IBM® DB2 Universal Database™

Release Notes

Version 8.1 FixPak 5

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Contents

About the Release Notes

Content:

The release notes contain the latest information for the following DB2®, Version 8 products:

```
DB2 Universal Database™ Personal Edition
DB2 Universal Database Workgroup Server Edition
DB2 Universal Database Workgroup Server Unlimited Edition
DB2 Universal Database Enterprise Server Edition
DB2 Personal Developer's Edition
DB2 Universal Developer's Edition
DB2 Warehouse Manager
DB2 Warehouse Manager Sourcing Agent for z/OS™
DB2 Data Links Manager
DB2 Net Search Extender
DB2 Spatial Extender
DB2 Intelligent Miner™ Scoring
DB2 Intelligent Miner Modeling
DB2 Intelligent Miner Visualization
DB2 Connect™ Application Server Edition
DB2 Connect Enterprise Edition
DB2 Connect Personal Edition
DB2 Connect Unlimited Edition
DB2 Query Patroller
```

Structure:

The release notes are divided into three parts:

- The first part highlights what is new in this release.
- The second part contains the details of the problems, limitations, and workarounds known at the time of publication that affect the products previously listed. Read these notes to become familiar with any known outstanding issues with this release of the DB2 family of products.
- The third part contains corrections and updates to the information available in the product GUI tools help.

The most up-to-date documentation is available in the latest version of the DB2 Information Center, which is accessed through a browser. The URL for downloading the latest documentation is provided in the Additional resources section below.

Revision marks in the DB2 Information Center documentation indicate text that has been added or changed since the PDF information for version 8.1 was originally made available. A vertical bar (|) indicates information that was

1   The *Data Links Manager Administration Guide and Reference* was updated in PDF
1   form (book number SC27-1221-01) at the time of FixPak 1, and is available for
1   download at the DB2 support site:
1   http://www.ibm.com/software/data/db2/udb/winos2unix/support

Additional resources:

Documentation for the DB2 Life Sciences Data Connect product is available
for download from the IBM software site:
http://www.ibm.com/software/data/db2/lifesciencesdataconnect/

If you want to view the DB2 documentation in HTML format, you can access
the DB2 HTML Information Center online from
http://publib.boulder.ibm.com/infocenter/db2help/. Alternatively, if you
want to install the DB2 HTML Information Center on your system, a *DB2
HTML Documentation* CD-ROM image is available for download from the
same site. Updates are made to the DB2 HTML documentation with every
release. For the latest documentation, access the DB2 HTML Information
Center online or download the *DB2 HTML Documentation* CD-ROM image for
installation on your system. PDF documentation is updated less frequently.

More information on the DB2 Development Center and DB2 for z/OS is
available at http://www.ibm.com/software/data/db2/os390/spb/.

For the latest information about the DB2 family of products, obtain a free
subscription to *DB2 Magazine*. The online edition of the magazine is available
at http://www.db2mag.com; instructions for requesting a subscription are
also posted on this site.

What's New for Version 8.1 FixPak 5

Development Center enhancements

Support for debugging remote SQL stored procedures executed on DB2 for z/OS

In DB2 UDB Version 8 FixPak 2, the Development Center supports remote debugging of SQL stored procedures executed on a DB2 for z/OS V8 server. The integrated SQL Debugger allows you to:

- Step through your code
- Set line or variable break points
- View variable values
- Modify variable values
- View call stack information
- Switch between different nested SQL stored procedures on the call stack

For additional information, read the following technical article:

http://www7b.software.ibm.com/dmdd/library/techarticle/0303rader/0303rader.html

DB2 Build batch utility available for building SQL stored procedures on remote DB2 for z/OS servers

The new DB2Build batch utility allows you to utilize the same infrastructure provided by the Development Center interface to build SQL stored procedures on remote DB2 for z/OS servers from the command line. DB2Build uses the DSNTPSMP build function to carry out build steps on the remote system and then report the results to the calling client.

Prerequisites:

The DB2Build batch utility requires the following:

- JDK version 1.3 or higher
- DSNTPSMP:
  - version 1.15 (PQ45854) or higher for DB2 z/OS versions 6 and 7
  - version 1.20 or higher for DB2 z/OS version 8
- IBM DB2 Universal Database Development Center version 8.1.2 on the client
- The DB2 install path must be referenced in the DB2PATH environment variable

Supported actions:

DROP To drop an existing stored procedure, issue the following command:

```
DB2Build -action = drop [other options] name1 name2 name3
```

This will cause a drop of the procedure (name1) or set of procedures defined. For a complete list of other options and corresponding value types, type DB2Build -help from the command line.

CREATE

To create a stored procedure, issue the following command:

```
DB2Build -action = create [other options] filename1 filename2 filename3
```

This command will build the stored procedure from the source as specified in the filename. You can also specify a list of source files with each file containing the source for one or more stored procedures. You can use this build command for pre-existing stored procedures and to create brand new stored procedures. If you set -force=true, the stored procedure is dropped if it already exists and then the defined stored procedure is created. If you set -force=false, the stored procedure is created only if it does not already exist. For a complete list of other options and corresponding value types, type DB2Build -help from the command line.

REBIND

To rebind the package of an existing procedure, issue the following command:

```
DB2Build -action = rebind [other options] filename1 filename2 filename3
```

This command will rebind the existing stored procedure with a new set of bind options. For a complete list of other options and corresponding value types, type DB2Build -help from the command line.

ALTER_SOURCE

To rebuild only the source of the stored procedure, issue the following command:

```
DB2Build -action = alter_source [other options] file1 file2 file3
```

For a complete list of other options and corresponding value types, type DB2Build -help from the command line.

A database connection is made at the start of the processing and is disconnected at the end for each invocation of DB2Build. Connections are not held across multiple DB2Build invocations.

5	For more information on the DB2 Development Center and DB2 for z/OS, see
5	http://www.ibm.com/software/data/db2/os390/spb/

DB2 Connect enhancements
5

DB2 Connect on Linux for zSeries 64-bit
5

5 FixPak 5 introduces support for DB2 Connect on Linux for zSeries 64-bit. DB2
5 Connect on Linux for zSeries 64-bit support is enabled by installing a refresh
5 image at the FixPak 5 level. In other words, installing version 8.1 of DB2
5 Connect for Linux zSeries, then applying FixPak 5 will not enable 64-bit
5 support.

5 System requirements are as follows:
5 • **Hardware:** IBM eServer zSeries
5 • **Software:** SuSE Linux Enterprise Server (SLES) 8 SP2, kernel level 2.4.19-4,
5   glibc 2.2.5

OLAP Center enhancements
5

DB2 Cube Views support Windows 2003 Server 32-bit
5

5 The DB2 Cube Views server and client components now support the Windows
5 2003 Server 32-bit operating system.

Query Patroller Center enhancements
5

Enhanced filtering abilities
5

5 When you use Query Patroller Center to view the Managed Queries report
5 and the Query Activity Over Time report, a significant number of rows might
5 be displayed. A filter window can be used to display only the queries that
5 meet the conditions based on the filtering criteria supplied for each report.

5 For the Managed Queries report, you can filter on:
5 • ID
5 • Status
5 • Submitter ID
5 • Time Created
5 • Time Completed
5 • Query Class of the query

5 For the Query Activity Over Time report, you can filter on:
5 • Query ID
5 • Submitter ID

• Explain Run

Notes:

1. For all Historical Analysis reports (such as Query Activity Over Time), you can also filter on completion time by using the time range fields that appear at the top of the Query Patroller Center when a historical object is selected.

To open the Filter notebook from the Managed Queries folder:

1. Open the Query Patroller Center.
2. Expand the object tree under the Monitoring folder until you find the Managed Queries folder.
3. Right-click the Managed Queries folder and select Filter in the pop-up menu. The Filter notebook opens.

To open the Filter notebook from the Queries folder:

1. Open the Query Patroller Center.
2. Expand the object tree under the Historical Analysis folder until you find the Queries folder.
3. Right-click the Queries folder and select Filter in the pop-up menu. The Filter notebook opens.

The Filter notebook will also open automatically when a Managed Queries or Queries folder is selected, if both of the following conditions are met:

• The number of objects in the folder exceeds the object count specified in the Filter notebook
• The Filter notebook's **Automatically display filter when object count is exceeded** option is enabled

Procedure:

The procedure for filtering tables for historical analysis is described in *DB2 Query Patroller Guide: Installation, Administration, and Usage* manual.

The following table shows the values expected for each column listed in the Filter dialog for Managed Queries:

Table 1. Valid values for Filter dialog (Managed Queries)

Column	Value
ID	Numeric value representing the query ID

Table 1. Valid values for Filter dialog (Managed Queries) (continued)

Column	Value
Status	A single character representing the status. Possible values are: • H (for queries whose status is Held) • Q (for queries whose status is Queued) • R (for queries whose status is Running) • A (for queries whose status is Aborted) • C (for queries whose status is Cancelled) • D (for queries whose status is Done) • U (for queries whose status is Unknown)
Submitter ID	A character string representing the ID of the submitter
Created	A timestamp representing the time the query was created. For Example: `2003-07-29-00.00.00`
Completed	A timestamp representing the time the query was completed. For Example: `2003-07-29-00.00.00`
Query Class	Numeric value representing the ID of the query class used for this query

The following table shows the values expected for each column listed in the Filter dialog for Historical Queries:

Table 2. Valid values for Filter dialog (Historical Queries)

Column	Value
ID	Numeric value representing the query ID
Submitter ID	A character string representing the ID of the submitter
Explain Run	A single character that indicates whether the Historical Analysis Data Generator has been run on this query. Possible values are: • N (Historical Analysis Data Generator has not yet run) • S (Historical Analysis Data Generator ran successfully) • F (Historical Analysis Data Generator ran unsuccessfully)

Application development enhancements

EXECUTE privilege on routine is required to invoke a routine

As of DB2 Version 8.1, a routine level EXECUTE privilege exists to ensure that routines are more securely used and to facilitate management of routine execution privileges. Prior to DB2 Version 8.1, the privilege to invoke a routine by a user was managed by granting and revoking EXECUTE privileges on the packages associated with the routine and not on the routines themselves.

The following privileges or authorizations are now required before a user can successfully invoke a routine (method, stored procedure, or user defined function).

Privilege requirements:

Any user that will be an invoker of the routine must have at least one of the following:
- EXECUTE privilege on the routine
- SYSADM or DBADM authority

The definer of a routine (the user who executes the CREATE statement to create the routine in the database) must have at least one of the following:
- EXECUTE privilege on the routine
- SYSADM or DBADM authority

Any user with EXECUTE WITH GRANT OPTION privilege on the routine (this includes the routine definer unless the privilege has been explicitly revoked), SYSADM, or DBADM authority must explicitly GRANT EXECUTE on a routine to PUBLIC or to the authorization IDs of users that will be invokers of the routine. Caution should be taken when granting EXECUTE privilege on a routine to PUBLIC as this allows any database user to invoke the routine.

The relationship between package owner, routine definer, and routine invoker:

Package owner

The package owner, in the context of external routines, is the owner of a particular package that participates in the implementation of a routine. The package owner is the user who executes the BIND command to bind a package with a database, unless the OWNER precompile/BIND option is used to override the package ownership and set it to an alternate user. Upon execution of the BIND command, the package owner is granted EXECUTE WITH GRANT privileges on

the package. A routine library or executable may be comprised of multiple packages and therefore may have multiple package owners associated with it.

Routine Definer

The routine definer is the user ID that issues the CREATE statement to create a routine in the database. The routine definer is generally a DBA, but is also often the routine package owner. When a routine is invoked, at package load time, the authorization to run the routine is now checked against the definer's authorization to execute the package or packages associated with the routine (not against the authorization of the routine invoker). The routine definer's role is to encapsulate under one user ID the privileges to:

- Create the routine
- Run the packages of the routine
- Execute the routine
- Grant to other user ID's the privilege to execute the routine

The routine definer's role is also to act as the central routine privileges manager. Upon execution of the CREATE statement to create the routine in the database, the routine definer implicitly receives EXECUTE WITH GRANT OPTION on the routine. To invoke the routine, the routine definer must also have EXECUTE privileges on the package or packages of the routine. This privilege must be given to the definer explicitly by the package owner. Once the routine definer has both of these privileges, the routine definer can execute the routine and can grant EXECUTE privilege on the routine to user IDs that will be invokers of the routine. If any one of the routine specific privileges of the routine definer is revoked, the routine definer will no longer be able to execute the routine. Any user ID that received EXECUTE privilege from the definer, will also not be able to execute the routine, since the user ID which is checked at run-time (the definer) for privileges to run the packages of the routine no longer has the appropriate privileges. This mechanism centralizes the allocation and revocation of routine execution privileges.

Note: For SQL routines the routine definer is also implicitly the package owner. Therefore the definer will have EXECUTE WITH GRANT OPTION on the routine and on the routine package.

Routine invoker

A routine invoker is any user ID that will invoke the routine. Routines can be invoked from a command window or can be invoked from within an application program. In the case of methods and UDFs, the

routine reference will be embedded in another SQL statement, whereas a procedure is invoked by using the CALL statement. For dynamic SQL in an application, the invoker is the runtime authorization ID of the immediately higher-level routine or application containing the routine invocation (however, this ID can also depend on the DYNAMICRULES option, with which the higher level routine/application was bound). For static SQL, the invoker is the value of the OWNER precompile/bind option of the package that contains the reference to the routine. These user IDs will require EXECUTE privilege on the routine.

If a user attempts to invoke a routine that the user is not authorized to EXECUTE, an error (SQLSTATE 42501) is returned. This error is also returned when the definer of the routine is missing EXECUTE privilege on a package associated with the routine.

