

Quest Central for DB2

Installation Guide

Version 4.8

© Copyright Quest Software, Inc. 2000 - 2005. All rights reserved.

This guide contains proprietary information, which is protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of Quest Software, Inc.

WARRANTY

The information contained in this document is subject to change without notice. Quest Software makes no warranty of any kind with respect to this information. QUEST SOFTWARE SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTY OF THE MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Quest Software shall not be liable for any direct, indirect, incidental, consequential, or other damage alleged in connection with the furnishing or use of this information.

TRADEMARKS

Quest® Central is a trademark of Quest Software, Inc. Adobe® Reader® is a registered trademark of Adobe Systems Incorporated in the United States and/or other countries. Other trademarks and registered trademarks used in this guide are property of their respective owners.

World Headquarters
8001 Irvine Center Drive
Irvine, CA 92618
www.quest.com
email: info@quest.com
U.S. and Canada: 949.754.8000

Please refer to our web site for regional and international office information.

Quest Central for DB2 Installation Guide
Updated - May 2005
Software Version - 4.8

Table of Contents

1 • Version 4.8 Features

Features in Version 4.8	1-2
Quest Central for DB2	1-2
Database Administration for DB2 UDB for Windows, UNIX, and Linux	1-5
Database Administration for DB2 for z/OS	1-10
Performance Diagnostics for DB2 UDB on Windows, UNIX, and Linux	1-13
Performance Diagnostics for DB2 for z/OS	1-16
Space Management for DB2 UDB on Windows, UNIX, and Linux	1-17
Space Management for DB2 for z/OS	1-20
SQL Tuning	1-21
SQL Analysis	1-24
Issues and limitations	1-25
Where do I go from here?	1-25

2 • Preparing to Install Quest Central for DB2

Where do I install Quest Central for DB2?	2-2
DB2 requirements for Quest Central	2-3
About DB2 UDB version compatibility	2-3
DB2 UDB maintenance requirements	2-6
System requirements	2-8
System requirements for the client machine	2-9
System requirements for the Quest Central for DB2 Agent machines	2-13
System requirements for the mainframe	2-15

Where do I go from here?	2-20
3 • Installing Quest Central on the Client Machine	
The installation process	3-2
Step 1: Accessing the installation software	3-4
Step 2: Run the installation wizard	3-5
Installation maintenance	3-18
Where do I go from here?	3-23
4 • Installing the Quest Central for DB2 Agent	
The installation process	4-2
Step 3: Install the Quest Central for DB2 Agent	4-3
Task 1: Installing the Quest Central for DB2 Agent	4-5
Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent	4-26
Task 3: (UNIX and Linux servers only) Update the environment variables	4-28
Task 4: (Solaris 7 servers only) Apply patch 106327	4-29
Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent	4-30
Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configura- tion information	4-31
(Optional) Installing the agent in a DB2 UDB EEE environment that uses NFS	4-33
Where do I go from here?	4-34
5 • Starting Quest Central for DB2	
Starting Quest Central for DB2	5-3
Accessing Quest Central features	5-9
Accessing Quest Central functions	5-9

Accessing online help for Quest Central	5-16
Setting up to use Quest Central features	5-17
Creating EXPLAIN tables in a DB2 UDB environment	5-17
Creating EXPLAIN tables in a DB2 for z/OS environment ...	5-19
Installing the Space Management repositories	5-22
Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it	5-24
Upgrading the SQL Analysis for DB2 Repository	5-36
Manual intervention for the Quest Central for DB2 Agent on Windows servers	5-40
Installing or removing the agent service manually	5-41
Using the Control Panel to start or to stop the agent on a Windows server manually	5-42
Using the command line to start or to stop the agent on a Windows server manually	5-43
Changing the port numbers for the Quest Central for DB2 Agent	5-44
Process overview	5-45
Step 1: Changing the port number for the DB2 agent	5-46
Step 2: Changing the port number on the Quest Central client ...	5-47
Where do I go from here?	5-49

6 • Installing Quest Central for DB2's Mainframe Components

The installation process	6-2
Step 4: Install the mainframe components	6-3
Task 1: Catalog a subsystem and a database against which Quest Central will run	6-5
Task 2: Ensure a temporary database and tablespace are available	6-7
Task 3: Run the Quest Central Mainframe Installation wizard	6-9
Task 4: Systems programmer completes the installation ...	6-28
Task 5: (Optional) Install Quest Central on additional subsystems	

6-33	
Task 6: (Optional) Configure the Performance Diagnostics Agent	
6-35	
Step 4: Upgrade the mainframe components	6-39
Task 1: Ensure a temporary database and tablespace are available	
6-41	
Task 2: Run the Quest Central Mainframe Installation wizard . . .	
6-43	
Task 3: Systems Programmer completes the upgrade	6-59
Task 4: (Optional) Upgrade Quest Central on additional sub-	
systems	6-64
What mainframe objects were created by the installation?	6-66
What DB2 objects were created by the installation?	6-67
Where do I go from here?	6-70

A • Installing Quest Central Using Silent Mode

About silent installation	A-2
Requirements	A-2
What are the advantages of using the silent install?	A-2
How does silent installation work?	A-3
Running a silent installation	A-3
Making changes to setup.iss	A-6

