

User's Guide

!DB/QUICKCHANGE® for DB2

Version 500

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El Segundo, California 90245**

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Threaded Environment for AS/400, Patent No. 5,504,898; Data Server with Data Probes Employing Predicate Tests in Rule Statements (Event Driven Sampling), Patent No. 5,615,359; MVS/ESA Message Transport System Using the XCF Coupling Facility, Patent No. 5,754,856; Intelligent Remote Agent for Computer Performance Monitoring, Patent No. 5,781,703; Data Server with Event Driven Sampling, Patent No. 5,809,238; Threaded Environment for Computer Systems Without Native Threading Support, Patent No. 5,835,763; Object Procedure Messaging Facility, Patent No. 5,848,234; Communications on a Network, Patent Pending; End-to-End Response Time Measurement for Computer Programs, Patent No. 5,999,705; Improved Message Queuing Based Network Computing Architecture, Patent Pending; User Interface for System Management Applications, Patent Pending.

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List of Illustrations	11
Read This First	13
Preface	13
Contents of this Book	14
Adobe Portable Document Format	16
Documentation Conventions	17
Documentation Set	19
What's New	21
Version 500 Changes	21
Introducing Fundamentals	23
Chapter 1. Before You Begin	25
Introduction	25
Chapter contents	25
Prerequisites for Using !DB/QUICKCHANGE	26
Planning	27
Change Process	28
Functional Restrictions	30
Using the !DB/Tools Change Engine to Implement Change ..	33
Chapter 2. Getting Started	39
Introduction	39
Chapter contents	39
Accessing !DB/QUICKCHANGE	40
Invoking !DB/QUICKCHANGE to Change an Object	43
Invoking !DB/QUICKCHANGE to Change an RI Set	46
Invoking !DB/QUICKCHANGE to Migrate an Object	48
Displaying CEL and JCL Members and Saved Sessions	50
Using the !DB/QUICKCHANGE Primary Menu	53
!DB/QUICKCHANGE Panels	57
Exiting !DB/QUICKCHANGE	59
Chapter 3. Basic Facilities	61
Introduction	61
Chapter contents	61
Using the SELECT ALL Command	62
Using the Save/Restore Facility	63
Filtering Lists	74
Constructing Filter Conditions	80
Using the !DB/Tools User Macro Facility	85

Using !DB/WORKBENCH Internal Sessions	87
Accessing the DO Command Menu	89
Chapter 4. Using ISPF Facilities within !DB/QUICKCHANGE	91
Introduction	91
Chapter contents	91
!DB/QUICKCHANGE Version 500 Support of ISPF	92
Performing Common Operations with !DB/QUICKCHANGE	93
Returning to the !DB/WORKBENCH Displays	94
Controlling the Operation of Scrolling	95
Displaying Online Help Information	97
Displaying Online Information about Messages	98
Displaying Additional Information	99
Using !DB/QUICKCHANGE	103
Chapter 5. Understanding !DB/QUICKCHANGE Processing Options	105
Introduction	105
Chapter contents	105
Understanding the !DB/QUICKCHANGE Include Options Panel	106
Specifying the !DB/QUICKCHANGE Destination	107
Specifying !DB/QUICKCHANGE Include Options	109
Specifying !DB/QUICKCHANGE Processing Options	114
Documenting the Change Session	118
Chapter 6. Adding Objects to the Change Session	119
Introduction	119
Chapter contents	119
Adding Tables to the Change Session	120
Adding Tablespaces to the Change Session	122
Chapter 7. Changing the Names of Objects	125
Introduction	125
Chapter contents	125
Changing an Object's Name	126
Accessing the Change Names Panel	129
Changing the Name of a Database	130
Changing the Name of a Tablespace	132
Changing the Name of a Table	133
Changing the Name of a Table or View Synonym	134
Changing the Name of a Table Alias	135
Changing the Name of an Index	136
Changing the Name of a View	138
Changing the Name of a View Alias	139
Changing Multiple Occurrences of a Name	140

Changing the Name of a Plan	145
Changing the Name of a Package	147
Changing the Name of a Grantor	149
Changing the Names of all Grantors	150
Changing the Names of Grantees	152
Chapter 8. Changing Table Attributes	153
Introduction	153
Chapter contents	153
Table Attributes You Can Change	154
Changing Table Attributes	157
Chapter 9. Changing Table Structure and Data	159
Introduction	159
Chapter contents	159
Implications of Changing Tables	160
Accessing the Tables Being Changed Panel	162
Adding Columns	163
Specifying Data for a New or Changed Column	166
Deleting Columns	168
Changing Columns	169
Limiting the Table	171
Ordering the Table	181
Repeating Column Changes to Similar Columns	187
Chapter 10. Converting Data using a Translate Table	189
Introduction	189
Chapter contents	189
Understanding Translate Tables	190
!DB/QUICKCHANGE Translate Tables	191
Building a Custom Translate Table	193
Chapter 11. Converting Data using Masks	195
Introduction	195
Chapter contents	195
Understanding Masks	196
Types of Masks	198
Character Patterns for Masks	199
Two Examples of Date/Time Masks	202
Examples of Data Conversion Masks	204
Chapter 12. Changing Allocations	205
Introduction	205
Chapter contents	205
Changing Space Allocations	206
Displaying Space Allocations Information	207
Estimating Space Allocations	210

Specifying Space Allocations	213
Setting Space Allocations	216
Rounding Space Allocations	217
Changing a Space from DB2-Managed to User-Managed	218
Changing a Space from User-Managed to DB2-Managed	220
Chapter 13. Changing Tablespaces and Index Spaces	221
Introduction	221
Chapter contents	221
Tablespace and Index Space Attributes You Can Change	222
Changing a Tablespace	226
Changing a Partition in a Tablespace	228
Changing All Partitions in a Tablespace	230
Changing an Index Space	232
Changing a Specific Index Partition	234
Changing All Index Partitions	236
Making Global Changes to All Tablespaces	238
Making Global Changes to All Index Spaces	240
Making Global Changes to All Tablespaces and Index Spaces	242
Chapter 14. Changing Indexes	245
Introduction	245
Chapter contents	245
Displaying Index Information	246
Index Attributes You Can Change	250
Changing an Index	252
Adding an Index	259
Dropping an Index	263
Chapter 15. Changing Referential Integrity	267
Introduction	267
Chapter contents	267
Displaying Referential Information	268
Changing a Relationship Name or Delete Rule	270
Changing a Primary Key	272
Deleting a Referential Relationship	277
Adding a Referential Relationship	282
Chapter 16. Plans and Packages and the Change Session	289
Introduction	289
Chapter contents	289
Displaying the DBRMs in a Plan	290
Displaying the Plan Dependents	292
Excluding Specific Plans	294
Excluding Specific Packages	295
Chapter 17. Excluding Grantors and Grantees	297

Introduction	297
Chapter contents	297
Excluding Specific Grantors	298
Excluding Specific Grantees	300
Chapter 18. Views and the Change Session	303
Introduction	303
Chapter contents	303
Views and the Change Session	304
Displaying a View	305
Displaying the Objects of a View	307
Dropping a View	309
Excluding Specific Views	311
Chapter 19. Moving Tables to a Different Tablespace	313
Introduction	313
Chapter contents	313
Moving a Table to a Different Tablespace	314
Chapter 20. Moving a Tablespace to a Different Database	319
Introduction	319
Chapter contents	319
Moving a Tablespace to a New or Existing Database	320
Chapter 21. Changing Partitioning	323
Introduction	323
Chapter contents	323
Overview of Partitioning	324
Prerequisites for Changes to Partitioning	325
Changing the Number of Partitions	326
Changing Limit Keys	330
Adding Partitioning	332
Removing Partitioning	338
Chapter 22. Migrating Databases and Tablespaces	341
Introduction	341
Chapter contents	341
Overview of Migration	342
Migrating DB2 Structures	345
Selecting Objects to Migrate	356
Specifying the Source Image Copies	362
Excluding Specific Tablespaces from a Database Migration	367
Including Dependent Objects in the Migration	370
Changing Object Names	371
Changing Creator IDs	372
Generating and Performing the Migration	375
Cross-MVS Migrations	378

Chapter 23. Generating and Submitting a Change	381
Introduction	381
Chapter contents	381
Generating a Change	382
Submitting a Change	385
Generating and Submitting a Change on DB2 Version 5.1 ..	386
Chapter 24. Propagating a Change	389
Introduction	389
Chapter contents	389
Background About Propagating a Change	390
Propagating a Change	391
Determining the Dataset and Member Names	392
Creating an Override Member and New INCLUDE and CEL Members	393
Copying the Generated Job Member	400
Chapter 25. Restart and Restore	403
Introduction	403
Chapter contents	403
Restarting a Change Job	404
Restoring DB2 Objects	409
Example Tasks	411
Chapter 26. Changing a Table	413
Introduction	413
Chapter contents	413
Overview of Changing a Table Example	414
Beginning the Table Change	415
Changing Table Structure and Data	418
Changing Dataset Space Allocations	427
Changing the Table Name	429
Generating and Performing the Change	431
Chapter 27. Changing Objects Simultaneously	433
Introduction	433
Chapter Contents	433
Overview of Example Scenario	434
Selecting the Tables to Change	436
Changing the First Table Column	439
Propagating the Change to Other Tables	444
Adding Objects Later in a Change Session	445
Chapter 28. Migrating a Tablespace Using !DB/QUICKCHANGE	447
Introduction	447
Chapter contents	447

Overview of Example Scenario	448
Specifying the Tablespace and Image Copy for Migration ..	449
Generating the Change	456
Managing the System	463
Chapter 29. Housekeeping and Administration	465
Introduction	465
Chapter contents	465
Specifying the !DB/Tools Plan Name and Libraries	466
Specifying Destination Options	468
Specifying Global Options	470
Specifying !DB/Tools Change Engine Library Names	473
Specifying Information in the Profile Datasets	476
Specifying or Changing the !DB/Tools Global Print Options	479
Resolving Problems	481
Chapter 30. Problem Resolution	483
Introduction	483
Chapter contents	483
Support for Resolution of Problems	484
Providing Information to Aid in Problem Diagnosis	485
Appendixes	487
Appendix A. Dictionary of Commands and Selects	489
Introduction	489
Appendix B. !DB/QUICKCHANGE Data Type Conversions	501
Introduction	501
Appendix C. Candle Customer Support	509
Customer Support Phone Numbers	511
Glossary	513
Index	517

List of Illustrations

1. !DB/QUICKCHANGE Primary Menu	53
2. Typical !DB/QUICKCHANGE panel	57
3. Table Filters Menu	76
4. !DB/WORKBENCH Sessions Menu	87
5. !DB/QUICKCHANGE Include Options Panel	106
6. Sample data conversion masks	204

Preface

!DB/QUICKCHANGE® for DB2 is an ISPF application that allows you to rapidly change existing DB2 objects. Using this product, you can quickly and efficiently redefine DB2 structures. !DB/QUICKCHANGE is not resource intensive.

DB2 catalog data is extracted when you schedule it and is stored in a compact data set. When you access !DB/QUICKCHANGE, this extract data is loaded into high-speed memory so that error checking and validation can be performed online during change definition. You detect and correct errors before the change job stream is generated. In addition, you can refresh column data directly from DB2 during the change definition. If catalog currency is a concern, run a new extract prior to making a change.

Relationship of !DB/QUICKCHANGE to !DB/WORKBENCH

!DB/QUICKCHANGE is a companion product to !DB®/WORKBENCH for DB2.

!DB/QUICKCHANGE complements and extends the versatility of !DB/WORKBENCH, and is dependent on the prior installation of !DB/WORKBENCH.

How to use this guide

The *!DB/QUICKCHANGE User's Guide* is designed to guide your use of !DB/QUICKCHANGE and to introduce its many features. This guide also serves as a reference source for information about this product.

This documentation assumes that you are familiar with IBM mainframe operation, DB2, ISPF, VSAM, and the Candle® related !DB®/Tools for DB2 products, specifically !DB/WORKBENCH. If you need more information on these topics, consult the appropriate manuals. For more information on using !DB/WORKBENCH, refer to the *!DB./WORKBENCH Basic User's Guide*.

Contents of this Book

Overview

This User's Guide describes the features of !DB/QUICKCHANGE and guides you in performing common !DB/QUICKCHANGE tasks. The list below describes the contents of each major section.

Content of major sections

Use the table to understand the organization and content of this guide.

Section name	Contents
Preface	Describes !DB/QUICKCHANGE, this User's Guide, and the conventions used in the !DB/QUICKCHANGE publications.
Introducing Fundamentals	Introduces you to !DB/QUICKCHANGE, and tells you how to access and exit !DB/QUICKCHANGE, how to navigate the !DB/QUICKCHANGE panels, how to use basic !DB/QUICKCHANGE functions, and how to use commands, selects, and filters. This section also includes a short review of ISPF fundamentals for those that require it.
Using !DB/QUICKCHANGE	Explains how to use !DB/QUICKCHANGE to make changes to DB2 objects, or to migrate objects.
Example Tasks	Takes you through three example tasks: <ul style="list-style-type: none"> ● Changing a table ● Changing objects simultaneously ● Migrating tables using !DB/QUICKCHANGE
Managing the System	Explains !DB/QUICKCHANGE's housekeeping and customization capabilities.

Section name	Contents
Resolving Problems	Provides help with resolving problems and reporting any incidents to Candle's support staff.
Appendices	Provides additional information about !DB/QUICKCHANGE commands, selects, libraries, and data type conversions.

Adobe Portable Document Format

Introduction

Candle supplies documentation in the Adobe Portable Document Format (PDF). The Adobe Acrobat Reader prints PDF documents with the fonts, formatting, and graphics in the original document. To print a Candle document, do the following:

1. Specify the print options for your system. From the Acrobat Reader Menu bar, select **File > Print Setup...** and make your selections. A setting of 300 dpi is highly recommended as is duplex printing if your printer supports it.
2. To start printing, select **File > Print** on the Acrobat Reader Menu bar.
3. On the Print popup, select one of the Print Range options for
 - a single page
 - a range of pages
 - all of the document
4. (Optional) To fit oversize pages to the paper size currently loaded on your printer, select the **Shrink to Fit** option.

Printing problems?

Your printer ultimately determines the print quality of your output. Sometimes printing problems can occur. If you experience printing problems, potential areas to check are:

- settings for your printer and printer driver. (The dpi settings for both your driver and printer should be the same. A setting of 300 dpi is recommended.)
- the printer driver you are using. (You may need a different printer driver or the Universal Printer driver from Adobe. This free printer driver is available at www.adobe.com.)
- the halftone/graphics color adjustment for printing color on black and white printers. (Check the printer properties under **Start > Settings > Printer**. For more information, see the online help for the Acrobat Reader.)
- the amount of available memory in your printer. (Insufficient memory can cause a document or graphics to fail to print.)

For additional information on printing problems, refer to the documentation for your printer or contact your printer manufacturer.

Documentation Conventions

Overview

In this manual, you will find specific formatting conventions are used to present different types of information efficiently and unambiguously. As you become familiar with these conventions, you will appreciate the added information they provide.

Standard conventions

This guide uses the following conventions.

Commands	All command names, such as the ALLOC command, are shown in uppercase. This includes commands for TSO, DB2, and !DB/QUICKCHANGE.
Function keys	This guide does not refer to specific function keys, such as F4. Because these function keys are user-defined and can therefore vary, this guide instructs you to enter the command on the command line. Example: Type RETURN on the command line and press Enter, or press the appropriate function key.
Keyed data	When you are given instructions to type or key data, the data to be keyed is shown in a bold font, such as RETURN .
Panels and figures	The panels and figures in this document are representations. Actual product panels may differ.
Percent (%) sign	A percent (%) sign, which supplies optimum performance, is shown in front of all CLISTs mentioned in the text. For example, a % sign precedes the reference to CLIST KTC which is written as %KTC. However, the use of the % is optional.
Select field	The term Select field refers to the input area in front of a listed item on a panel or selection list. The Select column on a panel or pop-up shows the location of the Select field.
Selects	All select names, such as the U (Update) select, are written with the letter to be used in the Select field followed by a brief explanation of the select in parentheses ().

Standard conventions (continued)

Variables If the data is a variable, the data is shown in an italic font, such as *databasename*. The variable name does not necessarily represent the correct number of characters allowed by the system, but instead serves as a descriptive name.

Panels that have a variable in the title are denoted by the variable enclosed in less than and greater than signs in lower-case italic. For example, Jobs for *<userid>*.

Documentation Set

Introduction

Candle provides a complete set of documentation for !DB/QUICKCHANGE. Each manual in this documentation set contains a specific type of information to help you use the product.

Candle welcomes your comments and suggestions for changes or additions to the documentation set. A user comment form, located at the back of each manual, provides simple instructions for communicating with Candle's Information Development department. You can also send email to UserDoc@candle.com. Please include the product name, version, and book title in the subject line. To order additional manuals, contact Candle Customer Support.

The documentation listed in the following table is available for !DB/QUICKCHANGE.

Document Number	Document Name	Description
TI51-5840	!DB/Tools Installation and Customization Guide	Gives the requirements and instructions to install all the !DB/Tools.
TQ54-5844	!DB/QUICKCHANGE User's Guide	Describes the new features and functions added for the current version of !DB/QUICKCHANGE.

Online documentation for Bookmanager

In addition to the printed versions, !DB/QUICKCHANGE documentation is available in BookManager format. Subsequent maintenance releases of the product between major releases will contain updated BookManager documentation. See the *!DB/Tools Installation and Customization Guide* for information regarding the files.

You can find out more about using BookManager by referring to the following two manuals:

- If you plan to display and search the Candle !DB/Tools documentation, refer to *IBM BookManager Read/MVS: Displaying Online Books, SC38-2034*.
- If you want to place the Candle !DB/Tools documentation into a BookManager bookshelf, further information can be found in *IBM BookManager Build/MVS: Preparing Online Books, SC38-2036*.

Version 500 Changes

Overview

This section describes what is different between !DB/QUICKCHANGE and previous versions of !DB/QUICKCHANGE.

Differences in this release

| Primarily, the Version 500 release of !DB/QUICKCHANGE provides full
| compatibility for DB2 Version 6. However, some DB2 enhancements are not
| exploited by !DB/QUICKCHANGE Version 500.

DB2 Version 6 contains enhancements for

- defining and manipulating data objects
- conducting e-business
- improving performance and availability of database applications
- managing the database environment
- increasing database and query capacity

This release of !DB/QUICKCHANGE also continues to support fully earlier releases of DB2 and is also Y2K compliant.

Introducing Fundamentals

Introduction

This chapter discusses the memory requirements, user prerequisites, planning issues, the change process, and functional restrictions for !DB/QUICKCHANGE Version 500. It also describes !DB/Tools Change Engine requirements.

Chapter contents

Prerequisites for Using !DB/QUICKCHANGE	26
Planning	27
Change Process	28
Functional Restrictions	30
Using the !DB/Tools Change Engine to Implement Change . .	33

Prerequisites for Using !DB/QUICKCHANGE

Overview

This unit describes both the memory requirements and the user prerequisites for using !DB/QUICKCHANGE

Memory requirements

Candle Corporation recommends a TSO and batch region size of at least 6MB for !DB/QUICKCHANGE.

User prerequisites

This documentation assumes you have familiarity with DB2®, ISPF, and VSAM. If you need more information on these topics, consult the appropriate manuals.

For more information on using the companion product, !DB/WORKBENCH, refer to the *!DB/WORKBENCH Basic User's Guide*.

Planning

Overview

This unit tells you what decisions to make before you make changes. It also describes the 4 stages of a !DB/QUICKCHANGE DB2 object change.

Planning your changes

Before beginning a change session, decide the scope of the changes that you are going to perform.

You need to decide

- If the object is a simple table or a partitioned tablespace
- What the source is for the column data, if you are inserting a table column
- If data type conversion or limits on column data is necessary when you are changing a table column
- If you want to change specific object groups simultaneously
Note: If the changes can impact referential integrity, it may be best to change the entire referential set simultaneously using !DB/QUICKCHANGE. !DB/QUICKCHANGE automatically manages the referential relationships for you.
- What is the best way to approach your changes

Making these decisions before you begin can simplify the change process.

Change Process

Overview

This unit describes the process you follow when you change a DB2 object.

For more detailed information about processing options, see “Understanding !DB/QUICKCHANGE Processing Options” on page 105.

Four stages of changing a DB2 object

A !DB/QUICKCHANGE DB2 object change has four stages.

Stage of Object Change	Function	Corresponding Panel
Change Definition	During this stage, you select the object or objects to change, invoke !DB/QUICKCHANGE, and describe all the object changes using !DB/QUICKCHANGE panels.	Use options 1 through 33 of the !DB/QUICKCHANGE Primary Menu.
Change Engine Language (CEL) Generation	During this stage, you generate the Change Engine Language, which is the input to the process that produces and submits the actual change.	Use option 81 on the !DB/QUICKCHANGE Primary Menu to generate the CEL.
Impact Analysis	During this stage, you can see the impact of the change on referential integrity, see the views and plans that are affected by the changes, and change the grantor and grantee authorizations of the changed objects.	Use option 44 on the !DB/QUICKCHANGE Primary Menu to display the !DB/QUICKCHANGE Administration panel. On the Administration panel, use option 2 to display the Change Management panel.

Four stages of changing a DB2 object (continued)

Stage of Object Change	Function	Corresponding Panel
Change Execution	In this final stage, you submit the change for execution, and monitor the execution and completion of the change process.	<p>To submit the job stream that implements the change, use option QK on the !DB/WORKBENCH Primary Menu to display the !DB/QUICKCHANGE Change/Session Management panel.</p> <p>On the Change/Session Management panel, use option 2 to display the list of change job streams (JCL members). Type X in the SEL field of the JCL member that you want to submit. The JCL member name is the CEL member name (<i>Qnnnnn</i>) followed by an <i>S</i> or a <i>T</i>.</p>

Functional Restrictions

Overview

This unit describes the functional restrictions in effect for Version 500 of !DB/QUICKCHANGE. This unit also provides an alternate procedure to use to work around one of the restrictions.

Invoking !DB/QUICKCHANGE from the !DB/WORKBENCH indexes object list panel

You can invoke !DB/QUICKCHANGE from the !DB/WORKBENCH indexes object list panel by typing **A** in the SEL field of the index you want to change. However, this function is restricted in Version 500. Use the following alternate procedure to change an index in !DB/QUICKCHANGE V500.

Changing an index - an alternate procedure

Follow this procedure to change an index in !DB/QUICKCHANGE V500.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type I (Indexes) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Indexes panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> INDEXES ----- DB/WORKBENCH --- DB2=DB31----- INDEX 236 OF 1,982 Cmd ==>> I N D E X E S Cmds: DO (Menu) PACK PART/NOPART STT/NOSTT Sels: ? (Menu) A Alter C Columns D Details H Hexdump K Pkgs L Listcat N DS Info O Out DDL P Plans Q Query R Runstat T Tables U Utility ----- SEL INDEX NAME CREATOR TABLE AUTHID SPACE TABLE INDEXED INDEX PRT U C I ----- - GBINDX1 TDDB55A GBTS1 GBTABLE1 GBINDX1 U N - GBINDX2 TDDB55 GBTS2 GBTABLE2 GBINDX2 2 U Y - GCRSESS1 GT GCRSESS GCRSESS_TBL GCRSESS1 U Y - GCRSESS2 GT GCRSESS GCRSESS_TBL GCRSESS2 D N - H2IXABP TSCS73 H2TSACCT H2ACCTBP H2IXIF 0 U N - H2IXABSM CANDLE H2TSACSM H2ACCTBP_SUM H2IXABSM U N </pre> </div>
3	To display the table associated with the index, type T (Tables) in the SEL field of the index you want to change.

Changing an index - an alternate procedure (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Index's Table panel.</p> <pre> CGARN.ACROALIAS-- DB/WORKBENCH --- DB2=DB31----- Cmd ==> Scroll ==> CSR I N D E X ' S T A B L E Cmds: DO (Menu) STT/NOSTT Stats SYN/NOSYN Sels: ? (Menu) A Alter C Columns D Details F RI Info K Pkgs L Listcat O Out DDL P Plans Q Query R Runstat V Views S Tblspcs X Exclude Z Auths ----- SEL TABLE NAME DBNAME CREATOR CREATED TABLE REF REF STATS ----- _ GBTABLE1 NEWDB TDDB55A GBTABLE1 EDCOPYTS DEP AVAIL YES </pre>
5	<p>Type A (Alter) in the SEL field of the table.</p>
6	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Alter Table - Select Type panel.</p> <pre> +----- ALTER TABLE - Select Type -----+ Cmd ==> TABLE NAME -- ACT Option ==> 1 DB/QUICKCHANGE Functions - Change Column Definitions - Rearrange Column Order - Drop Columns - Copy Table to another Tablespace - Change partitioning or segmentation 2 DB2 Supported Functions - Add a Column - Add Primary Key or Foreign Key - Drop Primary Key or Foreign Key - Change Audit rule - Activate/Deactivate Validproc - Change Data Capture status - Change Labels or Comments -----+-----+ </pre>
7	<p>Type 1 (DB/QUICKCHANGE) in the Option field.</p>

Changing an index - an alternate procedure (continued)

Step	Action
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/06/10 11:35 Option ==> Change: Global Changes: Administration: ==> 1 Names 21 Datasets 41 Library 2 Tables/Columns 22 Tablespaces 42 Stats 3 Allocations 23 Indexspaces 43 Destination 4 RI 5 Plans 6 Packages 7 Grantors Functions: 8 Grantees 31 Move Tables 9 Views 32 Partitioning 81 - Generate 10 Reserved 33 Add Objects 99 - Exit Source Extract ID ---- DB31 Last Extract run on 06/01/99 at 13:46 Dest. Extract ID ---- DB31 Version: 500 Maint. Level: 9501 PSP: 0 </pre> </div> <p>You are now in a !DB/QUICKCHANGE change session.</p>
9	<p>The first time you leave the !DB/QUICKCHANGE Primary Menu, !DB/QUICKCHANGE displays the Include Options panel. On this panel you <i>must</i> type Y in the Indexes field to include indexes in the change session. This ensures that the index that you want to change is available and can be changed.</p>
10	<p>Change the index as required.</p>

Table check constraints

!DB/QUICKCHANGE restricts your ability to display the names of table check constraints and to change their names in Version 500.

Stored procedures

!DB/QUICKCHANGE restricts your ability to change the names of stored procedures and to exclude specific stored procedures from the change. This restriction is in effect for Version 500.

Using the !DB/Tools Change Engine to Implement Change

Overview

This unit provides background information about generating a change. The information includes background about the prerequisites for submitting the job stream for changes, the !DB/Tools Change Engine, the Change Engine Language (CEL), and the actual change process.

The purpose of the !DB/Tools Change Engine

The primary goal of the !DB/Tools Change Engine is to preserve the integrity of data. The !DB/Tools Change Engine verifies objects and collects dependent objects from the DB2 catalog just prior to the implementation of the change. The !DB/Tools Change Engine drops objects only if it is necessary to implement the change.

Background about the !DB/Tools Change Engine

The !DB/Tools Change Engine is a component of the !DB/Tools product set. The !DB/Tools Change Engine performs the following processes:

- Reads a description of a change in a format called Change Engine Language
 - Verifies that all needed objects exist in the DB2 catalog
 - Produces the job stream that contains ALTER statements (and DROP and CREATE statements, DB2 commands, unload processing, and DB2 utility commands, if appropriate)
-

How the !DB/Tools Change Engine uses the DB2 catalog

The !DB/Tools Change Engine uses the DB2 catalog to do the following:

- Verify that the DB2 objects specifically mentioned in the change exist
- Collect information on all dependent objects, which !DB/QUICKCHANGE changes, as appropriate, during implementation of the change

For example, if a change involves the renaming of a table, !DB/QUICKCHANGE changes the aliases and views of that table to be aliases and views of the renamed table. By using the DB2 catalog to gather dependent object information just prior to implementation of the change, the !DB/Tools Change Engine ensures that !DB/QUICKCHANGE retains these objects and keeps them accurate.

Background about the Change Engine Language

The Change Engine Language (CEL) is very similar to SQL. While Candle Corporation does not recommend that you change the CEL input into the !DB/Tools Change Engine, you can read this file and learn a great deal about what the change encompasses.

Background about the change process

The actual change process is accomplished in two phases.

The first phase performs these functions:

- Parses the Change Engine Language to ensure that there are no syntactical errors (and produces a parse report)
- Collects information about dependent objects from the DB2 catalog (for example, grants, views, plans, and packages) and verifying that all objects are in their expected state (and produces a verification report)
- Generates the job stream that will implement the change; if the source and target systems are different this will actually be two job streams (one for the source, and one for the target system)

The second phase performs these functions:

- Implements the changes
- Re-establishes dependent objects collected by the first phase
- Rebinds any plans and packages that were affected
- Runs any utilities that were specified in the utility profile
- Issues any DB2 commands necessary

Background about utility profiles

When you follow the procedure to generate a change (See “Generating a Change” on page 382), you specify the utility profile. The utility profile tells the Change Engine how utilities will run during the second phase of the change process.

The default utility profile is DUMMY. Candle recommends that you avoid using this profile when you generate a change, because DUMMY contains Candle's default utility options. You should set up a utility profile with your own options. See *!DB/WORKBENCH User's Guide* for information on creating a utility profile and specifying its utility options.

There are several fields in the !DB/WORKBENCH utility options panels that the Change Engine overrides when you generate a change. These fields, their override values, and the instances in which the Change Engine sets the values are as follows:

- Before utility generation, if you have specified that the image copy run before utility generation, Change Engine resets the CMDS Before field utility profile that you specify on the !DB/WORKBENCH Copy Utility Option panel to V (stop and start UT) and resets CMDS After to W (start).
- After utility generation, the Change Engine resets the Migrated field at the utility profile that you specify on the !DB/WORKBENCH General Utility Options panel to I (include).
- After utility generation, the Change Engine resets the the Table Stats field at the utility profile that you specify on the !DB/WORKBENCH Runstats Utility Option panel to N (Do not gather table statistics).
- After utility generation, the Change Engine resets the Image Copy field at utility profile that you specify on the !DB/WORKBENCH Copy Utility Option panel to Y (full).
- After utility generation, the Change Engine resets the Stack field at the utility profile that you specify on the !DB/WORKBENCH Copy Dataset Options panel to N (all data on one tape?).

Prerequisites for submitting the change job stream

Before you generate the job stream for changes, make sure you have met these prerequisites.

- Either !DB/QUICKCHANGE or !DB/QUICKCOMPARE™ for DB2 is installed on the MVS system where the changes are to take place. (The !DB/Tools Change Engine will not run unless one of these products is installed.) (For information on installing !DB/QUICKCHANGE and !DB/QUICKCOMPARE, see the *!DB/Tools Installation and Customization Guide*.)
- You have the proper DB2 authority to ALTER, CREATE, and DROP objects on the DB2 subsystem where the changes will take place.
- The DB2 subsystem where the changes will take place uses IBM standard LOAD and DSNI utilities.

Determination of the method to implement the change

The !DB/Tools Change Engine uses one of the following 3 methods of change based on the type of change:

- The SQL ALTER statement
- DSN1COPY of tablespaces
- Unloads of individual tables

!DB/Tools Change Engine chooses the method that optimizes the change, as follows:

IF the type of change ...	AND the changes require that the system unload ...	THEN !DB/Tools Change Engine uses ...
Is one that can be implemented using SQL ALTER		SQL ALTER
Requires that objects be dropped and recreated,	the entire tablespace,	the DSN1COPY utility
	individual tables (for example, when you limit the table data by using the WHERE clause),	the unload process

The !DB/Tools Change Engine reports

As an aid to understanding the change, the !DB/Tools Change Engine automatically generates reports that you can use to understand the full impact of a change prior to the actual implementation of that change.

These reports show the following:

- The name and dependent object verification process
- The change implementation process

Chapter 2. Getting Started

Introduction

This chapter focuses on accessing, invoking, navigating, and exiting !DB/QUICKCHANGE® for DB2.

Chapter contents

Accessing !DB/QUICKCHANGE	40
Invoking !DB/QUICKCHANGE to Change an Object	43
Invoking !DB/QUICKCHANGE to Change an RI Set	46
Invoking !DB/QUICKCHANGE to Migrate an Object	48
Displaying CEL and JCL Members and Saved Sessions	50
Using the !DB/QUICKCHANGE Primary Menu	53
!DB/QUICKCHANGE Panels	57
Exiting !DB/QUICKCHANGE	59

Accessing !DB/QUICKCHANGE

Overview

This unit describes how to invoke !DB/Tools, !DB/WORKBENCH, and !DB/QUICKCHANGE.

Note: You must go through !DB/WORKBENCH to access !DB/QUICKCHANGE.

Accessing !DB/Tools and !DB/WORKBENCH

Follow this procedure to access !DB/Tools and !DB/WORKBENCH.

Step	Action
1	<p>On the command line, type the appropriate value.</p> <ul style="list-style-type: none"> ● From the ISPF Option 6 (Command) panel, type %KTC. ● From any other ISPF panel, type TSO %KTC. <p>Note: The “%” is optional, but system performance is usually better when you use it in front of a CLIST name.</p>
2	<p>Press Enter.</p> <p>Result: The system displays the !DB/Tools Product Selection Menu.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> ----- Candle Corporation ----- CMD ==> 9905/26 11:35 CANDLE DB/TOOLS PRODUCT SELECTION MENU SELECT PRODUCT ID ==> 1 - DB/WORKBENCH - DB/QUICKCHANGE 2 - DB/SMU 3 - DB/DASD 4 - DB/EXPLAIN 5 - DB/EXPLAIN ONLINE MENU 6 - DB/QUICKCOMPARE X - EXIT SELECT EXTRACT ID ==> DB31 (DB2 ID FOR DB/SMU AND DB/DASD) </pre> </div> <p>Note: The options on the Product Selection Menu depend on the !DB/Tools you have installed at your site.</p>
3	<p>Type 1 in the Select Product ID field for !DB/WORKBENCH and !DB/QUICKCHANGE.</p>

Accessing !DB/Tools and !DB/WORKBENCH (continued)

Step	Action
4	Press Tab. Result: The system moves the cursor to the Select Extract ID field.
5	Type the extract ID you want to use in the Select Extract ID field.
6	Press Enter. Result: !DB/Tools displays the !DB/WORKBENCH Primary Menu. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PRIMARY MENU ----- DB/WORKBENCH --- DB2=DB31----- Cmd ==> 99/06/10 11:30 Option ==> (Use "/"x" to establish a window) D Databases ZP DSNZPARM Information S Tablespaces ES Estimate Tablespace size T Tables EX Estimate Indexspace size C Columns CR Create new objects I Indexes H Housekeeping options A All ? Display Subsystem select V Views QK DB/QUICKCHANGE Management P Plans K Packages Global Commands: L Aliases Q Query database ==> R Procedures - DB2 commands G Storage Groups SQL Dynamic SQL Z Authorizations Extract ID ==> DB31 Last Extract was run on 06/01/99 at 13:46 Version: 500 Maint. Level: 9501 PSP: 0 </pre> </div>

Accessing !DB/QUICKCHANGE

Once you are in !DB/WORKBENCH, you can access !DB/QUICKCHANGE several ways, as follows:

IF you want to ...	THEN ...
Change an object	See “Invoking !DB/QUICKCHANGE to Change an Object” on page 43.
Change an RI set	See “Invoking !DB/QUICKCHANGE to Change an RI Set” on page 46.
Migrate an object	See “Invoking !DB/QUICKCHANGE to Migrate an Object” on page 48.
Display all Change Engine Language (CEL) members, all generated JCL members, or all saved sessions	See “Displaying CEL and JCL Members and Saved Sessions” on page 50.

Accessing !DB/Tools from Candle's OMEGAMON® for DB2

You can access the Candle !DB/Tools by selecting option 3 on the Options Menu of OMEGAMON® for DB2. Whether you access the !DB/Tools with or without product switching depends on how your menu is set up.

You can also access !DB/Tools from the OMEGAMON II for DB2 CUA interface.

For more information, see the *OMEGAMON II for DB2 User's Guide* and the *!DB./WORKBENCH Basic User's Guide*.

Invoking !DB/QUICKCHANGE to Change an Object

Overview

This unit describes how to invoke !DB/QUICKCHANGE to change any of the following DB2 objects:

- Databases
- Tablespaces
- Tables
- Indexes

Note: Invoking !DB/QUICKCHANGE from the !DB/WORKBENCH indexes object list panels is restricted for Version 500. See “Functional Restrictions” on page 30 for more information about changing indexes.

Additional information

You can use !DB/QUICKCHANGE to change DB2 objects that are a part of a referential set. See “Invoking !DB/QUICKCHANGE to Change an RI Set” on page 46 for more information.

For information on invoking !DB/QUICKCHANGE from a !DB/WORKBENCH internal session, see “Using !DB/WORKBENCH Internal Sessions” on page 87.

Changing an object from !DB/WORKBENCH

Follow this procedure to make changes to a specific object.

Step	Action
1	<p>On the !DB/WORKBENCH Primary Menu, type the appropriate letter in the Option field, as follows:</p> <ul style="list-style-type: none"> ● To change a database, type D ● To change a tablespace, type S ● To change a table, type T
2	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the appropriate !DB/WORKBENCH object list panel. For example, if you typed T, the system displays the Tables object list panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES ----- DB/WORKBENCH --- DB2=DB31----- TABLE 1 OF 936 Cmd ==>> Scroll ==>> CSR T A B L E S Cmds: DO (Menu) ALIAS/NOALIAS STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Alter C Columns D Details E Checks F RI Info I Indexes K Pkgs L Load N Count O Out DDL P Plans Q Query R Runstat S Tblspcs V Views X Exclude Z Auths ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE ---REF--- STATS # OF AUTHID BY BY SPACE PAR DEP AVAIL CHKS ----- - ACCOUNT_MANAGERS DBMHL TSUK72 TSUK72 MLSHIPS1 YES - ACCOUNT_MANAGERS UKSHIPDB UKSHIP TSUK72 UKSHIPS1 YES - ACT DSN8D31A DSN8310 DCSP48 ACT 1 YES - ACT DBTOMC TDDB65 TDDB65 GBTSRI1 1 YES - ACT DB31COMP TSBN03 TSBN03 COMPACT YES - ACT DSND804 TSCA03 TSCA03 ACT YES - ACT DSND804 TSGM35 TSGM35A ACTA1GRL NO - ACT_XCPT DBTOMC TDDB65 TDDB65 XCPTN YES - AKTEN TSGM35DB TSGM35 TSGM35A TSAKTEN NO - ALTERCONTROL KFFDBD KFERR TSL251 STATDBAS YES - ALTERCONTROL PPCDBD PPCDB DCSP54A STATDBAS NO - ALTERCONTROL RJD9503 RJD9503 TSL268 STATDBAS NO </pre> </div>
3	Type A (Alter) in the SEL field of the object you want to select.

Changing an object from !DB/WORKBENCH (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Alter <object> - Select Type panel.</p> <p>For example, if you are changing a table the following appears:</p> <pre> +----- ALTER TABLE - Select Type -----+ Cmd ==> TABLE NAME -- ACT Option ==> 1 DB/QUICKCHANGE Functions - Change Column Definitions - Rearrange Column Order - Drop Columns - Copy Table to another Tablespace - Change partitioning or segmentation 2 DB2 Supported Functions - Add a Column - Add Primary Key or Foreign Key - Drop Primary Key or Foreign Key - Change Audit rule - Activate/Deactivate Validproc - Change Data Capture status - Change Labels or Comments -----+ </pre>
5	<p>Type 1 (DB/QUICKCHANGE Functions) in the Option field.</p> <p>!DB/QUICKCHANGE is the default selection.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu panel for you to begin the change session.</p> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> Option ==> Change: ==> 1 Names 2 Tables/Columns 3 Allocations 4 RI 5 Plans 6 Packages 7 Grantors 8 Grantees 9 Views 10 Reserved Global Changes: 21 Datasets 22 Tablespaces 23 Indexspaces Administration: 41 Library 42 Stats 43 Destination 44 Housekeeping 45 Save Session Functions: 31 Move Tables 32 Partitioning 33 Add Objects 81 - Generate 99 - Exit Source Extract ID ---- DB31 Dest. Extract ID ---- DB31 Last Extract run on 06/01/99 at 13:46 Version: 500 Maint. Level: 9501 PSP: 0 </pre>

Invoking !DB/QUICKCHANGE to Change an RI Set

Overview

This unit describes how to change an RI set using !DB/QUICKCHANGE.

Background

An RI set is a table with all of its parents and dependents, and their parents and dependents. An immediate RI set is a table with just its parents and dependents.

To change an RI set, you use the !DB/WORKBENCH Referential Relationship panel.

Invoking !DB/QUICKCHANGE to change an RI set - example

Follow this procedure to make changes to a specific RI set.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type T (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the !DB/WORKBENCH Tables panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES ----- DB/WORKBENCH --- DB2=DB31----- TABLE 1 OF 936 Cmd ==>> T A B L E S Cmds: DO (Menu) ALIAS/NOALIAS STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Alter C Columns D Details E Checks F RI Info I Indexes K Pkgs L Load N Count O Out DDL P Plans Q Query R Runstat S Tblspcs V Views X Exclude Z Auths ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE ---REF--- STATS # OF AUTHID BY BY SPACE PAR DEP AVAIL CHKS ----- - ACCOUNT_MANAGERS DBMHL TSUK72 TSUK72 MLSHIPS1 - ACCOUNT_MANAGERS UKSHIPDB UKSHIP TSUK72 UKSHIPS1 - ACT DSN8D31A DSN8310 DCSP48 ACT 1 YES - ACT DBTOMC TDDB65 TDDB65 GBTSRI1 1 YES - ACT DB31COMP TSBNO3 TSBNO3 COMPACT - ACT DSND804 TSCA03 TSCA03 ACT YES - ACT DSND804 TSGM35 TSGM35A ACTA1GRL - ACT_XCPT DBTOMC TDDB65 TDDB65 XCPTN - AKTEN TSGM35DB TSGM35 TSGM35A TSAKTEN - ALTERCONTROL KFFDBD KFERR TSL251 STATDBAS - ALTERCONTROL PPCDBD PPCDB DCSP54A STATDBAS - ALTERCONTROL RJD9503 RJD9503 TSL268 STATDBAS </pre> </div>
3	Type F (RI Info) in the SEL field of a table that is part of the RI set you want to change.

Invoking !DB/QUICKCHANGE to change an RI set (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Referential Relationships panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> REFERENTIAL RELATIONS ----- DB/WORKBENCH -- DB2=DB31----- LINE 1 OF 13 Cmd ==> Scroll ==> CSR R E F E R E N T I A L R E L A T I O N S H I P S Cmds: DO (Menu) Sels: Use any char. on a Parent Table to show the Table's dependents. ----- TABLE = DSN8310.ACT DB=DSN8D31A TS=ACT PRIMARY INDEX = DSN8310.XACT1 PRIMARY KEY COLUMNS = ACTNO PARENTS OF THIS TABLE - (THIS TABLE IS A DEPENDENT) NONE DEPENDENTS OF THIS TABLE - (THIS TABLE IS A PARENT) DLET DEPENDENT DEPENDENT TABLE COLS RULE TABLE NAME REFNAME - FOREIGN KEYS - ----- _ (R) DSN8310.PROJACT RPAA ACTNO </pre> </div> <p>Note: The Referential Relationships panel lists the immediate RI set. The change session involves all tables and tablespaces in the RI set, which may include more objects than are listed on the Referential Relations panel.</p>
5	Type ALTER on the command line.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu panel for you to begin the change session.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/06/10 11:35 Option ==> Change: Global Changes: Administration: ====> 1 Names 21 Datasets 41 Library 2 Tables/Columns 22 Tablespaces 42 Stats 3 Allocations 23 Indexspaces 43 Destination 4 RI 44 Housekeeping 45 Save Session 5 Plans 6 Packages 7 Grantors 8 Grantees 9 Views 10 Reserved Functions: 31 Move Tables 32 Partitioning 33 Add Objects 81 - Generate 99 - Exit Source Extract ID ---- DB31 Last Extract run on 06/01/99 at 13:46 Dest. Extract ID ---- DB31 Version: 500 Maint. Level: 9501 PSP: 0 </pre> </div>

Invoking !DB/QUICKCHANGE to Migrate an Object

Overview

This unit describes how to start !DB/QUICKCHANGE to migrate an object.

Background

The difference between a migration and a change in !DB/QUICKCHANGE is the source of the data used for the output DB2 objects.

In a migration, you specify a specific image copy to use as the data source. In a change, !DB/QUICKCHANGE uses the data in the objects as the data source.

Migrating a DB2 object

To migrate a DB2 object, you can start !DB/QUICKCHANGE from the !DB/WORKBENCH DB2 object list panels by typing **8** (Migrate) in the select field of the object you want to migrate.

Note: Databases are on the Databases object list panel. Tablespaces are on the Tablespaces object list panel.

Migrating a tablespace from !DB/WORKBENCH - example

Follow this procedure to migrate a specific tablespace.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type S (Tablespaces) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the !DB/WORKBENCH Tablespaces panel</p> <div style="border: 1px solid black; padding: 10px;"> <pre> TABLESPACES ----- DB/WORKBENCH --- DB2=DB31----- TBLSPC 1 OF 1,784 Cmd ==> Scroll ==> CSR T A B L E S P A C E S Cmds: DO (Menu) PART/NOPART Sels: ? (Menu) A Alter C Copies D Details E Estimate H Hexdump I Indexes K Pkgs L Listcat N DS Info O Out DDL P Plans Q Query R Runstat T Tables U Utility V Views X Exclude Z Auths 8 Migrate ----- TABLE PRT NO. --NUMBER OF-- STATS SEL SPACE NO. DATABASE CREATOR CATALOG SEGSZ PRTS TABLES INDEXES AVAIL ----- - AAAMMSB AAAAMM TDD63 TSN03 0 NO - ACT DSN8D31A DSN8310 DB2V31 1 2 YES - ACTA1GRL DSNDB04 TSGM35 DB2V31 1 NO - CCTS1 DBCILE TSL253 DB2V31 2 1 NO - CDACTXX DBCILE TSL253 DB2V31 1 YES - CDACTXX DBGLEN TDD855A DB2V31 1 YES - CDDEPTXX DBGLEN TDD855A DB2V31 1 NO </pre> </div>
3	<p>Type 8 (Migrate) in the SEL field of the tablespace you want to migrate.</p> <p>Note: You can no longer use the C (Copies) select from the Tablespaces panel for migration.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Data Migration panel for you to specify the image copy to use as the source of the data.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> TBLSPC CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/06/10 12:06 D A T A M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div>

Displaying CEL and JCL Members and Saved Sessions

Overview

This unit tells you how to display CEL members, JCL members, and all saved sessions.

Displaying CEL members

Use this procedure to display all CEL members you have generated.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, in the Option field, type QK
2	Press Enter. Result: !DB/QUICKCHANGE displays the Change/Session Management panel. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ====> 99/06/01 08:33 Option ====> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit </pre> </div>
3	Type 1 in the Option field.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Display CEL Members panel.

Displaying JCL members

Use this procedure to display all JCL members you have generated.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, in the Option field, type QK
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Session Management panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ===> 99/06/01 08:33 Option ===> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit +-----+ </pre> </div>
3	Type 2 in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Display JCL Members panel.</p>

Displaying all saved sessions

Use this procedure to display all saved sessions.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, in the Option field, type QK
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Session Management panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ===> 99/06/01 08:33 Option ===> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit +-----+ </pre> </div>
3	Type 3 in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Manage Saved Sessions panel.</p>

Using the !DB/QUICKCHANGE Primary Menu

Overview

This unit describes how to use the !DB/QUICKCHANGE Primary Menu to access all the functions necessary to build a specific change definition, including options for change, global changes, administration, generation, and exit.

You can access functions directly by specifying an option number, to use only those functions you need to create a specific change definition quickly. You can also let !DB/QUICKCHANGE navigate through all of the options that affect a change definition in a serial manner (options 1 through 33). See “Navigation” on page 54 for more specifics.

Accessing the Primary Menu

The !DB/QUICKCHANGE Primary Menu appears upon entry to !DB/QUICKCHANGE.

```

PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31-----
Cmd ==>>                                     99/06/10 11:35

      Option ==>>

      Change:                                Global Changes:      Administration:
==>>  1 Names                               21 Datasets          41 Library
      2 Tables/Columns                       22 Tablespace        42 Stats
      3 Allocations                          23 Indexspaces       43 Destination
      4 RI                                    44 Housekeeping
      5 Plans                                 45 Save Session
      6 Packages
      7 Grantors
      8 Grantees
      9 Views
     10 Reserved

      Functions:
      31 Move Tables
      32 Partitioning
      33 Add Objects
      81 - Generate
      99 - Exit

Source Extract ID ---- DB31                Last Extract run on 06/01/99 at 13:46
Dest.  Extract ID ---- DB31                Version: 500 Maint. Level: 9501 PSP: 0

```

Figure 1. !DB/QUICKCHANGE Primary Menu

Navigation

The following table describes the ways you can access functions using the !DB/QUICKCHANGE Primary Menu.

IF you want to ...	THEN ...
Access a specific function	Type the number of the option in the Option field and press Enter. !DB/QUICKCHANGE displays the panel for the option you selected.
Have !DB/QUICKCHANGE navigate for you	Press Enter on the Primary Menu. !DB/QUICKCHANGE displays the panel for the function the pointer on the !DB/QUICKCHANGE Primary Menu specified.

When you return to the !DB/QUICKCHANGE Primary Menu from a function, !DB/QUICKCHANGE moves the arrow to the next option so that if you want to go directly to that option you simply press ENTER.

If you first use option 1, upon return the arrow is moved to option 2. At that point, if you type **5** to use the fifth option, upon return !DB/QUICKCHANGE moves the arrow to option 6. Upon return from option 33, !DB/QUICKCHANGE moves the arrow back to option 1.

Changes requiring specific navigation

For certain changes, having !DB/QUICKCHANGE navigate through the options for you may result in generation of CEL that does not make the changes you have requested. In these cases, you should access specific functions on the Primary Menu in a specific order.

The following table lists the changes that you should make by accessing specific options on the Primary Menu and the chapters that provide the most common procedures for making those changes.

IF you want to ...	THEN follow the procedure in ...
Move a table to a different tablespace	“Moving Tables to a Different Tablespace” on page 313
Move a tablespace to a different database	“Moving a Tablespace to a Different Database” on page 319
Change tablespace partitioning	“Changing Partitioning” on page 323
Migrate databases and tablespaces	“Migrating Databases and Tablespaces” on page 341

For these changes, if you choose a method different from these procedures, including having !DB/QUICKCHANGE navigate through the Primary Menu options, you should check your CEL to make certain that !DB/QUICKCHANGE has generated what you requested.

Invoking the Include Options panel

The first time you select a menu item from the Change, Global Changes, or Functions menu lists on the Primary Menu, !DB/QUICKCHANGE displays the Include Options panel.

Use this panel to specify which dependent objects are included in the change as well as other important processing parameters. See “Understanding !DB/QUICKCHANGE Processing Options” on page 105 for more information on the Include Options panel.

After you specify the objects and parameters you want to include in a change, the Wait for Processing pop-up panel appears. After that, the panel required by the option you chose on the primary menu appears.

```
+----- WAIT FOR PROCESSING -----+
|                                     |
|  GATHERING INFORMATION FOR:       |
|                                     |
|      2  Dataset(s)                |
|                                     |
|          1  Tablespace(es)         |
|          1  Index(es)              |
|                                     |
+-----+-----+
```


!DB/QUICKCHANGE Panels

Overview

This unit presents a typical !DB/QUICKCHANGE panel.

Example panel

A typical !DB/QUICKCHANGE panel is shown in Figure 2.

```

CHANGE NAMES 1 ----- DB/QUICKCHANGE -- DB2=DB31 2 ----- NAME 1 OF 12
Cmd ==>
                                C H A N G E   N A M E S
Cmds:  DO (Menu) C? Global Change
Sels:  ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop

Press ENTER with no changes when done. Press END to abort all changes.
-----
SEL  DATABASE                                DEPENDENT                                CREATED
     TBLSPACE TABLE                                BY
-----
-   DSN8D31A
-   ACT                                           DSN8310
-   . . . . . DSN8310 .ACT                        DCSP48
-   . . . . . SYN= DCSP48 .ACT
-   . . . . . INDEX= DSN8310 .XACT1                DCSP48
-   . . . . . INDEX= DSN8310 .XACT2                DCSP48
-   . . . . . VIEW= DSN8310 .VACT                  DSN8310
-   . . . . . VIEW= DSN8310 .VSTAFAC1              DSN8310
-   . . . . . VIEW= DSN8310 .VSTAFAC2              DSN8310
-   . . . . . VSYN= DCSP48 .VACT
-   . . . . . VSYN= DCSP48 .VSTAFAC1

```

Figure 2. Typical !DB/QUICKCHANGE panel

- 1** The panel title appears on the left side of the first line. On occasion, a panel title appears centered on the second or third line.
- 2** The DB2= on the first line shows the source DB2 subsystem (from the Extract).

Functions available from !DB/QUICKCHANGE panels

From !DB/QUICKCHANGE panels, you can do the following:

- Execute a command specific to the panel
 - Enter a command on the Command line, including
 - switching commands (/)
 - SQL commands
 - “-” DB2 commands
 - TSO commands
 - ISPF commands (PRINT, PANELID)
- Perform an action on a selected object
- Make a selection by typing the selected action character in the SEL field of a specific object

Exiting !DB/QUICKCHANGE

Overview

This unit describes how to exit !DB/QUICKCHANGE.

Background

You can exit !DB/QUICKCHANGE by selecting option 99 from the !DB/QUICKCHANGE Primary Menu.

The exit process gives you the opportunity to save your !DB/QUICKCHANGE session.

Exiting the !DB/QUICKCHANGE product

Follow this procedure to exit !DB/QUICKCHANGE.

Step	Action
1	In the Option field on the !DB/QUICKCHANGE Primary Menu, type 99 .
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Verify Exit panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd == -----VERIFY EXIT ----- 99/06/10 11:35 Cmd ==> _ Op Verify that you want to EXIT DB/QUICKCHANGE. C Position the cursor on a line and press ENTER. ==> 1 SAVE Session and EXIT 2 RESUME 3 EXIT 1 ----- Source Extract ID ---- DB31 Last Extract run on 05/30/99 at 13:46 Dest. Extract ID ---- DB31 Version: 500 Maint. Level: 9601 PSP: 0 ration: a ry s ination ekeeping Session rate </pre> </div>

Exiting the !DB/QUICKCHANGE product (continued)

Step	Action
3	<p>On the command line of the Verify Exit panel, choose the appropriate action, as follows:</p> <ul style="list-style-type: none"> ● To exit and save your session, type 1. ● To abort exit processing and return to !DB/QUICKCHANGE, type 2 (Resume). ● To Exit, type 3. <p>Note: You can also place the cursor next to the option you want to choose.</p>
4	<p>Press Enter.</p> <p>Result: The result depends on your previous action.</p> <ul style="list-style-type: none"> ● If you typed 1, !DB/QUICKCHANGE displays the Save Session panel, and prompts you for appropriate information to save your !DB/QUICKCHANGE session. ● If you typed 2, !DB/QUICKCHANGE aborts exit processing and returns you to !DB/QUICKCHANGE. ● If you typed 3, !DB/QUICKCHANGE returns you to !DB/WORKBENCH without saving your change session.

Introduction

This chapter contains a variety of information about !DB/QUICKCHANGE facilities and features. This includes the !DB/QUICKCHANGE Save/Restore facility, Object list filtering, and the !DB/Tools User macro facility.

Chapter contents

Using the SELECT ALL Command	62
Using the Save/Restore Facility	63
Filtering Lists	74
Constructing Filter Conditions	80
Using the !DB/Tools User Macro Facility	85
Using !DB/WORKBENCH Internal Sessions	87
Accessing the DO Command Menu	89

Using the SELECT ALL Command

Overview

This unit describes how to use the Select All command.

You use the Select All command to cause a specific select action to be performed on each object shown on the screen, not the entire panel list.

Example of using the S (SELECT ALL) command

To see the tables that depend on each object (data space) shown on the !DB/QUICKCHANGE Change Allocations panel, use the following procedure:

Step	Action
1	Type the following command: S T where T is the Tables select for this panel.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Tables in <i><tablespace></i> panel showing all the tables in the first object (a tablespace) on the panel list.
	<pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 21 Cmd ==> S T Scroll ==> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object V Show + TABLES IN GBTSR11 ----- TABLE 1 OF 5 - + Type over exist Cmd ==> Scroll ==> CSR TABLESPACES CREATOR TABLE NAME IXS ROWS IN R when done. ----- SEL TBLSPC TDDB65 .PROJACT 1 3,939 LO STOGROUP --- ----- - GBTSR11 TDDB65 .PROJ 2 8,765 -- INDEXES TDDB65 .EMPPROJACT 2 1,234 B2 SGTSDN03 TDDB65 .DEPT 3 125 TDDB65 .ACT 2 75 ***** BOTTOM OF LIST ***** SEL INDEX Y --- ----- - XPROJAC1 - XPROJ1 - XPROJ2 - XACT1 - XACT2 +-----+ ***** BOTTOM OF LIST ***** </pre>
3	Press Enter to see the next panel containing information about the next object on the list. There is a panel for each tablespace or index space on the list.

Using the Save/Restore Facility

Overview

This unit describes how to use the Save/Restore facility to save a !DB/QUICKCHANGE change session, so that you can restore the change session and complete it at a later time.

Any user can save a change session. Any user can manage or restore saved sessions. Managing a saved session involves copying, renaming, and deleting a session.

To restore a session, invoke !DB/QUICKCHANGE with the session you saved. The session continues from the point at which you saved it.

Important information about restoring sessions

!DB/QUICKCHANGE uses the !DB/Tools Extract to obtain information about DB2 objects at the start of each change session.

Saved sessions have information about DB2 objects that is directly tied to the Extract !DB/QUICKCHANGE used during invocation of that change session. When !DB/QUICKCHANGE restores a session, the Extract you specified may be a more current Extract. If this more current Extract does not have all of the objects that were in the saved change session (a tablespace has been dropped in the interim, for example), the restore process fails. The objects that are in the saved session and that !DB/QUICKCHANGE requires to be in the Extract are tablespaces, tables, and indexes.

If you attempt to restore a session and the restore fails because the current Extract does not have all of the required objects, restore the session using an Extract that was created prior to the date and time of the saved session. This involves using the Lazarus feature of !DB/WORKBENCH. For more information on the Lazarus feature, see the *!DB./WORKBENCH Basic User's Guide*.

Saving a change session and continuing

Follow this procedure to save the change session on which you are working and continue with the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 45 (Save Session) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Save a Session panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- DB/QUICKCHANGE - Save a Session -----+ Cmd ==> You requested a SAVE of a QUICKCHANGE Session. Enter a unique 6 character (or less) ID and a description and press ENTER. Session ID ==> _____ Comments ==> _____ Press END to ABORT the SAVE. +-----+ </pre> </div>
3	<p>Type a session identifier in the Session ID field.</p> <p>Note: The session identifier can be up to six alphanumeric characters long. (If you enter an existing session identifier, you are asked to confirm that you wish to replace the saved session. You can either replace the session or change the identifier to one that is unique.)</p>
4	<p>Type a comment (descriptive information) in the Comments field.</p> <p>A comment can be up to thirty-five characters long and is optional.</p>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE saves the session and displays the Primary Menu. At this point you can continue your change session.</p>

Saving a change session and exiting (continued)

Step	Action
5	Type a session identifier in the Session ID field. Note: The session identifier can be up to six alphanumeric characters long. (If you enter an existing session identifier, you are asked to confirm that you wish to replace the saved session. You can either replace the session or change the identifier to one that is unique.)
6	Type a comment (descriptive information) in the Comments field. A comment can be up to thirty-five characters long and is optional.
7	Press Enter. Result: The the system saves the session and displays the !DB/WORKBENCH panel from which you invoked !DB/QUICKCHANGE.

Restoring a change session

Follow this procedure to restore a change session and continue making changes with !DB/QUICKCHANGE.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, in the Option field, type QK (DB/QUICKCHANGE Management).
2	Press Enter. Result: !DB/QUICKCHANGE displays the Change/Session Management panel. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ====> 99/06/01 08:33 Option ====> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit </pre> </div>
3	Type 3 (Display all Saved Sessions) in the Option field.