External routines migrated to DB2 Version 8.1:

Prior to DB2 Version 8.1, the privilege to invoke a routine by a user was managed by granting and revoking EXECUTE privileges on the packages associated with the routine. Upon database migration the following actions are automatically executed by the database:

- EXECUTE WITH GRANT OPTION privilege is given to the routine DEFINER of each migrated routine.
- EXECUTE privilege is granted to PUBLIC for each migrated external routine(procedure, function, method).
- EXECUTE privilege is granted on each migrated SQL procedure to users who had EXECUTE privilege on the routine package prior to migration.

The automatic granting of these privileges ensures that all users that were able to invoke a routine prior to database migration continue to have the ability to do so. Database administrators can REVOKE the EXECUTE privilege of routines from specific database users if they now wish to restrict the use of the routine.

The db2undgp command is used by database administrators to identify external stored procedures that access SQL. The db2undgp command is also used to revoke from all database users the EXECUTE privilege on these procedures. This effectively converts all routines that access SQL data to a state where no one can execute them. The DBADM or SYSADM can then choose to GRANT EXECUTE on each routine to the particular users intended to invoke the procedure.

Example 1: Granting EXECUTE privilege to a user when the definer is also the package owner:

A routine is precompiled, bound, and registered. The routine definer, who is also the routine package owner, grants EXECUTE privileges on the routine to a user who wishes to invoke the routine.

Action	Result of Action
1) External routine is precompiled and bound by user USER1 without use of the OWNER precompile/BIND option.	This makes USER1 the package owner. USER1 now has EXECUTE WITH GRANT OPTION privilege on the package or packages associated with the routine.
2) USER1 issues the CREATE statement to register the external routine.	This makes USER1 the definer of the external routine. USER1 now has EXECUTE WITH GRANT privilege on the routine.
3) USER1 grants EXECUTE privilege on the routine to USER2.	USER2 can now successfully invoke the routine.
4) USER2 invokes the routine using the CALL statement.	The routine is successfully invoked by USER2.

Example 2: Granting EXECUTE privilege to a user when the definer is not the package owner:

An external routine is precompiled, bound, and registered. The routine definer grants EXECUTE privileges on a routine to a user who wishes to invoke the routine. The routine can only be successfully invoked once the routine definer receives EXECUTE privileges from the routine package owner.

Action	Result of action
1) External routine is precompiled and bound by user USER1 without use of the OWNER precompile/BIND option.	This makes USER1 the package owner. USER1 now has EXECUTE WITH GRANT OPTION privilege on the package or packages associated with the routine.
2) USER2 issues the CREATE statement to register the external routine.	This makes USER2 the definer of the external routine. USER2 now has EXECUTE WITH GRANT OPTION privilege on the routine. USER2 does not yet have EXECUTE privilege on the package or packages of the routine.
3) USER2 grants EXECUTE privilege on the routine to the USER3	USER3 has EXECUTE privilege on the routine.

Action	Result of action
4) USER3 invokes the routine using the CALL statement	The routine invocation fails for USER3, because USER2 does not yet have EXECUTE privilege on the package of the routine.
5) USER1 grants EXECUTE on the packages of the routine to USER2	USER2 can now run the packages of the routine and can execute the routine.
6) USER3 invokes the routine	The routine is successfully invoked by USER3.

Manageability enhancements

Defining a policy for binding DB2 processes

Variable Name	Operating System	Values
Description		
DB2AFFINITIES	AIX 5 or higher	Default=Not set

Defines a resource policy on NUMA enabled systems.

The registry variable can be set to indicate the path to a configuration file which defines a policy for binding DB2 processes to operating system resources. The resource policy allows you to specify a set of operating system resources to restrict DB2. Each DB2 process is bound to a single resource of the set. Resource assignment occurs in a circular round robin fashion.

Sample configuration files:

```
Example 1: Bind all DB2 processes to either CPU 1 or 3.
  <RESOURCE_POLICY>
  <METHOD>CPU</METHOD>
  <RESOURCE>1</RESOURCE>
  <RESOURCE>3</RESOURCE>
  </RESOURCE_POLICY>

Example 2: Bind DB2 processes to one of the following resource sets:
          sys/node.03.00000,
          sys/node.03.00001,
          sys/node.03.00002,
          sys/node.03.00003
  <RESOURCE_POLICY>
  <METHOD>RSET</METHOD>
  <RESOURCE>sys/node.03.00000</RESOURCE>
  <RESOURCE>sys/node.03.00001</RESOURCE>
  <RESOURCE>sys/node.03.00002</RESOURCE>
  <RESOURCE>sys/node.03.00003</RESOURCE>
  </RESOURCE_POLICY>
```

Note: Use of the RSET method requires CAP_NUMA_ATTACH capability.

Controlling login restrictions of a connecting user on an AIX server

By default, when a user is authenticated on an AIX server, DB2 checks the connecting user's local login restrictions before allowing the connection to proceed. The DB2LOGINRESTRICTIONS registry variable permits DB2 to enforce alternative modes of login restrictions. If DB2LOGINRESTRICTIONS is not set, the default value is LOCAL. The variable may be set to the following values:

REMOTE   DB2 will only enforce remote login restrictions

SU   DB2 will only enforce su restrictions

NONE   DB2 will not enforce any particular mode of login restrictions

LOCAL   DB2 will only enforce local login restrictions

In all cases, DB2 still checks for the following error conditions:
- expired account
- locked account
- invalid user

Known problems and workarounds (Version 8.1 FixPak 5)

The following are the currently known limitations, problems, and workarounds for DB2® Universal Database Version 8 FixPak 5. The information in this section applies only to the Version 8 FixPak 5 release of DB2 Universal Database™, and its supporting products. Any limitations and restrictions might or might not apply to other releases of the product.

Product and product-level support

Alternate FixPaks on Linux and UNIX-based systems

Prior to DB2 Universal Database Version 8, FixPaks only functioned as updates to installed DB2 Universal Database packages or file sets in one fixed location. Essentially, this meant that the installation of FixPaks would replace existing files with the updated ones provided within the FixPaks, and multiple DB2 FixPak levels on a single system was not a possibility. DB2 Universal Database Version 8.1 Enterprise Server Edition (ESE) with multiple FixPak levels can now coexist in the same system. This feature, supported in production operating environments since Version 8.1.2, is achieved using the following two FixPak types:

regular FixPaks

- Available not only for ESE, but for all supported DB2 V8.1 products for the related platforms
- Can be installed directly on top of the existing installation either in `/usr/opt/db2_08_01` on AIX® or `/opt/IBM/db2/V8.1` on other platforms

alternate FixPaks

- Can be installed as a completely new copy of DB2 Universal Database ESE
- Installed in a predefined location other than the location used for a regular DB2 Universal Database installation

Notes:

1. You are *not* required to perform a multiple FixPak installation if you do not feel it is necessary for your environment.
2. Starting with IBM DB2 Universal Database Enterprise Server Edition (ESE) for Linux and UNIX®, Version 8.1.2, FixPaks are supported in production operating environments when installed as Multiple FixPaks.

3	To update a multiple FixPak instance to a different FixPak level, perform one
3	of the following options:
3	• Install the appropriate regular FixPak on the General Availability (GA)
3	installation, and update the instance by running db2iupdt from the existing
3	GA path.
3	• Install the appropriate alternate FixPak to its own unique path, and update
3	the instance by running db2iupdt from this path.
3	For further information regarding downloading alternate FixPaks, visit the
3	IBM® support site at
3	http://www.ibm.com/software/data/db2/udb/winos2unix/support.

Back-level DB2 Universal Database server support

If you migrate your DB2 Universal Database client systems to version 8 before you have migrated all of your DB2 Universal Database servers to version 8, several restrictions and limitations apply.

For version 8 clients to work with version 7 servers, you need to configure and enable the use of DRDA® application server capability on the version 7 server. For information on how to do this, refer to the version 7 *Installation and Configuration Supplement*. You cannot access a DB2 Connect™ Version 7 server from a DB2 Universal Database Version 8 client.

When accessing version 7 servers from version 8 clients, there is no support available for:
• The following data types:
  – Large object (LOB) data types
  – User-defined distinct types
  – DATALINK data types

    The DATALINK data type allows you to manage external data found in nonrelational storage. The DATALINK data type references files that physically reside on file systems external to DB2 Universal Database.
• The following security capabilities:
  – Authentication type SERVER_ENCRYPT

    SERVER_ENCRYPT is a method to encrypt a password. The encrypted password is used with the user ID to authenticate the user.
  – Changing passwords

    You are not able to change passwords on the version 7 server from a version 8 client.
• The following connections and communication protocols:
  – Instance requests that require an ATTACH instead of a connection

    ATTACH is not supported from a version 8 client to a version 7 server.

- – Network protocols other than TCP/IP.
(SNA, NetBIOS, IPX/SPX, and others)
- The following application features and tasks:
  - – The DESCRIBE INPUT statement for all applications except ODBC/JDBC

    To support version 8 clients running ODBC/JDBC applications that access version 7 servers, apply a fix for DESCRIBE INPUT support to all version 7 servers where this type of access is required. This fix is associated with APAR IY30655. Use the "Contacting IBM" information in any DB2 Universal Database documentation set (PDF or HTML) to find out how to get the fix associated with APAR IY30655.

    The DESCRIBE INPUT statement is a performance and usability enhancement that allows an application requestor to obtain a description of input parameter markers in a prepared statement. For a CALL statement, this includes the parameter markers associated with the IN and INOUT parameters for the stored procedure.

  - – Two-phase commit

    A version 7 server cannot be used as a transaction manager database when using coordinated transactions that involve version 8 clients, nor can a version 7 server participate in a coordinated transaction where a version 8 server may be the transaction manager database.

  - – XA-compliant transaction managers

    An application using a version 8 client cannot use a version 7 server as an XA resource. This includes WebSphere®, Microsoft® COM+/MTS, BEA WebLogic, and others that are part of a transaction management arrangement.

  - – Monitoring
  - – Utilities that can be initiated by a client to a server
  - – SQL statements greater than 32 KB in size

There are similar limitations and restrictions for version 8 tools working with version 7 servers.

The following version 8 GUI tools, products, and Centers support only version 8 servers:

- Control Center
- Development Center
- Health Center (including the Web version of this center)
- Indoubt Transaction Manager
- Information Catalog Center (including the Web version of this center)
- Journal
- License Center

- Satellite Administration Center
- Spatial Extender
- Task Center
- Tools Settings

The following version 8 tools support version 7 servers (with some restrictions):

- Command Center (including the Web version of this center)
  - Saving, importing, and scheduling of scripts are not supported by the Command Center.
- Data Warehouse Center
- Replication Center
- The import/export configuration file function of the Configuration Assistant
- SQL Assist
- Visual Explain

In general, any version 8 tool that is only launched from within the navigation tree of the Control Center, or any details view based on such a tool, will not be available or accessible to version 7 and earlier servers. You should consider using the version 7 tools when working with version 7 or earlier servers.

Classic Connect unavailable

The Classic Connect product is *not* available. Although you may find references to the Classic Connect product in the Data Warehouse documentation and elsewhere, these should be ignored, as they are no longer applicable.

Data Warehouse Center down-level server support restrictions

The following limitations exist for down-level server support for DB2 Universal Database (DB2 UDB) Enterprise Server Edition Version 8 Data Warehouse Center:

Large Object (LOB) support

- If you are using a warehouse control database on a server that is earlier than DB2 UDB Enterprise Server Edition Version 8 you will not be able to work with LOBs. You must upgrade the warehouse control database to the correct level, or move the control database to the system on which the DB2 UDB Enterprise Server Edition Version 8 warehouse server is installed and use it locally from that system.
- To move LOBs between the Data Warehouse Center and DB2, you must upgrade to DB2 UDB Enterprise Server Edition Version 8.

Systems Network Architecture (SNA) support
> If you use SNA to connect to your warehouse sources and targets, you must change the configuration to be TCP/IP over SNA, or use the Windows NT® warehouse agent.

Support for EXPORT and LOAD utilities
> When you upgrade your warehouse agent, you must also upgrade your source target databases, or replace the EXPORT and LOAD utilities in your warehouse processes with SQL Select and Insert steps. SQL Select and Insert steps use a DELETE* command followed by SELECT and INSERT commands. SQL Select and Insert steps require the database to log all transactions. As a result, the performance for SQL Select and Insert steps is not as efficient as it is for EXPORT and LOAD utilities.

Database migration for HP-UX on IA64

Database migration is not supported for DB2 for HP-UX on IA64 throughout the Version 8.x releases.

Restoring a Version 7 DB2 backup image to a Version 8 instance is not supported on DB2 for HP-UX on IA64.

DB2 license policy for DB2 Universal Database Workgroup Server Edition

Although the *DB2 Quick Beginnings for Servers* book and the online tools help for the License Center indicate otherwise, the Internet license policy is *not* valid for DB2 Universal Database Workgroup Server Edition. If you require a license for Internet users, you need to purchase DB2 Universal Database Workgroup Server Unlimited Edition.

DB2 Universal Database Version 7 server access

To access a DB2 Universal Database Version 7 server on a Linux, UNIX, or Windows® operating system from a version 8 client, you must have version 7 FixPak 8 or later installed on your server and have run the **db2updv7** command. For instructions on installing the version 7 FixPaks, refer to the version 7 FixPak Readme and Release Notes.

You cannot access a DB2 Connect Version 7 server from a DB2 Universal Database Version 8 client.

Data Warehouse Center not available in Simplified Chinese

The Data Warehouse Center is not available in Simplified Chinese. Therefore, the following dependent DB2 components are also unavailable in this environment:
- The DB2 Warehouse Manager.
- The DB2 Warehouse Manager Connector for the Web and the DB2 Warehouse Manager Connector for SAP, which are dependent on the installation of the DB2 Warehouse Manager.

- The Information Catalog Center, which is dependent on the Manage Information Catalog wizard component of DB2 Warehouse Manager.