B • Guidelines for Setting Up the SQL Analysis Repository Database

SQL Analysis for DB2 Repository performance concerns	B-4
Disclaimer	B-5
Alternative to these tuning guidelines	B-5
Collection size definitions	B-6
The guidelines	B-6
Repository-dedicated database recommended	B-6

Suggested DB2 Registry settings	B-7
Suggested database manager configuration settings	B-8
Suggested database configuration settings	B-8
Suggested tablespace and bufferpool settings	B-11
Container location recommendations	B-18
Recommendations for specific repository tables and indexes ...	B-18
Maintenance guidelines	B-19
Estimating tablespace sizes for the SQL Analysis for DB2 Repository	
B-21	
Step 1: Estimate the number of collections you intend to store in the SQL Analysis for DB2 Repository	B-22
Step 2: Estimate the average number of rows that a single collection inserts in each repository table	B-23
Step 3: Estimate the number of rows required to store the text of unique statements	B-24
Step 4: Calculate the number of rows each table requires for all collections	B-25
Step 5: Determine the number of rows that fit on a data page for each table	B-26
Step 6: Calculate the number of data pages required for each repository table	B-28
Step 7: Determine the number of keys that fit on an index page for each index	B-30
Step 8: Calculate the number of index pages required for each repository index	B-32
Step 9: Calculate the tablespace sizes for your SQL Analysis for DB2 Repository	B-34
Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes	B-41
Rows per page in repository tables that store collection information	B-42
Rows per page in repository tables that store Extended Analysis information	B-43

Rows per page in repository tables that store Custom Report information B-44

Keys per page in repository indexes that store collection information B-44

Keys per page in repository indexes that store Extended Analysis information B-46

Keys per page in repository indexes that store Custom Report information B-47

C • Editing QCIVP

What is QCIVP? C-2

 Where does QCIVP reside? C-2

 How do I run QCIVP? C-2

Why would I want to edit QCIVP? C-3

Editing QCIVP C-3

D • Contacting Technical Support

Contacting Quest Technical Support D-1

Index

1

Version 4.8 Features

This chapter describes the features provided by Quest Central for DB2, version 4.8.

In this chapter

Features in Version 4.8	1-2
Quest Central for DB2	1-2
Database Administration for DB2 UDB for Windows, UNIX, and Linux	1-5
Database Administration for DB2 for z/OS	1-10
Performance Diagnostics for DB2 UDB on Windows, UNIX, and Linux	1-14
Performance Diagnostics for DB2 for z/OS	1-17
Space Management for DB2 UDB on Windows, UNIX, and Linux	1-18
Space Management for DB2 for z/OS	1-21
SQL Tuning	1-22
SQL Analysis	1-25
Issues and limitations	1-26
Where do I go from here?	1-26

Features in Version 4.8

This section summarizes the features available in this release.

Quest Central for DB2

Quest Central provides the following general features in this release:

- Quest Central database explorer for DB2 UDB and DB2 on z/OS
- SQL Editor, with text formatting options
- Job Manager
- Remote Job wizard, which allows you to run Quest Central jobs on remote Windows, UNIX, Linux, and z/OS machines
- Client Configuration wizard (which replaces the Configuration Manager from previous releases), featuring better usability of the database, instance, and subsystem cataloging functionality. The wizard is accessible from the menu bar, the tool bar, or as a right-click menu item from the object tree.
- Data Editor, which allows you to edit data stored in DB2 UDB tables or in DB2 for z/OS tables
- Support for generating utility JCL based on user-defined JCL blueprints. You may use JCL blueprints to generate JCL for Quest Central utilities, DB2 utilities, or for third-party vendor utilities. The generated JCL is run as a batch process on the mainframe.
- Settings for preferences and default processing options
- Support for drag-and-drop operations
- Simple and advanced object filtering

- Template facility that can be used to maintain dynamic dataset allocation and naming definitions, including ready-to-use default templates
- Utilities for DB2 UDB on Windows, UNIX, and Linux. These are accessible from the **Utilities** right-click menu:

Object type	Utilities available
Table	Collect Statistics, Reorg, Export, Import, Load, and Quiesce
Index	Collect Statistics, Rebuild (DB2 UDB V7.x) and Reorg (DB2 UDB V8.1 only)
Tablespace	Collect Statistics, Backup, Restore, and Roll Forward
Database	Backup, Restore, and Roll Forward

- Utilities for DB2 for z/OS. These are accessible from the **Utilities** right-click menu:

Object type	Utilities available
Table	Collect Statistics, Load, and Unload (from a table or from a copy)
Index	Collect Statistics, Reorg, Check, Copy, Rebuild, and Recover (to a page, to a point, or to an image copy)
Tablespace	Collect Statistics, Reorg, Check Data, Check Index, Copy, Load, Merge Copy, Quiesce, Rebuild Indexes, Recover (page, to a point, to an image copy), and Unload (from a table or copy)