Restoring a change session (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Manage Saved Session panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> MANAGE SAVED SESSION ----- DB/QUICKCHANGE - DB2=DB31----- Cmd ==> Scroll ==> CSR Cmds: REFRESH Sels: ? (Menu) C Copy D Delete M Mod Cmt R Rename S Select (Restore) ----- SESSION LAST DATE SEL ID USER Y/MM/DD TIME STATUS COMMENTS ----- - CUSTDB TDTDB3 6/06/01 08:18 - CVINP TDD55A 6/05/27 11:15 TEST KTQCVINP - DBGLEN TDD55A 6/06/19 09:09 COPY OF DBGLEN DATABASE - GBPLPK TDD55A 6/06/01 08:05 PLANS AND PACKS - GBPP2 TDD55A 6/05/01 08:20 PLANS AND PACKS, 2ND GENERATION - GBTEMP TDD55A 6/06/18 15:07 ALIASES AND VIEWS CREATE - GBVIEW TDD55A 6/04/01 08:24 WITH VIEWS - GBWHER TDD55A 6/05/01 13:36 NO SAVED WHERE CLAUSE - JLA TDTDC2 6/05/28 11:04 - LARGDB TDTDB3 6/05/26 15:01 - NB02 TSB03 6/04/20 04:48 - NB03 TSB03 6/04/20 08:27 </pre> </div>
5	Type S in the SEL field of the saved session you want to restore.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE restores the session and displays the Primary Menu. At this point you are ready to continue your change session.</p>

Erasing a change session

Follow this procedure to erase a change session.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type QK (DB/QUICKCHANGE Management) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Session Management panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 ----+ Cmd ==>> 99/06/01 08:33 Option ==>> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit +-----+ </pre> </div>
3	Type 3 (Display all Saved Sessions) in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Manage Saved Session panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> MANAGE SAVED SESSION ----- DB/QUICKCHANGE - DB2=DB31----- Cmd ==>> Scroll ==>> CSR Cmds: REFRESH Sels: ? (Menu) C Copy D Delete M Mod Cmt R Rename S Select (Restore) ----- SEL SESSION LAST DATE ID USER Y/MM/DD TIME STATUS COMMENTS ----- - CUSTDB TDTDB3 6/06/01 08:18 - CVINP TDDB55A 6/05/27 11:15 TEST KTQCVINP - DBGLEN TDDB55A 6/06/19 09:09 COPY OF DBGLEN DATABASE - GBPLPK TDDB55A 6/06/01 08:05 PLANS AND PACKS - GBPP2 TDDB55A 6/05/01 08:20 PLANS AND PACKS, 2ND GENERATION - GBTEMP TDDB55A 6/06/18 15:07 ALIASES AND VIEWS CREATE - GBVIEW TDDB55A 6/04/01 08:24 WITH VIEWS - GBWHER TDDB55A 6/05/01 13:36 NO SAVED WHERE CLAUSE - JLACT TDTDC2 6/05/28 11:04 - LARGDB TDTDB3 6/05/26 15:01 - NB02 TSNB03 6/04/20 04:48 - NB03 TSNB03 6/04/20 08:27 </pre> </div>

Erasing a change session (continued)

Step	Action
5	Type D in the SEL field of the saved session you want to erase.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Erase Confirmation panel. This panel gives you the opportunity to confirm erase of the session, or to, instead, abort the erase.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- ERASE CONFIRMATION -----+ Cmd ==> Confirm DELETE for Session ID ---- ABCDEF Press ENTER to ERASE the Session, END to Cancel the Delete. +-----+ </pre> </div>
7	<p>To confirm erase of the session, press Enter.</p> <p>Result: !DB/QUICKCHANGE erases the session and displays the Restore Session ID panel.</p> <p>To abort the erase of the session, type END and press Enter, or press the appropriate function key.</p>

Copying a change session

Follow this procedure to copy a change session.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type QK (DB/QUICKCHANGE Management) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Session Management panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ==>> 99/06/01 08:33 Option ==>> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit +-----+ </pre> </div>
3	Type 3 (Display all Saved Sessions) in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Manage Saved Session panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> MANAGE SAVED SESSION ----- DB/QUICKCHANGE - DB2=DB31----- Cmd ==>> Scroll ==>> CSR Cmnds: REFRESH Se1s: ? (Menu) C Copy D Delete M Mod Cmt R Rename S Select (Restore) ----- SESSION LAST DATE SEL ID USER Y/MM/DD TIME STATUS COMMENTS ----- - CUSTDB TDTDB3 6/06/01 08:18 - CVINP TDD855A 6/05/27 11:15 TEST KTQCVINP - DBGLEN TDD855A 6/06/19 09:09 COPY OF DBGLEN DATABASE - GBPLPK TDD855A 6/06/01 08:05 PLANS AND PACKS - GBPP2 TDD855A 6/05/01 08:20 PLANS AND PACKS, 2ND GENERATION - GBTEMP TDD855A 6/06/18 15:07 ALIASES AND VIEWS CREATE - GBVIEW TDD855A 6/04/01 08:24 WITH VIEWS - GBWHER TDD855A 6/05/01 13:36 NO SAVED WHERE CLAUSE - JLACT TDTDC2 6/05/28 11:04 - LARGDB TDTDB3 6/05/26 15:01 - NB02 TSBNO3 6/04/20 04:48 - NB03 TSBNO3 6/04/20 08:27 </pre> </div>

Copying a change session (continued)

Step	Action
5	Type C in the SEL field of the saved session you want to copy.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Copy/Rename Save Session panel. This panel shows the old session ID and description, and has input fields for a new session ID and new description.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +-----+----- COPY/RENAME SAVE SESSION -----+ Cmd ==> OLD SESSION ID ---- CUSTDB Comments ---- NEW SESSION ID ==> Comments ==> Enter a NEW 6 Character Session ID and Description, then press ENTER. Press END to ABORT COPY/RENAME. +-----+-----+ </pre> </div>
7	Type a new session ID in the New Session ID field. (The session ID can be up to six alphanumeric characters and must be unique.)
8	Type a new (optional) description in the Comments field.
9	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE copies the session and displays the Manage Saved Session ID panel. The copied session appears in the list.</p>

Renaming a change session

Follow this procedure to rename a change session.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type QK (DB/QUICKCHANGE Management) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Session Management panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> +---- CHANGE/SESSION MGMT --- DB/QUICKCHANGE --- DB2=DB31 -----+ Cmd ===> 99/06/01 08:33 Option ===> 1 CEL Display All CEL Members 2 JCL Display All Generated JCL Members 3 SES Display All Saved SESSIONS X EXIT Exit +-----+ </pre> </div>
3	Type 3 (Display all Saved Sessions) in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Manage Saved Session panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> MANAGE SAVED SESSION ----- DB/QUICKCHANGE - DB2=DB31----- Cmd ===> Scroll ===> CSR Cmnds: REFRESH Se1s: ? (Menu) C Copy D Delete M Mod Cmt R Rename S Select (Restore) ----- SESSION LAST DATE SEL ID USER Y/MM/DD TIME STATUS COMMENTS ----- - CUSTDB TDTDB3 6/06/01 08:18 - CVINP TDDB55A 6/05/27 11:15 TEST KTQCVINP - DBGLEN TDDB55A 6/06/19 09:09 COPY OF DBGLEN DATABASE - GBPLPK TDDB55A 6/06/01 08:05 PLANS AND PACKS - GBPP2 TDDB55A 6/05/01 08:20 PLANS AND PACKS, 2ND GENERATION - GBTEMP TDDB55A 6/06/18 15:07 ALIASES AND VIEWS CREATE - GBVIEW TDDB55A 6/04/01 08:24 WITH VIEWS - GBWHER TDDB55A 6/05/01 13:36 NO SAVED WHERE CLAUSE - JLACTION TDTDC2 6/05/28 11:04 - LARGDB TDTDB3 6/05/26 15:01 - NB02 TSBNO3 6/04/20 04:48 - NB03 TSBNO3 6/04/20 08:27 </pre> </div>

Renaming a change session (continued)

Step	Action
5	Type R in the SEL field of the saved session you want to rename.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Copy/Rename panel. This panel shows the old session ID and description, and has input fields for a new session ID and new description.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- COPY/RENAME SAVE SESSION -----+ Cmd ==> OLD SESSION ID ---- CUSTDB Comments ---- NEW SESSION ID ==> Comments ==> Enter a NEW 6 Character Session ID and Description, then press ENTER. Press END to ABORT COPY/RENAME. +-----+ </pre> </div>
7	Type a new session ID in the New Session ID field. (The session ID can be up to six alphanumeric characters and must be unique.)
8	Type a new (optional) description in the Comments field.
9	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE renames the session and displays the Manage Saved Session panel. The renamed session appears in the list.</p>

Filtering Lists

Overview

This unit describes how to use the !DB/Tools filtering feature to limit the objects on panel lists.

Background

Filtering is similar to the SQL SELECT WHERE statement. You define a set of comparisons (conditions) to describe the objects that you want included in a panel list. Any action performed affects only the objects shown on the list.

Use filtering to

- show only those objects you want to change
 - exclude certain objects from change processing
 - show only certain types of objects such as partitioned tablespaces
-

Definitions

The following defines a filter is and a filter condition.

Filter The characteristic of an object that you can use to set it apart from other objects. For example, database name (DB=), number of views (VIEWS), and storage group (SG=) are among the available database filters.

Filter condition A specific attribute that an object must have for you to include it in a list. For example, setting the filter condition, DB=DSN8A, on a DB2 tables panel causes only those tables that reside in the database named DSN8A to appear.

Filter conditions are additive; to remain on a list, an object must match *all* the conditions you specify. In addition, the filter conditions that you set on one panel may affect the other panel lists. For example, setting the DB= filter on the Database panel also sets this filter on the dependent object display lists.

Methods to filter objects

!DB/QUICKCHANGE offers three methods to filter object lists.

USE this method ...	WHEN you want to ...
Filter menus	<p>use complicated filtering conditions or you are learning to use this product.</p> <p>A filter menu lists all the possible filters for a particular panel list and enables you to build complex filter conditions by typing values into the menu's "skeleton" syntax. For more information, see "Using filter menus" on page 76.</p>
Command line filters	<p>filter for simple filter conditions.</p> <p>With command line filtering, you type filtering conditions on the panel command line and press Enter to quickly redisplay the object subset that matches. For more information, see "Using command line filtering - example" on page 78.</p>
User macros	<p>automate repetitive tasks.</p> <p>For more information, see "Filtering with user macros - example" on page 79.</p>

Using filter menus

A menu of filter conditions is available by typing the **FILT** command on the command line of any !DB/WORKBENCH DB2 object panel. This scrollable menu allows you to view and modify the filter conditions currently in effect. In addition, you can create new filter conditions and apply them to the panel list.

```

TABLES ----- DB/WORKBENCH --- DB2=DB311----- TABLE 1 OF 1,043
Cmd ==> FILT
                                     T A B L E S
Cmds:  DO (Menu)  ALIAS/NOALIAS  STT
Sels:  ? (Menu)  A Alter    C Columns  D D
        I Indexes K Pkgs      L Load    N C
        Q Query   R Runstat  S Tblspcs V V
-----+-----+-----+-----+-----+-----+-----+
                                     TABLE FILTERS -----+
NAME VALUES
DB=
TS=
CB=
CR=
TB=
STATUS VALUES (≠NULL)
AUDIT=  A C N
CHKFLAG= C
STATS=  Y N
STATUS=  I X
VIEWS=  Y N
-----+-----+-----+-----+-----+-----+
SEL TABLE NAME          DATABASE AUTHID  CREA
-----+-----+-----+-----+-----+
-   ARMYTABLE             JMBFUBAR JBART   JBAR
-   A_ARMY_CIMS_ID        JMBFUBAR JBART   JBAR
-   ABCDEFG               DS0ARJD1 RDAMB   RDAM
-   ACH_REQST_DRIVERS     GGGCHQ00 CGARN   JBAR
-   ACRONYM                CCAPIDIC CCAP12  CCAP
-   ACRONYM                ESCHERMI ESCHER   KFOR
-   ACRONYM                NATOMIC  NATO     KFOR
-   ACRONYM                RDAMB2IC RDAMB2   RDAM
-   ACRONYMX               KFORDMI2 KFORD    KFOR
-   ACRONYM1              KFORDMIC KFORD    KFOR
-   ACRONYM2              ESCHERMI ESCHER   KFOR
-   ACRONYM2              KFORDMIC KFORD2   GDEM
-   ACRONYM2              NATOMIC  NATO2    KFOR
    
```

Figure 3. Table Filters Menu

Viewing active filters

When filtering is active, the indicator (F) appears in the upper right corner of the panel.

To view the filter conditions that currently apply to an object list, follow this procedure.

Step	Action
1	Type FILT on the command line of the object list panel.
2	Press Enter. The appropriate filter menu appears and shows the conditions that are currently set.

Turning filtering off

You can turn filtering off and remove all existing filter conditions by typing the **NOFILT (NOF)** command on the Command line of the object list panel.

Alternatively, you can turn filtering off but leave all the filter values as they are set by typing the **FILT=O** command on the Command line of the object list panel.

Typing the **FILT=E** (Equal) command or the **FILT=N** (Not Equal) command turns filtering back on and puts the existing filter conditions in effect. See “Constructing Filter Conditions” on page 80 for more information.

Using command line filtering - example

Filtering conditions can be entered on the command line. When using the command line to filter a display list, each filter condition is made up of a keyword followed by an equal sign (=) and an optional operand.

For example, to list only databases whose names begin with “DSN*” on the Display DB2 Databases panel, follow this procedure.

Step	Action
1	<p>Type DB=DSN* on the command line.</p> <p>Note: The asterisk (*) at the end of the name is a special character (wild card) you use to indicate that !DB/QUICKCHANGE is to accept <i>any</i> characters occurring in or after this position as a match. In this instance, all names beginning with “DSN” are a match, not just the name “DSN.” For more information on comparing names, see “Name compares” on page 80.</p>
2	<p>Press Enter.</p> <p>The object list now includes only those databases whose names begin with “DSN” The letter (F) after the object count (DATABASE 1 of 16) in the upper-right corner of the screen indicates that the system filtered the items it displayed on the panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> DATABASES ----- !DB/WORKBENCH -- DB2=DB2 ----- DATABASE 1 OF 16(F) Cmd ==> Scroll ==> PAGE D A T A B A S E S Selects: A Alter C Copies I Indexes K Pkgs L All O Out DDL P Plans Q Query S Tblspcs T Tables V Views Z Auths 8 Migrate Cmds: DO List functions ----- SEL DBDNAME TBLSPCS TABLES INDEXES CREATOR BY ROSHARE STORAGE BUFFER ----- - DSNCV 2 7 1 DCSP12 DCSP12 SYSDEFLT BP0 - DSNDB01 5 7 3 SYSIBM SYSIBM SYSDEFLT BP0 - DSNDB04 172 163 77 SYSIBM SYSIBM SYSDEFLT BP0 - DSNDB06 10 38 39 SYSIBM SYSIBM SYSDEFLT BP0 - DSNDB07 2 - - DCSP12 DCSP12 SYSDEFLT BP0 - DSNDDF 1 5 5 DCSP12 DCSP12 SYSDEFLT BP0 - DSNRGFDB 1 2 2 DCSP12 DCSP12 SYSDEFLT BP0 - DSNRLST 2 6 6 DCSP12 DCSP12 SYSDEFLT BP0 - DSN8D13A 11 7 15 DCSP26 DCSP26 DSN8G130 BP0 - DSN8D13P 1 3 3 DCSP26 DCSP26 DSN8G130 BP0 - DSN8D13U 2 2 - DCSP26 DCSP26 DSN8G130 BP0 - DSN8D2AP 9 7 15 DCSP12 DCSP12 DSN8G200 BP0 - DSN8D2PG 1 4 3 DCSP12 DCSP12 DSN8G200 BP0 - DSN8D21A 13 16 17 DCSP12 DCSP12 DSN8G210 BP0 - DSN8D21P 1 3 3 DCSP12 DCSP12 DSN8G210 BP0 - DSN8MARK 1 2 1 TDSF04 TDSF04 BERKELEY BP0 *TOTALS* 234 272 190 </pre> </div>

Redisplaying the full list

In the previous example, if you want to redisplay the full list, follow this procedure.

Step	Action
1	Type DB= on the Command line. The null operand turns off <i>only</i> the specified filter, in this case the database name.
2	Press Enter. The Display DB2 Databases panel now lists all the databases again. The filtering indicator (F) still appears in the upper-right corner; filtering is still on.

Filtering with user macros - example

You can create user macros that filter object lists to include only the objects that you want.

For example, to see only the objects in the database named DSN8D22A, use this procedure.

Step	Action
1	Create a new macro member named \$\$FILT in the !DB/QUICKCHANGE User PDS. The dollar sign (\$) member name prefix identifies the member as a macro.
2	Edit this member using ISPF Edit to insert the following statement: DB=DSN8D22A
3	Invoke this macro by typing its name, \$\$FILT , on the command line of any !DB/QUICKCHANGE DB2 object panel. The resulting panel object list shows only the objects in the DSN8D22A database.

For more information on creating User macros, see “Using the !DB/Tools User Macro Facility” on page 85.

Constructing Filter Conditions

Overview

This unit describes the three types of filter comparisons:

- name compares
- selection values
- status values

Name compares

Name compares allow you to limit panel lists based on the names of specific objects or patterns of names such as table name or creator ID. This category includes such name fields as:

DB= database name
CR= creator ID
TB= table name

You can specify a full name, a partial name, or a mask name. A full name requires a complete match. For example, typing **DB=DSNDB06** displays only the objects in the DB2 Catalog.

Using wildcards

When using name compares, you do not have to use the full name of objects. Instead, you can mask operand names using the following special characters:

- * (Asterisk) Allows any one character to be in that position when the system compares a name. If at the end of the string, any characters can occur from that position onward. For a partial name with an ending asterisk (*), the system matches only the characters before the asterisk.

- _ (Underscore) Allows any one character to be in that position when the system compares a name. If at the end of a string, it is the last character.

- ¬ (Not sign) Indicates the position in the mask that must be a blank. For example, `DB=*****¬` displays all database names of seven characters or less.

Setting the name value to none (¬) matches fields that contain no value. For example, on the Tables panel, typing `CHKFLAG= ¬` lists all tables that do not have any check flag.

Note: !DB/QUICKCHANGE does not use SQL wildcards, though “*” is equivalent to DB2's underscore, “_”. The underscore, (_) is a valid character in this product. You can make name compares such as `TB=ACCT_REC`.

How wildcards work

During filtering, the system matches name compares *as a group* of conditions that must be met.

Before an object is included in the list, *all* name comparisons must match. This is similar to the AND operator of the SQL select statement.

Using the **FILT=E** command

Use the **FILT=E** command to compare values as *equal*. This is the default.

The **EQUAL** operator requires that all name compares *match* for the object to pass the filter.

Using the **FILT=N** command

Use the **FILT=N** command to compare values as *not equal*.

The **NOT EQUAL** operator requires that all names compares *not match* for the object to pass the filter. This is similar to the **SQL AND ... NOT EQUAL** construction. For example, to display all the databases that do *not* use the buffer pool **BP0** follow this procedure.

Step	Action
1	Type BP=BP0 on the command line of the DB2 Database panel.
2	Press Enter. Result: The object list now includes only those databases that use buffer pool BP0 .
3	Type FILT=N on the command line.
4	Press Enter. Result: A list of all the databases that do <i>not</i> use buffer pool BP0 appears. This includes all databases assigned to the other buffer pools as well as any that have no default value.

Selection values

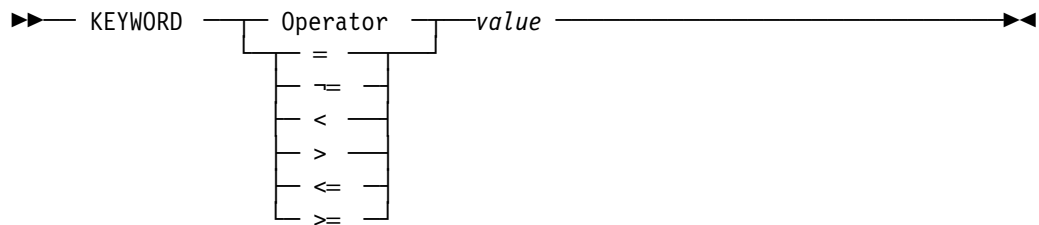
A selection value is a filter condition based on some attribute of a DB2 object. The 2 types of selection values are *existence* and *count*, as follows:

Existence An existence-type compare checks only whether some attribute exists. Use the operator and value, >0, to test existence.

For example, VIEWS>0 lists all the tables that have views. However, VIEWS>1 lists no tables because the system does not check the exact number of views.

In general, views, synonyms (SYNS), parents, dependents (DEPDTS), and referential relations (REFS) are existence types.

Count A count compare is a filter condition that tests some measurable attribute of a DB2 object. Count compares use the following syntax:



For example, to list all databases that have no tablespaces defined, you can use any of the following filter conditions:

SPACES<1 SPACES=0 SPACES<=0

Status values

Status values are single character fields !DB/QUICKCHANGE compares to some specific DB2 value. For tablespaces, locksize (LOCK) is an available status value compare that can have three values, any (A), page (P), or tablespace (S).

To request all objects that have *no* value for a specific attribute, type a not sign (¬) as the status value to match. For example, to list all the tablespaces that do not have rows that might violate referential integrity (have *no* value in the CHECKFLAG field of either the SYSIBM.SYSTABLES or the SYSIBM.SYSTABLEPART tables), type this status comparison on the Display DB2 Tablespaces panel:

CHKFLAG= ¬

In some situations, using **FILT=N** comparison combined with the not (¬) status value, can retrieve valuable information. For example, to list all the tables that have *some* audit value assigned, make the following status comparison on the !DB/WORKBENCH Tables panel:

Step	Action
1	Type AUDIT= ¬ on the command line and press Enter.
2	Type FILT=N on the command line and press Enter.

Using the !DB/Tools User Macro Facility

Overview

This unit covers the !DB/Tools User macro facility at a high level. To understand more about user macros, including how to write macros, invoking macros, and examples, see *Using !DB/WORKBENCH Macros* in the *!DB./WORKBENCH Basic User's Guide*.

The !DB/Tools User Macro Facility

The !DB/Tools User Macro facility helps increase productivity by allowing you to save command strings as a single command that can be repeatedly issued. A *User macro* is an executable User PDS member that can contain any panel command or select sequence that can perform a task. User macros are stored in the !DB/QUICKCHANGE User PDS. User macros are defined to work on a specific display. User macros cannot be invoked from either the !DB/QUICKCHANGE Primary or Housekeeping menus. User macros can be used to filter DB2 object lists or to make “bulk” object name changes on the !DB/QUICKCHANGE Change Names panel.

Naming conventions

All user macro member names must begin with a “\$” (dollar sign) and are stored as a member of the !DB/QUICKCHANGE User PDS. Whenever a command that begins with a “\$” is typed on a command line, the system searches the User PDS for the member whose name matches the command you entered.

Commands

Use any command or select you can enter on a panel's Command line to build a User macro for the panel.

Additional commands available in the User Macro facility are:

END	The END command is used to simulate pressing the End function key.
PRNT	The PRNT command prints the current panel object list.
* (comment)	The asterisk (*) allows you to add comments to your User macros. Enter an asterisk as the first character on a line that contains comments about the macro. Comment lines cannot be continued with the continuation character (+).

Filters

You can use filters to build User macros. To select a subset of panel list objects for processing, use the filter commands available for the specific panel. For example, on the Display All DB2 Plans panel, the following user macro processes only those plans that belong to the plan creator ID, CANDCLU:

```
PCR=CANDCLU
S V

...
```

Syntax

Use Select (S) commands to perform an action on all the objects that appear on a panel. You can nest Select commands, but each select must use a different, user-defined delimiter to mark the beginning and the end of the command string acting on that particular select.

The syntax of a typical macro command is:

```
► S — select action — delimiter — [ command ] — ►
                               [ macro ]
► — end-delimiter — ◄◄
```

Sample macro

This sample macro demonstrates how to use User macros to speed repetitive tasks. This macro changes the names of tables and indexes that you want to move from the test environment to production. It is designed to work on the Change Names panel and uses the !DB/QUICKCHANGE CHANGE command that is unique to that panel.

```
C TEST PROD ALL T I
```

This macro changes all occurrences of the character string “TEST” to “PROD” in the names of all the tables and indexes that are part of the change session.

Using !DB/WORKBENCH Internal Sessions

Overview

This unit describes how to use the !DB/WORKBENCH Sessions Menu to switch between active !DB/WORKBENCH internal sessions (Figure 4).

The system displays only one session at a time. The system suspends others as you left them; you can resume any of these at any time. The Main Session is “anchored” on the !DB/WORKBENCH Primary Menu.

Accessing the !DB/WORKBENCH Sessions Menu

Access the Sessions Menu by typing a forward slash (/) on the command line of any !DB/WORKBENCH or !DB/QUICKCHANGE panel.

You can have only one !DB/WORKBENCH session that has !DB/QUICKCHANGE invoked at a time. You can invoke !DB/QUICKCHANGE from the Databases, Tablespaces, Tables, and Indexes sessions which correspond to the major !DB/WORKBENCH DB2 object list panels. For more information on invoking !DB/QUICKCHANGE, see “Invoking !DB/QUICKCHANGE to Change an Object” on page 43.

```

+----- SESSIONS -----+
| Option ==>              |
|                          |
| 1 // A Main Session     |
| 2 /D Databases          |
| 3 /S C Table Spaces     |
| 4 /T Tables             |
| 5 /I Indexes            |
| 6 /V Views              |
| 7 /P Plans              |
| 8 /G Storage Groups    |
| 9 /Z Authorizations     |
| K /K Packages          |
| L /L Aliases            |
+-----+

```

Figure 4. !DB/WORKBENCH Sessions Menu

Using the !DB/WORKBENCH Sessions Menu

On the Sessions Menu, the session that you are currently using has a C on the line next to it; the other active sessions have an A on the line next to them.

To begin a new session or switch to an existing session, enter either the appropriate session number or session ID in the Sessions Menu select field, or type */<session ID>* on the command line of any !DB/WORKBENCH or !DB/QUICKCHANGE panel. For instance, the Tables session ID is T.

To end a session, return to the !DB/WORKBENCH Main Session.

Note: If you exit the !DB/WORKBENCH Primary Menu, the system terminates all sessions and you leave !DB/WORKBENCH.

Accessing the DO Command Menu

Overview

This unit describes the DO command and the DO Command menu.

Using the DO command

How the DO command works depends on the !DB/QUICKCHANGE panel you are working with.

Use this procedure to access the DO command menu.

Step	Action
1	<p>On the Command line of any !DB/QUICKCHANGE panel, type DO.</p> <p>Note: The DO command must appear on the Cmds: line on the panel. For example,</p> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==> DO Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE CREATED SEL TBLSPC TABLE DEPENDENT BY ----- DSN8D31A ACT DSN8310 DSN8310 .ACT DCSP48 SYN= DCSP48 .ACT INDEX= DSN8310 .XACT1 DCSP48 INDEX= DSN8310 .XACT2 DCSP48 VIEW= DSN8310 .VACT DSN8310 VIEW= DSN8310 .VSTAFAC1 DSN8310 VIEW= DSN8310 .VSTAFAC2 DSN8310 VSYN= DCSP48 .VACT VSYN= DCSP48 .VSTAFAC1 </pre>

Using the DO command (continued)

Step	Action
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the appropriate DO command menu for the panel. For example,</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- COLUMN COMMANDS -----+ Option ==> 1 D ALL Delete all columns. 2 PRNT Print the display. 3 RESET Reset all excluded columns. 4 RPT Repeat last change. (Current Table only) 5 RPTALL Repeat last change. (For all tables) 6 RPTBN Repeat By Name. (For all tables) 7 U ALL Undelete all deleted columns. 8 UNCHG Reverse prior change. 9 X DEL Exclude all deleted columns. +-----+ </pre> </div>
3	<p>Select a specific command by typing its menu value in the Option field.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE performs the selected command on the objects in the current list.</p>

Chapter 4. Using ISPF Facilities within !DB/QUICKCHANGE

Introduction

This chapter provides a review of information about ISPF facilities and functions that are frequently used within !DB/QUICKCHANGE.

Chapter contents

!DB/QUICKCHANGE Version 500 Support of ISPF	92
Performing Common Operations with !DB/QUICKCHANGE	93
Returning to the !DB/WORKBENCH Displays	94
Controlling the Operation of Scrolling	95
Displaying Online Help Information	97
Displaying Online Information about Messages	98
Displaying Additional Information	99

!DB/QUICKCHANGE Version 500 Support of ISPF

Overview

This unit contains information about the version of ISPF supported by !DB/QUICKCHANGE Version 500.

ISPF version supported by !DB/QUICKCHANGE

!DB/QUICKCHANGE Version 300 does not support ISPF Versions 3.1 and 3.2. !DB/QUICKCHANGE Version 500 supports ISPF Version 3.3 and above.

Performing Common Operations with !DB/QUICKCHANGE

Overview

This unit contains instructions to create another ISPF session and to use TSO commands from within !DB/QUICKCHANGE.

Creating another ISPF display session

You can create a second ISPF session and run !DB/QUICKCHANGE on each session, if your TSO USERID region size has sufficient memory.

Review the instructions in the following chart.

Task You Want to Perform	Action
Create another ISPF display session	Type SPLIT on the command line and press Enter, or press the appropriate function key.
Create another ISPF display session and another !DB/QUICKCHANGE session	Type SPLIT on the command line and press Enter, or press the appropriate function key. Then start another !DB/WORKBENCH session. Refer to the <i>!DB/WORKBENCH User's Guide</i> for more information.

Using TSO commands from a !DB/QUICKCHANGE panel

You can run CLIST and other TSO commands from any !DB/QUICKCHANGE panel.

To run a CLIST or another TSO command, type **TSO** *<commandname>* on the command line and press Enter.

Returning to the !DB/WORKBENCH Displays

Overview

This unit shows how you can use the END and RETURN commands to return to the !DB/WORKBENCH displays or a previous panel. This unit also contains information about the different ways the RETURN command can function.

Returning to the !DB/WORKBENCH Primary Menu or to a previous panel

Review the information in the following chart to see how to end the current panel and return to the Primary Menu or to the previous panel.

Note: The operation of RETURN as described in the chart assumes that your user configuration has RETURN defined to display the !DB/WORKBENCH Primary Menu.)

Task You Want to Perform	Action
End the current panel and access the !DB/WORKBENCH panel from which you entered !DB/QUICKCHANGE	Type RETURN on the command line and press Enter, or press the appropriate function key. Result: The system first processes all selections you have made on the panels you have been using and then processes the RETURN command. It then displays the !DB/WORKBENCH panel from which you entered !DB/QUICKCHANGE.
End the current !DB/QUICKCHANGE panel and return to the previous panel that you were using	Type END command on the command line and press Enter, or press the appropriate function key. Result: The system first processes all selections you have made on the panel and then processes the END command. It then displays the panel you were using previously.

Controlling the Operation of Scrolling

Overview

This unit provides information about scrolling operations.

!DB/QUICKCHANGE uses standard functions for scrolling with ISPF. If you are not familiar with ISPF scrolling, review the information in this unit for information about scrolling backward and forward through a list, moving to the beginning or end of a list, and altering the number of lines the program uses.

Scrolling backward or forward through a list

Review the instructions in the following chart to see how to scroll backward and forward through a list.

Task You Want to Perform	Action
Display a section closer to the beginning of the list	Type UP on the command line and press Enter, or press the appropriate function key.
Display a section farther down from the beginning of the list	Type DOWN on the command line and press Enter, or press the appropriate function key.

Scrolling to the beginning of a list

For information about scrolling to the beginning of a list, review the following chart for two of the possible actions.

Task You Want to Perform	Action
Display a section that is at the beginning of the list	Type TOP (for Maximum Scroll Up) on the command line and press Enter, or press the appropriate function key.
	Type M on the command line and press the function key that you assigned for the UP command.

Scrolling to the end of a list

When the system displays the end of a list, it displays a full screen, rather than just the last line. It also displays a message indicating that the display is the end of the list.

For information about scrolling to end of a list, review the information in the following chart for two of the possible actions.

Task You Want to Perform	Action
Display the section that is at the end of the list	Type BOTTOM (for Maximum Scroll Down) on the command line and press Enter, or press the appropriate function key.
	Type M on the command line and press the function key that you have assigned for the DOWN command.

Altering the number of lines being scrolled

Review the information in the following chart if you want to alter the number of lines that the program uses when it scrolls.

Task You Want to Perform	Action
Alter the number of lines the program uses when it scrolls	<p>Type the appropriate value in the scroll field.</p> <ul style="list-style-type: none"> ● P (Page) for scrolling by full page ● H (Half) for scrolling by half page ● C(Cursor) for cursor scrolling ● <n> for scrolling by a specified number of lines <p>Press Enter.</p> <p>Result: The system uses the number of lines you specified when scrolling on all panels, including the one you are currently using.</p>

Displaying Online Help Information

Overview

This unit contains information about accessing online Help information for !DB/QUICKCHANGE and the ISPF facilities.

Displaying Help information

Review the information in the following chart to see how to display Help information.

Information You Want	Action
Help available from !DB/QUICKCHANGE	Type HELP on the command line and press Enter, or press the appropriate function key.
Help available for ISPF facilities	On the panel displaying help information for !DB/QUICKCHANGE, type HELP on the command line and press Enter, or press the appropriate function key.

Displaying Online Information about Messages

Overview

This unit contains information about !DB/QUICKCHANGE messages that are displayed on a menu or panel.

Displaying information about messages

Review the following chart to see how to display information about messages.

Information You Want	Action
Information about a message that is displayed on the menu or panel	Type HELP on the command line and press Enter, or press the appropriate function key. Result: The system displays more information about the condition.

Displaying Additional Information

Overview

This unit contains information about how to control the display of the panel identifier and the assignment of function keys. It also includes other information about displaying data and the PFSHOW command.

Displaying information about panel identifiers

Review the information in the following chart to see how to display information about panel identifiers.

Information You Want	Action
Panel identifier (information you need if you contact Candle Customer Support with a question about a specific panel)	Type the appropriate value on the command line: <ul style="list-style-type: none">● To display the panel identifier, type PANELID.● To suppress the panel identifier, type PANELID OFF. Press Enter. Result: The system displays the panel identifier according to the command on this and subsequent panels.

Displaying data and assignments for function keys

If you use the PFSHOW command, the assignment of keys listed at the bottom of the menu or panel can cover up the last two lines of text. For example, if you have used the PFSHOW command and you display the pop-up menu of selects, you may not see the last two selects that are available on the panel.

Review the information in the following chart to see how to display data and assignments for function keys.

Information You Want	Action
Assignment of function keys (those typically used in a standard ISPF environment)	Type the appropriate value on the command line: <ul style="list-style-type: none"> ● To display the key assignments, type PFSHOW. ● To suppress the key assignment display, type PFSHOW OFF. Press Enter. <p>Result: The system changes the display, including the display on the panel you are currently using.</p>

Displaying Additional Information

Using !DB/QUICKCHANGE

Chapter 5. Understanding !DB/QUICKCHANGE Processing Options

Introduction

This chapter describes the !DB/QUICKCHANGE Include Options panel and tells you how to complete it.

Chapter contents

Understanding the !DB/QUICKCHANGE Include Options Panel	106
Specifying the !DB/QUICKCHANGE Destination	107
Specifying !DB/QUICKCHANGE Include Options	109
Specifying !DB/QUICKCHANGE Processing Options	114
Documenting the Change Session	118

Understanding the !DB/QUICKCHANGE Include Options Panel

Overview

This unit illustrates the !DB/QUICKCHANGE Include Options panel. The rest of this chapter describes these fields and how the values you specify impact your changes.

Caution

Complete all fields correctly before you press Enter. You cannot change any of the choices you made after you press Enter.

!DB/QUICKCHANGE Include Options panel

!DB/QUICKCHANGE displays the Include Options panel the first time you select an option from the Change, Global Changes, or Functions menu lists on the !DB/QUICKCHANGE Primary Menu.

```

INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 -----
Cmd ==>

          Destination  ==> DB31      Destination Extract ID  1

Enter Y to include or N to exclude object type from change session.
CREATES:   Indexes  ==> Y      Aliases    ==> Y      Views ==> Y      ] 2
           Synonyms ==> Y      View Synonyms ==> Y
BINDS:     Plans   ==> Y      Packages   ==> Y
GRANTS:    Grants  ==> Y

Access Catalog    ==> N      Y/N Access DB2 Catalog NOW for columns
Use DDL & Data    ==> 1      1 - Both, 2 - Data only, 3 - DDL only  ] 3
DROP TARGET OBJECTS ==> Y      Y/N Generate DROPs before CREATES
DROP SOURCE OBJECTS ==> Y      Y - Generate DROPs for the source objects  ]

          Description ==>      ] 4
          (of change  ==>
          to be made) ==>

Provide the values and press ENTER to continue or END to abort.
    
```

Figure 5. !DB/QUICKCHANGE Include Options Panel

The Include Options panel contains four types of fields:

- 1** Destination
- 2** Include Options
- 3** Processing Options
- 4** Description

Specifying the !DB/QUICKCHANGE Destination

Overview

This unit describes how to specify the destination of the altered objects and the implications of the choice.

How to specify the !DB/QUICKCHANGE destination

To specify the destination for the altered DB2 objects, type the ID of the DB2 system where you want !DB/QUICKCHANGE to place the altered objects.

The destination DB2 system can be the same system as the source system or it can be a different system.

Implications of the destination decision

The following table describes the implications of your destination decision.

IF the destination system and the source system are ...	THEN ...
The same	!DB/QUICKCHANGE's actions on the source objects vary depending on the type of change you make and on the include and processing options that you specify on the Include Options panel.
Different	!DB/QUICKCHANGE creates new objects on the destination system. !DB/QUICKCHANGE does not change the objects on the source system, no matter what other include and processing options you specify.

What happens when !DB/QUICKCHANGE drops source tables

If !DB/QUICKCHANGE drops source tables, it does the following:

- Unloads the table data into an unload dataset
- Names the unload data set using a model dataset name followed by the word *raw*

You specify the model dataset name using the Housekeeping Menu, Library option.

!DB/QUICKCHANGE uses the unload dataset if it reloads any of the data.

Specifying !DB/QUICKCHANGE Include Options

Overview

This unit describes the effects of the choices you make for the include options fields.

What are the !DB/QUICKCHANGE include options?

The !DB/QUICKCHANGE include options specify whether to include (Y) or exclude (N) dependent objects from the change session.

The effect of each choice depends on whether the source and the destination system are the same or different, and on how the Change Engine implements the change.

The object types you can specify for inclusion or exclusion are as follows:

- Indexes
- Aliases
- Synonyms
- View Synonyms
- Plans
- Packages
- Grants
- Views

When the source and destination systems are different

Use the following table to determine what happens to dependent objects when the source and destination systems are different.

IF you type ...	THEN !DB/QUICKCHANGE retains the dependent objects on the source system and ...
Y to include the objects	creates them on the destination system.
N to exclude the objects	does not create them on the destination system.

Finding more information when the source and destination systems are the same

Review the following chart to find where to get more information if the source system is the same as the destination system.

Dependent object	Is the object included (Y) or excluded (N)?	Section to read for more information
Indexes, Aliases, Synonyms, View Synonyms	Y	See “Including indexes, aliases, synonyms, and view synonyms for same source and destination” on page 111.
	N	See “Excluding indexes, aliases, synonyms, and view synonyms for same source and destination” on page 111.
Plans, Packages	Y	See “Including plans and packages for same source and destination” on page 111.
	N	See “Excluding plans and packages for same source and destination” on page 112.
Grants, Views	Y	See “Including grants and views for same source and destination” on page 112.
	N	See “Excluding grants and views for same source and destination” on page 112.

Including indexes, aliases, synonyms, and view synonyms for same source and destination

If you type **Y** to include dependent objects, and the source and destination systems are the same, !DB/QUICKCHANGE retains the dependent objects.

Excluding indexes, aliases, synonyms, and view synonyms for same source and destination

If you type **N** to exclude dependent objects, and the source and destination systems are the same, the effect on the dependent objects depends on the method !DB/QUICKCHANGE implements the change and, in some cases, on the value you specify in the Rename Objects field, as follows:

IF !DB/QUICKCHANGE implements the change by ...	THEN !DB/QUICKCHANGE ...
Using an SQL ALTER statement	Retains the dependent objects.
Dropping and recreating the database objects	Drops the dependent objects.

If you specify **N** in the Rename Objects field, and !DB/QUICKCHANGE creates a copy of the database object, !DB/QUICKCHANGE does not make copies of the dependent objects.

Including plans and packages for same source and destination

If you type **Y** to include dependent objects, and the source and destination systems are the same, the effect on the dependent objects depends on the method !DB/QUICKCHANGE implements the change, as follows:

IF !DB/QUICKCHANGE implements the change by ...	THEN !DB/QUICKCHANGE ...
Using an SQL ALTER statement	Does not rebind the plans and packages. The plans and packages may still be valid.
Dropping and recreating the database objects	Rebinds the plans and packages. The rebinds may fail due to changes to other objects.

Excluding plans and packages for same source and destination

If you type **N** to exclude dependent objects, and the source and destination systems are the same, the effect on the dependent objects depends on the method !DB/QUICKCHANGE implements the change, as follows:

IF !DB/QUICKCHANGE implements the change by ...	THEN !DB/QUICKCHANGE ...
Using an SQL ALTER statement	Does not rebind the plans and packages. The plans and packages may still be valid.
Dropping and recreating the database objects	Does not rebind the plans and packages. The plans and packages are not valid.

Including grants and views for same source and destination

If you type **Y** to include dependent objects, and the source and destination systems are the same, !DB/QUICKCHANGE retains the dependent objects.

Excluding grants and views for same source and destination

If you type **N** to exclude dependent objects, and the source and destination systems are the same, the effect on the dependent objects depends on the method !DB/QUICKCHANGE implements the change, as follows:

IF !DB/QUICKCHANGE implements the change by ...	THEN !DB/QUICKCHANGE ...
Using an SQL ALTER statement	Retains the dependent objects.
Dropping and recreating the database objects	drops the dependent objects.

Including views for same source and destination

If you type **Y** to include dependent objects, and the source and destination systems are the same, !DB/QUICKCHANGE retains the dependent objects.

Excluding views for same source and destination

If you type **N** to exclude dependent objects, and the source and destination systems are the same, the effect on the dependent objects depends on the method !DB/QUICKCHANGE implements the change, as follows:

IF !DB/QUICKCHANGE implements the change by ...	THEN !DB/QUICKCHANGE ...
Using an SQL ALTER statement	Retains the dependent objects.
Dropping and recreating the database objects	Drops the dependent objects.

Specifying !DB/QUICKCHANGE Processing Options

Overview

This unit describes the effects of the choices you make for the processing option fields.

What are the !DB/QUICKCHANGE processing options?

The processing options provide instructions to !DB/QUICKCHANGE on how to process the changes. The options include these fields:

- Access Catalog
- Use DDL & Data
- Drop Target Objects
- Drop Source Objects

Specifying the Access Catalog field

Use this table to determine the value to specify in the Access Catalog field.

IF you want to ...	THEN type ...
Access the DB2 catalog to obtain the most current column information	Y
Use the extract for column information	N

Specifying the Use DDL & Data field

!DB/QUICKCHANGE can make changes to structure (DDL) and data, or to both. Use the following table to determine the value for this field.

IF you want !DB/QUICKCHANGE to ...	THEN type ...
Use both DDL and data in the change session	1 This is required if you are making changes to a table and want to retain the data.
Use only the data	2 !DB/QUICKCHANGE ignores any changes you specify to the table structure during the change session if you use this setting.
Generate only DDL for objects in the change session	3 This setting creates empty objects. If the source and destination systems are the same, and the change requires the objects be dropped and recreated, the data will not be reloaded. Any changes you specify to the data during the change session are ignored if you use this setting.

Specifying the Drop Target Objects field

Use the following table to determine the value for the DROPs First field.

IF you want !DB/QUICKCHANGE to ...	THEN type ...
Issue a DROP prior to the creation of new objects	Y !DB/QUICKCHANGE issues the DROPs whether the source and target system are the same or are different.
Not issue a DROP before creating new objects	N If the system has objects with the same names, !DB/QUICKCHANGE cannot create the new objects. The change will fail.

Specifying the Drop Source Objects field

This option only applies to change sessions where the source and target systems are the same.

Use the following table to determine the value for the Rename Objects field.

IF you want !DB/QUICKCHANGE to ...	THEN type ...
Interpret a name change as a rename of the object	Y !DB/QUICKCHANGE changes the dependent objects (including referential integrity) of the source object to be dependent objects of the newly named object.
Use a name change to create a copy of the object	N For example, a change to the name of a table creates a new table with the same column definitions and data as the source table, and does not DROP the source table. If you included dependent objects in the change, the original database object retains its dependent objects and !DB/QUICKCHANGE creates dependent objects for the new database object. This may result in duplicate names. !DB/QUICKCHANGE warns you about these duplicate names, and gives you a chance to change the names of dependent objects.

Documenting the Change Session

Overview

This unit describes how you document your change session and how this information is used.

!DB/QUICKCHANGE allows you to document your change session at the start of the change session.

Description fields

The !DB/QUICKCHANGE Include Options panel includes three fields called Description.

You can use these fields to document the changes you are going to make during the change session. You can enter up to 38 characters in each of the fields. This information is optional, but useful.

How session documentation is used

When you generate Change Engine Language (CEL) (option 81 on the Primary Menu), !DB/QUICKCHANGE includes the description information in the CEL. The information also appears as comments in the job stream the Change Engine creates to implement the change.

Chapter 6. Adding Objects to the Change Session

Introduction

This chapter covers the process of adding objects (tables and table spaces) to the change session.

Chapter contents

Adding Tables to the Change Session	120
Adding Tablespaces to the Change Session	122

Adding Tables to the Change Session

Overview

This unit explains how to add table objects to a change session.

Adding one or more tables

Follow this procedure to add a table or tables to an change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 33 (Add Objects) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add Objects panel.</p> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/06/10 11:35 Option ==> Change: Global Changes: Administration: ==> 1 Names 21 Datasets 41 Library 2 Ta -----ADD OBJECTS ----- 3 Al Cmd ==> 4 RI Option ==> 5 Pl 6 Pa 7 Gr S SPACES Add Tablespaces. 8 Gr T TABLES Add Tables. 9 Vi 10 Re Select the type object to add or press END. Source Extract ID ---- DB31 Last Extract run on 06/01/99 at 13:46 Dest. Extract ID ---- DB31 Version: 500 Maint. Level: 9501 PSP: 0 </pre>
3	Type T in the Option field.

Adding one or more tables (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tables for QKC panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PICK TABLES FOR QKC ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 122 OF 948 Cmd ==> Scroll ==> CSR Select any number of objects with "A", then press END. Cmds: DO (Menu) STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Select for Change Press END when done. ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE REF REF ----- - DEPT DSN3DD2A DSN3D2 TSBN05 DSN3SD2D 1 - DEPT DSN8D31A DSN8310 DCSP48 DSN8S31D 2 3 - DEPT TDD18DB TDD18 TDD18 TDD18T2 1 - DEPT DBTOMC TDD65 TDD65 GBTSR11 2 3 - DEPT_XCPT DBTOMC TDD65 TDD65 XCPTN - DSN_REGISTER_APPL DSNRGFDB DSNRGCOL DCSP48 DSNRGFTS </pre> </div>
5	<p>Type A in the SEL field of each of the tables that you want to add to the change session. You can scroll through the list to add additional tables.</p>
6	<p>When you have completed adding tables, type END on the command line and press Enter, or press the appropriate function key.</p> <p>Result: !DB/QUICKCHANGE adds the selected tables to the change session and redisplay the !DB/QUICKCHANGE Primary Menu.</p>

Adding Tablespaces to the Change Session

Overview

This unit explains how to add tablespace objects to a change session.

Adding one or more tablespaces

Follow this procedure to add one or more tablespaces to the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 33 (Add Objects) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add Objects panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> PRIMARY MENU ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/06/10 11:35 Option ==> Change: Global Changes: Administration: ==> 1 Names 21 Datasets 41 Library 2 Ta -----ADD OBJECTS ----- 3 Al Cmd ==> 4 RI Option ==> 5 Pl S SPACES Add Tablespaces. 6 Pa T TABLES Add Tables. 7 Gr te 8 Gr Select the type object to add or press END. 9 Vi 10 Re Source Extract ID ---- DB31 Last Extract run on 06/01/99 at 13:46 Dest. Extract ID ---- DB31 Version: 500 Maint. Level: 9501 PSP: 0 </pre> </div>
3	Type S in the Option field.

Adding one or more tablespaces (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tablespaces for QKC panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PICK TSES FOR QKCHANGE --- DB/QUICKCHANGE -- DB2=DB31----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR KTQR047A - Select any number of objects with "A", then press END. Cmds: DO (Menu) Sels: ? (Menu) Press END when done. ----- SEL TBLSPC PT# DATABASE CREATOR CATALOG #P SG # TBL # IXS ----- - BCMBBIL YYYMM TDTDB3 DB2V31 1 4 - CISBMAIN ESCHERM RDAMB2 DB2V31 1 1 - CISBSUPP DSNDB01 TSCA03 DB2V31 4 2 1 - CMTBCMT DSNDB02 TSGM35 DB2V31 4 1 1 </pre> </div>
5	<p>Type A in the SEL field of each of the tablespaces that you want to add to the change session. You can scroll through the list to add additional tablespaces.</p>
6	<p>When you have completed adding tablespaces, type END on the command line and press Enter, or press the appropriate function key.</p> <p>Result: !DB/QUICKCHANGE adds the selected tables spaces to the change session and redisplay !DB/QUICKCHANGE the Primary Menu.</p>

Adding Tablespaces to the Change Session

Chapter 7. Changing the Names of Objects

Introduction

This chapter covers the process of changing the names of objects that are a part of the change session. This includes changing multiple occurrences of a name and qualifying a global name change.

Chapter contents

Changing an Object's Name	126
Accessing the Change Names Panel	129
Changing the Name of a Database	130
Changing the Name of a Tablespace	132
Changing the Name of a Table	133
Changing the Name of a Table or View Synonym	134
Changing the Name of a Table Alias	135
Changing the Name of an Index	136
Changing the Name of a View	138
Changing the Name of a View Alias	139
Changing Multiple Occurrences of a Name	140
Changing the Name of a Plan	145
Changing the Name of a Package	147
Changing the Name of a Grantor	149
Changing the Names of all Grantors	150
Changing the Names of Grantees	152

Changing an Object's Name

Overview

This unit describes the process of changing the name of an object.

Relationship of changed objects to their dependent objects

!DB/QUICKCHANGE asks you several questions on the Include Options panel to understand what actions to perform on the objects included as part of the change.

One of those questions is how to perform changes to object names. When you change the name of an object, you need to decide if !DB/QUICKCHANGE should actually change the name of the source object (Rename = Y), or make a copy of the source object and change the name of the copy (Rename = N).

Use the following table to determine the correct value to use.

IF the source and target systems are ...	THEN !DB/QUICKCHANGE ...
The same	Changes the dependent objects (including referential integrity) of the source object to be dependent objects of the newly named object.
Different	Migrates the newly named object to the target system and recreates all dependent objects. The source object retains all of its dependent objects.

Note: If you copy the source object, it retains its dependent objects. Those objects may have names which are duplicates of the dependent objects of the newly named object. !DB/QUICKCHANGE warns you about these duplicate names and gives you a chance to change the names of dependent objects.

For more information on the Include Options panel, see “Specifying !DB/QUICKCHANGE Processing Options” on page 114.

Relationship of changed object names to views

If you request that !DB/QUICKCHANGE include views in the change session, !DB/QUICKCHANGE not only includes all views in the change set but also makes your changes to the views. Thus, if the system changes the name of the table that is the object of the view, the view reflects that change.

Relationship of changed object names to plans and packages

If an object name changes, you may need to update the dependent DBRM to reflect this change. Without this change, rebinds of plans and packages could fail.

Changes to DBRMs are outside the scope of !DB/QUICKCHANGE.

Important information about changing names

!DB/QUICKCHANGE performs name changes within context.

!DB/QUICKCHANGE determines if a change to a name would create a duplicate of a name in the change set.

!DB/QUICKCHANGE performs the action duplicate names as follows:

IF you started the name change by typing	THEN !DB/QUICKCHANGE ...
C in the SEL field of the object	Issues an error message and you must either enter a name which is not a duplicate, or abort the name change.
Either the C command or the C? command	Marks the object line with an unchanged marker (UNCHGD=>), signifying that the line was a candidate for change but not changed. To reset the unchanged markers, type RESET on the command line and press Enter.

Deciding which panel to use

Review the following chart to determine which panel to use to change the name of an object.

IF you want to change this object's name ...	THEN use this panel ...
Alias	Change Names panel
Column	Tables Being Changed panel
Database	Change Names panel
Grantee	Change Grantee IDs panel
Grantor	Change Grantor IDs panel
Index	Change Names panel
Package	Affected Packages panel
Plan	Affected Plans panel
Synonym	Change Names panel
Table	Change Names panel
Table Check Constraint	Change Names panel
Tablespace	Change Names panel
View	Change Names panel
View Alias	Change Names panel

Accessing the Change Names Panel

Overview

This unit describes how to access the Change Names panel.

Accessing the Change Names panel

Follow this procedure to access the Change Names panel.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 1 (Names) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==>> Scroll ==>> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Se1s: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE CREATED SEL TBLSPC TABLE DEPENDENT BY ----- - DSN8D31A - ACT DSN8310 - DSN8310 .ACT DCSP48 - SYN= DCSP48 .ACT - INDEX= DSN8310 .XACT1 DCSP48 - INDEX= DSN8310 .XACT2 DCSP48 - VIEW= DSN8310 .VACT DSN8310 - VIEW= DSN8310 .VSTAFAC1 DSN8310 - VIEW= DSN8310 .VSTAFAC2 DSN8310 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 </pre> </div>

Changing the Name of a Database

Overview

This unit describes how to change the name of a database.

If you change the name of a database, all the objects in the database are affected even if they are not part of the change session.

Changing a database name

Follow this procedure to change the name of a database.

Step	Action
1	<p>On the Change Names panel, type C (Change names) in the SEL field of the database whose name you want to change.</p> <p>The database line is labeled with (Entire Database) following the name of the database.</p>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Database Name panel.</p> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w ----- CHANGE DATABASE NAME ----- ----- Cmd ==> DATABASE SEL TBLSPC Database Name ==> DSN8D31A Originally: DSN8D31A ----- ----- - DSN8D31A CAUTION This unloads and reloads the entire Database, - ACT even tablespaces not listed. - Enter the new name and press ENTER. Press END to abort. - Clear the new name to reset it back to the original value. - - - - - - F1=HELP F2=SPLIT F3=END F4=RETURN F5=RFIND - F6=RCHANGE F7=UP F8=DOWN F9=SWAP F10=LEFT - ----- </pre>

Changing a database name (continued)

Step	Action
3	Type the new name for the database in the Database Name field. Note: The new name must not be a duplicate of an existing database name.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Change Names panel. All occurrences of the database name are changed to the new name.

Changing the Name of a Tablespace

Overview

This unit describes how to change the name of a tablespace.

Changing a tablespace name

Follow this procedure to change the name of a tablespace.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the tablespace whose name you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Tablespace Names panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w ----- CHANGE TABLESPACE NAME ----- ----- CMD ==>----- DATABASE SEL TBLSPC Tablespace: Originally: ----- - DSN8D31A Name ==> ACT ACT - Creator ==> DSN8310 DSN8310 - Enter the new names then press ENTER or press END - to abort. Clear the name to reset to original value. - ----- - VIEW= DSN8310 .VSTAFAC1 DSN8310 - VIEW= DSN8310 .VSTAFAC2 DSN8310 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 </pre> </div>
3	<p>Perform one or both of the following actions, as appropriate.</p> <ul style="list-style-type: none"> ● Type the new name for the tablespace in the Name field. ● Type the new value for the tablespace creator in the Creator field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel.</p>

Changing the Name of a Table

Overview

This unit describes how to change the name of a table.

Changing a table name

Follow this procedure to change the name of a table.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the table whose name you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Table Names panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 7 Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w +----- CHANGE TABLE NAME -----+ -----+ Cmd ==> DATABASE SEL TBLSPC Table: -----+ _ AHYY Creator ==> Originally: Name ==> AHYYT Created By ==> GDEMI Enter the new name and press ENTER. Press END to abort. Clear the new name to reset it back to the original value. -----+ _ AHYY _ AHYYTS C *-----+ *****+ </pre> </div>
3	<p>Perform one or more of the following actions, as appropriate.</p> <ul style="list-style-type: none"> ● Type the new name for the table in the Name field. ● Type a new value for the owner of the table in the Creator field. ● Type a new value for the creator of the table in the Created By field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel with the new names.</p>

Changing the Name of a Table or View Synonym

Overview

This unit describes how to change the name of a table or view synonym.

Changing a table or view synonym name

Follow this procedure to change the name of a table or view synonym.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the table or view synonym whose name you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Synonym panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 3 OF 14(F) +----- CHANGE SYNONYM -----+ ==> CSR Cmd ==> Synonym: Creator ==> LVAUG Originally: Name ==> LVVDEPT LVAUG LVVDEPT Enter the new name and press ENTER. Press END to abort. Clear the new name to reset it back to the original value. +-----+ LVAUGTS1 LVAUG .CCDEPT SYN= LVAUG .LVDEPTSYN ALIAS= LVAUG .LVAUGALI ALIAS= LVAUG .LVDEPTALI INDEX= LVAUG .XDEPT1A LVAUG LVAUG2 LVAUG2 </pre> </div>
3	<p>Perform one or both of the following actions, as appropriate.</p> <ul style="list-style-type: none"> ● Type a new value for the synonym creator in the Creator field. ● Type the new name for the synonym in the Name field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel with the new names.</p>

Changing the Name of an Index

Overview

This unit describes how to change the name of an index.

If the index is user-managed, the index name cannot contain special characters. While this is not a DB2 requirement, !DB/QUICKCHANGE enforces this restriction to ensure that index names are accurate during change implementation.

Changing an index name

Follow this procedure to change the name of an index.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the index whose name you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Index Names panel.</p> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 32 Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w +----- CHANGE INDEX NAME -----+ -----+-----+ Cmd ==> -----+-----+ DATABASE Index: Originally: SEL TBLSPC Creator ==> CGARN CGARN -----+-----+ Name ==> ACHDRV12 ACHDRV12 _ DSNDB04 Created By ==> JBART2 JBART2 -----+-----+ _ DSNDB04 Enter the new name and press ENTER. Press END to abort. _ KTETT0 Clear the new name to reset it back to the original value. _ -----+-----+ _ GGGCHQ00 _ GGGCHQ00 _ ACHDRVTS TADB43 _ CGARN .ACH_REQST_DRIVERS JBART2 C INDEX= CGARN .ACHDRV2 JBART2 </pre>

Changing an index name (continued)

Step	Action
3	Perform one or more of the following actions, as appropriate. <ul style="list-style-type: none">● Type the new name for the index in the Name field.● Type a new value for the owner of the index in the Creator field.● Type a new value for the creator of the index in the Created By field.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Change Names panel with the new names.

Changing the Name of a View

Overview

This unit describes how to change the name of a view.

Changing a view name

Follow this procedure to change the name of a view.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the view whose name you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Views panel.</p> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14(F) Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w +----- CHANGE VIEWS -----+ -----+ DATABASE CMD ==> SEL TBLSPC -----+-----+ _ LVAUGDB1 View: Originally: Creator ==> LVAUG LVAUG Name ==> JDEPT JDEPT Created By ==> LVAUG LVAUG Enter the new name and press ENTER. Press END to abort. Clear the new name to reset it back to the original value. -----+-----+ _ . ALIAS= LVAUG .LVDEPTALI _ . INDEX= LVAUG .XDEPT1A LVAUG2 _ . INDEX= LVAUG .XDEPT2A LVAUG2 _ . INDEX= LVAUG .XCEPT3A LVAUG2 C . VIEW= LVAUG .JEPT LVAUG </pre>
3	<p>Perform one or more of the following actions, as appropriate.</p> <ul style="list-style-type: none"> ● Type the new name for the view in the Name field. ● Type a new value for the owner of the view in the Creator field. ● Type a new value for the creator of the view in the Created By field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel with the new names.</p>

Changing the Name of a View Alias

Overview

This unit describes how to change the name of a view alias.

Changing a view alias name

Follow this procedure to change the name of a view alias.

Step	Action
1	On the Change Names panel, type C (Change names) in the SEL field of the view alias whose name you want to change.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Change View Alias Names panel.
3	Perform one or both of the following actions, as appropriate. <ul style="list-style-type: none">• Type the new name for the view alias in the Name field.• Type a new value for the owner of the view alias in the Creator field.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Change Names panel with the new names.

Changing Multiple Occurrences of a Name

Overview

This unit provides information for changing multiple occurrences of a name.

For changes involving only a few names, the procedures discussed earlier in this chapter may suffice.

If you are making complicated changes which require that many similar names be changed, or that substrings of names be changed, the information in this unit is useful.

Methods for making multiple changes

!DB/QUICKCHANGE provides a Change command on the Change Names panel, which allows you to make changes to the following:

- Names
- Authorization IDs of the owner of objects (Creator field)
- Authorization IDs of the creator of the objects (Created By field).

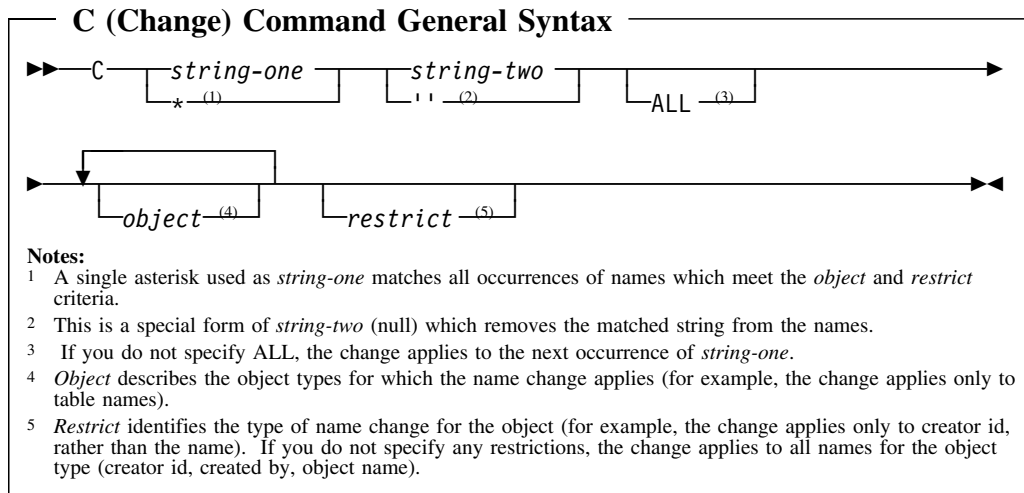
The C command can rename any objects whose names can be changed on the Change Name panel.

!DB/QUICKCHANGE also provides a pop-up panel that has fields that you fill in, and which accomplishes the same function as the C command. To access this pop-up panel, do the following:

Step	Action
1	On the Command line of the Change Names menu, type C?
2	Press Enter Result: !DB/QUICKCHANGE displays the pop-up panel.