DB2 Web Tools

The application servers supported by DB2 Web Tools for the following languages are required to be compliant with the Servlet 2.3 specification:

- Japanese
- Korean
- Simplified Chinese
- Traditional Chinese
- Russian
- Polish

Development Center APARs required for SQLJ and SQL Assist support on DB2 UDB for OS/390, Version 6 and DB2 UDB for z/OS, Version 7

When using the Development Center on an Application Development client for DB2 Universal Database Version 8 on Windows or UNIX operating systems, the following APARs need to be installed on the server to enable SQLJ and SQL Assist support:

DB2 UDB for z/OS, Version 7

- PQ65125 - Provides SQLJ support for building Java SQLJ stored procedures
- PQ62695 - Provides SQL Assist support

DB2 UDB for OS/390®, Version 6

- PQ62695 - Provides SQL Assist support

Development Center limitations for 64–bit operating systems

Debugging of Java stored procedures against a 64-bit server is not supported by the Development Center. Debugging SQL stored procedures is supported on 64-bit Windows operating systems. OLE DB and XML are not supported on 64-bit servers.

Development Center now supports Actual Cost information for SQL statements run on OS/390 or z/OS servers

The DB2 Development Center now provides Actual Cost information for SQL statements run on DB2 Universal Database for OS/390 and z/OS, Version 6 and Version 7.. The following Actual Cost information is provided:

- CPU time
- CPU time in external format
- CPU time as an integer in hundredths of a second
- Latch/lock contention wait time in external format
- Number of getpages in integer format

1	• Number of read i/o in integer format
1	• Number of write i/o in integer format

1　This functionality also allows you to view multiple sets of Actual Cost results
1　for a single SQL statement with different host variable values.

1　Actual Cost information is available in the Development Center from the
1　Create SQL Stored Procedure and Create Java Stored Procedure wizards,
1　within the SQL Statement window for OS/390 and z/OS connections. To use
1　the Actual Cost functionality, click the **Actual Cost** button in the OS/390 and
1　z/OS connection window in either of the Stored Procedure wizards. To use
1　Actual Cost functionality, you must have the Stored Procedure Monitor
1　Program (DSNWSPM) installed on your DB2 OS/390 server .

2　Development Center on the Linux operating system

2　You cannot use the Development Center to debug Java™ stored procedures
2　running on any of the Linux distributions (32–bit, 64–bit, Intel, zSeries, or
2　iSeries).

Federated systems restrictions

**For users of DB2 Universal Database for Linux, UNIX, and Windows
Version 7.2 federated databases:**

To create nicknames for tables and views in DB2 Universal Database (DB2
UDB) for UNIX and Windows, Version 8, you need to apply DB2 UDB for
UNIX and Windows Version 7.2 FixPak 8 on your DB2 UDB for UNIX and
Windows Version 7.2 federated database. If you do not apply FixPak 8 on
your DB2 UDB for UNIX and Windows Version 7.2 federated database, an
error will occur when you access the nicknames.

LONG VARCHAR and LONG VARGRAPHIC support:

The federated documentation indicates that the LONG VARCHAR and LONG
VARGRAPHIC data types used by the DB2 family of products are
unsupported. This is not entirely accurate. You can create nicknames for DB2
Universal Database for Linux, UNIX, and Windows data source objects that
contain LONG VARCHAR and LONG VARGRAPHIC data type columns.
These remote columns will be mapped to DB2 Universal Database for Linux,
UNIX, and Windows LOB data types. For the other DB2 family of products,
you can create a view that omits or recasts these data types and then create a
nickname for the view.

WITH HOLD cursors:

<table>
<tr><td>1</td><td rowspan="4">You can use the WITH HOLD semantics on a cursor that is defined on a nickname or in a PASSTHRU session. However, you will receive an error if you try to use the semantics (with a COMMIT) and the data source does not support the WITH HOLD semantics.</td></tr>
<tr><td>1</td></tr>
<tr><td>1</td></tr>
<tr><td>1</td></tr>
</table>

Data sources:

Previously unsupported data sources are supported as of Version 8.1.2 using DB2 Information Integrator relational and nonrelational wrappers. For a full list of supported data sources, see the DB2 Information Center for DB2 Information Integrator: Product Overview –> Federated systems - overview –> Data sources –> Supported data sources

Support for DB2 Universal Database Server for VM and VSE:

Federated support for DB2 Universal Database Server for VM and VSE has been added in Version 8.1.2.

Product support:

Previously unsupported products are now supported through Information Integrator:

- DB2 Relational Connect is supported using DB2 Information Integrator relational wrappers.
- DB2 Life Sciences Data Connect is supported using DB2 Information Integrator non relational wrappers.

Unsupported operating systems:

Federated systems are not supported on the Windows ME operating system.

Setting up the federated server to access data sources:

The COMPACT installation option does not install the necessary access to the DB2 family or Informix™ data sources. You must use the TYPICAL or CUSTOM installation to access the DB2 family data sources. The CUSTOM installation option is the only option you can use to install access to both the DB2 family and the Informix data sources.

Update federated database in order to create wrapper:

If you are using a federated database with DB2 Universal Database (DB2 UDB) Version 8.1.2 or later that was created using DB2 UDB Version 8.1 or DB2 UDB Version 8.1 FixPak 1, you must update your federated database using the db2updv8 command.

3 *Syntax:*
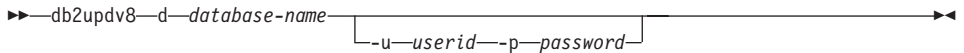
3 ```
►►—db2updv8—d—database-name——————————————————————►◄
                              └─-u—userid—-p—password─┘
```

3 If you do not update your database to Version 8.1.2, you will get one of the
3 following error messages when you try to create a wrapper from the
3 Federated Database Objects folder in the Control Center:
3 - `java.lang.NullPointerException`
3 - `[IBM][CLI Driver][DB2/NT] SQL0444N Routine "GET_WRAP_CFG_C"`
3   `(specific name "SQL030325095829810") is implemented with code in`
3   `library or path "\GET_WRAP_CFG_C", function "GET_WRAP_CFG_C"`
3   `which cannot be accessed. Reason code: "4". SQLSTATE=42724`

3 **Cataloging DB2 family data sources in the federated system database
directory:**

When the name of the remote database is more than 8 characters, it is
necessary to create a database connection services (DCS) directory entry.

An example of cataloging an entry in the DCS directory for the database
using the CATALOG DCS DATABASE command is:

`CATALOG DCS DATABASE SALES400 AS SALES_DB2DB400`

where:

*SALES400*
> Is the name of the remote database you entered in the CATALOG
> DATABASE command.

**AS** *SALES_DB2DB400*
> Is the name of the target host database that you want to catalog.

## High availability function is included in DB2 Universal Database Workgroup Server Edition

Though it is not mentioned explicitly in the topic DB2 Workgroup Server
Edition, the high availability function of the DB2 Universal Database
Enterprise Server Edition that is referred to in the topic DB2 Enterprise Server
Edition is included in the DB2 Universal Database Workgroup Server Edition.

4 ## HP-UX JDBC driver limitation
4 The IBM DB2 Universal JDBC Driver cannot connect to databases that were
4 created using the HP default character set, roman8. All SQLJ and JDBC
4 applications that use the universal JDBC driver must connect to a database
4 created with a different character set. If your LANG is set to "C" or to a
4 "roman8" locale, you must change it to the corresponding ISO locale. For

4  instance, if your LANG is set to de_DE.roman8, it must be changed to
4  de_DE.iso88591 using the following command:

```
4  export LANG=de_DE.iso88591
```

4 To run the DB2 SQLJ and JDBC sample programs with the Universal JDBC
4 driver, you can create the SAMPLE database with the commands in the
4 following example, which uses the ISO locale for US English:

```
4  export LANG=en_US.iso88591
4  db2 terminate
4  db2sampl
```

4 **Note:** If the SAMPLE database exists, you must drop it before executing the
4 **db2sampl** command.

4 IBM DB2 Development Add-In for Microsoft Visual Studio .NET

2 The IBM DB2 Development Add-In for Microsoft Visual Studio .NET does not
2 support the following:

2 • DB2 Universal Database for z/OS and OS/390, Version 8
2 • DB2 Universal Database for iSeries, Version 8

5 IBM Developer Kit for Java 1.3.1 required on Linux (x86, 32-bit)

5 The IBM Developer Kit for Java 1.3.1 Service Release 4 is required for DB2 to
5 use the DB2 Control Center or to create and run Java applications, including
5 stored procedures and user-defined functions. Only the IBM Developer Kit for
5 Java is supported.

5 The IBM Developer Kit for Java is installed whenever a component that
5 requires Java is installed. However, if the installer detects that the IBM
5 Developer Kit for Java 1.3.1 is already installed, it will not install it again. The
5 IBM Developer Kit for Java 1.3.1 is installed in its own directory and will not
5 overwrite any previous levels of the IBM Developer Kit for Java.

5 **Restrictions:**

5 The installation of the IBM Developer Kit for Java will only be attempted if
5 you use one of the following DB2 installation methods:

5 • GUI installation program (db2setup)
5 • response file installation (db2setup -r response_file)

5 **Procedure:**

5 To manually install the IBM Developer Kit for Java, run the following
5 command from the /cdrom/db2/linux/Java-1.3.1 directory:

```
5      rpm -ivh IBMJava2-SDK-1.3.1-4.0.i386.rpm
```

5　　　This command installs the IBM Developer Kit for Java to the
5　　　/opt/IBMJava2-131 directory.

5　　　To verify that IBM Developer Kit for Java is installed, run the following
5　　　command from the UNIX® shell prompt:

5　　　　　`<path>/jre/bin/java -version`

5　　　where <path> represents the path where Java is installed. For example, if your
5　　　installation directory path is /opt/IBMJava2-131/, then the command is:

5　　　　　`/opt/IBMJava2-131/jre/bin/java -version`

5　　　You should receive output similar to the following:

5
5
5　　```
java version "1.3.1"
5　　Java(TM) 2 Runtime Environment, Standard Edition (build 1.3.1)
5　　Classic VM (build 1.3.1, J2RE 1.3.1 IBM build
5　　cxia32131-20030329 (JIT enabled: jitc))
```

5　　　The IBM Developer Kit for Java is also available from the IBM
5　　　developerWorks Web site at
5　　　http://www.ibm.com/developerworks/java/jdk/index.html.

Installation on AIX

3　　　If the db2setup program is run from a directory whose path includes a blank,
3　　　the setup will fail with the following error:
3　　　`<file>: not found`

3　　　Place the installable image in a directory whose path does not include spaces.

The Simplified Chinese locale on AIX operating systems

3　　　AIX has changed the code set bound to the Simplified Chinese locale Zh_CN
3　　　on:
3　　　• AIX Version 5.1.0000.0011 or later
3　　　• AIX Version 5.1.0 with maintenance level 2 or later

3　　　The code set has been changed from GBK (code page 1386) to GB18030 (code
3　　　page 5488 or 1392). Since DB2 Universal Database for AIX supports the GBK
3　　　code set natively and the GB18030 code set via Unicode, DB2 Universal
3　　　Database will default the Zh_CN locale's code set to ISO 8859-1 (code page
3　　　819), and in some operations will also default the locale's territory to the
3　　　United States (US).

To work around this limitation, you have two options:

• You can override the locale's code set from GB18030 to GBK and the
　territory from US to China (whose territory ID is CN and territory code is
　86).

• You can use a different Simplified Chinese locale.

If you choose to use the first option, issue the following commands:

```
db2set DB2CODEPAGE=1386
db2set DB2TERRITORY=86
db2 terminate
db2stop
db2start
```

If you choose to use the second option, change your locale from Zh_CN to either ZH_CN or zh_CN. The ZH_CN locale's code set is Unicode (UTF-8), while the zh_CN locale's code set is eucCN (code page 1383).

Installation on Linux

When you install version 8.1 of DB2 Universal Database on Linux, the RPM-based installation attempts to install the IBM Java RPM (IBMJava2–SDK-1.3.1.-2.0.i386.rpm). If a later level of the RPM (such as IBMJava2-SDK-1.4.0.-2.0.i386.rpm) already exists, he back-level RPM is not installed.

However, in this case, the installation leaves the JDK_PATH database configuration parameter pointing to the Java 1.3 path, /opt/IBMJava2-14/. As a result, none of the Java-dependant functionality, including the installation of the DB2 Tools Catalog, will work.

To solve this problem, run the following command as the instance owner:

```
db2 update dbm cfg using JDK_PATH /opt/IBMJava2-14
```

This will point DB2 Universal Database to the correct IBM Developer Kit.

The Simplified Chinese locale on Red Hat operating systems

Red Hat Version 8 and later (including Red Hat Enterprise Linux [RHEL] versions 2.1 and 3) has changed the default code set for Simplified Chinese from GBK (code page 1386) to GB18030 (code page 5488 or 1392).

Since DB2 Universal Database for Linux supports the GBK code set natively and the GB18030 code set via Unicode, DB2 Universal Database will default its code set to ISO 8859-1 (code page 819), and in some operations will also default its territory to the United States (US).

To work around this limitation, you have two options:

• You can override the Red Hat default code set from GB18030 to GBK and the territory from US to China (whose territory ID is CN and territory code is 86).

• You can use a different Simplified Chinese locale.

If you choose to use the first option, issue the following statements:

```
3    db2set DB2CODEPAGE=1386
3    db2set DB2TERRITORY=86
3    db2 terminate
3    db2stop
3    db2start
```

3   If you choose to use the second option, issue any one of the following
3   commands:

```
3    export LANG=zh_CN.gbk
3    export LANG=zh_CN
3    export LANG=zh_CN.utf8
```

3   where the code set associated with zh_CN is eucCN or code page 1383, and
3   with zh_CN.utf8 is code page 1208.

