

Reference Manual

!DB®/WORKBENCH for DB2

Version 500

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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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Preface

The *!DB/WORKBENCH Reference Manual* gives you information and direction if you are already familiar with !DB®/WORKBENCH for DB2 and need a quick reference or help with problem resolution. Appendixes provide you with abend codes and error messages issued by !DB/WORKBENCH, in addition to information on facilities that access the DB2 catalog or subsystem.

The individuals who can benefit from this manual include:

- database administrator
- storage administrator
- DB2 systems programmer
- security administrator
- application programmer

How this guide is organized

This guide is organized into three main sections.

- The “*Quick Start*” section comprises fourteen chapters that
 - Explain how you use the dictionary of commands and selects for object list panels
 - Identify the commands and selects available to you from the general panels
 - Introduce you to filtering methods for authorizations and object list panels
 - Identify the filters available for object list panels
 - Show you how to use the methods for sorting and the available sorts
 - Explain the values you use when creating or altering objects
 - Summarizes the methods used for display
 - Show you how to use data from the extract or the DB2 catalog obtained from the object list panel
 - Introduce you to the data displayed by using functions

- The “*Resolving Problems*” section contains the chapter that gives tips on resolving problems and how to report problems to Candle Customer Support.
- The “*Appendixes*” section is organized into three chapters that:
 - Identify abend codes that can be issued by !DB/WORKBENCH
 - Give you a list of error messages issued by !DB/WORKBENCH
 - Explain the !DB/WORKBENCH facilities that access the DB2 catalog or subsystem

The remaining sections of this guide contain the Customer Support information, a glossary, and an index.

Conventions

Introduction

Certain conventions have been followed to add to the usability of this document. Examples are given for each convention.

Conventions used in this guide

This guide uses the following conventions.

- | | |
|---------------------------|---|
| Commands | All command names are in uppercase. This includes commands for TSO, DB2, and !DB/WORKBENCH, such as the ALIAS command. |
| Percent (%) sign | A percent (%) sign is shown in front of all CLISTS mentioned in the written instructions for optimum performance. However, the use of the % is optional. For example, the CLIST KTC is preceded by the %, such as %KTC. |
| Function keys | This guide does not refer to specific function keys, such as F10. Because these function keys are user-defined, the 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 key data, the data to be keyed will be in bold, such as RETURN . |
| Panels and figures | The panels and figures in this document are representations. Actual product panels may differ. |
| Revision bars | Revision bars (l) appear on the left margin to identify new or updated material. |
| Variables | If the data is a variable, the data will be in an italic font, such as <i>databasename</i> . The variable name will not necessarily be the correct number of characters allowed by the system, but instead be a descriptive name. |

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 Set

Introduction

Candle provides a complete set of documentation for !DB/WORKBENCH. 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/WORKBENCH.

Document Number	Document Name	Description
TI51-5840	<i>!DB/Tools Installation and Customization Guide</i>	Gives the requirements and instructions to install all the !DB@/Tools for DB2.
TW54-5847	<i>!DB/WORKBENCH Basic User's Guide</i>	Contains information on <ul style="list-style-type: none">● accessing, using, and exiting !DB/WORKBENCH● online Help● Primary Menu and object list panels● selection lists from object list panels● ISPF facilities within this product● displaying data and filtering object lists● operations on data● !DB/WORKBENCH macros
TW54-5848	<i>!DB/WORKBENCH Advanced User's Guide</i>	Contains information on <ul style="list-style-type: none">● SQL and DB2 commands● managing the system● creating objects● running utilities● running batch operations● JCL.

Document Number	Document Name	Description
TW53-5849	<i>!DB/WORKBENCH Reference Manual</i>	Contains information on <ul style="list-style-type: none"> ● commands and selects in online and batch ● methods for filtering and sorting ● accessing data from the DB2 catalog ● accessing data from the extract ● problem resolution ● abend codes and error messages

Online documentation for BookManager

In addition to the printed versions, !DB/WORKBENCH 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.

For more information about using BookManager, see the appropriate IBM documentation as follows:

IF you want to ...	THEN see ...
put our book on a bookshelf,	<i>IBM BookManager BUILD/MVS Preparing Online Books SC38-2036</i>
display our book,	<i>IBM BookManager READ/MVS Displaying Online Books SC38-2034</i>

Version 500 Changes

Overview

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

Differences in this release

| Primarily, the Version 500 release of !DB/WORKBENCH provides full
| compatibility for DB2 Version 6. However, some DB2 enhancements are not
| exploited by !DB/WORKBENCH 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/WORKBENCH also continues to support fully earlier releases of DB2 and is also Y2K compliant.

Quick Start

Chapter 1.

Dictionary of Commands and Selects for Object List Panels

How to Use This Chapter

This chapter lists, in alphabetical order, the commands and selects available from the

- object list panels you access from the !DB/WORKBENCH Primary Menu
- subordinate panels you access by using a command or select from the object list panels; as, for example, the panel that !DB/WORKBENCH displays when you use the Copy (c) select on the Table Spaces panel

A definition is provided for each command and select.

Additional Resources in This Section

For a matrix that cross-references the commands and selects that are available on object list panels you access from the !DB/WORKBENCH Primary Menu, see “Commands and Selects Available from Object List Panels” on page 29.

For a matrix that cross-references the commands and selects available on subordinate panels within !DB/WORKBENCH, see “Commands and Selects Available from General Panels” on page 35.

Online Resources for Help for Commands and Selects

!DB/WORKBENCH provides information about commands and selects on panels and on their associated Help panels. (If you need detailed instructions on using Help, see “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions on using selects and commands selection lists, see the section “Introducing Fundamentals” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Commands or selects on an object list panel available from the !DB/WORKBENCH Primary Menu	Use the DO command (for commands) or the ? select (for selects) to display a selection list of brief definitions. If you need more information, type HELP on the command line and press Enter, or press the appropriate function key.
Commands or selects on a panel not available from the !DB/WORKBENCH Primary Menu	If you need more information than is available on the product panel, type HELP on the command line and press Enter, or press the appropriate function key.

Dictionary of commands and selects

- (dash) command	Displays a menu of the DB2 commands available from !DB/WORKBENCH
? (question mark) select	On primary object list panels, displays a selection list of all selects available for the selected object. On the TBL/IX Report panel for the Estimate (E) select, calculates statistics for the values you change for tables or indexes.
/ (forward slash) command	Displays a selection list listing sessions available within !DB/WORKBENCH; used with the operand for each type of object, can access a specific session directly.
ALIAS command	Shows (interleaves) aliases for all objects listed (See also NOALIAS)
ALL command	Resets the display on the Columns panel after having used the SAME command
ALL (L) select	Displays the relationship between the major objects in the system and the selected object
ALTER command	Generates ALTER statements for all objects listed; displays a menu of options for processing the statements
ALTER command (RI data)	On some panels showing referential data, accesses !DB/QUICKCHANGE if installed.
Alter (A) select	Generates ALTER statements for the selected object; displays a menu of options for processing the statements (Also, accesses !DB/QUICKCHANGE, if installed)
AMS command	Displays options that generate LISTCAT statements, DELETE or DEFINE statements, or DELETE and DEFINE statements; displays a menu of options for processing the statements
Auths (Z) select	Displays authorizations for selected object
BIND command	Generates BIND statements for all objects listed; displays a menu of options for processing the statements

BIND (B) select	Generates BIND statements for the selected object; displays a menu of options for processing the statements
CAN command	Cancels all selects typed on a panel and resets the panel
CAT command	Displays image or system copies from the DB2 catalog (see also RED)
CHECKS command	Displays checks information
CHECKS (E) select	Displays checks information for selected object
COLL command	Displays collections for all objects listed
Coll (C) select	Displays unique collections for the selected object
COLS command	Generates a batch report for columns for all tables listed and displays a message indicating the report is printed
Columns (C) select	Displays columns for the selected object
Conns (N) select	Displays connections for the selected object
Copies (C) select	Displays the last five image or system copies for the selected object
Count (N) select	Displays the number of rows in the selected table
DBR command	Displays DBRMs for all objects listed
DBRMs (S) select	Displays DBRMs for the selected object
DCL command	Generates DECLARE statements (DCL) and assembler declarations (DML) for the selected table column
DEBUGOFF command	Turns the Automated Trace Facility off
DEBUGON command	Turns the Automated Trace Facility on
DEP command	Displays dependents for all objects listed
DEP command (RI data)	On panels showing referential data, displays referential dependents for the selected object.

Deps (D) select	Displays dependents for the selected object
Details (D, S, or T) select	Displays details for the selected object
Display Labels and Comments (S) select	Displays details about the selected column, including the label and comments
DISP command	Generates -DISPLAY DATABASE commands for all objects listed; displays a menu of options for processing the statements
DO command	Displays a selection list of all commands available from the object list panel
DOP command	Displays a selection list of the required and optional values for using the PRNT command
DOS command	Displays a selection list of all of the sorts available from the object list panel and a brief explanation of each sort (From the DO command menu, displays a selection list of all of the sorts available on the object list panel.)
DROP command	Generates DROP statements for all objects listed; displays a menu of options for processing the statements
DS Info (N) select	Displays data space information for the selected object
Estimate (E) select	Displays the panel to use to estimate statistics for the selected table space and its associated tables and indexes
Exclude (X) select	Excludes the selected object from subsequent operations (See also RESET.)
FILT command	Displays the selection list of filters currently in effect and filters available from the object list panel
FREE command	Generates FREE statements for all objects listed; displays a menu of options for processing the statements
FREE (F) select	Generates FREE statements for the selected object; displays a menu of options for processing the statements

GM command	Show GROUP MEMBERS
Hexdumps (H) select	Displays hexdump results for the selected object
Indexes (I) select	Displays indexes for the selected object
IX command	Displays details about the index columns for all objects listed
LAST command	Displays only the latest image or system copy available for the selected object (See also NOLAST.)
LCTN command	Shows (interleaves) the location for all aliases listed (See also NOLCTN.)
LINKBIND command	Generates a job stream to linkedit a module and bind a plan for all plans listed; displays a menu of options for processing the statements
Listcat (L) select	Displays VSAM LISTCAT for the selected object
Load (L) select	Generates LOAD statements for the selected object; displays a menu of options for processing the statements
LOCATE command	Redisplays the panel and places the name of the object you specified at the top of the object list (must be followed on the command line by the name of the object and the object specified must be in the first column)
MAINT command	Displays the maintenance level of the current !DB/WORKBENCH system
MAINT? command	Displays the maintenance level of all installed !DB/Tools
MAP command (RI data)	On a panel showing referential data, displays box diagrams showing referentially related tables
Migrate (8) select	Accesses !DB/QUICKCHANGE functions (if installed)
NEW command	Retrieves and displays current statistics from the DB2 catalog. To use the NEW command, you must have executed the RUNSTATS command at least once prior to running the extract.

NOALIAS command	Turns off the ALIAS command that shows aliases for all objects listed (See also ALIAS.)
NOFILT command	Resets all filters and turns off filtering (See also FILT.)
NOGM command	Turns off the GROUP MEMBER request
NOLAST command	Turns off the LAST command that shows only the latest image or system copy (See also LAST.)
NOLCTN command	Turns off the LCTN command that shows the location for all aliases listed (See also LCTN.)
NOPART command	Displays the first partition for all objects listed (See also PART.)
NOPPLN command	Turns off the display of parent plans for all objects listed (See also PPLN.)
NOPKG command	Turns off the PKG command that shows packages for all objects listed (See also PKG.)
NOSTT command	Turns off the display of statistics for all objects listed and displays other data about the objects listed (See also STT.)
NOSYN command	Turns off the SYN command that shows synonyms for all objects listed (See also SYN.)
OUT command	Generates OUT DDL (such as CREATE, GRANT or UPDATE statements) for all objects listed; displays a menu of options for processing the statements. With CREATE statements, also generates statements for all dependent objects.
OUTC command	Generates CREATE statements for all objects listed and for the dependent objects according to conditions you set on the OUTDDL Options panel; displays a menu of options for processing the statements
Out DDL (O) select	Generates CREATE statements for the selected object and for its dependent objects; displays a menu of options for processing the statement
Output (O) select	Generates GRANT statements for the selected authorizations; displays a menu of options for processing statements

OUTX command	Displays a menu of options for processing any statements that you have previously generated and accumulated in the Accum member (used to process CREATE, DROP, FREE, GRANT, or LOAD DATA statements)
PACK command	Displays packages dependent on all objects listed
PART command	Shows partitions for all objects listed (See also NOPART.)
PKG command	Shows (interleaves) packages for all objects listed (See also NOPKG.)
Pkglist (L) select	Displays package lists for the selected object
Pkgs (K) select	Displays packages dependent on the selected object
PLAN command	Displays plans that are dependent on all objects listed
Plans (P) select	Displays plans that are dependent on the selected object
PPLN command	Shows (interleaves) parent plans for all objects listed (See also NOPPLN.)
PRNT command	Prints the entire contents of a list (including items not displayed on the screen) to the system printer
Q command	Displays the Interactive Display menu which accesses the DB2 catalog directly (must be followed on the command line by the database name)
Query (Q) select	Displays the Interactive Display menu which accesses the DB2 catalog directly
REBIND command	Generates REBIND statements for all objects listed; displays a menu of options for processing the statements
REBIND (R) select	Generates REBIND statements for the selected object; displays a menu of options for processing the statements
RED command	Turns off the CAT command and redisplay image or system copies from the extract (See also CAT.)

RESET command	Cancels all Exclude (X) selects and resets the display
Revoke (R) select	Generates REVOKE statements for the selected object; displays a menu for options for processing statements
RFO command (RI data)	On a panel showing referential data, generates ALTER statements to define the referential set; displays a menu of options for processing the statements
RI Info (F) select	Displays referential integrity information for the selected table
Runstat (R) select	Displays DB2 statistics for the selected object (if you have run the RUNSTATS Utility)
S command	Applies a specified select to each of the objects visible on the panel (must be typed on the command line and followed by a space and the character for the select you want)
SAME command	Displays columns that have the same name but different attributes (See also ALL.)
SET command (RI data)	On a panel showing referential data, displays the table space set for the selected table
SORT command	Reorders, in ascending order, the object list according to the keyword you specify (from the DO selection list, displays a selection list of all of the sorts available from the object list panel.)
SORT ? command	On the command line, displays a list of keywords available from the object list panel; allows you to specify the sort to be performed by deleting all but one keyword
SORTD command	Reorders, in descending order, the object list according to the keyword you specify
SQL command	Displays a panel so that you can enter and execute SQL statements
START command	Generates -START DATABASE commands; displays a menu of options for processing the statements. Use only when the level of ISPF you are running is less than Version 4.1.

STOP command	Generates -STOP DATABASE commands; displays a menu of options for processing the statements. Use only when the level of ISPF you are running is less than Version 4.1.
STT command	Displays statistics for all objects listed (See also NOSTT.)
SYN command	Shows (interleaves) synonyms for all the objects listed (See also NOSYN.)
Table Column (C) select	Displays columns for the selected table and, optionally, allows you to change the values for HIGH2KEY and LOW2KEY
Tables (T) select	Displays tables for the selected object
Tblspcs (S) select	Displays table spaces for the selected object
TC command	On subordinate panels showing details about columns, returns to the panel for columns for the object
TSSET command	Displays tables in the table space set for all tables listed
TX command	Displays details about all table columns, including the label and comments
UBROWSE command	Browses specified user PDS member(s)
UEDIT command	Edits specified user PDS member(s)
UTIL command	Displays a menu of DB2 utilities available for the objects listed; used with the operand for a utility, can access a specific utility directly; used with the operand OPTs, can make a utility profile active
Utility (U) select	Displays a menu of DB2 utilities available for the selected object (When you select a utility from the menu, it acts only on the selected object.)
Views (V) select	Displays a view defined on the tables for the selected objects
VOLS command	Displays volumes in all storage groups listed
Volumes (S) select	Displays volumes in the selected storage group

VX command	Displays details about all view columns, including the label and comments
WSTRT command	Generates -START DATABASE or -START PROCEDURE commands; displays a menu of options for processing the statements. Use only when the level of ISPF you are running is Version 4.1 or greater.
WSTOP command	Generates -STOP DATABASE or -STOP PROCEDURE commands; displays a menu of options for processing the statements. Use only when the level of ISPF you are running is Version 4.1 or greater.

Chapter 2. Commands and Selects Available from Object List Panels

How to Use This Chapter

This quick reference provides a matrix that cross-references a list of commands and selects to the object list panels where they are available. The object list panels referenced in this chapter are only those that can be accessed from the !DB/WORKBENCH Primary Menu. This matrix does not cover commands or selects available from subordinate panels.

A subordinate panel is one that !DB/WORKBENCH displays when, for example, you use a command or select from an object list panel. An example of a subordinate panel is one that is displayed when you use the (Copy) C select on the Table Spaces panel. (For a matrix that cross-references commands and selects to the subordinate panels where they are available, see “Commands and Selects Available from General Panels” on page 35.)

Additional Resources in This Section

For a brief definition of each command and select available from the object list panels available from the !DB/WORKBENCH Primary Menu, see “Dictionary of Commands and Selects for Object List Panels” on page 17.

Online Resources for Help for Commands and Selects

!DB/WORKBENCH provides information about commands and selects panels and their associated Help panels. (If you need detailed instructions on using Help, see the chapter “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions on using selects and commands selection lists, see the section “Introducing Fundamentals” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Commands or selects on an object list panel available from the !DB/WORKBENCH Primary Menu	Use the DO command (for commands) or the ? select (for selects) to display a selection list listing brief definitions. If you need more information, type HELP on the command line and press Enter, or press the appropriate function key.
Commands or selects on a panel other than those available from the !DB/WORKBENCH Primary Menu	If you need more information than is available on the product panel, type HELP on the command line and press Enter, or press the appropriate function key.

Commands and selects available

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
- (dash) command	√	√	√	√	√	√	√	√	√	√	√	√
? (question mark) command	√	√	√	√	√	√	√	√	√	√	√	√
/ (forward slash) command	√	√	√	√	√	√	√	√	√	√	√	√
ALIAS command			√				√					
ALL command				√								
ALL (L) select	√											
ALTER command	√	√			√							
Alter (A) select	√	√	√		√					√		
AMS command	√	√	√		√							
Auths (Z) select	√	√	√				√	√	√			√
BIND command								√	√			
BIND (B) select								√	√			
CAN command	√	√	√	√	√	√	√	√	√	√	√	√
CHECKS (E) select			√									
CHECKS command			√									
COLL command								√				
Coll (C) select								√	√			
COLS command	√	√	√				√					
Columns (C) select			√		√		√					
Conns (N) select								√	√			
Copies (C) select	√	√										
Count (N) select			√									
DBR command								√				
DBRMs (S) select								√				
DEP command								√	√			
Deps (D) select								√	√			
Details (D or T) select		√	√	√	√		√	√	√		√	
DISP command	√	√			√						√	

Commands and Selects Available from Object List Panels

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
DO command	√	√	√	√	√		√	√	√	√	√	√
DOP command	√	√	√	√	√		√	√	√	√	√	√
DOS command	√	√	√	√	√		√	√	√	√		
DROP command	√	√	√		√		√					√
DS Info (N) select		√			√							
Estimate (E) select		√										
Exclude (X) select		√	√		√		√	√	√			
FILT command	√	√	√	√	√	√	√	√	√	√		√
FREE command								√	√			
GM command	√						√	√				
FREE (F) select								√	√			
Hexdump (H) select		√			√							
Indexes (I) select	√	√	√									
LCTN command										√		
LINKBIND command								√				
Listcat (L) select		√			√							
Load (L) select			√							√		
LOCATE command	√	√	√	√	√	√	√	√	√	√	√	√
Migrate (8) select	√	√										
NOALIAS command			√				√					
NOFILT command	√	√	√	√	√	√	√	√	√	√		√
NOGM command	√											
NOLCTN command										√		
NOPART command		√			√							
NOPKG command								√				
NOPPLN command									√			
NOSTT command			√		√							
NOSYN command			√				√					
OUT command	√	√	√		√		√			√		
OUTC command	√	√	√		√		√			√		

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
Out DDL (O) select	√	√	√		√		√			√		
OUTX command	√	√	√		√		√			√		
PACK command	√	√	√		√		√			√		
PART command		√			√							
PKG command								√				
Pkglist (L) select								√				
Pkgs (K) select	√	√	√		√		√	√		√		
PLAN command	√	√	√		√		√			√		
Plans (P) select	√	√	√		√		√		√	√		
PPLN command									√			
PRNT command	√	√	√	√	√		√	√	√	√	√	√
Q command	√											
Query (Q) select	√	√	√		√							
REBIND command								√	√			
REBIND (R) select								√	√			
RESET command		√	√		√		√	√	√			
RI Info (F) select			√									
Runstat (R) select		√	√		√							
S command	√	√	√		√		√	√	√	√		
SAME command				√								
SORT command	√	√	√	√	√		√	√	√	√		
SORT ? command	√	√	√	√	√		√	√	√	√		
SORT D command	√	√	√	√	√		√	√	√	√		
SQL command	√	√	√	√	√	√	√	√	√	√	√	√
START command	√	√			√							
STOP command	√	√			√							
STT command			√		√							
SYN command			√				√					
Tables (T) select	√	√			√		√					
Tblspcs (S) select	√		√									

Commands and Selects Available from Object List Panels

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
TSSET command			√									
UTIL command		√			√							√
Utility (U) select		√			√							√
Views (V) select	√	√	√									
VOLS command												√
Volumes (S) select												√
WSTRT command	√	√			√						√	
WSTOP command	√	√			√						√	

Chapter 3. Commands and Selects Available from General Panels

How to Use This Chapter

This chapter cross-references the commands and selects available from secondary panels (panels you access using a command or select from an object list panel) to the panels where they are found. For example, it shows the availability of commands and selects available on the Table Space Copies panel !DB/WORKBENCH displays when you use the Copy (C) select on the Table Spaces panel.