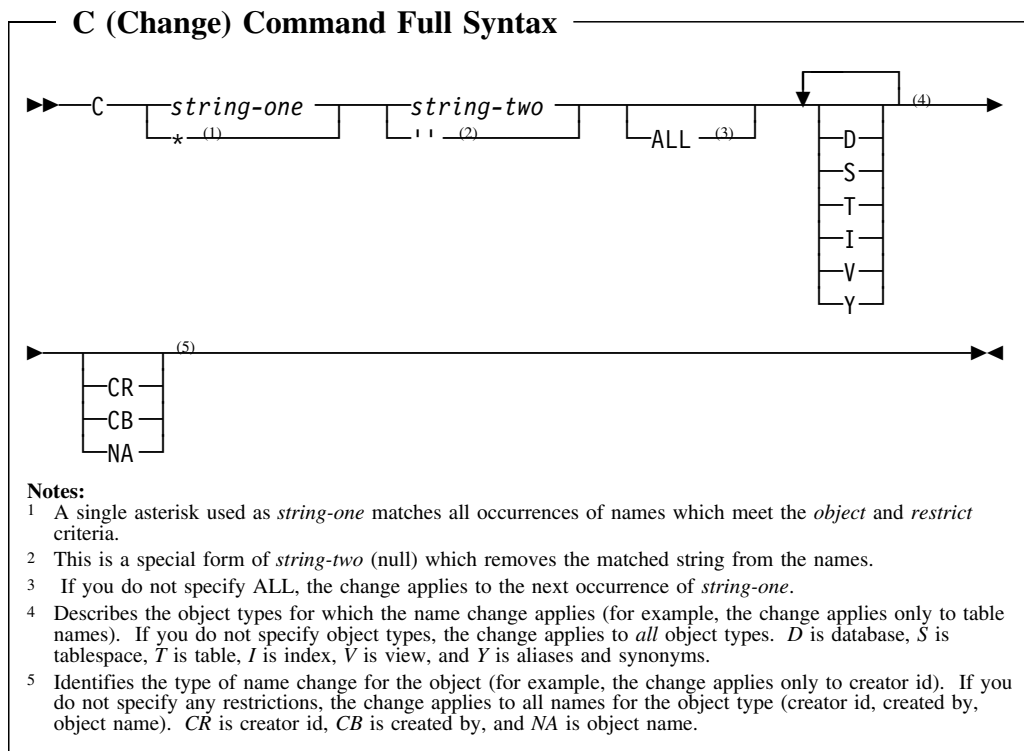
General Syntax of the C (Change) command

The general syntax of the C (Change) command is:



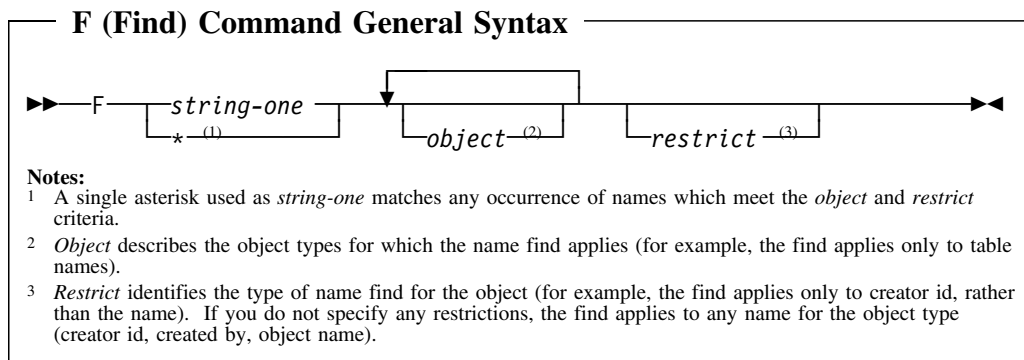
Full Syntax of the C (Change) command

The full syntax of the C (Change) command is:



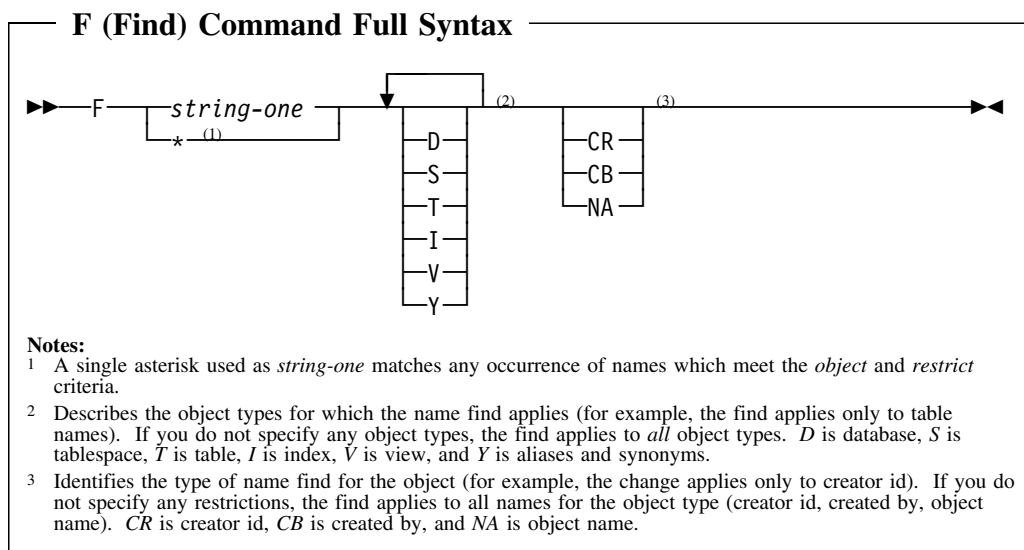
General Syntax of the F (Find) command

The general syntax of the F (Find) command is:



Full Syntax of the F (Find) command

The full syntax of the F (Find) command is:



Changing all occurrences of a name

Follow this procedure to change multiple occurrences of a name.

Step	Action
1	<p>On the Change Names panel, type the appropriate C (Change) command on the command line.</p> <p>Example 1: To change all occurrences of <i>DEPT</i> to <i>AREA</i>, for all objects, and for all types of names (creator, created by, name), type C DEPT AREA ALL.</p> <p>Example 2: To change all occurrences of the authorization ID for the creator of all objects to <i>NEWAUTH</i>, type C * NEWAUTH CR ALL.</p> <p>Example 3: To remove all occurrences of <i>X</i> from the names of all indexes, type C X " ALL I NA.</p>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel showing all changes.</p>

Using the F (Find) command with the C (Change) command

Follow this procedure to use the F (Find) command with the C (Change) command to change specific names.

Step	Action
1	On the Change Names panel, type F followed by the string you want to find. Example: To find the string <i>MOZART</i> , type F MOZART .
2	Press Enter. Result: The result depends on whether there is a match for the string. <ul style="list-style-type: none"> ● If there is a match, !DB/QUICKCHANGE places the cursor in the SEL field of the line containing the match. ● If there is not a match, !DB/QUICKCHANGE displays a message.
3	If the string that is matched is not the string occurrence you want, repeat steps 1 and 2.
4	Type the appropriate C (Change) command on the command line. Example: Type C MOZART BRAHMS .
5	Press Enter. Result: !DB/QUICKCHANGE changes the string. In the example, the string <i>MOZART</i> is changed to the string <i>BRAHMS</i> .

Changing the Name of a Plan

Overview

This unit describes how to change the name of a plan.

Changing a plan name

Follow this procedure to change the name of a plan.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 5 (Plans) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Plans panel.</p> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 Cmd ==> P L A N S Cmds: DO (Menu) Sels: ? (Menu) C Change Names D Dependents S DBRMs X Exclude ----- -- B I N D -- AVG NO. VL IS SEL PLAN CREATOR DATE TIME SIZE DBM DT OL AC RL ----- _ Q30PLNR CCAPI2 02/21/99 15:45:30 6,248 9 RUN CS US CM </pre>
3	Type C in the SEL field of the plan whose name you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Plan Names panel.</p> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 +----- CHANGE PLAN NAMES -----+ Cmd ==> You can change these values for the BIND plan. Blank a field to restore its original value. Press ENTER or END to return to the PLANS list. OLD: Plan Name ----> Q30PLNR Creator Name ----> CCAPI2 Qualifier ----> CCAPI2 NEW: Plan Name ----> Q30PLNR Creator Name ----> CCAPI2 Qualifier ----> CCAPI2 +-----+ BRMs X Exclude ----- O. VL IS BM DT OL AC RL ----- 9 RUN CS US CM ***** </pre>

Changing a plan name (continued)

Step	Action
5	Perform one or more of the following actions, as appropriate. <ul style="list-style-type: none"> ● Type a new value in the Plan Name field. ● Type a new value in the Creator Name field. ● Type a new value in the Qualifier field. ● Type a new value in the Group Member field.
6	Press Enter. Result: !DB/QUICKCHANGE redisplay the Affected Plans panel with the changed names.

Changing the Name of a Package

Overview

This unit describes how to change the name of a package.

Changing a package name

Follow this procedure to change the name of package.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 6 (Packages) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Packages panel.</p> <pre> AFFECTED PACKAGES ----- DB/QUICKCHANGE -- DB2-DB31----- PACKAGE 1 OF 1 Cmd ==> P A C K A G E S Scroll ==> CSR Sels: ? (Menu) C Change names X Exclude ----- SEL PACKAGE CREATOR OWNER QUALIFIER COLLECTION - - B I N D - - ----- _ \$NEIL TDDB62 TDDB62 TDDB62A \$NEILCOL 1999-10-16-10.50. </pre>
3	Type C in the SEL field of the package whose name you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Package Names panel.</p> <pre> CHANGE PACKAGE NAMES -- DB/QUICKCHANGE -- DB2-DB31----- Cmd ==> You can change these values for the BIND package. Blanking a field restores it to the original value. Press ENTER or END to return to the PACKAGES display. OLD: Package Name ---> \$NEIL Creator Name ---> TDDB62 Collection ---> \$NEILCOL Qualifier ---> TDDB62A Version ---> NEW: Package Name ==> \$NEIL Creator Name ==> TDDB62 Collection ==> \$NEILCOL Qualifier ==> TDDB62A Version (64 chars.) ==> </pre>

Changing a package name (continued)

Step	Action
5	Perform one or more of the following actions, as appropriate. <ul style="list-style-type: none"> ● Type a new value in the Package Name field. ● Type a new value in the Creator Name field. ● Type a new value in the Collection field. ● Type a new value in the Qualifier field. ● Type a new value in the Group Member field. ● Type a new value in the Version field.
6	Press Enter. Result: !DB/QUICKCHANGE redisplay the Change Package Names panel with the changed names.

Changing the Name of a Grantor

Overview

This unit describes how to change the name of a specific grantor.

Changing a grantor name

Follow this procedure to change the name of a grantor.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 7 (Grantors) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Grantor IDs panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> to change all names to this one. ----- ORIGINAL NEW ORIGINAL NEW GRANTOR GRANTOR GRANTOR GRANTOR ----- ----- - D1STP70 ==> D1STP70 - KFERR ==> KFERR - TDOB55 ==> TDOB55 - TDOB55A ==> TDOB55A </pre> </div>
3	Type a new grantor value in the NEW GRANTOR field (to the right of the grantor that you have located).
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE changes the grantor name to the value you specified and displays the Change Grantor IDs panel.</p>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Primary Menu.</p>

Changing the Names of all Grantors

Overview

This unit describes how to change the names of all grantors.

Changing all grantors' names

Follow this procedure to change the names of all grantors.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 7 (Grantors) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Grantor IDs panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> to change all names to this one. ----- SEL ORIGINAL NEW ORIGINAL NEW GRANTOR GRANTOR GRANTOR GRANTOR ----- - D1STP70 ==> D1STP70 - KFERR ==> KFERR - Tddb55 ==> Tddb55 - Tddb55A ==> Tddb55A </pre> </div>
3	<p>Type GLOBAL in the Enter a name here field.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> global to change all names to this one. ----- SEL ORIGINAL NEW ORIGINAL NEW GRANTOR GRANTOR GRANTOR GRANTOR ----- - D1STP70 ==> D1STP70 - KFERR ==> KFERR - Tddb55 ==> Tddb55 - Tddb55A ==> Tddb55A </pre> </div>

Changing all grantors' names (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE changes the names of all grantors to <i>GLOBAL</i>.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> to change all names to this one. ----- SEL ORIGINAL NEW SEL ORIGINAL NEW GRANTOR GRANTOR GRANTOR GRANTOR GRANTOR ----- - D1STP70 ==> GLOBAL - Tddb55 ==> GLOBAL </pre> </div>

Changing the Names of Grantees

Overview

This unit describes how to change the name of a grantee.

Changing a grantee name

Follow this procedure to change the name of a grantee.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 8 (Grantees) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Grantee IDs panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTEE IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==. CSR This is a list of all GRANTEES of authorizations. Change a name by typing new name at the arrow (==>). Reset to the original name by clearing the name. A name change will change every occurrence of the name. X select excludes all grants to that Grantee. Clear to reset. ----- ORIGINAL NEW ORIGINAL NEW SEL GRANTEE GRANTEE SEL GRANTEE GRANTEE ----- - D1STP70 ==> D1STP70 - KFERR ==> KFERR - TDD855 ==> TDD855 - TDD855A ==> TDD855A ***** BOTTOM OF DATA ***** </pre> </div>
3	Type a new grantee value in the NEW GRANTEE field (to the right of the grantee that you have located).
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE changes the name of the grantee to the value you specified and displays the Grantee ID panel with the new name.</p>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Primary Menu.</p>

Chapter 8. Changing Table Attributes

Introduction

This chapter covers changes to table attributes, excluding changes to columns.

Chapter contents

Table Attributes You Can Change	154
Changing Table Attributes	157

Table Attributes You Can Change

Overview

This unit describes the attributes you can change for tables.

Table attributes

The following table lists table attributes that you can change.

Attribute	Description
Editproc	<p>The program name of the edit routine you want to use to transform this table's data.</p> <p>An EDITPROC is an edit routine. Use it to transform table row data during LOAD, INSERT, UPDATE, and row retrieval operations on the table. You typically use an EDITPROC to compress table row data for storage and to restore the original row data for retrieval.</p> <p>!DB/QUICKCHANGE stores this value in the EDPROC field of the SYSIBM.SYSTABLES table.</p>
Validproc	<p>The program name of the validation routine you want to use to validate table data.</p> <p>Use a validation routine to validate table row data during any LOAD, INSERT, UPDATE, or DELETE operation. Only after the validation routine verifies the row data entered, does the operation proceed.</p> <p>You can also use a validation routine to limit the data that DB2 enters into table columns.</p> <p>The system stores this value in the VALPROC field of the SYSIBM.SYSTABLES table.</p>
Data Capture	<p>Indicates whether !DB/QUICKCHANGE writes changes to the log in expanded format.</p> <p>C <i>Changes</i> (use expanded format)</p> <p>N <i>None</i> (do not use expanded format)</p>

Table attributes (continued)

Attribute	Description
Audit	<p>The types of table access that the DB2 audit trace facility audits.</p> <p>A <i>All.</i> Audit all table activity that a DB2 utility unit of work or an application process performs</p> <p>DB2 audits for the appropriate classes active during a trace.</p> <p>C <i>Changes.</i> Only audit the table for attempts to insert, update, or delete data.</p> <p>If the appropriate audit class is active during a trace, DB2. audits the first access for INSERT, UPDATE, and DELETE.</p> <p>N <i>None.</i> This tells DB2 not to audit the table when you run an audit trace.</p> <p>!DB/QUICKCHANGE stores this value in the AUDITING field of the SYSIBM.SYSTABLES table.</p>
OBID	<p>The object identifier for the table, if you defined the database as ROSHARE READ.</p> <p>!DB/QUICKCHANGE displays the current value from the catalog.</p>
Restrict DROP	<p>Whether or not you want !DB/QUICKCHANGE to drop the table.</p> <p>If you do not want !DB/QUICKCHANGE to drop the table, it also cannot drop the database and tablespace that contain the table.</p> <p>Y You do not want !DB/QUICKCHANGE to drop the table.</p> <p><i>blank</i> You want !DB/QUICKCHANGE to drop the table.</p> <p>If your change requires an unload and reload of the table, the change fails if you specify Y for this attribute.</p>

Table attributes (continued)

Attribute	Description
Label	<p>A descriptive name or short comment on the table.</p> <p>A label can be any SQL character string constant. The entry can be either upper or lower case characters and up to 30 characters long.</p> <p>This is similar to issuing the SQL LABEL ON <table name> statement. !DB/QUICKCHANGE stores this value in the LABEL column of the SYSIBM.SYSTABLES table.</p>
Comments	<p>A comment or remark about the table.</p> <p>A comment can be any SQL character string constant. You can use up to 254 mixed-case characters in a string. Enter the comments in a continuous stream. If an entry exceeds the line length, the cursor automatically moves to the next line as you type.</p> <p>This field is similar to issuing the SQL COMMENT ON <table name> statement. !DB/QUICKCHANGE stores this value in the REMARKS columns of the SYSIBM.SYSTABLES table.</p>

Changing Table Attributes

Overview

This unit describes how to change the attributes of a table.

Changing the attributes of a table

Follow this procedure to change the attributes of a table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 O2TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER - - ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER - - ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER - - ***** </pre> </div>
3	Type T (Table Options) in the SEL field of the table whose attributes you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI2.ACRONYM - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 4 Cmd ==> Scroll ==> CSR T A B L E C O L U M N S Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL NULL DEF STATUS INDEXES INPUT ----- - ACRONYMNEW..... CHAR 10 NN YES - ACRONYM_NM..... VARCHAR 18 NN NO - ACRONYM_FULL_NM... VARCHAR 52 NN NO IXD - DA_APRV_FL..... CHAR 1 NULL YES </pre> </div>

Changing the attributes of a table (continued)

Step	Action
5	Perform one or more of the following actions as appropriate. <ul style="list-style-type: none">● Type the name of the edit procedure in the Editproc field.● Type the name of the validation exit routine in the Validproc field.● Type the data capture setting in the Data Capture field.● Type the audit setting in the Audit field.● Type the object identifier in the OBID field.● Type the restrict on drop setting in the Restrict DROP field.● Type a label for the table in the Label field.● Type comments for the table in the Comments field.
6	Press Enter. Result: !DB/QUICKCHANGE redisplay the Tables Being Changed panel.

Chapter 9. Changing Table Structure and Data

Introduction

This chapter covers changing table structure and data.

Chapter contents

Implications of Changing Tables	160
Accessing the Tables Being Changed Panel	162
Adding Columns	163
Specifying Data for a New or Changed Column	166
Deleting Columns	168
Changing Columns	169
Limiting the Table	171
Ordering the Table	181
Repeating Column Changes to Similar Columns	187

Implications of Changing Tables

Overview

This unit describes the implications of changes to tables and what happens when !DB/QUICKCHANGE drops source tables.

Changing table structures includes adding columns, deleting columns, and changing the definition of existing columns.

Changing data includes specifying data sources for new or changed columns, or using the capabilities of !DB/QUICKCHANGE to produce a subset of the table by eliminating table rows.

!DB/QUICKCHANGE gives you flexibility in performing changes to tables.

Implications of changes to tables

It is very important to understand that if the source and destination systems are the same, and you make a change that requires !DB/QUICKCHANGE to unload and reload a table, you can specify conditions where !DB/QUICKCHANGE does not reload all the data. For example, you can specify a WHERE clause, with rows of the table !DB/QUICKCHANGE is deleting.

!DB/QUICKCHANGE preserves the original data in a data set that is named using a model dataset name followed by the word *raw*. Specify the model dataset name in the Housekeeping Menu, Library option.

What happens when !DB/QUICKCHANGE drops source tables

If !DB/QUICKCHANGE drops source tables, it does the following:

- Unloads the table data into an unload dataset
- Names the unload dataset using a model dataset name followed by the word *raw*.

!DB/QUICKCHANGE uses the unload dataset if it reloads any of the data.

The consequences of dropping source tables

Changes to structure are one type of change that require existing DB2 objects be dropped and recreated. Dropping a table has the following consequences:

- Referential integrity may be impacted
- Application plans that depend on the table may be invalidated
- Views based on the table are dropped and re-created with new table and column names

Accessing the Tables Being Changed Panel

Overview

This unit describes how to access the Tables Being Changed panel.

How to access the Tables Being Changed panel

Follow this procedure to access the Tables Being Changed panel.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>

Adding Columns

Overview

This unit describes how to add a column to a table.

Adding a column to a table

Follow this procedure to add a column to a table.

Step	Action
1	On the Tables Being Changed panel, type C in the SEL field of the table that you want to add a column to.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI2.ACRONYM - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 4 Cmd ==>>> Scroll ==>>> CSR T A B L E C O L U M N S Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL TYPE LEN NULL DEF STATUS INDEXES INPUT ----- -- ACRONYMNEW..... CHAR 10 NN YES -- ACRONYM_NM..... VARCHAR 18 NN NO -- ACRONYM_FULL_NM... VARCHAR 52 NN NO IXD -- DA_APRV_FL..... CHAR 1 NULL YES </pre> </div>
3	On the <creator.table name> (columns of) panel, type I in the SEL field of the column that you want the inserted column to follow.

Adding a column to a table (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Insert Column panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE/INSERT COLUMN ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Column Name ==> ASSET_ID Data Type ==> INTE ? C V I S F R D DA T G TS VG LV LG Length ==> 4 Scale ==> 0 (Decimal only) Null ==> NN Y/N NNWD (Not Null w/Dflt) NNU (Not Null Uniq) Default ---- N U (User) S (Current SQLID) N (Null) C (Constant) For Data ==> B (Bit Data) S (SBCS Data) M (Mixed Data) Checks ---- ***** Y (Display / Change Checks) or blank Label ==> Comments ==> ==> ==> ==> Defaultvalue ---- ***** ---- ***** ---- ***** ---- ***** Enter values then press ENTER or press END to abort. </pre> </div>
5	<p>On the Change/Insert Column panel, type the appropriate information into these fields:</p> <ul style="list-style-type: none"> ● ColName (required; column name) ● Type (required; data type for the column) ● Length (required; length of the column) ● Scale (required if data type is decimal) ● Null? (required; data can be null or not) ● For Data (optional; bit, SBCS, or mixed data) ● Label (optional; label for the column) ● Comments (optional; comments for the column) <p>Example: If you want to allow null data, type Y in the Null? field.</p>

Adding a column to a table (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Select New Column Source panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE/INSERT COLUMN ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> +-----+ Column N Cmd ==> Data Typ Length Null Option ==> Default 1 COLUMN Copy data from existing columns. w/Default) For Data 2 EXPRESSION SQL expression 1 Constant Checks 3 SPECIAL REG E.g. USER, CURRENT DATE, etc. a) Label 4 CONSTANT New column = a constant value. Comments 5 DEFAULT Fill new column with Default data. 6 NULL Set the new column to Nulls. Press END to abort the Column Insert. Defaultv +-----+ ----- * ----- * ----- * ----- * ----- * +-----+ Enter values then press ENTER or press END to abort. +-----+ </pre> </div>

Specifying Data for a New or Changed Column

Overview

This unit discusses the procedures to specify data for a new or changed column.

Background about specifying data for a new or changed column

When you add a new column or change certain attributes of an existing column, you must specify the source of the data for the column. !DB/QUICKCHANGE displays the Select New Column Source panel for you to use.

For more information on adding columns or changing attributes, see “Adding Columns” on page 163 and “Changing Columns” on page 169.

Determining what to do next

Review the following chart to determine how to specify the data source you want to use for the new or changed column.

Data Source You Want To Use	Number to Type in the Choose Source Field of the Select New Column Source Panel	Comment
Another column or columns	1	If the data type of the source column is different from the data type of the new or changed column, !DB/QUICKCHANGE displays panels for you to specify conversion options.
The result of an SQL expression	2	
Any of the special registers	3	The data type of the new or changed column must match the data type of the special register chosen, or !DB/QUICKCHANGE displays an error panel.
A constant value	4	
Default data supplied by DB2 based on the column data type	5	
Null	6	Prerequisite: On the Change/Insert Column panel, you must have typed Y in the Null? field to indicate that you want to allow null values as the source data for the new or changed column.

Deleting Columns

Overview

This unit describes how to delete a column from a table.

Deleting a column from a table

Follow this procedure to delete a column from a table.

Step	Action
1	On the Tables Being Changed panel, type C in the SEL field of the table that you want to delete a column from.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI2.ACRONYM - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 4 Cmd ==>>> Scroll ==>>> CSR T A B L E C O L U M N S Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL TYPE LEN NULL DEF STATUS INDEXES INPUT ----- -- ACRONYMNEW..... CHAR 10 NN YES -- ACRONYM_NM..... VARCHAR 18 NN NO -- ACRONYM_FULL_NM... VARCHAR 52 NN NO IXD -- DA_APRV_FL..... CHAR 1 NULL YES </pre> </div>
3	On the <creator.table name> (columns of) panel, type D in the select field of the column you wish to delete.
4	<p>Press Enter.</p> <p>Result: The <creator.table name> (columns of) panel shows DLETD under the status field of the column to indicate that !DB/QUICKCHANGE marked the column for deletion.</p>

Changing Columns

Overview

This unit describes how to change a column in a table.

Column attributes that can be changed

Column attributes that can be changed include:

- Name
- Data Type
- Length
- Scale (if decimal)
- Null (yes, not null, not null with default, or not null unique)
- For Data (bit, SBCS, or mixed)
- Column label
- Column comments

Changing column attributes

Follow this procedure to change column attributes.

Step	Action
1	On the Tables Being Changed panel, type C (Columns) in the SEL field of the table that contains the column you want to change.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI2.ACRONYM - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 4 Cmd ==>>> Scroll ==>>> CSR T A B L E C O L U M N S Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL TYPE LEN NULL DEF STATUS INDEXES INPUT ----- -- ACRONYMNEW..... CHAR 10 NN YES -- ACRONYM_NM..... VARCHAR 18 NN NO -- ACRONYM_FULL_NM... VARCHAR 52 NN NO IXD -- DA_APRV_FL..... CHAR 1 NULL YES </pre> </div>

Changing column attributes (continued)

Step	Action
3	On the <creator.table name> (columns of) panel, type C (Change) in the select field of the column you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Insert a Column panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CHANGE/INSERT COLUMN ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Column Name ==> ASSET_ID Data Type ==> INTE ? C V I S F R D DA T G TS VG LV LG Length ==> 4 Scale ==> 0 (Decimal only) Null ==> NN Y/N NNWD (Not Null w/Dflt) NNU (Not Null Uniq) Default ---- N U (User) S (Current SQLID) N (Null) C (Constant) For Data ==> B (Bit Data) S (SBCS Data) M (Mixed Data) Checks ---- ***** Y (Display / Change Checks) or blank Label ==> Comments ==> ==> ==> ==> Defaultvalue ---- ***** ----- ----- ----- ----- ----- Enter values then press ENTER or press END to abort.</pre> </div>
5	<p>Type the new data over the current data in these fields as appropriate.</p> <ul style="list-style-type: none"> ● Colname (column name) ● Data Type (data type of the column) ● Length (length of the column) ● Scale (if decimal) ● Null? (data can be null or not) ● For Data (bit, SBCS, or mixed data) ● Label (label for the column) ● Comments (comments for the column)
6	<p>Press Enter.</p> <p>Result: The result varies depending on the fields you changed. !DB/QUICKCHANGE may display panels so you can specify conversion options. When you have finished specifying the conversion options, !DB/QUICKCHANGE redisplay <creator.table name> (columns of) anel and the column is shown with the changes.</p>

Limiting the Table

Overview

This unit describes how to limit table data.

You can restrict the row data that !DB/QUICKCHANGE unloads by

- Building an SQL WHERE clause

(Use the WHERE clause to select the row data !DB/QUICKCHANGE unloads from a table and loads into the new table during change implementation.)

- Skipping the first n rows of the table
- Stopping after n rows of the table
- Copying each n th row

(Copying each n th row provides you with the capability to selectively use the input data to provide a subset of the data. A value of 10 , for instance, copies every 10 th row by ignoring 9 rows, copying a row, ignoring the next 9 rows, copying a row, and so on.)

Limiting table data

Follow this procedure to limit the table data.

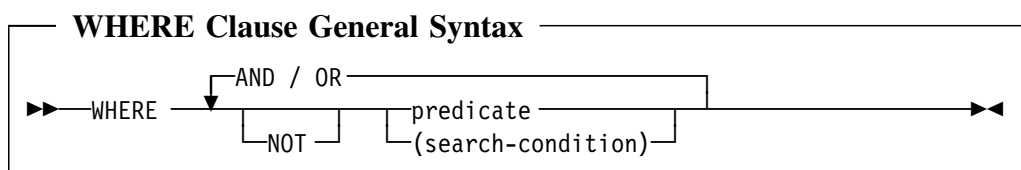
Step	Action
1	Type L (Limits) in the SEL field of the table that you want to qualify.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Specify Select Limits panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==>> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>
3	<p>Perform one or more of the following actions, as appropriate.</p> <ul style="list-style-type: none"> ● To limit the data by building a WHERE clause, type Y in the Do you want to qualify the input field. ● To skip rows at the beginning of the table, type the number of rows that you want skipped in the Skip first n rows field. ● To stop after a specific number of rows, type the number of rows after which you want processing terminated in the Stop after n rows field. ● To copy periodic rows (each nth row) type a number from 1 to 9999 in the Only copy each nth row field. !DB/QUICKCHANGE copies each row whose row number is a multiple of the number you specify.

Limiting table data (continued)

Step	Action
4	Press Enter. Result: The result depends on your previous actions: <ul style="list-style-type: none"> ● If you did <i>not</i> specify that you wanted to qualify the input (you do not want to build a WHERE clause), !DB/QUICKCHANGE displays the Tables Being Changed panel. ● If you specified that you wanted to qualify the input, !DB/QUICKCHANGE displays the Build WHERE Clause panel. See “Syntax for the WHERE clause” on page 173 for information on how to build a WHERE clause.

Syntax for the WHERE clause

!DB/QUICKCHANGE allows you to limit the table data by building a WHERE clause. The general form of the WHERE clause is:



The predicate or search condition must have a column name as an operand.

A WHERE clause cannot contain a FROM clause.

Building the WHERE clause

Follow this procedure to build a WHERE clause. (This procedure contains an example that assumes that you would like to copy only rows where the value in column DIVISION is MID and the value in column MGVMCF is greater than 20000.)

Step	Action
1	<p>On the Build WHERE Clause panel, type each column number (preceded by a hatch mark, hex 23: #) and its associated select condition in the panel's input area. Type the WHERE clause as a continuous string.</p> <pre> BUILD WHERE CLAUSE ----- !DB/WORKBENCH -- DB2=DSN2----- COLUMN 1 OF 73 Cmd ==> Scroll ==> CSR BUILD SELECT WHERE CLAUSE: EXISTING TABLE COLUMNS (for reference) --- Enter clause in space below --- COL DATA COL I WHERE #7='MID' AND #15>20000 # COLUMN NAME TYPE LEN NULL X ----- #1 XPTMIN..... INTE 4 NN I #2 YPTMIN..... INTE 4 NN I #3 XPTMAX..... INTE 4 NN I #4 YPTMAX..... INTE 4 NN I #5 DBKEY..... INTE 4 NN I #6 METERNUM.... CHAR 4 NN #7 DIVISION.... CHAR 4 NN #8 AREA..... CHAR 3 NN #9 TYPE..... CHAR 2 NN #10 TEMPTYPE.... CHAR 2 NN #11 DESCRIPT.... CHAR 15 NN #12 SAMPDATE.... CHAR 6 NN #13 GLFLAG..... CHAR 1 NN #14 STAGE..... SMAL 2 NN #15 MGVMCF..... INTE 4 NN #16 MGVMCFTU.... INTE 4 NN #17 APVMCF..... INTE 4 NN ----- Use #nn for column name, #S to add space, #X to remove </pre>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the panel, with actual column names.</p> <pre> BUILD WHERE CLAUSE ----- !DB/WORKBENCH -- DB2=DSN2----- COLUMN 1 OF 73 Cmd ==> Scroll ==> CSR BUILD SELECT WHERE CLAUSE: EXISTING TABLE COLUMNS (for reference) --- Enter clause in space below --- COL DATA COL I WHERE DIVISION='MID' AND MGVMCF > # COLUMN NAME TYPE LEN NULL X 20000 #1 XPTMIN..... INTE 4 NN I #2 YPTMIN..... INTE 4 NN I #3 XPTMAX..... INTE 4 NN I #4 YPTMAX..... INTE 4 NN I #5 DBKEY..... INTE 4 NN I #6 METERNUM.... CHAR 4 NN #7 DIVISION.... CHAR 4 NN </pre>

Building the WHERE clause (continued)

Step	Action
3	Perform the appropriate action: <ul style="list-style-type: none"> ● To insert elements into the WHERE clause, see “Inserting elements into the WHERE clause” on page 176. ● To delete elements from the WHERE clause, see “Deleting elements from the WHERE clause” on page 178.
4	To save the WHERE clause, press Enter. Result: !DB/QUICKCHANGE redisplay the Specify Select Limits panel. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==>> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>
5	Perform the appropriate action: <ul style="list-style-type: none"> ● To check the syntax of the WHERE clause see “Checking the syntax of the WHERE clause” on page 180. ● To return to the Tables Being Changed panel, press Enter.

Inserting elements into the WHERE clause

To edit the WHERE clause by inserting additional column or predicate information, you can use the #S (Insert spaces) edit command. The #S edit command inserts 10 spaces for the new text. Assume you want to make the condition for column DIVISION more complex.

Step	Action
1	<p>On the Build WHERE Clause panel, type #S (Add Space) over the characters located where you want to begin inserting text. The example has #S typed over the characters '='.</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION #S MID' AND MGVMCF> 20000 </pre>
2	<p>Press Enter.</p> <p>Result: The system inserts ten blank spaces at the position you specified, offsets the existing text to the right, and wraps excess text to the next line.</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION ='MID' AND MGVMCF>20000 </pre>
3	<p>Type the additional conditions into the panel.</p> <p>Example: Additional data for the northern division (NO) is to be included. Some of the characters that remained in the predicate have been changed (='MID' has become 'MID').</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION IN ('NO', 'MID') AND MGVMCF>20000 </pre>

Inserting elements into the WHERE clause (continued)

Step	Action
4	<p>To save the WHERE clause, Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Specify Select Limits panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>

Deleting elements from the WHERE clause

Follow this procedure to remove parts of the WHERE clause. Assume that you have decided not to include the northern division data.

Step	Action
1	<p>On the Build WHERE Clause panel, edit the clause to be like the original clause. Blank out the unwanted characters so they appear as extra spaces. Some characters of the predicate have been changed ('MID' has become ='MID').</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION ='MID' AND MGVMCF>20000 </pre>
2	<p>To remove the extra spaces, type #X in the position where you wish to begin deleting extra spaces.</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION #X ='MID' AND MGVMCF>20000 </pre>
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE removes all extra spaces from the specified position to the next non-blank character and reformats the text.</p> <pre> Cmd ==> BUILD SELECT WHERE CLAUSE: --- Enter clause in space below -- WHERE DIVISION='MID' AND MGVMCF>20 000 </pre>

Deleting elements from the WHERE clause (continued)

Step	Action
4	<p>To save the WHERE clause, Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Specify Select Limits panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>

Checking the syntax of the WHERE clause

Follow this procedure to check the syntax of the WHERE clause.

Step	Action
1	On the Specify Select Limits panel, type Y in the Do you want to check your syntax field.
2	<p>Press Enter.</p> <p>Result: The result depends on the status of the WHERE clause.</p> <ul style="list-style-type: none">● If the WHERE clause is syntactically correct, !DB/QUICKCHANGE displays a message with the DB2 resource estimate for unloading the table.● If the WHERE clause is syntactically incorrect, !DB/QUICKCHANGE displays an error panel. Go back to the Build WHERE Clause panel and change the WHERE clause. <p>Note: If you have specified both a WHERE clause and an ORDER BY clause, both clauses participate in this activity. The system returns a combined DB2 resource estimate.</p>

Ordering the Table

Overview

This unit describes how to order a table, which involves specifying an SQL SELECT ORDER BY clause.

Background about ordering a table

Ordering a table does not imply any change to the structure of the table or of the data in the table.

You can order the row data the system unloads by building an ORDER BY clause (part of an SQL SELECT statement). Use the ORDER BY clause to specify

- Which row or rows control the ordering of the unloaded data
- Whether the ordering is ascending or descending

The ORDER BY clause is in the input area of the Build ORDER BY Clause panel.

```
ORDER BY CLAUSE ----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF 5
Cmd ==>                               Scroll ==> PAGE
BUILD SELECT ORDER BY CLAUSE:
-- Enter clause in space below ---
ORDER BY ASSET_ID
```

TABLE COLUMNS (for reference)				
COL	DATA	COL	I	
#	COLUMN NAME	TYPE	LEN	NULL X
#1	ASSET_ID.....	INTE	4	NNWD
#2	ITEM.....	CHAR	25	NNWD
#3	DESCRIPTION.....	CHAR	41	NNWD
#4	PURCHASE_DATE.....	DATE	4	NNWD
#5	DEPREC_CLASS.....	CHAR	4	NNWD
*****				BOTTOM OF LIST *** 4 NNWD

```
-----
Use #nn for column name,
#S to add space, #X to remove
```

For more information on the ORDER BY clause, or the SQL SELECT statement, see the *IBM DATABASE 2 SQL Reference* for the version of DB2 that you are using.

Specifying that the table is to be ordered

Follow this procedure to specify that the table is to be ordered.

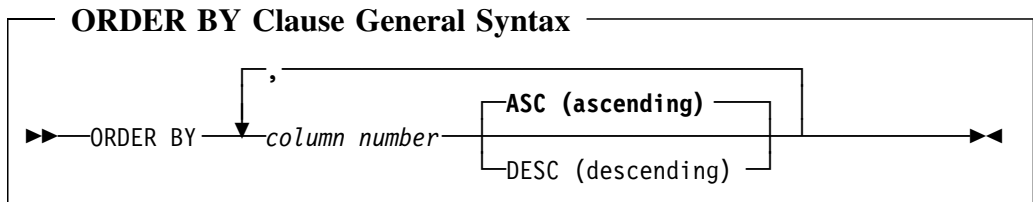
Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables/Columns) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> T A B L E S Scroll ==> CSR Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type L (Limits) in the SEL field of the table that you want to qualify.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Specify Select Limits panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>
5	Type Y in the Do you want to reorder the table field.

Specifying that the table is to be ordered (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Build ORDER BY Clause panel. For specifics in building the actual ORDER BY clause see “Building the ORDER BY clause” on page 184.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> BUILD ORDER BY CLAUSE ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 4 Cmd ==> Scroll ==> CSR BUILD SELECT ORDER BY CLAUSE: TABLE COLUMNS (for reference) -- Enter clause in space below --- COL DATA COL I ORDER BY # COLUMN NAME TYPE LEN NULL X ----- #1 ACRONYMNEW..... CHAR 10 NNWD #2 ACRONYM_NM..... VARC 18 NN #3 ACRONYM_FULL_NM... VARC 52 NN #4 DA_APRV_FL..... CHAR 1 NULL ***** BOTTOM OF LIST ***** </pre> <p>----- Use #nn for column name, #S to add space, # to remove</p> </div>

Syntax of the ORDER BY Clause

The general form of the ORDER BY clause is:



Building the ORDER BY clause

Follow this procedure to build the ORDER BY clause.

Step	Action
1	<p>On the Build ORDER BY panel, the Table Columns (for reference) area lists all the columns in the original table including columns you deleted during this change session.</p> <p>Select columns from this list by typing a hatch mark (Hex 23: #) and the column's number (COL#) in the input area.</p> <pre> Cmd ==>> BUILD SELECT ORDER BY CLAUSE: --- Enter clause in space below -- ORDER BY #7 </pre>
2	<p>Perform the appropriate action.</p> <ul style="list-style-type: none"> ● If you want the data to be ordered in ascending order, type ASC as the next keyword. The default is ascending sort order. ● If you want the data to be ordered in descending order, type DESC as the next keyword. <pre> Cmd ==>> BUILD SELECT ORDER BY CLAUSE: --- Enter clause in space below -- ORDER BY #7 ASC </pre>
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE substitutes column names for the column numbers in the clause.</p> <pre> Cmd ==>> BUILD SELECT ORDER BY CLAUSE: --- Enter clause in space below -- ORDER BY DIVISION ASC </pre>

Building the ORDER BY clause (continued)

Step	Action
4	<p>To add another column to the ORDER BY clause, type a comma after the keyword and repeat steps 1, 2, and 3.</p> <pre> Cmd ==> BUILD SELECT ORDER BY CLAUSE: --- Enter clause in space below -- ORDER BY DIVISION ASC, #3 DESC </pre>
5	<p>Perform the appropriate action:</p> <ul style="list-style-type: none"> • To insert elements into the ORDER BY clause, follow the procedure for inserting elements into the WHERE clause; see “Inserting elements into the WHERE clause” on page 176. • To delete elements from the ORDER BY clause, follow the procedure for deleting elements from the WHERE clause; see “Deleting elements from the WHERE clause” on page 178.
6	<p>To save the ORDER BY clause, press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Specify Select Limits panel.</p> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre>
7	<p>Perform the appropriate action:</p> <ul style="list-style-type: none"> • To check the syntax of the ORDER BY clause see “Checking the syntax of the ORDER BY clause” on page 186. • To return to the Tables Being Changed panel, press Enter.

Inserting elements into the ORDER BY clause

The procedure for inserting elements into the ORDER BY clause is the same as the procedure you use to insert elements into the WHERE clause. See “Inserting elements into the WHERE clause” on page 176 for more information.

Deleting elements from the ORDER BY clause

The procedure for deleting elements from the ORDER BY clause is the same as the procedure you use to delete elements from the WHERE clause. See “Deleting elements from the WHERE clause” on page 178 for more information.

Checking the syntax of the ORDER BY clause

Follow this procedure to check the syntax of the ORDER BY clause.

Step	Action
1	On the Specify Select Limits panel, type Y in the Do you want to check your syntax field.
2	Press Enter. Result: The result depends on the status of the ORDER BY clause. <ul style="list-style-type: none"> ● If the ORDER BY clause is syntactically correct, !DB/QUICKCHANGE displays a message with the DB2 resource estimate for unloading the table. ● If the ORDER BY clause is syntactically incorrect, !DB/QUICKCHANGE displays an error panel. You can then go back to the Build ORDER BY Clause panel and change the ORDER BY clause. Note: If you specified both a WHERE clause and an ORDER BY clause, both clauses participate in this activity. !DB/QUICKCHANGE returns a combined DB2 resource estimate.

Repeating Column Changes to Similar Columns

Overview

This unit discusses making global column changes.

Background

Global column changes are changes which !DB/QUICKCHANGE propagates from the changed column to other columns of the set of objects you are changing. These other columns must have the same data type, length, nullable status, and (if decimal) scale. For example, you can propagate a change of a column from data type INTEGER to data type SMALLINT to other columns of data type INTEGER, if these other columns have the same nullable status.

Define your object set carefully to take advantage of these powerful column change capabilities.

Commands which make global changes

There are three commands which you can use to make global changes.

Command	Description
RPT	<p>The RPT (repeat) command propagates changes made to a column to all other columns of the same table that have the same data type, length, nullable status, and (if decimal) scale.</p> <p>For example, to change all columns of a table from SMALLINT to INTEGER, change one column to data type INTEGER, and then type RPT on the command line and press Enter. (This assumes that all of the SMALLINT columns have the same nullability status.)</p> <p>Result: !DB/QUICKCHANGE changes to data type INTEGER all columns of the table that have data type SMALLINT and that have the same nullability status as the changed column.</p>

Commands which make global changes (continued)

Command	Description
RPTALL	<p>The RPTALL (repeat all) command propagates changes made to a column to all other columns of all tables included in the change session that have the same data type, length, nullable status, and (if decimal) scale.</p> <p>For example, to change all columns of all tables from SMALLINT to INTEGER, change one column to data type INTEGER, and then type RPTALL on the command line and press Enter. (This assumes that all of the SMALLINT columns have the same nullability status.)</p> <p>Result: !DB/QUICKCHANGE changes to data type INTEGER all columns of all tables in the change session which have data type SMALLINT and that have the same nullability status as the changed column you changed.</p>
RPTBN	<p>The RPTBN (repeat by name) command propagates changes made you made to a column to all other columns of all tables included in the change session that have the same name, data type, length, nullable status, and (if decimal) scale. DB2 affects only columns with the same name as the changed column.</p> <p>For example, to change all columns named 'TPANID' of all tables from SMALLINT to INTEGER, change one column named 'TPANID' to data type INTEGER, and then type RPTBN on the command line and press Enter.</p> <p>Result: !DB/QUICKCHANGE changes to data type INTEGER all columns named 'TPAINID' of all tables in the change session which have data type SMALLINT and that have the same nullability status as the changed column.</p>

Chapter 10. Converting Data using a Translate Table

Introduction

This chapter provides information about using translate tables.

Chapter contents

Understanding Translate Tables	190
!DB/QUICKCHANGE Translate Tables	191
Building a Custom Translate Table	193

Understanding Translate Tables

Overview

This unit explains what translate tables are, how they are used, how to build a customized table, where translate tables reside, and describes the default translate tables provided by !DB/QUICKCHANGE.

Using a translate table gives you the capability of converting data from one type to another with specific results. For example, you can convert character data to numeric data such that !DB/QUICKCHANGE translates every character that is not numeric to the character '0'.

Background about translate tables

A translate table is a table that specifies the character substitution for each character of input data. The translate table is 256 characters long. Each character in the translate table has a position relative to the start of the table and a value which represents the 'to' character.

For example, if the input character had a value of X'00', the translation process would replace this value with the value that was at position X'00' of the translate table (the very first byte; or the table plus offset X'00').

When to use translate tables

In some situations, if you change a column's data type, !DB/QUICKCHANGE cannot convert the data directly. For example, if you change a data type from character to numeric, data errors would occur without translation.

Use of a translate table to convert invalid numeric characters to valid numeric characters prevents DB2 LOAD errors.

!DB/QUICKCHANGE Translate Tables

Overview

This unit describes the translate tables provided by !DB/QUICKCHANGE: QKCTRBTB1, QKCTRBTB2, and QKCTRBTB3.

QKCTRBTB1

This translate table converts from character to numeric. Certain characters translate to numeric characters, while others convert to the character '0'.

1-9 converts to 1-9
'+' converts to '+'
'-' converts to '-'
'.' converts to '.'
A-I converts to 1-9
a-i converts to 1-9
J-R converts to 1-9
j-r converts to 1-9
S-Z converts to 2-9
s-z converts to 2-9
all others convert to 0

QKCTRBTB2

This translate table converts from character to numeric. All characters translate to the character '0' except for the numeric characters, the '+', the '-', and the '.', which !DB/QUICKCHANGE does not change.

1-9 converts to 1-9
'+' converts to '+'
'-' converts to '-'
'.' converts to '.'
all others convert to 0

QKCTRBT3

This translate table converts from character to numeric. All characters translate to the character '0' except for the numeric characters, which !DB/QUICKCHANGE does not change.

1-9 converts to 1-9

all others convert to 0

Building a Custom Translate Table

Overview

This unit contains information on building and storing custom translate tables.

Background about custom translate tables

The translate tables !DB/QUICKCHANGE uses are different than those the typical computer program uses.

Rather than being closely tied to the specifics of a program's load module, a !DB/QUICKCHANGE translate table closely resembles the source code from which that program was generated.

Building a translate table

Follow this procedure to build a translate table.

Step	Action
1	Edit a new member of the CEL Library, specifying the name of the translate table as the new member name.
2	Copy one of the existing translate tables to use as an aid in creation of the new table. (!DB/QUICKCHANGE supplies translate tables QKCTRBTB1, QKCTRBTB2, and QKCTRBTB3.)
3	<p>Create 256 items, each one representing an output character for the specific input value. The first item specifies the value to be used for the input value of X'00', the second item for input value X'01', and so on.</p> <p>You can specify each item using any of the following forms of notation:</p> <ul style="list-style-type: none"> ● Hex value (X'nn') ● Character value (C'c') ● Decimal number representing a hex value (ddd) <p>Separate individual items with a comma, blank(s), or a combination of a comma and blank(s).</p>
4	Save the translate table under the new member name you specified.

An example translate table

The following translate table is identical to the !DB/QUICKCHANGE supplied translate table QKCTRTB1, with the exception that !DB/QUICKCHANGE translates the '+', '-', and '.' to '0'.

```
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'00'-'07') */
C'0', C'0', C'0', C'0', C'0', C'0', C'0', C'0' /* (X'08'-'0F') */
240, 240, 240, 240, 240, 240, 240, 240 /* (X'10'-'17') */
X'F0',X'F0',X'F0',X'F0',X'F0',X'F0',X'F0',X'F0' /* (X'18'-'1F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'20'-'27') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'28'-'2F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'30'-'37') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'38'-'3F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'40'-'47') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'48'-'4F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'50'-'57') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'58'-'5F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'60'-'67') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'68'-'6F') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'70'-'77') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'78'-'7F') */
X'F0' X'F1' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'80'-'87') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'88'-'8F') */
X'F0' X'F1' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'90'-'97') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'98'-'9F') */
X'F0' X'F0' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'A0'-'A7') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'A8'-'AF') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'B0'-'B7') */
X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'B8'-'BF') */
X'F0' X'F1' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'C0'-'C7') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'C8'-'CF') */
X'F0' X'F1' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'D0'-'D7') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'D8'-'DF') */
X'F0' X'F0' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'E0'-'E7') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'E8'-'EF') */
X'F0' X'F1' X'F2' X'F3' X'F4' X'F5' X'F6' X'F7' /* (X'F0'-'F7') */
X'F8' X'F9' X'F0' X'F0' X'F0' X'F0' X'F0' X'F0' /* (X'F8'-'FF') */
```

Note: The table has 32 rows of 8 elements, for a total of 256 elements. !DB/QUICKCHANGE treats as comments the '*' and the area at the end of each row delimited by '*'.

The first three lines are identical in function (the input value is translated to the character '0', or zero) but that they use different specifications. The first line uses hex notation, the second character notation, and the third uses decimal values to represent hex values.

The first four lines are examples of using different separators between items (a blank, a comma and a blank, a comma and more than one blank, and a comma without a blank).

Introduction

This chapter explains what masks are, how masks differ from filters, and how to use masks in data conversion.

This chapter includes descriptions of the elements of masks and definitions of special characters you use in masks. There are also examples of data/time masks and masks to use to convert data from INTEGER to CHAR.

Chapter contents

Understanding Masks	196
Types of Masks	198
Character Patterns for Masks	199
Two Examples of Date/Time Masks	202
Examples of Data Conversion Masks	204

Understanding Masks

Overview

This unit explains what masks are, how masks differ from filters, and how masks are used in data conversion.

Background about masks

Using a mask gives you flexibility in performing data conversion.

The character pattern in a mask can consist of:

- Special characters used in date/time conversions
 - Any of three types of edit characters (triggers, signs, and floating digits)
 - Other characters, including the period, comma, and zero
-

What is a mask?

A mask is a specification, or character pattern, that you create to describe exactly how you want the converted data to appear.

Use a mask to describe the format of the input data. For example, an input field that contains data of type DATE might have a mask of 'YYYY-MM-DD', and the CHAR output field with length of four might have a mask of 'YYYY'. The four characters representing the year would be the resultant data in the output field.

You can also use masks to produce positive or negative signs, floating digits, and other sophisticated results.

How masks differ from filters

You use filters to limit the data shown on panel lists. For example, on the Pick Tables for QKC panel, !DB/QUICKCHANGE displays all of the tables in the panel list. If you want to work with tables that a specific user created, you can create a subset of the panel list by specifying a value on the filter pop-up.

If you filtered the panel list, !DB/QUICKCHANGE reduces the panel list to only those panels that meet the filter criteria. !DB/QUICKCHANGE does not change the data; it displays a subset of the original panel list.

Masks, on the other hand, are directly involved in the data conversion process. You use masks to specify the format of the input data or to specify the format of the output data, when data is moved (with conversion) from a source column to an output column.

How to use masks in data conversion

Use masks to specify the format of the input data or column and the format of the output data or column. !DB/QUICKCHANGE provides default masks which you can copy and change.

Use the input and output masks to specify any or all of these mask characters:

- A pattern of characters that describes exactly how the input data appears, or how the output data is to appear
- A trigger, or significance indicator, that specifies if, and how, leading zeros appear in numeric fields, and where a sign character appears
- A sign edit character that indicates how !DB/QUICKCHANGE displays positive or negative values
- Floating edit characters that indicate how !DB/QUICKCHANGE displays certain characters in numeric fields

Types of Masks

Overview

This unit explains what input, hex, and output masks are.

What are input masks?

Input masks are masks that specify the format of input fields. For example, the !DB/QUICKCHANGE mask for an input field of type DATE is YYYY-MM-DD.

For input fields, a default standard DB2 mask appears on the panels. You can change this default input mask.

What are hex masks?

Hex masks are input masks that match input which is hexadecimal. A hex mask contains two characters for each byte of input.

What are output masks?

Output masks are character patterns that describe how the output data should appear. A default standard DB2 mask appears on the Conversion Mask panels.

To change the default mask, type over the mask to modify it to suit your needs.

Character Patterns for Masks

Overview

This unit explains how to use triggers, signs, and floating digits, and how to specify masks for character data, data/time data, and numeric data.

What are triggers?

A trigger is a significance indicator that you can set either implicitly or explicitly.

When !DB/QUICKCHANGE encounters the first non-zero digit of an input number, it automatically (implicitly) turns on the trigger. From that point on the number all digits are output.

You can explicitly set the trigger on by typing the trigger edit characters directly into the mask.

- 9 Sets the significance indicator on so any digit in this position of the mask appears even if the digit is not significant, such as a leading zero.

- V Sets the significance indicator on so *all* digits from this position in the mask onward appear even if the digit is not significant, such as a leading zero.

What are signs?

A sign is an edit character that indicates how the system stores positive or negative values.

A sign *must* be in either the first or last position in the mask. If the edit character is first, !DB/QUICKCHANGE inserts the sign before the first character. A sign *always* uses one output character.

Valid sign edit characters include:

- | | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S | Forces the sign to <i>always</i> appear whether the value is positive (+) or negative (-). If the sign occurs first in the mask, !DB/QUICKCHANGE inserts the sign when the significance indicator turns on. |
| - (minus sign) | Forces the sign to <i>only</i> appear for negative values (-). |
| + (plus sign) | Forces the sign to <i>only</i> appear for positive values (+). |
| o (the letter o) | Positions the sign so it <i>overlays</i> the last digit. This edit character is placed last in the mask. It is used with the other sign edit characters that indicate the sign values that appear. |

What are floating digits?

Floating digits are edit characters !DB/QUICKCHANGE uses to indicate that *only* a significant digit should appear in this position. !DB/QUICKCHANGE skips any non-significant digit in this position.

Valid floating digit edit characters include:

- | | |
|----|----------------------------------------------------------------------------------------------------------------------------------------------|
| Z | Causes only significant digits to appear. !DB/QUICKCHANGE skips any non-significant digit. |
| \$ | Causes a dollar sign (\$) to print if the significance indicator is on and/or a significant digit occurs at this position in the mask. |
| # | Causes a hatch mark (#, hex 23) to print if the significance indicator is on and/or a significant digit occurs at this position in the mask. |
| - | Replace the dash (-) by a digit <i>only</i> if a significant number. |

Special characters used in date/time conversions

!DB/QUICKCHANGE uses several special characters to build both input and output masks for date/time conversion. Following is a list of those special characters and their meaning:

CHAR	Definition
Y	Digit of the year. There must be either 2 (YY) or 4 (YYYY) Ys in a mask.
M	Digit of the month. There must be 2 Ms (MM) in a mask.
D	Digit of the day of the month. There must be 2 Ds (DD) in a mask.
J	Digit of the Julian day if the date is in YYDDD format. Specify YYJJJ. You can only use "J" in the input mask.
H	Digit of the hour. There must be 2 Hs (HH) in the mask.
L	Digit of the minute. There must be 2 Ls (LL) in the mask.
S	Digit of the second. There must be 2 Ss (SS) in the mask.
T	Digit of the microsecond. There must be at least 2 Ts (TT) in the mask.

Other characters specified in a mask

!DB/QUICKCHANGE copies characters you specify in a mask that are not date/time characters, (or special edit characters, including the period, comma, and zero) to the output *only* if a significant digit occurs in that mask position (message characters).

Every mask character except "V" and "o" uses one output character. If the mask is too long, you can lose extra data on the right.

Decimal output is possible even if the input has no decimal. This product supports "implied" decimals in INTEGER or SMALLINT columns. Put a decimal point in the mask where you want it to appear in the output. If you use DECPOINT COMMA format, place the commas and the periods in the mask as you want the output to appear.

The table in Figure 6 on page 204 illustrates the results of converting data from INTEGER to CHAR(13) using different masks. Note that this data is left-justified and blank spaces are denoted by a "B".

Two Examples of Date/Time Masks

Overview

This unit presents two examples of using date/time masks. The first example explains how to specify date/time input masks. The second example explains how to specify date/time output masks.

Specifying date/time input masks

Follow this procedure to specify a date/time input mask.

Note: If you are converting a date/time type column, !DB/QUICKCHANGE prompts you with a panel requesting the input mask.

Step	Action
1	On the Conversion Mask panel, use a blank to skip over input values that you do not want to use in the output.
2	Type valid date/time special characters in the input mask field. These special characters must be used in pairs. Exception: “J” (Julian date) must be used in the form YYJJJ.
3	Type other characters (not date/time special characters) in the input mask field. Important: If there is any character other than the special characters in the input mask, the input data must match the mask exactly in both position and value. Example: If you use an input mask of MM01YY and the original input data format is MMDDYY, !DB/QUICKCHANGE rejects any row whose day value is not “01”.

Specifying date/time output masks

Follow this procedure to specify a date/time output mask.

Step	Action
1	On the Conversion Mask panel, use a blank in this field to indicate that a blank should be inserted in the output.
2	Type valid date/time special characters in the output mask field. You must use these special characters in pairs. The only exception is “J” (Julian date), which you must use in the form YYJJJ.
3	<p>Type other characters (not date/time special characters) in the output mask field. If there is any character other than the special characters in the output mask, !DB/QUICKCHANGE inserts the character into the output in that position.</p> <p>Example: An input mask of MM06YY matched to an output mask of 19YY-MM-09 always inserts a “19”, dashes (-) and a “09” in the output.</p>

Examples of Data Conversion Masks

Overview

This unit shows different valid masks you can use to convert data from type INTEGER to type CHAR.

Different masks to convert data from INTEGER to CHAR

The following table illustrates the results of converting data from INTEGER to CHAR(13) using different masks. Note that this data is left-justified and blank spaces are denoted by a “B”.

#	Mask	Input value	Output Result	Input value	Output Result
1	-999999999999	0	B00000000000B	123456789	B00123456789B
2	-999999999999	0	B00000000000B	-123456789	-00123456789B
3	-ZZZZZZZZZ9	0	B0BBBBBBBBBBB	123456789	B123456789BBB
4	-ZZZZZZZZZ9	0	B0BBBBBBBBBBB	-123456789	-123456789BBB
5	s99999999999	0	+00000000000B	123456789	+00123456789B
6	-ZZZZL,ZZL,ZZ9	0	B0BBBBBBBBBBB	-123456789	-123,456,789B
7	-999999999V.99	0	B00000000.00	123456789	B001234567.89
8	-ZZZZZZZZZV.99	0	BBBBBBBBBB.00	-123456789	-1234567.89BB
9	-ZZZZZZZZZ.99	0	BBBBBBBBBBB00	123456789	B1234567.89BB
10	-ZZZZZZZZZ9.99	0	BBBBBBBBBBB0.00	-123456789	-1234567.89BB
11	s99999999999000	0	BBBBBBBBBB+000	123456789	+123456789000
12	s99999999999o	0	BBBBBBBBBBB+0	-123456789	BBB-12345678R

Figure 6. Sample data conversion masks

Introduction

This chapter covers estimating, changing, and rounding the space allocations of tablespaces and index spaces. This chapter also covers changing a table or index space from DB2-managed to user-managed, or from user-managed to DB2-managed.

Chapter contents

Changing Space Allocations	206
Displaying Space Allocations Information	207
Estimating Space Allocations	210
Specifying Space Allocations	213
Setting Space Allocations	216
Rounding Space Allocations	217
Changing a Space from DB2-Managed to User-Managed	218
Changing a Space from User-Managed to DB2-Managed	220

Changing Space Allocations

Overview

This unit provides an overview of the process to change space allocations.

Determining how to change space allocations

!DB/QUICKCHANGE uses the data on the Space Allocation panel to allocate space for new and changed objects.

Use the following chart to determine the procedure to use to change the values on the Space Allocations panel.

Method to change values	Procedure to use
!DB/QUICKCHANGE estimates values.	“Estimating Space Allocations” on page 210
You type changed values.	“Specifying Space Allocations” on page 213
!DB/QUICKCHANGE rounds existing values.	“Rounding Space Allocations” on page 217
!DB/QUICKCHANGE uses catalog values.	“Setting Space Allocations” on page 216
You change values on the Change Partitions panel.	“Specifying space allocations using the Change Partitions panel” on page 214

Displaying Space Allocations Information

Overview

This unit describes how to display space allocations information.