5   Availability of Asian fonts (Linux)

5   IBM offers additional font packages for Linux that contain additional
5   double-byte character set (DBCS) support for Asian characters. These font
5   packages are necessary with some versions of Linux which install only the
5   fonts required to display the country-specific or region-specific characters.

5   If you run the **db2setup** command and find missing characters in the DB2
5   setup wizard interface, it is likely that your Linux system does not have all
5   the necessary fonts installed. To enable the **db2setup** command to properly
5   refer to the fonts embedded in the installation CD-ROM, perform the
5   following:

2   1. Enter the following command: **export
2   JAVA_FONTS=/<cdrom>/db2/<linux_platform>/java/jre/lib/fonts** where
3   <cdrom> is the location of the install image and <linux_platform> is a
3   directory name with a *Linux* prefix.

5   2. Re-run the **db2setup** command.

3   If you notice missing characters when using the DB2 GUI tools after
3   installation, install the necessary fonts provided with the DB2 product. These
3   fonts can be found in the fonts directory on either of the following
3   CD-ROMs:

3   • *IBM Developer Kit, Java Technology Edition, Version 1.3.1 for AIX operating
3   systems on 64–bit systems*

3   • *Java application development and Web administration tools supplement for DB2,
3   Version 8.1.*

5   In this directory, there are two typefaces available: Times New Roman
5   WorldType and Monotype Sans Duospace WorldType. For each typeface, there
5   is a country-specific or region-specific font. The following table lists the eight
5   fonts provided in compressed format in the fonts directory.

Font typeface	Font file name	Country/Region
Times New Roman WT J	tnrwt_j.zip	Japan and other countries/regions
Times New Roman WT K	tnrwt_k.zip	Korea
Times New Roman WT SC	tnrwt_s.zip	China (Simplified Chinese)
Times New Roman WT TC	tnrwt_t.zip	Taiwan (Traditional Chinese)
Monotype Sans Duospace WT J	mtsansdj.zip	Japan and other countries/regions
Monotype Sans Duospace WT K	mtsansdk.zip	Korea
Monotype Sans Duospace WT SC	mtsansds.zip	China (Simplified Chinese)
Monotype Sans Duospace WT TC	mtsansdt.zip	Taiwan (Traditional Chinese)

Note: These fonts do not replace the system fonts. These fonts are to be used in conjunction with or for use with DB2 Universal Database. You cannot engage in the general or unrestricted sale or distribution of these fonts.

To install a font:

1. Unzip the font package.
2. Copy the font package to the /opt/IBMJava2–131/jre/lib/fonts directory. You need to create the directory if it does not already exist.
3. Enter the following command: **export JAVA_FONTS=/opt/IBMJava2–131/jre/lib/fonts**

As a minimum, you need to install one font of each typeface for your country or region. If you are in China, Korea, or Taiwan, use the country-specific or region-specific versions; otherwise, use the Japanese version of the fonts. If you have space on your system, it is recommended that you install all eight fonts.

License Center back-level versions not supported

If a version 7 License Center attempts a connection to a version 8 server, the License Center receives an "SQL1650 - Function not supported" error message indicating that the connection is not supported.

Microsoft Visual Studio, Visual C++

Despite being mentioned in the DB2 Development Center online help as a possible solution for the Build not successful: -1 error, Microsoft Visual Studio Visual C++ Version 5.0 is not supported for the development of SQL

1	stored procedures. However, Microsoft Visual Studio Visual C++ Version 6.0 is
1	supported. Additional configuration information is available in the *IBM DB2*
1	*Application Development Guide: Building and Running Applications.*

Merant Driver Manager incompatibility (UNIX)

There are incompatibilities with Unicode support when the Merant Driver Manager accesses the DB2 ODBC driver on UNIX. These incompatibilities cause the Merant Driver Manager to use Unicode even if the application did not request Unicode use. This situation can lead to problems with products such as the Data Warehouse Center, Information Catalog Manager, and MQSI, which require the Merant Driver Manager to support non-IBM data sources. You can use an alternate DB2 ODBC driver library without Unicode support enabled until a permanent solution is available.

An alternative DB2 ODBC driver library without Unicode support enabled is included with DB2 UDB Version 8.1 for AIX, HP-UX, and Solaris Operating Environment. To use this alternative library, you must create a copy of it, giving the copy the original DB2 ODBC driver library's name.

Note: The alternative (_36) library contains the Unicode functions required by the DB2 JDBC driver. Using this library allows JDBC applications, including WebSphere Application Server, to work successfully with DB2.

To switch to the non-Unicode ODBC library on AIX, HP-UX, or the Solaris Operating Environment, see the following instructions. Because this is a manual process, you must carry it out every time you update your product, including after the application of successive FixPak or modification level.

Procedure:

AIX

To create the necessary library on AIX:

1. As the instance owner, shut down all database instances using the **db2stop force** command.
2. Using the DB2 administration server (DAS) instance ID, shut down the DAS instance using the **db2admin stop force** command.
3. Back up the original db2.o file in the /usr/lpp/db2_81/lib directory.
4. Using root authority, issue the **slibclean** command.
5. Copy file db2_36.o to backup file db2.o, ensuring that ownership and permissions remain consistent. Use the following commands:
   ```
   cp db2_36.o db2.o
   -r--r--r-- bin:bin for db2.o
   ```

To switch back to the original object, follow the same procedure using the backup file instead of the db2_36.o file.

Solaris Operating Environment

To create the necessary library in a Solaris Operating Environment:

1. As the instance owner, shut down all database instances using the **db2stop force** command.
2. As the DB2 administration server (DAS) instance ID, shut down the DAS instance using the **db2admin stop force** command.
3. Back up the original libdb2.so.1 file in the /opt/IBMdb2/V8.1/lib directory.
4. Copy file libdb2_36.so.1 to backup file libdb2.so.1, ensuring that ownership and permissions remain consistent. Use the following commands:

   ```
   cp libdb2_36.so.1 libdb2.so.1
   -r-xr-xr-x bin:bin libdb2.so.1
   ```

5. Issue the **db2iupdt <instance>** command for each database instance and the **dasiupdt <das_instance>** command for the DAS instance.

To switch back to the original object, follow the same procedure using the backup file instead of the libdb2_36.so.1 file.

HP-UX

To create the necessary library on HP-UX:

1. Shut down all database instances using the **db2stop force** command.
2. Shut down the DB2 administration server (DAS) instance using the **db2admin stop force** command.
3. Back up the original libdb2.sl file in the /opt/IBMdb2/V8.1/lib directory.
4. Copy tile libdb2_36.sl to backup file libdb2.sl, ensuring that the ownership and permissions remain consistent. Use the following command to ensure the consistency:

   ```
   cp libdb2_36.sl libdb2.sl
   -r-xr-xr-x bin:bin for libdb2.sl
   ```

5. Issue the **db2iupdt <instance>** command for each database instance and the **dasiupdt <das_instance>** command for the DAS instance.

To switch back to the original object, follow the same procedure using the backup file instead of the libdb2_36.sl file.

Other UNIX Operating Systems

If you require assistance with DB2 and the Merant Driver Manager on other UNIX operating systems, please contact IBM Support.

Microsoft XP fix needed on 64-bit operating systems

If you are using the Microsoft XP operating system (2600) configured to use the NETBIOS protocol with the DB2 family of products, you need to obtain a hotfix from Microsoft. Contact Microsoft with the Knowledge Base article number Q317437.

MVS operating system not supported

Despite being mentioned in the documentation, the MVS™ operating system is no longer supported by DB2 Universal Database. MVS has been replaced with z/OS.

SNA support limitations in Version 8

The following support has been withdrawn from DB2 Universal Database Enterprise Server Edition (ESE) for Windows and UNIX-based operating systems, Version 8, and from DB2 Connect Enterprise Edition (CEE) for Windows and UNIX-based operating systems, Version 8:

• Multisite update (two-phase commit) capability using SNA cannot be used. Applications that require multisite update (two-phase commit) *must* use TCP/IP connectivity. Multisite update (two-phase commit) using TCP/IP to a host or iSeries™ database server has been available for several releases. Host or iSeries applications that require multisite update (two-phase commit) support can use the new capability of TCP/IP multisite update (two-phase commit) support within DB2 Universal Database ESE, Version 8.

• DB2 Universal Database ESE or DB2 CEE servers no longer accept client connections using SNA. As of version 8, FixPak 1, DB2 Universal Database allows the 32-bit version of AIX, Solaris™ Operating Environment, HP-UX, and Windows-based applications to access host- or iSeries-based database servers using SNA. This support will allow applications access to host or iSeries database servers using SNA, but using only one-phase commit.

• Sysplex support with DB2 Universal Database for z/OS™ is only available using TCP/IP. Sysplex support is not provided using SNA connectivity.

• Change password support is no longer available using SNA connectivity to host database servers.

• All SNA support will be withdrawn in the next version of DB2 Universal Database and DB2 Connect.

Supported LDAP client and server configurations

The following table summarizes the supported LDAP client and server configurations:

Table 3. Supported LDAP client and server configurations

	IBM SecureWay Directory	Microsoft Active Directory	Netscape LDAP server
IBM LDAP client	Supported	Supported	Supported
Microsoft LDAP/ADSI client	Supported	Supported	Supported

IBM SecureWay Directory Version 3.1 is an LDAP Version 3 server available for Windows NT, Windows 2000, and Windows 2003, AIX, and Solaris. SecureWay Directory is shipped as part of the base operating system on AIX and iSeries (AS/400), and with OS/390 Security Server.

DB2 supports IBM LDAP client on AIX, Solaris, Windows 98, Windows XP, Windows NT, Windows 2000, and Windows 2003.

DB2 supports IBM LDAP Version 3.2.2 on Linux IA32 and Linux/390.

Microsoft Active Directory is an LDAP Version 3 server and is available as part of the Windows 2000 Server operating system.

The Microsoft LDAP client is included with the Windows operating system.

When running on Windows operating systems, DB2 supports using either the IBM LDAP client or the Microsoft LDAP client to access the IBM SecureWay Directory Server. To explicitly select the IBM LDAP client, use the **db2set** command to set the DB2LDAP_CLIENT_PROVIDER registry variable to the value IBM.

Tivoli Storage Manager for Linux (AMD64)

Tivoli Storage Manager support is now available for Linux on AMD Opteron - 64-bit systems. The minimum required level of TSM client API is TSM 5.2.0.

Tools Catalog database creation not supported on Linux (AMD64)

The creation of the tools catalog database under a 64-bit DB2 instance on Linux (AMD64) is not supported for Version 8.1.4. Do not attempt to create the tools catalog under a 64-bit instance either during the installation of DB2, or by updating a 64-bit instance using **db2isetup**, or by using the **CREATE TOOLS CATALOG CLP** command after the installation is finished. The creation of the tools catalog database under a 32-bit instance on Linux (AMD64) is supported for Version 8.1.4.

Tools Catalog database creation not supported on AIX, Solaris, and HP-UX

The creation of the Tools Catalog is not supported during the installation of DB2 UDB against 64-bit instances on the hybrid 64-bit platforms for the following releases of DB2 UDB:

- DB2 UDB Version 8.1
- DB2 UDB Version 8.1 FixPak 1
- DB2 UDB Version 8.1.2,
- DB2 UDB Version 8.1 FixPak 3
- DB2 UDB Version 8.1.4

The hybrid platforms are:

- AIX
- Solaris Operating Environments
- HP-UX
- Other platforms that support both 32-bit and 64-bit instances

If you wish to create a tools catalog against a 64-bit instance, this can be done after the installation of DB2 either through the Command Line Processor using the **CREATE TOOLS CATALOG CLP** command or using the Control Center. You will also need to install a 64-bit IBM Developer Kit for Java for this operation. Refer to the DB2 Administration Server section of the *DB2 Administration Guide* for more details.

Windows XP operating systems

The Windows XP Home Edition operating system is only supported by Personal Edition products.

The Windows XP Professional operating system is supported by the following products:

- Personal Edition
- Workgroup Server Edition
- DB2 Connect Personal Edition
- DB2 Connect Enterprise Edition

   Note: DB2 Connect Enterprise Edition is supported on Windows XP for development or test purposes only. Production environments require Windows 2000 or Windows Server 2003.

Workgroup Server 64-bit server instance limitations

DB2 UDB Workgroup Server Edition and DB2 UDB Workgroup Server Unlimited Edition are not licensed for 64-bit server instances. With these products, you can create:

- 32-bit server instances

• 32-bit or 64-bit client instances.

Application development

DB2 for AIX 4.3.3 and 5.1 and above require AIX C++ Version 6 Runtime

DB2 Version 8.1.4 for AIX Versions 4.3.3 and 5.1 and above require installation of the AIX C++ Version 6 Runtime libraries on your AIX system. This update is available as the March 2003 C++ Runtime PTF at the following site:

http://www-1.ibm.com/support/docview.wss?rs=0&q=xlC.rte&uid=swg24004427&loc=en_US&cs=utf-8&cc=us&lang=en

Please follow the install instructions given at the site listed above before using DB2 Version 8.1.4.

Asynchronous execution of CLI

Asynchronous execution with CLI is not available.

CLI and ODBC on Windows 64-bit operating systems

You cannot use an application with mixed ODBC and DB2 CLI on a Windows 64-bit operating system.

DB2 Path for SQL Routine Compile Command (Windows)

The DB2_SQLROUTINE_COMPILE_COMMAND does not normally need to be set. However, when it is set on Windows, there may be a problem caused by the %DB2PATH% variable containing a space between ″Program″ and ″Files″ in the default path ″C:\Program Files\IBM\SQLLIB″. This problem may occur even though the entire command value is in quotes.