This chapter does not include commands and selects on the object list panels you access from the !DB/WORKBENCH Primary Menu. For that matrix, see “Commands and Selects Available from Object List Panels” on page 29.

The commands and selects that display panels with more functions are listed in alphabetical order. For example, the Auths (Z) select precedes the COLL command. If a command or select results in different functions if used from different objects, all versions are included. For example, the matrix includes the *Auths (Z) select—DB* and *Auths (Z) select—TS*. If a secondary panel displayed as the result of the use of a command or select does not support additional commands or selects, the secondary panel is not included in the matrix.

Additional Resources in This Section

For a brief definition of each command and select in this matrix, see “Dictionary of Commands and Selects for Object List Panels” on page 17.

Online Resources for Help for Commands and Selects

!DB/WORKBENCH provides information about commands and selects on panels and on their associated Help panels. (If you need detailed instructions on using Help, see the chapter “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions on using selects and commands selection lists, see the section “Introducing Fundamentals” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Commands or selects on an object list panel available from the !DB/WORKBENCH Primary Menu	Use the DO command (for commands) or the ? select (for selects) to display a selection list listing brief definitions. If you need more information, type HELP on the command line and press Enter, or press the appropriate function key.
Commands or selects on a panel other than those available from the !DB/WORKBENCH Primary Menu	If you need more information than is available on the product panel, type HELP on the command line and press Enter, or press the appropriate function key.

Auths (Z) select to Coll (C) select

This matrix begins the commands and selects available if you use the functions ranging from the Auths (S) select to the Coll (C) select.

	Auths (Z) select—DB	Auths (Z) select—TS	Auths (Z) select—TB	Auths (Z) select—VW	Auths (Z) select—PL	Auths (Z) select—PK	Auths (Z) select—SG	COLL command	Coll (C) select
? (question mark) select									
ALTER command (RI data)									
CAT command									
COLL command									
DBR command								√	
DCL command									
DEP command (RI data)								√	
Details (D, S, or T) select	√		√	√					
Display Labels and Comments (S) select									
IX command									
LAST command									
MAP command (RI data)									
NEW command (RI data)									
NOLAST command									

Auths (Z) select to Coll (C) select (continued)

This matrix completes the commands and selects available if you use functions ranging from the Auths (Z) select to the Coll (C) select.

	Auths (Z) select—DB	Auths (Z) select—TS	Auths (Z) select—TB	Auths (Z) select—VW	Auths (Z) select—PL	Auths (Z) select—PK	Auths (Z) select—SG	COLL command	Coll (C) select
OUT command	√	√	√	√	√	√	√		
OUTC command									
Output (O) select	√	√	√	√	√	√	√		
OUTX command									
PRNT command									
RED command									
Revoke (R) select	√	√	√	√	√	√	√		
RFO command (RI data)									
SET command (RI data)									
WSTRT command									
WSTOP command									
Table column (C) select									
TX command									
UTIL command									
VX command									

Columns (C) select to TSSET command

This matrix begins the commands and selects available if you use the functions ranging from the Columns (C) select to the TSSET command.

	Columns (C) select—TB	Columns (C) select—IX	Columns (C) select—VW	Copies (C) select—DB	Copies (C) select—TS	DBR command	DEP command	Estimate (E) select	RI Info (F) select	TSSET command
? (question mark) select								√		
ALTER command (RI data)									√	√
CAT command					√					
COLL command						√	√			
DBR command							√			
DCL command										
DEP command (RI data)						√			√	
Details (D, S, or T) select	√			√	√					
Display Labels and Comments (S) select	√									
IX command	√									
LAST command				√						
MAP command (RI data)									√	
NEW command (RI data)								√		
NOLAST command				√						

Columns (C) select to TSSET command (continued)

This matrix completes the commands and selects available if you use the functions ranging from the Columns (C) select to the TSSET command.

	Columns (C) select—TB	Columns (C) select—IX	Columns (C) select—VW	Copies (C) select—DB	Copies (C) select—TS	DBR command	DEP command	Estimate (E) select	RI Info (F) select	TSSET command
OUT command			√					√		√
OUTC command										√
Output (O) select										
OUTX command										√
PRNT command									√	√
RED command					√					
Revoke (R) select										
RFO command (RI data)									√	
SET command (RI data)									√	
WSTRT command										√
WSTOP command										√
Table columns (C) select								√		
TX command	√	√								
UTIL command										√
VX command			√							

Chapter 4.

Methods for Filters—Object List Panels

How to Use This Chapter

This chapter consists of a series of charts showing the types of filters that can be used with objects (except authorizations). The charts are listed in the same order as the categories on the FILT selection list you can access from object list panels:

- Name Values; 8-character or 18-character names you specify. You can specify a complete name, or a partial or masked name.
- Status Values (such as a Yes or No status or a specific status)
- Selection Values (such as a number combined with an operand, such as = or >)

Additional Resources in This Section

For a matrix showing which filters are available from the object list panels available from the !DB/WORKBENCH Primary Menu, see “Filters Available from Object List Panels” on page 57. For information about filters available with Authorizations panels, see “Methods for Filters—Authorizations” on page 63.

Online Help for Filters

!DB/WORKBENCH provides information about filters on product panels and on general Help panels. (If you need detailed information on using Help, see the chapter “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions for using filters, see the chapter “Filtering Object Lists” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Values for filters	On any Help panel, use the FILTERS option displayed at the bottom of the panel. (Then press Enter to page through the panels.)

Filters for Name Values for general objects

The chart consists of filters that are also the names of objects. (For example, if you wanted to display only the Alias named PROAUDIT, you would use the filter ANM=PROAUDIT on the Alias panel.)

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Alias, location of	Aliases	ALOC	The location of an alias defined on a remote object --DROPPED--=An alias whose table has been dropped Blank=The location of an alias defined on a local object
Alias name	Aliases	ANM	A name you specify
Bound by	Plans	PBB	A name you specify
Buffer pool, name of	Databases Indexes Tablespaces All	BP	BP0-BP32K
Catalog name	Indexes Tablespaces Storage Groups	VC	A name you specify
Collection, name of	Packages	CLT	A name you specify
Column name	Columns	CN	A name you specify
Created by	Aliases	ACB	A name you specify
Created by	Databases Indexes Tablespaces Tables All	CB	A name you specify

Filters for Name Values for general objects (continued)

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Creator	Aliases	ACR	A name you specify
Creator	Columns	CLC8	A name you specify
Creator	Databases Indexes Storage Groups Tablespaces Tables All	CR	A name you specify
Creator	Packages	KCR	A name you specify
Creator	Plans	PCR	A name you specify
Creator	Views	CV	A name you specify
Creator of the table associated with an alias	Aliases	ATC	A name you specify
Database name	Databases Indexes Tablespaces Tables All	DB	A name you specify
Data type of the column	Columns	CLTYPE	CH=Character DA=Date DE=Decimal FL=Floating print GR=Graphic IN=Integer LG=Long vargraphic LV=Long varchar SM=Small interger TI=Time TS=Timestamp VC=Varchar VG=Vargraphic

Filters for Name Values for general objects (continued)

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
DBRM, name of	Plans	DBRM	A name you specify
Index name	Indexes	IX	A name you specify
Group member name, data sharing	Databases	GM	A name you specify
Index, space name for	Indexes	IS	A name you specify
Length or decimal precision of the data type of the column	Columns	CLLEN	2=Small interger 3=Time 4=Date, Integer 4 or 8=Float 10=Timestamp Precision of number=Decimal A number you specify= Character, Varchar, Long varchar, Graphic, Vargraphic, Long vargraphic
Package, location of	Packages	LOC	A name you specify
Package name	Packages	PKG	A name you specify
Package, owner of	Packages	KOW	A name you specify
Plan name	Plans	PLAN	A name you specify
Procedure name	Packages	PR	A name you specify
Qualifier (implicit) in the static SQL statements for an unqualified object unqualified object	Packages	KQA	A name you specify
Storage group name	Databases Indexes Storage Groups Tablespaces All	SG	A name you specify Blank=A system database

Filters for Name Values for general objects (continued)

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Table associated with an alias	Aliases	ATB	A name you specify
Table name	Indexes Tables	TB	A name you specify
Table name or view name containing a column	Columns	CT	A name you specify
Table space name	Indexes Tablespaces Tables	TS	A name you specify
View name	Views	VW	A name you specify

Filters for Status Values

The filters in these charts allow you to display objects that have the specific status you enter. (For example, if you wanted to display all packages that require an explicit bind or rebind, you would use the filter OPER=N on the Packages panel.)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Allocation of application plan, possibility of	Plans	OPER	Y=Yes N=No (An explicit bind or rebind is required.)
Allocation of application package, possibility of	Packages	PKOPER	Y=Yes N=No (An explicit bind or rebind is required.)
Audit trail, status of	Tables	AUDIT	A=Audit all C=Changes only N=None
Check pending mode, status of	Tablespaces Tables	CHKFLAG	C=Table is in the check pending mode Blank=No rows violate referential constraints
CLOSERULE, use of	Indexes Tablespaces	CLOSE	Y=Yes N=No
CLUSTER clause, use of	Indexes	CLUSTG	Y=Yes N=No
Clustering order of rows, use of	Indexes	CLUSTD	Y=Yes (Most of the rows are in clustering order.) N=No
Comments, availability of	Columns	CCOMMNT	Y=Yes N=No
Column in a foreign key	Columns	CFORKEY	Y=Yes N=No

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Column in a primary key	Columns	CPRIKEY	Y=Yes N=No
Column of a view	Columns	CVIEW	Y=Yes N=No
Compression, whether defined for database	Tablespaces	COMPRES	Y=Compression is defined N=Compression is not defined
CURRENTDATA option, use of	Packages	PKDPREP	A=Data currency required for all cursors B=Data currency not required for ambiguous cursors C=Data currency required for ambiguous cursors Blank=Package created before option available
Databases, type of	Databases All	TYPE	W=Work file data base Blank=Not a work file
Default value requirement, use of	Columns	CDFLT	Y=Yes N=No

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Dynamic bind rules for packages	Packages	PKDRULE	B=BIND R=Run N(blank)=Run the REBIND
Dynamic bind rules for plans	Plans	PLDRULE	B=BIND R=Run N(blank)=Run the REBIND
ERASE rule, use of	Indexes Tablespaces	ERASE	Y=Yes N=No
EXPLAIN option, use of	Plans	EXPLAIN	Y=Yes N=No
EXPLAIN option, use of	Packages	PKEXPLA	Y=Yes N=No
FIELD PROC clause, use of	Columns	CFLDPRC	Y=Yes N=No
FOR BIT DATA clause, use of	Columns	CFORBIT	Y=Yes N=No
Group buffer pool cache, whether changed?	Indexes Tablespaces	GBPCACH	A=Changed and unchanged Blank=Changed only
IBM MRM tape as source of row, use of	Plans	IBMREQD	Y=Yes N=No B=No (Indicates a release 3 dependency)
Image copy, availability of	Databases Tablespaces All	ICOPY	Y=Yes N=No
Implicit creation of table space, status of	Tablespaces	IMPLICIT	Y=Yes N=No

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Index, type of (type 1 or type 2)	Indexes	IXTYPE	1=Type 1 index 2=Type 2 index
Indexes on column, use of	Columns	CINDEX	Y=Yes N=No
Label, use of	Columns	CLABEL	Y=Yes N=No
Level of isolation, value used for	Plans	ISOLATN	R=Repeatable read C=Cursor stability S=Read stability U=Uncommitted read
Level of isolation, value used for	Packages	PKISOL	R=Repeatable read C=Cursor stability S=Read stability U=Uncommitted read N=No commit
Lock size, value used for	Tablespaces	LOCK	A=Any P=Page S=Table space
Null values, use of	Columns	CNULLS	Y=Yes N=No

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Rebind, necessity of	Plans	REBIND	Y=Yes Blank=No
Rebind, necessity of	Packages	PKRBIND	Y=Yes Blank=No
Resources, timing of when acquired	Plans	ACQUIRE	A=At location U=At first use
Resources, timing of when released	Plans	RELEASE	C=At commit D=At deallocation Blank=A value specified for the plan executing the package
Resources, timing of when released	Packages	PKREL	C=At commit D=At deallocation Blank=A value specified for the plan executing the package
ROSHARE parameter, setting of	Databases All	ROSHARE	O=Owner R=Read only Blank=Not specified
Runstats data, availability of	Indexes Tablespaces Tables	STATS	Y=Yes N=No
Runstats data, availability of	Columns	CSTATS	Y=Yes N=No
SQL error, option for	Packages	PKSQLER	C=Option was to continue N=Option was no package

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Status of the table	Tables	STATUS	I=Incomplete (no primary index) X=Has primary index
Status of the table space	Tablespaces	STATUS	A=Available C=No partitioned index has been created P=Check Pending Mode S=Check Pending Mode, scope with less than the entire table space) T=No table has been created
Storage allocation, type of	Indexes Tablespaces	STORTP	E=Explicit I=Implicit
Synonyms, existence of	Databases Tablespaces Tables Views All	SYNS	Y=Yes N=No
Unique index, status of	Indexes	UNIQUE	D=No (Duplicates are allowed.) U=Yes P=Primary unique index C=Index is unique and used to enforce UNIQUE constraint N=Primary index unique where not null

Filters for Status Values (continued)

Status to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Update, possibility of	Columns	CUPDATE	Y=Yes N=No
Validity, status of	Plans	VALID	Y=Yes N=No A=Altered, but still valid
Validity, status of	Packages	PKVALID	Y=Yes N=No A=Altered, but still valid
Validity checking, timing of	Plans	VALIDT	B=Bind R=Run time (For those not existing during bind)
Validity checking, timing of	Packages	PKVDATE	B=Bind R=Run time (For those not existing during bind)
Views, existence of	Databases Tablespaces Tables All	VIEWS	Y=Yes N=No

Filters for Selection Values

Each of these filters is used with an option code (=, >, <, ≠, <=, or >=) followed by a number you enter. (For example, if you wanted to display packages with an average size greater than 1 selection processed at bind time, you would use AVGSIZE>1 on the Packages panel.)

Number to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Average size of sections	Packages	AVGSIZE	A number you specify
Maximum length of any record	Tables	ROWSIZE	A number you specify
Number of check constraints	Tables	CHECKS	A number you specify
Number of DBRMs	Plans	DBRMS	A number you specify
Number of dependent tables	Databases Tablespaces Tables All	DEPDTS	A number you specify
Number of indexes	Databases Tablespaces Tables All	INDEXES	A number you specify
Number of levels in the index tree	Indexes	LEVELS	A number you specify
Number of locks user can acquire	Tablespaces	LOCKMAX	A number you specify
Number of pages before a page is left as free space	Indexes Tablespaces	FREEPG	A number you specify
Number of pages in the segment of a segmented table space	Tablespaces	SEGSIZE	A number you specify
Number of parents	Databases Tablespaces Tables All	PARENTS	A number you specify

Filters for Selection Values (continued)

Number to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Number of partitions	Indexes Tablespaces Tables	PTNS	A number you specify
Number of primary keys	Tables	PKEY	A number you specify
Number of referential relations	Databases Tablespaces Tables All	REFS	A number you specify
Number of rows associated with the package	Packages	SYSETR	A number you specify
Number of rows in the table	Tables	TBLROWS	A number you specify
Number of subpages	Indexes	SUBPAGE	A number you specify
Number of table spaces	Databases All	SPACES	A number you specify
Number of tables	Databases Tablespaces All	TABLES	A number you specify
Number of volumes	Storage Groups	#VOLS	A number you specify
Percentage of page left as free space	Indexes Tablespaces	PCTFREE	A number you specify
Percentage of rows in clustering order	Indexes	CLRATIO	A number you specify
Size in bytes of the base section	Packages	PKSIZE	A number you specify
Size in bytes of the base section	Plans	PLSIZE	A number you specify

Filters for Selection Values (continued)

Number to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Size in 4 kilobyte units of the primary space allocated	Indexes Tablespaces	PRIQTY	A number you specify
Size in 4 kilobyte units of the secondary space allocated	Indexes Tablespaces	SECQTY	A number you specify

Chapter 5.

Filters Available from Object List Panels

How to Use This Chapter

This chapter lists the names of the filters and the object list panels where the filter is available. For example, the #VOLS filter is available from the Storage Groups panel.

Additional Resources in This Section

For a series of charts listing the types of filters you can use with objects (except authorizations), see “Methods for Filters—Object List Panels” on page 41. For information about filters available with Authorizations panels, see “Methods for Filters—Authorizations” on page 63.

Online Help for Filters

!DB/WORKBENCH provides information about filters on product panels and on general Help panels. (If you need detailed information on using Help, see the chapter “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions for using filters, see the chapter “Filtering Object Lists” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Values for filters	On any Help panel, use the FILTERS option displayed at the bottom of the panel. (Then press Enter to page through the panels.)

Filters available

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
#VOLS												√
ACB										√		
ACQUIRE								√				
ACR										√		
ALOC										√		
ANM										√		
ATB										√		
ATC										√		
AUDIT			√									
AVGSIZE									√			
BP	√	√			√	√						
CB	√	√	√		√	√						
CCOMMNT				√								
CDFLT				√								
CFLDPRC				√								
CFORBIT				√								
CFORKEY				√								
CHECKS			√									
CHKFLAG		√	√									
CINDEX				√								
CLABEL				√								
CLC8				√								
CLLEN				√								
CLOSE		√			√							

Filters available (continued)

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
CLRATIO					√							
CLT									√			
CLTYPE				√								
CLUSTD					√							
CLUSTG					√							
CN				√								
CNULLS				√								
COMPRES		√										
CPRIKEY				√								
CR	√	√	√		√	√						√
CSTATS				√								
CT				√								
CUPDATE				√								
CV							√					
CVIEW				√								
DB	√	√	√		√	√						
DBRM								√				
DBRMS								√				
DEPDTS	√	√	√			√						
ERASE		√			√							
EXPLAIN								√				
FREEPG		√			√							
GBPCACH		√			√							
GM	√					√		√	√			

Filters available (continued)

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
IBMREQD								√				
ICOPY	√	√				√						
IMPLICIT		√										
INDEXES	√	√	√			√						
IS					√							
ISOLATN								√				
IX					√							
IXTYPE					√							
KCR									√			
KOW									√			
KQA									√			
LEVELS					√							
LOC									√			
LOCK		√										
LOCKMAX		√										
OPER								√				
PARENTS	√	√	√			√						
PBB								√				
PCR								√				
PCTFREE		√			√							
PKDPREP									√			
PKDRULE									√			
PKEXPLA									√			
PKEY			√									

Filters available (continued)

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
PKG									√			
PKISOL									√			
PKOPER									√			
PKRBIND									√			
PKREL									√			
PKSIZE									√			
PKSQLER									√			
PKVALID									√			
PKVDATE									√			
PLAN								√				
PLDRULE								√				
PLSIZE								√				
PR									√			
PRIQTY		√			√							
PTNS		√	√		√							
REBIND								√				
REFS	√	√	√			√						
RELEASE								√				
ROSHARE	√					√						
ROWSIZE			√									

Filters available (continued)

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
SECQTY		√			√							
SEGSIZE		√										
SG	√	√			√	√						√
SPACES	√					√						
STATS		√	√		√							
STATUS		√	√									
STORTP		√			√							
SUBPAGE					√							
SYNS	√	√	√			√	√					
SYSETR									√			
TABLES	√	√				√						
TB			√		√							
TBLROWS			√									
TS		√	√		√							
TYPE	√					√						
UNIQUE					√							
VALID								√				
VALIDT								√				
VC		√			√							√
VIEWS	√	√	√			√						
VW							√					

Chapter 6. Methods for Filters—Authorizations

How to Use This Chapter

This chapter consists of a series of charts showing the types of filters that can be used with authorizations including collections and packages. The filters that can be used only with authorizations for collections and packages are in separate charts at the end of this chapter.