■ **Version 4.8 Features**

Features in Version 4.8

- All utilities for DB2 for z/OS can be run from Quest Central on your PC, directly on the mainframe, or as MVS batch jobs.
- You can generate syntax for the following utilities directly from the right-click menu:

Object	Available commands
DB2 for z/OS subsystem	-DISPLAY UTIL (*), -DISPLAY THREAD (*)
DB2 for z/OS database	-START DB, -STOP DB, -DISPLAY DB
DB2 for z/OS tablespace	START, STOP, DISPLAY, with option to specify which partitions for partitioned tablespaces
DB2 for z/OS index	START, STOP, DISPLAY, with option to specify which partitions for partitioning indexes

- Space Management jobs can be submitted to MVS directly for execution, without having to use ftp to transfer the files.
- All utilities for DB2 for z/OS are restartable.
- Quest Central objects, such as JCL blueprints, dataset templates, object lists, and reports, can be accessed directly from the object tree.
- Window-level online help

Database Administration for DB2 UDB for Windows, UNIX, and Linux

For this release, Database Administration provides the following capabilities on DB2 UDB for Windows, UNIX, Linux, and OS/2:

Object	Create	Create Like	Alter	Rename	Drop	Dependencies	Permissions	Extract DDL	Properties	Migrate	Compare
Alias	●	●	●		●	●	NA	L	●	L	L
Bufferpool	●	●	●		●	●	NA	L	●	L	L
Database	●	●	S		●	●	●	L	●	L	L

E indicates extended Alter capability

F indicates extended Alter capability for SQL functions only

C indicates object permissions plus permissions on individual columns

CP indicates user or group permissions can be cloned for other users or groups

S indicates system configuration capability

NA indicates the corresponding capability does not apply to object type

L indicates you must have a Database Administration license to use the feature

U indicates Rename is not supported for materialized query (summary) tables

■ Version 4.8 Features

Features in Version 4.8

Object	Create	Create Like	Alter	Rename	Drop	Dependencies	Permissions	Extract DDL	Properties	Migrate	Compare
Database Partition Group	●	●	●		●	●	NA	L	●	L	L
Distinct Type	●	●	●		●	●	NA	L	●	L	L
Function	●	●	F		●	●	●	L	●	L	L
Index	●	●	EL	●	●	●	●	L	●	L	L
Instance			S								
Nickname	●	●	●		●	●	●	L	●	L	L
Package	●	●	EL		●	●	●	L	●	L	L
Procedure	●	●	EL		●	●	●	L	●	L	L
Schema	●	●	●		●	●	●	L	●	L	L
Server	●	●	●		●	●	●	L	●	L	L
Table	●	●	EL	U	●	●	C	L	●	L	L
Tablespace	●	●	EL	●	●	●	●	L	●	L	L

E indicates extended Alter capability

F indicates extended Alter capability for SQL functions only

C indicates object permissions plus permissions on individual columns

CP indicates user or group permissions can be cloned for other users or groups

S indicates system configuration capability

NA indicates the corresponding capability does not apply to object type

L indicates you must have a Database Administration license to use the feature

U indicates Rename is not supported for materialized query (summary) tables

Object	Create	Create Like	Alter	Rename	Drop	Dependencies	Permissions	Extract DDL	Properties	Migrate	Compare
Trigger	●	●	EL		●	●	NA	L	●	L	L
User		CP					●	●	●	L	
User Group		CP					●	●	●	L	
User Mapping	●	●	●		●	●	NA	L	●	L	L
View	●	●	EL		●	●	C	L	●	L	L
Wrapper	●	●	●		●	●	NA	L	●	L	L

E indicates extended Alter capability

F indicates extended Alter capability for SQL functions only

C indicates object permissions plus permissions on individual columns

CP indicates user or group permissions can be cloned for other users or groups

S indicates system configuration capability

NA indicates the corresponding capability does not apply to object type

L indicates you must have a Database Administration license to use the feature

U indicates Rename is not supported for materialized query (summary) tables

- Database Administration's Create, Alter, and Delete functionality is provided free of charge. You must have a valid Database Administration license to take advantage of the extended Alter, Extract DDL, Migration, and Compare and Synchronize features.
- For all objects that support extended Alter, if you make an alteration that is not supported by DB2 UDB, then that alteration is made by doing a drop and re-create of the object. An important part of this process is maintaining all the complex relationships and dependencies between the altered object and the other objects in the database. You must have a Database Administration license to use this functionality.

■ Version 4.8 Features

Features in Version 4.8

- User-configurable settings for unloading and loading data, RUNSTATS, and package bind file locations
- Interfaces to the SQL Builder and to SQL Tuning from the SQL Procedure, SQL Function, Trigger, Materialized Query (Summary) Table, and View windows
- The Migration wizard supports migrating copies of databases from one instance to another, or copies of database objects from one database to another or into the same database. You may also choose to migrate *only the data* from the tables contained in the migration; in this case, no object DDL is generated. The wizard launches when you do either of the following:

- Drag an object from one instance or database to another.

Or

- Right-click the object, then select **Migrate**.

Use the wizard pages to select only those objects and their dependents you want copied, customize the objects for the target location, and generate the script.