The workaround is to use the short form for the %DB2PATH% value. In the default case, this would be ″C:\PROGRA~1\IBM\SQLLIB″. You could either set %DB2PATH% to the short form of the path where DB2 is installed:

```
set db2path=C:\PROGRA~1\IBM\SQLLIB
```

and run the DB2_SQLROUTINE_COMPILE_COMMAND with the default value:

```
db2set DB2_SQLROUTINE_COMPILE_COMMAND="cl -Ox -W2 -TC -D_X86_=1 -MD
  -I%DB2PATH%\include SQLROUTINE_FILENAME.c /link -dll
  -def:SQLROUTINE_FILENAME.def /out:SQLROUTINE_FILENAME.dll
  %DB2PATH%\lib\db2api.lib"
```

Or change the value of the command itself by substituting the short form of the path value for %DB2PATH%:

```
5                            db2set DB2_SQLROUTINE_COMPILE_COMMAND="cl -Ox -W2 -TC -D_X86_=1 -MD
5                              -IC:\PROGRA~1\IBM\SQLLIB\include SQLROUTINE_FILENAME.c /link -dll
5                              -def:SQLROUTINE_FILENAME.def /out:SQLROUTINE_FILENAME.dll
5                              C:\PROGRA~1\IBM\SQLLIB\lib\db2api.lib"
```

5   Note that the actual path used must be where DB2 is installed. For example, if
5   DB2 is installed in the same path on the D: drive, the setting would be
5   "D:\PROGRA~1\IBM\SQLLIB".

5   Accessing Java shared libraries on Linux

5   To run Java stored procedures or user-defined functions, the Linux run-time
5   linker must be able to access certain Java shared libraries, and DB2 must be
5   able to load these libraries as well as the Java virtual machine. Since the
5   program that does this loading runs with setuid privileges, it will only look
5   for the dependent libraries in /usr/lib.

5   Create symbolic links in /usr/lib to point to the Java shared libraries. For the
5   IBM JDK 1.3, you need symbolic links to libjava.so, libjvm.so, and
5   libhpi.so. You can create the symbolic links by running the following
5   commands as root:

```
5              cd /usr/lib
5              ln -fs JAVAHOME/jre/bin/libjava.so .
5              ln -fs JAVAHOME/jre/bin/classic/libjvm.so .
5              ln -fs JAVAHOME/jre/bin/libhpi.so .
```

5   where *JAVAHOME* is the base directory for the JDK. If DB2 cannot find these
5   libraries, you will get a -4301 error when trying to run a Java routine, and
5   there will be messages in the administration notification log about libraries
5   not found.

5   **Note:** Do not add the location of the Java shared libraries to /etc/ld.so.conf
5   instead of creating links in /usr/lib. This will not work and will also
5   result in the call to the routine not completing.

Configuration Assistant

Unsupported bind options

The Configuration Assistant does not support the following bind options:
- CALL RESOLUTION
- CLIPKG
- CNULREQD
- DBPROTOCOL
- ENCODING
- MESSAGES
- OPTHINT

- OS400NAMING
- GENERIC
- IMMEDIATE
- KEEP DYNAMIC
- PATH
- SORTSEQ
- TRANSFORM_GROUP
- VALIDATE
- VARS

Configuration parameters

NUM_LOG_SPAN configuration parameter on a multipartition database

2

2 The NUM_LOG_SPAN specifies the maximum number of log files that a
2 transaction can span. If at any time a transaction violates the
2 NUM_LOG_SPAN setting, it is rolled back, and forces the application that
2 caused the transaction off the database.

2 However, in a multipartition system, the db2loggr process can only force an
2 application if the coordinating node for the application and the node of the
2 db2loggr process that detects the error are both the same. For example, you
2 have a system with three nodes (0,1 and 2) and have set the
2 NUM_LOG_SPAN parameter to 2 on all nodes. An application connects to
2 node 2 of the database, and begins a long-running transaction, which spans
2 more than two log files. If the db2loggr process on node 1 is the first to detect
2 this error, then nothing will happen. However, if the violation also occurs on
2 node 2, then the db2loggr process will notice the error, the transaction will be
2 rolled back, and the application will be forced off.

Command Center

Command Center and Version 7 servers

5

5 The Version 8 Command Center may generate warning messages and dump
5 files when the [...] (browse) button associated with the Database connection
5 field is clicked. This behavior is associated with the limitations and restrictions
5 for Version 8 tools working with Version 7 servers. Clicking [...] opens the
5 Select Database window. As you expand the systems and instances that
5 appear in this window, DB2 generates internal actions to retrieve system,
5 instance, and database information in order to populate the tree. If DB2
5 encounters a Version 7 server during these internal activities, it generates a
5 warning and dump files.

dasdrop limitation in multiple FixPak environments

Alternate FixPaks install their own version of the **dasdrop** command. On AIX, it is installed in the `/usr/opt/db2_08_FPn/` path. On other UNIX systems, it is installed in the `/opt/IBM/db2/V8.FPn/` path. In both cases, *n* is the number of the FixPak.

In a multiple FixPak Environment, you can only have one DAS set up at any one time. You can create the DAS against version 8.1 of the product, or against any of the alternate FixPaks. To drop a DAS that was created against version 8.1 of the product, you can use any version of **dasdrop** to drop it. However, to drop a DAS that was created against an alternate FixPak, you must use an alternate FixPak version of **dasdrop**.

For example, consider the following scenario on the AIX operating system:
- You install DB2 Universal Database, Version 8.1.
- You install alternate FixPak 1.
- You create a DAS using the version 8.1 code, with the following command:
  `/usr/opt/db2_08_01/instance/dascrt dasusr1`
- You want to drop the DAS.

You can drop this DAS by using either of the following commands:
`/usr/opt/db2_08_01/instance/dasdrop`
`/usr/opt/db2_08_FP1/instance/dasdrop`

Both will work properly.

However, in this example:
- You install DB2 Universal Database, Version 8.1.
- You install the alternate FixPak 1.
- You create a DAS using the alternate FixPak 1 code, with the following command:
  `/usr/opt/db2_08_FP1/instance/dascrt dasusr1`
- You want to drop this DAS.

You must use the alternate FixPak 1 **dasdrop** command:
`/usr/opt/db2_08_FP1/instance/dasdrop`

Trying to use the version 8.1 **dasdrop** command will cause an error.

This limitation only applies to version 8.1 of the product, and not to any of the regular FixPaks. For example:
- You install DB2 Universal Database, Version 8.1.

- You apply regular FixPak 1, which corrects the problem with the version 8.1 **dasdrop**.
- You install the alternate FixPak 1.
- You create a DAS using the alternate FixPak 1 code, with the following command:

  /usr/opt/db2_08_FP1/instance/dascrt dasusr1
- You want to drop this DAS.

You can drop this DAS by using either of the following commands:

/usr/opt/db2_08_01/instance/dasdrop

/usr/opt/db2_08_FP1/instance/dasdrop

Both will work properly because the version of dasdrop in the /usr/opt/db2_08_01/ path was corrected when you applied the regular FixPak.

Data Warehouse Center

ERwin 4.x metadata bridge

ERwin 4.0 metadata cannot be imported on the Linux operating system.

The ERwin 4.x bridge is supported on Windows 98 and WinME with the following restrictions:

- The **db2erwinimport** command can only be run from the db2 command line processor.
- You must fully qualify the XML and trace file names for the -x and -t parameters.

Japanese names of remote objects

Schema, table, and column names of remote sources in Japanese cannot contain certain characters. Unicode mapping differences may cause the names to be null. See http://www.ingrid.org/java/i18n/encoding/ja-conv.html for more information.

Restrictions for the Clean Data transformer

Linking restrictions:

You cannot link any OS/390 data resources such as tables or views with a new Clean Data step. You can still link OS/390 data resources with the deprecated programs Clean Data step.

Parameter restrictions:

For the Find and Replace parameter: If your new Clean Data transformer rules table contains different data types for the Find and Replace columns, you must change the Target column data type in both the Target Table properties page and the Column Mapping page before you promote the transformer to test mode.

For the Discretize parameter: If your new Clean Data rules table contains different data types for the Bounds and Replace columns, you must change the Target column data type in both the Target Table properties page and the Column Mapping page before you promote the transformer to test mode.

iSeries platform restrictions:

On the iSeries platform, the new Clean Data transformer does not perform error processing. You can generate the All Matches match type only on the iSeries platform.

Using the warehouse agent for replication and accessing Client Connect warehouse sources

Using the warehouse agent for replication

If the source, target, capture control, or apply control servers (databases) are remote to the client system, you must catalog the database with the same name, user ID, and password on both the client and the warehouse agent systems. After you catalog the source on the client and warehouse agent systems, verify that you can connect to the source, target, capture, and apply databases.

If you cannot connect to the warehouse source, warehouse target, replication capture, or replication apply databases, verify that the environment variable DB2COMM on the remote system is set to TCP/IP, and that the port number matches the port number of the node that is cataloged on the client system.

To verify the port number on the remote system, type the following command at a DB2 Universal Database command prompt:

```
get dbm cfg | grep SVCENAME
```

You specify the port number of the client system when you catalog the node.

Accessing Client Connect warehouse sources using the warehouse agent

When you access a warehouse source that was defined using Client Connect with a warehouse agent, the source must be cataloged with the same name, user ID, and password on both the client and warehouse agent systems. If you are using the ODBC version of the warehouse agent, you must also

catalog the source as an ODBC source on both the warehouse agent and client sites. Otherwise, actions that require the warehouse agent to access the warehouse source will fail.

Scheduling a warehouse process to run at intervals

When scheduling a warehouse process to run at intervals, you must determine the longest time it takes to run all the production steps in the process and schedule the intervals accordingly. If a process exceeds the scheduled time interval, all subsequently scheduled occurrences of that process will not run and will not be rescheduled.

Replication Center restrictions on iSeries systems

Administrative tasks in IASPs:

When using the Replication Center, you cannot perform administrative tasks in IASPs on iSeries systems.

Restrictions for replication steps that use iSeries control, source and target servers:

The iSeries control, source, and target servers are supported only on the DB2 Universal Database Enterprise Server Edition.

For both default and remote agents, the iSeries servers must be cataloged on the local machine. For a remote agent, the iSeries servers must also be cataloged on the machine where the agent resides. If the source or the target servers are on an iSeries operating system, then you must specify the system name on the Database page of the Source or Target notebook.

Restriction for import and export

If a process with unlinked shortcuts is exported and then imported as a .tag file into another control database, the unlinked shortcut data will cause error DWC3142:

```
<dirID> was not found in the Data Warehouse Center control database.
```

This error displays when the unlinked shortcut dirIDs are untranslated and they refer back to the original control database.

The Visual Warehouse 5.2 DB2 program ″VW 5.2 Load flat file into DB2 UDB EEE (AIX only)″ is not supported

The Visual Warehouse 5.2 DB2 EEE load step is not supported in DB2 Version 8. To load a delimited file into a partitioned table in version 8, perform the following steps:

1. Migrate the target database or table to DB2 Version 8 if it is not already at DB2 Version 8. One way to migrate the database is from the command line with the **db2move** command.

2. Open the Properties window of the Visual Warehouse 5.2 EEE load step, select the **Parameters** tab, and note the values for **Column delimiter**, **String delimiter**, and **Decimal delimiter** parameters.

3. Create a new process for the new load step or use the original process. If you plan to create a new process, add the source file and target table to the new process. Also add the new process to the appropriate warehouse security group.

4. Create a DB2 load step in the process that you are using.

5. Connect the source and target to the step.

6. Open the Properties window of the load step and select PARTITIONED in the **Load mode** field. If necessary, update the **Column**, **Character strings**, and **Decimal point** fields with the values used in the **Column delimiter**, **String delimiter**, and **Decimal delimiter** of the old step.

7. Click **Advanced** to start the Load wizard. From the Operation page, select **Split and load data**.

8. From the Type page, select **Replace table data**.

9. Accept the Load wizard's remaining default values.

10. The Summary page shows the final load command. Review the final load command and click **Finish**.

11. Close the Properties window.

Limited support for CURSOR load

The DB2 UDB Load step now allows a view or a table to be used as the source to the step, resulting in a LOAD FROM CURSOR.

In order to map columns in the wizard for CURSOR load, the **Map columns based on column positions found in the input file** radio button must be selected.

DB2 Cube Views

Cube Views sample application differs from sample source

DB2 Cube Views V8.1 provides a sample application called db2mdapiclient.exe that demonstrates some important functions of Cube Views. The source code for this application, db2mdapiclient.cpp, is included. In the initial release of DB2 Cube Views V8.1, the application was built using the source code. In version 8.1.4 the source code is unchanged, but the application has been modified. The source code is still valid but it does not exactly match the application.

DB2 Data Links Manager

Data Links server backup fails using Tivoli Storage Manager archive server (AIX, Solaris Operating Environment)

Problem: When installing or migrating to DB2 Data Links Manager, Version 8.1, a Data Links File Manager (DLFM)-initiated backup of Data Links server data to a Tivoli® Storage Manager archive server fails. One of the following sets of error messages display, either on-screen or on the installation status report:

```
DLFM129I: Automatic backup of DLFM_DB database has been triggered.
          Please wait for the backup to complete.

DLFM901E: A system error occurred. Return code = "-2062".
          The current command cannot be processed.
          Refer to the db2diag.log file for additional information.
```

— or —

```
DLFM811E: The current DLFM database could not be backed up.
          SQL code = "-2062", Return code = "-2062"

DLFM901E: A system error occurred. Return code = "-2062".
          The current command cannot be processed.
          Refer to the db2diag.log file for additional information.
```

Cause: The DB2 Data Links Manager Installer program failed to set the variables required to use Tivoli Storage Manager as an archive (backup) server for a Data Links server.

Tip: If you want to use Tivoli Storage Manager as an archive server, and you have not yet installed or migrated to DB2 Data Links Manager, Version 8.1, you can prevent this problem from occurring. First, do not use the "Tivoli Storage Manager" backup option from the Installer program. Then, manually configure the Data Links Manager Administrator's profile to include the appropriate Tivoli Storage Manager variables, as described in step 2 that follows. After you have completed both tasks, you can proceed with the installation or migration.

