact your local IBM service center for assistance.

Related concepts:

- “Features of the DB2 Information Center” in *Online DB2 Information Center*
- “Sample files” in *Samples Topics*

Related tasks:

- “Invoking command help from the command line processor” in *Command Reference*
- “Invoking message help from the command line processor” in *Command Reference*
- “Updating the DB2 Information Center installed on your computer or intranet server” on page 615

Related reference:

- “DB2 technical library in PDF format” on page 610

DB2 technical library in PDF format

The following tables describe the DB2 library available from the IBM Publications Center at www.ibm.com/shop/publications/order.

Although the tables identify books available in print, the books might not be available in your country or region.

The information in these books is fundamental to all DB2 users; you will find this information useful whether you are a programmer, a database administrator, or someone who works with DB2 Connect™ or other DB2 products.

Table 43. DB2 technical information

Name	Form Number	Available in print
<i>Administration Guide: Implementation</i>	SC10-4221	Yes
<i>Administration Guide: Planning</i>	SC10-4223	Yes
<i>Administrative API Reference</i>	SC10-4231	Yes
<i>Administrative SQL Routines and Views</i>	SC10-4293	No
<i>Call Level Interface Guide and Reference, Volume 1</i>	SC10-4224	Yes
<i>Call Level Interface Guide and Reference, Volume 2</i>	SC10-4225	Yes
<i>Command Reference</i>	SC10-4226	No
<i>Data Movement Utilities Guide and Reference</i>	SC10-4227	Yes
<i>Data Recovery and High Availability Guide and Reference</i>	SC10-4228	Yes
<i>Developing ADO.NET and OLE DB Applications</i>	SC10-4230	Yes
<i>Developing Embedded SQL Applications</i>	SC10-4232	Yes
<i>Developing SQL and External Routines</i>	SC10-4373	No

Table 43. DB2 technical information (continued)

Name	Form Number	Available in print
<i>Developing Java™ Applications</i>	SC10-4233	Yes
<i>Developing Perl and PHP Applications</i>	SC10-4234	No
<i>Getting Started with Database Application Development</i>	SC10-4252	Yes
<i>Getting started with DB2 installation and administration on Linux and Windows</i>	GC10-4247	Yes
<i>Message Reference Volume 1</i>	SC10-4238	No
<i>Message Reference Volume 2</i>	SC10-4239	No
<i>Migration Guide</i>	GC10-4237	Yes
<i>Net Search Extender Administration and User's Guide</i> Note: HTML for this document is not installed from the HTML documentation CD.	SH12-6842	Yes
<i>Performance Guide</i>	SC10-4222	Yes
<i>Query Patroller Administration and User's Guide</i>	GC10-4241	Yes
<i>Quick Beginnings for DB2 Clients</i>	GC10-4242	No
<i>Quick Beginnings for DB2 Servers</i>	GC10-4246	Yes
<i>Spatial Extender and Geodetic Data Management Feature User's Guide and Reference</i>	SC18-9749	Yes
<i>SQL Guide</i>	SC10-4248	Yes
<i>SQL Reference, Volume 1</i>	SC10-4249	Yes
<i>SQL Reference, Volume 2</i>	SC10-4250	Yes
<i>System Monitor Guide and Reference</i>	SC10-4251	Yes
<i>Troubleshooting Guide</i>	GC10-4240	No
<i>Visual Explain Tutorial</i>	SC10-4319	No
<i>What's New</i>	SC10-4253	Yes
<i>XML Extender Administration and Programming</i>	SC18-9750	Yes
<i>XML Guide</i>	SC10-4254	Yes
<i>XQuery Reference</i>	SC18-9796	Yes

Table 44. DB2 Connect-specific technical information

Name	Form Number	Available in print
<i>DB2 Connect User's Guide</i>	SC10-4229	Yes
<i>Quick Beginnings for DB2 Connect Personal Edition</i>	GC10-4244	Yes

Table 44. DB2 Connect-specific technical information (continued)

Name	Form Number	Available in print
Quick Beginnings for DB2 Connect Servers	GC10-4243	Yes

Table 45. WebSphere Information Integration technical information

Name	Form Number	Available in print
WebSphere® Information Integration: Administration Guide for Federated Systems	SC19-1001	Yes
WebSphere Information Integration: ASNCLP Program Reference for Replication and Event Publishing	SC19-1000	Yes
WebSphere Information Integration: Configuration Guide for Federated Data Sources	SC19-1034	No
WebSphere Information Integration: SQL Replication Guide and Reference	SC19-1002	Yes

Note: The DB2 Release Notes provide additional information specific to your product's release and fix pack level. For more information, see the related links.