To set a filter for authorizations, you must be using an Authorizations panel. The control for authorizations filters is separate from other filters.

The hyphen (-) used with a name for a field indicates that the field name is displayed vertically on the panel. For example, the name D-F in the matrix indicates this appearance on the panel:

D
F

Additional Resources in This Section

For a matrix showing which filters are available from the object list panels available from the !DB/WORKBENCH Primary Menu, see “Filters Available from Object List Panels” on page 57. For a chart listing the types of filters you can use with objects (except authorizations), see “Methods for Filters—Object List Panels” on page 41.

Online Help for Filters

!DB/WORKBENCH provides information about filters on product panels and on general Help panels. (If you need detailed information on using Help, see the chapter “Using Online Help With this Guide” in *!DB/WORKBENCH Basic User's Guide*. If you need detailed instructions for using filters, see the chapter “Filtering Object Lists” in *!DB/WORKBENCH Basic User's Guide*.)

Information You Want	Online Resource
Values for filters	On any Help panel, use the FILTERS option displayed at the bottom of the panel. (Then press Enter to page through the panels.)

Filters for names of objects listed on the !DB/WORKBENCH Primary Menu

The chart consists of the filters that are also the names of objects that are listed on the !DB/WORKBENCH Primary Menu.

Name to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Database name	Authorizations	DB	A name you specify
Plan, name of	Authorizations	PL	A name you specify
Storage group name	Authorizations	SG	A name you specify
Tables name	Authorizations	TB	A name you specify
Table space name	Authorizations	TS	A name you specify
View name	Authorizations	VW	A name you specify

Filters for names of general objects

The chart consists of the filters that are associated with one or more objects on the !DB/WORKBENCH Primary Menu, but that are not listed with the objects on the !DB/WORKBENCH Primary Menu.

Name to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Buffer pool, name of	Authorizations	BP	BP0-BP32K
Creator	Authorizations	CR	A name you specify
Grantee of an authorization	Authorizations (Including Collections and Packages)	GE	A name you specify
Grantor of an authorization	Authorizations (Including Collections and Packages)	GR	A name you specify
USERID	Authorizations	US	A name you specify

Methods for comparison of a status for authorizations

The filters in this chart are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to BIND a plan	Authorizations	Plan BIND	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to create or drop referential constraints when the table is a parent	Authorizations	R-A (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to CREATE an alias	Authorizations	C-A (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to CREATE a database and automatically receive DBADM authority	Authorizations	C-D (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to CREATE indexes on a table	Authorizations	I-X (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to CREATE a storage group	Authorizations	C-G (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to CREATE a table within a database	Authorizations	C-T (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to CREATE a table space within a table space	Authorizations	C-S (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to execute a plan	Authorizations	PLAN EXEC	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to grant authorizations	Authorizations	WITH GRANT	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the ALTER and DROP command for a database	Authorizations	D-R (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the ALTER command for a table	Authorizations	A-L (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to issue the ARCHIVE, DISPLAY ARCHIVE, and SET ARCHIVE command	Authorizations	A-R (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the BIND subcommand with the ADD option	Authorizations	B-A (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the BIND,REBIND, and FREE subcommands, and the DROP package statement with a plan or package	Authorizations	B-D (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the DISP command for the database	Authorizations	D-S (with DBGRNTS or with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to issue the RECOVER BSDS command	Authorizations	R-B (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the RECOVER INDOUBT command	Authorizations	R-I (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the START or WSTRT command with databases or procedures. (If you are running ISPF 4.1 or higher, you must use WSTRT.)	Authorizations	S-T (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the START TRACE and STOP TRACE commands	Authorizations	T-R (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to issue the STOP or WSTOP command. (If you are issuing a STOP DATABASE or STOP PROCEDURE command and you are running ISPF 4.1 or higher, you must use the form WSTOP.)	Authorizations	S-P (with DBGRNTS or with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority over rows to delete rows from a table or view	Authorizations	D-L (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority over rows to insert rows in a table	Authorizations	I-N (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority over rows to select rows from a table or view	Authorizations	S-L (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority over rows to update rows of a table or view	Authorizations	U-P (with TBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to obtain IFC data	Authorizations	M-2 (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to obtain IFC serviceability data	Authorizations	M-1 (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to use COPY, MERGECOPY, MODIFY, and QUIESCE utilities on the database	Authorizations	I-C (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to use CHECK and RUNSTATS utilities on the database	Authorizations	R-S (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to use DIAGNOSE and REPAIR utilities on the table spaces and indexes in the database	Authorizations	R-P (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to use the LOAD utilities to load tables in the database	Authorizations	L-D (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
Authority to use the RECOVER and REPORT utilities on table spaces in the database	Authorizations	R-C (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to use the REORG utilities to reorganize the table spaces in the database	Authorizations	R-G (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to use the STOSPACE utilities	Authorizations	S-S (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authorization level of the grantor	Authorizations (Including Collections and Packages)	HOWGOT	SYSADM DBADM DBMNT DBCTRL
Date of the authorization grant	Authorizations (Including Collections and Packages)	DATE	The date you specify (YYMMDD)

Methods for comparison of a status for authorizations (continued)

This chart continues the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
DBADM authority over the database	Authorizations	D-B (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
DBCTRL authority over the database	Authorizations	C-N (with USGRNTS or with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
DBMAINT authority over the database	Authorizations	M-N (with DBGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Grantee, type of	Authorizations (Including Collections and Packages)	GRANTEE TYPE	P=Plan or package Blank=Authorization ID
SYSADM authority	Authorizations	S-A (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Methods for comparison of a status for authorizations (continued)

This chart completes the filters that are used with authorizations only.

Status to be Used as the Filter	Availability on Panel (Does not include Collections and Packages unless explicitly stated)	Name of the Filter	Possible Settings for the Filter
SYSCTRL authority	Authorizations	S-C (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
System operator authority	Authorizations	S-O (with USGRNTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Time of the authorization	Authorizations (Including Collections and Packages)	TIME	The hour you specify (HHMMSS)
Value of UPDATEAUTH, applicability of	Authorizations	C-U (with TBGRNTS)	*=Value applies to some columns Blank=Value applies all columns

Filters for names for collections and packages authorization

This chart contains the filters for names that can be used only with collections and packages.

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Collection name	Collection Authorization Packages Authorization	CO	A name you specify
Package name	Packages Authorization	KG	A name you specify

Methods for comparison of a status for collections and packages authorization

This chart contains the filters that can be used only with collections and packages.

Name to be Used as the Filter	Availability on Panel	Name of the Filter	Possible Settings for the Filter
Authority to copy a package	Packages Authorization	C-O (with PACKAGE GRANTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the BIND subcommand to CREATE packages in the collections and PACKADMN authority for the collections	Collection Authorization	USE	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to issue the BIND and REBIND subcommands for the packages	Packages Authorization	B-I (with PACKAGE GRANTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)
Authority to include the package in the PKLIST option of BIND PLAN	Packages Authorization	E-X (with PACKAGE GRANTS)	G=Grant (privilege granted) Y=Yes (privilege held without the grant option) N=No (privilege not held)

Chapter 7. Methods for Sorting

How to Use This Chapter

This chapter consists of a series of charts showing methods and values for the types of sorts that you can use from object list panels that you can access from the !DB/WORKBENCH Primary Menu. The charts show sorts in these categories:

- The name of the objects that are listed on the !DB/WORKBENCH Primary Menu, and objects that are used frequently
- The name of objects that are used less frequently
- A numeric value

If you need detailed instructions for using sorts, see the chapter “Using Selection Lists to Access Sorts Available from Panels” in *!DB/WORKBENCH Basic User's Guide* and the chapter “Using SORT Commands” in *!DB/WORKBENCH Basic User's Guide*.

Additional Resources in This Section

For a matrix showing which sorts are available from the object list panels from the !DB/WORKBENCH Primary Menu, see “Sorts Available from Object List Panels” on page 85.

Online Resources for Sorts

!DB/WORKBENCH provides brief definitions of sorts available from object list panels. To display a selection list of these definitions, type **DOS** on the command line and press Enter.

Sorts for names of objects listed on the !DB/WORKBENCH Primary Menu

This chart consists of the sorts that are also the names of objects that are listed on the !DB/WORKBENCH Primary Menu.

Name to be Used as the Sort	Availability on Panel	Name of the Sort
Alias name	Aliases	NM
Alias name	Tables	AL
Column name	Columns	CL
Database name	Databases Indexes Tablespaces Tables	DB
Index name	Indexes	IX
Package name	Packages	PK
Plan name	Plans	PL
Storage group name	Databases Tablespaces	SG
Table name	Aliases Columns Indexes Tables Views	TB
Table space name	Indexes Tablespaces Tables	TS
View name	Views	VW

Sorts for names of general objects

The charts consist of the sorts that are associated with one or more objects on the !DB/WORKBENCH Primary Menu, but that are not listed on the !DB/WORKBENCH Primary Menu.

Name to be Used as the Sort	Availability on Panel	Name of the Sort
Alias, location of	Aliases	LC
Bound by	Plans	BB
Catalog name	Indexes Tablespaces	VC
Collection, name of	Packages	CO
Created by	Aliases	C8
Created by	Databases Indexes Tablespaces Tables	CB
Creator	Aliases Columns Databases Indexes Packages Plans Tablespaces Tables Views	CR
Creator of the synonym	Tables	SC
Creator of the table associated with an object	Aliases Indexes Views	TC
Data type of the column	Columns	TY
Index space name	Indexes	IS
Name specified with the CURRENTSERVER option	Plans	SR
Package, owner of	Packages	OW

Sorts for names of general objects (continued)

Name to be Used as the Sort	Availability on Panel	Name of the Sort
Qualifier (implicit) in the static SQL statements for an unqualified object	Packages	QU
Qualifier (implicit) in the static SQL statements for an unqualified object	Plans	QA

Sorts using numerical values

The chart consists of the sorts for numerical values.

Number to be Used as the Sort	Availability on Panel	Name of the Sort
Average size of sections	Plans	AS
Date the object was last bound	Packages Plans	DT
Length of the column	Columns	LN
Maximum length of any record	Tables	RZ
Number of active leaf pages	Indexes	LP
Number of DBRMs	Plans	#D
Number of distinct values for the first key column	Indexes	#F
Number of distinct values for the key	Indexes	#D
Number of entries of package lists	Plans	PE
Number of indexes	Databases Tablespaces	#I
Number of levels	Indexes	LV
Number of pages containing rows of the table	Tables	#P
Number of partitions in the table space	Tablespaces	#P
Number of rows associated with the plan	Plans	SE
Number of rows in the table	Tables	#R
Number of synonyms	Tables	SY
Number of table spaces	Databases	#S
Number of tables	Databases Tablespaces	#T

Sorts using numerical values (continued)

Number to be Used as the Sort	Availability on Panel	Name of the Sort
Percentage of active table spaces containing rows of the table	Tables	PP
Percentage of rows in clustering order	Indexes	CP
Size in bytes of the base section	Plans	PS
Size in bytes of the cache to be acquired	Plans	SZ
Size in kilobytes of storage allocated to the index	Indexes	SP

Chapter 8. Sorts Available from Object List Panels

How to Use This Chapter

This chapter lists the types of sorts and the object list panels where the sorts are available. (For example, the matrix shows that you can sort by the name of an alias on the Tables and Aliases panels.) The chapter shows only those sorts available from the object list panels that you can access from the !DB/WORKBENCH Primary Menu.

Additional Resources in This Section

For charts showing the types of sorts that can be used with objects, see “Methods for Sorting” on page 79.

Online Resources and Sorts

!DB/WORKBENCH provides brief definitions of sorts available from object list panels. To display a selection list listing these definitions, type **DOS** on the command line and press Enter.

Sorts Available from Object List Panels

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
Alias, location of										√		
Alias name			√							√		
Average size of sections								√				
Bound by								√				
Catalog name		√			√							
Collection, name of									√			
Column name				√								
Created by	√	√	√		√					√		
Creator	√	√	√	√	√		√	√	√	√		
Creator of the synonym			√									
Creator of the table associated with the object					√		√			√		
Data type of the column				√								
Database name	√	√	√		√							
Date the object was last bound								√	√			
Index name					√							
Index space name					√							
Length of the column				√								
Maximum length of any record			√									
Name specified with the CURRENTSERVER option								√				
Number of active leaf pages					√							
Number of DBRMs								√				
Number of distinct values for the first key column					√							
Number of distinct values for the key					√							

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
Number of entries of package lists								√				
Number of indexes	√	√										
Number of levels					√							
Number of pages containing rows of the table			√									
Number of partitions in the table space		√										
Number of rows associated with the plan								√				
Number of rows in the table			√									
Number of synonyms			√									
Number of table spaces	√											
Number of tables	√	√										
Package name									√			
Package, owner of									√			
Percentage of active table spaces containing rows of the table			√									
Percentage of rows in clustering order					√							
Plan name								√				
Qualifier (implicit) in the static SQL statements for an unqualified object								√	√			
Size in bytes of the base section								√				
Size in bytes of the cache to be acquired								√				
Size in kilobytes of storage allocated to the index					√							

Sorts Available from Object List Panels

	Databases	Table Spaces	Tables	Columns	Indexes	All	Views	Plans	Packages	Aliases	Procedures	Storage Groups
Storage group name	√	√										
Table name			√	√	√		√			√		
Table space name		√	√		√							
View name							√					

Chapter 9. Online Commands and Selects Available in Batch

How to Use This Chapter

This chapter lists the names of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

Additional Resources in This Section

For a brief definition of the commands and selects available from the panels available in !DB/WORKBENCH, see “Dictionary of Commands and Selects for Object List Panels” on page 17. For a matrix showing the availability of commands and selects available from object list panels available from the !DB/WORKBENCH Primary Menu, see “Commands and Selects Available from Object List Panels” on page 29. For a matrix showing commands and selects that are available from panels available if you use a command or select, see “Commands and Selects Available from General Panels” on page 35.

Additional Resources in This Guide

This chapter includes information about the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. It does not include all of the commands and selects available in batch. For information about these commands and selects, see the chapter “Command Dictionary for Batch” in *!DB/WORKBENCH Advanced User's Guide*.

Online commands and selects

This chart lists the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to use for Batch Specific Information in <i>!DB/WORKBENCH Advanced User's Guide</i>
- (dash) command		
? (question mark) command		
/ (forward slash) command		
ALIAS command	√	
ALL command	√	
ALL (L) select	√	
ALTER command		
Alter (A) select		
AMS command	√	The unit "AMS Command and Parameters for Batch" in the chapter "Command Dictionary for Batch"
Auths (Z) select	√	
BIND command	√	The unit "BIND Command and Parameters for Batch" in the chapter "Command Dictionary for Batch" (BIND command)
BIND (B) select		
CAN command	√	
CHECK command	√	
CHECK (E) select	√	
COLL command	√	
Coll (C) select	√	
COLS command	√	

Online commands and selects (continued)

This chart continues the list of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to Use for Batch Specific Information in <i>!DB/WORKBENCH Advanced User's Guide</i>
Columns (C) select	√	
Conns (N) select	√	
Copies (C) select	√	
Count (N) select	√	
DBR command	√	
DBRMs (S) select	√	
DEP command	√	
Deps (D) select	√	
Details (D) select	√	
DISP command	√	The unit “DISP Command and Parameters for Batch” in the chapter “Command Dictionary for Batch” (DISP command)
DO command		
DOP command		
DOS command		
DROP command	√	
DS Info (N) select		
Estimate (E) select		
Exclude (X) select	√	
FILT command		

Online commands and selects (continued)

This chart continues the list of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to Use for Batch Specific Information in !DB/WORKBENCH Advanced User's Guide
FREE command		
FREE (F) select		
GM command	√	
Hexdump (H) select	√	You must be authorized by an external security program to dump the selected objects.
Indexes (I) select	√	
LCTN command	√	
LINKBIND command		
Listcat (L) select	√	
Load (L) select		
LOCATE command	√	
Migrate (8) select		
NOALIAS command	√	
NOFILT command	√	
NOGM command	√	
NOLCTN command	√	
NOPART command	√	
NOPKG command	√	
NOPPLN command	√	
NOSTT command	√	
NOSYN command	√	

Online commands and selects (continued)

This chart continues the list of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to Use for Batch Specific Information for !DB/WORKBENCH Advanced User's Guide
OUT command	√	
OUTC command	√	The unit “OUTC Command and Parameters in Batch” in the chapter “Command Dictionary for Batch” (OUTC command)
Out DDL (O) select	√	The unit “OUTC Command and Parameters in Batch” in the chapter “Command Dictionary for Batch” (Out DDL select)
OUTX command	√	
PACK command	√	
PART command	√	
PKG command	√	
Pkglist (L) select	√	
Pkgs (K) select	√	
PLAN command	√	
Plans (P) select	√	
PPLN command	√	
PRNT command	√	The unit “PRNT Command and Operation in Batch” in the chapter “Command Dictionary for Batch” (PRNT command)
Q command		
Query (Q) select		

Online commands and selects (continued)

This chart completes the list of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to Use for Batch Specific Information for in !DB/WORKBENCH Advanced User's Guide
REBIND command	√	
REBIND (R) select	√	
RESET command	√	
RI Info (F) select	√	
Runstat (R) select		
S command	√	
SAME command	√	
SORT command	√	
SORT ? command		
SORT D command	√	
SQL command	√	
START command	√	The unit "START Command and Parameters in Batch" in the chapter "Command Dictionary for Batch" (STARTC command)
STOP command	√	
STT command	√	
SYN command	√	
Tables (T) select	√	
Tblspcs (S) select	√	
TSSET command	√	

Online commands and selects (continued)

This chart completes the list of the online commands and selects available in !DB/WORKBENCH and indicates if they are available in batch. Some commands and selects are available in batch but require operands or parameters or operate differently in batch from online. In these cases, the chart indicates the chapter and the unit in *!DB/WORKBENCH Advanced User's Guide* that you can use to locate the information you need.

	Available in Batch	Source to Use for Batch Specific Information for in !DB/WORKBENCH Advanced User's Guide
UTIL command	√	The unit "UTIL Command and Functions Supported in Batch" in the chapter "Command Dictionary for Batch" (UTIL command)
Utility (U) select		
Views (V) select	√	
VOLS command	√	
Volumes (S) select		
WSTRT command		
WSTOP command		

Chapter 10. Values Used When Creating or Altering Objects

How to Use This Chapter

This chapter contains information about values you provide when creating or altering objects or their attributes. The objects are in alphabetical order according to the name used on the panel. If an object has one name on panels provided when you are creating objects and another on panels for altering of objects, the list provides a cross-reference.

Information for each object or attribute includes an introductory sentence that includes the default (if any) and states whether you provide the information when creating or altering objects or both. The information also includes the values you can use for the object or attribute.

Online Help for Creating or Altering Objects

!DB/WORKBENCH provides information about using panels when creating or altering objects or their attributes. If you want online instructions for commonly used methods to use one of these panels, type **HELP** on the command line and press Enter, or press the appropriate function key. (If you want detailed instructions for using the variety of methods that can be used with the panels for creating or altering, see the chapter “Using ALTER Commands and Selects” in *!DB/WORKBENCH Basic User's Guide* or the section “Creating Objects” in *!DB/WORKBENCH Advanced User's Guide*.)

AUDIT setting

The AUDIT setting is used when you alter a table by adding a column. (If you alter the value, you invalidate all plans using the table.)

Setting You Want	Value to Use	Additional Information
To indicate that the system is to audit changes only	C	
To indicate that the system is to audit all entry	A	
To indicate the system should not audit	N	

Buffer pool setting

The buffer pool setting is used when you create or alter a database, table space, or index. The default value is BP0. (You must have SYSADM authority or the USE privilege for the buffer pool.)

Setting You Want	Value to Use	Additional Information
For a page size of 4K bytes	BP0 BP1 BP2	
For a page size of 32K bytes	For databases and table spaces, BP32K For indexes, leave blank	

CLOSE setting

The CLOSE setting is used when you create or alter a table space or index. The default is Y.

Setting You Want	Value to Use	Additional Information
To close the VSAM dataset that supports the object when no one is using it	Y	
To open the VSAM dataset that supports the object when no one is using it	N	

Clustering index? setting

The clustering index? setting is used when you create an index. (A table can have several indexes, but only one clustering index. For a partitioned table space, the clustering index is the partitioned index.)

Setting You Want	Value to Use	Additional Information
To indicate the index is a clustering index	Y	
To indicate the index is not a clustering index	N	

Column name

The column name is used when you create a table or index or alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To indicate the name of the column	A name you specify with a maximum of 18 characters	<p>If you use the column name more than once, the system appends a number to the existing name.</p> <p>You can define a maximum 300 columns.</p> <p>The sum of the byte count of all columns must not be greater than the maximum record size. The maximum record size is equal to the page size minus 102 (if you specified an EDITPROC) or minus 92 (if you did not specify an EDITPROC).</p>

COMMENT text for column heading

The COMMENT text is used when you create a table.