Accessing the Change Allocations panel

Follow this procedure to access the Change Allocations panel.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 3 (Allocations) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14 Cmd ==>> Scroll ==>> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object Type over existing to update. QTY values are in pages. Press ENTER when done. Enter + under VOLSER to add new a VOLSER ----- TABLESPACES SEL TBLSPC TS PQTY SQTY PCT FRE C C VOLSER/ (PAGES) (PGS) NO. OF ROWS FRE PAG L M VCATNAME ALO STOGROUP ----- _ XCPTN 50 17 3,000 0 0 Y DB2V31 DB2 SYSDEFLT </pre> </div>

Description of fields on the Change Allocations panel

!DB/QUICKCHANGE displays allocations information on the Change Allocations panel, as shown below.

```

CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 24(F)
Cmd ==>                                     Scroll ==> CSR
                                     A L L O C A T I O N S
Cmds:  EST Estimate all  TRK Bump to Trk  SETA Set allocations
Sels:  E Estimate  S Show Detail (update)  T Tables in object
       V Show AMS Volumes (update)
Type over existing to update.  QTY values are in pages.  Press ENTER when done.
-----
TABLESPACES
S      TSPCNAME      TS PQTY      SQTY      PCT FRE C C      VOLSER/
      (PAGES)      (PGS)      ROWS FRE PAG L M VCATNAME ALO  STOGROUP
-----
-      ACT              3      3          18  5  0 N  TSBN05  DB2  DSN8GJP0
-      1                2  3          4 5 6 8  9  10 11
                                     7
INDEXES
S      T      IX PQTY      SQTY      DISTINCT PCT FRE C      VOLSER/
      INDXNAME Y  (PAGES) (PGS)      KEYS  FRE PAG L  VCATNAME ALO  STOGROUP
-----
-      XACT1              3      3          18  10  0 N  TSBN05  DB2  DSN8GJP0
-      XACT2              3      3          18  10  0 N  TSBN05  DB2  DSN8GJP0
-      12                13

```

- 1** The name of the tablespace
- 2** Primary space allocation value
- 3** Secondary space allocation value
- 4** The number of rows for each partition or table
- 5** The percent of each nonleaf or subpage DB2 is to leave as free space when a DB2 utility adds entries to the index.
- 6** How often (every *n* pages) DB2 is to leave a page of free space
- 7** CLOSE setting
- 8** COMPRESS setting

Description of fields on the Change Allocations panel (continued)

- 9** VCAT catalog name
- 10** Type of management for the data set
- 11** The name of the volume or storage group
- 12** The name of the index
- 13** The number of values for the index key that are distinct

Estimating Space Allocations

Overview

This unit describes how to estimate space allocations.

Estimating index space allocations for a non-unique index

Follow this procedure to estimate index space allocations for a non-unique index.

Step	Action
1	On the Change Allocations panel, type an estimate for the number of distinct values that occur in the index key in the DISTINCT KEYS field of the index whose space allocations you want to estimate.
2	Type the integer value in the PCT FRE field of the index whose space allocations you want to estimate. This value indicates the percentage of each non-leaf or subpage that DB2 is to leave as free space when a DB2 utility adds entries to the index.
3	Type the integer value in the FRE PAG field of the index whose space allocations you want to estimate, for how often (every <i>n</i> pages) DB2 is to leave a page of free space.
4	Type E in the S field of the index whose space you want to estimate.
5	Press Enter. Result: !DB/QUICKCHANGE displays the estimated space the index requires in the IX PQTY and IX SQTY fields.
6	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without changing any data on the panel. Result: !DB/QUICKCHANGE displays Primary Menu.

Estimating space allocations using commands

!DB/QUICKCHANGE commands allow you to estimate space allocations for multiple objects. These commands are available on both the Change Allocations panel and on the Change Partitions panel.

Review the following chart to determine which command to use.

Objects Whose Space Allocations You Want to Estimate	Command to Use	Result
All tablespace and index partitions	EST	The values in the TS PQTY, TS SQTY, IX PQTY, and IX SQTY fields for all partitions are updated to reflect space estimates.
All tablespace partitions only	ESTS	The values in the TS PQTY and TS SQTY for all partitions are updated to reflect space estimates.
All index space partitions only	ESTX	The values in the IX PQTY and IX SQTY for all partitions are updated to reflect space estimates.
All non-partitioned tablespaces and indexes	EST	The estimated space requirements for all tablespaces appear in the TS PQTY and TS SQTY fields, and the estimated space requirements for index spaces appear in the IX PQTY and IX SQTY fields of the indexes.

Estimating space allocations for a non-partitioned tablespace

Follow this procedure to estimate space allocations for a non-partitioned tablespace.

Step	Action
1	On the Change Allocations panel, in the ROWS field of the tablespace whose space allocations you want to estimate, type an estimate for the number of rows that the tablespace contains.
2	In the PCT FRE field, type the integer value for the percentage of each page that DB2 is to leave as free space when DB2 loads or reorganizes the tablespace.
3	In the FRE PAG field, type the integer value for how often (every <i>n</i> pages) DB2 is to leave a page of free space when DB2 loads or reorganizes the tablespace.
4	Type E (Estimate) in the S field of the tablespace whose space you want to estimate.
5	Press Enter. Result: !DB/QUICKCHANGE displays the estimated space required in the TS PQTY and TS SQTY fields of the tablespace.
6	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without changing any data on the panel. Result: !DB/QUICKCHANGE displays Primary Menu.

Specifying Space Allocations

Overview

This unit describes how to specify the space allocations of tablespaces, partitioned tablespaces, and index spaces.

Specifying space allocations for a tablespace

Follow this procedure to specify the space allocations for a tablespace.

Step	Action
1	On the Change Allocations panel, in the TS PQTY and TS SQTY fields of the tablespace whose space you want to change, type appropriate values (in 4K pages).
2	Press Enter. Result: !DB/QUICKCHANGE checks the values for validity. !DB/QUICKCHANGE continues to display the Change Allocations panel, so that you can change other allocations.
3	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without changing any data on the panel. Result: !DB/QUICKCHANGE redisplay the Primary Menu.

Specifying space allocations for an index space

Follow this procedure to specify the space allocations for an index space.

Step	Action
1	On the Change Allocations panel, in the IX PQTY and IX SQTY of the index whose space you want to change, type appropriate values (in 4K pages).
2	Press Enter. Result: !DB/QUICKCHANGE checks the values for validity. !DB/QUICKCHANGE continues to display the Change Allocations panel, so that you can change other allocations.
3	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without changing any data on the panel. Result: !DB/QUICKCHANGE redisplay the Primary Menu.

Specifying space allocations using the Change Partitions panel

Follow this procedure to specify the space allocations using the Change Partitions panel.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, in the Option field, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 2 Cmd ==>> Scroll ==>> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parm ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- - CGARN .ACH_REQST_DRIVERS ACHDRVTS GGGCHQ00 10 1 - GDEMI .CCH_REQST_DRIVERS GGGGRVTS GGGCHQ00 2 ***** </pre>
3	Type A in the SEL field of the partitioned table whose space you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Partitions panel.</p> <pre> CHANGE PARTITIONS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 10 Cmd ==>> Scroll ==>> CSR Cmds: EST ESTS ESTX TRK DET LIM Sels: ? (Menu) D Delete E Est size n Repeat n times To update, type over the existing data. Press ENTER when done. ----- PT TS PQTY SQTY IX PQTY SQTY C S NO (PAGES) (PAGES) (PAGES) (PAGES) ROWS M ----- - 1 3 3 3 3 **** - 2 3 3 3 3 **** - 3 3 3 3 3 **** - 4 3 3 3 3 **** - 5 3 3 3 3 **** - 6 3 3 3 3 **** - 7 3 3 3 3 **** - 8 3 3 3 3 **** - 9 3 3 3 3 **** - 10 3 3 3 3 **** </pre>

Specifying space allocations using the Change Partitions panel (continued)

Step	Action
5	Type appropriate values (in 4K pages) in the TS PQTY, TS SPTY, IX PQTY, and IX SPTY fields of each partition for which you want to change allocations.
6	Press Enter. Result: !DB/QUICKCHANGE checks the values for validity. !DB/QUICKCHANGE continues to display the Change Partitions panel, so that you can change other allocations.
7	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without having changed any data on the panel. Result: !DB/QUICKCHANGE redisplay the Primary Menu.

!DB/QUICKCHANGE displays these values on the Change Allocations panel the next time you access it.

Setting Space Allocations

Setting space allocations based on catalog values

Follow this procedure to set the space allocations for all table and index spaces based on information in the DB2 catalog or the MVS catalog.

Step	Action
1	On the Change Allocations panel type SETA on the command line.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Allocation Options panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 12 Cmd ==> S +----- DB/QUICKCHANGE DB2=DB31 -----+ o11 ==> CSR ALLOCATION OPTIONS Cmds: E Sels: E V Type over ----- TABLESPAC Option ==> 1 PQTY 3 3 SEL TBLSP 2 ALLOCATED 12 12 --- ----- 3 USED 12 12 - GTTSP SQTY 1 1 INDEXES The above are the total number of 4K pages by type. PQTY is DB2 PQTY if DB2-managed, AMS primary allocation qty if user-managed. Press ENTER to continue. Press END to not reset the allocations. -----+ ns TER when done. ----- VOLSER/ ALO STOGROUP ----- DB2 SYSDEFLT ----- VOLSER/ ALO STOGROUP ----- DB2 SYSDEFLT ***** </pre> </div>
3	<p>Perform the appropriate action.</p> <ul style="list-style-type: none"> ● To set the allocations to the DB2 PQTY, if DB2 managed, or to the AMS primary allocation quantity, if user-managed, type 1 in the Option field. ● To set the allocations to the allocated values, type 2 in the Option field. ● To set the allocations to the actual used space, type 3 in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel with changed values in all table and index space PQTY and SQTY fields.</p>

Rounding Space Allocations

Overview

This unit describes how to round space allocations to the nearest track boundary.

Rounding space allocations to the nearest track boundary

Follow this procedure to round the space allocations to the nearest track boundary.

Step	Action
1	On the Change Allocations panel, type TRK on the command line.
2	Press Enter. Result: !DB/QUICKCHANGE rounds the allocations of all tablespaces, tablespace partitions, and index spaces to the next highest track boundary.
3	To return to the !DB/QUICKCHANGE Primary Menu, press Enter without having changed any data on the panel. Result: !DB/QUICKCHANGE redisplay the Primary Menu.

Changing a Space from DB2-Managed to User-Managed

Overview

This unit describes how to change a tablespace or index from being managed by DB2 to being managed by the user.

Important information about index names and user-managed spaces

While DB2 allows index names to contain special characters, !DB/QUICKCHANGE does not allow you to change an index space from DB2-managed to user-managed *if* the index name contains special characters. This is a !DB/QUICKCHANGE requirement and ensures that index names are accurate during change implementation.

If you attempt to change an index space from DB2-managed to user-managed, and an index name has special characters, !DB/QUICKCHANGE issues an error message and does not allow the change to user-managed.

Changing a table or index space from DB2-managed to user-managed

Follow this procedure to change a tablespace or index space from DB2-managed to user-managed.

Step	Action
1	On the Change Allocations panel, type S in the S field of the tablespace or index that you want to change from user-managed to DB2-managed.
2	Press Enter. Result: <ul style="list-style-type: none"> ● If you are changing a tablespace, !DB/QUICKCHANGE displays the Change tablespace panel. ● If you are changing an index, !DB/QUICKCHANGE displays the Change Index Space panel.
3	Type the appropriate catalog-name in the VCAT Name field.
4	Blank out the Storage Group field, to indicate that the space is to be user-managed.
5	Press Enter. Result: !DB/QUICKCHANGE displays the AMS Define Volume Specification panel.

Changing a table or index space from DB2-managed to user-managed (continued)

Step	Action
6	Type from 1 to 10 volume serials in the VOLSERS fields. The input fields are each 6 characters long. If a volume serial is 6 characters long, the cursor automatically moves to the next input field. If a volume serial is less than 6 characters long, enter the volume serial left justified and tab to the next field.
7	Press Enter. Result: !DB/QUICKCHANGE redisplay the Change Allocations panel. !DB/QUICKCHANGE changes the ALO field of the object to AMS (showing that the object is user-managed).

Changing a Space from User-Managed to DB2-Managed

Overview

This unit describes how to change a tablespace or index from being managed by the user to being managed by DB2.

Changing a table or index space from user-managed to DB2-managed

Follow this procedure to change a tablespace or index space from user-managed to DB2-managed.

Step	Action
1	On the Change Allocations panel, type S in the S field of the tablespace or index that you want to change from user-managed to DB2-managed.
2	Press Enter. Result: <ul style="list-style-type: none"> ● If you are changing a tablespace, !DB/QUICKCHANGE displays the Change Tablespace panel. ● If you are changing an index, !DB/QUICKCHANGE displays the Change Index Space panel.
3	Type the name of the storage group in the Storage Group field. Leave the VCAT name on the panel; it becomes comments, but is required.
4	Press Enter. Result: !DB/QUICKCHANGE redisplay the Change Allocations panel and changes the ALO field of the object to DB2 (showing that the object is DB2-managed).

Chapter 13. Changing Tablespaces and Index Spaces

Introduction

This chapter covers changes to tablespaces and index spaces (other than changes to allocations). It also includes changes to partitions and global changes to all tablespaces and index spaces.

Chapter contents

Tablespace and Index Space Attributes You Can Change	222
Changing a Tablespace	226
Changing a Partition in a Tablespace	228
Changing All Partitions in a Tablespace	230
Changing an Index Space	232
Changing a Specific Index Partition	234
Changing All Index Partitions	236
Making Global Changes to All Tablespaces	238
Making Global Changes to All Index Spaces	240
Making Global Changes to All Tablespaces and Index Spaces	242

Tablespace and Index Space Attributes You Can Change

Overview

This unit lists the attributes that !DB/QUICKCHANGE allows you to change for tablespaces and index spaces.

Tablespace and index space attributes

The following table lists all attributes which apply to both tablespaces and index spaces and which can be changed.

Attribute	Description
Pqty	The primary space allocation for the table or index space, in units of 4K pages.
Sqty	The secondary space allocation for the table or index space, in units of 4K pages.
Freepage	<p>Tablespaces: How often (every n pages) DB2 is to leave a page of free space when DB2 loads or reorganizes the tablespace.</p> <p>Indexes: How often (every n pages) DB2 is to leave a page of free space when a DB2 utility formats index entries.</p> <p>This integer value can range from 0 to 255.</p>
Pctfree	<p>Tablespaces: The percentage of each page that DB2 is to leave as free space when DB2 loads or reorganizes the table.</p> <p>Indexes: The percentage of each nonleaf or subpage that DB2 is to leave as free space when a DB2 utility adds entries to the index. (If you specify a value greater than 10, DB2 leaves only 10 percent of free space in nonleaf pages.)</p> <p><i>Free space</i> is space DB2 intentionally leaves empty to allow for inserts and updates.</p> <p>This integer value can range from 0 to 99.</p>

Tablespace and index space attributes (continued)

Attribute	Description
Erase	<p>(This attribute applies only to DB2-managed datasets.) Whether the DB2 erases contents of the tablespace dataset when it drops the tablespace, or DB2 erases the contents of the index space dataset when it drops the index.</p> <p>Y Erase datasets when DB2 drops the tablespace or index.</p> <p>N Do not erase datasets when DB2 drops the tablespace or index.</p>
Close	<p>Whether DB2 closes the tables in the tablespace if no one is using the tablespace or DB2 closes the index spaces if the index is not in use.</p> <p>Y Close the datasets if the tablespace or index is not in use.</p> <p>N Do not close the datasets if the tablespace or index is not in use.</p>
Buffer Pool	<p>The name of the buffer pool to be associated with the tablespace or index space.</p> <p>Tablespaces If the page size is 32K (Buffer Pool value is BP32K - BP32K9), do not change this value. For a tablespace with 4K pages, choose one of BP0 - BP49.</p> <p>Index spaces Choose one of BP0 - BP49 (the default is BP0).</p> <p>The buffer pool you selected must be active and you must have SYSADM authority or USE privilege of it.</p>
GBPCACHE (DB2 Version 4.1 and above)	<p>Whether or not DB2 has cached pages in the group buffer pool.</p> <p>A DB2 caches changed and unchanged pages in the group buffer pool.</p> <p><i>blank</i> DB2 caches changed only pages in the group buffer pool.</p>
Password	<p>The VSAM control or master password that DB2 passes to VSAM when it uses datasets of the tablespace or index space.</p>

Attributes which apply only to tablespaces

The following table lists all attributes you can change, which apply only to tablespaces.

Attribute	Description
Segsize	<p>The number of pages DB2 assigns to each segment of a segmented tablespace.</p> <p>The value you enter must be a whole number that is a multiple of 4 up to a maximum value of 64.</p> <p>If the value is zero (0), DB2 does not segment the tablespace.</p> <p>Note: Segsize does not apply to a partitioned tablespace.</p>
Compress	<p>Indicates if the rows use data compression.</p> <p>Yes The rows use data compression. The compression takes place the next time you run the LOAD or REORG utility.</p> <p>No The rows do not use data compression. Compressed rows DB2 updates are decompressed.</p>
Locksize	<p>The locking level of the tablespace. The choices are</p> <p>A <i>Any.</i> DB2 can use any locking level.</p> <p>P <i>Page.</i> Page level locking.</p> <p>S <i>Tablespace.</i> Tablespace level locking.</p> <p>T <i>Table.</i> Table level locking (<i>segmented tablespace only</i>).</p> <p>R <i>Row.</i> Row level locking.</p>
LOCKMAX (DB2 Version 4.1 and above)	<p>The maximum number of page or row locks an application process can hold simultaneously in the tablespace. The choices are</p> <p>0 DB2 does not limit the number of locks and lock escalation does not occur. This is the default.</p> <p><i>integer</i> An integer from 1 to 2147483647 indicating the number of locks DB2 allows before lock escalation occurs.</p> <p>SYSTEM Indicates that DB2 is to use the DB2 default value.</p>

Attributes which apply only to index spaces

The following table lists all attributes you can change, which apply only to index spaces and which can be changed.

Attribute	Description
TYPE (DB2 Version 4.1 and above)	<p>Specifies the type of the index, 1 or 2.</p> <p>Note: You cannot specify TYPE 1 if the tablespace contains any table with a LOCKSIZE specification of ROW.</p> <p>If you specify TYPE 2, DB2 ignores any specification of SUBPAGES.</p> <p>If you do not specify TYPE and LOCKSIZE is ROW, then TYPE is 2.</p> <p>If you do not specify TYPE and LOCKSIZE is not ROW, then TYPE is 1.</p>
Subpages	<p>The number of index subpages for each physical page.</p> <p>A subpage is the unit of index locking.</p> <p>This value can be 1, 2, 4, 8, or 16. The default value is 4.</p> <p>Note: If the index is a type 2 index, DB2 ignores SUBPAGES.</p>
Defer	<p>Indicates whether DB2 builds the index immediately.</p> <p>No DB2 builds the index.</p> <p>Yes DB2 does not build the index. The result depends on whether or not the table the index is on contains data. If the table the index is on</p> <ul style="list-style-type: none"> ● contains data, DB2 places the index in recover pending state; you must recover the index using the DB2 RECOVER INDEX utility. ● does not contain data, DB2 does not build or place the index in recover pending status.

Changing a Tablespace

Overview

This unit describes how to change the attributes of a tablespace.

Changing the attributes of a tablespace

Follow this procedure to change the attributes of a tablespace.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 3 (Allocations) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14 Cmd ==>> Scroll ==>> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object Type over existing to update. QTY values are in pages. Press ENTER when done. Enter + under VOLSER to add new a VOLSER ----- TABLESPACES SEL TBLSPC TS PQTY SQTY PCT FRE C C VOLSER/ (PAGES) (PGS) NO. OF ROWS FRE PAG L M VCATNAME ALO STOGROUP ----- _ XCPTN 50 17 3,000 0 0 Y DB2V31 DB2 SYSDEFLT </pre> </div>
3	Type S in the S field of the tablespace that you want to change.

Changing the attributes of a tablespace (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Tablespace panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE TABLESPACE ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Specify new values for Tablespace. Press ENTER when done. Tablespace ---- GTTSPLA VCAT Name ==> DB2V31 Required even if using Stogroup. Storage Group ==> SYSDEFLT Clear the field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 3 ? to Estimate. Sqty ==> 1 4K Pgs 1 Freepage ==> 0 (0 - 255) Pages between free pages Pctfree ==> 5 (0 - 99) Percent of each page left free Segsize ==> 0 (0 - 64) 0 if not segmented - multiples of 4 Erase ==> N Y/N Close ==> N Y/N Compress ==> Y/N Blank if not specified Locksize ==> A A/P/S/T (Any, Page, Space, Table) LOCKMAX ---- ***** (0) or (value) or (SYSTEM) - valid for P/R Bufferpool ==> BP0 GBPCACHE ---- * (A) Pages cached in group BP or blank Password ==> VSAM password </pre> </div>
5	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to tablespaces” on page 224.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Allocations panel.</p>

Changing a Partition in a Tablespace

Overview

This unit describes how to change the attributes of a partition in a tablespace.

Changing the attributes of a partition in a tablespace

Follow this procedure to change the attributes of a partition in a tablespace.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 3 (Allocations) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14 Cmd ==>> Scroll ==>> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object Type over existing to update. QTY values are in pages. Press ENTER when done. Enter + under VOLSER to add new a VOLSER ----- TABLESPACES SEL TBLSPC TS PQTY SQTY PCT FRE C C VOLSER/ ----- XCPTN 50 17 3,000 0 0 Y DB2V31 DB2 SYSDEFLT </pre> </div>
3	Type S in the S field of the partition that you want to change.

Changing the attributes of a partition in a tablespace (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Tablespace panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE TABLESPACE ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Specify new values for Tablespace. Press ENTER when done. Tablespace ---- GTTSPLA VCAT Name ==> DB2V31 Required even if using Stogroup. Storage Group ==> SYSDEFLT Clear the field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 3 ? to Estimate. Sqty ==> 1 4K Pgs 1 Freepage ==> 0 (0 - 255) Pages between free pages Pctfree ==> 5 (0 - 99) Percent of each page left free Segsize ==> 0 (0 - 64) 0 if not segmented - multiples of 4 Erase ==> N Y/N Close ==> N Y/N Compress ==> Y/N Blank if not specified Locksize ==> A A/P/S/T (Any, Page, Space, Table) LOCKMAX ---- ***** (0) or (value) or (SYSTEM) - valid for P/R Bufferpool ==> BP0 GBPCACHE ---- * (A) Pages cached in group BP or blank Password ==> VSAM password </pre> </div>
5	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to tablespaces” on page 224.</p> <p>Note: The Segsize attribute does not apply to a partitioned tablespace. Therefore, !DB/QUICKCHANGE disables this input field for partitioned tablespace changes.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Allocations panel.</p>

Changing All Partitions in a Tablespace

Overview

This unit describes how to change the attributes of all partitions in a tablespace.

Changing the attributes of all partitions in a tablespace

Follow this procedure to change the attributes of all partitions in a tablespace.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 2 Cmd ==>> Scroll ==>>> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parms ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- - CGARN .ACH_REQST_DRIVERS ACHDRVTS GGGCHQ00 10 1 - GDEMI .CCH_REQST_DRIVERS GGGGRVTS GGGCHQ00 2 ***** </pre> </div>
3	Type T in the SEL field of the partitioned tablespace that you want to change.

Changing the attributes of all partitions in a tablespace (continued)

Step	Action
<p>4</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change All Partitions panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Change fields below to change ALL partitions. Press ENTER when done. Tablespace ---- ACHDRVTS Name of the tablespace the table is in. VCAT Name ==> DB2V31 Required even if using Storage Group. Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Vols list on next line (only if StoGroup is blanked). Max 10 vols. => DB2001 Freepage ==> 0 (0 - 255) Pages between free pages Pctfree ==> 0 (0 - 99) Percent of each page to leave free Erase ==> N Y/N Close ==> N Y/N Compress ==> Y/N blank if not specified Locksize ==> A A/P/S (Any, Page, Space) LOCKMAX ---- ***** (0) or (value) or (SYSTEM) - valid for P/R Bufferpool ==> BPO BPO-BP49/BP32K/BP32K1-BP32K9 GBPCACHE ---- * (A) pages cached in Group BP or blank Password ==> VSAM password </pre> </div>
<p>5</p>	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to tablespaces” on page 224.</p>
<p>6</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Partitioned Tables panel.</p>

Changing an Index Space

Overview

This unit describes how to change the attributes of an index space.

Changing the attributes of an index space

Follow this procedure to change attributes of an index space.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 3 (Allocations) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14 Cmd ==>> Scroll ==>> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object Type over existing to update. QTY values are in pages. Press ENTER when done. Enter + under VOLSER to add new a VOLSER ----- TABLESPACES SEL TBLSPC TS PQTY SQTY PCT FRE C C VOLSER/ (PAGES) (PGS) NO. OF ROWS FRE PAG L M VCATNAME ALO STOGROUP ----- _ XCPTN 50 17 3,000 0 0 Y DB2V31 DB2 SYSDEFLT </pre> </div>
3	Type S in the S field of the index that you want to change.

Changing the attributes of an index space (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Index Space panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Type ---- 1 2 for Type 2 or 1 for Type 1 index. VCAT Name ==> DB2V31 Required even if using a Storage Group. Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 3 ? to Estimate. Qty ==> 1 4K Pgs 1 Freepage ==> 0 (0 - 255) Pages between free pages. Pctfree ==> 5 (0 - 99) Subpages ---- 4* 1/2/4/8/16 Number of Subpages or blank. Erase ==> N Y/N Close ==> N Y/N Defer ==> Y/N Bufferpool ==> BP0 GBPCACHE ---- * (A) pages cached in group BP or blank. Password ==> VSAM password. Distinct Keys ==> -1 For stats if non-unique keys. Number Keys ---- -1 Number rows in table. </pre> </div>
5	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Allocations panel.</p>

Changing a Specific Index Partition

Overview

This unit describes how to change the attributes of a specific index partition.

Changing the attributes of a specific index partition

Follow this procedure to change the attributes of a specific index partition.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 3 (Allocations) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Allocations panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14 Cmd ==>> Scroll ==>> CSR A L L O C A T I O N S Cmds: EST Estimate all TRK Bump to Trk SETA Set allocations Sels: E Estimate S Show Detail (update) T Tables in object Type over existing to update. QTY values are in pages. Press ENTER when done. Enter + under VOLSER to add new a VOLSER ----- TABLESPACES SEL TBLSPC TS PQTY SQTY PCT FRE C C VOLSER/ ----- XCPTN 50 17 3,000 0 0 Y DB2V31 DB2 SYSDEFLT </pre> </div>
3	Type S in the S field of the index that you want to change.

Changing the attributes of a specific index partition (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Index Space panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Type ---- 1 2 for Type 2 or 1 for Type 1 index. VCAT Name ==> DB2V31 Required even if using a Storage Group. Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 3 ? to Estimate. Sqty ==> 1 4K Pgs 1 Freepage ==> 0 (0 - 255) Pages between free pages. Pctfree ==> 5 (0 - 99) Subpages ---- 4* 1/2/4/8/16 Number of Subpages or blank. Erase ==> N Y/N Close ==> N Y/N Defer ==> Y/N Bufferpool ==> BP0 GBPCACHE ---- * (A) pages cached in group BP or blank. Password ==> VSAM password. Distinct Keys ==> -1 For stats if non-unique keys. Number Keys ---- -1 Number rows in table. </pre> </div>
5	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Allocations panel.</p>

Changing All Index Partitions

Overview

This unit describes how to change the attributes of all index partitions.

Changing the attributes of all index partitions

Follow this procedure to change the attributes of all index partitions.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 2 Cmd ==> Scroll ==> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parns ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- - CGARN .ACH_REQST_DRIVERS ACHDRVTS GGGCHQ00 10 1 - GDEMI .CCH_REQST_DRIVERS GGGGRVTS GGGCHQ00 2 ***** </pre> </div>
3	Type I in the S field of the partitioned tablespace that you want to change.

Changing the attributes of all index partitions (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Partition Indexes panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE PARTN INDEXES ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Change fields below to change ALL partitions. Press ENTER when done. TYPE ---- * 2 for Type 2 or 1 for Type 1 index VCAT Name ==> DB2V31 Required even if using a Storage Group. Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Freepage ==> 0 (0 - 255) Pages between free pages Pctfree ==> 10 (0 - 99) Percent of each page to leave free Erase ==> N Y/N Close ==> Y Y/N Defer ==> Y/N Bufferpool ==> BP0 GBPCACHE ---- * (A) pages cached in Group BP or blank Password ==> VSAM password </pre> </div>
5	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Partitioned Tables panel.</p>

Making Global Changes to All Tablespaces

Overview

This unit describes how to make global changes to all tablespaces that you included in the change session.

Making global changes to all tablespaces in a change session

Follow this procedure to make global changes to all tablespaces that have been included in the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 22 in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global TS Changes panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GLOBAL TS CHANGES-- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Changes here override the changed field in ALL Tablespaces only. Press ENTER to accept values or press END to exit without making changes. VCAT Name ==> Storage Group ==> Type the word BLANK to generate AMS Defines Freepage ==> (0 - 255) Pages between free pages Pctfree ==> (0 - 99) Percent of each page to leave free Segsize ==> (0 - 64) (multiple of 4) Erase ==> Y/N Close ==> Y/N Compress ==> Y/N blank if not specified Locksize ==> A/P/S/T (Any, Page, Space, Table) LOCKMAX ---- ***** (0) or (value) (SYSTEM) - valid for P/R Bufferpool ==> BP0-BP49/BP32K/BP32K1-BP32K9 GBPCACHE ---- * A/B A=ALL, B=Changed pages cached in Group BP Password ==> VSAM password (Optional) </pre> </div>
3	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>Note: To change all tablespaces from DB2-managed to user-managed, you must type BLANK in the Storage Group field. This signals that all storage groups are to be made blank, which makes all tablespaces user-managed.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to tablespaces” on page 224.</p>

Making global changes to all tablespaces in a change session (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: The result varies, based on whether you typed BLANK in the Storage Group field.</p> <p>If you typed BLANK in the Storage Group field, !DB/QUICKCHANGE displays a panel for you to enter the volume serials for the user-managed datasets.</p> <p>If you did not type BLANK in the Storage Group field, !DB/QUICKCHANGE redisplay the Primary Menu.</p>

Making Global Changes to All Index Spaces

Overview

This unit describes how to make global changes to all index spaces

Making global changes to all index spaces in a change session

Follow this procedure to make global changes to all index spaces.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 23 (Indexes) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global IX Changes panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GLOBAL IX CHANGES-- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Changes here override the changed field in ALL Indexspaces only. Press ENTER to accept the values or press END to exit without making changes. TYPE ---- * 2 for Type 2 or 1 for Type 1 index VCAT Name ==> Storage Group ==> Type the word BLANK to generate AMS defines. Freepage ==> (0 - 255) Pages between free pages Pctfree ==> (0 - 99) Subpages ==> (1,2,4,8,16) (Logical pages/Index page) Erase ==> Y/N Close ==> Y/N Defer ==> Y/N Bufferpool ==> BP0-BP49 GBPCACHE ---- * A/B A=ALL, B=Changed pages cached in Group BP Password ==> VSAM password (Optional) </pre> </div>
3	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>Note: To change all index spaces from DB2-managed to user-managed, you must type BLANK in the Storage Group field. This signals that all storage groups are to be made blank, which makes all index spaces user-managed.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to tablespaces” on page 224.</p>

Making global changes to all index spaces in a change session (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: The result varies, based on whether you typed BLANK in the Storage Group field.</p> <p>If you typed BLANK in the Storage Group field, !DB/QUICKCHANGE displays a panel for you to enter the volume serials for the user-managed datasets.</p> <p>If you did not type BLANK in the Storage Group field, !DB/QUICKCHANGE redisplay the Primary Menu.</p>

Making Global Changes to All Tablespaces and Index Spaces

Overview

This unit describes how to make global changes to all tablespaces and index spaces.

Making global changes to all tablespaces and index spaces in a change session

Follow this procedure to make global changes to all tablespaces and index spaces.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 21 (Datasets) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global TS + IX Changes panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GLOBAL TS + IX CHANGES-- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 version. Changes here override the changed field in ALL Tablespaces and Indexspaces. Press ENTER to accept values, END to exit without making changes. VCAT Name ==> Storage Group ==> Type the word BLANK to generate AMS defines. Freepage ==> (0 - 255) Pages between free pages Pctfree ==> (0 - 99) Percent of each page to leave free Erase ==> Y/N Close ==> Y/N Bufferpool ==> BP0-BP49 (common to TS and IX) GBPCACHE ---- * A/B A=ALL, B=Changed pages cached in group BP Password ==> VSAM password (Optional) </pre> </div>

Making global changes to all tablespaces and index spaces in a change session (cont.)

Step	Action
3	<p>Type the appropriate values in the input fields to the right of the attributes that you want to change.</p> <p>Note: To change all tablespaces and index spaces from DB2-managed to user-managed, you must type BLANK in the Storage Group field. This signals that all storage groups are to be made blank, which makes all tablespaces and index spaces user-managed.</p> <p>For information about the definition of attributes and valid values, see “Tablespace and index space attributes” on page 222.</p> <p>The Global TS + IX Changes panel allows you to change only those attributes that apply to both tablespaces and index spaces. To make global changes to attributes that are specific to tablespaces, see “Making Global Changes to All Tablespaces” on page 238. To make global changes to attributes that are specific to index spaces, see “Making Global Changes to All Index Spaces” on page 240.</p>
4	<p>Press Enter.</p> <p>Result: The result varies, based on whether you typed BLANK in the Storage Group field.</p> <p>If you typed BLANK in the Storage Group field, !DB/QUICKCHANGE displays a panel for you to enter the volume serials for the user-managed datasets.</p> <p>If you did not type BLANK in the Storage Group field, !DB/QUICKCHANGE redisplays the Primary Menu.</p>

Making Global Changes to All Tablespaces and Index Spaces

Introduction

This chapter covers changing indexes, including displaying index information, adding an index, and dropping an index.

Chapter contents

Displaying Index Information	246
Index Attributes You Can Change	250
Changing an Index	252
Adding an Index	259
Dropping an Index	263

Displaying Index Information

Overview

This unit provides information for understanding index information. This unit also explains the steps you follow to display information for all indexes of a table and how to display additional information for one index.

Understanding displayed index information

!DB/QUICKCHANGE displays index information on the <creator.table name> Indexes of panel as shown below.

```

DSN8310.ACT 1          - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 10
Cmd ==>                               Scroll ==> CSR

Sels:   A Add   C Change   D Drop                               Press ENTER when done.
-----
S INDEX NAME                T INDEX          A COLUMN
                           Y STATUS      COLUMNS        D STATUS
-----
_ DSN8310 .XACT1 2                3 CLUST=Y 4 UNIQ=P   4 PTS 5
                           ACTNO
_ DSN8310 .XACT2 2                CLUST=N   UNIQ=U
                           ACTKWD
_ DSN8310 .XACT3 2                CLUST=N   UNIQ=D
                           6 ACTNO
                           ACTKWD
                           ACTDESC
***** BOTTOM OF LIST *****

```

- 1** Name of the table
- 2** Name of an index
- 3** Clustering value of the index
- 4** Unique value of the index (P = primary; U = unique; D = allows duplicates; N = unique where not null, and is DB2 V4 only)
- 5** Index is partitioned (this example has 4 partitions)
- 6** Columns of the index (in sequence, first index column listed first)
- 7** Index column order (A=ascending, D=descending)

Displaying information for all indexes of a table

Follow this procedure to display information for all indexes of a table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> T A B L E S Scroll ==> CSR Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- ----- ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type I (Indexes) in the SEL field of the table whose indexes you want to display.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> Indexes of panel. This panel lists the indexes of the table.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==> Scroll ==> CSR Sels: A Add C Change D Drop ----- S INDEX NAME INDEX STATUS COLUMNS A COLUMN - ----- ----- ----- - ----- - DSN8310 .XACT1 CLUST=N UNIQ=P ACTNO - DSN8310 .XACT2 CLUST=N UNIQ=U ACTKWD - DSN8310 .XACT3 CLUST=N UNI ACTNO Q=D ACTKWD A ACTDESC D </pre> </div>

Displaying additional information for one index

Follow this procedure to display additional information for one index.

Step	Action
1	<p>On the <creator.table name> Indexes of panel, type C (Change index) in the S field of the index whose information you want to display in more detail.</p> <p>Note: While this is a change, you are only using this facility to examine index information and are not making actual changes.</p>
2	<p>Press Enter</p> <p>Result: !DB/QUICKCHANGE displays the Add/Change Index panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> ADD/CHANGE INDEX ----- DB/QUICKCHANGE -- DB2=DB31--- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 vesion. Table ---- TSL251.ALTERCONTROL Creator ==> TSL251 Name can be changed but must no Index Name ==> ALTCTRLX duplicate an existing index. Unique ==> D U/D/P Unique/Dups/Primary Clustering ==> N Y/N Clustering Index Type ---- 1/2 For Type 1 or Type 2 (V4 Only) No. Partitions ==> 0 0 = Non-partitioned. Specify values, press ENTER. Press END to abort changes. </pre> </div>
3	<p>Press Enter without making any changes to view the next panel of additional information.</p> <p>Result: !DB/QUICKCHANGE displays the Select Index Columns panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 29 Cmd ==> Scroll ==> CSR Cmds: DO (Menu) Press ENTER when done. SeIs: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 0 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- -- -- SYSTEM CHAR 4 -- -- USERID CHAR 8 -- -- TIME_GENERATED TIMESTMP 10 -- -- PROGRAM_NAME CHAR 8 -- -- SOURCE_DATABASE CHAR 8 -- -- SOURCE_TABLESPACE CHAR 8 -- -- SOURCE_PARTITIONS SMALLINT 2 -- -- SOURCE_TABLE CHAR 27 -- -- TARGET_DATABASE CHAR 8 -- -- TARGET_TABLESPACE CHAR 8 -- -- TARGET_PARTITIONS SMALLINT 2 -- -- TARGET_TABLE CHAR 27 -- -- JOB_SUBMIT_TIME TIMESTMP 10 NL -- -- UNLOAD_START_TIME TIMESTMP 10 NL -- -- UNLOAD_STOP_TIME TIMESTMP 10 NL -- -- LOAD_COMPLETE_TIME TIMESTMP 10 NL </pre> </div>

Displaying additional information for one index (continued)

Step	Action
4	<p>Press Enter without making any changes to view the next panel of additional information.</p> <p>Result: !DB/QUICKCHANGE displays the Change Index Space panel. For additional information, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE INDEXSPACE ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQR030D - The Distinct Keys value is critical for estimating the index Type ---- 2 for Type 2 or 1 for Type 1 index. VCAT Name ==> DB2V31 Required even if using a Storage Group. Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 0 ? to Estimate. Sqty ==> 3 4K Pgs 0 Freepage ==> 0 (0 - 255) Pages between free pages. Pctfree ==> 10 (0 - 99) Subpages ---- 1* 1/2/4/8/16 Number of Subpages or blank Erase ==> N Y/N Close ==> Y Y/N Defer ==> Y/N Bufferpool ==> BP0 GBPCACHE ---- Password ==> VSAM password. Distinct Keys ==> 17 For stats if non-unique keys. Number Keys ---- 17 Number row in table. </pre> </div>
5	<p>Press Enter without making any changes.</p> <p>Result: !DB/QUICKCHANGE redisplayes the <creator.table name> Indexes of panel.</p>

Index Attributes You Can Change

Overview

This unit lists the attributes that !DB/QUICKCHANGE allows you to change for indexes.

Index attributes list

The following table lists all index attributes you can change.

Attribute	Description
Unique	<p>Specifies whether the index allows duplicate key values, allows only unique values, allows unique values where the values are not null, or whether the index is the primary key. Valid values are:</p> <p>U The index is unique, which prevents the table from containing two or more rows with the same value of the index key. If an index column contains null values, it can contain no more than one null value.</p> <p>N The index is unique where the values are not null. If the index key is a single column, that column can contain one or more null values (which are all treated as unequal).</p> <p>D The index allows duplicate index keys.</p> <p>P The index is the primary key (and is unique).</p>

Index attributes list (continued)

Attribute	Description
Clustering	<p>Specifies whether the index is the cluster index of the table. Only one index can be the clustering index. If no index is specified as the clustering index, DB2 uses the first index defined on the table as the clustering index (until DB2 defines a clustering index or until DB2 changes another index to be the clustering index). Valid values are:</p> <p>Y The index is the clustering index.</p> <p>N The index is not the clustering index.</p>
Type (DB2 V4.1 and above)	<p>Specifies the type of the index, 1 or 2.</p> <p>Note: You cannot specify Type 1 if the tablespace contains any table with a LOCKSIZE specification of ROW.</p> <p>If you specify Type 2, DB2 ignores any specification of SUBPAGES.</p> <p>If you do not specify TYPE and</p> <ul style="list-style-type: none"> ● LOCKSIZE is ROW, then TYPE is 2 ● LOCKSIZE is not ROW, then TYPE is 1

Index space attributes

See “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225 for information about the meaning of index space attributes.

Changing an Index

Overview

This unit describes how to change index information, including the columns of the index, index attributes, and index space attributes.

Important information related to changing a primary key index

If you change the index which is a primary key, you must also change the foreign keys of the dependent tables. For example, if you add a column, you must add a comparable column to the foreign keys.

Likewise, if you reorder the columns of the primary key you must also reorder the columns of the foreign keys of the dependent tables. !DB/QUICKCHANGE recognizes this fact and produces a warning panel.

```
+----- VERIFY PRIMARY KEY CHANGE -----+
|
|   This is a Primary Key Index and it has
|   1 Foreign Keys tables related to it.
|
|   If you add a column to this index, you will
|   have to define a Foreign Key column for each
|   of the Foreign Key tables.
|
|   Press END to NOT change this index's keys.
|   Press ENTER to continue.
|
+-----+

```

You must acknowledge that you want to proceed before you can change the primary key.

Background about methods available for changing an existing index

You cannot use the A (Alter) select on the Indexes panel in !DB/WORKBENCH to access the !DB/QUICKCHANGE functions that change indexes. The functions are not available in this release of !DB/QUICKCHANGE.

You can, on the other hand, change an index using the procedure in this unit.

Prerequisites for changing an existing index

You must have accessed !DB/QUICKCHANGE using the A (Alter) select on one of these !DB/WORKBENCH panels:

- Databases
- Table Spaces
- Tables

Accessing the panels to change an existing index

Follow this procedure to change an index.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Table//Columns) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Include Options panel.
3	Specify the options you want.
4	Press Enter. Result: !DB/QUICKCHANGE gathers the data and displays the Tables Being Changed panel.
5	Type I in the Select field to display a list of indexes.
6	Press Enter. Result: !DB/QUICKCHANGE displays the <creator.table name> panel.
7	Type C in the Select field for the index you want to change. Result: !DB/QUICKCHANGE displays the Add/Change Index panel.
8	Specify the values you want to change.
9	Perform the appropriate action: <ul style="list-style-type: none"> ● To make changes to the columns and index spaces in the index, Press Enter ● To make changes to another index, Press End

Removing a column from an index

Follow this procedure to remove a column from the index.

Step	Action
1	On the Select Index Columns panel, type X (Exclude) in the ORDR field of the column.
6	<div style="border: 1px solid black; padding: 10px;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 9 Cmd ==>> Scroll ==>> CSR Cmds: DO (Menu) Press ENTER when done. Sels: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 42 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- 1 A SYSTEM CHAR 4 2 A USERID CHAR 8 3 A TIME_GENERATED TIMESTMP 10 4 A ACTIVE_SESSION CHAR 1 5 A JOBNAME CHAR 8 x A JOB_START_TIME TIMESTMP 10 7 A RECORD_TYPE CHAR 1 _ _ REL_PRINT_LINE SMALLINT 2 _ _ PRINT_LINE VARCHAR 133 </pre> </div>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE removes the column from the index and excludes the column from the column list.</p>

Redisplaying excluded index columns

Follow this procedure to redisplay excluded index columns.

Step	Action
1	<p>On the Select Index Columns panel, type SHOW on the command line.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 9 Cmd ==> show Scroll ==> CSR Cmds: DO (Menu) Press ENTER when done. Se1s: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 32 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- 1 A SYSTEM CHAR 4 2 A USERID CHAR 8 3 A TIME_GENERATED TIMESTMP 10 4 A ACTIVE_SESSION CHAR 1 5 A JOBNAME CHAR 8 6 A RECORD_TYPE CHAR 1 -- -- REL_PRINT_LINE SMALLINT 2 -- -- PRINT_LINE VARCHAR 133 </pre> </div>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay all the columns in the table, including the columns you excluded from the index. !DB/QUICKCHANGE does not restore exclude columns to the index.</p>

Resetting the index to the original set of columns

Follow this procedure to reset the index to the original set of columns.

Step	Action
1	<p>On the Select Index Columns panel, type RES on the command line.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 9 Cmd ==> res Scroll ==> CSR Cmds: DO (Menu) Press ENTER when done. Sels: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 32 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- 1 A SYSTEM CHAR 4 2 A USERID CHAR 8 3 A TIME_GENERATED TIMESTMP 10 4 A ACTIVE_SESSION CHAR 1 5 A JOBNAME CHAR 8 6 A RECORD_TYPE CHAR 1 -- -- JOB_START_TIME TIMESTMP 10 -- -- REL_PRINT_LINE SMALLINT 2 -- -- PRINT_LINE VARCHAR 133 </pre> </div>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE restores the index to the columns that were in the index when you entered this panel.</p>

Changing the order of the columns in an index

Follow this procedure to change the order of the columns in an index.

Step	Action
1	<p>On the Select Index Columns panel, type the position of each index column in the ORDR field of the column.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 29 Cmd ==> Scroll ==> CSR Cmds: DO (Menu) Press ENTER when done. Sels: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 22 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- 1 D SYSTEM CHAR 4 2 D USERID CHAR 8 3 D TIME_GENERATED TIMESTMP 10 -- -- PROGRAM_NAME CHAR 8 -- -- SOURCE_DATABASE CHAR 8 -- -- SOURCE_TABLESPACE CHAR 8 -- -- SOURCE_PARTITIONS SMALLINT 2 -- -- SOURCE_TABLE CHAR 27 -- -- TARGET_DATABASE CHAR 8 -- -- TARGET_TABLESPACE CHAR 8 -- -- TARGET_PARTITIONS SMALLINT 2 -- -- TARGET_TABLE CHAR 27 -- -- JOB_SUBMIT_TIME TIMESTMP 10 NL -- -- UNLOAD_START_TIME TIMESTMP 10 NL -- -- UNLOAD_STOP_TIME TIMESTMP 10 NL -- -- LOAD_COMPLETE_TIME TIMESTMP 10 NL -- -- </pre> </div>
2	<p>To change a column ascending to descending, or from descending to ascending, type the correct value in the A/D field of the column.</p>
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplayes the Select Index Columns panel with the columns in the new order.</p>

Adding a column to an index

Follow this procedure to add a column to an index.

Step	Action																																																																																																																							
1	<p>On the Select Index Columns panel, type the index position of the column that you want to add to the index in the ORDR field of the column.</p> <div style="border: 1px solid black; padding: 5px;"> <pre>SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 29 Cmd ==>> Scroll ==>> CSR</pre> <p>Cmds: DO (Menu) Press ENTER when done. Sels: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 22</p> <table border="1"> <thead> <tr> <th>ORDR</th> <th>A/D</th> <th>COLUMN NAME</th> <th>TYPE</th> <th>LENGTH</th> <th>NL</th> <th>UP</th> </tr> </thead> <tbody> <tr><td>1</td><td>D</td><td>SYSTEM</td><td>CHAR</td><td>4</td><td></td><td></td></tr> <tr><td>2</td><td>D</td><td>USERID</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>3</td><td>D</td><td>TIME_GENERATED</td><td>TIMESTMP</td><td>10</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>PROGRAM_NAME</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>SOURCE_DATABASE</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>SOURCE_TABLESPACE</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>SOURCE_PARTITIONS</td><td>SMALLINT</td><td>2</td><td></td><td></td></tr> <tr><td>4</td><td>—</td><td>SOURCE_TABLE</td><td>CHAR</td><td>27</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>TARGET_DATABASE</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>TARGET_TABLESPACE</td><td>CHAR</td><td>8</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>TARGET_PARTITIONS</td><td>SMALLINT</td><td>2</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>TARGET_TABLE</td><td>CHAR</td><td>27</td><td></td><td></td></tr> <tr><td>—</td><td>—</td><td>JOB_SUBMIT_TIME</td><td>TIMESTMP</td><td>10</td><td>NL</td><td></td></tr> <tr><td>—</td><td>—</td><td>UNLOAD_START_TIME</td><td>TIMESTMP</td><td>10</td><td>NL</td><td></td></tr> <tr><td>—</td><td>—</td><td>UNLOAD_STOP_TIME</td><td>TIMESTMP</td><td>10</td><td>NL</td><td></td></tr> <tr><td>—</td><td>—</td><td>LOAD_COMPLETE_TIME</td><td>TIMESTMP</td><td>10</td><td>NL</td><td></td></tr> </tbody> </table> </div>	ORDR	A/D	COLUMN NAME	TYPE	LENGTH	NL	UP	1	D	SYSTEM	CHAR	4			2	D	USERID	CHAR	8			3	D	TIME_GENERATED	TIMESTMP	10			—	—	PROGRAM_NAME	CHAR	8			—	—	SOURCE_DATABASE	CHAR	8			—	—	SOURCE_TABLESPACE	CHAR	8			—	—	SOURCE_PARTITIONS	SMALLINT	2			4	—	SOURCE_TABLE	CHAR	27			—	—	TARGET_DATABASE	CHAR	8			—	—	TARGET_TABLESPACE	CHAR	8			—	—	TARGET_PARTITIONS	SMALLINT	2			—	—	TARGET_TABLE	CHAR	27			—	—	JOB_SUBMIT_TIME	TIMESTMP	10	NL		—	—	UNLOAD_START_TIME	TIMESTMP	10	NL		—	—	UNLOAD_STOP_TIME	TIMESTMP	10	NL		—	—	LOAD_COMPLETE_TIME	TIMESTMP	10	NL	
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2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE adds the column to the index in the position you specified. If the position you specified is not at the end of the index columns, !DB/QUICKCHANGE rennumbers the columns from that position to the end of the index to follow the added column.</p>																																																																																																																							

Adding an Index

Overview

This unit describes how to add an index, which includes the columns of the index, index attributes, and index space attributes.

Accessing the Add/Change Index panel

Follow this procedure to access the Add/Change Index panel.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- ----- ----- - CAND33 .ZIPTBA ZIPCODE1 O2TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type I (Indexes) in the SEL field of the table to which you want to add an index.

Accessing the Add/Change Index panel (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> Indexes of panel. This panel lists the indexes of the table.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==> Scroll ==> CSR Sels: A Add C Change D Drop Press ENTER when done. ----- S INDEX NAME INDEX STATUS COLUMNS A COLUMN - - - - - - - - - - - - - - - - D STATUS - DSN8310 .XACT1 CLUST=N UNIQ=P A - DSN8310 .XACT2 CLUST=N UNIQ=U A - DSN8310 .XACT3 CLUST=N UNI Q=D ACTNO ACTKWD A ACTDESC A </pre> </div>
5	<p>Type A (Add Index) in the S field of the one of the existing indexes.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add/Change Index panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> ADD/CHANGE INDEX ----- DB/QUICKCHANGE -- DB2=DB31--- Cmd ==> KTQQ013C - The option(s) denoted by * are not supported by target DB2 vesion. Table ---- TSL251.ALTERCONTROL Creator ==> TSL251 Name can be changed but must no Index Name ==> ALTCTRLX duplicate an existing index. Unique ==> D U/D/P Unique/Dups/Primary Clustering ==> N Y/N Clustering Index Type ---- 1/2 For Type 1 or Type 2 (V4 Only) No. Partitions ==> 0 0 = Non-partitioned. Specify values, press ENTER. Press END to abort changes. </pre> </div> <p>The new index inherits the index attributes of the index you selected, including the name. The name must be changed.</p>

Adding a new index

Follow this procedure to add an index.

Step	Action
1	<p>On the Add/Change Index panel, type one or both of the following:</p> <ul style="list-style-type: none"> • a new creator in the Creator field • a new index name in the Index Name field. <p>Note: The index name (<creator.name>) cannot duplicate an existing index name.</p>
2	Type appropriate values in the Unique and Clustering fields. If the index is for DB2 V4.1 or higher, type an appropriate value in the Type field.
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Select Index Columns panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 29 Cmd ==> Scroll ==> CSR Cmds: DO (Menu) Press ENTER when done. Sel's: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen == 0 ----- ORDR A/D COLUMN NAME TYPE LENGTH NL UP ----- -- -- ----- -- -- SYSTEM CHAR 4 -- -- USERID CHAR 8 -- -- TIME_GENERATED TIMESTMP 10 -- -- PROGRAM_NAME CHAR 8 -- -- SOURCE_DATABASE CHAR 8 -- -- SOURCE_TABLESPACE CHAR 8 -- -- SOURCE_PARTITIONS SMALLINT 2 -- -- SOURCE_TABLE CHAR 27 -- -- TARGET_DATABASE CHAR 8 -- -- TARGET_TABLESPACE CHAR 8 -- -- TARGET_PARTITIONS SMALLINT 2 -- -- TARGET_TABLE CHAR 27 -- -- JOB_SUBMIT_TIME TIMESTMP 10 NL -- -- UNLOAD_START_TIME TIMESTMP 10 NL -- -- UNLOAD_STOP_TIME TIMESTMP 10 NL -- -- LOAD_COMPLETE_TIME TIMESTMP 10 NL </pre> </div>
4	For each column that you want in the index, type the position of each index column in the ORDR field of the column.
5	If any column that you want in the index is to be descending, type D in the A/D field of the column.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Select Index Columns panel with the index columns at the top of the column list in the order you specified.</p>

Adding a new index (continued)

Step	Action
7	<p>When you have completed specifying index columns, press Enter without other changes on the panel.</p> <p>Result: !DB/QUICKCHANGE displays the Change Index Space panel.</p> <pre> CHANGE INDEXSPACE ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQR030D - The Distinct Keys value is critical for estimating the index size. Type ----- 2 for Type 2 or 1 for Type 1 index. VCAT Name ==> DB2V31 Required even if using a Storage Group Storage Group ==> SYSDEFLT Clear field to generate AMS Defines. Pqty ==> 3 4K Pgs Orig = 0 ? to Estimate. Sqty ==> 3 4K Pgs 0 Freepage ==> 0 (0 - 255) Pages between free pages. Pctfree ==> 10 (0 - 99) Subpages ----- 1* 1/2/4/8/16 Number of Subpages or blank. Erase ==> N Y/N Close ==> Y Y/N Defer ==> Y/N Bufferpool ==> BP0 GBPCACHE ----- (A) pages cached in group BP or blank. Password ==> VSAM password. Distinct Keys ==> 1 For stats if non-unique keys. Number Keys ----- Number rows in table. </pre>
8	<p>If you need to make changes to index space attributes, see “Tablespace and index space attributes” on page 222 and “Attributes which apply only to index spaces” on page 225.</p>
9	<p>When you are finished making changes, press Enter without making any changes.</p> <p>Result: !DB/QUICKCHANGE redisplay the <creator.table name> Indexes of panel.</p> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==> Scroll ==> CSR Sels: A Add C Change D Drop Press ENTER when done. ----- S INDEX NAME INDEX STATUS COLUMNS A COLUMN - ----- D STATUS - DSN8310 .XACT1 CLUST=N UNIQ=P A ACTNO A - DSN8310 .XACT2 CLUST=N UNIQ=U A ACTKWD A - DSN8310 .XACT3 CLUST=N UNI Q=D ACTNO A ACTKWD D ACTDESC A </pre>

Dropping an Index

Overview

This unit provides information about dropping an index that is a primary key, and dropping a partitioning index. This unit also explains the steps you follow to drop and undrop an index.

Important information about dropping an index that is a primary key

When you drop an index that is a primary key, !DB/QUICKCHANGE keeps track of the referential relationships. If you decide to *undrop* the primary key, you can have !DB/QUICKCHANGE re-establish the referential relationships. This is true even if you have changed the columns which make up the primary key.

When !DB/QUICKCHANGE re-establishes the relationships, it re-establishes all foreign key columns as if the relationships were new. If there are no ambiguous foreign key columns, !DB/QUICKCHANGE chooses a foreign key columns for you. If there are several choices of a foreign key column for a specific primary key column, !DB/QUICKCHANGE asks you to choose which column to use.

If you decide to undrop an index that is a primary key and you want !DB/QUICKCHANGE to re-establish the referential relationships, you must follow the instructions in both of these units:

- “Undropping an index” on page 266
 - “Undropping a primary key” on page 281
-

Important information about dropping a partitioning index

If you drop the partitioning index, !DB/QUICKCHANGE changes the table to non-partitioned and does not allow you to recover. You cannot undo this type of drop. Therefore, before you drop a partitioning index you need to make sure that this is what you want to do.

Important

The only way to recover from an inadvertent drop of a partitioning index is to abort your change session.

!DB/QUICKCHANGE does not prompt you to make sure that you want to drop the partitioning index (and thereby making the table non-partitioned). There is no way to undo this action.

Dropping a primary key and partitioning index

Follow this procedure to drop an index.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> T A B L E S Scroll ==> CSR Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- ----- ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type I (Indexes) in the S field of the table for which you want to drop an index.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> Indexes of panel. This panel lists the indexes of the table.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==> Scroll ==> CSR Sels: A Add C Change D Drop ----- S INDEX NAME INDEX STATUS COLUMNS A COLUMN - ----- ----- ----- ----- - DSN8310 .XACT1 CLUST=N UNIQ=P A ACTNO - DSN8310 .XACT2 CLUST=N UNIQ=U A ACTKWD - DSN8310 .XACT3 CLUST=N UNI Q=D ACTNO A ACTKWD D ACTDESC A </pre> </div>

Dropping a primary key and partitioning index (continued)

Step	Action
5	Type D (Drop Index) in the S field of the index that you want to drop.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE marks the index for deletion (the INDEX STATUS field for the index becomes 'DROPPED') and redisplay the <creator.table name> Indexes of panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==>> Scroll ==>> CSR Se1s: A Add C Change D Drop Press ENTER when done. ----- S INDEX NAME INDEX COLUMNS A COLUMN - - STATUS - D STATUS - DSN8310 .XACT1 CLUST=N UNIQ=P A - ACTNO - DSN8310 .XACT2 CLUST=N UNIQ=U A - ACTKWD D DSN8310 .XACT3 DROPPED CLUST=N UNIQ=D A - ACTNO - ACTKWD - ACTDESC </pre> </div>

Undropping an index

Follow this procedure to undrop an index.

Step	Action
1	<p>On the <creator.table name> Indexes of panel type U in the Select field for the index.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DSN8310.ACT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 5 Cmd ==> Scroll ==> CSR Sels: A Add C Change D Drop Press ENTER when done. ----- S INDEX NAME INDEX COLUMNS A COLUMN - - - - - STATUS - - - - - D STATUS - DSN8310 .XACT1 CLUST=N UNIQ=P - ACTNO - DSN8310 .XACT2 CLUST=N UNIQ=U - ACTKWD - DSN8310 .XACT3 CLUST=N UNI Q=D - ACTNO - ACTKWD - ACTDESC - A - D - A </pre> </div>
2	<p>Press Enter.</p> <p>Note: You cannot undrop a partitioning index that you have dropped.</p> <p>Result: !DB/QUICKCHANGE removes the deletion marker for the index.</p>

Chapter 15. Changing Referential Integrity

Introduction

This chapter covers changing referential integrity, including displaying referential information, changing a relationship name or delete rule, changing a primary key, deleting a referential relationship, adding a referential relationship, and creating a referential relationship.

Chapter contents

Displaying Referential Information	268
Changing a Relationship Name or Delete Rule	270
Changing a Primary Key	272
Deleting a Referential Relationship	277
Adding a Referential Relationship	282

Displaying Referential Information

Overview

This unit describes how to display referential information (RI), including parent table, primary key columns, relationship name, delete rule, dependent table, and foreign key columns.

Displaying RI information

Follow this procedure to display RI information.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the RI Relationships panel. For a description of the information on this panel see “The RI Relationships panel” on page 269.

The RI Relationships panel

The RI Relationships panel appears below, along with an explanation of the information contained in the panel.

```

RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103
Cmd ==>                               Scroll ==> CSR
                R E F E R E N T I A L   R E L A T I O N S H I P S
SeIs:  ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey
        U Undrop
-----
          PRIKEY                                FOREIGNKEY
SEL  TABLE NAME - INDEX                      TABLE NAME - FKEY INDEX      REFNAME
-----
- 1 DSN8310 .ACT. . . . . 4 DSN8310 .PROJACT          7 RPAA
   2 DSN8310 .XACT1      6 ACTNO                    8 (R)
   3 ACTNO
- DSN8310 .DEPT . . . . . DSN8310 .DEPT          RDD
  DSN8310 .XDEPT1      5 DSN8310 .XDEPT3          (C)
  DEPTNO              ADMRDEPT
- DSN8310 .DEPT . . . . . DSN8310 .EMP          RED
  DSN8310 .XDEPT1      DSN8310 .XEMP2          (N)
  DEPTNO              WORKDEPT
  
```

- 1** Name of the parent table in the relationship
- 2** Index name of the primary key index
- 3** List of primary key columns, by name
- 4** Name of the dependent table in the relationship
- 5** Index name of the index in the dependent table that contains foreign key columns (index does not have to exist)
- 6** List of foreign key columns, by name
- 7** Name of the relationship
- 8** Delete rule (N=set null; C=cascade; R=restrict)

Changing a Relationship Name or Delete Rule

Overview

This unit describes how to change the name and delete rule of a referential relationship.

Changing a referential relationship name or delete rule

Follow this procedure to change a relationship name or delete rule.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>> Scroll ==>>> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- PRIKEY FOREIGNKEY SEL TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div>
3	Type C (Change) in the SEL field on the relationship whose name or delete rule you want to change.