Workaround: Perform the following tasks in the order listed.

1. Back up the DLFM database using this command: db2 backup <dlfm_db><path> where:
   - <dlfm_db>is the name of the DLFM database. By default, the database is called DLFM_DB.
   - <path> is the directory path to the backup storage location of your choice.

2. Manually configure the Data Links Manager Administrator's profile to include the appropriate Tivoli Storage Manager variables. The manual configuration procedure and the required variables are described in the following documentation topics:

- Using Tivoli Storage Manager as an archive server (AIX)
- Using Tivoli Storage Manager as an archive server (Solaris Operating Environment)

You can find these topics either online in the DB2 Information Center, or in the "System Management Options" chapter of the *DB2 Data Links Manager Administration Guide and Reference*.

- If you are completing a new installation of DB2 Data Links Manager, Version 8.1, you are finished.
- If you are migrating to DB2 Data Links Manager Version 8.1, rerun the Migration Utility program, **db2dlmmg**.

DB2 Universal Database backup and restore

Backup and restore on Linux 390 operating systems

Backup and restore operations to and from multiple tape devices may not work if you are using the Linux 390 operating system.

Development Center

Debugging Stored Procedures with double quotation marks

4
4 The IBM DB2 Universal Database Development Center 8.1.4 and all previous
4 releases does not support debugging for any stored procedure with double
4 quotation marks (″) in the stored procedure name, schema, or specific name.

4 ### SQLFLAG(STD) precompiler option error

4 Remove the SQLFLAG (STD) precompile option when using Development
4 Center to create SQL stored procedure to run on DB2 for z/OS, Version 8. If
4 the SQLFLAG(STD) precompile option is enabled it will cause the following
4 error: Abend C6 occurred while running Precompile program DSNHPC

Documentation

DB2 Replication Guide and Reference documentation

The solutions information at http://www.ibm.com/software/data/dbtools/datarepl.htm is no longer available. This information is referred to in the preface to the *Replication Guide and Reference*.

DB2 Universal Database, Version 8 HTML documentation installation restriction (Windows)

On Windows, do not install the DB2 Universal Database, Version 8 HTML documentation on a workstation or server where a DB2 Universal Database, Version 7 (or earlier) product is already installed. The installer detects the earlier version and removes the earlier product.

A workaround does exist. If you need to install the DB2 Universal Database, Version 8 HTML documentation on a workstation where an earlier version of DB2 Universal Database is installed, you can manually copy the files and directories from the DB2 Universal Database, Version 8 HTML Documentation CD, rather than using the installer. The DB2 Information Center and full text search will work, but you will not be able to apply any HTML documentation FixPaks.

Documentation search may fail on AIX unless all documentation categories are installed

If you do not to install all of the categories of documentation on the DB2 HTML documentation CD, an attempt to search against "All topics" may fail with an `InvalidParameterException` reported in the Java console of your browser and no search results.

To work around the documentation search problem do one of the following:

- Narrow the scope of your search by selecting from the **Search scope** list box in the Search window.
- Install all the documentation categories from the DB2 HTML documentation CD.

Documentation search problem with Java 2 JRE1.4.0

If your browser uses Java 2 JRE V1.4.0 and your documentation is installed in a path that contains spaces (e.g., `C:\Program Files\SQLLIB\doc\`), the documentation search applet may fail with an InvalidParameterException reported in the Java console of your browser and no search results. This problems is fixed with JRE V1.4.1.

To work around the documentation search problem, do one of the following:

- Upgrade your browser's JRE version to 1.4.1, available at http://java.sun.com/j2se/1.4.1/download.html
- Downgrade your browser's JRE version to 1.3.x, available at http://www.ibm.com/software/data/db2/udb/ad/v8/java/

Installation of the DB2 Information Center for languages that are not options during installation

The DB2 Setup wizard can only install the DB2 HTML documentation for languages that it also installs with the DB2 product. As a result, the DB2 HTML documentation cannot be installed using the DB2 Setup wizard in the following languages:

- Portuguese (restriction for UNIX only)
- Danish, Finnish, Norwegian, Swedish (restriction for Linux only)
- Dutch, Turkish (restriction for HP-UX, Solaris, Linux only)
- Arabic (restriction for UNIX only)

To install the DB2 Information Center for one of the languages listed previously:

1. Insert the *DB2 HTML Documentation CD* in your CD-ROM drive.
2. Copy the following directory to your computer:
   - `/cdrom/program files/IBM/SQLLIB/doc/htmlcd/language`

   where *cdrom* is where you have mounted the CD and *language* is the code for the language you want to use.

It does not matter where you place the folder. You can also view the DB2 HTML documentation directly from the CD. For instructions on how to do so, see the "Viewing technical information online directly from the DB2 HTML Documentation CD" topic in the appendix of any DB2 Version 8 manual.

Notes:

1. To view the documentation, you must use Microsoft Internet Explorer 5.0 or later, or Netscape 6.1 browsers or later.
2. As well, if you launch the documentation from your product, it will go to the documentation installed as part of your product install, and not to the documentation that you copied over manually.

Official naming convention for DB2 Universal Database for Linux when used on host systems

The official naming convention for DB2 Universal Database for Linux on host systems is *DB2 on Linux for S/390® and zSeries™*. *S/390* refers to 32-bit and *zSeries* to 64-bit. In addition, it is important to note that the following terms are also obsolete:

- 64-bit Linux/390
- Linux/SGI

GUI tools

Control Center plug-in support

The Control Center now supports custom folders. Custom folders can contain user-selected system or database objects. Creating Control Center plug-ins specifically for a custom folder is not supported, but plug-ins can be created for the object contained in custom folders. For more information about Control Center plug-ins, see the topic Introducing the plug-in architecture for the Control Center.

Displaying Indic characters in the DB2 GUI tools

If you have problems displaying Indic characters when using the DB2 GUI tools, you might not have the required fonts installed on your system.

DB2 Universal Database has packaged the following IBM TrueType and OpenType proportional Indic language fonts for your use. You can find these fonts in the font directory on either of the following CDs:

- IBM Developer Kit, Java Technology Edition, Version 1.3.1 for AIX operating systems on 64-bit systems
- Java application development and Web administration tools supplement for DB2, Version 8.1

These fonts are to be used only in conjunction with DB2. You cannot engage in the general or unrestricted sale or distribution of these fonts:

Table 4. Indic fonts packaged with DB2 Universal Database

Typeface	Weight	Font File Name
Devanagari MT for IBM	Medium	devamt.ttf
Devanagari MT for IBM	Bold	devamtb.ttf
Tamil	Medium	TamilMT.ttf
Tamil	Bold	TamilMTB.ttf
Telugu	Medium	TeluguMT.ttf
Telugu	Bold	TeleguMTB.ttf

Detailed instructions on how to install the fonts and modify the font.properties file can be found in the Internationalization section of the IBM development kit for Java documentation.

In addition, the following Microsoft products also come with Indic fonts that can be used with our GUI tools:

- Microsoft Windows 2000 operating system
- Microsoft Windows XP operating system
- Microsoft Publisher

- Microsoft Office

GUI tools not supported for zSeries servers running Linux operating systems

With the exception of the DB2 Setup wizard, GUI tools will not work on zSeries servers running the Linux operating system. This limitation includes any items normally launched form the Install launchpad, such as the Quick Tour.

If you want to use the GUI tools with one of these systems, install the administrative tools on a client system with a different system configuration, and use this client to connect to your zSeries server.

Load and Import Columns page does not support DBCS characters in IXF files

If you use the Load wizard or Import notebook to set up a load or import from an IXF input file containing DBCS characters, the Columns page will not correctly display the column names contained in the file.

Incorrect indicators given when a load operation fails

If a load fails, but only warnings were returned (not errors), then the task icon will still appear with a green checkmark in the Task Center. Be sure to double-check the success of any loads you carry out.

Minimum display settings for GUI tools

For the GUI tools such as the Control Center to work properly, you must have a screen resolution of at least 800 by 600 dpi, and be using a display palette of at least 32 colors.

SQL1224N error when using the GUI tools on AIX

If you are using the GUI tools on an AIX operating system, you may receive an SQL1224N error. This error is caused by a memory handling problem in DB2. The following workaround will help eliminate the error:

Procedure:

To stop the SQL1224N error on AIX operating systems:

1. As the instance owner, run the following commands:
   ```
   export EXTSHM=ON
   db2set DB2ENVLIST=EXTSHM
   ```
2. Restart the instance with the following commands:
   ```
   db2stop
   db2start
   ```

Once the instance restarts with the new environment variable settings, the SQL1224N errors should stop.

Health Monitor

Health Monitor off by default

The default value for the database manager switch for the health monitor (HEALTH_MON) is OFF.

Health indicator restrictions

The health monitor is unable to execute actions for the db2.db2_op_status health indicator if the indicator enters the down state. This state can be caused, for example, when an instance that the indicator is monitoring becomes inactive because of an explicit stop request or an abnormal termination. If you want to have the instance restart automatically after any abnormal termination, you must configure the fault monitor to keep the instance highly available.

Information Catalog Center

Do not partition information catalog tables

Tables that the Information Catalog Manager uses must be contained within a single database partition. Numerous methods are available to put the tables within a single partition. The following procedure is one approach that works.

1. Open a DB2 Command Line Processor and issue these commands:
   a. `CREATE DATABASE PARTITION GROUP pgname ON DBPARTITIONNUM pnumber`
   b. `CREATE REGULAR TABLESPACE tsname IN DATABASE PARTITION GROUP pgname MANAGED BY SYSTEM USING ('cname')`

   Click Start –> Programs –> IBM DB2 –> Set-up Tools –> Manage Information Catalog Wizard.

   On the Options page, specify the table space name in the **Table space** field.

Log file not generated when importing tag language files

If an Information Catalog Center log file is not generated when importing tag language files to the Information Catalog Center, perform the following troubleshooting steps:

When running db2icmimport from a command line:

- If output files were not generated (.xml, .out, .err, .log), then there is probably an error on the command line. Verify that the first five arguments, which are UserId, Password, Database, Catalog, and Tagfile, are correct. View the syntax by entering db2icmimport. If this does not solve the problem, modify db2icmimport to capture the output of db2javit by using the -g option to save the output to a file (for example, db2javit

4	-j:com.ibm.db2.common.icm.tag.IcmImport -w: -i: -o:″-Xmx128m
4	-Xms32m″ -g:″d:\temp\myimport.trc″ . . .).

<div>

4   • If a log file was not generated, it is usually a parsing error. Look at
4   the .xml file and the .out file. If you can, insert a
4   ″:COMMIT.CHKPID(DEBUG)″ command at the beginning of the tag
4   language file. This command will generate debug report messages
4   and check the .xml and .out files for parsing errors.

4   • After parsing, errors should appear in the .log file. When the debug
4   report is being generated, look at the .log file and the .out file for
4   information.

4   • Always check the .err file to see if there is a run-time error.

</div>

When importing tag language files using the Information Catalog Center GUI:

- When you import tag language files using the GUI interface, no .out or .err files are generated.
- If a .log or .xml file is generated, try to debug by using those files.
- If they are not generated or do not help, run the import process from a command line to get more information.

Message reference

Version 8.1.4 Information Center message topics

Version 8.1.4 of the DB2 Information Center does not contain the new and modified message topics. The new and modified message topics are available on the IBM Web site:

http://publib.boulder.ibm.com/infocenter/db2help

ADM message updates

ADM5530E is incorrectly categorized as an error, when it should be categorized as a warning message. The message is logged as an error in the Event Log on Windows and in the Notification Log on UNIX. ADM5530E should be treated as a warning message.

SQL message additions

SQL20271W
SQL20271W The name at ordinal position ″<number>″ in the statement, with name ″<column-or-parm-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-parm-name>″. If performing a describe output of a prepared query, the ordinal position is relative to the select list

5   column of the query. If performing a describe output of a CALL
5   statement, the ordinal position is relative to the OUT or INOUT
5   parameters of the procedure to which the CALL resolved. If
5   performing a describe input of a CALL statement, the ordinal position
5   is relative to the IN or INOUT parameters of the procedure to which
5   the CALL resolved.

5   The column name or parameter name was either too long, or became
5   too long after code page conversion.

5   **User Response:**
5   For a column name, if the exact name of the column is significant,
5   change the table, view, or nickname so the column has a shorter
5   name, or use a client whose code page does not cause expansion of
5   the column name beyond the supported maximum length. For a
5   parameter name, if the exact name of the parameter is significant,
5   change the procedure so the parameter has a shorter name, or use a
5   client whose code page does not cause expansion of the parameter
5   name beyond the supported maximum length.

5   sqlcode: +20271
5   sqlstate: 01665

5   **DBI message updates**

5   **DBI1060E Invalid package name <″pkg-name″>**

5   **Explanation:**
5   An incorrect name has been entered. The package either does not exist
5   or the name has been entered incorrectly.

5   **User Response:**
5   Check to see if the name of the given package exists on the
5   distribution media. If so, examine the name to see if it has been
5   misspelled. All package names should be in lower case.

5   **DBI1001I**

5   **Usage:**

```
5                    db2icrt [-a AuthType]
5                            [-p PortName]
5                            [-s InstType]
5                            [-w WordWidth]
5                            -u FencedID InstName
```

5   **Explanation:**
5   An invalid argument was entered for the **db2icrt** command. Valid
5   arguments for this command are:

5   -h | -?   display the usage information.