Setting You Want	Value to Use	Additional Information
To provide additional information about the column	A maximum of 254 characters	

COMMENT text for the table

The COMMENT text for the table is used when you create or alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To provide additional information about the table	A maximum of 254 characters	Use single quotation marks to imbed quotations in the text. !DB/WORKBENCH inserts double quotation marks when it generates statements.

Compress setting

The COMPRESS setting is used when you create or alter a table space. The default is N. (You can use the COMPRESS setting for a non-partitioned table space or for a partition within a table space.)

Setting You Want	Value to Use	Additional Information
To direct the system to use data compression for the rows of the table space or of the partition	1–99 percent	The system does not compress the rows until you run the LOAD or REORG utility.
To direct the system to not use data compression for the table space or partition	0 to specify no compression	Altering the value means that the system will not compress rows that you insert or decompress rows that you update. Also with altering the value, the system will erase the compression dictionary when you run the LOAD REPLACE, LOAD RESUME NO, or REORG utility.

CREATOR ID

The Creator ID is used when you create a table. The default is the TSO USERID.

Setting You Want	Value to Use	Additional Information
To indicate who is to be the creator for the table	An ID you specify	The Creator ID serves as the table name prefix. You can create a table for another USERID.

Data capture setting

The data capture setting is used when you alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To direct the system to record SQL changes to the table to a log	C	
To direct the system not to capture changes to a log	N	

Data type setting

See FLDTYPE setting.

Database name

The database name is used when you create a database. The default is DSNDB04. (The default value is automatically displayed if you use the Index option on the menu displayed when you use CR on the !DB/WORKBENCH Primary Menu.)

Setting You Want	Value to Use	Additional Information
To indicate the database to contain the collection of tables, table spaces, and indexes	A name up to eight characters	You must have SYSADM authority, the CREATEDBA privilege, or the CREATEDBC privilege.

Default? setting

The Default? setting is used when you create a table or alter a table by adding a column. The default value is N.

Setting You Want	Value to Use	Additional Information
To set a requirement for a default value for a not-null column	Y	If used, requires a value for a data type
To set no requirements for a default value for a not-null column	N	

Defer setting

The DEFER setting is used when you create an index and index space. The default is N.

Setting You Want	Value to Use	Additional Information
To direct the system to add the description for the index to the DB2 catalog and to place the index in a recover pending state	Y	If used, requires that you use the RECOVER INDEX utility.
To direct the system to add the description for the index to the DB2 catalog and to build the index when you execute the CREATE statement	N	

EDITPROC name

The EDITPROC name is used when you create a table.

Setting You Want	Value to Use	Additional Information
To indicate the name of the edit procedure for the table	A name you specify	The procedure is invoked whenever a row is retrieved, updated, or inserted. The program may compact, alter, or encrypt rows of a table.

ERASE setting

The ERASE setting is used when you create or alter a table space or index space. The default is N.

Setting You Want	Value to Use	Additional Information
To automatically fill the DB2-defined dataset with zeros when you drop the object	Y	
To not automatically erase the DB2-defined dataset when you drop the object	N	

FLDLEN or length setting

The FLDLEN value (for creates) or the Length value (for alters) is used when you alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To indicate the length for the field	A number you specify	Required if you specify a DECIMAL, CHAR, VARCHAR, GRAPHIC, or VARGRAPHIC data type

FLDTYPE or data type setting

The FLDTYPE setting (for creates) or the data type setting (for alters) is used when you create a table or alter a table by adding a column. If you specify a Y value for Defaults?, you must enter one of these values for data type.

Setting You Want	Value to Use	Additional Information
For a 4-byte binary integer	INTEGER (for alters) I (for creates)	
For a 2-byte binary integer	SMALLINT (for alters) S (for creates)	
For a double floating point	FLOAT (for alters) F (for creates)	
For a single floating point	REAL (for alters)	
For a packed decimal	DECIMAL (for alters) D (for creates)	If used, requires a value for Length and Scale
For fixed-length character data	CHAR (for alters) C (for creates)	If used, requires a value for Length
For varying-length character data of a maximum length you specify	VARCHAR (for alters) V (for creates)	If used, requires a value for Length
For varying-length character data of maximum length (calculated by DB2)	LONG VARCHAR (for alters) L (for creates)	
For fixed-length graphic string	GRAPHIC (for alters) G (for creates)	If used, requires a value for Length
For varying-length graphic string of a maximum length you specify	VARGRAPHIC (for alters) VARG (for creates)	If used, requires a value for Length

FLDTYPE or data type setting (continued)

Setting You Want	Value to Use	Additional Information
For varying-length graphic string of maximum length (calculated by DB2)	LONG VARGRAPHIC (for alters) LVARG (for creates)	
For a date	DATE	
For time of day	TIME	
For timestamping	TIMESTAMP	

For Bit setting

The For Bit setting is used when you alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To include the FOR BIT DATA clause in the description for the column	Y	The clause applies only to data types CHAR, VARCHAR, or LONG VARCHAR.
To not include the FOR BIT DATA clause in the description for the column	N	

FREEPAGE value

The FREEPAGE value is used when you create or alter a table space or index space. The default is 9.

Setting You Want	Value to Use	Additional Information
To indicate at what interval DB2 is to leave a full page when you perform a load operation or reorganize the object	A number from 0 to 255	A value of 9 leaves 1 page in 10 free; a value of 19 leaves 1 page in 20. With segmented table spaces, the value for FREEPAGE should be less than the value of SEGsize.

Gbpcache value

The Gbpcache value is used when you create or alter a table space or index space. The default is blank.

Setting You Want	Value to Use	Additional Information
To indicate what pages should be cached in the group buffer pool as they are read in from DASD.	A (for all pages) blank (for only changed pages)	

Index name

The index name is used when you create an index.

Setting You Want	Value to Use	Additional Information
To indicate the name for the index	A name you specify with these maximum number of characters: <ul style="list-style-type: none">● 18 for a DB2 managed dataset● 8 for a dataset that you manage	

Index type

The index type is used when you create an index.

Setting You Want	Value to Use	Additional Information
To indicate the type for the index	<ul style="list-style-type: none">● 1 for a type 1 index● 2 for a type 1 index	

Label text for column heading

The label text for columns is used when you create a table.

Setting You Want	Value to Use	Additional Information
To provide a label for a column	A maximum of 30 characters	

Label text for the table

The label text for the table is used when you create or alter a table.

Setting You Want	Value to Use	Additional Information
To provide a label for the table	A maximum of 30 characters	Use single quotation marks to imbed quotations in the text. !DB/WORKBENCH inserts double quotation marks when it generates statements.

LOCKMAX setting

The LOCKMAX setting is used when you create or alter a table space or index. It specifies the number of locks an application can hold before the LOCKSIZE value is escalated. The default is SYSTEM.

Setting You Want	Value to Use	Additional Information
For the value specified at install time	SYSTEM	
The value for LOCKSIZE is not escalated	0	
The value for LOCKSIZE is escalated when the number of locks the application holds equals the value specified	1 through 2M+	

LOCKSIZE setting

The LOCKSIZE setting is used when you create or alter a table space or index. The default is A.

Setting You Want	Value to Use	Additional Information
For any setting (DB2 determines the locking level)	A	
For setting at the page level	P	
For setting at the table space level	S	
For setting at the row level	R	
For setting at the table level	T	Required value if for a segmented table space

NULL setting

The NULL setting is used when you create a table.

Setting You Want	Value to Use	Additional Information
To indicate that unknown or missing values are allowed	Y	
To indicate that unknown or missing values are not allowed	N	

OBID value

The OBID value is used when you create a table for a shared database.

Setting You Want	Value to Use	Additional Information
To indicate the object identifier of the table	Required if you specify a ROSHARE setting of O (owner) or N (read only) for the shared database that owns the table. The identifier is in SYSIBM.TABLES.	
To indicate that unknown or missing values are not allowed	N	

ORDER by setting

The ORDER by setting is used when you create an index. The default is A. (With !DB/WORKBENCH, you can indicate the order by entering a letter and a number in the select fields for a column; for example, you enter A (or D) and 1 in the select field for the column you want to be the first column of the key.)

Setting You Want	Value to Use	Additional Information
To indicate that the system is to place index entries of the key in ascending order	A	
To indicate that the system is to place index entries of the key in descending order	D	

Partitions value

The partitions setting is used when you create a table space. The default is 0.

Setting You Want	Value to Use	Additional Information
To set the number of partitions in the table space	A number from 0 to 64	0 or 1 specifies a simple table space.

Password

See VSAM password.

PCTFREE value

The PCTFREE value is used when you create or alter a table space or index space. The default is 10.

Setting You Want	Value to Use	Additional Information
<p>To indicate the percentage of each page that is to be reserved as free space for use by input or by update operations</p>	<p>A number from 0 to 100</p>	<p>If you do not plan updates to a table that will lengthen a row or insert to the index, use a value of 0. If you plan to add a column to a table or the index space has many inserts, provide additional free space.</p> <p>With indexes, the system can have more than one level of pages.</p> <p>Leaf pages are index pages that point directly to data in the table, and the system splits the leaf pages when there is no room for new entry. The reserved free pages reduce the number of times the system must split leaf pages. With leaf pages, the system divides the reserve page equally among all subpages.</p>

Priqty value

The Priqty value is used when you create or alter a table space or index space. The default is 40.

Setting You Want	Value to Use	Additional Information
To indicate the number of kilobytes of DASD for the table space for the first DASD extent	Number of kilobytes (not greater than 4194304)	Altering this value has consequences only for datasets that are defined using storage groups

Restrict w/Drop setting

The Restrict w/Drop setting is used when you create or alter a table table space, or database. The default is blank.

Setting You Want	Value to Use	Additional Information
To indicate that the table, table space, and database cannot be dropped	Y	
To indicate that the table, table space, and database can be dropped	N	

ROSHARE setting

The ROSHARE setting is used when you create or alter a database. The default is blank.

Setting You Want	Value to Use	Additional Information
For owner	O	
For read only	N	
For no specification	Blank	

Scale value

The Scale value is used when you create a table or alter a table by adding a column.

Setting You Want	Value to Use	Additional Information
To indicate the number of digits in the fractional part of the decimal	A number from 0 to 15 that is less than or equal to the value for Length	Required if you specify a DECIMAL data type The value for SCALE must be less than or equal to the value for FLDLEN.

Secqty value

The Secqty value is used when you create or alter a table space or index space. The default is 40.

Setting You Want	Value to Use	Additional Information
To indicate the number of kilobytes of DASD for the table space for any extent after the first	Number of kilobytes not greater than 131068	Altering this value has consequences only for datasets that are defined using storage groups

SEGsize values

The SEGsize value is used when you create a table space. The default is 0, which indicates that the table is not segmented.

Setting You Want	Value to Use	Additional Information
To set the segment size of the table space	A number from 0 to 64 (Must be a multiple of 4)	The value for FREEPAGE should be less than the value for SEGsize.

Storage group name

The storage group name is used when you create a database, table space, index, or storage group or alter a database, table space, or index. The default value is SYSDEFLT.

Setting You Want	Value to Use	Additional Information
To indicate the storage group to associate with the object	A name up to eight characters	<p>You must have SYSADM authority or the authority to USE the storage group.</p> <p>If you create a storage group, the name of the storage group cannot be the name of a storage group you have already defined for DB2.</p> <p>If you alter the name, the default VCATname for the new storage group should be the same as the VCATname of the original storage group.</p>

Subpages setting

The subpages setting is used when creating a type 1 index. The default is 4.

Setting You Want	Value to Use	Additional Information
To indicate the number of subpages for each physical page	The number is 1, 2, 4, 8, or 16	The greater the number of subpages, the higher the overhead required when processing and the larger the index is.

Table name

A table name is used when you create or alter a table.

Setting You Want	Value to Use	Additional Information
To indicate the name for the table	A name you specify with a maximum of 18 characters (not counting the Creator ID)	<p>The table name must not be the same as the name for a table, view, or synonym already described in the DB2 Catalog for the Creator ID. (The Creator ID.Table name must be unique.)</p> <p>The table name also must not be the name of a Catalog table.</p>

Table space name

The table space name is used when you create a table space.

Setting You Want	Value to Use	Additional Information
To identify the name of a table space associated with a database	A name of up to eight characters	

Type

See FLDTYPE.

UNIQUE

The UNIQUE setting is used when you create an index.

Setting You Want	Value to Use	Additional Information
To indicate that the index is unique (and does not allow duplicate keys)	U	If you specify the value when a table already has duplicate keys, the system returns an error message and does not create the index. When you use the U value, the system treats nulls as though they were any other value.
To indicate that the index is not unique (and does allow duplicate keys)	D	When you use the D value, the system allows any value including nulls.
	P	When you use the P value, the system requires the primary key to be unique.
	C	When you use the C value, the system enforces the UNIQUE constraint.
	N	When you use the N value, the system permits the primary key to include any value including nulls.

VALIDPROC name

The VALIDPROC name is used when you create a table or alter it by adding a column.

Setting You Want	Value to Use	Additional Information
To indicate the name of the validation procedure for the table	A name	The system invokes the validation procedure just before a row is updated or deleted
To indicate that there is no validation procedure for the table	Blank	

VCATname

See VSAM Catalog.

VOLSER name

The VOLSER name is used when you create a storage group. (When creating a storage group with !DB/WORKBENCH, you enter the VOLSERS in a list, using the ISPF Editor.)

Setting You Want	Value to Use	Additional Information
To indicate the name of the VOLSER in the storage group	A name of six characters with a maximum of 133 VOLSERS in the VOLSER list	<p>The VOLSERS must be of the same device type and must be mounted before you create a table space or index.</p> <p>The system ignores duplicate VOLSERS and any VOLSERS in addition to the maximum of 133.</p> <p>The order in which you list the VOLSERS determines the order in the Create Storage Statement.</p>

VSAM Catalog or VCAT name

The VSAM Catalog name (for creates) or the VCATname (for alters) is used when you create a table space, index space, or storage group or alter a table space or index.

Setting You Want	Value to Use	Additional Information
To indicate the VSAM Catalog name when the datasets are defined (and to be the high-level qualifier for the table space name)	A name up to eight characters	If the VSAM ICF Catalog to be used by DB2 for the VSAM dataset allocation has a name that exceeds eight characters, you must use an alias. If you alter the VCATname, you cannot alter these values: Stogroup, Priqty, Secqty, or ERASE.

VSAM password

The VSAM password is used when you create a table space or a storage group. (If you do not specify a value, DB2 does not use a password to access the VSAM Catalog.)

Setting You Want	Value to Use	Additional Information
To indicate the password for the VSAM control or master integrated catalog facility	A name you specify	The password is required if the catalog that you create with the integrated catalog facility is password protected. The password is not required for datasets managed by the MVS/DFFs storage management system.

Values Used When Creating or Altering Objects

Chapter 11. Summary of Methods for Display

How to Use This Chapter

This chapter consists of a series of charts showing the methods to use to display the data for the objects listed on both the !DB/WORKBENCH Primary Menu and the Interactive Display Facility (IDF) menu. This chapter shows the methods to use to display data for the objects from the extract and the methods to use to display data for objects from the DB2 catalog. The objects in the chart are listed in the order they appear on the !DB/WORKBENCH Primary Menu.

Additional Resources in This Section

For a matrix showing the specific data available for the object from the DB2 catalog, see the chapter “Data Available from Object List Panels” on page 127. For a matrix showing the specific data available for the object from the extract, see the chapter “Data Displayed by Using Functions” on page 131.

Methods for displaying data from the extract

This chart contains the methods to use to display data from the extract. For example, if you want to display data from the extract for databases, you use the D option on the !DB/WORKBENCH Primary Menu.

Objects You Want	From the !DB/WORKBENCH Primary Menu	From the Command Line	From the Select Field
Databases	D		
Table spaces	S		Tblspcs (S)
Tables	T		Tables (T)
Columns	C	COLS	Columns (C)
Indexes	I		Indexes (I)
All objects	A		ALL (L)
Views	V		Views (V)
Plans	P	PLAN	Plans (P)
Packages	K	PACK	Pkgs (K)
Aliases	L	ALIAS	
Storage groups	G		
Authorizations	Z		Auths (Z)
DSNZPARMS	ZP		

Methods for displaying data from the DB2 catalog

This chart contains the methods to use to display data from the DB2 catalog. For example, if you want to display data from the DB2 catalog for table spaces, you use the S option on the Interactive Display Facility (IDF) menu.

Objects You Want	From the Interactive Display Facility	From the Command Line	From the Select Field
Databases			
Table spaces	S		
Tables	T		Tables (T)
Columns	C		Columns (C)
Indexes	I		Indexes (I)
All objects			
Views	V		Views (V)
Plans	P		Plans (P)
Packages	K		Pkgs (K)
Aliases	L	ALIAS	
Storage groups			
Authorizations	Z		Auths (Z)
DSNZPARMS			

Summary of Methods for Display

Chapter 12.

Data Available from Object List Panels

How to Use This Chapter

This chapter contains a series of matrixes showing data that is available on the object list panels that you can access either from the !DB/WORKBENCH Primary Menu or the Interactive Display Facility (IDF) menu. The panels in the matrix are in the order they appear on the !DB/WORKBENCH Primary Menu. For example, the first column is for the Databases panel, the first object list panel on the !DB/WORKBENCH Primary Menu.

The source of the data can be either:

- An extract you run using the !DB/WORKBENCH extract facility
- A “mini-extract” you specify using the !DB/WORKBENCH Interactive Display Facility

In either case, selecting an object for display from either the Primary Menu or the IDF menu results in a display of the *same* !DB/WORKBENCH object list panel.

To determine which !DB/WORKBENCH panel provides the specific data you want, review the alphabetical list of the type of object or its attributes in the left column and then locate the name of the appropriate panels in the columns on the right. (Following the column with the alphabetical list is a column containing the name that is most frequently used on the panels for the object or attribute.) For example, if you want to know the value for the buffer pool, you select the Databases panel.

The hyphen (-) used with a name for a field indicates that the field name is displayed vertically on the panel. For example, the name D-F in the matrix indicates this appearance on the panel:

```
D
F
```

Online Help for Data on Object List Panels

For specific information about objects or their attributes that are displayed on object list panels, type **HELP** on the command line and press Enter, or press the appropriate function key.

Types of specific information available about objects

The matrix is the first in a series of matrixes that list the data you can display from the extract.

Type of Information	Frequently Used Name for Field	Databases Panel	Table Spaces Panel	Tables Panel	Columns Panel	Indexes Panel	All Panel	Views Panel	Plans Panel	Packages Panel	Aliases Panel	Procedures Panel	Storage Groups Panel
Alias, and table	CREATOR TABLE NAME										√		
and table creator	CREATOR TABLE NAME										√		
name of	NAME										√		
Bind, bound by	BOUND BY								√				
date	DATE								√	√			
rebind, status of	RB								√				
server	SERVER								√				
time	TIME								√	√			
Bufferpool, name of	BUFFERPOOL	√											
Catalog, name of	CATALOG		√										√
Column, and table	TABLE				√								
and view	VIEW				√								
comment, status of	C-M				√								
data type	TYPE				√								
defaults, status of	D-F				√								
field proc, status of	F-P				√								
FOR BIT DATA, status	F-B				√								
BIT DATA, status of	F-K				√								
index, status of	I-X				√								
label, status of	L-B				√								
length	LEN				√								
name of	COLUMN NAME				√								
null, status of	N-L				√								
primary key, status of	P-K				√								
statistics, status of	S-T				√								
table or view	T-V				√								
update, possibility of	U-P				√								
Checks, # of	CHECKS			√									

Types of specific information available about objects (continued)

This matrix continues the matrixes that list the data you can display from the extract.

Type of Information	Frequently Used Name for Field	Databases Panel	Table Spaces Panel	Tables Panel	Columns Panel	Indexes Panel	All Panel	Views Panel	Plans Panel	Packages Panel	Aliases Panel	Procedures Panel	Storage Groups Panel
Created by	CREATEDBY	√		√							√		
Creator of object	CREATOR/AUTHID	√	√	√	√	√		√	√	√	√	√	√
Data type	TYPE				√								
Database, name of	DBDNAME	√	√	√			√						
type of	TYPE	√											
Field proc	F-P				√								
Foreign key	F-K				√								
Index space, name of	INDEX SPACE					√							
Index, cluster, status of	C-G					√							
name of	INDEXNAME					√	√						
number of	NUMBER OF INDEXES	√	√										
partition #	PT#					√							
type of	TYPE					√							
uniqueness, status of	U-Q					√							
Package, collection	COLLECTION									√			
name of	PACKAGE									√			
owner	OWNER									√			
Plan, name of	PLAN								√				
Primary key	P-K				√								
Procedure, collection ID	COLLID											√	
language	LANG											√	
linkage	L-C											√	
load module name	LOADMOD											√	
logical unit name	LUNAME											√	
stay resident	S-R											√	
Qualifier	QUALIFIER								√	√			
Rebind status	RB								√				

Types of specific information available about objects (continued)

The matrix is the last of a series of matrixes that list the data you can display from the gextract.