- The Compare and Synchronize wizard supports comparing an object and all of its dependencies. The wizard displays the differences between each mapped object. It also allows you to select the objects that participate in a synchronization of the target with the source. The wizard's output is the synchronization script. You may also generate an HTML report that shows the comparison results.
- Extract DDL generates the DDL for creating an object. Additionally, it can generate dependent object DDL, drop statements, and permissions.

- Support for using your choice of the IMPORT or LOAD utility for populating tables with data during extended alterations, migrations, or synchronizations.
- Support for propagating table column and parent key changes to check constraints, foreign keys, indexes, and trigger update columns. Support for propagating table, view, and nickname column changes to text objects (SQL procedures, SQL functions, materialized query (summary) tables, triggers, and views).
- Support for DB2 UDB, version 7.1 and 7.2 features such as new database and instance configuration parameters, identity columns, SQL procedures, tablespace syntax updates, and federated server objects.
- Support for DB2 UDB, version 8.1 features, such as SQL functions, new database and instance configuration parameters, tablespace stripe sets, and table dimension columns. Other significant version 8 updates include changes for bufferpool, function, procedure, package, and trigger.
- System object alteration support for bufferpool, database partition group, function, schema, index, and tablespace
- Tasks requiring complicated analysis, such as Migrate, Compare, and Extract DDL, are fully threaded so Quest Central is available for other work while the analysis is running.
- Window-level online help

■ Version 4.8 Features

Features in Version 4.8

Database Administration for DB2 for z/OS

For this release, Database Administration provides these capabilities on DB2 for z/OS objects:

Object	Create	Create Like	Alter	Rename	Drop	Dependencies	Permissions	Extract DDL	Properties	Migrate	Compare
Alias	●	●	●		●	●	NA	L	●	L	L
Authorization ID		CP					●	●	●	L	
Bufferpool	NA	NA	●	NA	NA	●	●	L	●	L	L
Collection						●	●	L	●	L	L
Database	●	●	●		●	●	●	L	●	L	L
Distinct Type	●	●	●		●	●	●	L	●	L	L
Function	●	●	F		●	●	●	L	●	L	L
Group bufferpool	NA	NA	●	NA	NA	●	NA	L	●	L	L

E Indicates extended Alter capability

F Indicates extended Alter capability for SQL functions only

C indicates object permissions plus permissions on individual columns

CP indicates an auth ID's permissions can be cloned for another auth ID

NA indicates the corresponding capability does not apply to the object type

L Indicates a Database Administration license is required for the feature

Object	Create	Create Like	Alter	Rename	Drop	Dependencies	Permissions	Extract DDL	Properties	Migrate	Compare
Index	●	●	EL		●	●	NA	L	●	L	L
Package	●	●	●		●	●	●	L	●	L	L
Plan	●	●	●		●	●	●	L	●	L	L
Procedure	●	●	●		●	●	●	L	●	L	L
Schema						●	●	L	●	L	L
Storage group	●	●	●		●	●	●	L	●	L	L
Subsystem							●	●	●		
Synonym	●	●			●	●	NA	L	●	L	L
Table	●	●	EL	●	●	●	C	L	●	L	L
Tablespace	●	●	EL		●	●	●	L	●	L	L
Trigger	●	●	EL		●	●	NA	L	●	L	L
View	●	●	EL		●	●	C	L	●	L	L

E indicates extended Alter capability

F indicates extended Alter capability for SQL functions only

C indicates object permissions plus permissions on individual columns

CP indicates an auth ID's permissions can be cloned for another auth ID

NA indicates the corresponding capability does not apply to the object type

L indicates a Database Administration license is required for the feature

■ Version 4.8 Features

Features in Version 4.8

- Database Administration's Create, Alter, and Delete functionality is provided free of charge. You must have a valid Database Administration license to take advantage of the extended Alter, Extract DDL, Migration, and Compare and Synchronize features.
- For all objects that support extended Alter, if you make an alteration that is not supported by DB2, then that alteration is made by doing a drop and re-create of the object. An important part of this process is maintaining all the complex relationships and dependencies between the altered object and the other objects in the subsystem. You must have a Database Administration license to use this feature.
- User-configurable settings for unloading and loading data, RUNSTATS, REORG, and CHECK DATA
- Interfaces to the SQL Builder and SQL Tuning from the SQL Procedure, Trigger, and View windows
- The Migration wizard supports migrating objects within the same subsystem or to another subsystem. You can also choose to migrate *only the data* from the tables contained in the migration; in this case, no object DDL is generated. The wizard launches when you do either of the following:
 - Drag one or more objects from the Quest Central browser pane to the target subsystem icon in the object tree.

Or

 - Right-click the object and select **Migrate**.

Use the wizard pages to select only those objects and their dependents that you want copied, customize the objects for the target location, and then generate the script.