Related concepts:

- "Overview of the DB2 technical information" on page 609
- "About the Release Notes" in *Release notes*

Related tasks:

- "Ordering printed DB2 books" on page 612

Ordering printed DB2 books

If you require printed DB2 books, you can buy them online in many but not all countries or regions. You can always order printed DB2 books from your local IBM representative. Keep in mind that some softcopy books on the *DB2 PDF Documentation* CD are unavailable in print. For example, neither volume of the *DB2 Message Reference* is available as a printed book.

Printed versions of many of the DB2 books available on the DB2 PDF Documentation CD can be ordered for a fee from IBM. Depending on where you are placing your order from, you may be able to order books online, from the IBM Publications Center. If online ordering is not available in your country or region, you can always order printed DB2 books from your local IBM representative. Note that not all books on the DB2 PDF Documentation CD are available in print.

Note: The most up-to-date and complete DB2 documentation is maintained in the DB2 Information Center at <http://publib.boulder.ibm.com/infocenter/db2help/>.

Procedure:

To order printed DB2 books:

- To find out whether you can order printed DB2 books online in your country or region, check the IBM Publications Center at <http://www.ibm.com/shop/publications/order>. You must select a country, region, or language to access publication ordering information and then follow the ordering instructions for your location.
- To order printed DB2 books from your local IBM representative:
 - Locate the contact information for your local representative from one of the following Web sites:
 - The IBM directory of world wide contacts at www.ibm.com/planetwide
 - The IBM Publications Web site at <http://www.ibm.com/shop/publications/order>. You will need to select your country, region, or language to the access appropriate publications home page for your location. From this page, follow the "About this site" link.
 - When you call, specify that you want to order a DB2 publication.
 - Provide your representative with the titles and form numbers of the books that you want to order.

Related concepts:

- "Overview of the DB2 technical information" on page 609

Related reference:

- "DB2 technical library in PDF format" on page 610

Displaying SQL state help from the command line processor

DB2 returns an SQLSTATE value for conditions that could be the result of an SQL statement. SQLSTATE help explains the meanings of SQL states and SQL state class codes.

Procedure:

To invoke SQL state help, open the command line processor and enter:

```
? sqlstate or ? class code
```

where *sqlstate* represents a valid five-digit SQL state and *class code* represents the first two digits of the SQL state.

For example, ? 08003 displays help for the 08003 SQL state, and ? 08 displays help for the 08 class code.

Related tasks:

- "Invoking command help from the command line processor" in *Command Reference*
- "Invoking message help from the command line processor" in *Command Reference*

Accessing different versions of the DB2 Information Center

For DB2 Version 9 topics, the DB2 Information Center URL is <http://publib.boulder.ibm.com/infocenter/db2luw/v9/>.

For DB2 Version 8 topics, go to the Version 8 Information Center URL at:
<http://publib.boulder.ibm.com/infocenter/db2luw/v8/>.

Related tasks:

- “Updating the DB2 Information Center installed on your computer or intranet server” on page 615

Displaying topics in your preferred language in the DB2 Information Center

The DB2 Information Center attempts to display topics in the language specified in your browser preferences. If a topic has not been translated into your preferred language, the DB2 Information Center displays the topic in English.

Procedure:

To display topics in your preferred language in the Internet Explorer browser:

1. In Internet Explorer, click the **Tools** → **Internet Options** → **Languages...** button. The Language Preferences window opens.
2. Ensure your preferred language is specified as the first entry in the list of languages.
 - To add a new language to the list, click the **Add...** button.

Note: Adding a language does not guarantee that the computer has the fonts required to display the topics in the preferred language.

- To move a language to the top of the list, select the language and click the **Move Up** button until the language is first in the list of languages.
3. Clear the browser cache and then refresh the page to display the DB2 Information Center in your preferred language.

To display topics in your preferred language in a Firefox or Mozilla browser:

1. Select the **Tools** → **Options** → **Languages** button. The Languages panel is displayed in the Preferences window.
2. Ensure your preferred language is specified as the first entry in the list of languages.
 - To add a new language to the list, click the **Add...** button to select a language from the Add Languages window.
 - To move a language to the top of the list, select the language and click the **Move Up** button until the language is first in the list of languages.
3. Clear the browser cache and then refresh the page to display the DB2 Information Center in your preferred language.

On some browser and operating system combinations, you might have to also change the regional settings of your operating system to the locale and language of your choice.

Related concepts:

- “Overview of the DB2 technical information” on page 609

Updating the DB2 Information Center installed on your computer or intranet server

If you have a locally-installed DB2 Information Center, updated topics can be available for download. The 'Last updated' value found at the bottom of most topics indicates the current level for that topic.

To determine if there is an update available for the entire DB2 Information Center, look for the 'Last updated' value on the Information Center home page. Compare the value in your locally installed home page to the latest value which is available on the IBM hosted Information Center home page. If they are the same, you have the latest documentation level and no update is required. If they are not the same, you should update your locally-installed Information Center.