Changing a referential relationship name or delete rule (continued)

Step	Action
<p>4</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Relationship panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==> Scroll ==> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- P +----- CHANGE RELATIONSHIP -----+ E SEL Cmd ==> E) --- ----- -- C D Parent Table DSN8V31. ACT R) Dependent Table DSN8V31. PROJACT RELNAME ==> RPAA Relationship name (can be blanked) DELETED RULE ==> R C - Cascade Deletes C) N - Set Null R - Restrict Deletes N) +-----+ </pre> </div>
<p>5</p>	<p>To change the name of a relationship, perform the appropriate action.</p> <ul style="list-style-type: none"> ● To specify the new name, type a new relationship name in the RELNAME field. This name must be unique for the dependent table. ● To allow DB2 to assign the new name, blank out the relationship name in the RELNAME field. DB2 assigns a relationship name if you do not specify one.
<p>6</p>	<p>To change the delete rule, type the appropriate letter in the DELETED RULE field.</p> <ul style="list-style-type: none"> ● To set the delete rule to cascade deletes, type C. ● To set the delete rule to set null, type N. ● To set the delete rule to restrict deletes, type R.
<p>7</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the RI Relationships panel showing the changes you made.</p>

Changing a Primary Key

Overview

This unit describes how to change the primary key of a parent table.

Background about changing a primary key

In a referential relationship, the primary key columns must match the foreign key columns. If you change a primary key, either by deleting or adding columns, !DB/QUICKCHANGE recognizes that this requires a change to the foreign key columns of each dependent table.

When !DB/QUICKCHANGE recognizes that changes are required to the foreign key columns, it attempts to make these changes for you.

If you have deleted a column from the primary key, !DB/QUICKCHANGE removes the corresponding key from the foreign key.

If you have added the primary key, !DB/QUICKCHANGE looks for candidate columns to add to the foreign key. Candidate columns are columns in the dependent table that have the same data type and the same length as a primary key column. If there is only one candidate column, that column is added to the foreign key. If there are multiple candidate columns, !DB/QUICKCHANGE displays a panel from which you select the appropriate column.

Note: If there are no columns which can be added to the foreign key, !DB/QUICKCHANGE recognizes this fact and removes the RI relationship.

Important information about changing a primary key

If you are changing a primary key (for example, adding a column), you should change the primary key before making other changes to objects in the relationship. For example, if you want to add a relation to a parent table, and also want to change the primary key, you should change the primary key before adding the new relationship.

The reason for this is that when you add a relation, the primary key must match columns in the dependent table (the foreign key). !DB/QUICKCHANGE goes through considerable processing to build a foreign key for you if there are no ambiguities as to which columns to use. If you subsequently change the primary key, !DB/QUICKCHANGE must re-do all of this processing to ensure that the foreign key columns are valid. By changing the primary key first, you avoid having to duplicate the process of validating the foreign key columns.

Preparing to change a primary key

Follow this procedure to access the Select Index Columns panel so you can change a primary key.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>> Scroll ==>> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- SEL PRIKEY FOREIGNKEY TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 (R) ACTNO ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 (C) DEPTNO DSN8310 .XDEPT3 ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 (N) DEPTNO DSN8310 .XEMP2 WORKDEPT </pre> </div>
3	Type A (Alter Primary Key) in the SEL field on the relationship whose primary key you want to change.

Preparing to change a primary key (continued)

Step	Action
<p>4</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Verify Primary Key Change panel. This panel tells you how many dependent tables exist, and gives you a chance to abort the primary key change.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 13 Cmd ==>> Scroll ==>> CSR +-----+-----+-----+-----+-----+-----+-----+-----+ S VERIFY PRIMARY KEY CHANGE S H I P S S You selected A to change the columns of the Insert P Drop Prikey - Primary Key Index of the selected relationship. ----- S This Primary Key Index has 1 INDEX REFNAME - Foreign Keys tables related to it. (RULE) ----- PT1A JB276 (C) ----- == == COL# ----- +-----+-----+-----+-----+-----+-----+ </pre> </div>
<p>5</p>	<p>Press Enter to continue with the primary key change.</p> <p>Result: !DB/QUICKCHANGE displays the Select Index Columns panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SELECT INDEX COLS ----- DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 3 Cmd ==>> Scroll ==>> CSR Cmds: DO (Menu) Press ENTER when done. Sels: ? (Menu) 1-16 Ix col no. X Remove from Index. Keylen = 3 -----+-----+-----+-----+-----+-----+-----+-----+ ORDR A/D COLUMN NAME TYPE LENGTH NL UP -----+-----+-----+-----+-----+-----+-----+ 1 A DEPTNO CHAR 3 -- - DEPTNAME VARCHAR 10 -- - ADMNO CHAR 3 </pre> </div>

Deciding what to do next

Change the primary key using the same procedures as changing an index. Review the following chart to decide what procedure to use to change the primary key.

Change You Want to Make	Procedure to Use
Remove a column from the primary key	“Removing a column from an index” on page 254
Redisplay columns excluded from the primary key	“Redisplaying excluded index columns” on page 255
Reset the primary key to the original columns	“Resetting the index to the original set of columns” on page 256
Change the order of columns in the primary key	“Changing the order of the columns in an index” on page 257
Add a column to the primary key	“Adding a column to an index” on page 258

Completing the change to a primary key

When you have finished changing the primary key, press Enter with no other select or command on the panel.

Result: The result depends on your change. See “Results of changes to primary keys” on page 276 for descriptions of the results.

Results of changes to primary keys

Review the chart to determine the result of your change.

IF you . . .	AND . . .	THEN !DB/QUICKCHANGE . . .
Deleted a column from the primary key		Removes the corresponding columns from the foreign key and redisplay the RI Relationships panel.
Changed the order of the columns of the primary key		Changes the order of the foreign key columns to match and redisplay the RI Relationships panel.
Added a column to the primary key	One candidate column (column with the same data type and length) exists in the dependent table	Adds that column to the foreign key and redisplay the RI Relationships panel.
	More than one candidate column (column with the same data type and length) exists in the dependent table	Displays the Pick FKEY Column panel for you to choose the foreign key column, and redisplay the RI Relationships panel.
	No candidate column (column with the same data type and length) exists in the dependent table	Marks the referential relationship as dropped and marks the dependent table as invalid.

Note: !DB/QUICKCHANGE Continues to display the foreign key columns when it marks a dependent table as invalid, so you know what the foreign key columns were. If you change the primary key again, !DB/QUICKCHANGE tries to re-establish a relationship with the dependent table. !DB/QUICKCHANGE considers all candidate columns in the dependent table when re-establishing the relationship. !DB/QUICKCHANGE asks you to pick foreign key columns for ambiguous matches. If !DB/QUICKCHANGE successfully matches the columns to the primary key, it removes the dropped marker and the invalid marker.

Deleting a Referential Relationship

Overview

This unit describes how to delete a single referential relationship from a parent table, undrop a referential relationship, and delete all referential relationships from a parent table.

Deleting a single referential relationship

Follow this procedure to delete a single referential relationship from a parent table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>> Scroll ==>> CSR REF E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- PRIKEY FOREIGNKEY SEL TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO (R) ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div>
3	Type D (Drop) in the SEL field of the relationship you wish to drop.
4	<p>Press Enter.</p> <p>Result: The D remains on the panel, signifying that the relationship is in a drop pending status. If you leave and re-enter the panel, the relationship remains displayed with a drop pending status.</p>

Deleting a single referential relationship (continued)

Step	Action
5	<p>Press Enter with no other selects or commands to signify that you are finished.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu.</p>

Undropping a referential relationship

Follow this procedure to undrop a referential relationship.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel. There is a D in the SEL field of dropped referential relationships.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>> Scroll ==>>> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- PRIKEY FOREIGNKEY SEL TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO (R) ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div>
3	Type U (Undrop) over the D in the SEL field of the relationship you wish to undrop.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE removes the D and re-establishes the referential relationship.</p>

Undropping a referential relationship (continued)

Step	Action
5	Press Enter with no other selects or commands to signify that you are finished. Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu.

Deleting all referential relationships of a parent table

Follow this procedure to delete all referential relationships of a parent table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>> Scroll ==>>> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- SEL PRIKEY FOREIGNKEY TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO (R) ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div>
3	Type P (Drop Primary Key) in the SEL field of any of the relationships for the parent table whose relationships you want to delete.
4	<p>Press Enter.</p> <p>Result: The P remains on the panel, and !DB/QUICKCHANGE places a P in the SEL field of all other relationships of the same parent table. This signifies that the relationships are in a drop pending status. If you leave and re-enter the panel, the relationships remain displayed with a drop pending status.</p>
5	<p>Press Enter with no other selects or commands to signify that you are finished.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu. !DB/QUICKCHANGE changes the index from a primary key index to a unique index. This means the parent table cannot participate in any referential relationships unless a primary key is re-established.</p>

Undropping a primary key

Follow this procedure to undrop a primary key and undrop multiple referential relationships for the same parent table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==> Scroll ==> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- SEL PRIKEY FOREIGNKEY REFNAME TABLE NAME - INDEX TABLE NAME - FKEY INDEX ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO (R) ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div> <p>Relationships that are in drop pending status due to a dropped primary key have a P in the SEL field.</p>
3	Type U (Undrop) over the P in the SEL field of one of the relationships that use the primary key you want to undrop.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE removes the P, changes the index back to a primary key, and attempts to re-establish all the dropped referential relationships with that primary key. If any relationship cannot be re-established, !DB/QUICKCHANGE displays the relationship as dropped by placing a D in the SEL field and an invalid marker (** INVALID **) below the dependent table name.</p>
5	<p>Press Enter with no other selects or commands to signify that you are finished.</p> <p>Result: !DB/QUICKCHANGE displays the !DB/QUICKCHANGE Primary Menu.</p>

Adding a Referential Relationship

Overview

This unit describes how to add a referential relationship.

Background about adding referential relationships

To add a referential relationship, you must have the table that you want to be the parent table in the change set. That table must also have a primary key before you can add a referential relationship.

Prerequisites for adding a referential relationship

Ensure that the table that is to be the parent table in the relationship is in the change set and has a primary key.

If the table does not have a primary key index, you can either change an existing unique index to a primary key index or create a primary key index.

To change an existing unique index to a primary key index see “Accessing the panels to change an existing index” on page 253.

To create a primary key index see “Adding a new index” on page 261.

Adding a referential relationship to a parent table

Follow this procedure to add a referential relationship to a parent table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 4 (RI) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the RI Relationships panel. This panel shows all tables in the change set which have a primary key index, as well as all tables in referential sets associated with tables in the change set.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 13 Cmd ==> Scroll ==> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- PARENT TABLE DEPENDENT TABLE REFNAME SEL PRIMARY KEY INDEX FOREIGN KEY INDEX (RULE) ----- - JBART276.CCDEPT JBART276.CCDEPT JB276 JBART276.XDEPT1A JBART276.XDEPT1A DEPTNO DEPTNO (C) ===== == R E L A T E D C O L U M N S == ===== TABLE NAME COLUMN COL# DEPTNO (1) JBART276.CCDEPT PARENT OF JBART276.CCDEPT (1) DEPNDT OF JBART276.CCDEPT DEPTNO (1) </pre> </div>
3	Type I (Insert) in the SEL field of the table that you want to be the parent table.

Adding a referential relationship to a parent table (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Insert RI Relations panel. This panel explains that !DB/QUICKCHANGE displays show a list of tables for you to pick the dependent tables from and that !DB/QUICKCHANGE validates foreign key columns after you have selected the dependent tables.</p> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 13 Cmd ==> Scroll ==> CSR REF E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- P +----- INSERT RI RELATIONS -----+ SEL A list of tables will be displayed for you REFNAME --- - to pick one or more as foreign key tables (RULE) I J for this Primary Key table - JBART276.CCDEPT JB276 (C) Checking whether a selected table is eligible because it has columns matching the Primary Key will be done after you select all candidates. Pick one or more tables with A then press END. Press ENTER now to pick tables. COL# Press END now to return to the RI display +-----+ </pre>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tables for QKC panel.</p> <pre> PICK TABLES FOR QKC ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1,018 Cmd ==> Scroll ==> CSR KTQR047A - Select any number of objects with "A", then press END. Cmds: DO (Menu) STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Select for Change Press END when done. ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE REF REF --- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - ARMYTABLE JMBFUBAR JBART JBART BARTH117 - A_ARMY_CIMS_ID JMBFUBAR JBART JBART BARTH117 - ABCDEFG DS0ARJD1 RDAMB RDAMB ST0A01 - ACH_REQST_DRIVERS GGGCHQ00 CGARN JBART2 ACHDRVTS - ACRONYM CCAPIDIC CCAPI2 CCAPI ACRONYM - ACRONYM NATOMIC NATO KFORD ACRONYM - ACRONYM RDAMB2IC RDAMB2 RDAMB ACRONYM - ACRONYMX KFORDMI2 KFORD KFORD ACRONYM2 - ACRONYM1 KFORDMIC KFORD GDEMI ACRONYM2 - ACRONYM2 ESCHERMI ESCHER2 KFORD ACRONYM - ACRONYM3 KFORMMI2 KFORD KFORD ACRONY2 </pre>

Adding a referential relationship to a parent table (continued)

Step	Action
6	Type A in the SEL field of each table you want to be a dependent table. You may find that !DB/WORKBENCH filtering and sorting, as well as the Locate command, aid in determining which tables to choose as dependent tables.
7	When you have finished selecting dependent tables type END on the command line and press Enter or press the appropriate function key. Result: The result varies based on whether the selected dependent tables have columns that can be used to make a valid foreign key.

Determining the results of selecting a dependent table

Use this chart to determine the result of selecting a dependent table.

IF the selected table has...	THAT are ...	THEN !DB/QUICKCHANGE ...
Candidate foreign key columns	Unambiguous (that is, each primary key column has only one candidate foreign key column)	Builds the list of foreign key columns.
Candidate foreign key columns	Ambiguous (that is, at least one primary key column has more than one candidate foreign key column)	Displays a panel for each set of ambiguous columns which lists the candidate foreign key columns and asks you to select the appropriate column.
No candidate foreign key columns		Does not build the relationship. !DB/QUICKCHANGE displays the RI Relationships panel.

Define Relation panel

Each new referential relationship must have a name and a delete rule. !DB/QUICKCHANGE displays the Define Relation panel for each new relationship.

```
+-----+
| DEFINE RELATION
| Cmd ==>
|
|   Parent Table DSN8310.ACT
|   Dependent Table ROB9502.DEPTACT
|
|   RELNAME ==>           Relationship name (can be blank)
|
| DELETE RULE ==>       Rule - C - Cascade Deletes
|                       - N - Set Null
|                       - R - Restrict Deletes
+-----+
```

Defining a relation

Follow this procedure to define a relation.

Step	Action
1	<p>To define the name of a relationship, perform the appropriate action.</p> <ul style="list-style-type: none"> To specify the new name, type a new relationship name in the RELNAME field. This name must be unique for the dependent table. To allow DB2 to assign the new name, leave the RELNAME field blank. DB2 assigns a relationship name if you do not specify one.
2	<p>To specify the delete rule, type the appropriate letter in the DELETE RULE field.</p> <ul style="list-style-type: none"> To set the delete rule to cascade deletes, type C. To set the delete rule to set null, type N. To set the delete rule to restrict deletes, type R.
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the RI Relationships panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RI RELATIONSHIPS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 103 Cmd ==>>> Scroll ==>>> CSR R E F E R E N T I A L R E L A T I O N S H I P S Sels: ? (Menu) A Alter Prikey C Change D Drop I Insert P Drop Prikey U Undrop ----- PRIKEY FOREIGNKEY SEL TABLE NAME - INDEX TABLE NAME - FKEY INDEX REFNAME ----- - DSN8310 .ACT. DSN8310 .PROJACT RPAA DSN8310 .XACT1 ACTNO (R) ACTNO - DSN8310 .DEPT DSN8310 .DEPT RDD DSN8310 .XDEPT1 DSN8310 .XDEPT3 (C) DEPTNO ADMRDEPT - DSN8310 .DEPT DSN8310 .EMP RED DSN8310 .XDEPT1 DSN8310 .XEMP2 (N) DEPTNO WORKDEPT </pre> </div>

Adding a Referential Relationship

Chapter 16. Plans and Packages and the Change Session

Introduction

This chapter covers plans and packages and the change session.

!DB/QUICKCHANGE allows you to display the DBRMs in a plan or the dependents of a plan. You can also selectively exclude plans and packages from the change session.

Chapter contents

Displaying the DBRMs in a Plan	290
Displaying the Plan Dependents	292
Excluding Specific Plans	294
Excluding Specific Packages	295

Displaying the DBRMs in a Plan

Overview

This unit explains how to display the DBRMs in a plan.

Prerequisites for displaying the DBRMs in a plan

In order to display the DBRMs in a plan, you must have included plans in the change session by typing **Y** in the Plans field on the Include Options panel. (See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.)

Implications of including plans and packages in a change session

If you include plans and packages in your change session, the !DB/Tools Change Engine attempts to rebind plans and packages after it recreates the DB2 objects. As long as the changes that you made do not require changes to the dependent DBRM, these rebinds are successful.

If you have asked !DB/QUICKCHANGE to include referential integrity, the !DB/Tools Change Engine re-establishes all RI that is dropped as a byproduct of dropping DB2 objects during the change process.

Displaying a plan's DBRMs

Follow this procedure to display the DBRMs in a plan.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 5 (Plan) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Plans panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 Cmd ==> P L A N S Scroll ==> CSR Cmds: DO (Menu) Se1s: ? (Menu) C Change Names D Dependents S DBRMs X Exclude ----- SEL PLAN CREATOR DATE TIME SIZE DBM DT OL AC RL ----- _ Q30PLNR CCAPI2 02/21/99 15:45:30 6,248 9 RUN CS US CM </pre> </div>
3	Type S in the SEL field of the plan whose DBRMs you want to display.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the DBRMs in Plan panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 C +-----+-----+-----+-----+-----+-----+-----+-----+ C DBRMS IN PLAN Q30PLNR ----- WAIT FOR PROCESSING ----- DBRM 1 OOF 9 S Cmd ==> Scroll ==> CCSR S DBRM -- PRECOMPILEE -- - NAME PDS DATASET NAME DATE TIME ----- S KTCDY300 CCAPI.WQDES3.DBRM 02/05/00 09:30:56 - KTQSQLJB CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTQSQL01 CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTQSQL02 CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTQSQL07 CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTWICCAT CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTWLSSTT CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTWSQL02 CCAPI.WQDES3.DBRM 02/04/00 14:30:05 KTWUPSTT CCAPI.WQDES3.DBRM 06/10/03 16:15:20 ***** BOTTOM OF LIST ***** +-----+-----+-----+-----+-----+-----+-----+-----+ </pre> </div>

Displaying the Plan Dependents

Overview

This unit provides information on how you can display the dependents of a plan, which include the table name (and its associated tablespace and database) and any associated views or indexes.

Prerequisites for displaying the plan dependents

In order to display the plan dependents, you must have included plans in the change session by typing Y in the Plans field on the Include Options panel. (See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.)

Displaying dependents of a plan

Follow this procedure to display the dependents of a plan.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 5 (Plans) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Plans panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 Cmd ==> Scro11 ==> CSR P L A N S Cmds: DO (Menu) Se1s: ? (Menu) C Change Names D Dependents S DBRMs X Exclude ----- SEL PLAN CREATOR DATE TIME SIZE DBM DT OL AC RL ----- _ Q30PLNR CCAPI2 02/21/99 15:45:30 6,248 9 RUN CS US CM </pre> </div>
3	Type D in the SEL field of the plan whose dependents you want to display.

Displaying dependents of a plan (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Plan Dependents panel.</p> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 C +-----+-----+-----+-----+-----+-----+-----+-----+ C PLAN Q30PLNR DEPENDENTS ----- WAIT FOR PROCESSING ----- DEPENDNT 1 0 F 23 C Cmd ==>>> Scroll ==>>> CSR S - DATABASE TBLSPC DEPENDENT OBJECT S -----+-----+-----+-----+-----+-----+-----+-----+ - WQDES STATDBAS . WQDES3 STATDBAS TBL=CCAPI2.ALTERCONTROL INDEX=CCAPI2.ALTCTRLX TBL=CCAPI2.CESTATUS TBL=CCAPI2.SYSINDEXES TBL=CCAPI2.SYSTABLES TBL=CCAPI2.SYSTABLESPACE DSND06 SYSCOPY TBL=SYSIBM.SYSCOPY INDEX=SYSIBM.DSNUCH01 DSND06 SYSDBASE TBL+SYSIBM.SYSCOLUMNS -----+-----+-----+-----+-----+-----+-----+-----+ </pre>

Excluding Specific Plans

Overview

This unit provides information on how you can exclude specific plans from the change session.

Important information about excluding specific plans

The way !DB/QUICKCHANGE treats a plan that you exclude from the change session depends on a number of factors. These factors include whether the source system is the same as the target system and whether !DB/QUICKCHANGE drops and recreates the objects during the change implementation. See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.

Excluding a specific plan does not affect the processing of the remaining plans.

Excluding a specific plan from the change session

Follow this procedure to exclude a specific plan from the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 5 (Plans) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Plans panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> AFFECTED PLANS ----- DB/QUICKCHANGE -- DB2=DB31----- PLAN 1 OF 1 Cmd ==> P L A N S Cmds: DO (Menu) Se1s: ? (Menu) C Change Names D Dependents S DBRMs X Exclude ----- SEL PLAN CREATOR DATE TIME AVG NO. VL IS Q30PLNR CCAPI2 02/21/99 15:45:30 6,248 9 RUN CS US CM </pre> </div>
3	Type X in the SEL field of the plan.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE marks the plan for exclusion.</p>

Note: To remove the exclusion marker, type a blank over the X.

Excluding Specific Packages

Overview

This unit provides information on how you can exclude specific packages from the change session.

Important information about excluding specific packages

The way !DB/QUICKCHANGE treats a package you exclude from the change session depends on a number of factors. These factors include whether the source system is the same as the target system and whether !DB/QUICKCHANGE drops and recreates the objects during the change implementation. See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.

Excluding a specific package does not affect the processing of the remaining packages.

Excluding a specific package from the change session

Follow this procedure to exclude a specific package from the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 6 (Packages) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Affected Packages panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> AFFECTED PACKAGES ----- DB/QUICKCHANGE -- DB2=DB31----- PACKAGE 1 OF 1 Cmd ==> Scro11 ==> CSR P A C K A G E S Sels: ? (Menu) C Change names X Exclude ----- SEL PACKAGE CREATOR OWNER QUALIFIER COLLECTION - - B I N D - - ----- _ \$NEIL Tddb62 Tddb62 Tddb62A \$NEILCOL 1999-10-16-10.50. </pre> </div>
3	Type X in the SEL field of the package.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE marks the package for exclusion.</p>

Note: To remove the exclusion marker, type a blank over the X.

Excluding Specific Packages

Chapter 17. Excluding Grantors and Grantees

Introduction

This chapter covers excluding specific grantors and grantees from the change session.

Chapter contents

Excluding Specific Grantors	298
Excluding Specific Grantees	300

Excluding Specific Grantors

Overview

This unit provides information about excluding specific grantors from the change session.

Important information about excluding specific grantors

The way !DB/QUICKCHANGE treats a grantor you exclude from the change session depends on a number of factors. These factors include whether the source system is the same as the target system and the whether !DB/QUICKCHANGE drops and recreates the objects during the change implementation. See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.

Excluding a specific grantor does not affect the processing of the remaining grantors.

Excluding a specific grantor from the change session

Follow this procedure to exclude a specific grantor from the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 7 (Grantors) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Grantor IDs panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> to change all names to this one. ----- ORIGINAL NEW ORIGINAL NEW SEL GRANTOR GRANTOR SEL GRANTOR GRANTOR ----- - D1STP70 ==> D1STP70 - KFERR ==> KFERR - Tddb55 ==> Tddb55 - Tddb55A ==> Tddb55A </pre> </div>
3	Type X in the SEL field of the grantor you want to exclude.

Excluding a specific grantor from the change session (continued)

Step	Action
4	<p>Press Enter.</p> <p>In this example, !DB/QUICKCHANGE marks grantor <i>D1STP70</i> for exclusion.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTOR IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTORS of authorizations. Change by typing new name at the arrow (==>). Reset by clearing. The X select excludes all grants by that Grantor. Clear to reset. All names in the final list must be Secondary IDs of the program. Enter a name here ==> to change all names to this one. ----- ORIGINAL NEW ORIGINAL NEW SEL GRANTOR GRANTOR SEL GRANTOR GRANTOR ----- X D1STP70 ==> D1STP70 - KFERR ==> KFERR - Tddb55 ==> Tddb55 - Tddb55A ==> Tddb55A </pre> </div>

Note: To remove the exclusion marker, type a blank over the X.

Excluding Specific Grantees

Overview

This unit provides information about excluding specific grantees from the change session.

Important information about excluding specific grantees

The way !DB/QUICKCHANGE treats a grantee that you excluded from the change session depends on a number of factors. These factors include whether the source system is the same as the target system and whether !DB/QUICKCHANGE drops and recreates the objects during the change implementation. See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.

Excluding a specific grantee does not affect the processing of the remaining grantees.

Excluding a specific grantee from the change session

Follow this procedure to exclude a specific grantee from the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 8 (Grantees) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Grantee IDs panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE GRANTEE IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTEES of authorizations. Change a name by typing new name at the arrow (==>). Reset to the original name by clearing the name. A name change will change every occurrence of the name. X select excludes all grants to that Grantee. Clear to reset. ----- SEL ORIGINAL NEW ORIGINAL NEW GRANTEE GRANTEE GRANTEE GRANTEE ----- X D1STP70 ==> D1STP70 - KFERR ==> KFERR TDOB55 ==> TDOB55 - TDOB55A ==> TDOB55A ----- </pre> </div>
3	Type X in the SEL field of the grantee you want to exclude.

Excluding a specific grantee from the change session (continued)

Step	Action
4	<p>Press Enter.</p> <p>In this example !DB/QUICKCHANGE marks grantee <i>D1STP70</i> for exclusion.</p> <div style="border: 1px solid black; padding: 10px;"><pre>CHANGE GRANTEE IDS ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR This is a list of all GRANTEES of authorizations. Change a name by typing new name at the arrow (==>). Reset to the original name by clearing the name. A name change will change every occurrence of the name. X select excludes all grants to that Grantee. Clear to reset. ----- SEL ORIGINAL NEW ORIGINAL NEW GRANTEE GRANTEE GRANTEE GRANTEE ----- X D1STP70 ==> D1STP70 - KFERR ==> KFERR - Tddb55 ==> Tddb55 - Tddb55A ==> Tddb55A</pre></div>

Excluding Specific Grantees

Introduction

This chapter covers displaying the detail of a view, displaying the objects of a view in a change session, and dropping a view.

`!DB/QUICKCHANGE` does not change `CREATE VIEW` statements as the result of other changes that you specify during the session.

Chapter contents

Views and the Change Session	304
Displaying a View	305
Displaying the Objects of a View	307
Dropping a View	309
Excluding Specific Views	311

Views and the Change Session

Overview

This unit describes how !DB/QUICKCHANGE treats views.

!DB/QUICKCHANGE allows you to include or exclude views in the change session, and to change view names.

How !DB/QUICKCHANGE treats views

!DB/QUICKCHANGE now changes CREATE VIEW statements, in addition to changing the name of the view. If you have changed objects, such as table and column names, these changes are reflected in the views that reference those objects. For example, if you change the name of a table column, that table column in a view changes as well.

Displaying a View

Overview

This unit provides background information and prerequisites for displaying a view. This unit also explains the procedure you follow to display the detail of a view.

Background about displaying a view

!DB/QUICKCHANGE allows you to display the SQL CREATE VIEW statement (also called the detail of a view). You may find this useful to aid in determining the validity of a view after you have made changes to objects.

Prerequisites for displaying the detail of a view

In order to display the detail of a view, you must have included views in the change session by typing **Y** in the Views field on the Include Options panel. (See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.)

Displaying the detail of a view

Follow this procedure to display a view.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 9 (Views) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Related Views panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==> Scroll ==> CSR V I E W S Cmds: DO (Menu) SYN/NOSYN Sels: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIEW NAME COLS CHK? --- - _ LVAUG .JDEPT 4 </pre> </div>
3	Type S (Show SQL) in the SEL field of the view whose detail you want to display.

Displaying the detail of a view (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.view name> panel containing the CREATE VIEW statement for the selected view.</p> <pre> LVAUG.JDEPT - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 10 Cmd ==> Scroll ==> CSR V I E W T E X T ----- CREATE VIEW LVAUG.JDEPT AS SELECT ALL DEPTNO , DEPTNAME, MGRNO , ADMNO FROM LVAUG.CCDEPT LABL= COMT= </pre>

Displaying the Objects of a View

Overview

This unit provides information for displaying the tables and views that !DB/QUICKCHANGE includes in a view.

Prerequisites for displaying the objects of a view

In order to display the objects of a view, you must have included views in the change session by typing **Y** in the Views field on the Include Options panel. (See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.)

Displaying view objects

Follow this procedure to to display the tables and views that !DB/QUICKCHANGE includes in a view.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 9 (Views) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Related Views panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==> Scro11 ==> CSR V I E W S Cmds: DO (Menu) SYN/NOSYN Sels: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIEW NAME COLS CHK? --- - _ LVAUG .JDEPT 4 </pre> </div>
3	Type T (Tables/Views) in the SEL field of the view whose objects you want to display.

Displaying view objects (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables View is On panel.</p> <p>Note: The objects are listed by <creator.name>. If the object is a table, the word TABLE appears in the TBL/VW? field; if the object is a view, the word VIEW appears in the TBL/VW? field.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==> Scroll ==> CSR V I E W S Cmds: DO (Menu) SYN/NOSYN Sel's: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIE +----- DB/WORKBENCH -- DB2=DB31 -----+ --- - - - - - --- TABLES VIEW IS ON ----- LINE 1 OF 1 T LVAUG .JDE Cmd ==> Scroll ==> CSR ***** VIEW LVAUG.JDEPT ***** +-----+ CREATOR NAME TBL/VW? +-----+ LVAUG .CCDEPT TABLE ***** BOTTOM OF LIST ***** +-----+ </pre> </div>

Dropping a View

Overview

This unit describes how to drop a view.

Prerequisites for dropping a view

In order to drop a view, you must have included views in the change session by typing **Y** in the Views field on the Include Options panel. (See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.)

Dropping a view

Follow this procedure to to drop a view.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 9 (Views) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Related Views panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==>> V I E W S Cmds: DO (Menu) SYN/NOSYN Sels: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIEW NAME COLS CHK? --- - - LVAUG .JDEPT 4 - LVAUG .JDEPT2 4 </pre> </div>
3	Type D (Drop) in the SEL field of the view that you want to drop.

Dropping a view (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Related Views panel and marks the view you selected to be dropped.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==> Scroll ==> CSR V I E W S Cmds: DO (Menu) SYN/NOSYN Sels: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIEW NAME COLS CHK? --- - LVAUG .JDEPT 4 D LVAUG .JDEPT2 4 </pre> </div>

Note: To remove the drop marker, type a **U** over the **D**.

Excluding Specific Views

Overview

This unit provides information about excluding specific views from the change session.

Important information about excluding specific views

The way !DB/QUICKCHANGE treats a view that is excluded from the change session depends on a number of factors. These factors include whether the source system is the same as the target system and whether !DB/QUICKCHANGE drops and recreates the table during the change implementation. See “Specifying !DB/QUICKCHANGE Include Options” on page 109 for more information.

Excluding a specific view does not affect the processing of the remaining views.

Excluding a specific view from the change session

Follow this procedure to exclude a specific view from the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 9 (Views) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Related Views panel.
	<pre> RELATED VIEWS ----- DB/QUICKCHANGE -- DB2=DB31----- VIEW 1 OF 1 Cmd ==> Scroll ==> CSR V I E W S Cmds: DO (Menu) SYN/NOSYN Sels: ? (Menu) D Drop S Show-SQL T Tables-Vw-On U Un-D,X X Exclude ----- SEL CREATOR VIEW NAME COLS CHK? --- - - LVAUG .JDEPT 4 - LVAUG .JDEPT2 4 </pre>
3	Type X in the SEL field of the view you want to exclude.
4	Press Enter. Result: !DB/QUICKCHANGE marks the view for exclusion.

Note: To remove the exclusion marker, type a **U** over the **X**.

Excluding Specific Views

Chapter 19. Moving Tables to a Different Tablespace

Introduction

This chapter covers the process of moving non-partitioned tables to a different tablespace. This may involve creation of a new tablespace or the creation of a new database.

Chapter contents

Moving a Table to a Different Tablespace	314
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Moving a Table to a Different Tablespace

Overview

This unit explains how to move a non-partitioned table to a different tablespace. The tablespace can already exist, or it may be a new tablespace.

Moving a table to a tablespace in the change session

Follow this procedure to to move a table to a different tablespace that is already included in the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 31 (Move Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Move Tables panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 2 Cmd ==>> Scroll ==>> CSR Enter any value in the SEL column to move tables to another tablespace. Partitioned tables are not listed. Press ENTER with no changes when done. SEL TBLSPC TABLE NAME INDEX NAME ROWS ----- AJPOOSTS DB=AJPOOST _ JPOOS .AJPOOST JPOOS .AACTX 1 </pre> </div>
3	Type S in the SEL field of each of the tables that you want to move to another tablespace.

Moving a table to a tablespace in the change session (continued)

Step	Action
<p>4</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick a Tablespace panel. The tablespaces listed are those that are in the current change session.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 2 Cmd ==> Scroll ==> CSR Enter any value in the SEL column PICK A TABLESPACE LIST ----- TS 1 OF 2 Partitioned tables are not listed Cmd ==> Scroll ==> CSR SEL TBLSPC TABLE NAME Sel: S Select ----- AJPOOSTS DB=AJPOOS Press ENTER after selecting a tablespace S JPOOS .AJPOOST . . or END to cancel the table move. ***** BO </pre> </div>
<p>5</p>	<p>Type S in the SEL field of tablespace that you want the tables moved to.</p>
<p>6</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the the Move Tables panel and shows the table as having been moved.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 4 Cmd ==> Scroll ==> CSR Enter any value in the SEL column to move tables to another tablespace. Partitioned tables are not listed. Press ENTER with no changes when done. SEL TBLSPC TABLE NAME INDEX NAME ROWS ----- AJPOOSTS DB=AJPOOS GMX98 DB=AJPOOS - JPOOS .AJPOOST JPOOS .AACTX 1 </pre> </div>

Moving a table to a tablespace not in the change session

Follow this procedure to to move a table to a different tablespace that is not already included in the change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 31 (Move Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Move Tables panel.</p> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 2 Cmd ==> Scroll ==> CSR Enter any value in the SEL column to move tables to another tablespace. Partitioned tables are not listed. Press ENTER with no changes when done. SEL TBLSPC TABLE NAME INDEX NAME ROWS ----- AJPOOSTS DB=AJPOOS _ JPOOS .AJPOOST JPOOS .AACTX 1 </pre>
3	Type S in the SEL field of each of the tables that you want to move to another tablespace.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick a Tablespace panel. The tablespaces listed are those that are in the current change session.</p> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 2 Cmd ==> Scroll ==> CSR Enter any value in the SEL column PICK A TABLESPACE ----- TS 1 OF 2 Partitioned tables are not listed Cmd ==> Scroll ==> CSR SEL TBLSPC TABLE NAME Sels: S Select ----- AJPOOSTS DB=AJPOOS Press ENTER after selecting a tablespace S JPOOS .AJPOOST or END to cancel the table move. ***** BO </pre>
5	Type S in the first SEL field, to signify that you want to select a new tablespace. This new tablespace can be a tablespace that currently exists (but that is not in the change session), or can be a truly new tablespace.

Moving a table to a tablespace not in the change session (continued)

Step	Action
<p>6</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Supply New Names panel and you can specify both a different tablespace name and a different database name.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 2 Cmd ==> Scroll ==> CSR Enter any value in the SEL column PICK A TABLESPACE ----- TS 1 OF 2 Partitioned tables are not listed. Cmd ==> Scroll ==> CSR SEL TBLSPC TABLE NAME Se s: S Select ----- ----- ----- ----- ----- AJPOOSTS DB=AJPOOS Pr ess EN TER after selecting a tablespace S JPOOS .AJPOOST . . or END to cancel the table move. ***** ***** ***** ***** ***** BO SEL T +----- SUPPLY NEW NAMES -----+ - - - - - S (New TS Name ==> gmx98 _ A New DB Name ==> AJPOOS * **** Pr ess EN TER. EN D Cance ls. +-----+ </pre> </div>
<p>7</p>	<p>Type a new tablespace name in the New TS Name field. The name can be the name of an existing tablespace or can be the name of a new tablespace.</p>
<p>8</p>	<p>If the tablespace name that you entered is the name of a tablespace in another database, or if the tablespace name is new and you want the tablespace to be in a different database, type a different database name. The database name can be the name of an existing database or can be the name of a new database.</p>
<p>9</p>	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Move Tables panel and shows the table as having been moved.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MOVE TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 4 Cmd ==> Scroll ==> CSR Enter any value in the SEL column to move tables to another tablespace. Partitioned tables are not listed. Pr ess EN TER with no changes when done. SEL TBLSPC TABLE NAME IN DEX NAME ROWS ----- ----- ----- ----- ----- AJPOOSTS DB=AJPOOS GMX98 DB=AJPOOS _ JPOOS .AJPOOST JPOOS .AACTX 1 </pre> </div>

Moving a Table to a Different Tablespace

Chapter 20. Moving a Tablespace to a Different Database

Introduction

This chapter covers the process of moving a tablespace to a different database. This may involve creation of a new database.

Chapter contents

Moving a Tablespace to a New or Existing Database 320

Moving a Tablespace to a New or Existing Database

Overview

This unit explains how to move a tablespace to a different database. The database can already exist, or it may be a new database.

Moving a tablespace to a new or existing database

Follow this procedure to move a tablespace to a different database.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 1 (Names) in the Option field.
2	<p>Press Enter.</p> <p>Result: The Change Names panel appears.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==>> Scroll ==>>> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE CREATED SEL TBLSPC TABLE DEPENDENT BY ----- - DSN8D31A - ACT DSN8310 - DSN8310 .ACT DCSP48 - SYN= DCSP48 .ACT - INDEX= DSN8310 .XACT1 DCSP48 - INDEX= DSN8310 .XACT2 DCSP48 - VIEW= DSN8310 .VACT DSN8310 - VIEW= DSN8310 .VSTAFAC1 DSN8310 - VIEW= DSN8310 .VSTAFAC2 DSN8310 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 </pre> </div>
3	Type C (Change names) in the SEL field of the database whose name is directly above the tablespace that you want to move.

Moving a tablespace to a new or existing database (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Reassign Tablespace to a Different Database panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 12 Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER w +----- REASSIGN TABLESPACE TO A DIFFERENT DATABASE -----+ -----+ Cmd ==> DATABASE SEL TBLSPC Database Name ==> JBART276 Originally: JBART276 -----+-----+ - JBART276 Enter the new name and press ENTER. Press END to abort. - Clear the new name to reset it back to the original value. C JBART276 - JBART2 - JBART262.CCDEPT JBART2 - INDEX= JBART262.XDEPT1A JBART2 -----+-----+ </pre> </div>
5	<p>Type the new name for the database in the Database Name field.</p> <p>Note: The new name can be the name of an existing database or a new database name.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel. !DB/QUICKCHANGE changes the database name for that tablespace. !DB/QUICKCHANGE does not change any occurrences for the same database name.</p>
7	<p>Press Enter.</p> <p>Result: If the database already exists, !DB/QUICKCHANGE redisplay the Primary Menu. If the database does not exist, !DB/QUICKCHANGE displays the Database Maintenance panel.</p>

How to specify database values

If the database you are moving the tablespace to does not exist, follow this procedure on the Database Maintenance panel to specify values for !DB/QUICKCHANGE to use when creating the database.

Step	Action
1	Type the SQL ID for DB Create.
2	Type the Default Storage Group.
3	Type the Default Bufferpool.
4	Type the Default ROSHARE setting.
5	Press Enter. Result: !DB/QUICKCHANGE redisplay the Primary Menu.

Introduction

This chapter covers changing the number of partitions and limit keys, adding partitioning, removing partitioning, and redistributing data across partitions.

Chapter contents

Overview of Partitioning	324
Prerequisites for Changes to Partitioning	325
Changing the Number of Partitions	326
Changing Limit Keys	330
Adding Partitioning	332
Removing Partitioning	338

Overview of Partitioning

Overview

This unit provides an overview of partitioning.

Background about partitioning

A partitioned table resides in a partitioned tablespace which contains only that one table.

A partitioned tablespace is a tablespace that has been subdivided into parts, with each part residing in a separate dataset.

Each partition contains rows that are based upon the index key range for that partition. You can use utilities to process individual partitions independently.

Prerequisites for Changes to Partitioning

Overview

This unit shows the prerequisites for changes to partitioning.

Prerequisites for changes to partitioning

To change partitioned tables, !DB/QUICKCHANGE requires that you include indexes associated with the tablespace in the change session.

You must specify !DB/QUICKCHANGE include indexes when you fill out the Include Options panel at the start of the change session.

Changing the Number of Partitions

Overview

This unit describes how to change the number of partitions.

Adding partitions

To add more partitions to a table that is already partitioned, copy or clone an existing partition. The cloned partitions have the attributes of the original partition, including space allocations and limit key value.

Follow this procedure to add partitions to a table that is already partitioned.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parms ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- - JPOOS .AJPOOST AJPOOST AJPOOS 1 1 </pre>
3	Type A (Allocations) in the SEL field of the table whose number of partitions you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Partitions (Allocations) panel.</p> <pre> CHANGE PARTITIONS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 1 Cmd ==> Scroll ==> CSR Cmds: EST ESTS ESTX TRK DET LIM Sels: ? (Menu) D Delete E Est size n Repeat n times To update, type over the existing data. Press ENTER when done. ----- S PT TS PQTY SQTY IX PQTY SQTY C - NO (PAGES) (PAGES) (PAGES) (PAGES) ROWS M ----- - 1 24 24 6 6 **** </pre>

Adding partitions (continued)

Step	Action
5	<p>To add partitions, type I (where <i>I</i> is an integer from 1 to 9) in the SEL field of the partition you want to clone.</p> <p>Example: To change the number of partitions from 4 to 10 by cloning the 3rd partition, type 6 in the SEL field of partition 3.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Partitions (Allocations) panel showing the new partitions.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE PARTITIONS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 4 md ==>> Scroll ==>> CSR Cmds: EST ESTS ESTX TRK DET LIM Sels: ? (Menu) D Delete E Est size n Repeat n times To update, type over the existing data. Press ENTER when done. ----- S PT TS PQTY SQTY IX PQTY SQTY C NO (PAGES) (PAGES) (PAGES) (PAGES) ROWS M ----- - 1 24 24 6 6 **** - 2 24 24 6 6 **** - 3 24 24 6 6 **** - 4 24 24 6 6 **** </pre> </div>
7	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Partitioned Tables panel showing the new partitions.</p> <p>Note: You have created new partitions, but the limit key values for all of those partitions are the same as the original partition, which is an error. !DB/QUICKCHANGE recognizes this fact and prompts you to change the limit keys when you leave the Partitioned Tables panel. See “Changing Limit Keys” on page 330 for the process to use to change limit keys.</p>

Deleting partitions

Follow this procedure to delete partitions.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==>> Scroll ==>> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parm ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- _ JPOOS .AJPOOST AJPOOST AJPOOS 4 ***** </pre>
3	Type A (Allocations) in the SEL field of the table whose number of partitions you want to change.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Partitions (Allocations) panel.</p> <pre> CHANGE PARTITIONS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 4 md ==>> Scroll ==>> CSR Cmds: EST ESTS ESTX TRK DET LIM Sels: ? (Menu) D Delete E Est size n Repeat n times To update, type over the existing data. Press ENTER when done. ----- S PT TS PQTY SQTY IX PQTY SQTY C NO (PAGES) (PAGES) (PAGES) (PAGES) ROWS M ----- - 1 24 24 6 6 **** - 2 24 24 6 6 **** - 3 24 24 6 6 **** - 4 24 24 6 6 **** </pre>
5	To delete one or more partitions, type D in the SEL field of the partitions you want to delete.

Deleting partitions (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Change Partitions (Allocations) panel with the deleted partitions removed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE PARTITIONS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 3 Cmd ==> Scroll ==> CSR Cmds: EST ESTS ESTX TRK DET LIM Sels: ? (Menu) D Delete E Est size n Repeat n times To update, type over the existing data. Press ENTER when done. ----- S PT TS PQTY SQTY IX PQTY SQTY C NO (PAGES) (PAGES) (PAGES) (PAGES) ROWS M ----- - 1 24 24 6 6 **** - 2 24 24 6 6 **** - 3 24 24 6 6 **** </pre> </div>

Changing Limit Keys

Overview

This unit describes how to change the limit keys for partitions.

Whenever partitions are added you must specify limit keys. Deleting partitions does not require changes to limit keys but may be desirable. Even if the number of partitions does not change, you may want to change the limit keys in order to have data distributed differently in existing partitions.

Changing limit keys for partitions

Follow this procedure to change limit keys.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 32 (Partitioning) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Partitioned Tables panel.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre> PARTITIONED TABLES ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR Sels: N Number T TS Opts I IX Opts A Allocations L Limit keys P Parm ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. ROWS IN ----- _ JPOOS .AJPOOST AJPOOSTS AJPOOS 4 ***** </pre> </div>
3	Type L (Limit Keys) in the SEL field of the table whose limit keys you want to change.

Changing limit keys for partitions (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Limitkeys panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE LIMITKEYS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 5 Cmd ==> Scroll ==> CSR Sels: ? (Menu) D Delete Partition n Repeat n times Update by typing over the data. Press ENTER when done. ----- SEL PT ACTNO ACTKWD ACTDESC --- -- ----- - - 1 20000 - 2 20000 20000 - 3 20000 - 4 20000 - 5 20000 </pre> </div>
5	<p>Change the limit keys to appropriate values by typing the correct values over the values shown in the columns to the right of the partition number.</p> <p>Result: !DB/QUICKCHANGE checks the new limit keys for validity. If the limit key specifies a value that does not meet the criteria of the column data type or is out of sequence, !DB/QUICKCHANGE issues an error message. Otherwise, !DB/QUICKCHANGE redisplay the Partitioned Tables panel without an error message.</p>

Adding Partitioning

Overview

This unit describes how to add partitioning to a table.

Background about adding partitioning

A partitioned table can reside only in a partitioned tablespace, and no other tables can reside in that tablespace.

If you are adding partitioning to a table which is not the only table in a tablespace, !DB/QUICKCHANGE must move the table to a new, partitioned tablespace. !DB/QUICKCHANGE recognizes this fact, and asks you for a new tablespace name (and a new database name, if desired).

Adding partitioning to a table

To add partitioning to a table that is not the only table in a tablespace:

Step	Action
1	Specify a new tablespace or database name.
2	See “Specifying a new tablespace or database name” on page 333 for the process to use to specify a new tablespace or database name.
3	Choose a partition index. See “Choosing a partition index” on page 336 for the process to use to choose a partition index.

Specifying a new tablespace or database name

Follow this procedure to specify a new tablespace or database name.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST --- --- ----- - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type P (Partitions) in the SEL field of the table that you want to add partitioning to.

Specifying a new tablespace or database name (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change to Partitioned panel.</p> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. -----+----- CHANGE TO PARTITIONED -----+----- SEL C Cmd ==> --- - How Many Partitions? ==> 0 1 - 64 ***** You may use same names or enter new names. NO. ROWS IN PTS TABLE --- - ***** Supply names for the Partitioned Tablespace. New Tablespace Name ==> AJPOOSTS New Database Name ==> AJPOOS Press ENTER. Press END for no partitions. -----+----- </pre>
5	Type the number of partitions in the How Many Partitions? field.
6	Type a new tablespace name for the partitioned table space. (If the table was the only table in the tablespace, this is not required.)
7	Type a new database name for the partitioned tablespace.

Specifying a new tablespace or database name (continued)

Step	Action
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Choose Partition Index panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI.ALTERCONTROL - DB/QUICKCHANGE -- DB2=DB2 ----- LINE 1 OF 4 Cmd ==> Scroll ==> CRS C H O O S E A P A R T I T I O N I N D E X Sels: A Add S Select Press ENTER when done. ----- S INDEX NAME T INDEX A COLUMN Y STATUS D STATUS ----- _ CCAPI .ALTCTRLX CLUST=N UNIQ=D SYSTEM A USERID A TIME_GENERATED A </pre> </div>
9	Continue with “Choosing a partition index” on page 336.

Choosing a partition index

Follow this procedure to choose a partition index.

Step	Action
1	<p>From the Choose Partition Index panel, perform the appropriate action.</p> <ul style="list-style-type: none"> ● To use an existing index as the partitioning index, type S in the S field of the index that you want to use. ● If you do not want to use an existing index as the partitioning index, type A in the S field of an index to create a new index to be the partitioning index.
2	<p>Press Enter.</p> <p>Result: The result varies based on your previous action.</p> <ul style="list-style-type: none"> ● If you chose an existing index, !DB/QUICKCHANGE displays the Change Limitkeys panel. ● If you chose to create an index, !DB/QUICKCHANGE displays the Add/Change an Index panel.
3	<p>Perform the appropriate action.</p> <ul style="list-style-type: none"> ● If you chose an existing index, go to step 4. ● If you chose to create an index, follow the steps in the procedure “Adding a new index” on page 261. <p>Result: !DB/QUICKCHANGE displays the Change Limitkeys panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> CHANGE LIMITKEYS ----- DB/QUICKCHANGE -- DB2=DB31----- PART 1 OF 5 Cmd ==>> Scroll ==>> CSR Sels: ? (Menu) D Delete Partition n Repeat n times Update by typing over the data. Press ENTER when done. ----- SEL PT ACTNO ACTKWD ACTDESC ----- 1 20000 2 20000 20000 3 20000 4 20000 5 20000 </pre> </div>
4	<p>Type appropriate values for the limit keys in the columns to the right of the column which shows the partition number.</p>

Choosing a partition index (continued)

Step	Action
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE checks the new limit keys for validity. If a limit key specifies a value that does not meet the criteria of the column data type or is out of sequence, !DB/QUICKCHANGE issues an error message. Otherwise, !DB/QUICKCHANGE displays the Partitioned Tables panel without an error message.</p>

Removing Partitioning

Overview

This unit describes how to remove partitioning from a tablespace.

Background about removing partitioning

To remove partitioning from a tablespace, !DB/QUICKCHANGE requires that you drop the partitioning index. When !DB/QUICKCHANGE recognizes that you have dropped the partitioning index, the tablespace is set to non-partitioned.

If the partitioning index is important, you must first drop it, set the tablespace to non-partitioned, and then redefine the index. If the partitioned index was a primary key, and the table was a table included in a referential set, !DB/QUICKCHANGE removes all RI information when you drop the partitioning index (primary key). You must redefine the referential relationships after !DB/QUICKCHANGE removes the partitioning from the tablespace.

Note: There is no facility in !DB/QUICKCHANGE to undo this drop. Dropping a partitioning index is something that should be done with care. If you inadvertently drop the partitioning index by mistake, you must abort your change session to recover.

Removing partitioning from a table

Follow this procedure to remove partitioning from a table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> Scroll ==> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre>
3	Type I (Indexes) in the SEL field of the table from which you want to remove partitioning. (This displays a panel from which you can drop the partitioned index.)
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> Indexes of panel.</p> <pre> CCAPI.ALTERCONTROL - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 7 Cmd ==> Scroll ==> CSR S e l s : A Add C Change D Drop U Undrop Press END when done. ----- S INDEX NAME T INDEX Y STATUS COLUMNS A COLUMN ----- - _ CCAPI .ALTCTRLX CLUST=N UNIQ=D SYSTEM A USERID A TIME_GENERATED A - _ KELLI .ALTCTRLX CLUST=N UNIQ=D SYSTEM A USERID A </pre>
5	Type D in the S field of the partitioned index.

Removing partitioning from a table (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE marks the partitioned index as dropped on the <creator.table name> Indexes of panel. In addition, !DB/QUICKCHANGE changes the tablespace from partitioned to non-partitioned.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CCAPI.ALTERCONTROL - DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 7 Cmd ==> Scroll ==> CSR Se1s: A Add C Change D Drop U Undrop Press END when done . ----- S INDEX NAME T INDEX A COLUMN Y STATUS D STATUS ----- _ CCAPI .ALTCTRLX CLUST=N UNIQ=D SYSTEM A USERID A TIME_GENERATED A D KELLI .ALTCTRLX DROPPED CLUST=Y UNIQ=U SYSTEM A </pre> </div>

Chapter 22. Migrating Databases and Tablespaces

Introduction

This chapter covers the migration of databases and tablespaces.

Chapter contents

Overview of Migration	342
Migrating DB2 Structures	345
Selecting Objects to Migrate	356
Specifying the Source Image Copies	362
Excluding Specific Tablespaces from a Database Migration	367
Including Dependent Objects in the Migration	370
Changing Object Names	371
Changing Creator IDs	372
Generating and Performing the Migration	375
Cross-MVS Migrations	378

Overview of Migration

Overview

This unit discusses migration as a process. This includes all required migration information so that !DB/MIGRATOR users can accomplish migration tasks quickly.

!DB/QUICKCHANGE V500 has encompassed the migration functions previously found in !DB/MIGRATOR. The !DB/MIGRATOR function has been included in !DB/QUICKCHANGE V500.

Background about migration

Migration in its most simple form is the restoring of data into DB2 structures. The source of the data is either an existing or a new image copy. The source system and target system can be the same or different.

Migration can also be the generation of DB2 structures without data. This type of migration can be useful in creating *mirror* structures, which you can load at a later time with different data than the source structures.

The structures into which !DB/QUICKCHANGE restores the data can currently exist or can be created as part of the migration process as follows:

- | | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DDL-only migration | Creating DB2 structures without restoring data (for example, to create a set of structures which are to be loaded later with data from another business unit). See “Migrating DB2 Structures” on page 345 for the DDL-only migration procedure. |
| data-only migration | Restoring data from an existing image copy into existing structures is a very efficient method of restoring data to a known state (for example, to resolve data corruption problems.) See “Selecting Objects to Migrate” on page 356 for the migration procedure. |

Background about migration (continued)**data and DDL migration**

Creating DB2 structures and then restoring data is a very easy way to make mirror copies of data (for example, to create a testing or decision support environment). See “Selecting Objects to Migrate” on page 356 for the migration procedure.

More complicated migrations can involve changing dataset allocations, tablespace and index space attributes, and changing the names of tablespaces, tables, synonyms, indexes, views, aliases, plans, packages, grantors, or grantees.

Important information about migration, change, and image copies

Migration implies the use of prior image copies as the source of data, except in DDL-only migration.

You cannot use image copies input to the DSN1COPY utility if you changed the DB2 structures. For example, if you delete a column from a table you cannot restore the data from a prior image copy.

Caution

!DB/QUICKCHANGE does not prevent you from making changes during a migration that will cause escalation of the DSN1COPY to UNLOAD/RELOAD.

Migration procedure

Use the following procedure when you want to perform a migration.

Step	Action
1	Select a database or tablespace to migrate from within !DB/WORKBENCH.
2	Specify the source of the data for the migration (Image Copy).
3	If you are performing a database migration, you can exclude one or more tablespaces. See “Excluding Specific Tablespaces from a Database Migration” on page 367 for more information.
4	Specify which dependent objects (BINDs, GRANTs, etc.) to include.
5	Change object names. For example, table names and index names.
6	Request that !DB/QUICKCHANGE generate the input required by the !DB/Tools Change Engine to perform the migration. This input is in the form of Change Engine Language (CEL) and JCL to invoke the !DB/Tools Change Engine
7	Request that !DB/QUICKCHANGE generate a report for the CEL, so that you can perform some impact analysis on the migration.
8	Perform impact analysis on the migration.
9	Request that !DB/QUICKCHANGE perform the migration.

Migrating DB2 Structures

Overview

This unit describes the migration of DB2 databases and tablespaces as structures (DDL-only migration).

Note: You do not use image copies in DDL-only migration.

Migrating a database as a structure

Migrating a database as a structure is a DDL-only migration. No image copies are used, since they are involved in data migration.

Follow this procedure to select a database for DDL-only migration.

Step	Action
1	To select a database, on the !DB/WORKBENCH databases panel type A (Alter) in the SEL field of the database whose structure you want to migrate.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Alter Database - Select Type panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DATABASES ----- DB/WORKBENCH --- DB2=DB31----- DATABASE 1 OF 316 Cmd ==> Scroll ==> CSR D A T A B A S E S Cmds: DO (Menu) GM/NOGM Sels: ? (Menu) A Alter C Copies I Indexes K Pkgs L All 0 Out D ----- ALTER DATABASE - Select Type ----- Iews X Exclu Cmd ==> ----- T -- S DATABASE Y TB DATABASE NAME -- AJPOOS RAGE BUFFER ----- Option ==> 1 DB/QUICKCHANGE Functions DEFLT BPO - Change Column definitions or order DEFLT BPO - Drop Columns DEFLT BPO - Copy Tables to another Tablespace DEFLT BPO - Change partitioning or segmentation GRAH BPO - Change names DEFLT BPO - Migrate objects DEFLT BPO 2 DB2/Supported Functions DEFLT BPO - Change Bufferpool, ROSHARE or Storgroup DEFLT BPO ----- - \$WQ300 DEFLT BPO - AHYY DEFLT BPO - AJGG DEFLT BPO A AJPOOS DEFLT BPO - ALLDBD GRAH BPO - A300D DEFLT BPO - BD000H DEFLT BPO - BOSTON DEFLT BPO - CANDLE01 DEFLT BPO - CBDDBD DEFLT BPO - CCAPIBIC DEFLT BPO - CCAPIDIC DEFLT BPO - CCPLEX DEFLT BPO </pre> </div>
3	Type 1 in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Primary Menu.</p>

Migrating a database as a structure (continued)

Step	Action
5	Type 81 (Generate) in the Option field of the Primary Menu.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Include Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Destination ==> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==> Y Aliases ==> Y Views ==> Y Synonyms ==> Y View Synonyms ==> Y BINDS: Plans ==> Y Packages ==> Y GRANTS: Grants ==> Y CHKS/PRCD: Checks ==> N Procedures ==> N Access Catalog ==> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==> Y Y - Generate DROPs for the source objects Description ==> (of change ==> to be made) ==> Provide the values and press ENTER to continue or END to abort. </pre> </div>
7	Type the ID for the destination DB2 system in the Destination field.
8	Type Y for each dependent object whose DDL you want to include. (For example, to have DDL included for indexes, type Y in the Indexes field.)
9	Type 3 (DDL-only) in the Use DDL & Data field. This signifies that you are doing a DDL-only migration.

Migrating a database as a structure (continued)

Step	Action
10	Press Enter. Result: !DB/QUICKCHANGE begins the generation process. See “Generating and Submitting a Change” on page 381 for more information.

As part of the generation process, !DB/QUICKCHANGE displays the Generation Options panel. If you have specified on the Include Options panel that you are doing a DDL-only migration, the Generation Options panel automatically displays an N in the Recover Indexes field. If you change the N to a Y, after you enter your choices and press N, !DB/QUICKCHANGE will redisplay the Generation Options panel with the following message:

```
Conflicting Options Recover IX=Yes and
Migrate DDL Only Specified
```

If you get this message, you should reevaluate whether you actually want to perform a DDL-only migration, since recovering indexes is possible only with data migration.

Migrating a tablespace as a structure

Migrating a tablespace as a structure is a DDL-only migration. No image copies are used since they are involved in data migration.

Follow this procedure to select a tablespace for DDL-only migration.

Step	Action
1	To select a tablespace, on the !DB/WORKBENCH Tablespaces panel type A (Alter) in the SEL field of the tablespace whose structure you want to migrate.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Alter Tablespace - Select Type panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLESPACES ----- DB/WORKBENCH --- DB2=DB31----- TBLSPC 1 OF 1,453 Cmd ==> T A B L E S P A C E S Cmds: DO (Men +----- ALTER TABLESPACE - Select Type -----+ Sels: ? (Menu Cmd ==> K Pkgs T Table -----+-----+-----+ TABLE PRT TABLESPACE NAME-- GGGCHQ00 ACHDRVTS ump I Indexes SEL SPACE NO. Option ==> -----+-----+-----+ - @AAMMSB - 1 DB/QUICKCHANGE Functions --- STATS - AAAMMSB - - Change Column definitions or order XES AVAIL - ACHDRVTS 1 - Drop Columns --- NO - ACHDRVTS 2 - Copy Tables to another Tablespace NO - ACHDRVTS 3 - Change partitioning or segmentation 4 NO - ACHDRVTS 4 - Change Names 1 NO - ACHDRVTS 5 - Migrate objects 1 NO - ACHDRVTS 6 2 DB2 Supported Functions 1 YES - ACHDRVTS 7 - Change Closerule, Locksize, Freepage, 1 NO - ACHDRVTS 8 Eraserule, Pctfree, Priqty, Secqty, 1 NO - ACHDRVTS 9 Bufferpool, VCAT name or Stogroup 1 NO - ACHDRVTS 10 1 NO - ACRONYM 1 NO -----+-----+-----+ </pre> </div>
3	Type 1 in the Option field.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Primary Menu.

Migrating a tablespace as a structure (continued)

Step	Action
5	Type 81 (Generate) in the Option field of the Primary Menu.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Include Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Destination ==> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==> Y Aliases ==> Y Views ==> Y Synonyms ==> Y View Synonyms ==> Y BINDS: Plans ==> Y Packages ==> Y GRANTS: Grants ==> Y CHKS/PRCD: Checks ==> N Procedures ==> N Access Catalog ==> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==> Y Y - Generate DROPs for the source objects Description ==> (of change ==> to be made) ==> Provide the values and press ENTER to continue or END to abort. </pre> </div>
7	Type the ID for the destination DB2 system in the Destination field.
8	Type Y for each dependent object whose DDL you want to include. (For example, to have DDL included for indexes, type Y in the Indexes field.)
9	Type 3 (DDL-only) in the Use DDL & Data field. This signifies that you are doing a DDL-only migration.