Type of Information	Frequently Used Name for Field	Databases Panel	Table Spaces Panel	Tables Panel	Columns Panel	Indexes Panel	All Panel	Views Panel	Plans Panel	Packages Panel	Aliases Panel	Procedures Panel	Storage Groups Panel
Referential data (foreign key)	REF			√	√								
dependents	DEP			√	√								
partitions	PAR			√	√								
ROSHARE	ROSHARE	√											
Server	SERVER							√					
Space (for kb)	SPACE												√
Statistics, status	STATS		√	√	√		√						
Storage group, name of	STORAGE GROUP	√											√
date of creation	DATE												√
Table space, name of	TBLSPACE		√	√		√	√						
number of	NUMBER OF TBLSPCS	√											
number of partitions	PRTS		√										
partition #	PT#		√										
segment size	SEGSZ		√										
Table, and alias	CREATOR TABLE NAME										√		
and indexes	TABLE INDEXED					√							
name of	TABLE NAME			√			√						
number of	NUMBER OF TABLES	√	√										
view on	ON VIEW NAME or ON TABLE NAME							√					
View, and number of columns	COLS							√					
and table	ON VIEW NAME or ON TABLE NAME							√					
name of	VIEW NAME							√					
WITH CHECK OPTION, status of	CHK?							√					
Volume, names of	VOLUME												√
number of	#VOLS												√

Chapter 13. Data Displayed by Using Functions

How to Use This Chapter

This chapter consists of a series of charts showing the data that is displayed when you use commands and selects on the object list panels available from the !DB/WORKBENCH Primary Menu. The commands and selects are in alphabetical order according to the name used.

The command or select followed by a dash (—) indicates that the command or select displays different types of data when you use it on different object list panels. The abbreviation that follows the dash (—) indicates the object list panel where the command or select is available. For example, if you use the Auths (Z) select on the Databases panel, the system displays authorizations data for databases. If you use the Auths (Z) select on the Table Spaces panel, the system displays authorizations data for table spaces.

Additional Resources in This Section

For a matrix showing which commands and selects are available from object list panels available from the !DB/WORKBENCH Primary Menu, see “Commands and Selects Available from Object List Panels” on page 29.

Name for the Select or Command	Data Displayed on the Panel
Auths (Z) select—DB	DATABASE GRANTOR GRANTEE HOWGOT DATE TIME C-T (CREATE TABLE) C-S (CREATE TABLE SPACES) D-B (DBADM) C-N (DBCTRL) M-N (DBMAINT) D-S (DISPLAY DATABASES) D-R (DROP DATABASES) I-C (COPY, MERGE, QUIESCE) L-D (LOAD UTILITY) R-G (REORG DB AND INDEX) R-C (RECOVER UTILITY) R-P (REPAIR AND DIAGNOSE) S-T (START DATABASES) R-S (RUNSTATS AND CHECK) S-P (STOP DATABASES)
Auths (Z) select—TS	TBLSPACE GRANTOR GRANTEE HOWGOT DATE TIME
Auths (Z) select—TB	CREATOR TABLE.DATABASE GRANTOR GRANTEE G-T (GRANTEE TYPE) HOWGOT DATE TIME C-U (COLUMNS AUTHORIZED) A-L (ALTER) D-L (DELETE ROWS) I-X (CREATE INDEXES) I-N (INSERT ROWS) S-L (SELECT ROWS) U-P (UPDATE ROWS)

Name for the Select or Command	Data Displayed on the Panel
Auths (Z) select—VW	CREATOR VIEW.DATABASE GRANTOR GRANTEE G-T (GRANTEE TYPE) HOWGOT DATE TIME C-U (COLUMNS AUTHORIZED) A-L (ALTER) D-L (DELETE ROWS) I-X (CREATE INDEXES) I-N (INSERT ROWS) S-L (SELECT ROWS) U-P (UPDATE ROWS) R-A (REFERENCES AUTHORITY)
Auths (Z) select—PL	PLANS GRANTOR GRANTEE HOWGOT DATE TIME
Auths (Z) select—PK	COLLECTION PACKAGE GRANTOR GRANTEE G-T (GRANTEE TYPE) HOWGOT DATE TIME B-I (BIND) C-O (COPY) E-X (EXECUTE)
Auths (Z) select—SG	STOGROUP GRANTOR GRANTEE HOWGOT DATE TIME
COLL command	PLAN COLLECTION LOCATION
Coll (C) select	PLAN COLLECTION LOCATION

Name for the Select or Command	Data Displayed on the Panel
Columns (C) select—TB	COLUMN NAME TYPE LENGTH NL UP INDEX NAME IXLCOL
Columns (C) select—IX	CREATOR INDEX NAME COLUMN INDEXED TYPE LENGTH A/D CL IS?
Columns (C) select—VW	COLUMN NAME TYPE LENGTH NL UP
Conns (N) select	SYSTEM CONNECTION ENABLE
Copies (C) select—DB	TBLSPC PT BKUP DATE BKUP TIME IC TY SHR LVL DEVICE TYPE IC BKUP IC UNIT SEQ NO LOG RBA
Copies (C) select—TS	BKUP DATE BKUP TIME IC TY SHR LVL DEVICE TYPE IC BKUP IC UNIT SEQ NO LOG RBA

Name for the Select or Command	Data Displayed on the Panel
Count (N) select	(Count (N) displays the number of rows in the table.)
DBR command	PLAN DBRM NAME PDS DATASET NAME PRECOMPILE DATE PRECOMPILE TIME
DBRMs (S) select	DBRM NAME PDS DATASET NAME PRECOMPILE DATE PRECOMPILE TIME Q-T (QUOTE) C-M (COMMA) L-G (HOST LANGUAGE) M-X (MIXED) C-H (CHARACTER SET)
DEP command	PLAN (from Plans) PACKAGE (from Packages) CREATOR DBDNAME TABLESPC
Dep (D) select	DBDNAME TABLESPC DEPENDENT OBJECT

Name for the Select or Command	Data Displayed on the Panel
Details (D) select—TS	DBNAME CREATEDBY CREATOR BPOOL STORNAME STORTYPE IMPLICIT VCATNAME DSETPASS PARTITIONS IXNAME IXCREATOR DBID OBID PSID CLOSERULE ERASERULE LOCKSIZE LOCKMAX GBPCACHE STATUS CHECKFLAG CHECKRID NTABLES PGSIZE PQTY SQTY PCTFREE FREEPAGE SEGSIZE SPACE COMPRESS STATSTIME NACTIVE PERCACTIVE PERCDROP CARD FARINDREF NEARINDREF

Name for the Select or Command	Data Displayed on the Panel
Details (D) select—TB	CREATOR NAME DBNAME CREATEDBY TSNAME OBID EDPROC VALPROC AUDITING STATUS DATACAPTURE CHECKFLAG CHECKRID CHECKS COLCOUNT KEYCOLUMNS KEYOBID RECLENGTH PARENTS CHILDREN STATSTIME CARD NPAGES PCTPAGES LABEL REMARKS CREATEDTS ALTERDTS
Details (D) select—CO	CREATOR TABLE COLUMN TYPE LENGTH SCALE VIEW? INDEXED? PRIMARY KEY? FOREIGN KEY? NULLABLE? DEFAULTS? FIELDPROC? FOR BIT DATA? HAS A LABEL? HAS COMMENTS? HAS STATS? UPDATABLE?

Name for the Select or Command	Data Displayed on the Panel
Details (D) select—IX	IXCREATOR NAME CREATEDBY DBNAME INDEXSPACE PARTITION TBNAME TBCREATOR STORTYPE STORNAME VCATNAME DSETPASS BPOOL COLCOUNT DBID OBID ISOBID GBPCACHE UNIQUERULE CLUSTERING CLUSTERED ERASERULE CLOSERULE NLEVELS PGSIZE SPACE PQTY SQTY PCTFREE FREEPAGE STATSTIME CARD FAROFFPOS NEAROFFPOS LEAFDIST FIRSTKEYCARD FULLKEYCARD NLEAF CLUSTERATIO LIMIT KEY
Details (D) select—VW	(Details (D) displays the CREATE statements for the view.)

Name for the Select or Command	Data Displayed on the Panel
Details (T) select—PL	NAME CREATOR QUALIFIER BOUNDBY BINDDATE BINDTIME PLSIZE AVGSIZE CACHESIZE PLENTRIES SYSENTRIES CURRENTSERVER GROUP_MEMBER DYNAMICRULES VALIDATE ISOLATION VALID OPERATIVE ACQUIRE RELEASE DEFERPREP EXPLAN DEGREE SQLRULES DISCONNECT EXPREDICATE

Name for the Select or Command	Data Displayed on the Panel
Details (T) select—PK	NAME CREATOR OWNER QUALIFIER COLLID CONTOKEN BINDTIME PCTIMESTAMP PKSIZE AVGSIZE VERSION PDSNAME GROUP_MEMBER DYNAMICRULE VALIDATE ISOLATION VALID OPERATIVE RELEASE DEFERPREP EXPAIN QUOTE COMMA HOSTLANG CHARSET MIXED DEC31 SQLERROR REMOTE DEGREE
DS Info (N) select	DATABASE TABLESPACE DATASET NAME CATALOG PRIMARY ALLOCATION CURRENTLY ALLOCATED SECONDARY ALLOCATION CURRENTLY USED FIRST VOLSER NUMBER OF EXTENTS NUMBER VOLSERS NUMBER OF DATASETS

Name for the Select or Command	Data Displayed on the Panel
Estimate (E) select	TS PCTFREE FREEPAG CREATOR SEGSIZE NACTIVE TB ROWLEN NO. ROWS PCTPAGS PAGES IX FULLKEYS KEYLEN PCTFREE FREEPAG 1STKEYS NLEVELS LF PAGES CLRTIO UNIQ SBPG CLOS CLST
Listcat (L) select—TS	NONVSAM IN-CAT DATASET-OWNER RELEASE PROTECTION-PSWD CREATION EXPIRATION RACF CLUSTER KEYLEN BUFSPACE RKP AVGLRECL CISIZE MAXLRECL

Name for the Select or Command	Data Displayed on the Panel
Listcat (L) select—IX	DATA IN-CAT DATASET-OWNER RELEASE PROTECTION-PSWD CREATION EXPIRATION RACF CLUSTER KEYLEN BUFSPACE RKP EXCPEXIT STRIPE-COUNT SHROPTNS LINEAR UNORDERED STATISTICS AVGLRECL CISIZE MAXLRECL CI/CA UNIQUE NOIMBED NONSPANNED REC-TOTAL EXCPS REC-DELETED EXTENTS SPLITS-CI SPLITS-CA
Pkglist (L) select	LOCATION COLLECTION ID PACKAGE SEQNO TIMESTAMP
RI Info (F) select	TABLE DB TS PRIMARY INDEX PARENTS OF THIS TABLE DEPENDENTS OF THIS TABLE

Name for the Select or Command	Data Displayed on the Panel
Runstat (R) select—TS	TABLESPACE DATABASE SPACE DATA ACTIVE DATA ROW DATA
Runstat (R) select—TB	ROW DATA
Runstat (R) select—IX	INDEXSPACE INDEX SPACE DATA INDEX DATA ROW DATA
TSSET command	TBLSPACE DATABASE CREATOR CATALOG # PTS TABLES IN THE SET
VOLS command	VOLUME STOGROUP STOGROUP STOGROUP STOGROUP STOGROUP STOGROUP STOGROUP
Volumes (S) select	VOLUME

Resolving Problems

Introduction

The chapter contains an introduction to resources available and instructions for responding to error and problem messages and providing a diagnostic report to Candle Customer Support.

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Overview of the Chapter

Organization of information in this chapter

The chapter provides an overview of how to resolve problems that can occur when using software. It includes the resources available, an explanation of the ABEND diagnostic report, and instructions on how to contact Candle Customer Support if you need assistance in diagnosing the problem.

Organization of information and your needs

Review the chart to select information appropriate for the task you want to perform.

	System Level	Support	Aid in Diagnostics	Error Messages	Trace Facility	TRACE Commands	DB2 Catalog
	p.149	p.150	p.151	p.152	p.153	p.155	p.156
Determine the level of your !DB/WORKBENCH system	√						
Review resources available to resolve problems		√					
Review the information you need to provide to Candle Customer Support for help to diagnose a problem			√				
Review resources available for error messages				√			
Use the Automated Trace Facility					√		
Use the TRACE Commands						√	
Check the DB2 catalog							√

Determining the Level of Your !DB/WORKBENCH System

Overview

This unit provides information to assist you in determining the level of your !DB/WORKBENCH system.

Procedure to determine the maintenance level of your !DB/WORKBENCH system

The maintenance level of your !DB/WORKBENCH system is displayed on the !DB/WORKBENCH Primary Menu. If you want to determine the maintenance level from another !DB/WORKBENCH panel, follow the steps in this chart.

Step	Action
1	To obtain the maintenance level of the !DB/WORKBENCH system you are using, type MAINT on the command line of a !DB/WORKBENCH panel.
2	Press Enter. Result: !DB/WORKBENCH displays its maintenance level.

Procedure to determine the maintenance level of all your !DB/Tools

The maintenance level of all of the installed !DB/Tools can be displayed by following the steps in this chart.

Step	Action
1	To obtain the maintenance level of every installed component of !DB/Tools, type MAINT? on the command line of a !DB/WORKBENCH panel.
2	Press Enter. Result: !DB/WORKBENCH displays the maintenance level of all the !DB/Tools you have installed.

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/WORKBENCH provides an error message that is displayed in the upper right corner of the menu or panel. A number precedes the short text of the 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 chart lists two examples of the levels of detail of online information available from !DB/WORKBENCH. 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 151.

Providing Information to Aid in Problem Diagnosis

Providing a copy of the activity log

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. Follow these steps to print the activity log.

Step	Action
1	On the !DB/WORKBENCH Primary Menu, type H in the Option field.
2	Press Enter. Result: The system displays the Administrative Functions menu.
3	On the Administrative Functions menu, type 10 in the Option field. Result: The system displays the Log Activity List panel.
4	Move the cursor to the line with the ABEND whose log you want to print.
5	Type P in the Select field.
6	Press Enter. Result: The system displays a selection list that allows you to specify print options.
7	Type the print options you want.
8	Press Enter. Result: The system processes the print request and prints the activity log at the destination you specified.

Error Messages and Information

Overview

This unit provides information and resources available to help interpret error messages. It includes information about message format, error messages, and ABENDS.

Background on messages

!DB/WORKBENCH issues several types of messages that may be either informative or may reveal an error condition. The most common type of message generated has an eight character message identifier followed by explanatory message text. In this case, the message identifier begins with either a KTW, KTC, KTB, or SFFX prefix. In most cases, the message text explains what type of error occurred and why it occurred. Also, each message has extended HELP available with it.

If you are executing !DB/QUICKCHANGE with !DB/WORKBENCH, it is possible for you to receive messages with the same identifiers as described in the previous paragraph. In addition, !DB/QUICKCHANGE issues messages with the KTQ prefix.

If the error is a system error, the system issues an ABEND. Each ABEND has a unique identifier code to help in identifying the problem.

The last group of !DB/WORKBENCH error messages is a special subset of error messages that require explanation. They are explained in this manual with a user response when applicable.

Resources for ABENDs and error messages

The chart lists the resources available to interpret ABENDs and the subset of error messages that need explanation.

Condition	Source to Use
ABEND occurs	“ABENDS with !DB/WORKBENCH” on page 165
Error message displays	“Error Messages with !DB/WORKBENCH” on page 169

Using the Automated Trace Facility

Overview

This unit describes the automated trace facility and provides instructions for its use.

Background about the automated trace

A trace facility is provided that can capture information useful to Candle personnel in resolving problems. Snapshots of storage and register values are written to a file at strategic times during the execution of !DB/WORKBENCH

Note: !DB/WORKBENCH ATF is resource intensive. Use it only when working with Candle personnel to resolve a problem.

Prerequisite to using the automated trace facility in batch

In order to use the automated trace facility in batch, add the following DD statement to your batch JCL:

```
//KTCTRACE DD SYSOUT=*
```

Using the auto

All DEBUG commands used in batch processing must be used within primary commands. This example opens KTCTRACE and turns on the trace facility.

```
PL      (Primary Command)
DEBUGON
PRNT
END     (Primary Command)
```

Tracing begins and continues until !DB/WORKBENCH encounters a DEBUGOFF command. All trace information is written to the trace dataset. If you exit !DB/WORKBENCH without issuing the DEBUGOFF command, only a small part of the trace information is produced.

Using the automated trace facility online

The table that follows tells you how to turn the automated trace facility on and off and how to use it.

Step	Action
1	<p>Do one of the following:</p> <ul style="list-style-type: none">● Issue the command DEBUGON from the command line. Optionally include a limit counter on the number of program traces. For example: <code>CMD==> DEBUGON 100 (100 traces performed)</code> or <code>CMD==> DEBUGON (default limit is 500)</code>● Or, issue the command DEBUGON from the command line followed by the name of the Candle program KTEOUTST. Optionally include a limit counter on the number of program traces. For example: <code>CMD==> DEBUGON KTEOUTST 5</code> <code>CMD==> DEBUGON KTEOUTST (default lmt. is 500)</code> <p>Result: The system turns on the trace facility.</p>
2	<p>Tracing continues until:</p> <ul style="list-style-type: none">● The specified trace limit is reached, or● You enter the command DEBUGOFF on the command line
3	<p>When the trace facility is turned off either through expiration of the trace limit or entry of DEBUGOFF, !DB/WORKBENCH writes trace information to the output class you have specified for the field SYSOUT Hold Class on Housekeeping's !DB/Tools Global Configuration Information panel.</p>

Using the TRACE Commands

Overview

This unit describes the commands provided to trace management activities.

Background about the automated trace

Tracing can be resource-intensive. For diagnostic purposes, and when so directed by Candle Support Services, use the trace commands identified in this unit to trace various product and system functions. Candle Support Services may request that you provide this input when placing a request for service.

datasets for trace output

The output of a trace command is sent to a dataset identified as follows:

- When initiated during an online session, the TRACE DDname is dynamically generated. It takes the form `TxDnnnnn` where `x` is a product identifier and `nnnnn` is a system-generated value.

Value for <i>x</i>	Product
D	!DB/DASD
E	!DB/EXPLAIN
Q	!DB/QUICKCHANGE
S	!DB/SMU
W	!DB/WORKBENCH

- When initiated from a batch session, trace output is written to `KTBTRACE`.

Available trace commands

Enter the appropriate trace command by typing it on the command line of any object list panel or by including it in your batch `SYSIN` input.

Task You Want to Perform	Command to Use
Trace getmains, freemains, data space functions, and list functions.	TRACEALL
Trace data space functions.	TRACED
Trace getmains and freemains.	TRACEG
Trace list functions.	TRACEL
Turn tracing off.	TRACEOFF

Checking the DB2 Catalog

Overview

This unit provides information about the DSNTESQ member of the IBM DB2 sample library dataset (DSNSAMP).

Background about DSNTESQ

The DSNTESQ member of the IBM sample library dataset contains SQL statements that check the logical structure of the DB2 catalog (DSNDB06) and SQL statements that are recommended during DB2 version migration and shadow catalog creation.

Using DSNTESQ

The SQL contained in this member can be used to find logical inconsistencies in the DB2 catalog. It is recommended by Candle Customer Support that you execute the SQL selects contained in the DSNTESQ member on a regular basis.

Note: Problems that cause System 0C3 ABENDs during the !DB/WORKBENCH extract process can usually be identified using the SQL selects in the DSNTESQ member.

Appendixes

Appendix A.

!DB/WORKBENCH Facilities That Access the DB2 Catalog or Subsystem

This unit identifies those !DB/WORKBENCH facilities that access the DB2 catalog or the physical DB2 (VSAM) datasets, and those facilities that both access and update the catalog.

Facilities that access the catalog or subsystem

The chart shows those !DB/WORKBENCH facilities that access the DB2 catalog, summarizes the capabilities of the given !DB/WORKBENCH facility, and points you to additional information. (Pointers are to information in this User's Guide unless another document is specifically cited.)