- The Compare and Synchronize wizard supports comparing an object and all of its dependencies. The wizard displays the differences between each mapped object. It also allows you to select the objects that participate in a synchronization of the target with the source. The wizard's output is the synchronization script. You can also generate an HTML report that shows the comparison results.
- Extract DDL generates the DDL for creating an object. Additionally, it can generate dependent object DDL, drop statements, and permissions.
- Tasks requiring complicated analysis, such as Migrate, Compare, and Extract DDL, are fully threaded so Quest Central is available for other work while the analysis is running.
- System object alteration support for index, storage group, and tablespace
- Support for propagating table column and parent key changes to check constraints, foreign keys, indexes, and trigger update columns. Support for propagating index column changes to the associated parent key. Support for propagating table and view column changes to trigger and view text.
- Window-level online help

Performance Diagnostics for DB2 UDB on Windows, UNIX, and Linux

Performance Diagnostics for DB2 UDB provides these features for this release:

- Instance home page—A graphical depiction of the DB2 process model for an entire instance

■ Version 4.8 Features

Features in Version 4.8

- Database home page—A graphical depiction of the DB2 process model for an entire database, including support for multi-partition databases
- Record and Playback—Saves a monitoring session to a file that can be played back at any time
- Instance drilldown—Detailed performance metrics that refer to the instance globally or by partition in multi-partition environments
- Database/Partition drilldown—Detailed performance metrics about all active databases or database partitions, including support for multi-partition databases
- Client Applications drilldown—Detailed performance metrics about all connected client applications, view sort and join fields to identify excessive sort or join (or both) offenders, plus filter criteria that allow you to isolate and focus on specific database connections
- Tablespace drilldown—Detailed performance metrics about tablespaces within all active databases, including tablespace state information
- Top SQL drilldown—The top SQL statements executed in all active databases
- Alarm drilldown—Identification of alarms triggered by thresholds
- Buffer Pools drilldown—Provides detailed bufferpool information about each database
- FCM drilldown—Identify communications bottlenecks for multi-partition environments within the DB2 Fast Communications Manager

- OS Monitoring drilldown—Provides CPU, I/O, and process details for the machine hosting the monitored instance and database
- For DB2 UDB, version 8 databases, displays include performance information such as bufferpool heap, lock heap, and individual memory segment reporting
- The Database/Partition Homepages window caption displays the database name and partition number (if applicable), followed by the local database alias name enclosed in parentheses
- (DB2 UDB, version 8.1 only) An administrator with sufficient authority may set the `DB2_SNAPSHOT_NOAUTH` environment variable at the database server. This allows users lacking `SYSADM`, `SYSMAINT`, or `SYSCNTL` authorities to use a limited subset of Performance Diagnostics' features.
- Transfer SQL into a Quest Central tuning session in SQL Tuning
- Quest Central common explain facility
- Connect, Disconnect, Disconnect All
- Monitor Switch setting
- Reset Monitor Data
- Print
- Instance, Database, and Partition switching
- Drilldown timeframes (Interval, Lifetime, Period)
- Window-level online help

Performance Diagnostics for DB2 for z/OS

Performance Diagnostics for DB2 UDB for z/OS provides these features for this release:

- Subsystem home page—A graphical depiction of the DB2 process model for an entire subsystem
- System summary drilldown—Detailed performance metrics about all activity on the subsystem
- Threads drilldown—Detailed performance metrics about all active threads and connections
- Top SLQ drilldown—The top SQL statements executed in all active threads
- Alarm log drilldown—Identification of alarms triggered by thresholds
- Buffer Pools drilldown—Provides detailed buffer pool and hipool information for the subsystem
- Coupling facility drilldown—Provides cross-system coupling facility information, details about locks in the data sharing environment, and group buffer pool usage, statistics, and configuration information
- Record and Playback—Saves a monitoring session to a file that can be played back at any time
- Transfer SQL into a Quest Central SQL Tuning session
- Quest Central common explain facility

- Connect, Disconnect, Disconnect All
- Print
- Ability to monitor multiple subsystems
- Window-level online help

Space Management for DB2 UDB on Windows, UNIX, and Linux

For this release, Space Management for DB2 UDB provides these features:

- Exception reports—Tablespace Freespace, Table Reorg, Index Reorg (DB2 UDB, version 8 only), Index Rebuild for (DB2 UDB, version 7 only), Index/Table Contention, and Index Cardinality reports run live. The reports have been enhanced to include information about multi-dimensional clustering, index pseudo-empty leaf pages, and index pseudo-deleted row identifiers. You may also now define exception criteria for pseudo-empty leaf pages and pseudo-deleted row identifiers.
- Batch Analysis—Use this feature to schedule automatic generation of printable HTML exception reports and utility syntax based on criteria thresholds you specify. This feature runs against an object list that is resolved at runtime to ensure that only the appropriate objects are included in the analysis or are excluded from it.