Migrating a tablespace as a structure (continued)

Step	Action
10	Press Enter. Result: !DB/QUICKCHANGE begins the generation process. See “Generating and Submitting a Change” on page 381 for more information.

As part of the generation process, !DB/QUICKCHANGE displays the Generation Options panel. If you have specified on the Include Options panel that you are doing a DDL-only migration, the Generation Options panel automatically displays an N in the Recover Indexes field. If you change the N to a Y, after you enter your choices and press N, !DB/QUICKCHANGE will redisplay the Generation Options panel with the following message:

```
Conflicting Options Recover IX=Yes and  
Migrate DDL Only Specified
```

If you get this message, you should reevaluate whether you actually want to perform a DDL-only migration, since recovering indexes is possible only with data migration.

Excluding tablespaces in DDL-only migration

!DB/MIGRATOR allows you to exclude tablespaces from a database migration which is DDL-only.

Use the following procedure to exclude tablespaces from a DDL-only migration of a database.

Step	Action
1	Filter the tablespace list. See “Filtering Lists” on page 74 for more information.
2	Specify the include options. See “Specifying the include options” on page 354 for more information.

Filtering the tablespace list

Follow this procedure to filter a tablespace list.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type S (tablespaces) to display a list of tablespaces.
2	Press Enter. Result: !DB/WORKBENCH displays the Tablespaces panel.

```

TABLESPACES ----- DB/WORKBENCH --- DB2=DB31----- TBLSPC 1 OF 1,784
Cmd ==>                                         Scroll ==> CSR
                T A B L E S P A C E S
Cmds:  DO (Menu) PART/NOPART
Sels:  ? (Menu) A Alter  C Copies  D Details E Estimate H Hexdump I Indexes
        K Pkgs  L Listcat N DS Info O Out DDL P Plans  Q Query  R Runstat
        T Tables U Utility V Views  X Exclude Z Auths  8 Migrate
-----
TABLE   PRT      NO.  --NUMBER OF--  STATS
SEL SPACE NO.  DATABASE CREATOR  CATALOG  SEGSZ  PRTS  TABLES INDEXES AVAIL
-----
- AAAMMSB  AAAAMM  TDDB63  TSBN03                0      NO
- ACT      DSN8D31A DSN8310  DB2V31                1      2  YES
- ACTA1GRL DSNDB04  TSGM35  DB2V31                1      NO
- CCTS1    DBCILE   TSL253  DB2V31                2      1  NO
- CDACTXX  DBCILE   TSL253  DB2V31                1      YES
- CDACTXX  DBGLEN   TDDB55A DB2V31                1      YES
- CDDEPTXX DBGLEN   TDDB55A DB2V31                1      NO
    
```

Filtering the tablespace list (continued)

Step	Action
3	Type DB=database-name on the command line. This filters the tablespace list to only those tablespaces that are in the database that you want to migrate.
4	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH redisplay the Tablespaces panel, and the list is filtered to only those tablespaces that are in the database specified.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLESPACES ----- DB/WORKBENCH --- DB2=DB31----- TBLSPC 1 OF 12(F) Cmd ==> Scroll ==> CSR T A B L E S P A C E S Cmds: DO (Menu) PART/NOPART Sels: ? (Menu) A Alter C Copies D Details E Estimate H Hexdump I Indexes K Pkgs L Listcat N DS Info O Out DDL P Plans Q Query R Runstat T Tables U Utility V Views X Exclude Z Auths 8 Migrate ----- TABLE PRT NO. --NUMBER OF-- STATS SEL SPACE NO. DATABASE CREATOR CATALOG SEGSZ PRTS TABLES INDEXES AVAIL ----- - CDACTXX DBGLEN TDD855A DB2V31 1 YES - CDDEPTXX DBGLEN TDD855A DB2V31 1 NO - CDEMPPRO DBGLEN TDD855A DB2V31 1 NO - CDEMPXX DBGLEN TDD855A DB2V31 1 NO - CDPROJAC DBGLEN TDD855A DB2V31 1 NO - CDPROJXX DBGLEN TDD855A DB2V31 1 NO - GBIMPL DBGLEN TDD855A DB2V31 1 YES - GBTS1 DBGLEN TDD855A DB2V31 2 1 YES - GBTS2 1 DBGLEN TDD855A DB2V31 2 1 YES - GBTS2 2 DBGLEN TDD855A DB2V31 2 1 YES - STATDBAS DBGLEN TDD855 DB2V31 8 10 3 NO - TSDC0003 DBGLEN TDD855A DB2V31 4 3 4 NO ***** BOTTOM OF LIST ***** </pre> </div>
5	Type A (Alter) in the SEL field of one of the tablespaces that you want to include in the migration.

Filtering the tablespace list (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Alter Tablespace - Select Type panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLESPACES ----- DB/WORKBENCH --- DB2=DB31----- TBLSPC 1 OF 1,453 Cmd ==> Scroll ==> CSR T A B L E S P A C E S Cmds: DO (Men +----- ALTER TABLESPACE - Select Type -----+ Sels: ? (Menu Cmd ==> ump I Indexes K Pkgs TABLESPACE NAME-- GGGCHQ00 ACHDRVTS y R Runstat T Table -----+-----+ ate -----+-----+-----+ TABLE PRT Option ==> --- STATS SEL SPACE NO. 1 DB/QUICKCHANGE Functions XES AVAIL -----+-----+-----+ - @AAMMSB - Change Column definitions or order NO - AAAMMSB - Drop Columns NO A ACHDRVTS 1 - Copy Tables to another Tablespace 4 NO - ACHDRVTS 2 - Change partitioning or segmentation 1 NO - ACHDRVTS 3 - Change Names 1 NO - ACHDRVTS 4 - Migrate objects 1 YES - ACHDRVTS 5 2 DB2 Supported Functions 1 NO - ACHDRVTS 6 - Change Closerule, Locksize, Freepage, 1 NO - ACHDRVTS 7 Eraserule, Pctfree, Priqty, Secqty, 1 NO - ACHDRVTS 8 Bufferpool, VCAT name or Stogroup 1 NO - ACHDRVTS 9 1 NO - ACHDRVTS 10 1 NO - ACRONYM -----+-----+ 1 NO </pre> </div>
7	Type 1 in the Option field.
8	<p>Press Enter. This selects !DB/QUICKCHANGE.</p> <p>Result: The !DB/QUICKCHANGE Primary Menu appears.</p>

Specifying the include options

After filtering the tablespace list, follow this procedure to specify include options.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 33 (Add Objects) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Include Options panel. This panel appears the first time you leave the !DB/QUICKCHANGE Primary Menu.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Destination ==> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==> Y Aliases ==> Y Views ==> Y Synonyms ==> Y View Synonyms ==> Y BINDS: Plans ==> Y Packages ==> Y GRANTS: Grants ==> Y CHKS/PRCD: Checks ==> N Procedures ==> N Access Catalog ==> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==> Y Y - Generate DROPs for the source objects Description ==> (of change ==> to be made) ==> Provide the values and press ENTER to continue or END to abort. </pre> </div>
3	Fill in the options on the Include Options panel as appropriate.
4	Type 3 (DDL-only) in the Use DDL & Data field.
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add Objects panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> +----- ADD OBJECTS -----+ Cmd ==> Option ==> S SPACES Add Tablespaces. T TABLES Add Tables. Select the type object to add or press END. -----+ </pre> </div>
6	Type S (tablespaces) to add tablespaces to the change session.

Specifying the include options (continued)

Step	Action
7	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tablespaces for QUICKCHANGE panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PICK TSES FOR QKCHANGE --- DB/QUICKCHANGE -- DB2=DB31----- TBLSPC 1 OF 12(F) Cmd ==> Scroll ==> CSR Cmds: DO (Menu) Sels: ? (Menu) Press END when done. ----- SEL TBLSPC PT# DATABASE CREATOR CATALOG #P SG # TBL # IXS ----- - CDACTXX DBGLEN TDDB55A DB2V31 1 0 - CDDEPTXX DBGLEN TDDB55A DB2V31 1 0 - CDEMPPRO DBGLEN TDDB55A DB2V31 1 0 - CDEMPXX DBGLEN TDDB55A DB2V31 1 0 - CDPROJAC DBGLEN TDDB55A DB2V31 1 0 - CDPROJXX DBGLEN TDDB55A DB2V31 1 0 - GBIMPL DBGLEN TDDB55A DB2V31 1 0 - GBTS1 DBGLEN TDDB55A DB2V31 2 1 - GBTS2 1 DBGLEN TDDB55A DB2V31 2 1 - GBTS2 2 DBGLEN TDDB55A DB2V31 2 1 - STATDBAS DBGLEN TDDB55 DB2V31 8 10 3 - TSDC0003 DBGLEN TDDB55A DB2V31 4 3 4 ***** BOTTOM OF LIST ***** </pre> </div> <p>Note: Filtering is still in effect, so !DB/QUICKCHANGE lists only the tablespaces that are in the database.</p>
8	Type A in the SEL field of each tablespace that you want to add to the change session. This may involve scrolling the list.
9	When you have finished selecting tablespaces, type END on the command line.
10	Press Enter (or press the appropriate function key). Result: !DB/QUICKCHANGE adds the tablespaces to the change session and displays the Primary Menu.

Selecting Objects to Migrate

Overview

This unit describes how to select a database or tablespace for migration. The type of migration can be data-only, or can be data and DDL.

Selecting a database for migration

Follow this procedure to select a database for migration.

Step	Action
1	<p>On the !DB/WORKBENCH databases panel, type 8 (Migrate) in the SEL field of the database that you want to migrate.</p> <p>Result: !DB/QUICKCHANGE displays the Data Migration panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DATABASE AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>>> 99/08/12 10:45 D A T A M I G R A T I O N To Migrate a database, you must have Image Copies of the tablespaces to use to restore the data. Select an option and press ENTER. Press END to exit. Option ==>>> 1 NEW COPY Generate new Image Copies before moving. 2 LAST SAVED Use most current Image Copy in the Extract. 3 LAST CATALOG Use most current Image Copy in the Catalog. Requires SELECT on the catalog table SYSCOPY. </pre> </div> <p>For information on how to access the !DB/WORKBENCH databases panel, see the <i>!DB./WORKBENCH Basic User's Guide</i>.</p>
2	<p>Use the Data Migration panel to specify the source of the image copy to be used for each tablespace in the database.</p> <p>For information on how to specify the image copies to be used, see “Specifying image copies for tablespaces in a database” on page 362.</p>

Selecting a tablespace for migration

Follow this procedure to select a tablespace for migration.

Step	Action
1	<p>On the !DB/WORKBENCH tablespaces panel, type 8 (Migrate) in the SEL field of the tablespace that you want to migrate.</p> <p>Result: !DB/QUICKCHANGE displays the Data Migration panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPC CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/06/10 12:06 D A T A M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div> <p>For information on how to access the !DB/WORKBENCH tablespaces panel, see the <i>!DB./WORKBENCH Basic User's Guide</i>.</p>
2	<p>Use the Data Migration panel to specify the source of the image copy to be used for the tablespace.</p> <p>For information on how to specify the image copies to be used, see “Specifying the image copy for a tablespace” on page 365.</p>

Selecting a partitioned tablespace for migration

Partitioned tablespaces can be migrated as a unit (all partitions migrated at the same time). To do this you must have either an image copy of each partition, or an image copy of the entire tablespace.

Follow this procedure to select a partitioned tablespace for migration.

Step	Action
1	On the !DB/WORKBENCH Tablespaces panel, type 8 (Migrate) in the SEL field of one of the partitions of the tablespace that you want to migrate.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Select Partition Control panel. This panel asks if you want to migrate the partition specified or the entire tablespace.</p> <p>For information on how to access the !DB/WORKBENCH Tablespaces panel, see the <i>!DB./WORKBENCH Basic User's Guide</i>.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- SELECT PARTITION CONTROL -----+ Cmd ==>>> Option ==>>> You have selected a specific partition. Enter A to migrate the entire tablespace Enter S to migrate only this partition. Press END to exit now. +-----+ </pre> </div>

Selecting a partitioned tablespace for migration (continued)

Step	Action
3	<p>Type A in the Option field, to indicate that you want to migrate the entire tablespace.</p> <p>Note: A migrate of a partitioned tablespace <i>requires</i> that the image copy be of the complete tablespace. !DB/QUICKCHANGE does not use image copies of individual partitions.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Data Migration panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPC CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>> 99/06/10 12:06 D A T A M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==>>> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div> <p>Use this panel to specify the source of the image copy for !DB/QUICKCHANGE to use for the tablespace.</p> <p>For information on how to specify the image copies to be used, see “Specifying the image copy for a tablespace” on page 365.</p>

Selecting a specific tablespace partition for migration

To migrate a specific partition of a partitioned tablespace, you must have an image copy of that specific partition.

Follow this procedure to select a partitioned tablespace for migration.

Step	Action
1	On the !DB/WORKBENCH Tablespaces panel, type 8 (Migrate) in the SEL field of the tablespace partition that you want to migrate.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Select Partition Control panel. This panel asks if you want to migrate the partition specified or the entire tablespace.</p> <p>For information on how to access the !DB/WORKBENCH tablespaces panel, see the <i>!DB./WORKBENCH Basic User's Guide</i>.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- SELECT PARTITION CONTROL -----+ Cmd ==> Option ==> You have selected a specific partition. Enter A to migrate the entire tablespace Enter S to migrate only this partition. Press END to exit now. +-----+ </pre> </div>

Selecting a specific tablespace partition for migration (continued)

Step	Action
3	<p>Type S in the Option field. This indicates that you want to migrate the specific partition.</p> <p>Note: A migrate of a specific partition <i>requires</i> that the image copy be of the partition. An image copy of the complete tablespace is not used.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Data Migration panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPC CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>> 99/06/10 12:06 D A T A M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==>> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div> <p>You use this panel to specify the source of the image copy !DB/QUICKCHANGE uses for the tablespace partition.</p> <p>For information on how to specify the image copy to be used, see “Specifying the image copy for a tablespace” on page 365.</p>

Specifying the Source Image Copies

Overview

This unit describes how to select image copies for the tablespaces that you are migrating.

Specifying image copies for tablespaces in a database

Follow this procedure to specify the source of the image copy for the tablespaces in a database.

Step	Action
1	<p>The Data Migration panel is used to specify the source for the image copies for the tablespaces in the database you are migrating. This panel appears after you have selected a database to migrate.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DATABASE AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>>> 99/08/12 10:45 D A T A M I G R A T I O N To Migrate a database, you must have Image Copies of the tablespaces to use to restore the data. Select an option and press ENTER. Press END to exit. Option ==>>> 1 NEW COPY Generate new Image Copies before moving. 2 LAST SAVED Use most current Image Copy in the Extract. 3 LAST CATALOG Use most current Image Copy in the Catalog. Requires SELECT on the catalog table SYSCOPY. </pre> </div> <p>Type the appropriate option in the Option field to specify the source of the image copy for each tablespace:</p> <ul style="list-style-type: none"> ● If you want to have new image copies used for each tablespace, type 1 in the Option field. ● If you want to use the latest image copy from the Extract, type 2 in the Option field. ● If you want to use the latest image copy from the DB2 Catalog, type 3 in the Option field.

Specifying image copies for tablespaces in a database (continued)

Step	Action
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tablespaces Image Copy panel. The information on the panel depends on your prior selection.</p> <p>For example, if you entered option 1 (New), the panel appears as:</p> <div style="border: 1px solid black; padding: 5px;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME ----- - BCMBBIL 9 9 NEW - CISBMAIN 21 37 NEW - CISBSUPP 11 11 NEW - CMTBCMT 5 7 NEW </pre> </div> <ul style="list-style-type: none"> ● If you entered option 2 (Extract), the panel appears as: <div style="border: 1px solid black; padding: 5px;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2 ----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME ----- X BCMBBIL 9 9 EXTRACT NO FULL IC FOUND X CISBMAIN 21 37 EXTRACT NO FULL IC FOUND X CISBSUPP 11 11 EXTRACT NO FULL IC FOUND - CMTBCMT 5 7 EXTRACT 99/04/07 13:25:41 </pre> </div> <ul style="list-style-type: none"> ● If you entered option 3 (Catalog), the panel appears as: <div style="border: 1px solid black; padding: 5px;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME ----- X BCMBBIL 9 9 CATALOG NO FULL IC FOUND X CISBMAIN 21 37 CATALOG NO FULL IC FOUND X CISBSUPP 11 11 CATALOG NO FULL IC FOUND - CMTBCMT 5 7 CATALOG 99/04/07 13:25:41 ***** BOTTOM OF LIST ***** </pre> </div> <p>Note: If any tablespace does not have an image copy, !DB/QUICKCHANGE shows it as excluded (an 'X' in the SEL field). This is because a migration <i>requires</i> an image copy.</p>

Specifying image copies for tablespaces in a database (continued)

Step	Action
3	<p>If any tablespaces have been marked for exclusion because they do not have an image copy, you can specify at this time that !DB/QUICKCHANGE use a new image copy.</p> <p>Type N in the SEL field of each tablespace that you want to migrate with a new image copy.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE removes the exclusion marker ('X' in the SEL field) and shows the image copy as NEW.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- TBLSPC 1 OF 4 Cmd ==>> Scroll ==>> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME --- - - BCMBBIL 9 9 NEW - CISBMAIN 21 37 NEW - CISBSUPP 11 11 NEW - CMTBCMT 5 7 CATALOG 99/04/07 13:25:41 ***** BOTTOM OF LIST ***** </pre> </div>

Specifying the image copy for a tablespace

Follow this procedure to specify the source of the image copy for the tablespace you are migrating.

Step	Action
1	<p>Use the Data Migration panel to specify the source for the image copy for the tablespace you are migrating. !DB/QUICKCHANGE displays this panel after you have selected a tablespace to migrate.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> TBLSPC CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/06/10 12:06 D A T A M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div> <p>Type the appropriate option in the Option field to specify the source of the image copy for the tablespace:</p> <ul style="list-style-type: none"> ● If you want to have new image copies used for the tablespace, type 1 in the Option field. ● If you want to use the latest image copy from the Extract, type 2 in the Option field. ● If you want to use the latest image copy from the DB2 Catalog, type 3 in the Option field. ● If you want to display a list of image copies from which you can choose the one to use, type 4 in the Option field.

Specifying the image copy for a tablespace (continued)

Step	Action
2	<p>Press Enter.</p> <p>Result: The result depends on your prior action.</p> <ul style="list-style-type: none"> ● If you entered option 1 (New), the system displays the !DB/QUICKCHANGE Primary Menu. !DB/QUICKCHANGE uses a new image copy for the migration. ● If you entered option 2 (Extract), and an image copy exists in the Extract, the system displays the !DB/QUICKCHANGE Primary Menu. !DB/QUICKCHANGE uses the most recent image copy from the Extract for the the migration. ● If you entered option 3 (Catalog), and an image copy exists in the DB2 Catalog, the system displays the !DB/QUICKCHANGE Primary Menu. !DB/QUICKCHANGE uses the most recent image copy from the DB2 Catalog for the migration. ● If you entered option 4 (Display), and at least one image copy exists, !DB/QUICKCHANGE displays the Tablespace Image Copies panel. From this list of image copies you select the image copy you want to use. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <pre> COPIES OF CMTBCMT ----- DB/QUICKCHANGE -- DB2=DB2----- LINE 1 OF 1 Cmd ==> Scroll ==> CSR Cmds: CAT Display from Catalog RED Redisplay from Extract Sels: D Details S Start Migration Database AFCIR61 Space CMTBCMT Part ----- BKUP BKUP IC SHR DEVICE IC IC SEQ PART SEL DATE TIME TY LVL TYPE BKUP UNIT NO LOG RBA NO ----- 99/04/07 13:25:41 F R 3390 D 0001DABA74FD ***** BOTTOM OF LIST ***** </pre> </div>
3	<p>To select an image copy from the Tablespace Image Copies panel, type S in the SEL field of the image copy.</p>
4	<p>Press Enter.</p> <p>Result: The system displays the !DB/QUICKCHANGE Primary Menu. !DB/QUICKCHANGE uses the selected image copy for the migration.</p>

Excluding Specific Tablespaces from a Database Migration

Overview

This unit describes how to exclude specific tablespaces from a database migration.

Important information about excluded tablespaces

Tablespaces that you exclude from migration remain in the change set. This is because you can make changes during your change session that escalate the change to include all objects in the database.

The only tablespaces in the change set that !DB/QUICKCHANGE changes are those that you specified image copies for, unless you make a change that escalates. An example of an escalated change is a change to the database name.

Excluding specific tablespaces

If you are migrating a database, are migrating only the structures (a DDL-only migration), and want to exclude tablespaces, see “Excluding tablespaces in DDL-only migration” on page 351.

Follow this procedure if you are migrating a database and the data (either a data-only migration or a data and DDL migration), and want to exclude specific tablespaces.

Step	Action
1	<p>Use the Data Migration panel to specify the source for the image copies for the tablespaces in the database you are migrating. This panel appears after you have selected a database to migrate.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> DATABASE AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/08/12 10:45 DATA MIGRATION To Migrate a database, you must have Image Copies of the tablespaces to use to restore the data. Select an option and press ENTER. Press END to exit. Option ==> 1 NEW COPY Generate new Image Copies before moving. 2 LAST SAVED Use most current Image Copy in the Extract. 3 LAST CATALOG Use most current Image Copy in the Catalog. Requires SELECT on the catalog table SYSCOPY. </pre> </div> <p>Type 1 in the Option field, to use a new image copy for each tablespace that you are migrating.</p>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tablespaces Image Copy panel with each tablespace showing a new image copy.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME ----- - BCMBBIL 9 9 NEW - CISBMAIN 21 37 NEW - CISBSUPP 11 11 NEW - CMTBCMT 5 7 NEW </pre> </div>
3	<p>To exclude a tablespace, type X in the SEL field of the tablespace.</p>

Excluding specific tablespaces (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE redisplay the Tablespaces Image Copy panel. Each excluded tablespace has an X in the SEL field and its name is highlighted.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPCS IN AFCIR61 ----- DB/QUICKCHANGE -- DB2=DB2----- TBLSPC 1 OF 4 Cmd ==> Scroll ==> CSR Sels: N New Image Copy X Exclude Tablespace Press END with no NEW selects to continue with the database migration. ----- SEL TBLSPC # PTS # TBL # IXS TYPE CPY DATE -- TIME ----- X BCMBBIL 9 9 NEW X CISBMAIN 21 37 NEW - CISBSUPP 11 11 NEW - CMTBCMT 5 7 NEW </pre> </div> <p>Note: To remove the exclusion marker, overwrite the X with a blank and press Enter.</p>

Including Dependent Objects in the Migration

Overview

This unit describes how to include dependent objects in the migration.

Include dependent objects

The first time you leave the !DB/QUICKCHANGE Primary Menu, !DB/QUICKCHANGE asks you to fill in options which are applicable to the change session. A large number of these options specify whether or not you want to include dependent objects in the session.

Follow this procedure to include dependent objects in the migration.

Step	Action
1	<p>On the !DB/QUICKCHANGE Include Options panel, type Y in the input field of each dependent object type you want to include in the migration.</p> <p>For example, to include views type Y in the Views field.</p>
2	<p>When you have completed specifying all options on the Include Options panel, press Enter.</p> <p>Result: The migration session continues with the panel that is used for the option that you requested from the !DB/QUICKCHANGE Primary Menu.</p> <p>Note: You see the Include Options panel only once for each session. If you specify incorrect responses on this panel you must abort your migration session and start over.</p>

Changing Object Names

Overview

This unit describes how to change the names of DB2 objects which are being migrated.

Changing the names of DB2 objects being migrated

To change the names of the DB2 objects being migrated, see the sections referenced in the following table.

If the name change is to a ...	Then see ...
Tablespace	“Changing a tablespace name” on page 132
Table	“Changing a table name” on page 133
Synonym	“Changing a table or view synonym name” on page 134
Index	“Changing an index name” on page 136
View	“Changing a view name” on page 138
Alias	“Changing a table alias name” on page 135 and “Changing a view alias name” on page 139
Plan	“Changing a plan name” on page 145
Package	“Changing a package name” on page 147
Grantor	“Changing a grantor name” on page 149 and “Changing all grantors' names” on page 150
Grantee	“Changing a grantee name” on page 152

Changing Creator IDs

Overview

This unit describes how to change creator IDs of DB2 objects you are migrating.

Changing creator IDs of DB2 objects being migrated

You can change creator IDs of individual objects during the name change of the object. See “Changing Object Names” on page 371 for more information on changing the name of a specific object.

This unit covers the more global task of changing all creator IDs to a single value. You can do this by object or for all objects. (For example, you can change all creator IDs for all views, leaving all other creator IDs unchanged. You can also change creator IDs for all objects.)

Follow this procedure to globally change creator IDs.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 1 (Names).
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==>> Scroll ==>>> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE CREATED SEL TBLSPC TABLE DEPENDENT BY ----- - DSN8D31A - ACT DSN8310 - DSN8310 .ACT DCSP48 - SYN= DCSP48 .ACT - INDEX= DSN8310 .XACT1 DCSP48 - INDEX= DSN8310 .XACT2 DCSP48 - VIEW= DSN8310 .VACT DSN8310 - VIEW= DSN8310 .VSTAFAC1 DSN8310 - VIEW= DSN8310 .VSTAFAC2 DSN8310 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 </pre> </div>
3	Type C? (Global change) on the command line.

Changing creator IDs of DB2 objects being migrated (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global Name Change Control panel.</p> <p>Use this panel to provide parameters for global change.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +-----+ GLOBAL NAME CHANGE CONTROL -----+ Cmd ==> CHANGE: "FIND" string ==> "CHG TO" string ==> All Occurrences ==> Y Y/N Change all found? Select objects to change with Y. Pick any number. Databases ==> Tablespaces ==> (If none are selected, Tables ==> all objects are Indexes ==> tested and changed.) Synonyms ==> Views ==> Select scope of change with Y. Leave blank for all. Created Bys ==> (In the above object types, Creator IDs ==> restrict the change to Names ==> these parts of the name.) Press ENTER to continue. Press END to abort. +-----+ + </pre> </div>
5	<p>To change a specific creator ID:</p> <ul style="list-style-type: none"> ● Type the creator ID that you want changed in the FIND field. ● Type the replacement creator ID in the CHG TO field. ● Type Y in the All Occurrences field. (This changes all occurrences rather than the first occurrence.) ● Type Y in the Creator IDs field. (This restricts all changes to creator IDs.) ● Type Y in the input field of each object for which you want the creator ID changed. (You can select all objects by leaving all of these fields blank.)

Changing creator IDs of DB2 objects being migrated (continued)

Step	Action
6	Press Enter. Result: !DB/QUICKCHANGE redisplay the Change Names panel. If any creator IDs matched, but a name change would have created a duplicate name, !DB/QUICKCHANGE marks the object as unchanged.
7	To change <i>all</i> creator IDs: <ul style="list-style-type: none"> ● Type * (asterisk) in FIND field. (This is a 'wildcard', and matches all creator IDs.) ● Type the replacement creator ID in the CHG TO field. ● Type Y in the All Occurrences field. (This changes all occurrences rather than the first occurrence.) ● Type Y in the Creator IDs field. (This restricts all changes to creator IDs.) ● Type Y in the input field of each object for which you want the creator ID changed. (You can select all objects by leaving all of these fields blank.)
8	Press Enter. Result: !DB/QUICKCHANGE redisplay the Change Names panel. If any creator ID change would have created a duplicate name, !DB/QUICKCHANGE marks the object as unchanged.

Generating and Performing the Migration

Overview

This unit describes how to generate and perform the migration.

Generating and performing the migration

After specifying the migration (changing names, for example), follow this procedure to generate and perform the migration.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 81 (Generate).
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the This System Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> THIS SYSTEM OPTIONS ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/08/13 11:32 Util Profile ==> DUMMY Utility Profile name SYSOUT CLASS ==> A Class for JES output (Alphanumeric or *) JOB CARD ==> User Skeleton member name for Job Card JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==> // MSGCLASS=X ==> //***** !DB/TOOLS UTILITY JCL ***** ==> </pre> </div>
3	<p>Fill in this panel as appropriate. The information shown represents the data from the last time you used this panel.</p> <p>Note: The JOB CARD field takes precedence over the JOB statements. The JOB statements are samples you must complete the first time you use them, or the JCL will fail.</p>

Generating and performing the migration (cont.)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Generation Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GENERATION OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> UTILITY PARAMETERS: Image COPY ==> 3 1 Before 2 After 3 Both 4 None RUNSTATS ==> Y Y Run RUNSTATS after LOAD CHECK DATA for Refs ==> N Y Run CHECK DATA to reset Check Pending Recover Indexes ==> N N to leave Indexes "as is" Remove Pending By ==> C C Image Copy S Start FORCE LOAD LOG Control ==> N Y LOG during RELOAD LOAD Type ==> S R Replace S Resume K Repl Keepdictionary PROCESSING PARAMETERS: Runtime Parameters ==> V V Verify G Generate JCL E Execute Unload Unit Name ==> Allocation unit for Unload Dataset Specify values and press ENTER to continue or END to abort. </pre> </div>
5	<p>Fill in the options on this panel as appropriate for the DB2 utilities and for RI (the UTIL and RI SET sections.)</p> <ul style="list-style-type: none"> ● Type E (Execute) in the Runtime Parameters field. This signifies that you want to have the !DB/Tools Change Engine run the migration through to completion. ● Fill in appropriate values for the LOG Control and LOAD Type fields. ● In the Unload Unit Name field, specify where the system is to unload the data, either to tape or disk.

Generating and performing the migration (cont.)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Process Member panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PROCESS MEMBER ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/08/13 11:32 JCL in Options 1-5 is the JCL generated to invoke the Change Engine. The generated JCL has been saved in member TDTDB3Q . Option ==> 1 SUBMIT Execute the JCL. 2 EDIT Edit the JCL. 3 DELETE Delete the JCL. 4 PRINT Print the JCL. 5 LOG Copy the member to the Log PDS. 9 EXIT Exit now. or PF15, END </pre> </div>
7	Type 1 in the Option field.
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE submits the JCL to invoke the !DB/Tools Change Engine to implement your migration.</p>

Cross-MVS Migrations

Overview

This unit describes how to migrate databases and tablespaces to other MVS systems with either shared or non-shared DASD.

Migrating across MVS systems with shared DASD

Some migrations with shared DASD involve subsystems with extract IDs that have already been set up. In some cases, however, you may want to perform a migration to a system that does not have an extract ID set up. Follow this procedure to perform a migration with shared DASD where no extract ID has been set up for the target system:

Step	Action
1	Using the !DB/WORKBENCH Housekeeping panel, configure the extract ID of the target system on the source system. See <i>!DB/WORKBENCH User's Guide</i> for more information.
2	Perform the migration. See “Generating and Performing the Migration” on page 375 for more information.

Migrating across MVS systems with non-shared DASD

To set your system and profile datasets so you can perform cross-MVS system migrations with non-shared DASD, follow this procedure once for every extract:

Step	Action
1	Manually change the global member in the profile dataset on the source system by adding a line for the new extract ID for the target system. On that line, copy the line for the previous extract and modify the line appropriately. This new line must be in the format "DB nn ," with the nn being the next number in sequence. Identify the DB2 subsystem and MVS system according to your organization's naming standards.
2	Manually add new DB nn , WG nn , NG nn , and QG nn members to the dataset by copying existing members and changing the characters represented here by nn to match the correct names of datasets, and so forth, on the target MVS system with non-shared DASD. In the WG nn member, specify that the !DB/WORKBENCH system PDS is the same as !DB/WORKBENCH system PDS of the source. The migration process uses the !DB/WORKBENCH system PDS only to locate the target utility profile.
3	Using the !DB/WORKBENCH panels, re-create exactly on the source system the target utility member. The naming convention for the utility member in the system PDS is as follows: an unprintable character that looks like a period followed by a U and the utility profile name. For example, the name for the member <i>DUMMY</i> is <i>.UDUMMY</i> . Note: You will need to repeat this step for every additional utility profile you want for the extract.
4	Perform the migration. See "Generating and Performing the Migration" on page 375 for more information.

Chapter 23. Generating and Submitting a Change

Introduction

This chapter covers the process of generating the change and submitting the change to the !DB/Tools Change Engine for processing and implementation.

Chapter contents

Generating a Change	382
Submitting a Change	385
Generating and Submitting a Change on DB2 Version 5.1	386

Generating a Change

Overview

This unit provides the steps you follow to generate a change.

Generating a change

Follow this procedure to generate a change.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 81 .
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the This System Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre>THIS SYSTEM OPTIONS ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/08/13 11:32 Util Profile ==> DUMMY Utility Profile name SYSOUT CLASS ==> A Class for JES output (Alphanumeric or *) JOB CARD ==> User Skeleton member name for Job Card JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==> // MSGCLASS=X ==> //***** !DB/TOOLS UTILITY JCL ***** ==></pre> </div>
3	<p>Fill in the panel.</p> <p>The information on the panel is the data saved the last time you used this panel. The JOB CARD field takes precedence over the JOB statements. The JOB statements are samples you must complete the first time you use them or the JCL will fail.</p> <p>Note: Candle recommends that you avoid using DUMMY as the Util Profile. Instead, use a utility profile you set up for your own situation. The \$\$\$SRC_UTILPROF_MBR and \$\$TGT_UTILPROF_MBR rows of the table in “Changes to fields in the override member” have information on finding a utility profile value.</p>

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays one or more of these additional panels:</p> <ul style="list-style-type: none"> ● If the source and target systems are different, !DB/QUICKCHANGE displays the Destination System Options panel. ● If packages have been included, !DB/QUICKCHANGE displays the Bind Package Options panel. ● If plans have been included, !DB/QUICKCHANGE displays the Bind Plan Options panel.
5	<p>Complete the panel.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Generation Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GENERATION OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> UTILITY PARAMETERS: Image COPY ==> 3 1 Before 2 After 3 Both 4 None RUNSTATS ==> Y Y Run RUNSTATS after LOAD CHECK DATA for Refs ==> N Y Run CHECK DATA to reset Check Pending Recover Indexes ==> N N to leave Indexes "as is" Remove Pending By ==> C C Image Copy S Start FORCE LOAD LOG Control ==> N Y LOG during RELOAD LOAD Type ==> S R Replace S Resume K Repl Keepdictionary PROCESSING PARAMETERS: Runtime Parameters ==> V V Verify G Generate JCL E Execute Unload Unit Name ==> Allocation unit for Unload Dataset Specify values and press ENTER to continue or END to abort. </pre> </div>

Generating a change (continued)

Step	Action
7	<p>Complete the fields on the Generation Options panel.</p> <p>Note: The value for the Runtime Parameters field tells the !DB/Tools Change Engine the following:</p> <p>V Verify the DB2 objects affected by the change. Define the following options on this panel.</p> <p>G Verify DB2 objects and then generate the job stream that actually implements the change.</p> <p>E Verify DB2 objects, generate the change job stream, and then execute the change jobstream.</p>
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Process Member panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PROCESS MEMBER ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>> 99/08/13 11:32 JCL in Options 1-5 is the JCL generated to invoke the Change Engine. The generated JCL has been saved in member TDDB3Q . Option ==>> 1 SUBMIT Execute the JCL. 2 EDIT Edit the JCL. 3 DELETE Delete the JCL. 4 PRINT Print the JCL. 5 LOG Copy the member to the Log PDS. 9 EXIT Exit now. or PF15, END </pre> </div> <p>You are now ready to submit the JCL to execute the change. See “Submitting a Change” on page 385 for the procedure for submitting the change.</p>

Submitting a Change

Overview

This unit provides background information about submitting the JCL to execute a change and the steps you follow to submit a change.

Background about submitting a change

After you have completed the Generation Options panel, !DB/QUICKCHANGE generates the JCL to execute the change.

How to submit a change

Follow this procedure to submit a change.

Step	Action
1	In the Option field on the Process Member panel, Type 1
2	Press Enter. Result: The !DB/Tools Change Engine <ul style="list-style-type: none"> ● Parses the Change Engine Language (CEL) for validity. Since !DB/QUICKCHANGE produced the CEL, this step should run without error. !DB/QUICKCHANGE produces a parse report. ● Verifies dependent DB2 objects. !DB/QUICKCHANGE produces a verification report. ● Generates the job stream that actually implements the change. !DB/QUICKCHANGE produces a generation report. Use this report to understand the impact of the changes. ● Submits the generated job stream for actual implementation of the changes.

Generating and Submitting a Change on DB2 Version 5.1

This unit provides information about generating and submitting change on DB2 V5.1.

How DB2 Version 5.1 can affect generated JCL

Overview

If you are running DB2 V5.1, you will need to check your generated JCL in the following cases:

- You are making a change in which a view with a check option is picked up and you are migrating that change from a subsystem running DB2 V5.1 to one running DB2 V4.1 or lower
- You are making a change that generates a case statement and migrating the change from a subsystem running DB2 V5.1 to one running DB2 V4.1 or lower
- Your change generates a referential constraint containing a column list and you are making the change on a system running DB2 V5.1 or migrating the change from one subsystem running DB2 V5.1 to another running DB2 V5.1

In these cases, SQL statements in your generated JCL may cause abend codes or invalid views. To assist you in checking your generated JCL, !DB/QUICKCHANGE places warning messages in the Change Engine Impact Analysis Report. This report is output of the job submitted from !DB/WORKBENCH. To review the report, exit !DB/QUICKCHANGE and, using any display facility, select KTNRP TG from the list of output for your job. The warning messages to look for are as follows:

- WARNING: (DB51) CHECK OPTION may cause invalid VIEW <view name>
- WARNING: (DB51) CASE statement may cause invalid VIEW <view name>
- WARNING: (DB51) Check Ref Constraint <constraint name> on Table <table name>

Checking the check option

If you get the check option warning, your job can abend if a check option statement contains a DB2 V5.1 attribute. To find the check option statement, search the target JCL for the view name indicated in the warning message. !DB/QUICKCHANGE issues this warning for any check option statement. It does not distinguish between DB2 V5.1 and V4.1 (or lower) attributes, so you need to address only those check option statements that have DB2 V5.1 values. For these statements, you need to either delete the statement or change it so that it has a DB2 V4.1 (or lower) attribute.

Checking the case statement warning

If you get a case statement warning, your job will not abend, but the Change Engine will bypass the SQL statement for any invalid views. To find the case statement, search the target JCL for the view name listed in the warning message.

Checking the referential constraint warning

If you get a referential constraint warning, your job will not abend, but the column list specified in the referential constraint will be lost. To find the referential constraint, search the JCL on the referential constraint name given in the warning message. If you do not want to lose the column list, manually add it to the referential constraint statement in the appropriate generated JCL.

Chapter 24. Propagating a Change

Introduction

This chapter covers the process of propagating a change across systems.

Chapter contents

Background About Propagating a Change	390
Propagating a Change	391
Determining the Dataset and Member Names	392
Creating an Override Member and New INCLUDE and CEL Members	393
Copying the Generated Job Member	400

Background About Propagating a Change

Overview

This unit provides background information about propagating a change across systems.

Prerequisites for propagating the change

The objects you want to change must exist on the target system and must have the same structure as the objects on the source system.

Background about propagating a change

To propagate a change from one system to another, you create the following three members on the target system:

- A special member referred to in this chapter as the “override member”, which is a partial INCLUDE member containing only those fields that require modification for the propagated change
- A new INCLUDE member, which points to the override member
- A new CEL member, which points to the new INCLUDE member

Creating these members is a manual process. You create them by using an editor to copy the existing members and then modify them.

In addition to creating these 3 members, you copy the “generated job member” in the user PDS and make the copy point to the new CEL.

Propagating a Change

Overview

This unit provides the steps you follow to propagate a change. The remainder of this chapter describes these steps.

How to propagate a change

Follow this procedure to make the same change to multiple systems.

Step	Action
1	Generate the change you want to make. See “Generating a Change” on page 382 for more information.
2	Submit the CEL. See “Submitting a Change” on page 385 for more information.
3	Determine the Change Engine Language (CEL) dataset name, the CEL member name, and the INCLUDE member name. See “Determining the Dataset and Member Names” on page 392 for more information.
4	Exit !DB/QUICKCHANGE See “Exiting !DB/QUICKCHANGE” on page 59 for more information.
5	Using an editor, manually create an override member and new INCLUDE and CEL members. See “Creating an Override Member and New INCLUDE and CEL Members” on page 393 for more information.
6	Using an editor, copy the generated job member to where it cannot be overwritten. See “Copying the Generated Job Member” on page 400 for more information.
7	Manually submit the CEL.

Note: You must repeat steps 5 through 7 for each system to which you are propagating the change. You can, however, reuse the override member until you want to change the overrides to the INCLUDE parameters.

Determining the Dataset and Member Names

Overview

This unit tells you how to find the CEL dataset name, the INCLUDE member name, and the CEL member name.

How to find the dataset name and the member names

Use the following procedure to find the CEL dataset name, the INCLUDE member name, and the CEL member name.

Step	Action
1	On the Process Member panel, in the Option field, type 2 to edit the JCL.
2	<p>Press Enter</p> <p>Result: !DB/QUICKCHANGE displays the JCL for the change you generated.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> ==MSG> THE MEMBER BEING EDITED BELONGS TO AN SCLM CONTROLLED PROJECT. ==MSG> REFER TO THE ISPF/PDF EDIT TUTORIAL FOR FURTHER DETAILS. 000001 //KELLIQ JOB (),UTILITY,CLASS= ,NOTIFY=KELLI, 000002 // MSGCLASS=X 000003 //***** DB/TOOLS CHANGE ENGINE JCL ***** 000004 //***** 000005 //***** 000006 //***** CHANGE ENGINE PROCESSING OPTIONS ***** 000007 //***** 000008 /** FUNCTION: EXEC 000009 /** CEL MEMBER: Q00385 000010 /** CEL PARAMETERS: Q00385\$I 000011 /** CEL DATASET: TDKT.DBTOOLS.OPT8.CEL 000012 /** 000013 /** JCL DATASET: TDKT.DBTOOLS.OPT8.JCL 000014 /** REPORT DATASET: TDKT.DBTOOLS.OPT8.REPORTS 000015 /** 000016 /** PARSE REPORT?: Y 000017 /** VERIFY REPORT?: Y 000018 /** GENERATE REPORT?: Y </pre> </div>
3	Find the CEL member name (CEL MEMBER), the INCLUDE name (CEL PARAMETERS), and the CEL dataset name by looking in the Change Engine Processing Options section of the JCL
4	Make a note of the names.

Creating an Override Member and New INCLUDE and CEL Members

Overview

This unit tells you about manually creating an override member, a new INCLUDE member, and a new CEL member in the CEL dataset for each system to which you are propagating a change.

Naming the new members

Candle recommends using a standard naming convention for the new members you create to propagate changes. Use the following guidelines when developing your conventions:

- Names cannot exceed 8 characters.
- Names must allow you to distinguish one type of member from another.
- Names should indicate the system to which you are propagating the change.

One possible convention would name the three members as follows:

- CEL member - DB31001
- INCLUDE member - DB31001I
- Override member - DB31OVER

In this system, the first 4 positions of all 3 members have a 4-character identifier for the target system (DB31 in this example). The fifth through seventh positions of the CEL and INCLUDE members have a 3-digit number starting at 001 to signify the propagation. This number would increase by 1 for each subsequent propagation.

The CEL member has nothing in eighth position, and the INCLUDE member has the the letter I in that position. The override member has the expression OVER in the fifth through eighth positions. The override member does not require sequential numbering because it can be reused.

Creating the override member

You create an override member by copying an INCLUDE member and then modifying the copy. Once you have created this member, you can reuse it in subsequent executions of !DB/QUICKCHANGE running on the same target subsystem. Use the following procedure to create the override member.

Step	Action
1	Copy the INCLUDE member and rename it according to the naming conventions you set up. See “Naming the new members” for more information.
2	Delete all fields but those that require modification.
3	Modify the remaining fields as described in “Changes to fields in the override member.”

Changes to fields in the override member

The following table shows all the fields of an INCLUDE member. After you have copied an INCLUDE member as an override member, you can modify these fields in the override member to reflect the change you are propagating and you should delete the lines you have not changed.

Field Name	Description
\$\$SRC_SYSTEM	Delete in the override member.
\$\$SRC_STATUSTB	Delete in the override member.
\$\$SRC_SQLID	This is the SQLID source. You can find this value on the !DB/WORKBENCH Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$SRC_SUBSYS	The subsystem ID for the source system. Find this on the !DB/Tools DB2 Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$SRC_DBMS_VER	The version of DB2 that you are using on the source system. Find this on the !DB/Tools DB2 Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$SRC_PRODUCT_PLAN	The !DB/QUICKCHANGE plan name for bound on the source system. Find this on the Global Options panel, which you access through !DB/QUICKCHANGE Housekeeping, Global Options.
\$\$SRC_DB2LOAD	The DB2 Load Library name on the source system. Find this on the !DB/Tools DB2 Configuration Information panel as the DB2 DSNLOAD Dataset Name, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$SRC_PRODUCT_LOAD	The !DB/QUICKCHANGE product load library name. If you have shared DASD, you do not need to change this field.
\$\$SRC_QUOTE	This value comes from DB2. Do not change this value unless the system requires a change in the way DB2 displays quotes.
\$\$SRC_DECIMAL	This value comes from DB2. Do not change this value unless the system requires a change in the way DB2 displays periods and commas.
\$\$SRC_SKL_DSN_1	The source !DB/Tools skeletons library name. If you have shared DASD, you do not need to change this field.
\$\$TGT_SKL_DSN_1	The target !DB/Tools skeletons library name. If you have shared DASD, you do not need to change this field.
\$\$SRC_MSG_DSN_1	The source !DB/Tools messages library name. If you have shared DASD, you do not need to change this field.
\$\$TGT_MSG_DSN_1	The target !DB/Tools messages library name. If you have shared DASD, you do not need to change this field.

Changes to fields in the override member (continued)

Field Name	Description
\$\$SRC_TBL_DSN_1	The source !DB/Tools control library name. If you have shared DASD, you do not need to change this field.
\$\$TGT_TBL_DSN_1	The target !DB/Tools control library name. If you have shared DASD, you do not need to change this field.
\$\$RECOVERIX	Depends on what you specified on the Generate Options panel.
\$\$SRC_SYSOUT	The SYSOUT hold class on the source system. Find this on the Global Configuration Information panel, which you access through the !DB/WORKBENCH Housekeeping, Profile Data Administration functions.
\$\$SRC_JOB CD1 \$\$SRC_JOB CD2 \$\$SRC_JOB CD3 \$\$SRC_JOB CD4	The job card for any generated JCL on the source system. Make the appropriate edits for your situation.
\$\$SRC_UTILPROF_MBR	<p>The utility profile member name on the source system. This value for this field should not be DUMMY.</p> <p>This get this value,</p> <ol style="list-style-type: none"> 1. In the Option field of the !DB/WORKBENCH primary menu, Type S. 2. Press Enter. Result: !DB/WORKBENCH displays the Tablespaces panel. 3. Type U next to the tablespace you want to change. 4. Press Enter. Result: !DB/WORKBENCH displays the Tablespace Utilities panel. 5. Type 15 on the Option line of the Tablespace Utilities panel. 6. Press Enter. Result: !DB/WORKBENCH displays a list of defined utility profiles.
\$\$SRC_UTILSKEL_MBR	Do not change.
\$\$SRC_UTILPROF_DSN	The utility profile dataset name on the source system. Find this on the Global Data Set Names panel, which you access through the !DB/WORKBENCH Housekeeping, Profile Data Administration functions.

Changes to fields in the override member (continued)

Field Name	Description
\$\$TGT_DBMS	Delete in the override member.
\$\$TGT_SYSTEM	Delete in the override member.
\$\$TGT_STATUSTB	Delete in the override member.
\$\$TGT_SQLID	This is the SQLID source on the target system. You can find this value on the !DB/WORKBENCH Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$TGT_DBMS_VER	The version of DB2 that you are using on the target system. Find this on the !DB/Tools DB2 Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$TGT_PRODUCT_PLAN	The !DB/QUICKCHANGE plan name for bound on the target system. Find this on the Global Options panel, which you access through !DB/QUICKCHANGE Housekeeping, Global Options.
\$\$TGT_DB2LOAD	The DB2 Load Library name on the target system. Find this on the !DB/Tools DB2 Configuration Information panel as the DB2 DSNLOAD Dataset Name, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$TGT_PRODUCT_LOAD	The !DB/QUICKCHANGE product load library name. If you have shared DASD, you do not need to change this field.
\$\$TGT_SYSOUT	The SYSOUT hold class on the target system. Find this on the Global Configuration Information panel, which you access through the !DB/WORKBENCH Housekeeping, Profile Data Administration functions.
\$\$TGT_JOB CD1 \$\$TGT_JOB CD2 \$\$TGT_JOB CD3 \$\$TGT_JOB CD4	The job card for any generated JCL on the target system. Make the appropriate edits for your situation.

Changes to fields in the override member (continued)

Field Name	Description
\$\$TGT_UTILPROF_MBR	The utility profile member name on the target system. This value for this field should not be DUMMY. This get this value, 1. In the Option field of the !DB/WORKBENCH primary menu, Type S . 2. Press Enter. Result: !DB/WORKBENCH displays the Tablespaces panel. 3. Type U next to the tablespace you want to change. 4. Press Enter. Result: !DB/WORKBENCH displays the Tablespace Utilities panel. 5. Type 15 on the Option line of the Tablespace Utilities panel. 6. Press Enter. Result: !DB/WORKBENCH displays a list of defined utility profiles.
\$\$TGT_UTILSKELE_MBR	Do not change.
\$\$TGT_SUBSYS	The subsystem ID for the target system. Find this on the !DB/Tools DB2 Configuration Information panel, which you access through !DB/WORKBENCH Housekeeping, Profile Data Administration.
\$\$TGT_UTILPROF_DSN	The utility profile dataset name for the target system. Find this on the Global Data Set Names panel, which you access through the !DB/WORKBENCH Housekeeping, Profile Data Administration functions.

Creating the new INCLUDE member

You create a new INCLUDE member by copying the existing member and modifying the copy. Use the following procedure.

Step	Action
1	Copy and rename the INCLUDE member according to the naming convention you have set up. See “Naming the new members” for more information.
2	Open the copied INCLUDE member and add a line at the end that points to the override member in the format on which you type #INLCUDE , followed by the override member name (nnnnOVER). This line points to the override member.

Creating the new CEL member

You create a new CEL member by copying the existing member and modifying the copy. Use the following procedure.

Step	Action
1	Copy and rename the CEL member according to the naming convention you have set up. See “Naming the new members” for more information.
2	Open the copied CEL member and add a line at the end that indicates the name of the new INCLUDE member.

Copying the Generated Job Member

Overview

This unit tells you how create a new generated job member in the user PDS for each system to which you are propagating a change.

Background about the generated job member

The member referred to here as the “generated job member” is the member in the user PDS that contains the JCL for a generated job. This member's name is in the format “<userid>Q.” Each time you generate JCL, the system overwrites the generated job member with the new JCL. As a result, you must copy the member for each change you want to propagate before you generate another job on the source system.

Copying the generated job member

Copy the generated job member for each change you are propagating by using following procedure.

Step	Action
1	Using the !DB/WORKBENCH Housekeeping menu, determine the user PDS. See <i>!DB/WORKBENCH User's Guide</i> for additional information.
2	Locate the generated job member in the user PDS.
3	Copy the generated job member to a location where it will be unaffected by future changes. Rename the copy.

Step	Action
4	<p>Open the copied member and locate the the following two sections:</p> <ul style="list-style-type: none"> ● CEL PDS and member name <pre> 000072 /**----- 000073 /** CEL PDS AND MEMBER NAME 000074 /**----- 000075 /** 000076 //KTNINC DD DISP=SHR,DSN=TDKT.DBTOOLS.OPT8.CEL 000077 //KTNCEL DD DISP=SHR,DSN=TDKT.DBTOOLS.OPT8.CEL(Q00386) 000078 //KTNSKEL DD DISP=SHR,DSN=TDKT.DBTOOLS.OPT8.CNTL 000079 /** 000080 /**----- </pre> <ul style="list-style-type: none"> ● JCL PDS and member names <pre> 000080 /**----- 000081 /** JCL PDS AND MEMBER NAMES 000082 /** (S = SOURCE, T = TARGET) 000083 /**----- 000084 /** 000085 //KTNSJOB DD DISP=SHR,DSN=TDKT.DBTOOLS.OPT8.JCL(Q00386S) 000086 //KTNTJOB DD DISP=SHR,DSN=TDKT.DBTOOLS.OPT8.JCL(Q00386T) 000087 /** 000088 /**----- </pre>
4	<p>In these portions of the copied member modify the following DD names to point to the new CEL Member:</p> <ul style="list-style-type: none"> ● KTNCEL ● KTNSJOB ● KTNTJOB <p>Note: The DD names on the KTNSJOB and KTNTJOB lines must end in S and T, respectively.</p>

Chapter 25. Restart and Restore

Introduction

This chapter covers how to restart a job if it fails before it completes. It also tells you how to restore an object to its original condition after you have changed it.

Chapter contents

Restarting a Change Job	404
Restoring DB2 Objects	409

Restarting a Change Job

Overview

This unit tells you how to restart a job if it fails before it is complete.

Background on generated CEL

The CEL that you generate in !DB/QUICKCHANGE consists of 3 parts:

Before This consists of the verify step, the image copy step, and the DSN1COPY/UNLOAD step, depending on what you specified when you generated the CEL.

Note: If you do not have an image copy in this step, !DB/Tools Change Engine does not generate utilities for the After step.

The UNLOAD step allocates the following datasets:

- UPDS - the internal control PDS that tells the UNLOAD job what to change
- RPDS - the PDS that holds the DB2 LOAD utility control card for the RAW dataset
- CPDS - the PDS that holds the DB2 LOAD utility control card for the CNV dataset
- CNV - the sequential dataset that contains the converted data after the unload
- RAW - the sequential dataset that contains the uncovered data after the unload

SQLEXEC The SQLEXEC consists of dropping and creating objects.

Background on generated CEL (continued)

After This consists of KTNTRID and the submit, the RELOAD/DSN1COPY, the image copy, and other steps based on what you specified when you generated the CEL.

Note: If you do not have an image copy in the Before step, !DB/Tools Change Engine does not generate utilities for this step.

When the After step completes, it deletes the datasets the CEL allocated in the Before step.

All the utilities that !DB/Tools Change Engine generates use values from the source and target utility profiles.

Caution

Do not use DUMMY for the Utility Profile data set name when specifying options on the This System Options panel for generating the CEL.

Important information about creation of invalid views

The following changes cause creation of invalid views:

- Dropping a table column if the view has optional names and the dropped column is in the select list or if the dropped column is in the WHERE-having clause
- Changing the table column type if the column is in the WHERE-having clause

When these changes create invalid views, the !DB/Tools Change Engine does not stop the SQLEXEC step. Instead, the Change Engine does the following:

- Generates create statements and grants
- Marks the invalid views
- Allows the SQLEXEC step to run
- Returns a warning to the user to remove the invalid views

Specific rules for restarting a job

Use the following table to decide how to restart your job.

IF your job ends in this step ...	THEN ...
Before	Add a comma to the job card followed by RESTART=stepname .
SQLEXEC	<p>Use your best judgement as to whether the cause of the job's ending is acceptable. Consider the following:</p> <ul style="list-style-type: none"> ● Generally, a job failure is acceptable if you can restart your job from the next step following SQLEXEC and later manually create the object that failed. For example, if CREATE ALIAS fails, and is the last statement in your SQLEXEC step, you can continue the job and manually create the alias after the job runs. ● There are some SQLCODES for their respective SQL statements that will not prevent the completion of a job. See “Acceptable SQLCODEs for the SQLEXEC step” for more information.

Specific rules for restarting a job (continued)

IF your job ends in this step .	THEN ...
After	<p>If there is a DSN1COPY in the CEL:</p> <ul style="list-style-type: none"><li>● If the KTNTRID step does not run after you have corrected the problem, then add a comma to the job card followed by RESTART=KTNTRID.<li>● If the KTNTRID step runs, then add a comma to the job card followed by RESTART=SUBMIT. <p>If there is not a DSN1COPY in the CEL, then add a comma to the job card followed by RESTART=stepname.</p>

Acceptable SQLCODEs for the SQLEXEC step

The following table lists the acceptable SQLCODEs for their respective SQL statements in the SQLEXEC step.

SQL Statement	SQLCODE
CREATE INDEX	+111, +610
ALTER INDEX	+610
DROP STOGROUP	-204
DROP TABLESPACE	-204
DROP TABLE	-204
DROP VIEW	-204
DROP ALIAS	-204
DROP SYNONYM	-204
DROP INDEX	-204, +625
DROP PRIMARY KEY	-204, -539
DROP FOREIGN KEY	-204
ADD FOREIGN KEY	+162

Note: The SQLCODE 000 is always acceptable.

Restoring DB2 Objects

Overview

This unit tells you how to restore DB2 objects after a job you have submitted fails to complete.

Restoring DB2 objects and data

If a job fails that you cannot restart, you will need to restore your objects and data to the state they were in before the unsuccessful run. The method you use depends on whether you have an image copy in the extract from before the unsuccessful run. If you do, use the following procedure:

Step	Action
1	Do one of the following: <ul style="list-style-type: none"> ● Use the <i>Lazarus</i> feature of !DB/WORKBENCH to restore the objects. See <i>!DB/WORKBENCH User's Guide</i> for more information. ● Provided you have not run a new extract since the unsuccessful run, use the current extract.
2	Use the !DB/WORKBENCH disaster recovery (DISASTER REC) utility to restore the DDL and data. See <i>!DB/WORKBENCH User's Guide</i> for more information.

If you do not have an image copy in the extract from before the unsuccessful run, use the following procedure:

Step	Action
1	Restore the objects you have created by using the RPDS and RAW datasets and running the !DB/WORKBENCH OUTDDL facility against the unchanged version. See <i>!DB/WORKBENCH User's Guide</i> for more information.

Example Tasks

Introduction

This chapter presents an example that guides you through the details of changing a single table using !DB/QUICKCHANGE.

Read this chapter to become familiar with the !DB/QUICKCHANGE product features and panel flow. It is designed to get you up and running using this product.

Chapter contents

Overview of Changing a Table Example	414
Beginning the Table Change	415
Changing Table Structure and Data	418
Changing Dataset Space Allocations	427
Changing the Table Name	429
Generating and Performing the Change	431

Overview of Changing a Table Example

Overview

This unit describes the example scenario for changing a table.

For simplicity, the table that we change is neither segmented nor partitioned and has no referential relations.

For more additional information, see “Changing Table Structure and Data” on page 159.

Example scenario

In this example scenario, a corporate asset inventory system tracks the depreciable assets of each business unit.

Three units, A1, C1, and K2, are merging. We will move a subset (A1, C1, and K2) of the corporate data to a new table. We will use this data to inventory the depreciable assets of the new unit, K1.

To identify the original source of each depreciable asset, each asset identifier will have a 2-character code prefix.

You need to make the following table changes:

- Change the asset identifier (ASSET_ID) data type from integer to character to accommodate an alphanumeric source code prefix.
- Change the asset identifier (ASSET_ID) length from 4 to 6.
- Unload the master asset table data for the three business units, whose asset identifiers range from 1500 to 4000, to a new table (K1_ASSETS) so you can do an inventory of the new unit assets.

Beginning the Table Change

Overview

This unit explains how to begin a table change by selecting the table to be changed and specifying options for the change.

Selecting the table to change

Follow this procedure to select the table to change.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type T (Tables) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/WORKBENCH displays the Tables panel.</p> <pre> TABLES ----- DB/WORKBENCH --- DB2=DB31----- TABLE 1 OF 936 Cmd ==> Scroll ==> CSR T A B L E S Cmds: DO (Menu) ALIAS/NOALIAS STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Alter C Columns D Details E Checks F RI Info I Indexes K Pkgs L Load N Count O Out DDL P Plans Q Query R Runstat S Tblspcs U Util V Views X Exclude Z Auths ----- SEL TABLE NAME DATABASE CREATOR AUTHID CREATED TABLE ---REF--- STATS # OF ----- - ACCOUNT_MANAGERS DBMHL TSUK72 TSUK72 MLSHIPS1 - ACCOUNT_MANAGERS UKSHIPDB UKSHIP TSUK72 UKSHIPS1 - ACT DSN8031A DSN8310 DCSP48 ACT 1 YES - ACT DBTOMC TDDB65 TDDB65 GBTSR11 1 YES - ACT DB31COMP TSB03 TSB03 COMPACT YES - ACT DSND04 TSCA03 TSCA03 ACT YES - ACT DSND04 TSGM35 TSGM35A ACTA1GRL NO - A ACT_XCPT DBTOMC TDDB65 TDDB65 XCPTN YES - AKTEN TSGM35DB TSGM35 TSGM35A TSAKTEN NO - ALTERCONTROL KFFDBD KFERR TSL251 STATDBAS YES - ALTERCONTROL PPCDBD PPCDB DCSP54A STATDBAS NO - ALTERCONTROL RJD9503 RJD9503 TSL268 STATDBAS NO </pre>
3	Select the table to change by typing A in the SEL field of the table.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Alter Table - Select Type panel.</p>
5	Continue with “Specifying change options” on page 416.

Specifying change options

Follow this procedure to specify change options.