Facilities that Access the DB2 Catalog or Subsystem	Summary of Capabilities	Sources of Additional Information
Batch and online extract processing	The extract process runs against the DB2 catalog for the current DB2 subsystem.	<p>“Running the Batch Extract” and “Customizing !DB/WORKBENCH” in the <i>!DB/Tools Installation and Customization Guide</i>.</p> <p>The chapter “!DB/WORKBENCH Housekeeping Options” in <i>!DB/WORKBENCH Advanced User's Guide</i></p>
Utility generation	All utility generation processes access the DB2 datasets that contain table spaces and index spaces to determine dataset sizing information. !DB/WORKBENCH accesses these datasets using the IBM IDCAMS interface.	The section “Running Utilities” in <i>!DB/WORKBENCH Advanced User's Guide</i>
REBIND command for plans and packages during utility generation	Issuing REBIND, REBIND PKGS, or REBIND PLANS during utility generation causes !DB/WORKBENCH to access DB2 to retrieve a list of plans or packages that require rebinding and to generate the commands to rebind them.	The chapter “DB2 Utilities and Options Available with !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>

Facilities that access the catalog or subsystem (continued)

Facilities that Access the DB2 Catalog or Subsystem	Summary of Capabilities	Sources of Additional Information
COPY utility IMAGECOPY=M option	The COPY utility produces an image copy of a table space. Because !DB/WORKBENCH uses the DB2 Space Map page when executing the IMAGECOPY=M option of the COPY utility, you must have either ACF2 or RACF READ authorization in order to open and read the physical VSAM dataset.	The chapter “DB2 Utilities and Options Available with !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>
C select from the Table Spaces display	Issuing the C select on the Table Spaces panel and the CAT command on the subsequent display causes !DB/WORKBENCH to retrieve the current image copy information for the identified table space(s) from the DB2 catalog.	The chapter “Methods for Displaying Data” in <i>!DB/WORKBENCH Basic User's Guide</i>
Running the RECOVER utility for table spaces with a question mark (?) in the TORBA field	!DB/WORKBENCH dynamically accesses the SYSIBM.SYSCOPY table in the DB2 catalog for the latest recovery information for the table space.	The chapter “DB2 Utilities and Options Available with !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>

Facilities that access the catalog or subsystem (continued)

Facilities that Access the DB2 Catalog or Subsystem	Summary of Capabilities	Sources of Additional Information
SQL option	The SQL command can be entered in the Option field of the !DB/WORKBENCH Primary Menu or on the command line of any !DB/WORKBENCH option list panel.	The chapter “Using the Dynamic SQL Facility in !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>
KTCSQL macro	The KTCSQL macro can be used by typing KTCSQL on the command line of a member containing SQL statements you want to execute and pressing Enter.	The chapter “Using the Dynamic SQL Facility in !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>
DB2 commands you can issue	The DB2 commands you can issue in !DB/WORKBENCH operate directly against the current DB2 subsystem.	“Using DB2 Commands in !DB/WORKBENCH” in <i>!DB/WORKBENCH Advanced User's Guide</i>
Interactive Display Facility (IDF)	!DB/WORKBENCH provides IDF to permit you to directly display information from the DB2 catalog. IDF is available from the !DB/WORKBENCH Primary Menu and from the Databases, Table Spaces, Tables, and Indexes displays when you use the Q select.	“Data Available from Object List Panels” on page 127

Facilities that access and update the DB2 catalog

The chart shows those !DB/WORKBENCH facilities that access and update the DB2 catalog, summarizes the capabilities of the given !DB/WORKBENCH facility, and points you to additional information.

Facilities that Access and Update the DB2 Catalog	Summary of Capabilities	Sources of Additional Information
CREATE	<p>CREATE uses information from the current extract as a model when creating new objects. Once the definition for the objects has been completed, you can request that these objects be created.</p> <p>!DB/WORKBENCH updates the DB2 catalog to show the creation of the new objects.</p>	<p>The section “Creating Objects” in <i>!DB/WORKBENCH Advanced User's Guide</i></p>
ESTIMATOR	<p>Access the ESTIMATOR facility by entering the E select on the Table Spaces display. Then use ESTIMATOR to directly update columns in the following DB2 catalog tables:</p> <ul style="list-style-type: none"> ● SYSTABLESPACE ● SYSTABLES ● SYSCOLUMNS ● SYSINDEXES <p>The fields within each table that can be updated are listed in the next section of this unit.</p>	<p>The chapter “Methods for Working with Data” in <i>!DB/WORKBENCH Basic User's Guide</i></p>
OUTDDL (including ALTER and AUTHORIZATION)	<p>You can perform OUTDDL processing that requests that the generated DDL update the catalog. The OUTDDL can include ALTER processing (through the use of the ALTER command or the A select) or AUTHORIZATION processing (through the use of the OUT and REVOKE commands or the O select).</p>	<p>The chapter “Methods for Generating Statements for Objects” in <i>!DB/WORKBENCH Basic User's Guide</i></p> <p>The chapter “Using Authorizations to Manage the System” in <i>!DB/WORKBENCH Advanced User's Guide</i></p>

Fields in the DB2 catalog that can be updated using the ESTIMATOR function

This chart lists the fields in the DB2 catalog that you can update using the !DB/WORKBENCH ESTIMATOR facility.

DB2 Catalog Table	Fields You Can Update
SYSTABLESPACE	NACTIVE
SYSTABLES	CARD NPAGES PCTPAGES
SYSCOLUMNS	COLCARD HIGH2KEY LOW2KEY
SYSINDEXES	FIRSTKEYCARD FULLKEYCARD NLEAF NLEVELS CLUSTERRATIO

Appendix B. ABENDS with !DB/WORKBENCH

How to Use This Appendix

This appendix consists of a listing of the ABENDS that can occur with !DB/WORKBENCH.

Messages for ABENDs

ABEND Snnn

Explanation: A system ABEND has occurred.

User Response: Call Candle Customer Support.

ABEND S913

Explanation: An unauthorized user attempted to access a table space or other authorization problem occurred.

User Response: Call Candle Customer Support.

ABEND SD37

Explanation: The system PDS is full.

User Response: Compress the PDS or reallocate with larger space as appropriate.

ABEND SE37

Explanation: The system PDS is full.

User Response: Compress the PDS or reallocate with larger space as appropriate.

ABEND S0C3

Explanation: A logic error has occurred.

User Response: Call Candle Customer Support.

ABEND S0C4

Explanation: A system program exception has occurred.

User Response: Call Candle Customer Support.

ABEND S0C7

Explanation: A data program exception has occurred.

User Response: Call Candle Customer Support.

Messages for ABENDs

ABEND U0008

Explanation: This is a catch all message that indicates an internal error has occurred preventing you from continuing processing. This message is variable in nature and is associated with one of several reason codes. Each reason code has specific message text that gives a description explaining the abend.

User Response: Call Candle Customer Support and have a print copy of the message text and related documentation (if any) available when you call.

ABEND U12

Explanation: !DB/WORKBENCH Batch Utility issues the message to indicate an error is returned from a subroutine module. A message is printed on the SYSPRINT file. !DB/WORKBENCH uses many of the same modules for the online ISPF panels and the Batch Utility.

System Action: The action of the system depends on whether a //SFXMLIB DD statement is supplied.

- If it is supplied, the system intercepts ISPF error messages and issues a U12 ABEND.
- If it is not supplied, the system does not issue an error message and it bypasses the ABEND.

ABEND U20

Explanation: ISPF has returned a code 20 on a dialog manager call, such as TBDISPL or TBADD. This signifies a severe error in ISPF or a possible error in !DB/WORKBENCH.

User Response: Retry. If the error persists, Call Candle Customer Support.

ABEND U199

Explanation: The Batch Utility module issues the message when no extract data is found on the System PDS.

User Response: Check the DD cards to be sure SFFXPDS refers to the correct System PDS.

ABEND U1099

Explanation: A VDEFINE, VGET, or VPUT call issues the message when ISPF returns an unexpected code indicating a !DB/WORKBENCH logic error.

User Response: Call Candle Customer Support.

Appendix C. Error Messages with !DB/WORKBENCH

How to Use This Appendix

This appendix consists of a listing of a subset of the error messages that can be produced by !DB/WORKBENCH. Additional explanation for this subset of messages has been provided in this section to help you interpret the messages and take corrective action.

Messages Beginning with Alpha-Characters

CDB100

CDB100 DAER=ccccccc, DD=ddname, DSN=dsname

Explanation: A dynamic allocation error has occurred for DDname “ddname”. The dataset name being allocated is “dsname”. The name is not shown if the short text is displayed, or if it is not a dataset allocation (such as SYSOUT). The allocation error code is “ccccccc”.

User Response: For more information about these codes, see the *Job Management SRL* or the *ISPF Tutorial*, Appendix A. Some common dynamic allocation error codes are:

“02100000” the dataset is in use elsewhere

“17080000” the dataset does not exist

Message 104**104****GETMAIN ERROR IN LIST PROCESSOR**

Explanation: A conditional Getmain failed for a block of storage for the LIST subroutine. Normally, requests are for a single page at a time.

User Response: Increase the amount of memory available to the program or the TSO address space. If the problem persists, it may be a loop. Call Candle Customer Support.

Messages 105-174 PDS Errors

- 105** **DUPLICATE MEMBER**
User Response: Call Candle Customer Support.
- 106** **ENQ FAILED FOR MBR=mbrname**
Explanation: There is contention for the named PDS member. !DB/WORKBENCH uses the normal ISPF enqueue names to protect update against the System PDS.
User Response: Retry to be sure the condition is not transient. If it persists, check that there is not an EDIT outstanding against the member.
- 110** **MBR mbrname NOT IN DIRECTORY**
Explanation: The named member does not exist in the PDS.
User Response: Call Candle Customer Support.
- 111** **MBR mbrname NOT IN LIBRARY**
Explanation: The named member does not exist in the PDS.
User Response: Call Candle Customer Support.
- 112** **LOAD FAILED FOR mbrname**
Explanation: The named member does not exist in the PDS.
User Response: Call Candle Customer Support.
- 120** **GET CALL OUT OF SEQUENCE - MBR=mbrname**
Explanation: There is a possible program logic error.
User Response: Call Candle Customer Support.
- 121** **NO DIR CHAIN FOR GET MBR=mbrname**
Explanation: There is a possible program logic error.
User Response: Call Candle Customer Support.
- 122** **“GET AFTER” ERR TTR DIR ORDER**
Explanation: There is a possible program logic error.
User Response: Call Candle Customer Support.
- 123** **“<” IN MBR NAME IS INVALID**
Explanation: There is a possible program logic error.
User Response: Call Candle Customer Support.

- 124** **INVALID BLOCK IN MBR=mbrname**
Explanation: A data block in the named PDS member is in error.
User Response: Call Candle Customer Support. Please provide an ISPF list of the named member to help Candle Customer Support in diagnosis of the problem.
- 125** **MBR NOT FOUND - mbrname**
Explanation: The named member does not exist in the PDS.
User Response: Call Candle Customer Support.
- 126** **BAD TTR IN DIRECTORY FOR MBR=mbrname**
Explanation: The directory entry for the named PDS member is invalid. This may indicate PDS damage.
User Response: Try compressing the PDS.
- 127** **NO POSITION FOR MBR=<>**
Explanation: There is a possible program logic error.
User Response: Call Candle Customer Support.
- 140** **INV LEN FOR RECFM=U, DD ddname**
Explanation: Data in the named PDS ddname is in error.
User Response: Call Candle Customer Support.
- 141** **INV VB RECORD LENGTH, DD=ddname**
Explanation: Data in the named PDS member is in error.
User Response: Call Candle Customer Support.
- 142** **NO PUT - OPENED UPD=NO, DD=ddname**
Explanation: A read-only user has tried to perform an update to the PDS. If the ddname is SFFXPDS, then this is the system PDS. Probably OPTS authority has been granted to a user with SPX(0).
User Response: IF SPX(0) is specified in the Exit commands, then OPTS should not be granted.
- 143** **NO RECORDS IN MEMBER, DD=ddname, MBR=mbrname**
Explanation: The named PDS member is in error.
User Response: Call Candle Customer Support.

- 144** **UDATA INVALID - LEN GT 62, DD=ddname,
MBR=mbrname**
Explanation: The named member is in error.
User Response: Call Candle Customer Support.
- 145** **MEMBER ALREADY IN DIRECTORY, DD=ddname,
MBR=mbrname**
Explanation: The named PDS member is already in the dataset, and the situation is unexpected.
User Response: Call Candle Customer Support.
- 146** **DUPLICATE MEMBER ON PDS, DD=ddname,
MBR=mbrname**
Explanation: The named PDS member is already in the dataset, and the situation is unexpected.
User Response: Call Candle Customer Support.
- 147** **PDS DIRECTORY I/O ERROR, DD=ddname,
MBR=mbrname**
Explanation: The directory for the PDS is invalid. This may indicate PDS damage.
User Response: Try copying the PDS. Do not compress in place.
- 148** **PDS DIRECTORY IS FULL, DD=ddname,
MBR=mbrname**
Explanation: The directory for the PDS is full.
User Response: Try compressing the PDS. It may be necessary to reallocate the PDS with larger space. The data may be copied from the full PDS to the new PDS using IEBCOPY or ISPF Option 3.3.
- 152** **PARMS “DB2ID,PLANNAME” ARE REQUIRED**
Explanation: The DB2 subsystem identifier and the plan name were not passed as required.
User Response: Check the parameters in the CLIST that is being invoked. If further assistance is needed, call Candle Customer Support.
- 153** **TWO PARMS ARE REQUIRED - “DB2ID,PLANNAME”**
Explanation: Either the DB2 subsystem identifier or the plan name were not passed as required.
User Response: Check the parameters in the CLIST that is being invoked. If further assistance is needed, call Candle Customer Support.

- 154 DB2ID PARM MUST NOT EXCEED 4 CHARACTERS**
Explanation: The DB2 subsystem identifier that is passed to the CLIST is longer than 4 characters.
User Response: Check the DB2 ID in the CLIST that is being invoked. If further assistance is needed, call Candle Customer Support.
- 155 PLANNAME PARM MUST NOT EXCEED 8 CHARACTERS**
Explanation: The plan name that is passed to the CLIST is longer than 8 characters.
User Response: Check the plan name in the CLIST that is being invoked. If further assistance is needed, call Candle Customer Support.
- 160 INVALID DDNAME**
Explanation: There is a logic error.
User Response: Call Candle Customer Support.
- 161 DD=ddname REQUIRES DSN**
Explanation: There is a logic error.
User Response: Call Candle Customer Support.
- 162 DSN MISMATCH ON ddname**
Explanation: There is an inconsistency between the calling program and the DD card for the named ddname.
If the ddname is SFXDB2DS, then this message normally occurs after an I/O error-type problem on a DB2 dataset (for example, the user is not authorized to access the space), and indicates that the !DB/WORKBENCH ACB used for access to all table spaces and index spaces is still open after the error.
User Response: To recover, first try to repeat the action. If this is unsuccessful, try the alternatives in the order listed:
- Issue the TSO command **FREE FI(SFXDB2DS)**
 - Reinvoke !DB/WORKBENCH
 - Leave and reenter ISP
 - As a last resort, log off and on again
- 165 INVALID PARAMETERS**
Explanation: The parameters supplied for PDSLIST or PDSCOPY are incorrect.
User Response: Check the syntax and keywords for these commands.

- 166** **INVALID DATA PASSED**
Explanation: An incorrect SYSIN card was passed to PDSCOPY or PDSLIST.
User Response: Check the syntax and keywords for these commands.
- 167** **NO OPERANDS ON PDSCOPY**
Explanation: PDSCOPY requires at least a member name for the TO parameter. All other parameters are optional.
User Response: Correct and reissue the command.
- 168** **FROM PDS NAME TOO LONG**
Explanation: PDSCOPY and PDSLIST issue the message to indicate the dataset name passed from the jobstream exceeds 44 characters.
User Response: Check the spelling of the dataset name.
- 169** **FROM MBR NAME TOO LONG**
Explanation: PDSCOPY and PDSLIST issue the message to indicate the PDS member name passed from the jobstream exceeds 8 characters.
User Response: Check the spelling of the member name.
- 170** **TO PDS NAME TOO LONG**
Explanation: PDSCOPY and PDSLIST issue the message to indicate the dataset name passed from the jobstream exceeds 44 characters.
User Response: Check the spelling of the dataset name.
- 171** **TO MBR NAME TOO LONG**
Explanation: PDSCOPY and PDSLIST issue the message to indicate the PDS member name passed from the jobstream exceeds 8 characters.
User Response: Check the spelling of the member name.
- 172** **MISSING FROM MEMBER FOR PDSCOPY**
Explanation: If a dataset name is given in the FROM parameter of PDSCOPY, a member name must also be supplied.
User Response: Correct and reissue the command.
- 173** **MISSING TO MEMBER FOR PDSCOPY**
Explanation: If a dataset name is given in the TO parameter of PDSCOPY, a member name must also be supplied.
User Response: Correct and reissue the command.

174

MEMBER mbrname COPIED

Explanation: The PDS member has been successfully copied.

Messages 200-223 VSAM Errors

- 200** **IOER cc, DD=ddname, IOB=fffffff, CSW=sssssss, CCW=op,aaaaa**
Explanation: An I/O error has occurred. Use the table to interpret the message.
- | Value | Definition |
|----------------|--|
| cc | ECB completion code(normal value = 41) |
| ddname | Filename for the failing dataset |
| fffffff | IOB flags |
| sssssss | CSW status flags |
| op | CCW command that failed |
| aaaaa | DASD address |
- User Response:** Determine if there is an actual DASD I/O error. If not, call Candle Customer Support.
- 201** **VSAM ERROR RC=cc, FDBK=fffff, DSN=dsname**
Explanation: A VSAM error has occurred. These codes may be found in the *OS/VS VSAM Programmer's Guide* (GC26-3838). Use the table to interpret the message.
- | Value | Definition |
|--------------|---------------------------------|
| cc | Return code (normal value = 08) |
| fffff | Feedback code |
- User Response:** Determine if there is an actual VSAM error. If not, call Candle Customer Support.
- 201A** **VSAM OPEN ERROR**
Explanation: VSAM returned a non-zero code on the dataset OPEN.
User Response: Check for any VSAM-related messages. If further assistance is needed, call Candle Customer Support.
- 202** **//ddname DD CARD MISSING**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 203** **DD DUMMY INVALID FOR ddname**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.

- 204** **ddname IS NOT ALLOCATED TO DASD**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 205** **OPEN FAILED FOR DD=ddname**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 206** **NO DATA BUFFER FOR WRITE**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 210** **RECORD WILL NOT FIT ON A TRACK**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 211** **RECORD # NOT ON TRACK**
Explanation: There is a possible logic error.
User Response: Call Candle Customer Support.
- 220** **xxx ABEND IN VSAM OPEN**
Explanation: An ABEND has occurred in the
!DB/WORKBENCH VSAM open processor.
User Response: Call Candle Customer Support.
- 221** **NOT AUTHORIZED TO OPEN DATA SET(913)**
Explanation: The security authorization subsystem has
rejected the dataset open request.
System Action: Execution continues with the next dataset.
User Response: Check with the security administrator.
- 222** **DATA SET MIGRATED SO NOT PROCESSED**
Explanation: The dataset was found to have been migrated.
!DB/WORKBENCH will not retrieve archived datasets.
System Action: Execution continues with the next dataset.
User Response: None

223

ERROR FROM CATALOG LOCATE

Explanation: An unexpected code was returned from the OS Catalog Locate request.

System Action: This dataset is skipped. Execution continues with the next data set.

User Response: None

Messages 500-539 Tables Build Errors

- 500** **OPTIONS MEMBER NOT AVAILABLE**
Explanation: The OPTLSD member must exist on the System PDS.
System Action: The INSTALL program copies a default member to the System PDS. The OPTLSD member on the distribution CNTL dataset cannot be copied to the new System PDS, because the member name on the System PDS contains a hex character.
User Response: If the System PDS has been recreated, either rerun the INSTALL program, or copy the OPTLSD member from another System PDS.
- 501** **STOW ERROR cc ON PDS ON DELETE OF mbrname**
Explanation: When deleting the oldest extract data, the STOW SVC returned an error code “cc”. These codes are documented in the IBM SRL “Data Management Macros”. This may indicate PDS damage.
- 502** **STOW ERROR cc ON PDS ON RENAME OF mbrname**
Explanation: When renaming one of the Extract data members, the STOW SVC returned an error code “cc”. These codes are documented in the IBM SRL “Data Management Macros”. This may indicate PDS damage.
User Response: Check the PDS using ISPF Option 3.1. There should be a member named “.DB2DATB” (the “.” is X'FE'). If so, the PDS should be usable, although the newly extracted data will not be available. Rerun the Extract.
- 505** **ERROR RENAMING MEMBER**
Explanation: When renaming the oldest member, the STOW SVC returned an error. This may indicate PDS damage.
User Response: Call Candle Customer Support.
- 506** **ERROR IN OLDEST MEMBER DELETE**
Explanation: When deleting the oldest member, the STOW SVC returned an error. This may indicate PDS damage.
User Response: Call Candle Customer Support.