-d		turn debug mode on.
-a		AuthType is the authentication type (SERVER, CLIENT, or SERVER_ENCRYPT) for the instance.
-p		PortName is the port name or port number to be used by this instance.
-s		InstType is the type of instance to be created (wse, ese, or client).
-u		FencedID is the name of the user under which fenced UDFs and fenced stored procedures will be run. This flag is not required if only a DB2 client is installed.
-w		WordWidth is the width, in bits, of the instance to be created (31, 32 or 64). You must have the requisite version of DB2 installed (31-bit, 32-bit or 64-bit) to be able to select the appropriate width. The default width value is the lowest bit width supported by the current version of DB2, platform and instance type.

InstName is the name of the instance.

User Response:
For more information about this command, please refer to the *Quick Beginnings* manual. Enter the command again with the proper options and arguments.

DBI1170E The -w flag only accepts 31, 32 or 64 as possible input.

Explanation:
When using the **db2icrt** or **db2iupdt** command, you can only specify a value of 31, 32 or 64 for the optional flag -w. You specify -w 64 for **db2icrt** when creating a 64 bit instance. You can also specify -w 64 for **db2iupdt** when updating a 31 or 32 bit instance to become a 64 bit. The -w flag is not needed otherwise. The required bit width to be updated to must be supported for the current version of DB2, platform and instance type.

User Response:
For more information about this command, please refer to the *Quick Beginnings* manual. Enter the command again with the proper options and arguments.

DBI1956E

Usage:
db2ilist [-w 31|32|64] [-p] [-a] [inst_name]

Explanation:
An incorrect argument was entered for the **db2ilist** command. Valid

arguments for this command are:

-h   display the usage information.

-w 31|32|64   lists the 31 or 32 or 64 bit instances. The -w option can be used with the -p option, and is superseded by the -a option.

-p   lists the DB2 install path that an instance is running from. The -p option can be used with the -a option, and is superseded by the -a option.

-a   returns all relevant information including the DB2 install path associated with an instance, as well as its bitwidth information (32 or 64). Please note, the returned information for 32 means 31-bit for DB2 on Linux (S/390, zSeries)

inst_name   returns the information for the specified instance. If no instance is named, db2ilist returns information on all instances of the current DB2 release.

User Response:
Enter the command again as follows:

```
db2ilist [-w 31|32|64] [-p] [-a] [inst_name]
```

Migration

Migrating DB2 Universal Database when using DataJoiner or replication

If you want to migrate an instance of DataJoiner® or DB2 Universal Database for Linux, UNIX, and Windows on which you are running the Capture or Apply programs for DB2 Universal Database replication, you must prepare to migrate your replication environment before you migrate the DB2 Universal Database or DataJoiner instance. Detailed instructions for carrying out the required preparation are included in the migration documentation for DB2 DataPropagator™, Version 8. You can find migration documentation for DB2 DataPropagator, Version 8 at http://www.ibm.com/software/data/dpropr/

Migrating a DB2 Version 8 Windows 32–bit database to Windows 64-bit

This topic lists the steps for migrating your 32–bit DB2 Version 8 database on a 32–bit machine to a 64–bit database on a 64–bit Windows operating system.

Prerequisites:
- A 64-bit version of DB2 Version 8 must be installed on your 64-bit machine.
- Ensure that your 32-bit Windows system is running DB2 Version 8.

Procedure:

To migrate to DB2 Version 8 on Windows 64-bit:
1. Backup your DB2 Version 8 databases on your 32-bit Windows system.

2. Restore your DB2 Version 8 backup (created in step #1) on your 64-bit Windows system.

Note: In addition to migrating DB2 from 32-bit to 64-bit, the following migration scenarios are also possible:
- Migrating between versions of Windows
- Migrating between versions of DB2 UDB
- Migrating everything at once
- Migrating back to 32–bit
- Migrating back to DB2 UDB Version 7 or Version 6

Detailed information is available in the following IBM Redbook: Scaling DB2 UDB on Windows Server 2003. This Redbook can be found at the following URL:

http://publib-b.boulder.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247019.html

---

Query Patroller

Limitations when DYN_QUERY_MGMT is disabled

Query Patroller cannot perform the following actions if the database configuration parameter DYN_QUERY_MGMT is disabled:
- Release queries from a held state
- Make a running or queued query run in the background when the query is in the foreground

If you attempt to release a query from held state, or change a foreground query to a background query when DYN_QUERY_MGMT is set to DISABLE, an error message will be displayed and the state of the query will not change. If held queries are scheduled to run and DYN_QUERY_MGMT is disabled at the time they start running, an error message is written to the qpdiag.log and the queries are left in held state.

Result tables now use DB2QPRT schema

Starting with FixPak 5, all new result tables are created in the schema DB2QPRT rather than in the schema of the submitter.

DROPIN privilege on the DB2QPRT schema is granted to operators whose profiles were created prior to installation of FixPak 5 and had either:
- The MONITORING privilege with edit authority
- The HISTORICAL ANALYSIS privilege with edit authority

DROPIN privilege on the DB2QPRT schema is granted the first time Query
Patroller creates a result table in this schema.

Operators who are given MONITORING privilege with edit authority or
HISTORICAL ANALYSIS privilege with edit authority after installation of
FixPak 5 are also granted DROPIN privilege on the DB2QPRT schema upon
creation or update of their profiles.

Create Explain tables before running the Historical Data Generator

When running the Historical Data Generator for Query Patroller, if the
Explain tables do not already exist, the generator will create them for you.
However, it is highly recommended that you create the Explain tables before
running the Historical Data Generator. When you create the Explain tables be
sure you create them on the same partition. Actively creating the Explain
tables on the same partition improves the performance of the Explain facility.
This improvement increases the performance of the Historical Data Generator.

Checking log files for Historical Analysis

If the **Explain Run** column of the Query Activity over Time (Historical
Analysis) report shows a status of **Ran unsuccessfully** for a query, historical
data has not been generated for that query. Therefore, the query will not
appear in any historical analysis reports or graphs. As documented in version
8, to determine why the query was unsuccessful, you can examine the
qpuser.log file.

However, in addition to examining the qpuser.log file, you should also
examine the qpdiag.log file.

Replication

Java Administrative API documentation for DB2 data replication

If you are developing applications using the administrative functions available
in DB2 DataPropagator, you can obtain documentation for the relevant
administrative Java APIs by contacting IBM support.

Column mapping restrictions and the Replication Center

You cannot map an expression in a source table to a key column in a target
table if the TARGET_KEY_CHG column of the IBMSNAP_SUBS_MEMBR
table is "Y" for that target table. This means that when using the Replication
Center to create a subscription-set member, you should not select the option
**Let the Apply program use before-image values to update target-key
columns** if a key column in the target table is mapped to an expression in the
source table.

Replication for Informix sources

Replication for Informix sources is no longer dependent on timestamp values. This enhancement eliminates issues that would arise during a backward time change, such daylight savings in October.

To take advantage of this enhancement, you must migrate any existing registrations and subscriptions for Informix sources:

1. Open a Web browser

2. Go to the DB2 DataPropagator Web page at http://www.ibm.com/software/data/dpropr/support.html

3. Select **Solve a problem** to search FAQs, APARs, Technotes

4. Enter criteria for the search and click **Submit**

Restriction lifted for including LOB columns in update-anywhere scenarios

Beginning in FixPak 5, the restriction for including LOB columns in update-anywhere scenarios (which contain replica tables) has been removed, provided that conflict detection is disabled.

Secure Windows environments

You may experience file permission problems if you are using DB2 Universal Database on Windows and are not an administrator on the Windows system. If you receive an SQL1035N, SQL1652N, or SQL5005C error message, possible causes and workarounds are as follows:

User does not have sufficient authority on the sqllib directory:

Problem

Received an SQL1035N or SQL1652N error when trying to open DB2 CLP or command window. The DB2 Universal Database code (core files) are installed into a directory structure where write privileges are limited, but some DB2 Universal Database tools need to write and create files in the DB2INSTPROF directory.

Workaround

Create a new directory where you can grant users, at minimum, the MODIFY permission and use either **db2set -g db2tempdir** to point to the new directory, or set the db2tempdir variable in the Windows system environment.

User does not have sufficient authority to write to the sqllib\<instance_dir> directory even though user belongs to SYSADM_GROUP:

Problem

Received an SQL5005C system error when trying to update the

1	database manager configuration file (update dbm cfg). The user does
1	not have the required NTFS permissions to write to the
1	sqllib*instance_dir* directory even though you have added this user to
1	the SYSADM_GROUP.

First workaround

Grant the users, at minimum, the MODIFY permission on the
instance_dir directory at the file system level.

Second workaround

Create a new directory where you can grant the user, at minimum, the
MODIFY permission. Use the **db2set db2instprof** to point to the new
directory. You will either need to recreate the instance so that the
information is stored under the new instance directory specified by
db2instprof, or you will need to move the old instance directory to the
new directory.

Spatial Extender

Rebinding after FixPak or patch installation

If you have existing spatial-enabled databases, you must rebind the list file
db2gse.lst after you install a DB2 FixPak or patch. The db2gse.lst file contains
the names of the bind files for the stored procedures that DB2 Spatial
Extender provides.

Prerequisites:

To bind the db2gse.lst file, you must have one of the following authorities:
- *sysadm* or *dbadm* authority
- ALTERIN privilege on the schema
- BIND privilege on the package

Procedure:

To rebind the db2gse.lst file:
1. Change to the instance directory where the bind files are located.
   a. On Windows, open a DB2 command window and enter the following
      command:
      ```
      cd %DB2PATH%\bnd
      ```
   b. On UNIX, enter the following command:
      ```
      cd $HOME/sqllib/bnd
      ```

      where *$HOME* is the instance owner's home directory.

2. Connect to the database and execute the BIND command. For example, enter:

```
db2 connect to dbname
db2 bind /home/instance/sqllib/bnd/@db2gse.lst
db2 terminate
```

You can use the DB2RBIND command with the ALL option instead of the BIND command. For syntax and options for the BIND and DB2RBIND commands, refer to the DB2 Command Reference.

SQL Assist

SQL Assist button disabled in the Command Center

In the Command Center, the SQL Assist button only becomes enabled once a connection has been established.

Two versions of SQL Assist are launched from DB2

You can invoke both version 7 and version 8 of SQL Assist from within DB2 Universal Database, Version 8.1. You can launch version 7 from the DB2 Data Warehouse Center. All other centers launch the latest version 8. The product online help has additional information for SQL Assist, Version 7.

SQL reference

ALTER WRAPPER statement

You cannot alter a wrapper. The ALTER WRAPPER statement is not supported.

System Monitor

Event record size limitation

For deadlock event monitors and global detailed deadlock event monitors, the event record is limited by the size of a nonconfigurable internal buffer. If db2diag.log cannot write this logging entry due to the record size, the log will record a message such as "event record is larger than BUFFERSIZE."

Snapshot UDF restrictions

Snapshot user-defined functions (UDF) are intended to be used on databases whose **Directory entry type** value displays as Indirect or Home when the LIST DB DIRECTORY command is issued. If a UDF is used against a remote database, the UDF will fail with the following error:

```
SQL1427N An instance attachment does not exist.
```

The snapshot UDFs, introduced in V8.1 cannot be used in conjunction with the monitor switches commands and APIs or monitor reset commands and APIs. This restriction includes:

- GET MONITOR SWITCHES
- UPDATE MONITOR SWITCHES
- RESET MONITOR

This limitation is due to the fact that such commands use an INSTANCE ATTACH, while the snapshot UDFs make use of DATABASE CONNECTs.

Amount of Log to be Redone for Recovery monitor element undefined for V8.1.4

In the Release information section of the Information Center for V8.1.4, log_to_redo_for_recovery is introduced as a new monitor element. The value of this monitor element is undefined for V8.1.4. This functionality is planned in a future release.

Throttled utility restrictions

The simultaneous execution of multiple throttled utilities is not supported. For example:

- If you are running three online backups, only one can be throttled. The other two must have a priority of 0.
- You can invoke a rebalance and backup at the same time, but either the rebalance or backup must have a priority of 0.

If you invoke multiple throttled utilities at the same time, it can cause the utilities to run for excessively long periods of time. It can also cause the system impact to be more severe than the limit set by the impact policy (UTIL_IMPACT_LIM).

XML Extender

XML Extender sample programs renamed

Conflicts between other installed programs and XML Extender can cause some XML Extender sample programs to seriously damage your files. The following list shows the conflicting XML Extender sample programs as well as new replacement programs that are less likely to cause conflicts. Make sure to use the new sample programs in place of the old ones.

Table 5. Replacement sample programs for XML Extender (Windows)

Old Program (Do not use)	New Program (Use)
insertx.exe	dxxisrt.exe
retrieve.exe	dxxretr.exe

Table 5. Replacement sample programs for XML Extender (Windows) (continued)

Old Program (Do not use)	New Program (Use)
retrieve2.exe	dxxretr2.exe
retrievec.exe	dxxretrc.exe
shred.exe	dxxshrd.exe
tests2x.exe	dxxgenx.exe
tests2xb.exe	dxxgenxb.exe
tests2xc.exe	dxxgenxc.exe

Table 6. Replacement sample programs for XML Extender (UNIX)

Old Program (Do not use)	New Program (Use)
insertx	dxxisrt
retrieve	dxxretr
retrieve2	dxxretr2
retrievec	dxxretrc
shred	dxxshrd
tests2x	dxxgenx
tests2xb	dxxgenxb
tests2xc	dxxgenxc

Using the new sample programs with the sample sqx files
The source code (.sqx files) for the executables listed above are located in the
samples\db2xml\c directory of your installation. The source files are still
labeled with their old names. If you make changes to the source code, copy
your newly compiled executables (with the old names) to the sqllib\bin
directory. On Windows platforms, you must make an additional copy, rename
it with its new name above, and copy it to the bin directory. Both copies
replace the existing files in the bin directory. For example, after compiling
your new version of shred.exe, you need to make two copies and replace the
files in the bin directory: one labeled shred.exe and the other renamed
dxxshrd.exe. On UNIX platforms, you only need to replace the file with the
old name with your newly compiled version.. If you create new executable
files from these samples, you must copy the new files from the
\SQLLIB\samples\db2xml\c\ directory into the \SQLLIB\bin\ directory,
and then make an additional copy, renaming them according to the table
above.