■ **Version 4.8 Features**

Features in Version 4.8

- Intelligent utilities, accessible from the **Utilities** right-click menu:
 - Table Reorg and Collect Statistics (both with optional Space Management Repository statistics collection), including new DB2 UDB, version 8.1 syntax
 - Index Collect Statistics (with optional Space Management Repository statistics collection), including new DB2 UDB, version 8.1 syntax
 - Tablespace Collect Statistics (with optional Space Management Repository statistics collection), including new DB2 UDB, version 8.1 syntax
- Optional backup before and after reorg for DB2 UDB EE tables
- Optional RUNSTATS and Space Management Repository statistics collection before and after reorg
- Maintain Statistics
- Validate Statistics
- Growth reports—Historical Growth and Forecast Growth
- View Detail option on Historical Growth
- Forecast Failure, View Growth by Percentage, View Detail, and Calculate Space options on Forecast Growth

- Space Calculator has been enhanced to include both graphical and tabular information about index pseudo-empty leaf pages, and tabular information about index pseudo-deleted row identifiers.
- Space Usage report, which shows space usage for tablespaces that contain a very large number of tables
- The Quest Central for DB2 Agent, which provides support for collecting space-related statistics from remote SMS-managed tablespaces and allows you to run Space Management utilities remotely on Windows, UNIX, and Linux machines
- Support for object lists that are built dynamically, based on user-defined filters, and are used as input for Batch Analysis exception reporting and utility syntax generation. Because the list is resolved at run time, you can be certain that even the newest database objects are included in or excluded from processing appropriately.
- Settings for default options on reorg and statistics collection
- Settings that allow storage to be displayed in pages or in megabytes
- Settings for the Quest Central for DB2 Agent
- Window-level online help

Space Management for DB2 for z/OS

For this release, Space Management for DB2 for z/OS provides these features:

- Exception reports—Tablespace Space Usage, Tablespace Reorg, Index Space Usage, Index Reorg, and Index Cardinality reports run live
- Batch Analysis—Use this feature to schedule automatic generation of HTML exception reports and utility syntax based on criteria thresholds you specify. This feature runs against an object list that is resolved at runtime to ensure that only the appropriate objects are included in the analysis or are excluded from it.
- Intelligent utilities, accessible from the **Utilities** right-click menu:
 - Table Collect Statistics (with optional Space Management Repository statistics collection)
 - Index Reorg and Collect Statistics (both with optional Space Management Repository statistics collection)
 - Tablespace Reorg and Collect Statistics (both with optional Space Management Repository statistics collection)
- Maintain Statistics in the repository for tablespaces, tables, and indexes

- Validate Statistics for tablespaces, tables, and indexes
- Growth reports—Historical Growth and Forecast Growth
 - View Detail option on Historical Growth
 - View Growth by Percentage, View Detail, and Calculate Space options on Forecast Growth
- Space Calculator, including features that obtain and display dataset and volume information
- Settings for default options on reorg and statistics collection
- Settings that allow storage to be displayed in pages, megabytes, tracks, or cylinders
- Window-level online help

SQL Tuning

SQL Tuning provides these features for this release:

- Support for DB2 UDB and DB2 for z/OS
- SQL Scenarios—Create, Rename, and Delete
- Save and import SQL into a tuning session
- Allow a different connection for each SQL statement tuning scenario
- Allow SQL Tuning to format and explain SQL automatically whenever SQL Tuning launches

■ Version 4.8 Features

Features in Version 4.8

- Compare Optimization Class—(DB2 UDB only) Automatically generates a separate scenario for each available optimization class, runs an Explain on each scenario, then runs the Compare All feature so you can compare performance across scenarios
- Reformat SQL statements into a more user-friendly display of the statement
- Create explain tables from within a tuning session
- Dynamic specification of SQL qualifier and optimization class
- Transfer of SQL contained within a SQL procedure, SQL function, trigger, materialized query (summary) table, or view to a SQL tuning session
- Transfer of SQL from a SQL Editor session to a SQL tuning session
- Transfer of SQL from Performance Diagnostics into a SQL tuning session
- Transfer of multiple SQL statements contained within a package (DB2 UDB and DB2 for z/OS) or plan (DB2 for z/OS only) to a single SQL tuning session, where each SQL statement has its own scenario
- Transfer of SQL contained within a trigger to a SQL tuning session
- Transfer of SQL from SQL Analysis to a SQL Tuning session
- Support for DB2 UDB, version 7.1 long user names and OLAP functions
- Explain and execution of one-to-many explainable SQL scenarios
- Dynamic and static SQL host variable support

- Graphical, list, and tree view access plan generation for all explainable statements
- Detailed object information for all objects involved in the access plan
- Access plan statistics, including predicates and column stream information
- Access plan dependencies
- Compare—includes Summary, SQL, Access Plan, Plan Statistics, and Execution Results (you may exclude Execution Results)
- Expert Advice generated and applied at the scenario level
- User-defined and recommended virtual indexes
- Save scenarios to *.html or *.txt files
- Full integration with Database Administration's Create Index function and Space Management's Collect Statistics function
- Enhanced printing capabilities—Execution Results, graphical printing of Access Path Reports
- Threaded processing
- Current SQLID support for z/OS
- Performance enhancements to Catalog Access
- Window-level help

SQL Analysis

For this release, SQL Analysis for DB2 UDB provides these features:

- DB2 UDB, version 8 exploitation, including event data for deadlocks, connections, and statements. SQL Analysis works with event information that was expanded from 32- to 64-bit integer data.
- Client/server architecture
- SQL statement collection scheduling, including the ability to schedule reoccurring collection samples at specified time intervals
- Easy identification of your most expensive SQL
- Advanced filtering options have been extended to reduce collection volume while still providing in-depth detail on SQL activity.
- Ability to collect deadlock events and to provide detailed reports that assist in deadlock resolution. Deadlock events can also be captured globally across a DB2 UDB EEE environment.
- Execution statistics aggregated at user and application levels
- Information about the frequency of SQL statement execution
- Graphical representation of SQL statement workload over time
- SQL statement activity statistics by transaction and by connection
- Collection summary information in a graphical format

- Optional extended analysis provides not only access path information for SQL, but also SQL statement reporting by table, typed table, view, typed view, column, and index usage.
- Custom reports feature allows you to customize metrics and filter the report results.
- Print and save capability—The complete text of all SQL statements listed in a SQL Analysis view can be printed or saved.
- Integration with other Quest Central components

Issues and limitations

For a list of current Quest Central for DB2 issues and limitations, refer to the release notes for this release. You can access the release notes by selecting **Help ▶ Release Notes** from the Quest Central menu bar.

Where do I go from here?

Before you begin installing Quest Central, verify that your systems meet the software and hardware requirements described in Chapter 2, *Preparing to Install Quest Central for DB2*

■ **Version 4.8 Features**

Where do I go from here?

2

Preparing to Install Quest Central for DB2

This chapter provides a brief overview of Quest Central for DB2's architecture and lists the requirements your system must meet to run Quest Central for DB2.

In this chapter

Where do I install Quest Central for DB2?	2-2
DB2 requirements for Quest Central	2-3
About DB2 UDB version compatibility	2-3
DB2 UDB maintenance requirements	2-6
System requirements	2-8
System requirements for the client machine	2-9
System requirements for the Quest Central for DB2 Agent machines	2-13
System requirements for the mainframe	2-15
Where do I go from here?	2-20

Where do I install Quest Central for DB2?

Quest Central for DB2 can manage database space usage, and manage, monitor, and tune DB2 databases and objects on the client machine, on remote DB2 UDB server machines, and on the mainframe. Quest Central can also collect SQL and transaction- and connection-related performance statistics on DB2 UDB databases.

The functionality available to you is determined by where you install Quest Central for DB2:

- As a minimal installation, Quest Central for DB2 resides on the Windows client machine and can manage, monitor, and tune DB2 UDB databases and objects that reside on that machine. Quest Central can also manage database space usage on the client machine. Quest Central provides *some* of this functionality for databases on remote Windows, UNIX, Linux, or z/OS machines.
- If you also install the Quest Central for DB2 Agent on Windows, UNIX, or Linux DB2 UDB server machines other than the client, Quest Central provides full functionality for databases on the client machine and on the remote Windows, UNIX, or Linux machines.

Note • To run SQL Analysis collections on a DB2 UDB database, you must install the Quest Central for DB2 Agent on the server where the database resides.

- If you also install Quest Central for DB2's mainframe components on a z/OS, version 1.4 machine, Quest Central provides full functionality for databases on the client machine, the remote Windows, UNIX, and Linux machines, and on the mainframe.

Note • SQL Tuning provides full functionality on the mainframe even if you do not install Quest Central for DB2's mainframe components. SQL Analysis is not yet available for DB2 UDB for z/OS.

DB2 requirements for Quest Central

This section provides important information about the versions of DB2 that run on the machines where Quest Central is installed and about known DB2 issues that affect the DB2 maintenance level you apply to those machines.

About DB2 UDB version compatibility

All of Quest Central's components run properly in these DB2 UDB environments:

- A DB2 UDB, version 7 Runtime Client run against a DB2 UDB, version 7 instance
- A DB2 UDB, version 8 Runtime Client run against a DB2 UDB, version 8 instance
- A DB2 UDB, version 7 Runtime Client run against a DB2 UDB, version 8 instance, but only under the circumstances described in *SQL Analysis in a mixed-version environment* on page 2-4, *Database Administration in a mixed-version environment* on page 2-4, and *Performance Diagnostics in a mixed-version environment* on page 2-5

SQL Analysis in a mixed-version environment

SQL Analysis does not support the collection of SQL on a DB2 UDB, version 8 database when you are using a DB2 UDB, version 7 database for the SQL Analysis Repository. The repository must be a DB2 UDB, version 8 database. When SQL Analysis attempts to run a SQL collection in this unsupported configuration, SQL Analysis shuts down and displays the following message:

```
SQC70353E SQL Analysis was unable to start a SQL Analysis
collection. SQL Analysis agent found the managed
database incompatible versions 'version number' and
'version number' respectively. Please migrate the
repository database to a DB2 version compatible with
the managed database or use the SQL Analysis Repository
Manager to select a repository database with a DB2
version compatible with the managed database.
```

Database Administration in a mixed-version environment

Database Administration runs in an environment where a DB2 UDB, version 7 client is run against a DB2 UDB, version 8 instance, but behaves unexpectedly under these circumstances:

- Running a DB2 UDB, version 7 client against a DB2 UDB EEE, version 8 instance can cause the Tablespace, Database, and Database Configuration windows to not open as expected. This situation can also cause -1198 SQL codes to occur.