Step	Action
1	<p>On the Alter Table - Select Type panel, type 1 in the Option field to select !DB/QUICKCHANGE. The change requires a restructuring of the table.</p> <p>If the change you want to make can be implemented by using the SQL ALTER statement, you can use option 2 (!DB/WORKBENCH).</p>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Primary Menu.</p>
3	<p>!DB/QUICKCHANGE displays the panel on which you select options for the change session the first time you leave the Primary Menu.</p> <p>Since you are changing a table, type 2 (Tables/Columns) in the Option field.</p>
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Include Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==>> Destination ==>> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==>> Y Aliases ==>> Y Views ==>> Y Synonyms ==>> Y View Synonyms ==>> Y BINDS: Plans ==>> Y Packages ==>> Y GRANTS: Grants ==>> Y CHKS/PRCD: Checks ==>> N Procedures ==>> N Access Catalog ==>> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==>> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==>> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==>> Y Y - Generate DROPs for the source objects Description ==>> (of change ==>> to be made) ==>> Provide the values and press ENTER to continue or END to abort. </pre> </div>
5	<p>Type the ID of the destination DB2 system in the Destination field.</p>

Specifying change options (continued)

Step	Action
6	Specify the dependent objects you want to include and exclude. <ul style="list-style-type: none"> • Type Y in the input field for each dependent object that you want to include. For example, to include indexes type Y in the Indexes field. • Type N in the input field for each dependent object that you want to exclude. For example, since views, synonyms, plans, and packages are not affected by this change, type N in those fields to exclude those dependent objects.
7	Type Y in the Access Catalog field to access the DB2 catalog for current catalog information for the table columns. If your Extract is current, you can save time by typing N .
8	Type 1 in the Use DDL & Data field, since you are changing both the structure of the table and its data.
9	Type N in the Drop Target Objects field, since you are not creating a new object that may have a name conflict with an existing object.
10	Type a description of the change session (up to 144 characters in length). This information is included in the Change Engine Language (CEL), and as part of the job stream created by the !DB/Tools Change Engine to implement the change, as comments.
11	Press Enter. Result: !DB/QUICKCHANGE displays the Tables Being Changed panel, and you are ready to begin specifying your changes. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==>> Scroll ==>> CSR T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- _ CAND33 .ZIPTBA ZIPCODE1 02TEST --- --- ----- ***** </pre> </div>

Changing Table Structure and Data

Overview

This unit describes how to change table structure and data.

Changing table columns

Follow this procedure to make a column change.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables/Columns) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.
3	Type C (Columns) in the SEL field of the table.
4	Press Enter. Result: !DB/QUICKCHANGE displays the <creator.tablename> (columns of) panel.
5	Type C (Change) to select the ASSET_ID column.
6	Press Enter. Result: !DB/QUICKCHANGE displays the Change/Insert a Column panel. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <pre> CHANGE/INSERT COLUMN ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Column Name ==> ASSET_ID Data Type ==> INTE ? C V I S F R D D A T G T S V G L V L G Length ==> 4 Scale ==> 0 (Decimal only) Null ==> NN Y/N NNWD (Not Null w/Dflt) NNU (Not Null Uniq) Default ---- N U (User) S (Current SQLID) N (Null) C (Constant) For Data ==> B (Bit Data) S (SBCS Data) M (Mixed Data) Checks ---- ***** Y (Display / Change Checks) or blank Label ==> Comments ==> ==> ==> ==> Defaultvalue ---- ***** ***** ***** ***** ***** Enter values then press ENTER or press END to abort.</pre> </div>

Changing table columns (continued)

Step	Action
7	<p>Enter the appropriate information.</p> <ul style="list-style-type: none"> Type C in the Data Type field to change the data type of column ASSET_ID from integer to character. Type 6 in the Length field to change the length of column ASSET_ID from 4 to 6.
8	<p>Press Enter.</p> <p>Note: When a column's data type is changed, !DB/QUICKCHANGE copies the data from the original column to the changed column. This may require conversion of the data. Because you are changing the ASSET_ID column data type from integer to character, you are automatically prompted to convert the column's data from numeric to character when Enter is pressed.</p> <p>Result: !DB/QUICKCHANGE displays the Conversion Mask - Number to CHAR panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> MASKING OPTIONS----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> CONVERSION MASK - NUMBER TO CHAR COPY FROM: Column - ASSET_ID TO: Column - ASSET_ID Type - INTEGER Type - CHAR Length - 4 0 Length - 6 Right Justify ==> N Y / N - right justify the output. Mask ==> -99999 (Do not exceed output size) ----- (Blank for Float Sci Notation) Valid chars: S - Sign 9 - Digit (sets significance trigger) + - Sign if plus Z \$ # - Digit if significant - - Sign if minus V - Set Significance trigger . - Decimal point 0 - Add 0s to the end (Scale up) - Any char if significance on. </pre> </div> <p>The upper part of this panel identifies the source and target columns and their attributes.</p>
9	<p>Enter the appropriate information.</p> <ul style="list-style-type: none"> Type N in the Right Justify field to <i>not</i> have the data right justified in column ASSET_ID. A default mask appears in the Mask field. Type over this mask to define how the ASSET_ID column's output data should be formatted. For this example, the output field is 6 characters, so type 999999 as the mask.

Changing table columns (continued)

Step	Action
10	Press Enter. Result: !DB/QUICKCHANGE redisplay the <creator.table name> (columns of) panel.
11	You have now finished making structural changes to the table. Press Enter. Result: !DB/QUICKCHANGE displays the Tables Being Changed panel. You are now ready to proceed with limiting and reordering the table data.

Limiting and reordering the table data

You can specify the qualifications, range, and ordering of the table column data to be unloaded on the Specify Select Limits panel. You can use counting controls to designate specific rows or a sequence of rows to be read.

After changing table columns, follow this procedure to limit and reorder the table data.

Step	Action
1	On the Tables Being Changed panel, type L (Limits) in the SEL field of the table.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Specify Select Limits panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> SPECIFY SELECT LIMITS TSGM35.ACT_XCPT Cmd ==> Do you want to qualify the input ==> N Y to restrict input data using a WHERE clause. Do you want to reorder the table ==> N Y if LOAD needs data ordered or N Do you want to check your syntax ==> N Y to let DB2 check syntax or N Skip first n rows ==> 0 0 - 999,999,999 Stop after n rows ==> 0 0 = Copy all Only copy each nth row ==> 1 1 - 9999 Abort after n errors ==> 0 0 = no limit Specify the values and press ENTER. Press END to return to columns display. </pre> </div>
3	<p>Specify your select limits.</p> <ul style="list-style-type: none"> ● To qualify the table column data, type Y in the Do you want to qualify the input? field. This lets you specify an SQL WHERE clause to limit the data. ● To reorder the table type Y in the Do you want to reorder the table? field. This lets you specify an SQL ORDER BY clause to reorder the table. ● To check the syntax of a WHERE clause or an ORDER BY clause that you specify type Y in the Do you want to check your syntax? field. This invokes DB2 to check the syntax of the WHERE clause or the ORDER BY clause after they have been specified.

Limiting and reordering the table data (continued)

Step	Action
4	<p>Enter the appropriate information about table rows.</p> <ul style="list-style-type: none"> ● To skip initial data when the table is unloaded, type an integer from 0 to 999999999 in the Skip first n rows field. A value of 0 does not skip any rows. ● To stop unloading data after a certain number of rows, type an integer from 0 to 999999999 in the Stop after n rows field. A value of 0 means to copy all rows. A value of 9999 means to unload no more than 9999 rows. ● To copy each nth row, type an integer from 1 to 9999 in the Only copy each nth row field. Each row that is a multiple of the integer specified is copied when the table is unloaded.
5	<p>If data conversion is involved, there is a possibility of error. (For example, converting from character data to integer data, and the row contains 'ABC' as a value.)</p> <p>To specify the maximum number of errors before the table unload is aborted, type an integer from 0 to 999999999 in the Abort after n errors field. A value of 0 means to ignore errors and continue until the table is unloaded.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel. You are now finished with limiting and reordering the table.</p>
7	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p>

Restricting data with the WHERE clause

You can restrict table data during the unload process by specifying an SQL WHERE clause.

For our example scenario, we construct a WHERE clause to define the asset identifiers (ASSET_ID column) with a range between 1500 and 4000.

Follow this procedure to specify the WHERE clause.

Step	Action
1	<p>On the Tables Being Changed panel, type W (Where) in the SEL field of the table.</p> <p>or</p> <p>On the Specify Limits panel, type Y in the Do you want to qualify the input? field.</p>
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Build Where Clause panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> BUILD WHERE CLAUSE----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==>> Scroll ==>> PAGE BUILD SELECT WHERE CLAUSE: EXISTING TABLE COLUMNS (for reference) ---- Enter WHERE clause below ---- COL DATA COL I WHERE # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD I #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE..... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD I ***** BOTTOM OF LIST ***** </pre> <p>----- Use #nn for column name, #S to add space, #X to remove</p> </div>
3	<p>Type #1 > 1499 AND #1 < 4001 in the body of the panel, following the word WHERE.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> BUILD WHERE CLAUSE----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==>> Scroll ==>> PAGE BUILD SELECT WHERE CLAUSE: EXISTING TABLE COLUMNS (for reference) ---- Enter WHERE clause below ---- COL DATA COL I WHERE #1 > 1499 AND #1 < 4001 # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD I #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE..... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD I ***** BOTTOM OF LIST ***** </pre> <p>----- Use #nn for column name, #S to add space, #X to remove</p> </div>

Restricting data with the WHERE clause (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: The column numbers are replaced by the column name and the WHERE clause is redisplayed.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> BUILD WHERE CLAUSE----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==> Scroll ==> PAGE BUILD SELECT WHERE CLAUSE: EXISTING TABLE COLUMNS (for reference) ---- Enter WHERE clause below ---- WHERE ASSET_ID > 1499 AND ASSET_ID COL DATA COL I < 4001 # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD I #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE.... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD I ***** BOTTOM OF LIST ***** ----- Use #nn for column name, #S to add space, #X to remove </pre> </div>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Syntax Check panel, and you are asked whether you want your syntax checked.</p>
6	<p>Type Y to have DB2 check your syntax, or N to <i>not</i> check your syntax.</p>
7	<p>Press Enter.</p> <p>Result: The result depends on your response:</p> <ul style="list-style-type: none"> ● If you typed Y, your WHERE clause is syntax checked and then !DB/QUICKCHANGE displays the Tables Being Changed panel. ● If you typed N, !DB/QUICKCHANGE displays the Tables Being Changed panel.

For more information on creating SELECT WHERE statements, see “Limiting the Table” on page 171.

Ordering the table data

To order the table data loaded by asset identifier, you construct an ORDER BY clause that orders the table data by #1, the ASSET_ID column.

Follow this procedure to specify the ORDER BY clause.

Step	Action
1	<p>On the Tables Being Changed panel, type O (Order) in the SEL field of the table.</p> <p>or</p> <p>On the Specify Select Limits panel type Y in the Do you want to reorder the table? field.</p>
2	<p>Result: !DB/QUICKCHANGE displays the Build Order By Clause panel.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> ORDER BY CLAUSE ----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==> Scroll ==> PAGE BUILD SELECT ORDER BY CLAUSE: TABLE COLUMNS (for reference) -- Enter clause in space below --- COL DATA COL I ORDER BY # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE..... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD ***** BOTTOM OF LIST *** 4 NNWD ----- Use #nn for column name, #S to add space, #X to remove </pre> </div>
3	<p>Type #1 in the body of the panel, following the words ORDER BY.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> ORDER BY CLAUSE ----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==> Scroll ==> PAGE BUILD SELECT ORDER BY CLAUSE: TABLE COLUMNS (for reference) -- Enter clause in space below --- COL DATA COL I ORDER BY #1 # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE..... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD ***** BOTTOM OF LIST *** 4 NNWD ----- Use #nn for column name, #S to add space, #X to remove </pre> </div>

Ordering the table data (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: The column number is replaced by the column name and !DB/QUICKCHANGE redisplay the ORDER BY clause.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> ORDER BY CLAUSE ----- DB/QUICKCHANGE -- DB2=DB31 ----- COLUMN 1 OF5 Cmd ==> Scroll ==> PAGE BUILD SELECT ORDER BY CLAUSE: TABLE COLUMNS (for reference) -- Enter clause in space below --- COL DATA COL I ORDER BY ASSET_ID # COLUMN NAME TYPE LEN NULL X ----- #1 ASSET_ID..... INTE 4 NNWD #2 ITEM..... CHAR 25 NNWD #3 DESCRIPTION..... CHAR 41 NNWD #4 PURCHASE_DATE.... DATE 4 NNWD #5 DEPREC_CLASS..... CHAR 4 NNWD ***** BOTTOM OF LIST *** 4 NNWD ----- Use #nn for column name, #S to add space, #X to remove </pre> </div>
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Syntax Check panel, and you are asked whether you want your syntax checked.</p>
6	<p>Type Y to have DB2 check your syntax or N to <i>not</i> check your syntax.</p>
7	<p>Result: The result depends on your response:</p> <ul style="list-style-type: none"> ● If you typed Y, your ORDER BY clause is syntax checked and then the Tables Being Changed panel appears. ● If you typed N, the Tables Being Changed panel appears.

For more information on creating SELECT ORDER BY statements, see “Ordering the Table” on page 181.

Changing Dataset Space Allocations

Overview

This unit describes how to change dataset space allocations.

!DB/QUICKCHANGE offers several methods of allocating space for the new datasets. There is no preferred method; the method you choose depends on the type and extent of the changes that you are making and whether the new objects are the same size as the old.

Estimating space allocations using table row statistics

One way to estimate dataset space allocations is to use the !DB/QUICKCHANGE automatic resizing feature.

!DB/QUICKCHANGE can estimate new sizes for all relevant datasets (tablespaces and index spaces) based on the number of rows that the table will contain.

In our example scenario, you are unloading a subset of the original table data, so you wish the new space allocation to be based on this subset. You already have 2500 rows and may add 500 more during the inventory, so you want to use 3000 rows as the figure the estimate is based on.

Follow this procedure to estimate space allocations using statistics.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 (Tables/Columns).
2	Press Enter. Result: !DB/QUICKCHANGE displays the Tables Being Changed panel. This table lists the number of rows in the table in the Rows in Table column.
3	Type S (Stats) in the SEL field of the table.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Table Statistics panel.
5	Type 3000 in the Rows field.

Estimating space allocations using table row statistics (continued)

Step	Action
6	Press Enter. Result: !DB/QUICKCHANGE displays the Tables Being Changed panel, and the number of rows shown for the table is changed to 3000.
7	Press Enter. Result: !DB/QUICKCHANGE displays the Primary Menu.
8	Type 3 in the Option field of the Primary Menu.
9	Press Enter. Result: !DB/QUICKCHANGE displays the Change Allocations panel.
10	Type EST (Estimate) on the command line. The EST command estimates space requirements for both tablespaces and index spaces. (To estimate space requirements for only the tablespace use the ESTS command; to estimate space requirements for only the index space use the ESTX command.)
11	Press Enter. Result: The TS PQTY, TS SQTY, IX PQTY, and IX SQTY fields are updated based on the number of rows. (Note that if there is no index the EST command updates only the tablespace space allocations.)

```

CHANGE ALLOCATIONS ----- DB/QUICKCHANGE -- DB2=DB31----- LINE 1 OF 14
Cmd ==>                                     Scroll ==> CSR
                                     A L L O C A T I O N S
Cmds:  EST Estimate all  TRK Bump to Trk  SETA Set allocations
Sels:  E Estimate  S Show Detail (update)  T Tables in object

Type over existing to update. QTY values are in pages. Press ENTER when done.
Enter + under VOLSER to add new a VOLSER
-----
TABLESPACES
-----
SEL  TBLSPC      TS PQTY   SQTY      PCT FRE C C      VOLSER/
----- (PAGES) (PGS) NO. OF ROWS FRE PAG L M VCATNAME ALO STOGROUP
-----
_   XCPTN              50     17      3,000  0  0 Y   DB2V31  DB2 SYSDEFLT
    
```

Changing the Table Name

Overview

This unit describes how to change the table name.

Using option 2 of the !DB/QUICKCHANGE Primary Menu, you can rename the new DB2 objects being changed during a !DB/QUICKCHANGE change session.

Background about changing the name of a table

Changing the name of a table is a logical creation of a new table, since changing a table name requires that the table be dropped and recreated. However, the field Drop Target Objects (on the Include Options panel, which you fill in at the start of your change session), affects whether the original table is dropped or kept.

If you specify **N** in the Drop Target Objects field, renaming a table creates a new table from the original table and does not drop the original table. All dependent objects of the original table remain dependent objects of that table, but also become dependent objects of the new table. This means that you must rename all dependent objects that have a duplicate name (such as indexes and aliases).

Since the new table has a name which is a duplicate of the original table, you must rename it.

Changing the name of a table

Follow this procedure to change the name of the table.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 1 (Names).
2	Press Enter. Result: !DB/QUICKCHANGE displays the Change Names panel.
3	Type C (Change names) in the SEL field of the table whose name you want to change.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Change Table Name panel.
5	For our example, type K1_ACT_XCPT (the new table name) in the Name field.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel and the name of the table is changed (and is shown highlighted).</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 4 Cmd ==> Scroll ==> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE CREATED SEL TBLSPC TABLE DEPENDENT BY ----- - DBTOMC - XCPTN TDDB65 - TDDB65 . K1_ACT_XCPT TDDB65 ***** BOTTOM OF LIST ***** </pre> </div>

Generating and Performing the Change

Overview

This unit describes how to generate and perform the change.

How to generate and perform the change

Now that you have completed specifying the table change, follow this procedure to generate and perform the change.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 81 (Generate).
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the This System Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> THIS SYSTEM OPTIONS ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>> 99/08/13 11:32 Util Profile ==>> DUMMY Utility Profile name SYSOUT CLASS ==>> A Class for JES output (Alphanumeric or *) JOB CARD ==>> User Skeleton member name for Job Card JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==>> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==>> // MSGCLASS=X ==>> //***** !DB/TOOLS UTILITY JCL ***** ==>> </pre> </div>
3	Fill in the system options as appropriate. In most cases, the information is accurate. (This is because the information represents the data from the last time you used this panel.)

How to generate and perform the change (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Generation Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GENERATION OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> UTILITY PARAMETERS: Image COPY ==> 3 1 Before 2 After 3 Both 4 None RUNSTATS ==> Y Y Run RUNSTATS after LOAD CHECK DATA for Refs ==> N Y Run CHECK DATA to reset Check Pending Recover Indexes ==> N N to leave Indexes "as is" Remove Pending By ==> C C Image Copy S Start FORCE LOAD LOG Control ==> N Y LOG during RELOAD LOAD Type ==> S R Replace S Resume K Repl Keepdictionary PROCESSING PARAMETERS: Runtime Parameters ==> V V Verify G Generate JCL E Execute Unload Unit Name ==> Allocation unit for Unload Dataset Specify values and press ENTER to continue or END to abort. </pre> </div>
5	<p>Fill in the options on this panel as appropriate for the DB2 utilities and for RI (the UTIL and RI Set sections.)</p> <ul style="list-style-type: none"> ● Type E (Execute) in the Runtime Parameters field. This signifies that you want to have the !DB/Tools Change Engine run the change through to completion. ● Fill in appropriate values for the LOG Control and LOAD Type fields. ● In the Unload Unit Name field, specify where the system is to unload the data, either to tape or disk.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Process Member panel.</p>
7	<p>Type 1 in the Option field.</p>
8	<p>Press Enter.</p> <p>Result: The JCL to invoke the !DB/Tools Change Engine to implement your change is submitted.</p>

Chapter 27. Changing Objects Simultaneously

Introduction

This chapter presents an example that shows you how to propagate changes you make to one table, to additional (often unrelated) tables.

Chapter Contents

Overview of Example Scenario	434
Selecting the Tables to Change	436
Changing the First Table Column	439
Propagating the Change to Other Tables	444
Adding Objects Later in a Change Session	445

Overview of Example Scenario

Overview

Using !DB/QUICKCHANGE, you can make a table column change and immediately repeat that change for other tables you specify in the Alter definition.

This unit describes an example of how to change objects simultaneously.

Features !DB/QUICKCHANGE uses when changing objects simultaneously

If you are making a column change that affects columns in many unrelated tables, two !DB/QUICKCHANGE features work together so you can efficiently perform this task.

- Using option 33, Add Objects, of the !DB/QUICKCHANGE Primary Menu you can define any set of objects to change simultaneously.
 - Using the RPTALL and RPTBN commands of the *<creator.table name>* (columns of) panel, you can propagate changes made to a table to other tables that are included in the change set.
-

High-level procedure for changing objects simultaneously

Use this procedure to make changes common to a group of objects in a single pass.

Step	Action
1	Select the group of tables to change. See “Selecting the Tables to Change” on page 436 for more information.
2	Change the first table column. See “Changing the First Table Column” on page 439 for more information.
3	Propagate the change to the other tables. See “Propagating the Change to Other Tables” on page 444 for more information. Result: !DB/QUICKCHANGE generates a single CEL for all the object changes and stores the CEL as a member of the CEL PDS.

Example scenario

When making a column data type change that affects columns in many unrelated tables, (such as changing all columns containing zip codes to a new CHAR(9) length), you can most efficiently make this change as shown in the following chart.

Step	Action
1	Define the set of tables that have the column (zip code) that you want to change, by using the Add Objects option of the !DB/QUICKCHANGE Primary Menu.
2	Change the zip code column of the first table in the list.
3	Repeat this column change to <i>all</i> other tables on the list, by using the RPTALL command of the <creator.table name> (columns of) panel.

Selecting the Tables to Change

Overview

This unit describes selecting multiple tables to be changed.

Selecting multiple tables to change

Follow this procedure to build a set of DB2 objects to change.

Step	Action
1	From the Tables object list panel, select the first object in the group that you wish to change by typing A in the SEL field of the object.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Alter Table - Select Type panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> TABLES ----- DB/WORKBENCH --- DB2=DB31----- TABLE 131 OF 1,018 Cmd ==> +----- ALTER TABLE - Select Type -----+ 11 ==> CSR Cmd ==> Cmds: DO (Men Sels: ? (Menu I Index Q Query ----- SEL TABLE NAME ----- - CCDEPT - CCDEPT - CCDEPT - CCDEPT A CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT - CCDEPT ----- Option ==> 1 DB/QUICKCHANGE Functions - Change Column Definitions - Rearrange Column Order - Drop Columns - Copy Table to another Tablespace - Change partitioning or segmentation 2 DB2 Supported Functions - Add a Column - Add Primary Key or Foreign Key - Drop Primary Key or Foreign Key - Change Audit rule - Activate/Deactivate Validproc - Change Data Capture Status - Change Labels or Comments ----- RI Info Plans Auths ----- -- STATS # OF EP AVAIL CHKS ----- NO NO NO 1 NO NO YES NO NO NO NO 1 NO NO NO NO YES </pre> </div>
3	Type 1 in the Option field to select !DB/QUICKCHANGE.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Primary Menu.</p>
5	Type 33 in the Option field to add additional objects.

Selecting multiple tables to change (continued)

Step	Action
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Include Options panel, since this is the first time you have left the Primary Menu.</p> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Destination ==> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==> Y Aliases ==> Y Views ==> Y Synonyms ==> Y View Synonyms ==> Y BINDS: Plans ==> Y Packages ==> Y GRANTS: Grants ==> Y CHKS/PRCD: Checks ==> N Procedures ==> N Access Catalog ==> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==> Y Y - Generate DROPs for the source objects Description ==> (of change ==> to be made) ==> Provide the values and press ENTER to continue or END to abort. </pre>
7	Fill in the options as appropriate.
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add Objects panel. On this panel you can add tablespaces or tables.</p> <pre> +----- ADD OBJECTS -----+ Cmd ==> Option ==> S SPACES Add Tablespaces. T TABLES Add Tables. Select the type object to add or press END. -----+ </pre>
9	Type T in the Option field.

Selecting multiple tables to change (continued)

Step	Action
10	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tables for QKC panel. On this panel you select the tables that you want to add to the change session.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PICK TABLES FOR QKC ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 122 OF 948 Cmd ==> Scroll ==> CSR Select any number of objects with "A", then press END. Cmds: DO (Menu) STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Select for Change Press END when done. ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE REF REF ----- - DEPT DSN3DD2A DSN3D2 TSB05 DSN3SD2D 1 - DEPT DSN8D31A DSN8310 DCSP48 DSN8S31D 2 3 - DEPT TDDB18DB TDDB18 TDDB18 TDDB18T2 1 - DEPT DBTOMC TDDB65 TDDB65 GBTSRI1 2 3 - DEPT_XCPT DBTOMC TDDB65 TDDB65 XCPTN - DSN_REGISTER_APPL DSNRGFDB DSNRGCOL DCSP48 DSNRGFTS </pre> </div>
11	<p>Type A in the SEL field of each table that you want to add to the change session. This may involve scrolling the list.</p> <p>After you have completed selecting tables, type END on the command line and press Enter, or press the appropriate function key.</p> <p>Result: !DB/QUICKCHANGE adds the selected tables to the change session and displays the Primary Menu.</p>

Changing the First Table Column

Overview

This unit describes changing the first table column. This includes selecting the column to change and specifying the character string options.

Selecting the table column to change

Follow this procedure to select the table column you want to change.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 2 .
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Tables Being Changed panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==>> T A B L E S Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN ----- - CAND33 .ZIPTBA ZIPCODE1 02TEST - - ***** - CAND33 .ZIPTB1 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB2 ZIPTEST1 CANDUSER ***** - CAND33 .ZIPTB3 ZIPTEST1 CANDUSER ***** </pre> </div>
3	Type C in the SEL field of the table whose column you want to change.

Selecting the table column to change (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel.</p> <pre> TABLES BEING CHANGED ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 1 OF 1 Cmd ==> T A B L E S Scro11 ==> CSR Cmds: RPTALL Repeat col. chgs RPTBN Repeat By Name UNCHG Undo last Chg Sels: ? (Menu) C Columns E Checks I Indexes L Limits O Order By P Parts S Stats T Tbl Opts W Where Press ENTER when done. ----- SEL CREATOR TABLE NAME TBLSPC DATABASE NO. NO. ROWS IN --- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - _ CAND33 .ZIPTBA ZIPCODE1 02TEST --- --- ----- ***** </pre>
5	Type C in the S field of the CODE column.
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change/Insert Column panel.</p> <pre> CHANGE/INSERT COLUMN ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> Column Name ==> CODE Data Type ==> CHAR ? C V I S F R D DA T G TS VG LV LG Length ==> 5 Scale ==> 0 (Decimal only) Null ==> NNWD Y/N NNWD (Not Null w/Dflt) NNU (Not Null Uniq) Default ---- N U (User) S (Current SQLID) N (Null) C (Constant) For Data ==> B (Bit Data) S (SBCS Data) M (Mixed Data) Checks ---- ***** Y (Display / Change Check Names) or blank Label ==> Comments ==> ==> ==> ==> Defaultvalue ---- ***** ***** ***** ***** ***** Enter values then press ENTER or press END to abort. </pre>
7	Type 9 in the Length field to change the column length.

Selecting the table column to change (continued)

Step	Action
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Character String Input Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- CHARACTER STRING INPUT OPTIONS -----+ Cmd ==> COPY FROM: Column - CODE TO: Column - CODE Type - CHAR Type - CHAR Length - 5 Length - 9 When processing the input character string: Skip starting blanks ==> N Y / N Skip trailing blanks ==> N Y / N Use only rightmost data ==> N Y / N Translate table name ---- Max number chars to copy ==> 0 (0 for all) Input substring - Start ==> 0 (0 if no substring, first char is 1) Input substring - Length ==> 0 Enter values, then press ENTER or press END to abort. +-----+ </pre> </div>
9	Continue with “Specifying character string options” on page 442.

Specifying character string options

After selecting the table column to change, follow this procedure to specify the character string options.

Step	Action
1	<p>On the Character String input Options panel, fill in the fields as appropriate.</p> <p>Since the output field is larger than the input field, accepting the defaults is sufficient.</p>
2	<p>Press Enter.</p> <p>Result: Since the output field is larger than the input field, !DB/QUICKCHANGE displays the Character String Concatenation Options panel so that you may use another column for additional source data.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- CHARACTER STRING CONCATENATION OPTIONS -----+ Cmd ==> BUILDING: Column - CODE Type - CHAR Length - 9 Length so far - 6 More Columns ==> N Y to concatenate additional columns Concatenate Option ==> C C Concatenate T Text append (separated by one blank) V Append using VARCHAR lengths Enter the values, then press ENTER. +-----+ </pre> </div>
3	<p>Type N in the More Columns field. This signifies that there are no additional columns for the source data.</p>

Specifying character string options (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Character String Output Options panel. On this panel you specify the format of the data in the changed column.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> +----- CHARACTER STRING OUTPUT OPTIONS -----+ Cmd ==> COPY FROM: Column - CODE TO: Column - CODE Type - CHAR Type - CHAR Length - 6 Length - 9 For the output character string. Pad character ==> Output padding character Right Justify ==> N Y / N Enter the values, then press ENTER. +-----+ </pre> </div>
5	<p>Type 0 in the Pad character field to pad the field with zeros.</p> <p>Type N in the Right Justify field to left justify the field.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the <creator.table name> (columns of) panel, and the STATUS field of the column shows <i>CHNGD</i> to signify that the column has been changed.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> CAND33.ZIPTB1 - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 5 Cmd ==> Scroll ==> CSR T A B L E C O L U M N S Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL TYPE LEN NULL STATUS INDEXES INPUT ----- - CODE..... CHAR 9 NNWD CHNGD - TRANS..... INTEGER 4 NNWD - NAME..... CHAR 35 NNWD - POS..... INTEGER 4 NNWD - TITLE..... CHAR 35 NNWD </pre> </div>
7	<p>To propagate the change follow the procedure described in “Propagating the Change to Other Tables” on page 444.</p>

Propagating the Change to Other Tables

Overview

This unit describes propagating changes you make to a column to other tables.

Propagating the column change to other tables

Follow this procedure to propagate the column change to other tables.

Step	Action
1	Type RPTBN on the command line of the <i><creator.table name></i> (columns of) panel.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE propagates the column change to all other columns in the change set that have the same name and displays a message stating the number of columns changed.</p> <div style="border: 1px solid black; padding: 5px;"> <pre> CAND33.ZIPTB1 - DB/QUICKCHANGE -- DB2=DB31----- COLUMN 1 OF 5 Cmd ==> Scroll ==> CSR KTQR023R - 3 cols in 3 tbls were changed like the previously changed col. Cmds: DO (Menu) Sels: ? (Menu) C Change I Insert D Delete U Undel. X Exclude M Move A/B After/Before(move) F Default Value ----- SEL COLUMN NAME DATA COL NULL STATUS INDEXES INPUT ----- - CODE..... CHAR 9 NNWD CHNGD - TRANS..... INTEGER 4 NNWD - NAME..... CHAR 35 NNWD - POS..... INTEGER 4 NNWD - TITLE..... CHAR 35 NNWD </pre> </div>

Adding Objects Later in a Change Session

Overview

This unit describes how to add objects later in a change session.

Adding additional objects to a change session

Follow this procedure to add additional objects (tablespaces or tables) to a change session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 33 (Add Objects) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Add Objects panel.</p> <div style="border: 1px dashed black; padding: 10px;"> <pre> +----- ADD OBJECTS -----+ Cmd ==> Option ==> S SPACES Add Tablespaces. T TABLES Add Tables. Select the type object to add or press END. +-----+ </pre> </div>
3	Type T in the Option field.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Pick Tables for QKC panel.</p> <div style="border: 1px dashed black; padding: 10px;"> <pre> PICK TABLES FOR QKC ----- DB/QUICKCHANGE -- DB2=DB31----- TABLE 122 OF 948 Cmd ==> Scroll ==> CSR Select any number of objects with "A", then press END. Cmds: DO (Menu) STT/NOSTT SYN/NOSYN Sels: ? (Menu) A Select for Change Press END when done. ----- SEL TABLE NAME DATABASE CREATOR CREATED TABLE REF REF ----- - DEPT DSN3DD2A DSN3D2 TSB05 DSN3SD2D 1 - DEPT DSN8D31A DSN8310 DCSP48 DSN8S31D 2 3 - DEPT TDD18DB TDD18 TDD18 TDD18T2 1 - DEPT DBTOMC TDD65 TDD65 GBTSR11 2 3 - DEPT_XCPT DBTOMC TDD65 TDD65 XCPTN - DSN_REGISTER_APPL DSNRGFDB DSNRGCOL DCSP48 DSNRGFTS </pre> </div>
5	Type A in the SEL field of each table that you want to add to the change session. This may involve scrolling the list.

Adding objects to a change session (continued)

Step	Action
6	After you have completed selecting tables, type END on the command line and press Enter, or press the appropriate function key. Result: !DB/QUICKCHANGE adds the selected tables to the change session and displays the Primary Menu.

Chapter 28. Migrating a Tablespace Using !DB/QUICKCHANGE

Introduction

This chapter presents an example that shows you how to migrate a tablespace from one DB2 system to another. This useful facility allows you to quickly move table structures, data, and dependent objects.

Chapter contents

Overview of Example Scenario	448
Specifying the Tablespace and Image Copy for Migration	449
Generating the Change	456

Overview of Example Scenario

Overview

This unit describes the example of migrating a tablespace to a remote DB2 system.

For more information, see “Migrating Databases and Tablespaces” on page 341.

Example scenario

In this chapter, we will migrate a tablespace to a remote DB2 system using the following steps.

Step	Action
1	You select the tablespace and image copy to be used.
2	You make changes to the objects being migrated (for example, name changes.)
3	You generate the Change Engine Language and the job stream to invoke the !DB/Tools Change Engine.
4	The !DB/Tools Change Engine verifies that all required source DB2 objects exist, and collects information about dependent objects.
5	<p>If verification is successful, the !DB/Tools Change Engine generates the change job streams.</p> <p>The first job stream is run on the source system, and the creation of a new image copy (if you requested a new image copy rather than an existing image copy) is run at this time.</p> <p>The second job stream generated is run on the target system. This target job stream runs SQL statements to create DB2 objects and runs appropriate DB2 utilities, including DSN1COPY to load the new objects with data.</p>
6	You run the !DB/Tools Change Engine generated job stream on the source system.
7	You run the !DB/Tools Change Engine generated job stream on the target system.

Specifying the Tablespace and Image Copy for Migration

Overview

This unit explains how to specify a table space and image copy, and how to change the creator IDs of all objects.

To specify a tablespace and image copy for migration:

Step	Action
1	Specify the tablespace and image copy. See “Specifying a tablespace and image copy” on page 450.
2	Specify the include options. See “Specifying include options” on page 452.
3	Change the creator IDs. See “Changing creator IDs” on page 454.

Specifying a tablespace and image copy

Follow this procedure to specify a tablespace and image copy.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type S (Tablespaces) in the Option field.
2	Press Enter. Result: !DB/WORKBENCH displays the Tablespaces panel.
3	Type 8 (Migrate) in the SEL field on the of the tablespace that you want to migrate. This may involve scrolling the list.
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays The Tablespace Migration panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> TBLSPC ACHADRTS ----- DB/QUICKCHANGE -- DB2=DB2 ----- Cmd ==>> 96/06/24 15:18 DATA M I G R A T I O N To Migrate a tablespace, you must select an Image Copy of the tablespace to use to copy or restore the data. Select an option and press ENTER. Press END to exit. Option ==>> 1 NEW COPY Generate a new Image Copy before moving. 2 LAST SAVED Use most current Image copy in the Extract. 3 LAST CATALOG Use most current Image copy in the Catalog. Requires SELECT on catalog table SYSCOPY. 4 DISPLAY Display Image Copies to select one. </pre> </div>
5	<p>Type the appropriate option in the Option field to specify the source of the image copy for the tablespace:</p> <ul style="list-style-type: none"> ● If you want to have new image copies used for the tablespace, type 1 in the Option field. ● If you want to use the latest image copy from the Extract, type 2 in the Option field. ● If you want to use the latest image copy from the DB2 Catalog, type 3 in the Option field. ● If you want to display a list of image copies from which you can choose the one to use, type 4 in the Option field.
6	Type S in the SEL field of the image copy you want to use.

Specifying a tablespace and image copy (continued)

Step	Action
7	Press Enter. Result: !DB/QUICKCHANGE uses the selected image copy for the migration.
8	Type 1 (Names) in the Option field of the !DB/QUICKCHANGE Primary Menu. This takes you to the Change Names panel so that you can change creator IDs.
9	Press Enter. Result: Since this is the first time you are leaving the Primary Menu, !DB/QUICKCHANGE displays the Include Options panel. This is so that you can enter change options prior to making actual changes. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> INCLUDE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31 ----- Cmd ==> Destination ==> DB31 Destination Extract ID Enter Y to include or N to exclude object type from change session. CREATES: Indexes ==> Y Aliases ==> Y Views ==> Y Synonyms ==> Y View Synonyms ==> Y BINDS: Plans ==> Y Packages ==> Y GRANTS: Grants ==> Y CHKS/PRCD: Checks ==> N Procedures ==> N Access Catalog ==> N Y/N Access DB2 Catalog NOW for columns Use DDL & Data ==> 1 1 - Both, 2 - Data only, 3 - DDL only DROP TARGET OBJECTS ==> Y Y/N Generate DROPs before CREATES DROP SOURCE OBJECTS ==> Y Y - Generate DROPs for the source objects Description ==> (of change ==> to be made) ==> Provide the values and press ENTER to continue or END to abort. </pre> </div>
10	Continue with “Specifying include options” on page 452.

Specifying include options

After specifying the tablespace and image copy, follow this procedure to specify include options.

Step	Action
1	On the Include Options panel, type the destination extract ID in the Destination field.
2	<p>Type Y in the input field of each dependent object you want to include in the migration.</p> <p>Since you are migrating the entire tablespace to another DB2 system, you type Y in the Indexes, Aliases, Views, Synonyms, View Synonyms, Plans, Packages, and Grants fields.</p> <p>To include Checks and Procedures type Y in those fields. Since you are moving from a DB2 V3.1 system, these fields are set to N by !DB/QUICKCHANGE because they apply only to DB2 V4.1 and above.</p>
3	Type N in the Access Catalog field. (You are not changing any DB2 objects and you know the extract is accurate.)
4	Type 1 (Both) in the Use DDL & Data field, since this migration is creating DB2 structures on the remote DB2 system and then loading these structures with data.
5	<p>Type Y in the Drops first field to have the !DB/Tools Change Engine drop objects on the remote DB2 system before creating them.</p> <p>This is not required, but if a dependent object exists on the remote DB2 system the SQL statements will fail during create.</p>
6	<p>Type N in the Rename Objects field.</p> <p>Since this is a change where the source and target systems are different, the !DB/Tools Change Engine does not drop source objects even if you type Y.</p>
7	Type a description of the migration in the Description field.

Specifying include options (continued)

Step	Action
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel.</p> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==>> Scroll ==>> CSR C H A N G E N A M E S Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE SEL TBLSPC TABLE DEPENDENT ----- - DSN8D31A - ACT - DSN8310 .ACT - SYN= DCSP48 .ACT - INDEX= DSN8310 .XACT1 - INDEX= DSN8310 .XACT2 - VIEW= DSN8310 .VACT - VIEW= DSN8310 .VSTAFAC1 - VIEW= DSN8310 .VSTAFAC2 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 DSN8310 DCSP48 DCSP48 DCSP48 DSN8310 DSN8310 DSN8310 </pre>
9	Continue with “Changing creator IDs” on page 454.

Changing creator IDs

After specifying include options, follow this procedure to change creator IDs.

Step	Action
1	From the Change Names panel, type C? on the command line to change all of the creator IDs.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global Name Change Control panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +-----+ GLOBAL NAME CHANGE CONTROL -----+ Cmd ==> CHANGE: "FIND" string ==> "CHG TO" string ==> All Occurrences ==> Y Y/N Change all found? Select objects to change with Y. Pick any number. Databases ==> Tablespaces ==> (If none are selected, Tables ==> all objects are Indexes ==> tested and changed.) Synonyms ==> Views ==> Select scope of change with Y. Leave blank for all. Created By ==> (In the above object types, Creator IDs ==> restrict the change to Names ==> these parts of the name.) Press ENTER to continue. Press END to abort. +-----+ </pre> </div>
3	To change all occurrences of creator ID <i>DSN8310</i> to <i>CHG8310</i> , type DSN8310 in the FIND string field.
4	Type CHG8310 in the CHG TO string field.
5	Type Y in the All Occurrences field, to specify that you want to change all occurrences of the creator ID that are matched.
6	<p>Type Y in the Creator IDs field, to specify that you want to change only the creator ID (and not the name or created by names).</p> <p>Note: Leave the object fields blank, to signify that you want to change the creator IDs for all object types.</p>

Changing creator IDs (continued)

Step	Action
7	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Change Names panel, and all creator IDs have been changed from <i>DSN8310</i> to <i>CHG8310</i>.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> CHANGE NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- NAME 1 OF 12(F) Cmd ==> Scroll ==> CSR Strings were changed in 7 objects. (Possibly multiple occurrences). Cmds: DO (Menu) C? Global Change Sels: ? (Menu) C Chg names D Drop (AL/SY/VW) I Insert (TB/VW) U Undo Drop Press ENTER with no changes when done. Press END to abort all changes. ----- DATABASE SEL TBLSPC TABLE DEPENDENT ----- - DSN8D31A - ACT CHG8310 - CHG8310 .ACT DCSP48 - SYN= DCSP48 .ACT - INDEX= CHG8310 .XACT1 DCSP48 - INDEX= CHG8310 .XACT2 DCSP48 - VIEW= CHG8310 .VACT DSN8310 - VIEW= CHG8310 .VSTAFAC1 DSN8310 - VIEW= CHG8310 .VSTAFAC2 DSN8310 - VSYN= DCSP48 .VACT - VSYN= DCSP48 .VSTAFAC1 ***** BOTTOM OF LIST ***** </pre> </div>
8	<p>Continue changing other creator IDs.</p> <p>When you finish changing all creator IDs, you are now ready to proceed with generating and running the migration.</p>

Generating the Change

Overview

This unit describes the process of generating the change.

After you have finished making changes to the objects you are migrating, you generate the Change Engine Language and job stream to invoke the !DB/Tools Change Engine.

To generate the Change Engine Language and the job stream to invoke the !DB/Tools Change Engine:

Step	Action
1	Specify the system options.
2	Specify the generation options.

Specifying system options

Follow this procedure to specify system options for generating the change.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 81 .
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the This System Options panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre> THIS SYSTEM OPTIONS ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==> 99/08/13 11:32 Util Profile ==> DUMMY Utility Profile name SYSOUT CLASS ==> A Class for JES output (Alphanumeric or *) JOB CARD ==> User Skeleton member name for Job Card JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==> // MSGCLASS=X ==> //***** !DB/TOOLS UTILITY JCL ***** ==> </pre> </div>
3	<p>Fill in this panel as appropriate.</p> <p>The information shown represents the data from the last time you used this panel.</p> <p>Note: The JOB CARD field takes precedence over the JOB statements. The JOB statements are samples that must be completed the first time they are used or the JCL will fail.</p>

Specifying system options (continued)

Step	Action
4	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays several optional panels, depending on the options you have specified.</p> <ul style="list-style-type: none"> • If the source and target systems are different, the Destination System Options panel appears. • If packages have been included, the Bind Package Options panel appears. • If plans have been included, the Bind Plan Options panel appears.
5	<p>If the source and target systems are different, !DB/QUICKCHANGE displays the Destination System Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> DESTINATION SYSTEM OPTION-- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/08/21 07:27 DESTINATION OPTIONS Destination ==> DB2 Destination Extract ID Util Profile ==> DUMMY Utility Profile name. SYSOUT CLASS ==> A Class for JES output. (Alphanumeric or *) JOB CARD ==> User Skeleton member name for Job Card. VCAT Name ==> Destination VCAT name. DB/Tools Plan name ==> QR500 Plan name for DB/Tools. DB/Tools Load Library ==> 'TDKT.DBTOOLS.V311.LOAD' DB2 Load Library ==> 'PP.DB2.V3R1.SDSNLOAD' TSO naming conventions will be used. Enclose the names in quotes if they do not begin with your TSO prefix. JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==> // MSGCLASS=X ==> //***** !DB/TOOLS UTILITY JCL ***** ==> //*</pre> </div> <p>Fill in this panel as appropriate.</p> <p>The information shown represents the data from the last time you used this panel.</p> <p>Note: The JOB CARD field takes precedence over the JOB statements. Tthe JOB statements are samples that must be completed the first time they are used or the JCL will fail.</p> <p>In the VCAT name field, type the VCAT name of the target system. When you are migrating to a system different from the one the !DB/Tools Change Engine is running on, the Change Engine requires this information in order to properly allocate datasets.</p>

Specifying system options (continued)

Step	Action
<p>6</p>	<p>Press Enter.</p> <p>Result: If packages have been included in the change, the Bind Packages panel appears.</p> <pre> BIND PACKAGE OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - '*' MEANS FIELD NOT SUPPORTED BY DB2 VERSION ON TARGET SYSTEM. Action ==> R R Replace A Add FLAG ==> I I Info W Warning E Error C Completion REPLVER ==> (If Action is Replace) Enter any optional override values (defaults are listed first). Isolation ==> R R RR C CS Validate ==> R Run B Bind Acquire ==> U Use A Allocate Release ==> C Commit D Deallocate Owner ==> Qualifier ==> EXPLAIN ==> N No Y Yes Sqlerror ==> N Nopkg C Continue Degree ==> 1, A(ny) or Blank (1 prohibits I/O parallelism) Currentdata ==> N No Y Yes Dynamicrules ---- R R Run B Bind Specify options. Press ENTER to continue or END to cancel. </pre> <p>Fill in this panel as appropriate.</p>
<p>7</p>	<p>Press Enter.</p> <p>Result: If plans have been included in the change, !DB/QUICKCHANGE displays the Bind Plan Options panel.</p> <pre> BIND PLAN OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> KTQQ013C - '*' MEANS FIELD NOT SUPPORTED BY DB2 VERSION ON TARGET SYSTEM. Action ==> R R Replace A Add FLAG ==> I I Info W Warning E Error C Completion Enter any optional override values (defaults are listed first). Isolation ==> R R RR C CS Validate ==> R Run B Bind Acquire ==> U Use A Allocate Retain ==> N No Y Yes Release ==> C Commit D Dealloc Owner ==> Qualifier ==> Deferprep ==> Y Yes N No EXPLAIN ==> N No Y Yes Sqlrules ==> D DB2 S STD Dynamicrules ---- R R Run B Bind Degree ==> 1, A(ny) or Blank (1 prohibits I/O parallelism) Disconnect ==> E Explicit A Automatic C Conditional Cachesize ==> 0, 256 - 4096 (0 inhibits caching, default 1024) Currentdata ==> Y Yes N No Currentserver ==> Specify options. Press ENTER to continue or END to cancel. </pre> <p>Fill in this panel as appropriate.</p>

Specifying system options (continued)

Step	Action
8	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Generation Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> GENERATION OPTIONS ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> UTILITY PARAMETERS: Image COPY ==> 3 1 Before 2 After 3 Both 4 None RUNSTATS ==> Y Y Run RUNSTATS after LOAD CHECK DATA for Refs ==> N Y Run CHECK DATA to reset Check Pending Recover Indexes ==> N N to leave Indexes "as is" Remove Pending By ==> C C Image Copy S Start FORCE LOAD LOG Control ==> N Y LOG during RELOAD LOAD Type ==> S R Replace S Resume K Repl Keepdictionary PROCESSING PARAMETERS: Runtime Parameters ==> V V Verify G Generate JCL E Execute Unload Unit Name ==> Allocation unit for Unload Dataset Specify values and press ENTER to continue or END to abort. </pre> </div>
9	Continue with “Specifying generation options” on page 461.

Specifying generation options

After specifying system options, follow this procedure to specify generation options.

Step	Action
1	From the Generation Options panel, fill in the fields as appropriate for the DB2 utilities (the Utility Parameters section).
2	<p>Fill in the fields as appropriate for the !DB/Tools Change Engine (the Processing Parameters section.)</p> <ul style="list-style-type: none"> ● Runtime Parameters: <ul style="list-style-type: none"> – Type V to have the !DB/Tools Change Engine verify the DB2 objects affected by the change. – Type G to have the !DB/Tools Change Engine verify DB2 objects and then generate the job stream that will actually implement the change. – Type E to have the !DB/Tools Change Engine verify DB2 objects, generate the change job streams, and then execute the change job stream for the source system. ● In the Unload Unit Name field, specify where the system is to unload the data, either to tape or disk.
3	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Process Member panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> PROCESS MEMBER ----- DB/QUICKCHANGE -- DB2=DB2----- Cmd ==>> 99/08/13 11:32 JCL in Options 1-5 is the JCL generated to invoke the Change Engine. The generated JCL has been saved in member TDTDB3Q . Option ==>> 1 SUBMIT Execute the JCL. 2 EDIT Edit the JCL. 3 DELETE Delete the JCL. 4 PRINT Print the JCL. 5 LOG Copy the member to the Log PDS. 9 EXIT Exit now. or PF15, END </pre> </div>

Specifying generation options (continued)

Step	Action
4	<p>Type 1 in the Option field to submit the Change Engine Language to the !DB/Tools Change Engine for processing.</p> <p>Since you specified that the change was to be processed through execution, the !DB/Tools Change Engine will perform the following steps:</p> <ul style="list-style-type: none">● Parse the Change Engine Language for validity. Since !DB/QUICKCHANGE has produced the CEL, this step should run without error. A parse report will be produced.● Verify dependent DB2 objects. A verification report will be produced.● Generate the job stream that will actually implement the change. A generation report will be produced. This report can be used to understand the impact of the changes that will be made.● Submit the generated job stream for actual implementation of the changes.
5	<p>If the change job stream runs successfully, submit the target job stream on the target system.</p> <p>This job stream creates DB2 objects and runs DSN1COPY to load the data from the image copy you selected.</p>

Managing the System

Chapter 29. Housekeeping and Administration

Introduction

This chapter contains information on setting up and customizing !DB/QUICKCHANGE for your site. Included are specifying the !DB/Tools plan name and libraries, libraries to be used by the !DB/Tools Change Engine, the model DSNAME, and global options for !DB/QUICKCHANGE and the !DB/Tools Change Engine.

Chapter contents

Specifying the !DB/Tools Plan Name and Libraries	466
Specifying Destination Options	468
Specifying Global Options	470
Specifying !DB/Tools Change Engine Library Names	473
Specifying Information in the Profile Datasets	476
Specifying or Changing the !DB/Tools Global Print Options	479

Specifying the !DB/Tools Plan Name and Libraries

Overview

This unit describes how to specify or change the !DB/Tools plan name and libraries. The !DB/Tools plan name and libraries need to be set before users can run !DB/QUICKCHANGE.

For additional information on !DB/QUICKCHANGE installation and customization, see the *!DB/Tools Installation and Customization Guide*.

Prerequisites for changing the !DB/Tools plan name and libraries

You must set the !DB/Tools plan name and libraries before users can run !DB/QUICKCHANGE. Only an authorized user can change the !DB/Tools plan name and library names from within !DB/WORKBENCH Housekeeping. Changes made to these names in !DB/WORKBENCH housekeeping affect all !DB/QUICKCHANGE users.

See the *!DB/WORKBENCH Basic User's Guide* for more information on how to specify these names.

Secifying the !DB/Tools plan name and libraries for your session

Follow this procedure to specify or change the !DB/Tools plan name and your session.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 41 (Library) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Library Names panel.</p> <div style="border: 1px solid black; padding: 10px;"> <pre>LIBRARY NAMES ----- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> DB/Tools Plan name ==> QR500 Plan name for DB/Tools. DB/Tools Load Library ==> 'TDKT.DBTOOLS.V311.LOAD' DB2 Load Library ==> 'PP.DB2.V3R1.SDSNLOAD' TSO naming conventions will be used. Enclose the name in quotes if it does not begin with your TSO Prefix. Press ENTER to accept values.</pre> </div>
3	To change the !DB/Tools plan name, type the plan name in the DB/Tools Plan name field.
4	<p>To change the !DB/Tools load library name, type the dataset name in the DB/Tools Load Library field.</p> <p>Note: If the dataset name does not begin with your TSO Prefix, enclose the name within quotes.</p>
5	<p>To change the DB2 load library name, type the dataset name in the DB2 Load Library field.</p> <p>Note: If the dataset name does not begin with your TSO Prefix, enclose the name within quotes.</p>
6	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE changes the names you specified and displays the Primary Menu. These changes are in effect only for your userid and are persistent across change sessions.</p>

Specifying Destination Options

Overview

This unit describes changing destination options for a change session.

Prerequisites for changing the !DB/Tools plan name and libraries

Only an authorized user can change the !DB/Tools plan name and library names for the destination system from within !DB/WORKBENCH Housekeeping. Changes made to these names in !DB/WORKBENCH housekeeping affect all !DB/QUICKCHANGE users.

See the *!DB/WORKBENCH Basic User's Guide* for more information on how to give specify these names.

Specifying destination options for your session

Follow this procedure to specify or change destination options for your session, including the !DB/Tools plan name and libraries.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 43 (Destination) in the Option field.
2	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Destination Options panel.</p> <pre> DESTINATION SYSTEM OPTION-- DB/QUICKCHANGE -- DB2=DB31----- Cmd ==> 99/08/21 07:27 DESTINATION OPTIONS Destination ==> DB2 Destination Extract ID Util Profile ==> DUMMY Utility Profile name. SYSOUT CLASS ==> A Class for JES output. (Alphanumeric or *) JOB CARD ==> User Skeleton member name for Job Card. VCAT Name ==> Destination VCAT name. DB/Tools Plan name ==> QR500 Plan name for DB/Tools. DB/Tools Load Library ==> 'TDKT.DBTOOLS.V311.LOAD' DB2 Load Library ==> 'PP.DB2.V3R1.SDSNLOAD' TSO naming conventions will be used. Enclose the names in quotes if they do not begin with your TSO prefix. JOB STATEMENTS: (NOTE: The above JOB CARD overrides the following JOB STMTS) ==> //TDTDB3U JOB (),UTILITY,CLASS= ,NOTIFY=TDTDB3, ==> // MSGCLASS=X ==> //***** !DB/TOOLS UTILITY JCL ***** ==> //*</pre>

Specifying destination options (continued)

Step	Action
3	To change the !DB/Tools plan name, type the plan name in the DB/Tools Plan name field.
4	To change the !DB/Tools load library name, type the dataset name in the DB/Tools Load Library field. Note: If the data set name does not begin with your TSO Prefix, enclose the name within quotes.
5	To change the DB2 load library name, type the dataset name in the DB2 Load Library field. Note: If the data set name does not begin with your TSO Prefix, enclose the name within quotes.
6	To change the destination, type the Extract ID of the destination in the Destination field. Note: You can change the destination only if you have not yet specified your change session options on the Include Options panel.
7	Complete the Util Profile and SYSOUT CLASS fields. <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Caution</p> <p style="text-align: center;">Avoid using DUMMY for the Util Profile.</p> </div>
8	If you want to use a skeleton member for the JOB card, enter the skeleton name in the JOB CARD field. This skeleton overrides JOB card information at the bottom of the panel, in the JOB STATEMENTS field.
9	Press Enter. Result: !DB/QUICKCHANGE changes the names you specified and displays the Primary Menu. These changes are in effect only for your userid and are persistent across change sessions.

Specifying Global Options

Overview

This unit provides information about specifying global options for !DB/QUICKCHANGE and the !DB/Tools Change Engine.

Prerequisites for changing the global options

Only an authorized user can change the global options for !DB/QUICKCHANGE and the !DB/Tools Change Engine from within !DB/QUICKCHANGE Housekeeping. An authorized user is a user who has !DB/WORKBENCH **OPTS** authority.

See the *!DB./WORKBENCH Basic User's Guide* for more information on how to give users OPTS authority.

Specifying or changing global options

The global options affect both !DB/QUICKCHANGE and the !DB/Tools Change Engine

Follow this procedure to specify or change global options.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 44 (Housekeeping) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Administration panel.
3	Type 1 in the Option field to go to !DB/QUICKCHANGE Housekeeping. Result: !DB/QUICKCHANGE displays the Housekeeping panel.

Specifying or changing global options (continued)

Step	Action
4	Type 1 (Global) in the Option field to change global options.
5	<p>Press Enter.</p> <p>Result: !DB/QUICKCHANGE displays the Global Options panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- GLOBAL OPTIONS -----+ Cmd ==> Count from DB2 ==> Y Allow all to run COUNT(*) for stats. (Y/N) Online Verify ==> Y Allow all to run online verify. (Y/N) Online JCL Generate ==> Y Allow all to run online JCL gen. (Y/N) CEL Members ==> 600 No. of CEL members. (1-999) JCL Members ---> 1200 No. of JCL members. RPT Members ---> 1800 No. of reports. Saved Sessions ==> 100 No. of Saved Sessions. (1-9999) CE Tasks ==> 5 No. of CE Tasks. (1-999) CE Threads ==> 5 No. of CE Threads. (1-999) CE Tape Units ==> 9 No. of concurrent tape units . (1-99) +-----+ </pre> </div>
6	To allow all users to run an SQL COUNT(*) statement during their online change session, type Y in the Count from DB2 field.
7	To allow all users to run the !DB/Tools Change Engine verify step online, type Y in the Online Verify field.
8	To allow all users to run the !DB/Tools Change Engine generate step online, type Y in the Online JCL Generate field.
9	<p>To specify the maximum number of Change Engine Language members in the CEL PDS, type an integer from 1–999 in the CEL Members field.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. !DB/QUICKCHANGE performs the following calculations: <ul style="list-style-type: none"> ● The number shown in the JCL Members field is twice the number in the CEL Members field. ● The number shown in the RPT Members field is three times the number in the CEL Members field. 2. If the source and target systems are different, !DB/QUICKCHANGE generates a JCL member for the source and another JCL member for the target. 3. !DB/QUICKCHANGE generates a maximum of 3 reports for each CEL member.

Specifying or changing global options (continued)

Step	Action
10	To specify the maximum number of saved sessions, type an integer from 1–9999 in the Saved Sessions field.
11	To specify the maximum number of !DB/Tools Change Engine tasks, type an integer from 1–999 in the CE Tasks field.
12	To specify the maximum number of !DB/Tools Change Engine threads, type an integer from 1–hp2.999 in the CE Threads field.
13	To specify the maximum number of tape units to be used concurrently by the !DB/Tools Change Engine during either the unload phase or the load phase, type an integer from 1–99 in the CE Tape Units field.
14	Type END and press Enter, or press the appropriate function key. Result: !DB/QUICKCHANGE displays the Primary Menu.

Specifying !DB/Tools Change Engine Library Names

Overview

This unit provides information about changing the !DB/Tools Change Engine library names.

Background about the !DB/Tools Change Engine library names

!DB/QUICKCHANGE passes the names of three datasets to the !DB/Tools Change Engine. One of these datasets contains the Change Engine Language, and the other two are for use by the !DB/Tools Change Engine for output.

Prerequisites for changing the global options

Only an authorized user can change the three dataset names for use by the !DB/Tools Change Engine from within !DB/QUICKCHANGE Housekeeping. An authorized user is a user who has !DB/WORKBENCH **OPTS** authority.

See the *!DB/WORKBENCH Basic User's Guide* for more information on how to give users OPTS authority.

Specifying or changing the !DB/Tools Change Engine library names

Follow this procedure to specify or change the !DB/Tools Change Engine library names.

Step	Action
1	On the !DB/QUICKCHANGE Primary Menu, type 44 (Housekeeping) in the Option field.
2	Press Enter. Result: !DB/QUICKCHANGE displays the Administration panel.
3	Type 1 (Housekeeping) in the Option field on the Administration panel.
4	Press Enter. Result: !DB/QUICKCHANGE displays the Housekeeping panel.
5	Type 2 (Library) in the Option field on the Housekeeping panel.
6	Press Enter. Result: !DB/QUICKCHANGE displays the !DB/Tools Change Engine Library Names panel. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> +----- LIBRARY NAMES -----+ Cmd ==> CEL PDS Name ==> TDKT.DBTOOLS.V31.DB2.WKB.CEL JCL PDS Name ==> TDKT.DBTOOLS.V31.DB2.WKB.JCL RPT PDS Name ==> TDKT.DBTOOLS.V31.DB2.WKB.RPT >>> Enter fully qualified data set names - without quotes <<< +-----+ </pre> </div>
7	Type the dataset name for the Change Engine Language library in the CEL PDS Name field. Note: The name must be fully qualified and without quotes.

Specifying or changing the !DB/Tools Change Engine library names (continued)

Step	Action
8	Type the dataset name for the JCL library in the JCL PDS Name field. This library contains jobstreams the !DB/Tools Change Engine generated to implement the change. Note: The name must be fully qualified and without quotes.
9	Type the dataset name for the Report library in the RPT PDS Name field. This library contains reports from the !DB/Tools Change Engine parse, verify, and generate steps. Note: The name must be fully qualified and without quotes.

Specifying Information in the Profile Datasets

Overview

This unit contains information about using !DB/Tools Profile Information panel to specify information about the profile data sets that you want !DB/QUICKCHANGE to use for your session.

Variations in how the !DB/Tools profile information panel is displayed

How the !DB/Tools Profile Information panel is displayed depends on the installation at your site. There are these variations in how the system displays the panel.

- If your site specified that the panel is displayed, !DB/QUICKCHANGE displays the panel automatically when you access the product.
 - If your site specified that the panel is not displayed, !DB/QUICKCHANGE does not display the panel when you access the product.
-

Displaying and specifying information about profile datasets

You can display or specify information about the profile datasets using commands on the command line of !DB/QUICKCHANGE. Review the following table to determine the command to use for the task you want to perform.