- 510** **INVALID RECORD IN PDS**
Explanation: An inconsistency was detected in the DB2DATB member.
User Response: Rerun the extract. If the Extract is run before the member is printed, , then print member DB2OLDD instead. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the invalid member to help in diagnosis of the problem.
- 511** **INVALID RECORD SEQUENCE IN PDS**
Explanation: An inconsistency was detected in the DB2DATB member.
User Response: Rerun the extract. If the extract is run before the member is printed, then print member DB2OLDD instead. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the member to help Candle Customer Support in diagnosis of the problem.
- 512** **DB2DATA MEMBER NOT AVAILABLE**
Explanation: The DB2DATB member is not on the System PDS.
User Response: Run the Extract.
- 513** **DUPLICATE NAMED ENTRY IN PDS - objectname**
Explanation: An inconsistency was detected in the DB2DATB member.
User Response: Call Candle Customer Support. Please provide an ISPF print of the DB2DATB member to help in diagnosis of the problem.
- 514** **TABLE SPACE tablespacename MISSING IN DB dbdname**
Explanation: An inconsistency was detected in the DB2DATB member.
User Response: Call Candle Customer Support. Please provide an ISPF print of the DB2DATB member to help Candle Customer Support in diagnosis of the problem.

- 515** **TABLE tablename MISSING FOR SYN synname**
Explanation: An inconsistency was detected in the DB2 Catalog. A synonym is defined for a table that is not defined.
System Action: The synonym will be skipped.
User Response: Check your DB2 Catalog using SQL and DROP the synonym.
- 516** **UNEXPECTED EOF ON PDS MEMBER**
Explanation: An inconsistency was detected in the DB2DATB member.
User Response: Call Candle Customer Support. Please provide an ISPF print of the DB2DATB member to help Candle Customer Support in diagnosis of the problem.
- 518** **REGION TOO SMALL**
Explanation: There is not enough memory allocated to your TSO session, or to the Batch Utility job.
User Response: Increase the region size.
- 519** **AUTHORIZATION EXIT EXCLUDED ALL DATABASES**
Explanation: The Authorization exit excluded all databases. There is no data to display.
User Response: Verify the authorization exit commands.
- 520** **BLOCK nnnn IS NOT A SPACE MAP BLOCK**
Explanation: The block number specified in the message was found not to have the DB2 bits on in the header that identify the block as a Space Map Page.
User Response: Use the Page Dump facility of !DB/WORKBENCH or the DB2 utility to dump the page in question. If further assistance is needed, call Candle Customer Support.

- 521** **SPACE MAP BLOCK nnnn BROKEN**
Explanation: The block number specified in the message was found to have the DB2 bits on in the header that mark the block as a broken Page.
User Response: Use the Page Dump facility of !DB/WORKBENCH or the DB2 utility to dump the page in question. If further assistance is needed, call Candle Customer Support.
- 522** **UNKNOWN PLANDEP TYPE “x” IN PLAN planname**
Explanation: An inconsistency was detected in the DB2 Catalog. A row from SYSIBM.SYSPLANDEP has a BTYPE value that is not I, R, S, T, or V.
System Action: The plan dependency is skipped.
User Response: None
- 523** **INVALID SYN DEP, PLAN planname, SYN=synname**
Explanation: An inconsistency was detected in the DB2 Catalog. A row from SYSIBM.SYSPLANDEP has a BTYPE value that is S for synonym, but the BNAME field is not a synonym.
System Action: The plan dependency is skipped.
User Response: None
- 530** **INVALID RECORD IN DB2BLDF MBR**
Explanation: An inconsistency was detected in the DB2BLDF member.
User Response: Rerun the Referential Extract. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the DB2DATF to help in problem diagnosis.
- 531** **INVALID RECORD IN DB2DATF MBR**
Explanation: An inconsistency was detected in the DB2DATF member.
User Response: Rerun the Referential Extract. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the DB2DATF member to help in diagnosis of the problem.
- 532** **DB2DATF MEMBER NOT AVAILABLE**
Explanation: The DB2DATF member is not on the System PDS.
User Response: Rerun the Catalog Extract.

- 535** **REF RECORD FOR UNKNOWN TABLE - tablename**
Explanation: An inconsistency was detected in the Referential Extract. A table referenced in a referential relationship was not defined at the time of the previous !DB/WORKBENCH Catalog Extract.
User Response: Rerun the Catalog Extract. The referential record is skipped.
- 536** **FOREIGNKEY FOR UNKNOWN TABLE - tablename**
Explanation: An inconsistency was detected in the Referential Extract. A table referenced in a referential relationship was not defined at the time of the previous !DB/WORKBENCH Catalog Extract.
User Response: Rerun the Catalog extract. The referential record is skipped.
- 537** **COLNO CHANGED FOR TABLE - tablename,
COLUMN=columnname**
Explanation: An inconsistency was detected in the Referential Extract. A COLNAME defined in SYSIBM.SYSFOREIGNKEYS is inconsistent with the COLNO column.
System Action: This message is common with DB2 V1.3, but reflects an actual error in DB2 V2. The COLNO value is changed based on data from SYSIBM.SYSCOLUMNS.
User Response: None
- 538** **UNEXPECTED EOF ON PDS MEMBER**
Explanation: An inconsistency was detected in the DB2BLDF member.
User Response: Rerun the Referential Extract. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the DB2DATF member to help in problem diagnosis.
- 539** **UNABLE TO FIND TABLE ID**
Explanation: An inconsistency was detected in the DB2BLDF member.
User Response: Rerun the Referential Extract. If further assistance is needed, call Candle Customer Support. Please provide an ISPF print of the DB2DATF member to help in problem diagnosis.

Messages 1000-1013 Access Control Exit Errors

- 1000** **EXITINPT DD DID NOT OPEN**
Explanation: The dataset named in the **ALLOC FI(EXITINPT)** statement did not open. This message is from the the **!DB/WORKBENCH** routine, **SFXBEXIT**, that verifies the exit input commands (**CLIST CDBUEXIT**).
User Response: Check the **CDBUEXIT CLIST**.
- 1001** **EXIT FAILURE - NO EXITCTL MEMBER**
Explanation: The Access Control Exit reads the **EXV2CTL** member from the System PDS. This member must exist.
User Response: See the *!DB/Tools !DB/Tools Installation and Customization Guide*.
- 1002** **BOTH UID() AND DBD() REQUIRED - cccccccccccc**
Explanation: Each command must include both the **UID** (or **GRP**) and **DBD** keywords. “cccccccc” identifies the invalid command.
User Response: Include the **UID** (or **GRP**) and **DBD** keywords for the specific command.
- 1003** **NO DBDS AUTHORIZED FOR THIS USERID - NO DISPLAYS**
Explanation: All databases have been excluded for this **Userid**.
User Response: Check the Access Control Exit control statements.
- 1005** **UNRECOGNIZED KEYWORD kkkkk**
Explanation: **codq.kkkkk**” is the unrecognized keyword. Valid keywords are **UID, GRP, DBD, OPTS, CTLG, NDB,** and **SPX.** keywords are 4 or less?}
User Response: Correct and reissue the command.
- 1006** **NO CONTINUATION - CARD ENDS LOOKING FOR NEXT NAME**
Explanation: A command ended while the processor was searching for the next name field. No ending “)” was found. No continuation character (+ or -) was detected at the end of the command line.
User Response: Reissue the command, being sure to use ending or continuation characters at the end of the command.

- 1007** **UNEXPECTED EOF ON EXITINPT**
Explanation: End-of-file was found while searching for the next name field. No ending “)” was detected on the previous command line, or there was a continuation character (+ or -) at the end of the previous command line.
User Response: Correct and reissue the command.
- 1008** **IMPROPER SYNTAX - DOUBLE “(” AT cccccc**
Explanation: While scanning a field name after a “(”, another “(” was detected. There are no nested parentheses. "ccccc" identifies the invalid command.
User Response: Correct and reissue the command.
- 1010** **CONTINUATION MUST BE A “+” OR “-”, DATA RAN OUT AT ccccc**
Explanation: "ccccc" identifies the invalid command. The processor was searching for the next name field. No ending “)” was detected on the previous command line. There was no continuation character (+ or -) detected at the end of the command line.
User Response: Correct and reissue the command.
- 1012** **NAME EXCEEDS 8 CHARACTERS - nnnnnnnn**
Explanation: A name field was found to be longer than eight characters. All Userids and DBDnames must be eight characters or less.
User Response: Correct the characters to be 8 or less.
- 1013** **NAME CONTAINS INVALID CHARACTER - nnnnnnnn**
Explanation: "nnnnnnnn" identifies the name field containing an invalid character. Userids and DBDnames may not contain any characters other than A-Z, 0-9, @, #, and \$. An “*” may be used as the universal character for masking.
User Response: Remove the invalid character.

Messages 1100-1256 Batch Utility Errors

- 1100** **COMMAND NAME EXCEEDS 16 CHARS -
cccccccccccccccc**
Explanation: The V2UTCMD5 member contains the
commands definitions. Commands can be up to 16 characters
long. "cccccccccccccccc" is the invalid command.
User Response: Correct and resubmit the utility.
- 1101** **MODULE NAME EXCEEDS 8 CHARS - mmmmmmmmm**
Explanation: The V2UTCMD5 member contains the
commands definitions. The first data on the command line is
the module name that processes the commands that are
defined on the remainder of the line. Module names may not
exceed eight characters. "mmmmmmmm" is the invalid
name.
User Response: Correct and resubmit the utility.
- 1102** **MODULE mmmmmmmmm NOT FOUND IN LOAD
LIBRARY**
Explanation: The V2UTCMD5 member contains the
commands definitions. The first data on the command line is
the module name that processes the commands that are
defined on the remainder of the line. The module name
defined could not be loaded from STEPLIB.
"mmmmmmmmmm" is the invalid name.
User Response: Correct and resubmit the utility.
- 1103** **COMMAND PREVIOUSLY DEFINED - cccccccccccccccc**
Explanation: The V2UTCMD5 member contains the
commands definitions. Commands must be uniquely defined.
The command "ccccccccccccccc" was defined on a
previous command line.
User Response: Correct and resubmit the utility.
- 1104** **OPEN FAILED FOR INPUT DATA SET, EITHER
SYSIN OR UTILCMD5**
Explanation: //UTILCMD5 contains the commands
definitions. //SYSIN contains the command functions for this
execution of the utility. Both of these DD statements are
required. One or both is missing.
User Response: Correct and resubmit the utility.
- 1105** **NO COMMANDS DEFINED - RUN ABORTED**
Explanation: The V2UTCMD5 member contains the
commands definitions, but no commands are defined.
User Response: Correct and resubmit the utility.

- 1106** **COMMAND NOT DEFINED - cccccccccccccc**
Explanation: The command line read from SYSIN uses a command that is not defined in the V2UTCMD5 member.
User Response: Correct and resubmit the utility.
- 1200** **KEYWORD kkkkkkkk IS NOT RECOGNIZED.**
Explanation: “kkkkkkkk” is the undefined keyword. The command line from SYSIN uses a keyword that is not defined for that command.
User Response: Correct and reissue the command.
- 1201** **1201 A SPACE MUST FOLLOW “)”**.
Explanation: The command line from SYSIN has invalid syntax. A blank must separate operands. A non-blank character follows a “)”.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1202** **NAME MUST BE DELIMITED BY “)”**.
Explanation: The command line from SYSIN has invalid syntax. Keyword operands (names) must be enclosed in parentheses.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1203** **ELEMENT NAME MUST BE 1-8 CHARACTERS LONG.**
Explanation: The command line from SYSIN has invalid syntax. Keyword operands (names) must not exceed 8 characters.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None

- 1204** **“DB” KEYWORD IS SPECIFIED MORE THAN ONCE.**
Explanation: The Batch Utility DUMP command issues the message. The listed keyword can be specified only once.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1205** **“TS” KEYWORD IS SPECIFIED MORE THAN ONCE.**
Explanation: The Batch Utility DUMP command issues the message. The listed keyword can be specified only once.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1206** **“IX” KEYWORD IS SPECIFIED MORE THAN ONCE.**
Explanation: The Batch Utility DUMP command issues the message. The listed keyword can be specified only once.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1207** **“FP” KEYWORD IS SPECIFIED MORE THAN ONCE.**
Explanation: The Batch Utility DUMP command issues the message. The listed keyword can be specified only once.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1208** **“TP” KEYWORD IS SPECIFIED MORE THAN ONCE.**
Explanation: The Batch Utility DUMP command issues the message. The listed keyword can be specified only once.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None

- 1209** **ONLY ONE OF TS AND IX MUST BE SPECIFIED.**
Explanation: The Batch Utility DUMP command issues the message. One and only one of TS(table space) and IX(indexspace) can be specified on each DUMP command.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1210** **EITHER TS OR IX MUST BE SPECIFIED.**
Explanation: The Batch Utility DUMP command issues the message. One and only one of TS(table space) and IX(indexspace) can be specified on each DUMP command.
System Action: The system skips the current operation and continues processing with the next command.
User Response: None
- 1211** **BOTH FROMPAGE AND TOPAGE MUST BE SPECIFIED.**
Explanation: The Batch Utility DUMP command issues the message. Both the FP(FROMPAGE) and TP(TOPAGE) keywords must be specified to define the range of pages to dump.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1212** **FROMPAGE IS BEYOND THE END OF THE DATA SET.**
Explanation: The Batch Utility DUMP command issues the message. The FP(FROMPAGE) keyword specifies a page number that exceeds the size of the data space.
System Action: The command is processed, but only the last page of the data space is dumped.
User Response: Correct and reissue the command.
- 1213** **TOPAGE MUST NOT BE SMALLER THAN FROMPAGE.**
Explanation: The Batch Utility DUMP command issues the message. The FP(FROMPAGE) and TP(TOPAGE) keyword values define the range of pages to dump. FP must be the smaller value, or must be equal to TP.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.

- 1214** **PAGE NUMBER MUST BE DELIMITED BY “)”**.
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1215** **PAGE NUMBER MUST BE NUMERIC.**
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1216** **PAGE NUMBER MUST BE 1-6 HEX DIGITS.**
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.

- 1217 PAGE NUMBER MUST BE 1-8 CHARACTERS.**
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1218 HEX VALUE MUST HAVE FORMAT “(X'...)'”.**
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1219 HEX VALUE CONTAINS NON-HEX DIGIT.**
Explanation: The Batch Utility DUMP command issues the message. The syntax is incorrect. The FP(FROMPAGE) and TP(TOPAGE) keyword values must be enclosed in parentheses. They must be numbers, either decimal or hex. Hex values must be preceded by an X and the digits must be enclosed in quotes, for example, TP(X'1BB'). They must not exceed six hex digits (0-9, A-F). Decimal values must not exceed eight digits.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Correct and reissue the command.
- 1220 RC=4 FROM SFXDBIOA OPEN: UNABLE TO ALLOCATE.**
Explanation: The Batch Utility DUMP command issues the message to indicate the DB2 data space selected by the command failed to allocate.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Check SYSMSG for any additional messages.

- 1221 EOF OCCURRED ON DB2 SPACE.**
Explanation: The Batch Utility DUMP command issues the message. The DB2 data space being processed encountered end-of-file unexpectedly.
System Action: The system skips the current operation and continues processing with the next command.
User Response:
- 1250 UNDEFINED DB SPECIFIED: dddddddd**
Explanation: The DB keyword named a value that is not defined as a database.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the database name.
- 1251 UNDEFINED TS SPECIFIED: ssssssss**
Explanation: The TS keyword named a value that is not defined as a table space.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the table space name.
- 1252 SPECIFIED DB AND TS NAMES DO NOT MATCH.**
Explanation: The TS keyword named a valid table space that is not defined within the database named in the DB keyword.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the table space name and database name.
- 1253 TS NAME IS NOT UNIQUE AND DB NAME IS OMITTED.**
Explanation: The TS keyword named a value that is defined as a table space, but there is at least one other table space with the same name in another database. The DB keyword must be used to uniquely identify the table space.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the table space name and database name.

- 1254** **UNDEFINED IX SPECIFIED: xxxxxxxx**
Explanation: The IX keyword named a value that is not defined as a index space.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the index space name.
- 1255** **SPECIFIED DB AND IX NAMES DO NOT MATCH.**
Explanation: The IX keyword named a valid index space that is not defined within the database named in the DB keyword.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the index space name and database name.
- 1256** **IX NAME IS NOT UNIQUE AND DB NAME IS OMITTED.**
Explanation: The IX keyword named a value that is defined as a index space, but the error is at least one other index space with the same name in another database. The DB keyword must be used to uniquely identify the index space.
System Action: The system skips the current operation and continues processing with the next command.
User Response: Use the !DB/WORKBENCH panels to verify the index space name and database name.

Glossary

Glossary

access control exit. Security feature used to limit a module's access in the online screens to a specified set of databases. !DB/WORKBENCH has six exit points and supplies standards for each. Also called display control exit.

ACF2. (Access Control Facility 2) Computer Associates' security product for MVS installations. ACF2 provides complete system security, including data set access and user password verification.

ALTER. SQL statement used to change the description of indexes, storage groups, tables, and table spaces.

AMS. (Access Method Services) Facility used to define and allocate space for table spaces and index spaces that are not part of storage groups.

AMS DEFINE. Statement defining VSAM data sets for user-managed table spaces and index spaces. During the CREATE process, !DB/WORKBENCH builds the DEFINE statement and AMS executes it. See also user-managed data sets and DB2-managed data sets.

audit. Table definition parameter that determines which SQL activities DB2 tracks for security purposes. Possible values are:

N	Do not audit
C	Audit first INSERT, UPDATE, or DELETE
A	Audit first SELECT, INSERT, UPDATE, or DELETE

authorization. Ability to access DB2 objects and functions. A grantor gives a grantee authorization over an object. Authority is a synonym for authorization. See also grant and privilege.

batch utility. Feature allowing you to perform !DB/WORKBENCH functions in batch as well as online. The batch utility supports all online

commands as well as special utility commands—DUMP, EXEC/NOEXEC, FLIST, PDSCOPY, PDSEEDIT, PDSEXEC, PDSLIST, and PRNT.

BIND. SQL statement that converts the output of the DB2 precompiler to an application plan. BIND selects access paths to the data and checks some authorizations.

buffer pool. Main storage reserved to satisfy buffering requirements for one or more table spaces or index spaces.

catalog extract exit. Security feature that allows the installation to identify users who are authorized to run the DB2 catalog extract from !DB/WORKBENCH panels.

class. JES category to which output data produced during a job step can be assigned.

CLIST. (Command Lists) Lists of commands and statements performing a specific function under TSO and kept in special libraries.

CLOSE. Keyword that specifies whether the data set should be closed when there are no longer current users of the space. CLOSE is specified during CREATE or ALTER of an index or table space.

clustering index. Index which determines the approximate order in which records of the table are stored. If more than 95 percent of the rows are physically in the same order as the keys in the clustering index, the clustering index is said to be clustered. DB2 tries to preserve this physical order to increase speed of data access. Although a table is not required to have a clustering index, it can only have one clustering index.

cntl library. Library containing CLISTs, JCL, ISPF tables, ISPF messages, default security, and default options used for processing the installation for !DB/WORKBENCH.

column. Vertical component of a DB2 table. A column is like a field in a non-relational database.

Each column has a name and a particular data type (such as character, decimal, or integer). See also table and row.

comment. Explanatory note in the DB2 catalog about a table, view, or column. Its maximum length is 254 bytes. See also label and COMMENT ON.

COMMENT ON. SQL statement used to add or edit a comment on the description of a table, view, or column in the DB2 catalog. See also comment.

COMMIT. SQL statement that makes changed data available to other applications or users. It terminates a unit of recovery and freezes the data changes made by that unit of recovery. It also releases all locks.

compression. Process of eliminating gaps, empty fields, redundancies, and unnecessary data to shorten records or blocks. Compressing DB2 data is less effective than compressing IMS data sets because:

- DB2 pages are self-reorganizing.
- DB2 reads many pages in a single I/O operation.
- DB2 can keep huge amounts of data in extended storage.
- DB2 supports a maximum of 127 rows per page.

connection. Link between DB2 and a subsystem such as CICS which has transactions to run against DB2 databases. A connection may have a status of connected, not connected, in progress, stopped, or stop in progress.

CREATE. !DB/WORKBENCH function used to build and execute SQL CREATE statements to update the DB2 catalog with new objects.

createtab. DB2 authorization needed to create a new table. This authorization is implicit if you have the DBMAINT, DBCTRL or DBADM privileges for the database or if you have the SYSADM privilege.

creator. User with authority to create a DB2 object. A creator may create an object on behalf of someone else.

DASD space estimator. !DB/WORKBENCH feature which calculates the DASD space required for new table spaces and index spaces. During CREATE, the DASD space estimator uses your estimates to calculate space requirements for VSAM DEFINES and provides the result to AMS.

database. Logical collection of tables or a logical collection of table spaces and index spaces.

data compression. See compression.