Decomposing documents in XML Extender that contain non-unique attribute and element names

You can now decompose documents that contain non-unique attributes and/or non-unique element names that map to different columns (of the same or different tables) without receiving the DXXQ045E error. The following is an example of an XML document with non-unique attributes and non-unique element names:

```
<Order ID="0001-6789">
        <!-- Note: attribute name ID is non-unique -->
        <Customer ID = "1111">
                    <Name>John Smith</Name>
        </Customer>
        <!-- Note: element name Name is non_unique -->
        <Salesperson ID = "1234">
                <Name>Jane Doe</Name>
        </Salesperson>
        <OrderDetail>
                <ItemNo>xxxx-xxxx</ItemNo>
                <Quantity>2</Quantity>
                <UnitPrice>12.50</UnitPrice>
        </OrderDetail>
        <OrderDetail>
                <ItemNo>yyyy-yyyy</ItemNo>
                <Quantity>4</Quantity>
                <UnitPrice>24.99</UnitPrice>
        </OrderDetail>
</Order>
```

The accompanying DAD, which maps the duplicate elements/attributes to different columns, looks like this:

```
<element_node name="Order">
  <RDB_node>
    <table name="order_tab" key="order_id"/>
    <table name="detail_tab"/>
    <condition>
      order_tab.order_id = detail_tab.order_id
    </condition>
  </RDB_node>

  <!--attribute ID duplicated below, but mapped to a different col-->
  <attribute_node name="ID">
    <RDB_node>
      <table name="order_tab" />
      <column name="order_id" type="char(9)"/>
    </RDB_node>
  </attribute_node>

  <element_node name="Customer">
    <!--attribute ID duplicated above, but mapped to a different col-->
    <attribute_node name="ID">
      <RDB_node>
        <table name="order_tab" />
```

```
            <column name="cust_id" type="integer"/>
          </RDB_node>
        </attribute_node>

        <!--element name duplicated below, but mapped to a different col-->
        <element_node name="Name">
          <text_node>
            <RDB_node>
              <table name="order_tab" />
              <column name="cust_name" type="char(20)" />
            </RDB_node>
          </text_node>
        </element_node>
      </element_node>

      <element_node name="Salesperson">
        <!--attribute ID duplicated above, but mapped to a different col-->
        <attribute_node name="ID">
          <RDB_node>
          <RDB_node>
            <table name="order_tab" />
            <column name="salesp_id" type="integer"/>
          </RDB_node>
        </attribute_node>

        <!--element name duplicated above, but mapped to a different col-->
        <element_node name="Name">
          <text_node>
            <RDB_node>
              <table name="order_tab" />
              <column name="salesp_name" type="char(20)" />
            </RDB_node>
          </text_node>
        </element_node>
      </element_node>

      <element_node name="OrderDetail" multi_occurrence="YES">
        <element_node name="ItemNo">
          <text_node>
            <RDB_node>
              <table name="detail_tab" />
              <column name="itemno" type="char(9)"/>
            </RDB_node>
          </text_node>
        </element_node>
        <element_node name="Quantity">
          <text_node>
            <RDB_node>
              <table name="detail_tab" />
              <column name="quantity" type="integer"/>
            </RDB_node>
          </text_node>
        </element_node>
        <element_node name="UnitPrice">
          <text_node>
```

```
4                       <RDB_node>detail_tab" />
4                         <table name="detail_tab" />
4                         <column name="unit_price" type="decimal(7,2)"/>
4                       </RDB_node>
4                     </text_node>
4                  </element_node>
4               </element_node>
4            </element_node>
```

4 The contents of the tables would look like the following after the document
4 above is decomposed:

4 ORDER _TAB:
4
```
4  ORDER_ID        CUST_ID      CUST_NAME       SALESP_ID       SALESP_NAME
4  0001-6789       1111         John Smith      1234            Jane Doe
```
4
4 DETAIL_TAB:
4
```
4  ORDER_ID        ITEMNO       QUANTITY        UNIT_PRICE
4  0001-6789       xxxx-xxxx    2               12.50
4  0001-6789       yyyy-yyyy    4               24.99
```

5 **Note:** To map multiple element/attribute to the same column of the same
5 table, define an alias for the table and use the alias in the DAD <table>
5 element of one of the mappings.

4 _____

Additional Information

Change in Unicode server behavior

In version 7, Unicode servers ignored any graphic code pages by applications
at connect time and assumed that UCS2 Unicode (code page 1200) was being
used. Version 8 Unicode servers now respect the code page sent by the client.

Full message text is not returned when using SQLException.getMessage()

By default, the
DB2BaseDataSource.retrieveMessagesFromServerOnGetMessage property is
disabled. If you enable this property, all calls to the standard JDBC
SQLException.getMessage() invoke a server-side stored procedure, which
retrieves the readable message text for the error. By default, the full message
text is not returned to the client when a server-side error occurs.

You can use the proprietary method DB2Sqlca.getMessage() to retrieve the
fully formatted message text. A call to the SQLException.getMessage() method
will start a unit of work only if retrieveMessagesFromServerOnGetMessage is
enabled. A call to the DB2Sqlca.getMessage() method results in a stored
procedure call, which starts a unit of work. Prior to FixPak 1, the
DB2Sqlca.getMessage() method may throw an exception.

Java functions and routines on Linux, UNIX, and Windows operating systems

Due to limitations in the JVM, a Java routine defined as NOT FENCED will be invoked as if it had been defined as FENCED THREADSAFE. In version 8.1, all Java routines specified as NOT FENCED are treated as FENCED routines. Java UDFs defined with parameter style DB2GENERAL that contain a LOB locator in the argument definition of the UDF will not function. You must modify these functions to use a BLOB or CLOB argument instead of a locator. For Java UDFs, LOB locators are only supported as input arguments when the DB2JAVA parameter style is specified.

English Microsoft Data Access Components (MDAC) files are used for all national language versions of DB2 Universal Database, V8.1, unless translated MDAC files are installed first.

If you do not install the national language version of MDAC 2.7 prior to installing the national language version of DB2, then DB2 Universal Database installs English MDAC files by default. This causes the Windows ODBC Data Source Administrator panels to appear untranslated if your operating system is non-English. To fix this problem, you can install the "MDAC 2.7 RTM - Refresh" bundle from the Microsoft Web site at http://www.microsoft.com/data/download_270RTM.htm. Choose the language that you want to install, download the required executable, and run it. This will install the translated ODBC Data Source Administrator files.

Online help corrections and updates

Configuring the C environment for SQL stored procedures in the Development Center

If you are working with DB2® for Windows® on the server and you are using the Visual C++ compiler, you must configure your SQL build settings. You will be not be able to build SQL stored procedures until you configure your SQL Build options.

Use the Database Connection Properties notebook in the Development Center to configure your SQL build settings.

To configure the C compiler environment for SQL stored procedures:

1. On the SQL Build Settings page of the notebook, specify a compiler environment that you want to use for building SQL objects.
   - Click **Refresh**.
   - In the **Compiler environment** field, type the location of the VC98\BIN\VCVARS32.BAT file on your Windows server.
2. Click **OK** to close the notebook and save your changes. If you click **Apply**, the changes are saved and you can continue changing the properties.

2 Enabling view docking when accessing Development Center with Hummingbird
2 Exceed

2 When accessing the Development Center on UNIX® with Hummingbird®
2 Exceed, the XTEST extension version 2.2 must be enabled before you can
2 move and dock views by dragging their title bars within the Development
2 Center.

2 To enable the XTEST extension:

2 1. From the Start menu, select **Programs** –> **Hummingbird Connectivity 7.0**
2   –> **Exceed** –> **XConfig**. The XConfig window will open.
2 2. Optional: If your configuration requires a password, enter the XConfig
2   password.
2 3. Double click the **Protocol** icon. The Protocol window will open.
2 4. Check the **X Conformance Test Compatibility** checkbox.
2 5. In the **Protocol** window, click the **Extensions...** button. The Protocol
2   Extensions window will open.
2 6. In the Enable Extensions list, select the **XTEST(X11R6)** checkbox.

7. Click **OK**.

Microsoft Visual Studio .NET add-in information update in Development Center help

The "About the Development Center" help topic does not include information about the new Microsoft® Visual Studio .NET add-in in the list of development environment add-ins provided. The following information describes the .NET add-in that supports Development Center functionality in the Microsoft Visual Studio .NET development environment:

DB2 Development Add-In for the Microsoft Visual Studio .NET development environment:

A new component of the DB2 Application Development Client is the IBM® DB2 Development Add-In for Microsoft Visual Studio .NET for the .NET framework version 1.0. This add-in extends the Visual Studio .NET IDE to provide tightly integrated DB2 application development support using the DB2 .NET Managed Provider as well as DB2 server-side development support. Using this add-in available in Microsoft Visual Studio .NET you can:

- Develop DB2 specific database projects from the new IBM Projects folder with advanced script generation wizards.
- Explore the DB2 catalogue information using DB2 data connections in the new IBM Explorer.
- Make use of the extended intelligence features for DB2 table/view columns and procedure/function parameters.
- Generate ADO.NET code for your windows forms using drag and drop.
- Configure your DB2 Managed Provider objects using properties custom editors and wizards.
- Launch various DB2 development and administration centers.
- View add-in help from the existing dynamic help window.

The DB2 Development Add-In for Microsoft Visual Studio .NET database connections are managed using the DB2 .NET managed provider and ADO.NET.

Migrating DB2 XML Extender to Version 8.1.2

If you are migrating from a Version 7 FixPak, refer to each of the release notes for the Version 7 FixPak for more information on what changes are included when upgrading to Version 8.1.2. Each new FixPak contains all of the previous FixPaks' updates.

To migrate DB2 XML Extender from previous versions to Version 8.1.2, complete the following steps.

2   1. From the DB2 Command Line, enter:
2
2   db2 connect to *database_name*
2   db2 bind *dxxinstall*\@dxxMigv.lst
2
2   where *dxxinstall* is the directory path in which you installed DB2 Universal
2   Database .
2   2. From the DB2 Command Line, enter:
2
2   dxxMigv *database_name*

Path settings to enable Java routines to compile in the Development Center

The Development Center cannot compile Java™ routines unless it knows
where your developer kit versions are installed. Default locations for these
will be written to your $HOME/IBM/DB2DC/DB2DC.settings file when the
Development Center starts for the first time. You may copy these into your
$USER.settings file and modify them with a Unicode editor, or you may
create symbolic links to your developer kit directories in the default locations.

Runstats dialog – updated getting there information

To open the Runstats notebook:
1. From the Control Center, expand the object tree until you find the Tables
   folder.
2. Click the Tables folder. Any existing tables are displayed in the contents
   pane.
3. Right-click all the tables that you want to run statistics on, and select Run
   Statistics from the pop-up menu. The Runstats notebook opens.

Specifying build options for a Java stored procedure in the Development Center

Use the Stored Procedure Properties notebook to specify the compile options
that will be used when building a Java stored procedure.

These steps are part of the larger task of changing stored procedure
properties.

To specify the build options of a stored procedure:
1. On the Build page of the Stored Procedure Properties notebook, specify
   the compile options for building the stored procedure. See your compiler
   documentation for information about available options.
   a. In the Precompile options field, type the DB2 Universal Database™
      precompiler options that you want to use when building stored
      procedures. The package name must not exceed 7 characters.

b. In the Compile options field, type the compiler options that you want to use when building stored procedures.

2. Click **OK** to close the notebook and save your changes. If you click **Apply**, the changes are saved and you can continue changing the properties.

Appendix A. CD-ROM Directory Structure

Windows operating systems

The files on the FixPak CD-ROM are located as follows:

DB2 product files:	x:\db2
Installation Notes:	x:\doc\<language>\install.txt
Installation Notes (HTML):	x:\doc\<language>\install.htm
License files:	x:\db2\license
Release Notes:	x:\doc\<language>\release.txt
Release Notes (HTML):	x:\doc\<language>\db2ir\index.htm

UNIX operating systems

The files on the FixPak CD-ROM are located as follows

DB2 product files:	/cdrom/db2
Installation Notes:	/cdrom/doc/<language>/install.txt
Installation Notes (HTML):	/cdrom/doc/<language>/install.htm
License files:	/cdrom/db2/license
Release Notes:	/cdrom/doc/<language>/release.txt
Release Notes (HTML):	/cdrom/doc/<language>/db2ir/index.htm

Where:

- x: refers to your CD-ROM drive (Windows)
- /cdrom refers to your mount point (UNIX)
- <language> refers to the language directory, consisting of a five-character code:

ar_AA	Arabic
bg_BG	Bulgarian
cs_CZ	Czech
da_DK	Danish
de_DE	German
el_GR	Greek

en_US	English
es_ES	Spanish
fi_FI	Finnish
fr_FR	French
hr_HR	Croatian
hu_HU	Hungarian
it_IT	Italian
iw_IL	Hebrew
ja_JP	Japanese
ko_KR	Korean
nl_NL	Dutch
no_NO	Norwegian
pl_PL	Polish
pt_BR	Brazilian Portuguese
pt_PT	Portuguese
ro_RO	Romanian
ru_RU	Russian
sk_SK	Slovak
sl_SI	Slovenian
sv_SE	Swedish
tr_TR	Turkish
zh_CN	Simplified Chinese
zh_TW	Traditional Chinese

Notes:

1. The directory names might appear in uppercase or lowercase, depending on your operating system.
2. All of the directories listed above might not appear on this CD-ROM since all language directories are not available on all CD-ROMs.

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