Task You Want to Perform	Command to Use
Display information about the profile data sets for your session	DISPROF
Specify information about the profile data sets for your session using the !DB/Tools Profile Information panel	SETPROF

Elements of the !DB/Tools profile information panel

The illustration shows the elements of the !DB/Tools Profile Information panel. It shows the fields that you can use to specify values for the profile data sets and the fields that display information about the profile data sets.

```

----- DB/Tools -----
Cmd ==>

                                DB/Tools Profile Information

1 Save Values?                    ==> Y ( Y Permanent  N Temporary )
2 Display this panel on product entry? ==> Y ( Y Yes  N No )

3 Use?   4 Type                    Profile Data Set Name                    5 Status
-----
N User : 6 _____
N Group: _____
N _____
N _____
N _____
N _____
N _____
N _____
7 Y System: TDDD1.TDDB1.PROFILE                    OK

Press ENTER to continue. Press END to exit.

```

- 1** Field that you can use to specify whether the values entered are saved in your ISPF profile
- 2** Field that you can use to specify whether !DB/QUICKCHANGE displays the panel when you access the product
- 3** Field that you can use to specify whether !DB/QUICKCHANGE uses the profile dataset specified in the field
- 4** Display field that indicates the type of profile dataset
- 5** Display field that indicates the status of the profile data set specified in the field
- 6** Fields for entry of the names of the profile data sets
- 7** Display field that indicates the name of the system profile data set (The system profile data set was specified when !DB/QUICKCHANGE was installed.)

Order the profile datasets are used

!DB/QUICKCHANGE uses the profile datasets in the order they are displayed on the panel. If the member !DB/QUICKCHANGE needs is not in the first profile dataset displayed on the panel, !DB/QUICKCHANGE checks for the member in the next profile dataset displayed on the panel.

For example, if you specify the name of a user profile dataset, !DB/QUICKCHANGE checks for the member in the user profile data set first. If you do not specify the name of a user profile dataset, !DB/QUICKCHANGE checks for the member in the group profile data set first.

Specifying or Changing the !DB/Tools Global Print Options

Overview

This unit provides information about specifying or changing the !DB/Tools Global Print Options.

Accessing and using the !DB/Tools Global Print Options panel

You access the !DB/Tools Global Print Options panel from the !DB/WORKBENCH Housekeeping Menu. See the *!DB/WORKBENCH User's Guide* for information about how to access the panel and specify global print options.

Resolving Problems

Chapter 30. Problem Resolution

Introduction

The chapter provides instructions for responding to error and problem messages, and providing a diagnostic report to Candle Customer Support.

Chapter contents

Support for Resolution of Problems	484
Providing Information to Aid in Problem Diagnosis	485

Support for Resolution of Problems

Overview

This unit provides an introduction to the three primary sources of assistance for resolution of problems: online Help (including examples), this chapter, and Candle Customer Support.

Online Help available to resolve problems

If an error or problem occurs, !DB/QUICKCHANGE provides an error message that is displayed in the upper right corner of the menu or panel. A number precedes the short text of error message.

Type **HELP** on the command line, or press the appropriate function key, to display the long text for the message.

Example of online information available to resolve problems

The following chart lists two examples of the levels of detail of online information available from !DB/QUICKCHANGE. The example is typical of the error messages that include instructions on how to recover from the error.

Initial Display When the Error Occurs	Display When You Use the HELP Command
Invalid select command.	SFFX025D Type ? in select field to display valid selects options.

Assistance available from Candle Customer Support

If the error message instructs you to call Candle Customer Support, or if you encounter a problem requiring assistance, call Candle Customer Support toll free at 1-800-328-1811. Every effort will be made to resolve your problem immediately.

If Candle Customer Support asks you to provide a copy of your system PDS, see the unit “Providing Information to Aid in Problem Diagnosis” on page 485.

Providing Information to Aid in Problem Diagnosis

Overview

Before you call Candle Customer Support regarding a product ABEND, please print a copy of the activity log. Printing the activity log allows you to have on hand the information Candle Customer Support needs and will speed up the resolution of the problem. Usually, Candle Customer Support will ask you to fax the hard copy of the activity log.

This unit tells you how to print a copy of the activity log.

Providing a copy of the activity log

Follow these steps to print the activity log.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type H in the Option field.
2	<p>Press Enter.</p> <p>Result: The system displays the Administrative Functions menu.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> ADMINISTRATIVE FUNCTIONS-- DB/WORKBENCH --- DB2=DB31----- Cmd ==> Option ==> 1 Profile Data Administration 2 Update the Authorizations Information 3 Display the Extract History - The last extract was run on 06/13/99 at 19:28 4 Run a new Extract 5 Display the System PDS Members 6 Resurrect old copy of the Catalog (LAZARUS) 7 Display the Activity Log of the LOG PDS 8 Display DB/Tools profile data sets 9 Set DB/Tools profile data sets </pre> </div>

Providing a copy of the activity log (continued)

Step	Action
3	<p>On the Administrative Functions menu, type 7 in the Option field.</p> <p>Result: The system displays the Log Activity List panel.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> LOG ACTIVITY LIST----- DB/WORKBENCH --- DB2=DB31----- MEMBER 1 OF 21 Cmd ==>> Scroll ==>> CSR Cmds: FILT Sels: ? (Menu) B Browse E Edit D Delete P PRNT X Re-excute ----- SEL DATE --- TIME FUNCTION DB2 USERID RE-EXEC MEMBER --- --- --- --- --- --- --- --- - 06/14/99 9:41 CREATE DB31 NGROB2 RCODE R LG000021 - 06/14/99 9:08 CREATE DB31 NGROB2 RCODE R LG000020 - 06/14/99 9:06 CREATE DB31 NGROB2 RCODE R LG000019 - 06/13/99 21:19 ALTER DB31 NGROB RCODE R LG000018 - 06/13/99 21:12 CREATE DB31 NGROB RCODE R LG000017 - 06/13/99 21:07 CREATE DB31 NGROB RCODE R LG000016 - 06/13/99 20:54 CREATE DB31 NGROB RCODE R LG000015 - 06/13/99 19:18 CREATE DB31 NGROB RCODE R LG000014 - 06/13/99 8:12 QKCPROCL DB31 GSMIT Q LG000013 - 06/13/99 8:10 QKCPROCL DB31 GSMIT Q LG000012 - 06/13/99 8:06 QKCPROCL DB31 GSMIT Q LG000011 - 06/10/99 15:54 QKCPROCL DB31 GSMIT Q LG000010 - 06/10/99 15:25 QKCPROCL DB31 GSMIT Q LG000009 - 6/10/99 14:16 QKCPROCL DB31 GSMIT Q LG000008 - 6/06/99 15:05 ABEND DB31 LVAUG 0CC400 LG000007 </pre> </div>
4	Move the cursor to the line with the ABEND whose log you want to print.
5	Type P in the Select field.
6	<p>Press Enter.</p> <p>Result: The system displays a pop-up that allows you to specify print options.</p>
7	Type the print options you want.
8	<p>Press Enter.</p> <p>Result: The system processes the print request and prints the activity log at the destination you specified.</p>

Appendixes

Appendix A. Dictionary of Commands and Selects

Introduction

This appendix lists each command and select in alphabetical order, and provides a brief definition.

Dictionary of selects

- **(dash) command** Displays a panel so that you can select a DB2 command to execute

? **(question mark) select**

Displays a selection list with all the selects you can use for the object you select

/ **(forward slash) <id> command**

Switches you to the !DB/WORKBENCH session you specify

/ **(forward slash) command**

Displays the selection list for !DB/WORKBENCH sessions so that you can switch to a !DB/WORKBENCH session

Add Index (A) select

Displays a panel so that you can add a new index for the table you select

Add Partitioned Index (A) select

Displays a panel for you to create a new partitioned index for the partitioned table

Add Table (A) select

Adds the selected table or tables to the change session

Add Table (A) select

Adds the selected table or tables as dependent tables to the parent table

Add Tablespace (A) select

Adds the selected tablespace to the change session

Add Vols (V) select

Displays a panel so that you can add volumes to an AMS define statement

ALLOC command

Displays a panel so that you can change the space allocations for a specific partition in the partitioned tablespace

Allocations (A) select

Displays a panel so that you can change the space allocations for a specific partition in the partitioned tablespace

Alter Primary Key (A) select

Displays a panel so that you can alter the primary key of the parent table you select

Auths (Z) select Displays authorizations for the selected object

Block Delete (DD) select

Marks a block of columns to be deleted

Block Exclude (XX) select

Excludes a block of columns

Block Move(MM) and After/Before (A/B) selects

Moves a block of columns either before the column marked with the B select or after the column marked with the A select

Block Undelete (UU) select

Removes the delete marker from a block of columns

Browse (B) select Displays the selected member so you can browse the text

C (CHANGE) command

Changes the next or all occurrences of an object name or string

C? command Displays a pop up so that you can specify the changes you want to make to the object names

Change (C) select Displays a panel so that you can change the definition of the index you select

Change (C) select Displays a panel so that you can change the column definition. You can change the column name, data type, length, null setting, label, or comment.

Change Name (C) select

Displays a panel so that you can change the name of the selected object

Change Relation (C) select

Displays a panel so that you can change the attributes of the referential relationship you select

Columns (C) select

Displays the columns for the selected object

Columns (C) select

Displays a panel so that you can change the columns of the table you select

Copy (C) select Displays a panel so that you can copy a saved session

Count (N) select Issues an SQL SELECT COUNT (*) statement to count the number of rows in the table

D ALL command Marks all columns to be deleted

Dataset Info (N) select

Displays information on the dataset for the object you select

DBRMs (S) select Displays a panel that lists the DBRMs for the plan you select

DEBUGOFF Turns the Automated Trace Facility off or turn DEBUG off.

DEBUGON Turns the Automated Trace Facility on.

Default Value (F) select

Displays a panel with the default value of a column. This select is only available for DB2 V4.1 and above.

Delete (D) select Displays a pop-up so you can confirm you want to delete the selected member

Delete (D) select Displays a panel so that you can confirm that you want to delete the saved session

Delete (D) select Marks the selected column to be deleted

Delete Multiple (Dn) select

Marks the specified number of columns to be deleted, beginning with the column you select

Delete Partn (D) select

Deletes the partition you select

Dependents (D) select

Displays the objects dependent on the selected plan

DET command Displays a panel so that you can change the space attributes of tablespace partitions and index partitions

- Details (D) select** Displays details for the selected object
- DO command** Displays a selection list with all the commands you can use on the panel
- DOP command** Displays a pop-up so you can change your print options and print the object list
- DOS command** Displays a selection list that lists all sort keys available from the panel
- Drop (D) select** Marks the selected object to be dropped.
- Drop Primary Key (P) select**
Drops the selected primary key
- Edit (E) select** Displays the member in edit mode so that you can change the text
- EST command** Displays an estimate of the space allocations for the dataset for nonpartitioned tablespaces, indexes, and for each partition of a partitioned tablespace
- Estimate (E) select**
Displays a panel so you can estimate the statistics for the table space you select and its associated tables and indexes
- Estimate (E) select**
Displays an estimate of the space allocations for the dataset for the selected object
- ESTS command** Displays an estimate of the space allocations for the dataset for each nonpartitioned tablespace and each partition of a partitioned tablespace
- ESTX command** Displays an estimate of the space allocations for the dataset for each index
- Exclude (X) select** Excludes the selected object from the change session
- Exclude (X) select** Excludes the selected column from the panel list
- Exclude (X) select** Excludes the selected object from the panel list
- Exclude Multiple (Xn) select**
Excludes the specified number of columns from the display, beginning with the selected column

F (Find) command

Finds the first occurrence of a string of characters

FILT command

Displays the selection list of the filters with all the filters you can use on the panel. The filters currently in effect are also displayed in the selection list.

Indexes (I) select

Displays a panel so that you can change the definition of the index. You can change index keys, change the ordering of index key values, delete fields from an index key, and exclude indexes from processing.

Insert (I) select

Displays a panel so that you can create a new synonym or alias for a table or a view

Insert Column (I) select

Displays a panel for you to create a new column

Insert Relation (I) select

Displays a panel for you to create a new relationship for the parent table you select

IX Options (I) select

Displays a panel so that you can change the options of the indexes of a partitioned tablespace.

KTQSCSEL command

Displays the contents of the CEL associated with the CEL JCL you are editing

LIM command

Displays a panel so that you can change the definitions of the limit keys for partitions

Limits (L) select

Displays a panel so that you can specify the select limits

Limkeys (L) select

Displays a panel so that you can change the definitions of the limit keys for partitions

Listcat (L) select

Displays the VSAM LISTCAT for the object you select

Load (L) select

Generates LOAD statements for the selected table and displays a menu of options for processing the statements

LOCATE command

Scrolls the object list so the first object with the specified value is at the top of the display area. The object list must be sorted on the attribute before locate an object using that attribute.

LOCATE command

Scrolls the column list so that the specified column is at the top of the display area

MAINT

Displays the maintenance level of the current !DB/QUICKCHANGE system

MAINT?

Displays the maintenance level of all installed !DB/Tools.

Move (S) select

Displays a panel so that you can specify a new table space for the table you want to move

Move (M) and After/Before (A/B) selects

Moves the selected column either before the column marked with the B select or after the column marked with the A select

Move Multiple (Mn) and After/Before (A/B) selects

Moves the specified number of columns either before the column marked with the B select or after the column mark with the A select

NO PARTS command

Displays only the first partition of the tablespaces

NOSTT command

Turns off the display of the statistics for the object

NOSYN command

Turns off the display of synonyms for tables or views

Number (N) select

Displays a panel so that you can change the partitioning of a tablespace

Order By (O) select

Displays a panel so that you can build an ORDER BY clause to reorder the data that is unloaded

Out DDL (O) select

Generates CREATE statements for the selected object and for its dependent objects and displays a menu of options for processing the statements

Parms (P) select

Displays a panel so that you can change the space attributes of tablespace partitions and index partitions

Partitions (P) select

Displays a panel so that you can change the partitioning of a tablespace

PARTS command Displays all the partitions of the tablespaces

Plans (P) select Displays the plans that are dependent on the selected object

PRNT command Prints the entire object list, including objects that are not displayed on the screen. Objects that are excluded are not printed.

Referential Displays (F) select

Displays referential integrity information for the selected table

REFRESH command

Redisplays the session list and adds the sessions saved after the session list was first displayed

Relative Column Number (n) select

Changes the index key by adding a column to the key, changing the order of the columns in the key, or both

Remove (R) select Removes the selected column from the index

Rename (R) select Displays a panel so that you can rename a saved session

Repeat (R) select Create one new partition by copying the definition of the selected partition

Repeat n Times (n) select

Creates the specified number of new partitions by copying the definition of the selected partition

RES command Redisplays all excluded objects and removes all pending selects

RESET command Removes all UNCHGD markers

RPT command Repeats the last change you made to a column to all similar columns in the same table

RPTALL command

Repeats the last change you made to a column to all similar columns in all tables included in the change session

- RPTBN command** Repeats the last change you made to a column to to all similar columns with the same name in all tables included in the Alter definition
- Runstat (R) select** Displays DB2 statistics for the selected object
- S <s> command** Repeats the specified select on every object displayed on the current panel list
- SETA command** Displays a pop-up so that you can choose to base space allocations for each of the partitions and indexes on catalog information
- Select (S) select** Restores the selected saved session so that you can continue to work with the change session
- Select FKey (S) select**
Selects the selected column as the foreign key column for the displayed primary key column for the new referential relationship
- Select Index (S) select**
Specifies the index you select to be the partitioned index for the partitioned table
- SHOW command** Redisplays all excluded columns
- Show Detail (Update) (S) select**
Displays a panel so that you can change the space allocations details
- Show-SQL (S) select**
Display the SQL definition for the selected view
- SORT command** Sorts the object list by the specified attribute in either an ascending or descending order
- SORT ? command**
Displays the list of sort keys that are available on the panel
- SORTD command**
Sorts the object list by the specified attribute in descending order
- SQL command** Displays a panel so you can type and execute an SQL statement

- Statistics (S) select**
Displays a panel so that you can specify the number of rows in the selected table
- STT command** Displays the statistics for the DB2 catalog table
- SYN command** Displays synonyms for the table or view
- Table Indexes (I) select**
Displays the indexes for the selected object
- Table Options (T) select**
Displays a panel so that you can change the attributes of a table.
- Tablespace (S) select**
Displays tablespaces for the selected object
- Tables (T) select** Displays a panel with the table or tables in the object you select
- Tables/Views (T) select**
Displays a panel with the tables and views on which the selected view depends
- TRK command** Displays an estimate of the space allocations for the dataset rounded to the nearest track boundary
- TS Options (T) select**
Displays a panel so that you can change the options of a tablespace
- U ALL command** Undoes delete markers from all table columns that
- UBROWSE** Browse specified user PDS member(s).
- UEDIT** Edit specified user PDS member(s). have been marked to be deleted
- UNCHG command**
Reverses the most recent change you made to a column since you last accessed the panel
- Undelete (U) select**
Undoes the delete marker from the selected column
- Undelete Multiple (Un) select**
Undoes the delete marker from the specified number of columns, beginning with the selected column

- UNDO command** Undoes any changes made to the index on this panel
- UNDO command** Reverses the most recent change you made since you last accessed the panel
- Undrop (U) select** Removes the drop marker from the object you select
- Undrop (U) select** Removes the drop marker from the index you select
- Utilities (U) select** Displays a menu of DB2 utilities available for the object you select
- Views (V) select** Displays the views defined on the selected table
- Where (W) select** Displays a panel so that you can build a WHERE clause that qualifies the data that is unloaded
- Submit (X) select** Submits the JCL member you select
- X DEL command** Excludes all columns marked for deletion

Appendix B. !DB/QUICKCHANGE Data Type Conversions

Introduction

This appendix shows the data type conversions that are available when you use !DB/QUICKCHANGE.

Table 1 (Page 1 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
CHAR	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT (REAL)	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options
DATE	CHAR	CHAR String Input Options
	DATE	No conversion necessary.
	DECIMAL	Conversion not supported.
	FLOAT	Conversion not supported
	GRAPHIC	CHAR String Input Options
	INTEGER	No conversion necessary.
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	Conversion not supported.
	SMALLINT	Conversion not supported.
	TIME	Conversion Mask - DT/TM to DT/TM
	TIMESTAMP	Conversion Mask - DT/TM to DT/TM
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options

Table 1 (Page 2 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
DECIMAL	CHAR	CHAR String Input Options
	DATE	Conversion Mask - NUM to DATE/TIME
	DECIMAL	No conversion necessary.
	FLOAT	No conversion necessary.
	GRAPHIC	CHAR String Input Options
	INTEGER	No conversion necessary.
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	No conversion necessary.
	SMALLINT	No conversion necessary.
	TIME	Conversion Mask - NUM to DATE/TIME
	TIMESTAMP	Conversion Mask - NUM to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options
FLOAT	CHAR	Conversion Mask - Number to CHAR
	DATE	Conversion Mask - Number to DATE/TIME
	DECIMAL	Conversion Mask - Integer to Decimal
	FLOAT	No conversion necessary.
	GRAPHIC	Conversion Mask - Number to CHAR
	INTEGER	No conversion necessary.
	LONGVAR	Conversion Mask - Number to CHAR
	LONGVARG	Conversion Mask - Number to CHAR
	REAL	No conversion necessary.
	SMALLINT	No conversion necessary.
	TIME	Conversion Mask - Number to DATE/TIME
	TIMESTAMP	Conversion Mask - Number to DATE/TIME
	VARCHAR	Conversion Mask - Number to CHAR
	VARGRAPH	Conversion Mask - Number to CHAR

Table 1 (Page 3 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
GRAPHIC	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options
INTEGER	CHAR	Conversion Mask - NUM to CHAR
	DATE	Conversion Mask - NUM to DATE/TIME
	DECIMAL	Conversion Mask - INTEGER to DECIMAL
	FLOAT	No conversion necessary.
	GRAPHIC	Conversion Mask - NUM to CHAR
	INTEGER	No conversion necessary.
	LONGVAR	Conversion Mask - NUM to CHAR
	LONGVARG	Conversion Mask - NUM to CHAR
	REAL	No conversion necessary.
	SMALLINT	No conversion necessary.
	TIME	Conversion Mask - NUM to DATE/TIME
	TIMESTAMP	Conversion Mask - NUM to DATE/TIME
	VARCHAR	Conversion Mask - NUM to CHAR
	VARGRAPH	Conversion Mask - NUM to CHAR

Table 1 (Page 4 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
LONGVAR	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options
LONGVARG	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options
REAL <i>See</i> FLOAT.		

Table 1 (Page 5 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
SMALLINT	CHAR	Conversion Mask - NUM to CHAR
	DATE	Conversion not supported.
	DECIMAL	Conversion Mask - Integer to DECIMAL
	FLOAT	No conversion necessary.
	GRAPHIC	Conversion Mask - NUM to CHAR
	INTEGER	No conversion necessary.
	LONGVAR	Conversion Mask - NUM to CHAR
	LONGVARG	Conversion Mask - NUM to CHAR
	REAL	No conversion necessary.
	SMALLINT	No conversion necessary.
	TIME	Conversion not supported.
	TIMESTAMP	Conversion not supported.
	VARCHAR	Conversion Mask - NUM to CHAR
	VARGRAPH	Conversion Mask - NUM to CHAR
TIME	CHAR	Conversion Mask - DT/TM to CHAR
	DATE	Conversion Mask - DT/TM to DT/TM
	DECIMAL	Conversion not supported.
	FLOAT	Conversion not supported.
	GRAPHIC	Conversion not supported.
	INTEGER	Conversion not supported.
	LONGVAR	Conversion not supported.
	LONGVARG	Conversion not supported.
	REAL	Conversion not supported.
	SMALLINT	Conversion not supported.
	TIME	No conversion necessary.
	TIMESTAMP	Conversion Mask - DT/TM to DT/TM
	VARCHAR	Conversion Mask - DT/TM to CHAR
	VARGRAPH	Conversion not supported.

Table 1 (Page 6 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
TIMESTAMP	CHAR	Conversion Mask - DT/TM to CHAR
	DATE	Conversion Mask - DT/TM to DT/TM
	DECIMAL	Conversion not supported.
	FLOAT	Conversion not supported.
	GRAPHIC	Conversion not supported.
	INTEGER	Conversion not supported.
	LONGVAR	Conversion not supported.
	LONGVARG	Conversion not supported.
	REAL	Conversion not supported.
	SMALLINT	Conversion not supported.
	TIME	Conversion Mask - DT/TM to DT/TM
	TIMESTAMP	No conversion necessary.
	VARCHAR	Conversion Mask - DT/TM to CHAR
	VARGRAPH	Conversion not supported.
VARCHAR	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options

Table 1 (Page 7 of 7). !DB/QUICKCHANGE Available Data Type Conversions		
OLD COLUMN DATA TYPE	NEW COLUMN DATA TYPE	CONVERSION TAKES YOU TO THIS PANEL
VARGRAPH	CHAR	CHAR String Input Options
	DATE	Conversion Mask - Character to DATE/TIME
	DECIMAL	CHAR String Input Options
	FLOAT	CHAR String Input Options
	GRAPHIC	CHAR String Input Options
	INTEGER	CHAR String Input Options
	LONGVAR	CHAR String Input Options
	LONGVARG	CHAR String Input Options
	REAL	CHAR String Input Options
	SMALLINT	CHAR String Input Options
	TIME	Conversion Mask - Character to DATE/TIME
	TIMESTAMP	Conversion Mask - Character to DATE/TIME
	VARCHAR	CHAR String Input Options
	VARGRAPH	CHAR String Input Options

Important information about data conversion errors

You can choose where you want a job to stop when the system detects a data conversion error. When the KTNUNLD utility detects a data conversion error, it returns an RC=4, which has the potential to stop the job at the RELOAD phase. The reason the job stops at this point is that skeleton member KTUUTUNL has return code checking in the UNLOAD AFTER command that allows return codes up to RC=8 without stopping the job at the UNLOAD step. If you want the job to stop at the RELOAD phase (the default), do not change skeleton member KTUUTUNL. If you want the job to stop at the UNLOAD step, manually change the skeleton member as follows:

From:

```
/ /UNLOADA EXEC PGM=IKJEFT01,REFION=&REGION.,DYNAMNBR=100,COND=(8,LE)
```

To:

```
/ /UNLOADA EXEC PGM=IKJEFT01,REFION=&REGION.,DYNAMNBR=100,COND=(4,LE)
```

Appendix C. Candle Customer Support

Introduction

Candle Corporation offers a comprehensive maintenance and support plan to ensure you realize the greatest value possible from your Candle software investments. We have more than 200 technicians worldwide, committed to providing you with prompt resolutions to your support requests.

Customer Support hours of operation are from 5:30 A.M. to 5:00 P.M., Pacific Time. In the event of an after-hours or weekend emergency, Candle's computerized call management system ensures that a technician will return your call within one hour. For customers located outside of North America, after-hours and weekend support is provided by Candle Customer Support locations in the United States.

Electronic Support

Candle provides information and support services using

- Candle's home page at www.candle.com. You can use the Candle Web site to
 - open problem records
 - access maintenance information
 - order products or maintenance
 - access IBM compatibility information
 - download fix packs for distributed products
 - read news and alerts
 - scan a list of scheduled Candle education classes
- Candle Electronic Customer Support (CECS), an electronic customer support facility. You can access this facility through the IBM Global Network. You can use CECS to
 - open problem records
 - search our database for solutions to known problems
 - look for answers to commonly asked questions
 - read news and alerts
 - scan a list of scheduled Candle education classes

Both CECS and the Candle Web site are available 24 hours a day, 7 days per week.

Telephone Support

Our support network consists of product specialists who work with you to solve your problem.

Candle uses an online problem management system to log and track all support requests. Your request is immediately routed to the appropriate technical resource.

When you call to report a problem, please have the following information:

- your Candle personal ID (PID) number
- the release level of the Candle product
- the release level of IBM or other vendor software
- identifying information and dates of recently applied maintenance to your Candle product or IBM product
- a detailed description of the problem (including the error message) and the events preceding the problem
- a description of any unusual events that occurred before the problem

Customer Support Phone Numbers

	Telephone	Fax
North America	(800) 328-1811	
	(310) 535-3636	(310) 727-4204
Europe		
Belgium/Luxembourg	+32 (0) 3 270 95 60	+32 (0) 3 270 95 41
France	+33 (0) 1 53 61 60 60	+33 (0) 1 53 61 06 16
Germany/Switzerland/ Austria	+49 (0) 89 54 554 333	+49 (0) 89 54 554 170
Italy - Freephone	800 780992	
Netherlands	+31 (0) 30 600 35 50	+31 (0) 30 600 35 10
Scandinavia	+46 (0)8 444 5940	+46 (0)8 623 1855
U.K.	+44 (0)161 437 5224	+44 (0)161 437 5225
(Southern Europe, Middle East and South Africa Agents call U.K.)		
Asia Pacific - English Hub		+61 2 9954 1818
Australia	+61 2 8912 9898	
Hong Kong	800 908 457	
India	+61 2 8912 9898	
Indonesia	0018 03061 2061	
Malaysia	1800 803 459	
New Zealand	0800 449 596	
Philippines	1800 1612 0096	
Singapore	800 616 2075	
Thailand	0018 00612 1045	
Asia Pacific - Japanese Hub	+81 3 3595 7150	+81 3 3595 7110
Asia Pacific - Korean Hub	+82 2 552 8744	+82 2 552 8746
Asia Pacific - Mandarin Hub	+88 62 2739 3223	+88 62 2378 5993
Asia Pacific e-mail address: ap_support@candle.com		

When your local support office is unavailable, you can contact Candle's North America support center. If USADirect® service is available in your country, use the 800 telephone number. If USADirect service is not available, ask your international operator for assistance in calling Candle's local (310) number.

Incident Documentation

You may be asked to send incident documentation to the Candle Customer Support Center. On the outside of all packages you send, please write the incident number given to you by the Customer Support representative.

Send tapes containing the incident information to the following address, unless directed otherwise by your Customer Support representative:

Candle Customer Support
Candle Support Center, *Incident number*
201 North Douglas Street
El Segundo, CA 90245

Send all other relevant documentation, such as diskettes or paper documentation, to the address provided by your Customer Support representative.

Ensuring Your Satisfaction with Customer Support

Candle Customer Support is committed to achieving high customer satisfaction ratings in all areas. These include

- connecting you to a support representative promptly
- providing you with the appropriate fixes
- answering support questions
- filling your shipping orders
- supplying documentation

If you have a concern that has not been resolved to your satisfaction, you can open a complaint ticket. All tickets are logged and tracked to ensure responsiveness and closure. Using the ticket information, a manager will contact you promptly to resolve your problem.

Glossary

#S. Insert Space edit command. This command is used with the !DB/QUICKCHANGE SQL line editor to insert 10 blank spaces in an existing line of text.

#X. Delete Space edit command. This command is used with the !DB/QUICKCHANGE SQL line editor to delete spaces in an existing line of text.

\$. Standard prefix for the names of !DB/Tools user macros.

alias. An object that uses another name to represent a table or view. The table or view can be in either the local or a remote DB2 subsystem.

ALLUSERS. The default SRF group to which all users automatically belong. Any user can restore, copy, or save any session created by a user belonging to this “unprotected” group.

Alter definition. The description of the changes to be made to a DB2 object or objects using !DB/QUICKCHANGE. You build an Alter definition using !DB/QUICKCHANGE panels.

change set. A group of objects that are to be changed simultaneously.

clustering index. The index that determined how rows are physically ordered in a tablespace.

column. A vertical component of a DB2 table. A column is like a field in a nonrelational database. Each column has a name and a particular data type.

Command. A function you type on the command line that affects all the objects on the current panel list.

Constraint Name. The 8-character name for a referential relationship between tables. If the constraint name is not specified when the table is created, it is specified by DB2.

database. A logical collection of tables, or a logical collection of tablespaces and index spaces.

data set. A collection of information for data retrieval and storage purposes.

DBRM library. The library where the DBRMs generated by !DB/QUICKCHANGE are stored.

DB2 Load library. The library that contains the DB2 precompiler and the DB2 utility module, DSNUTILB.

DDL. (Data Definition Language) A subset of SQL describing data and their relationships.

edit proc. An edit routine the system uses when a row is retrieved for an operation. (For example, when you load, insert, or update a row.)

foreign key. A column or columns in a dependent table that match the primary key columns of the referential parent table.

free space. Space that is left free by DB2 during a LOAD or REORG to allow for inserts and updates.

filter. A characteristic of an object that is used to set it apart from other objects.

filter condition. A specific value for an object characteristic.

index. An object consisting of one or more columns from a table and a set of pointers. An index is logically ordered by the values of a key.

index columns. A column or columns used to order index entries.

index partitions. An index stored in multiple index spaces. A partitioned index is a clustering index for a partitioned tablespace. Limitkeys in this index determine which rows are stored in which partition.

Library Options. These parameters set the specific data sets and output devices that are used by this product during processing. After installation, the Library Options must be set up before users can access !DB/QUICKCHANGE.

Log PDS. A partitioned data set that records any update activity against the DB2 catalog and stores ABEND information.

load library. The data set in which the DB2 SQL programs generated by this product are linkedited and executed. It also stores the load modules installed with !DB/QUICKCHANGE that perform data unloads.

macro. *See User macro.*

mask. A pattern of characters to be matched.

name compare. A filter condition that uses the names or naming patterns of DB2 objects to filter object lists.

object. Anything that can be created or manipulated with SQL, such as a database, tablespace, table, or index.

PCTFREE value. A number from 0 to 99. The value specifies the percentage of each page that the system reserves as free space when the table is loaded or reorganized. If the value of the field is greater than 10, 10 is used.

predicate. A component of a search that specifies a condition.

primary key. A unique key in a table that contains columns that cannot contain null values. A table cannot be defined as a parent table unless it has a primary key. The foreign key of a dependent table consists of the same set of columns as the primary key for the parent table.

program prefix. A 4-character prefix that is used to name the programs and DBRMs generated by this !DB/QUICKCHANGE

QKCOPTS authority. The authority to add or delete a user or user group and change user access options and authorizations.

remote DB2 system. A different DB2 system that can have shared DASD on the same CPU or can reside on a different CPU.

saved session. A !DB/QUICKCHANGE Alter definition that has been stored using the

Save/Restore facility. A saved Alter definition can be restored and completed later.

search condition. The condition that is used to select rows from a table. The condition can consist of one or more predicates.

select. A function you type in the select field on the line that contains the object you want to act on. The select affects only that object.

set of objects. *See object set.*

source library. The data set in which the DB2 SQL programs that are generated by !DB/QUICKCHANGE are stored.

SRF. *See Save/Restore facility.*

SRF Group. A set of users who share access to product work sessions that are saved by the Save/Restore facility. The *default* universal SRF group is named ALLUSERS; *any* user can restore, copy or save any session created by a member of this unprotected group.

save/restore facility. (SRF) A product feature used to save work done during a session so that it can be restored and completed at another time.

status value. A filter condition in which single character fields are compared to a specific DB2 values for an attribute for an object.

storage group. A named set of DASD volumes where DB2 data is stored.

synonym. An alternative name for a table or view.

table. An object containing rows with columns of user data. A table is like a file in a nonrelational database.

tablespace. An object in a page set that contains one or multiple tables.

tablespace partition. A DB2 object. A tablespace subdivided into separate data sets (partitions). A partitioned tablespace contains one table stored in multiple partitions. Table rows are stored in partitions based on an index key range. Utilities can process partitions separately.

translate table. A “lookup” table that is used to perform data conversions. It is a data-only module that is 256 bytes long with one byte for each of the 256 EBCDIC values. Data conversion is based on the relative position of a character in the translate table. A given character is replaced by the value in the corresponding byte position in the translate table.

unique column. A DB2 object. A column containing a keyword specifying that no identical key values are stored in a table.

User macro. The name of a member in the User PDS that you can execute to perform a task. The member can contain commands and selects that are combined to perform a single task. A user macro is designed to work with a specific panel. Each macro member name must begin with a '\$' (dollar sign).

user options. ISPF profile variables that are set up for each userid during installation. User

options control Save/Restore group membership, the appearance of optional panels, and the user's plan name.

user PDS. A partitioned data set allocated during the installation of !DB/WORKBENCH that contains user data.

valid proc. A validation exit routine the system uses when a row is retrieved for an operation. (For example, when you load, insert, update, or delete a row.)

verification character. An input mask character that the corresponding input data must exactly match to be accepted as valid.

volume. A DB2 object. One DASD actuator identified by its own 6-character volume serial number.

wildcard characters. Special characters that are used to define masks.

Index

Special Characters

<creator.table name> Indexes of panel 246
 <creator.table name> (columns of) panel 163
 <creator.view name> panel 306
 %KTC command 40

A

accessing !DB/QUICKCHANGE 40
 activity log
 used by customer support 485
 Add Objects command
 adding objects later in Alter definition 445
 Add Objects panel 120
 Add/Change Index panel 248
 accessing.
 procedure to follow 259
 administration 465
 Adobe portable document format 16
 Affected Packages panel 147
 Affected Plans panel 145
 After step of CEL 404
 Allocation Options panel 216
 Altering
 a simple table
 selecting the table to change
 (example) 415, 416
 attributes
 index 250
 index space 222, 225
 partition
 cloned 326
 table 154
 tablespace 222
 tablespace 224
 audit
 See table attributes

B

Before step of CEL 404
 Bind Package Options panel 459
 Bind Plan Options panel 459
 BookManager 19
 BOTTOM command 95
 Buffer Pool
 See tablespace and index space attributes
 Build ORDER BY Clause panel 181
 Build WHERE Clause panel 174

C

candidate column 272
 Candle Electronic Customer Support
 (CECS) 509
 case statement warning 387
 catalog values
 using to set space allocations
 procedure to follow 216
 CEL Generation step
 !DB/QUICKCHANGE DB2 object change
 defined 28
 CEL members
 displaying
 procedure to follow 50
 change
 generating
 procedure to follow 382
 propagating 389
 prerequisites for 390
 procedure to follow 391
 submitting
 procedure to follow 385
 Change Alias Names panel 135
 Change All Partitions panel 231
 Change Allocations panel
 accessing
 procedure to follow 207
 described 208
 Change Database Name pane 130
 Change Definition step
 !DB/QUICKCHANGE DB2 object change
 defined 28

Index

- Change Engine Language
 - making changes to 34
 - parsing for syntax 34
- Change Execution step
 - !DB/QUICKCHANGE DB2 object change defined 29
- Change Grantee IDs panel 152
- Change Grantor IDs panel 149
- Change Index Names panel 136
- Change Index Space panel 235
- change job
 - restarting 403
- Change Limitkeys panel 331
- Change Names panel 129
- Change Package Names panel 147
- Change Partition Indexes panel 237
- Change Partitions panel 214
- Change Plan Names 145
- change process
 - phases of 34
 - stages of 28
- change session
 - planning 27
- Change Synonym Names panel 134
- Change Tablespace Names panel 132
- Change Tablespace panel 227
- Change to Partitioned panel 334
- Change View Names panel 138
- changed objects and views 127
- Change/Insert Column panel 164
- Change/Session Management panel 50
- changing creator IDs
 - for tablespace migration
 - example 454
- changing names
 - all grantors 150
 - C (Change) command 141
 - database name 130
 - duplicate names 127
 - F (Find) command 142
 - grantees 152
 - grantor 149
 - index name 136
 - multiple occurrences 140
 - package name 147
 - plan name 145
 - table alias name 135
 - table name 133
 - table synonym name 134
 - tablespace name 132
- changing names (*continued*)
 - view alias name 139
 - view name 138
 - view synonym name 134
- changing objects
 - generating job stream 36
 - generating statements 36
 - simultaneously 434
- changing table columns (example) 418
- characters
 - mask
 - edit characters 197
 - significance indicators 197
 - special wildcards for filtering 81
- check option warning 386
- Choose Partition Index panel 335
- cloned partitions 326
 - attributes of 326
- Close
 - See* tablespace and index space attributes
- Clustering
 - See* index attributes
- column
 - candidate 272
- columns, index
 - adding
 - procedure to follow 258
 - changing order of
 - procedure to follow 257
 - redisplaying excluded
 - procedure to follow 255
 - removing
 - procedure to follow 254
 - resetting to original set
 - procedure to follow 256
- command line filtering 78
- commands
 - %KTC 40
 - BOTTOM 95
 - DO
 - using 89
 - DOWN 95
 - END 94
 - EST 211
 - ESTS 211
 - ESTX 211
 - FILT
 - using 77
 - NOF
 - using 77

commands (*continued*)

NOFILT
 using 77
 PANELID 99
 PFSHOW 99
 RETURN 94
 SELECT ALL
 using 62
 SPLIT 93
 TOP 95
 TRK 217
 TSO KTC 40
 types available on panels 58
 UP 95
 Comments
 See table attributes
 Compress
 See tablespace attributes
 conventions 17
 Copy/Rename Save Session panel 71
 count comparison filter
 defined 83
 CREATE VIEW statements 304
 creating another ISPF session 93
 customer support 485, 509

D

Data Capture

See table attributes
 data conversion errors 508
 Data Migration panel 49
 data types
 converting using translate tables 190
 database
 name change 130
 database values
 specifying when moving tablespaces 322
 databases
 moving tablespaces to new or existing
 procedure to follow 320
 specifying new names for partitioning
 procedure to follow 333
 date/time conversions 201
 DB2 catalog
 use by !DB/Tools Change Engine 33
 DB2 LOAD errors
 using translate tables to prevent 190

DB2 object
 migration of 48
 DB2 objects
 and restoring a session 63
 restoring 409
 DB2 Version 5.1 386
 affect on generated JC 386
 and case statement warning 387
 and check option warning 386
 and referential constraint warning 387
 DB2-managed space
 changing from user-managed
 procedure to follow 220
 changing to user-managed
 procedure to follow 218
 !DB/QUICKCHANGE
 invoking for change 43
 !DB/QUICKCHANGE DB2 object change
 CEL Generation step
 defined 28
 Change Definition step
 defined 28
 Change Execution step
 defined 29
 Impact Analysis step
 defined 28
 !DB/QUICKCHANGE panels
 command types available 58
 described 57
 functions available 58
 DBRMs in Plan panel 291
 !DB/Tools
 accessing
 procedure to follow 40
 accessing from OMEGAMON for DB2 42
 !DB/Tools Change Engine
 DB2 catalog
 use of 33
 methods for implementing change 37
 processes performed by 33
 purpose of 33
 !DB/Tools Change Engine library names 473
 !DB/Tools Change Engine reports 37
 !DB/Tools extract
 and restoring a session 63
 !DB/Tools libraries 466
 !DB/Tools plan name 466
 !DB/Tools Product Selection Menu panel 40

Index

- !DB/WORKBENCH
 - accessing 40
 - procedure to follow 40
 - !DB/WORKBENCH Administrative Functions Menu 485
 - !DB/WORKBENCH Alter <object> - Select Type panel 45
 - !DB/WORKBENCH Alter Database - Select Type panel 345
 - !DB/WORKBENCH Alter Table - Select Type panel 31
 - !DB/WORKBENCH Alter Tablespaces - Select Type panel 348
 - !DB/WORKBENCH Indexes panel 30
 - !DB/WORKBENCH Index's Table panel 31
 - !DB/WORKBENCH Log Activity List panel 486
 - !DB/WORKBENCH object list panel 44
 - !DB/WORKBENCH Primary Menu panel 41
 - !DB/WORKBENCH Referential Relations panel 47
 - !DB/WORKBENCH Sessions Menu 87
 - !DB/WORKBENCH Table Filters Menu 76
 - !DB/WORKBENCH Tables panel 44
 - !DB/WORKBENCH Tablespaces panel 49
 - !DB/WORKBENCH Tablespaces panels 351
 - Defer
 - See* index space attributes
 - Define Relation panel 286
 - dependent objects
 - including in change 56
 - relationship to changed objects 126
 - destination options 468
 - Destination System Options panel 458
 - dictionary
 - of selects 489
 - DO command
 - using 89
 - documentation set 19
 - documentation, online 19
 - DOWN command 95
 - dropped objects
 - effect on restoring a session 63
 - dropping
 - source tables 108, 160
 - consequences 161
 - dropping and creating objects
 - in SQLEXEC 404
 - DSN1COPY utility 37
 - DSN1COPY/UNLOAD 404
- ## E
- edit characters 197, 200
 - floating digits 200
 - signs 200
 - Editproc
 - See* table attributes
 - electronic customer support 509
 - END command 94
 - Erase
 - See* tablespace and index space attributes
 - Erase Confirmation panels 69
 - error messages, online 98
 - EST command 211
 - ESTS command 211
 - ESTX command 211
 - existence comparison filter
 - defined 83
 - exiting
 - !DB/WORKBENCH internal session 88
 - exiting !DB/QUICKCHANGE
 - procedure to follow 59
- ## F
- facilities 61
 - features
 - changes 21
 - new 21
 - FILT command 76
 - using 77
 - filter
 - defined 74
 - filter condition
 - defined 74
 - filter menus
 - using 76
 - filtering 74
 - building filter conditions 80
 - constructing name comparisons 80
 - count comparison filter
 - defined 83
 - existence comparison
 - defined 83
 - filtering with user macros 79

filtering (*continued*)
 status value comparison
 defined 84
 turning filters off 77
 using command line filtering 78
 using filter menus 76
 using selection values 83
 using wildcard characters 81
 viewing active filters 77
 filtering methods 75
 filters
 building filter conditions 80
 compared to masks 197
 constructing name comparisons 80
 count comparison filter
 defined 83
 existence comparison
 defined 83
 filtering with user macros 79
 status value comparison
 defined 84
 turning filters off 77
 using command line filtering 78
 using NULLs 81
 using selection values 83
 using wildcard characters 81
 viewing active filters 77
 foreign key 252
 affects of dropping a primary key 263
 Freepage
 See tablespace and index space attributes
 function keys, displaying assignments 100
 functional restrictions in V500 30
 changing indexes 30
 stored procedures 32
 table check constraints 32
 functions available on panels 58

G**GBPCACHE**

See tablespace and index space attributes

generated CEL

parts of
 After 404
 Before 404
 SQLEXEC 404

generated JCL
 and DB2 Version 5.1 386
 generated members
 CEL 50
 JCL 51
 generating a change 382
 generating job stream
 prerequisites 36
 generating statements
 prerequisites 36
 generation options
 specifying for tablespace migration
 example 461
 Generation Options panel 376
 global changes
 to all index spaces 240
 to all tablespaces 238
 to all tablespaces and index spaces 242
 Global IX Changes panel 240
 Global Name Change Control panel 373
 global options 470
 Global Options panel 471
 global print options 479
 Global TS + IX Changes panel 242
 Global TS Changes panel 238
 grantees
 excluding specific 300
 name change 152
 grantors
 excluding specific 298
 global name change 150
 name change 149

H

Help, online
 displaying 97
 hex masks 198
 housekeeping 465

I

image copies 49
 specification of 49
 specifying for migration
 example 450

Index

- Impact Analysis step
 - !DB/QUICKCHANGE DB2 object change defined 28
 - !DB/Tools Change Engine reports 37
 - include options
 - specifying for tablespace migration example 452
 - Include Options panel 56
 - invoking 56
 - index attributes 250
 - changing
 - procedure to follow 250
 - Clustering 251
 - Type 251
 - Unique 250
 - index key range 324
 - index name
 - name change 136
 - index space attributes 225
 - changing
 - procedure to follow 232
 - Defer 225
 - Subpages 225
 - TYPE 225
 - index space partitions
 - changing attributes of a specific
 - procedure to follow 234
 - changing attributes of all
 - procedure to follow 236
 - estimating space allocations 211
 - index spaces
 - changing
 - procedure to follow 232
 - changing from DB2- to user-managed
 - procedure to follow 218
 - changing from user- to DB2-managed
 - procedure to follow 220
 - making global changes to all
 - procedure to follow 240
 - specifying space allocations for
 - procedure to follow 213
 - index spaces (non-partitioned)
 - estimating space allocations 211
 - indexes
 - adding a column to
 - procedure to follow 258
 - adding a new
 - procedure to follow 261
 - alternate procedure to change 30
 - change column order
 - procedure to follow 257
 - indexes (*continued*)
 - changing information in
 - procedure to follow 253
 - changing primary key 252
 - displaying information about all
 - procedure to follow 247
 - displaying information about one
 - procedure to follow 248
 - dropping
 - procedure to follow 264, 266
 - dropping a partitioning index 263
 - dropping a primary key 263
 - functional restriction on changing 30
 - redisplaying excluded columns
 - procedure to follow 255
 - removing a column from
 - procedure to follow 254
 - resetting to original set of columns
 - procedure to follow 256
 - input masks 198
 - Insert RI Relations panel 284
 - invalid views 405
 - and DB2 Version 5.1 386
 - invoking !DB/QUICKCHANGE 43
 - invoking !DB/QUICKCHANGE to change RI Set 46
 - invoking !DB/QUICKCHANGE to migrate an object 48
 - invoking the Include Options panel 56
 - ISPF versions supported 92
- ## J
- JCL member
 - submitting 29
 - JCL members
 - displaying 51
 - procedure to follow 51
 - JCL statements 36
 - JCL, generated
 - and DB2 Version 5.1 386
 - JOB CARD field 382
 - job stream
 - prerequisites for generating 36
 - submitting 29

K

KTNRID 404

L

Lable

See table attributes

Lazarus feature of !DB/WORKBENCH 63

Library Names panel 467

limit keys

changing for partitions

procedure to follow 330

specifying for added partitions 330

validity of 331

values for new partitions 326

LOCKMAX

See tablespace attributes

Locksize

See tablespace attributes**M**

macro

using the User Macro facility 85

valid commands 85

macros

naming conventions 85

using to filter display lists 79

Manage Saved Sessions panel 67

masks

character patterns

floating digits 200

signs 200

triggers 199

character patterns in 196

characters 197

compared to filters 197

data conversion using 197

date/time conversions

special characters for 201

defined 196

example of date/time input 202

example of date/time output 203

examples of data conversion 204

hex

defined 198

input

defined 198

masks (*continued*)

output

defined 198

types

hex 198

input 198

output 198

using for data conversion 196

memory requirements for

!DB/QUICKCHANGE 26

menus

DO Command menu 89

filter

using 76

messages, online 98

migration

changing creator IDs 372

changing object names 371

compared to change 48

data 342

data and DDL 343

database 356

data-only 342

DDL-only 342

defined 48

exclude tablespace 351, 368

generate and perform 375

image copies and changes 343

image copy 362, 365

image copy specification 49

including dependent objects 370

of DB2 object 48

of tablespaces 49

procedure to follow 49

overview 342

partitioned tablespace 358

procedure 344

selecting database 356

selecting partitioned tablespace 358

selecting tablespace 357

selecting tablespace partition 360

structure 342, 345

structure and data 343

tablespace 348, 357

example 448

tablespace partition 360

use of image copies 343

Move Tables panel 314

N

name change
 all grantors 150
 C (Change) command 141
 database name 130
 F (Find) command 142
 grantees 152
 grantors 149
 index name 136
 multiple occurrences 140
 package name 147
 plan name 145
 table alias name 135
 table name 133
 table synonym name 134
 tablespace name 132
 view alias name 139
 view name 138
 view synonym name 134
 name compares
 creating 80
 NOF command
 using 77
 NOFILT command
 using 77

O

OBID
See table attributes
 object lists
 filtering 74
 objects
 changing
 generating job stream 36
 generating statements 36
 changing from !DB/WORKBENCH 44
 procedure to follow 44
 source
 consequences of dropping 161
 dropping 108, 160
 OMEGAMON for DB2
 accessing !DB/Tools from 42
 online documentation 19
 online Help
 resolving problems 484

ORDER BY Clause
 building 184
 procedure to follow 184
 output masks 198
 Override member
 changing fields of 395

P

packages
 exclude specific 295
 name change 147
 panel
 Library Names 467
 Select New Column Source 165
 PANELID command 99
 panels
 <creator.table name> Indexes of 246
 <creator.table name> (columns of) panel 163
 <creator.view name> 306
 Add Objects 120
 Add/Change Index 248
 Affected Packages 147
 Affected Plans 145
 Allocation Options 216
 Bind Package Options 459
 Bind Plan Options 459
 Build ORDER BY Clause 181
 Build WHERE Clause 174
 Change Alias Names 135
 Change All Partitions 231
 Change Database Name 130
 Change Grantee IDs 152
 Change Grantor IDs 149
 Change Index Names 136
 Change Index Space 235
 Change Limitkeys 331
 Change Names 129
 Change Package Names 147
 Change Partition Indexes 237
 Change Partitions 214
 Change Plan Names 145
 Change Synonym Names 134
 Change Tablespace 227
 Change Tablespace Names 132
 Change to Partitioned 334
 Change View Names 138
 Change/Insert Column panel 164
 Change/Session Management 50

panels (*continued*)

- Choose Partition Index 335
- Data Migration 49
- DBMRs in Plan 291
- !DB/Tools Product Selection Menu 40
- !DB/WORKBENCH Administrative Functions Menu 485
- !DB/WORKBENCH Alter <object> - Select Type panel 45
- !DB/WORKBENCH Alter Database - Select Type 345
- !DB/WORKBENCH Alter Table - Select Type 31
- !DB/WORKBENCH Alter Tablespaces - Select Type 348
- !DB/WORKBENCH Indexes 30
- !DB/WORKBENCH Index's Table 31
- !DB/WORKBENCH Log Activity List 486
- !DB/WORKBENCH Primary Menu 41
- !DB/WORKBENCH Referential Relations 47
- !DB/WORKBENCH Sessions Menu 87
- !DB/WORKBENCH Table Filters Menu 76
- !DB/WORKBENCH Tables 44
- !DB/WORKBENCH Tablespaces 49, 351
- Define Relation 286
- Destination System 458
- Erase Confirmation 69
- Generation Options 376
- Global IX Changes 240
- Global Name Change Control 373
- Global Options 471
- Global TS Changes 238
- Global TX + IX Changes 242
- Include Options 56
- Insert RI Relations 284
- Manage Save Sessions 67
- Move Tables 314
- panels 71
- Partitioned Tables 214
- Pick a Tablespace 315
- Pick Tables for QKC 121
- Plan Dependents panel 293
- Primary Menu 45
- Process Member 377
- Reassign Tablespace to a Different Database 321
- Related Views 305
- RI Relationships 268
- Save a Session 64
- Select Index Columns 248

panels (*continued*)

- Select Partition Control 358
- Specify Select Limits 172
- Supply New Names 317
- Tables Being Changed 157
- Tables in .<tablespace> panel 62
- Tables View is On 308
- Tablespace Image Copies 366
- TablespacesImage Copy 363
- This System Options panel 375
- Verify Exit 59, 65
- Verify Primary Key Change 252
- Wait for Processing 56
- parse reports 34
- partition index
 - choosing
 - procedure to follow 336
- partitioning
 - removing from a tablespace
 - and referential relationships 338
 - and the partition index 338
 - and the primary key 338
- partitioning index
 - dropping 263
- partions
 - adding
 - and limit key values 326
 - procedure to follow 326
- partition index
 - removing partitioning 338
- partitioned table
 - defined 324
- Partitioned Tables panel 214
- partitioned tablespaces
 - defined 324
- partitioning 323
 - adding to tables
 - procedure to follow 332
 - changing
 - prerequisites for 325
 - removing from a table
 - procedure to follow 339
- partitioning index
 - dropping
 - procedure to follow 264
- partitions
 - deleting
 - procedure to follow 328

Password

See tablespace and index space attributes

Pctfree

See tablespace and index space attributes

PFSHOW command 99

Pick a Tablespace panel 315

Pick Tables for QKC panel 121

Plan Dependents panel 293

planning a change session 27

plans

display DBRMs 291

display dependents 292

exclude specific 294

name change 145

portable document format, Adobe 16

Pqty

See tablespace and index space attributes

primary key

implications of dropping 263

removing partitioning 338

primary key index 252

dropping

procedure to follow 264

Primary Menu 45

accessing from !DB/WORKBENCH 45

navigating 54

returning to 94

Primary Menu panel

using 53

Process Member panel 377

profile datasets 476

propagating change 389

finding dataset and member names

procedure to follow 392

prerequisites for 390

procedure to follow 391

Q

QKCTRTB1 translate table 191

QKCTRTB2 translate table 191

QKCTRTB3 translate table 192

R

Reassign Tablespace to Different Database panel 321

referential constraint warning 387

referential relationships

affects of dropping and undropping a primary key 263

removing partitioning 338

Related Views panel 305

RELOAD/DSN1COPY 404

reports

!DB/Tools Change Engine 37

parse 34

verification 34

restarting a change job 403

restarting a job

determining how 406

restoring objects 409

Restrict DROP

See table attributes

retoring data 409

RETURN command 94

RI Relationships panel 268

RI set

defined 46

invoking !DB/QUICKCHANGE to change 46

procedure to follow 46

S

Save a Session panel 64

saved sessions

displaying 52

procedure to follow 52

Save/Restore facility 63

scrolling 95–96

Number of lines, altering 96

to the beginning of a list 95

to the end of a list 96

Segsize

See tablespace attributes

SELECT ALL menu command

using 62

Select Index Columns panel 248

Select New Column Source panel 165

Select Partition Control panel 358

- selection value filters
 - defined 83
 - filters
 - using 83
- selects
 - dictionary 489
- session
 - !DB/WORKBENCH internal
 - exiting 88
- sessions
 - adding tables to
 - procedure to follow 120
 - adding tablespaces to
 - procedure to follow 122
 - copying
 - procedure to follow 70
 - !DB/WORKBENCH internal
 - accessing 87
 - using 87
 - documenting 118
 - erasing
 - procedure to follow 68
 - renaming
 - procedure to follow 72
 - restoring
 - and DB2 objects 63
 - and !DB/Tools Extract 63
 - effect of dropped objects on 63
 - procedure to follow 66
 - process failure 63
 - required objects for 63
 - saving and continuing
 - procedure to follow 64
 - saving and exiting
 - procedure to follow 65
- significance indicators 197, 199
 - triggers 199
- source system (DB2 subsystem) 57
 - display on !DB/QUICKCHANGE panels 57
- source tables
 - dropping 108, 160
 - consequences 161
- space
 - changing from DB2- to user-managed
 - procedure to follow 218
 - changing from user- to DB2-managed
 - procedure to follow 220
- space allocations
 - displaying information about 207
 - estimating 211
- space allocations (*continued*)
 - estimating for non-partitioned tablespace
 - procedure to follow 212
 - for cloned partitions 326
 - methods for changing 206
 - rounding to nearest track boundary
 - procedure to follow 217
 - setting based on catalog values
 - procedure to follow 216
 - specifying
 - procedure to follow 214
 - specifying for index spaces
 - procedure to follow 213
 - specifying for tablespaces
 - procedure to follow 213
- special characters
 - filtering wildcards 81
 - in index names
 - affect on changing spaces 218
- Specify Select Limits panel 172
- SPLIT command 93
- split screen in ISPF 93
- SQL ALTER statement 37
- SQLEXEC step of CEL 404
- Sqty
 - See* tablespace and index space attributes
- statements
 - Change Engine Language 34
 - CREATE VIEW 304
 - JCL 36
 - SQL ALTER 37
- status value filter
 - defined 84
- stored procedures
 - V500 functional restrictions on 32
- submitting a change 385
- Subpages
 - See* index space attributes
- Supply New Names panel 317
- syntax of the WHERE clause 173
- SYSIBM.SYSTABLES table 154
- system options
 - specifying for tablespace migration
 - example 457

T

- table
 - Alter 173
 - Alter using !DB/QUICKCHANGE example 413
 - Change using !DB/QUICKCHANGE
 - selecting a table to change (example) 415
 - selecting change options 415
 - specifying change options 416
 - name change 133
- table alias
 - name change 135
- table attributes 154
 - Audit 155
 - changing
 - procedure to follow 157
 - Comments 156
 - Data Capture 154
 - Editproc 154
 - Label 156
 - OBID 155
 - Restrict DROP 155
 - Validproc 154
- table check constraints
 - V500 functional restrictions on 32
- table column
 - invalid views when changing 405
 - invalid views when dropping 405
- table synonym
 - name change 134
- table, partitioned
 - defined 324
- tables
 - adding partitioning to
 - procedure to follow 332
 - adding to sessions
 - procedure to follow 120
 - moving to tablespaces in session
 - procedure to follow 314
 - moving to tablespaces not in session
 - procedure to follow 316
 - source
 - consequences of dropping 161
 - dropping 108, 160
- Tables Being Changed panel 157
- Tables in <tablespace.> panel 62
- Tables View is On panel 308
- tablespace
 - excluding in a migration 351
 - migrating 348
 - name change 132
 - specifying for migration
 - example 450
- tablespace and index space attributes 222
 - Buffer Pool 223
 - Close 223
 - Erase 223
 - Freepage 222
 - GBPCACHE 223
 - Password 223
 - Pctfree 222
 - Pqty 222
 - Sqty 222
- tablespace attributes 224
 - changing
 - procedure to follow 226
 - Compress 224
 - LOCKMAX 224
 - Locksize 224
 - Segsize 224
- Tablespace Image Copies panel 366
- tablespace migration
 - example 448
- tablespace partitions
 - changing attributes of a specific
 - procedure to follow 228
 - changing attributes of all
 - procedure to follow 230
 - estimating space allocations 211
- tablespaces
 - adding to sessions
 - procedure to follow 122
 - changing
 - procedure to follow 226
 - changing from DB2- to user-managed
 - procedure to follow 218
 - changing from user- to DB2-managed
 - procedure to follow 220
 - creating new databases for 322
 - making global changes to all
 - procedure to follow 238
 - migrating 49
 - procedure to follow 49
 - moving tables to those in session
 - procedure to follow 314
 - moving tables to those not in sessions
 - procedure to follow 316

tablespaces (*continued*)
 moving to new or existing databases
 procedure to follow 320
 moving to to new databases
 database values to specify 322
 removing partitioning from 338
 specifying new names for partitioning
 procedure to follow 333
 specifying space allocations for
 procedure to follow 213
 tablespaces and index spaces
 making global changes to all
 procedure to follow 242
 Tablespaces Image Copy panel 363
 tablespaces (non-partitioned)
 estimating space allocations 211
 estimating space for
 procedure to follow 212
 tablespaces, partition
 defined 324
 telephone support 510
 This System Options panel 375
 TOP command 95
 track boundary
 rounding space allocation to
 procedure to follow 217
 translate tables
 building
 procedure to follow 193
 converting data types using 190
 defined 190
 example 194
 QKCTRTB1 191
 QKCTRTB2 191
 QKCTRTB3 192
 using to prevent DB2 LOAD errors 190
 when to use 190
 TRK command 217
 TSO %KTC command 40
 TYPE
 See index attributes
 See index space attributes

U

Unique
 See index attributes
 UNLOAD datasets 404
 UP command 95
 User macro
 naming conventions 85
 using 85
 valid commands 85
 user macros
 using to filter display lists 79
 user-managed space
 changing from DB2-managed
 procedure to follow 218
 changing to DB2-managed
 procedure to follow 220
 utilities
 DSN1COPY 37
 utility options
 !DB/Tools Change Engine overrides to 35
 utility profiles 35

V

Validproc
 See table attributes
 verification reports 34
 Verify Exit panel 59, 65
 Verify Primary Key Change panel 252
 view alias
 name change 139
 view name
 name change 138
 view synonym
 name change 134
 views
 displaying 305
 procedure to follow 305
 displaying detail of
 prerequisites for 305
 displaying objects of
 prerequisites for 307
 procedure to follow 307
 dropping
 prerequisites for 309
 procedure to follow 309
 excluding
 factors that affect 311

Index

views (*continued*)
 excluding (*continued*)
 procedure to follow 311
views and changed objects 127
views, invalid 405

W

Wait for Processing panel 56
warnings
 case statement 387
 check options 386
 referential constraint 387
WHERE clause
 building
 procedure to follow 174
wildcard characters
 for filtering 81

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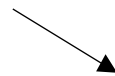
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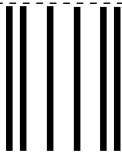
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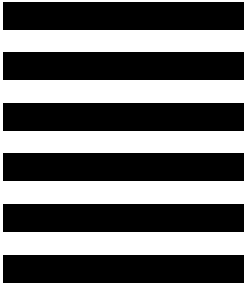
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