DBADM. (Database Administrator) Privilege over a database that allows you to do the following within that database:

- ALTER and DROP tables, table spaces, and indexes
- use table spaces
- execute INSERT, UPDATE, REPLACE, and SELECT on tables
- CREATE indexes

In addition, DBADMs hold DBCTRL and thus DBMAINT privileges for the database.

DBCTRL. (Database Control) Privilege over a database that allows you to do the following in that database:

- DROP the database
- LOAD tables
- execute the REORG, RECOVER, and REPAIR utilities against table spaces and index spaces
- CREATE tables and indexes on behalf of others

In addition, DBCTRLs have the DBMAINT privilege for the database.

DBCTRL. (Database Control) Privilege over a database that allows you to do the following in that database:

- DROP the database
- LOAD tables
- execute the REORG, RECOVER, and REPAIR utilities against table spaces and index spaces
- CREATE tables and indexes on behalf of others

In addition, DBCTRLs have the DBMAINT privilege for the database.

DBDNAME. (Database Description Name) Eight-character identifier arbitrarily applied to a collection of table spaces and index spaces (also known as a database description).

DBMAINT. (Database Maintenance) Privilege over a database that allows you to do the following in that database:

- CREATE table spaces and tables
- issue the -DISPLAY DB command
- issue the -START DB2 and -STOP DB2 commands
- run the COPY, MERGECOPY, RUNSTATS and CHECK utilities

DBRM. (Database Request Module) Data set member created by precompiling a DB2 program containing information about SQL statements. A DB2 BIND translates DBRMs into a run-time plan.

DB2 authorization display exit. Security feature permitting the installation to specify which users may access the !DB/WORKBENCH authorization screens. See also access control exit.

DB2 catalog. DB2-maintained tables containing the object description information needed to manage your data. SQL's Data Manipulation Language (DML) maintains the catalog. !DB/WORKBENCH extracts this information periodically from DB2, stores it in the Extract PDS, and displays it on request.

DB2 command facility. !DB/WORKBENCH feature providing menus and prompts to help you issue DB2 commands. DB2 commands apply to the entire DB2 system or to DB2 itself.

DB2 ID. Arbitrary four-character identifier for a DB2 subsystem. The installation specifies the DB2 ID.

DB2-managed data sets. Data sets which DB2 allocates and manages. The table spaces and index spaces in these data sets belong to storage groups. See also user-managed data sets.

DB2 utilities. Programs supporting DB2 data management.

DB2I. (DB2 Interactive Utility) DB2 facility allowing the execution of SQL statements, DB2 commands, programmer commands, and utility invocation.

DDL. (Data Definition Language) A subset of SQL describing data and their relationships in a database. Data definition language is also called data description language. See also DML.

DELETE. SQL statement removing rows from a table or view.

delete rule. Rule governing what DB2 does with dependents when a parent row is deleted in the parent table. The delete rule is one of the following:

- | | |
|----------|--|
| C | Cascade—deleting parent row deletes all matching dependents. |
| N | Set Null—deleting parent row sets all matching dependents to null values. |
| R | Restrict—deleting parent row is prohibited if there are matching dependents. |

dependent. Object that exists only when another object exists. For example, a table space is a dependent of a database—it cannot exist unless the database exists.

destination. Location to which information is sent. For a DB2 trace, the destination determines where the data gathered will be stored. For the !DB/WORKBENCH command PRNT, the destination is the output printer ID.

DF. Heading indicating that the column can accept default values. !DB/WORKBENCH's CREATE TABLES uses this heading (as well as others) when defining columns. See also FK, FP, NL, and UP.

DFHSM. Data Facility Hierarchical Storage Manager

display control exit. Security feature used to limit a module's access in the online screens to a specified set of databases. !DB/WORKBENCH has six exit points and supplies standards for each. Also called access control exit.

DML. (Data Manipulation Language) Programming language used to access a database to create, read, write, and delete data. It is a subset of SQL and maintains the DB2 catalog. See also DDL.

DROP. SQL statement used to completely remove a DB2 object and all its dependents. Any application plans that reference the object are invalidated.

dsinfo. (data set information) Physical characteristics of the VSAM data set containing the table space or index space. It tells you on how many volumes the data set currently resides, how many extents have been allocated for this data set, and how much of the allocated DASD space is in use.

DSNZPARM. Default name for the module containing the subsystem initialization parameters for the DB2 system.

EDITPROC. (edit procedure) Keyword which specifies an installation-provided module to be invoked whenever a row is retrieved, updated, or inserted. The program may compact, alter, or encrypt rows of the table.

ERASE. Keyword used to specify whether the DB2-defined data sets are to be erased (filled with 0000s) when the table space or index space is dropped. ERASE is specified during CREATE or ALTER of an index or table.

ESDS. (Entry-Sequenced Data Set) VSAM data set in which records are added to the end of the data set, data remains where it is placed, and records are retrieved by RBA (Relative Byte Address) only.

extent. Number of separate contiguous sets of DASD space occupied by or reserved for a data set. A data set has a primary allocation (PRIQTY) provided by one or more extents; it may also have a secondary allocation (SECQTY) provided by one or more extents. A non-VSAM data set may have a maximum of sixteen extents on any one volume. VSAM data sets used with ICF catalogs may have a maximum of 123 extents on any one volume.

extract. Information that !DB/WORKBENCH gathers from the DB2 catalog, stores in the extract PDS, and displays on request. Routine extracts (batch or online) copy any catalog changes into the extract PDS and keep the extract current. The date and time of the last extract are displayed on the Primary Menu.

extract PDS. Data set allocated by the installation to contain the DB2 catalog information. !DB/WORKBENCH periodically extracts information from the DB2 catalog, stores it in the extract PDS, and displays it on request. See also DB2 catalog.

filter. !DB/WORKBENCH feature allowing you to limit the data displayed.

FK. Heading indicating that the column is a foreign key. !DB/WORKBENCH's CREATE TABLES uses this heading (as well as others) when defining columns. See also DF, FP, NL, and UP.

FLDTYPE. Keyword specifying the data type of columns. Valid data types include INTEGER, SMALLINT, FLOAT, DECIMAL, CHAR, VARCHAR, GRAPHIC, and VARGRAPHIC. Specify FLDTYPE during CREATE table.

FLIST. !DB/WORKBENCH batch utility command you use to generate formatted lists of DB2 catalog objects.

FP. Heading indicating that the column has a FIELDPROC defined. !DB/WORKBENCH's CREATE TABLES uses this heading (as well as others) when defining columns. See also DF, FP, NL, and UP.

freepage. Pages left empty within the data set when it is loaded. These free pages will hold data inserted after load, permitting data to be physically close to where it logically belongs. Freepage is specified in terms of data pages between free pages when defining a table space or index space. Freepage(19) will leave one page in twenty free. See also PCTFREE.

Gbpage. A value that lets you choose to cache all pages or only changed pages in the group buffer pool as they are read in from DASD. You

can set this value when you create or alter a tablespace, table, or index.

GRANT. SQL statement giving others a privilege you hold. To use the GRANT statement, you must have received your privilege with the WITH GRANT option.

grantee. Userid receiving authority from a grantor to access a DB2 object or system facility.

grantor. Userid authorized to access a DB2 object or a system facility who grants that authority to someone else (the grantee).

hexdump. !DB/WORKBENCH feature allowing you to see a dump of pages from table spaces or index spaces. The dump is formatted in hexadecimal and character. You will need authorization from any installed access control mechanism (like IBM's RACF) for !DB/WORKBENCH to allocate and open the space.

housekeeping. !DB/WORKBENCH functions allowing you to display, modify, execute, and implement the !DB/WORKBENCH and DB2 options, or to begin an online DB2 catalog extract.

foreign key. Column or columns in a dependent table that match the primary key columns of the referential parent table.

index. DB2 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 key. Set of index columns used to order index entries.

index space. Data set containing a single index. All index spaces are VSAM data sets with 4K pages, from one to 64 extents.

INSERT. SQL statement you use to add rows to a table or a view (if the view can be updated). Inserting a row into such a view inserts a row into the table on which the view is based.

ISPF. (Interactive System Productivity Facility) IBM's full-screen editor and dialog manager. ISPF provides control and services to permit the

execution of the !DB/WORKBENCH ISPF dialogs under MVS and VM/SP.

KB space. (kilobytes of space) Amount of DASD space occupied by a storage group. The STOSPACE utility gathers this value and !DB/WORKBENCH reports it.

key. Set of columns used to order a table, index, or referential constraint. The key is identified in the object description. See also index key.

label. Short explanatory phrase in the DB2 catalog about a table, view, or column. The maximum length of a label is 30 bytes. See also comment and LABEL ON.

LABEL ON. SQL statement used to add or replace the label in the DB2 catalog for a table, view, or column.

LDS. (Linear Data Set) VSAM data set containing data that can be accessed as byte-addressable strings in virtual storage. LDSs lack the VSAM control fields (CIDF and RDF) essential to the other three types of VSAM data sets (KSDS, ESDS and RRDS) and must be cataloged in an &ICF catalog.

levels. Number of index pages DB2 accesses to locate a row in a table. Larger indexes have more levels.

libdef. ISPF 2.2 facility which dynamically adds or concatenates libraries needed for a particular ISPF application to those ISPF libraries normally in use. This eliminates the need to change the TSO user's LOGON procedure to refer to the ISPF application's libraries or to copy the ISPF application's programs, messages, panels, commands, and tables to a library already accessible by ISPF. !DB/WORKBENCH takes full advantage of libdef if you install under a release of ISPF that supports libdef.

limitkeys. Partitioned table space index feature determining which rows will be stored in each partition. Each partition has a limitkey; no row with a key value higher than the limitkey will be stored in that partition.

LISTCAT. AMS command used to list entries from a VSAM catalog. Data available includes

data set history, attributes, statistics, volume information, and allocation information. !DB/WORKBENCH displays this information for any DB2 table space or index space you are authorized to see.

LOCK. SQL statement used to acquire either a shared or an exclusive lock on a table. A lock can be either at the page or table space level.

LOCKSIZE. Keyword specifying where DB2 should set locks for a table space. You can specify:

- ANY** DB2 determines where to set locks (default)
- PAGE** DB2 locks a page at a time
- TABLE** DB2 locks a table at a time (valid only on segmented table spaces)
- TABLE SPACE** DB2 locks a table space at a time

NL. Heading indicating that the column can accept null values. !DB/WORKBENCH's CREATE TABLES uses this heading (as well as others) when defining columns. See also DF, FK, FP, and UP.

object. Anything that can be created or manipulated with SQL—a database, a table space, a table, or an index.

options exit. Security feature that controls system-wide options updates, exit control commands, and extract PDS maintenance. See also access control exit.

owning. Relationship the creator of an object has with that object. The creator of a DB2 object owns the object user A creates a table on behalf of user B. Then user B owns the table.

pages. Unit of storage within table spaces (4K or 32K) or index spaces (4K).

partitioned index. Index stored in multiple index spaces. A partitioned index is a clustering index for a partitioned table space. Limitkeys in this index determine which rows are stored in which partition.

partitioned table space. Table space subdivided into separate data sets (partitions). A partitioned

table space contains one table stored in multiple partitions. Table rows are stored in partitions based on index key range. Utilities can process each partition separately.

PCTFREE. Keyword specifying the proportion of each page left free within the data set when it is loaded. This free space will later be used by DB2 to hold data inserted after load, allowing table or index data to stay physically closer to where it logically belongs. PCTFREE is specified as a percentage of each page. PCTFREE(20) will leave one fifth of each page free. See also FREEPAGE.

plan. Control structure that is the output of a BIND. DB2 uses a plan to allocate DB2 resources and process SQL statements during application execution. The input to a plan is one or more DBRMs.

precompile. Processes application programs containing SQL statements before host language compilation. The precompiler utility replaces SQL statements with host language statements and produces a DBRM which is later input to a BIND.

primary key. Unique, nonnull key that is part of a parent table definition. A table cannot be defined as a parent unless it has a primary key. The dependent foreign key of a dependent table consists of the same set of columns as the primary key of a parent table.

Primary Menu. The first menu displayed by !DB/WORKBENCH, that you use to select the major !DB/WORKBENCH function (such as Display Databases, or Display Plans).

PRIQTY. Parameter specifying the primary quantity of DASD space that is allocated for the data set. The value is specified in KB. If you enter a ? in this field during !DB/WORKBENCH CREATE table space or index space, the DASD Space Estimator will calculate the DASD space required based on your data estimates. See also SECQTY.

privilege. Capability of performing a specific function, sometimes on a specific object. Explicit privileges have names and are held as the result of SQL GRANT and REVOKE statements (such

as the SELECT privilege). Implicit privileges accompany the ownership of an object (such as the privilege to drop a synonym one owns) or the holding of an authority (such as the privilege of SYSADM authority to terminate any utility job).

procedure. In DB2, a stored set of precompiled SQL statements that can be executed by issuing a procedure call with a set of parameters related to the procedure.

QMF. (Query Management Facility) IBM program product that interfaces with DB2 to print reports and produce graphs from data in DB2 tables.

quote character. Characters recognized as the string delimiter (default ') and the escape character (default ") within SQL statements. The option is specified when the DB2 Precompiler utility is installed.

RACF. (Resource Access Control Facility) IBM's security product providing complete system security, including data set access and user password verification for MVS installations.

REBIND. DB2 subcommand you use to create a new plan for an application program that has been previously bound. This is required when changes have made the plan invalid (such as DROPPing an index on which the plan depends) and when the SQL statements in the program have not changed. REBIND does not require access to the libraries originally used for the BIND. BIND reads the output of the precompiler, the DBRMs. All the information from the DBRMs is saved in the SYSSTMT table of the DB2 Catalog. REBIND reads SYSSTMT, so does not require the original DBRMs.

records. AMS DEFINE parameter indicating how many records are going to be in the new data set. AMS uses this information to determine the DASD space required for the data set.

RECOVER BSDS. DB2 command used to reestablish dual bootstrap data sets (BSDS) after one has been disabled by a data set error.

referential extract. Referential integrity information !DB/WORKBENCH extracts from two catalog tables. This information includes

referential parent tables and dependents, primary keys, foreign keys, referential names, and delete rules.

referential integrity. Condition existing when all intended references from data in one column of a table to data in another column of the same or a different table are valid. Maintaining referential integrity requires enforcing referential constraints on all LOAD, RECOVER, INSERT, UPDATE, and DELETE operations.

referential name. Arbitrary 8-character name for a referential relationship between tables. It is given when the relationship is created.

RMID. Parameter in a -START TRACE command specifying a list of resource managers for which trace information is to be gathered.

ROLLBACK. SQL statement you use to terminate a unit of recovery by removing the DB2 database changes that were made.

row. Horizontal component of a table. A row is like a record in a non-relational database. A row consists of a sequence of values, one for each column of the table. Rows have no fixed order, but one or more columns of the table can be indexed so that the rows can be accessed in a certain order. See clustering index.

runstats. DB2 utility producing tuning information for the DB2 Optimizer concerning table spaces and indexes.

SECQTY. Parameter specifying the secondary quantity of DASD space to be allocated for the data set. The value is specified in kilobytes. See also PRIQTY.

SELECT. SQL statement you use to retrieve data from DB2 tables. SELECT builds a result table using the column names you supply (or all columns if you specify "*") containing the rows which match your specification from the tables and/or views you name.

SPUFI. (SQL Processor Using File Input) Facility of the TSO attachment subcomponent that enables the DB2I user to execute SQL statements without embedding them in an application program. SPUFI will execute statements stored

in a file or a member of a PDS executed, and saves output from DB2 in a data set.

SQL. (Structured Query Language) Language used to access data in DB2 tables and to control access to DB2 resources. SQL contains both data definition statements (DDL) and data manipulation statements (DML).

standard exit. !DB/WORKBENCH-supplied standard modules for its six exit points. Most installations will choose to use these standard modules, which are driven by a keyword language.

storage group. Named set of DASD volumes where DB2 data is stored. DB2 will manage table spaces and index spaces that belong to storage groups. See user-managed data sets and DB2-managed data sets.

stow. OS Basic Partitioned Access Method (BPAM) function used to add to the PDS directory the entry for the member just written, or to rename or delete an existing member.

subpage. Unit you can divide a physical index page into. You can divide index pages (which point to table rows into 1, 2, 4 (default), 8, or 16 subpages and lock each subpage independently. This improves concurrency, but consumes more DASD space.

synonym. Alternative name for a DB2 table or view.

SYSADM. Highest level of DB2 authority. If you hold the SYSADM privilege, you can:

- BIND plans, with or without the ADD option, and EXECUTE them
- CREATE new databases and acquire DBADM or DBCTRL authority over them
- CREATE new storage groups
- issue the RECOVER BSDS command
- run the STOSPACE utility

In addition, you implicitly hold the DBADM (and hence the DBCTRL and DBMAINT) privilege over all databases and the SYSOPR privilege.

SYSOPR. Level of authority over DB2 commands. If you hold the SYSOPR privilege, you can issue:

- RECOVER BSDS
- DISPLAY THREAD
- RECOVER INDOUBT
- START TRACE
- STOP TRACE
- STOP DB2
- DISPLAY DATABASE for any database.

SYSOUT. Spooled output from an MVS job or from the !DB/WORKBENCH PRNT command which is routed to a printer using class and destination.

table. Fundamental DB2 object containing rows with columns of user data. A table is like a file in a non-relational database. (See also rows and columns.)

table space. VSAM data set containing one or more tables. The length of table space pages may be 4K or 32K. (See also partitioned table space.)

table space set. Set of table spaces containing all the tables related to each other as parents or dependents. All the table spaces in a set must be recovered to a common "quiesce point" to maintain integrity across the relationships, so DB2 provides utilities that work on table space sets.

thread. Structure that describes an application's connection, traces its progress, provides resource function processing capability, and controls its access to DB2 resources and services.

trace. DB2 facility that provides the ability to monitor and collect DB2 monitoring, auditing, accounting, statistics, and global data. START TRACE and STOP TRACE initiate and terminate the DB2 trace facility.

UNIQUE. Keyword specifying that no identical key values are stored in a table. Specify UNIQUE during CREATE INDEX statements.

UP. Heading indicating that the column is updatable. !DB/WORKBENCH's CREATE

TABLES uses this heading (as well as others) when defining columns. See also DF, FK, FP, and NL.

UPDATE. SQL statement that modifies the rows of a table or a view. Updating a row of a view updates the row of the table on which the view is based. **Note:** Some views cannot be updated.

users. DB2 application developers, DB2 data administrators, and DB2 end-users with TSO IDs and some DB2 authority to access DB2 objects using DB2.

user exit. Security feature that restricts access to certain !DB/WORKBENCH functions and objects to specified users.

user PDS. Data set allocated by your installation to contain the output from !DB/WORKBENCH CREATE processing: SQL CREATE statements for new objects, AMS DEFINE statements for new data sets, and other members used in !DB/WORKBENCH user processing.

user-managed data sets. Data sets that DB2 cannot manage because they do not belong to storage groups. When you CREATE a table space or an index space in a user-managed data set, !DB/WORKBENCH generates an AMS DEFINE which AMS then executes. When you DROP an object in a user-managed data set, you must delete the data set yourself. (See also DB2-managed data sets.)

VALIDPROC. Keyword used to identify an installation provided module to be invoked just

before a row is updated or inserted. The purpose of the program is to validate the new row.

view. Named collection of data derived from one or more underlying tables or other views. A view can include all or some of the columns contained in its underlying tables. It may or may not be able to be updated.

volume. One Direct Access Storage Device (DASD) actuator identified by its own 6-character volume serial number.

VSAM ESDS. (Entry-Sequenced Data Set) See ESDS.

VSAM LDS. (Linear Data Set) See LDS.

VSAM password. Arbitrary character string used to secure a VSAM data set. When a data set is password protected, the password must be supplied either by the program trying to access the data set or by the operator. DB2 supports VSAM password protection for its table spaces and index spaces. The VSAM password is stored in the relevant DB2 table (SYSIBM.SYSTABLEPART or SYSIBM.INDEXPART). !DB/WORKBENCH will display this password unless your installation has suppressed this capability.

ZPARMS. !DB/WORKBENCH Primary Menu function allowing authorized users to display DB2 subsystem initialization parameters which are read from the DSNZPARM module when DB2 is started. (See also DSNZPARM.)

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!DB®/WORKBENCH for DB2 Reference Manual Version 500

TW53-5849-3

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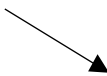
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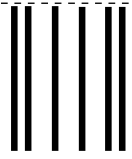
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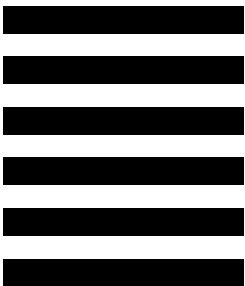
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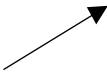


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