Updating your locally-installed DB2 Information Center requires that you:

1. Stop the DB2 Information Center on your computer, and restart the Information Center in stand-alone mode. Running the Information Center in stand-alone mode prevents other users on your network from accessing the Information Center, and allows you to download and apply updates.
2. Use the Update feature to determine if update packages are available from IBM. If update packages are available, use the Update feature to download the packages. (The Update feature is only available in stand-alone mode.)
3. Stop the stand-alone Information Center, and restart the DB2 Information Center service on your computer.

Procedure:

To update the DB2 Information Center installed on your computer or intranet server:

1. Stop the DB2 Information Center service.
 - On Windows, click **Start** → **Control Panel** → **Administrative Tools** → **Services**. Then right-click on **DB2 Information Center** service and select **Stop**.
 - On Linux, enter the following command:

```
/etc/init.d/db2icdv9 stop
```
2. Start the Information Center in stand-alone mode.
 - On Windows:
 - a. Open a command window.
 - b. Navigate to the path where the Information Center is installed. By default, the DB2 Information Center is installed in the C:\Program Files\IBM\DB2 Information Center\Version 9 directory.
 - c. Run the help_start.bat file using the fully qualified path for the DB2 Information Center:

```
<DB2 Information Center dir>\doc\bin\help_start.bat
```
 - On Linux:
 - a. Navigate to the path where the Information Center is installed. By default, the DB2 Information Center is installed in the /opt/ibm/db2ic/V9 directory.
 - b. Run the help_start.sh file using the fully qualified path for the DB2 Information Center:

```
<DB2 Information Center dir>/doc/bin/help_start
```

The systems default Web browser launches to display the stand-alone Information Center.

3. Click the Update button (🔄). On the right hand panel of the Information Center, click **Find Updates**. A list of updates for existing documentation displays.
4. To initiate the download process, check the selections you want to download, then click **Install Updates**.
5. After the download and installation process has completed, click **Finish**.
6. Stop the stand-alone Information Center.
 - On Windows, run the help_end.bat file using the fully qualified path for the DB2 Information Center:

```
<DB2 Information Center dir>\doc\bin\help_end.bat
```
 - On Linux, run the help_end.sh file using the fully qualified path for the DB2 Information Center:

```
<DB2 Information Center dir>/doc/bin/help_end
```
7. Restart the DB2 Information Center service.
 - On Windows, click **Start** → **Control Panel** → **Administrative Tools** → **Services**. Then right-click on **DB2 Information Center** service and select **Start**.
 - On Linux, enter the following command:

```
/etc/init.d/db2icdv9 start
```

The updated DB2 Information Center displays the new and updated topics.

Related concepts:

- “DB2 Information Center installation options” in *Quick Beginnings for DB2 Servers*

Related tasks:

- “Installing the DB2 Information Center using the DB2 Setup wizard (Linux)” in *Quick Beginnings for DB2 Servers*
- “Installing the DB2 Information Center using the DB2 Setup wizard (Windows)” in *Quick Beginnings for DB2 Servers*

DB2 Visual Explain tutorial

The DB2 Visual Explain tutorial helps you learn about analyzing, optimizing, and tuning SQL statements for better performance. Lessons provide step-by-step instructions.

Before you begin:

You can view the XHTML version of the tutorial from the Information Center at <http://publib.boulder.ibm.com/infocenter/db2help/>.

Some lessons use sample data or code. See the tutorial for a description of any prerequisites for its specific tasks.

DB2 Visual Explain tutorial:

To view the tutorial, click on the title.

Visual Explain Tutorial

Analyze, optimize, and tune SQL statements for better performance using Visual Explain.

Related concepts:

- “Visual Explain overview” in *Administration Guide: Implementation*

DB2 troubleshooting information

A wide variety of troubleshooting and problem determination information is available to assist you in using DB2 products.

DB2 documentation

Troubleshooting information can be found in the DB2 Troubleshooting Guide or the Support and Troubleshooting section of the DB2 Information Center. There you will find information on how to isolate and identify problems using DB2 diagnostic tools and utilities, solutions to some of the most common problems, and other advice on how to solve problems you might encounter with your DB2 products.

DB2 Technical Support Web site

Refer to the DB2 Technical Support Web site if you are experiencing problems and want help finding possible causes and solutions. The Technical Support site has links to the latest DB2 publications, TechNotes, Authorized Program Analysis Reports (APARs or bug fixes), fix packs, and other resources. You can search through this knowledge base to find possible solutions to your problems.

Access the DB2 Technical Support Web site at <http://www.ibm.com/software/data/db2/udb/support.html>

Related concepts:

- “Introduction to problem determination” in *Troubleshooting Guide*
- “Overview of the DB2 technical information” on page 609

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