- Running a DB2 UDB, version 8 client against a DB2 UDB, version 7 instance causes unpredictable behavior when you open windows from right-click menus for existing objects:
 - The Index, Procedure, Table, Trigger, and View windows do not open, and the SQL035IN message is returned.
 - The Tablespace, Database Configuration, and Instance Configuration windows do not open, and the SQL165IN message is returned.
 - The Database window does not open, and the DBA00011E message is returned, indicating that the database information could not be retrieved.

Performance Diagnostics in a mixed-version environment

Running a DB2 UDB, version 7 client against DB2 UDB, version 8 instances causes the following Performance Diagnostics behaviors:

- A version mismatch message appears on the instance-level home page, under **Instance Identification**.
- External storage, all database configuration parameters, and all data retrieved from those parameters (including the database or node home page **Page Cleaners** and **Prefetchers** icons, as well as some data on the tablespace drilldown) are disabled.
- All tablespace sub-drilldowns are disabled.

■ Preparing to Install Quest Central for DB2

DB2 requirements for Quest Central

DB2 UDB maintenance requirements

The following table describes known DB2 UDB, version 7 issues affecting Quest Central components and indicates which FixPak provides a resolution for the issue.

APAR #	APAR text	FixPak	Affected component
JR14929	TABLE UDFs (OLEDB or SQL) that are defined via CREATE FUNCTION command to return DECIMAL(x,y) will show LENGTH=0 and SCALE=0 in the SYSCAT.FUNCPARMS table.	2	Database Administration
IY25088	DB2 UDB EEE V6.1 received signal 11 when enabling event monitor using a LIKE predicate.	6	SQL Analysis
IY26437	GET SNAPSHOT ... GLOBAL fails with SQL1610N The Database System Monitor input parameter "data->iNodeNumber" is invalid. The problem disappears if the "GLOBAL" keyword is not used.	6	Performance Diagnostics
IY29176	MEMORY CORRUPTION TRAP when trying to enable event monitor on DB2 V6.1 EEE.	6	SQL Analysis
IY33811	SQL1042 RECEIVED WHEN ISSUING A GLOBAL MONITOR SNAPSHOT. DB2DIAG.LOG CONTAINS SQM_AGGR_SNAPSHOT_BUFFER::AGGRE ENTRIES.	8	Performance Diagnostics
IY30686	INSTANCE CRASH WITH SIGNAL 11 IN SQM_EVMON.	9	Performance Diagnostics

APAR #	APAR text	FixPak	Affected component
JR18098	RUNNING THE INDEX ADVISOR FROM A VERSION 7 CLIENT AGAINST A VERSION 8 DATABASE CAUSES THE DATABASE TO CRASH.	9	SQL Analysis SQL Tuning
IY45245	<p>Entries will be logged in the db2diag.log, stating that ... 2003-03-27-14.33.38.666141 instance:db21xb Node:0000 PID:6472(db2agent(LXB)) Appid:"LOCAL.db21xb.03032719338 access_plan_manager sqlra_rollup_dyn_stmt Probe:20 Database statement not protected!</p> <p>Turning off the monitor switch for the statement stops this behavior, but doing so results in Performance Diagnostics not displaying any SQL statements.</p>	10	Performance Diagnostics

Additional issues for Performance Diagnostics

In addition to the DB2 UDB issues for which there is a FixPak resolution, you should be aware of the following issues:

- Various time fields are corrupted by accessing the **File ▶ Reset Monitor Statistics** feature in Performance Diagnostics. CPU times affected include `agent_sys_cpu_time` and `agent_usr_cpu_time`.
- The Monitor Switches dialog in Performance Diagnostics causes other instance-level counters to reset. This is true when the Monitor Switches dialog is invoked automatically at startup or by selecting **File ▶ Options ▶ Monitor Switches**.

■ Preparing to Install Quest Central for DB2

System requirements

- Performance Diagnostics' Options ► Update Monitor Switches API shows intermittent failure in DB2 UDB EE, version 7.2 systems. Research into this issue is ongoing.

Additional issue for Database Administration

DB2 UDB, version 7.1 users must have DB2 UDB, version 7.1 FixPak 3 (or higher) applied to prevent an instance from becoming unusable when attempts are made to configure DB2 UDB, version 7.1 databases.

Additional issue for SQL Analysis

Running an event monitor (required by SQL Analysis) in DB2 UDB, version 7.1 FixPak 4 or FixPak 5 on a Solaris machine with an instance that spans multiple physical nodes (EEE) causes the instance to hang or to crash. Upgrade to DB2 UDB, version 7.1 FixPak 6 or higher to resolve this problem.

System requirements

This section describes the hardware and software requirements your system must meet to run Quest Central for DB2. When installation is complete, Quest Central for DB2 files reside on the following machines:

- The Quest Central for DB2 client resides on at least one Windows machine. Refer to *System requirements for the client machine* on page 2-9 for information about these requirements.

- The Quest Central for DB2 Agent resides on various Windows, UNIX, or Linux machines where it retrieves space-related SMS tablespace statistics, performs remote execution of scripts, and gathers information about DB2 UDB databases for the SQL Analysis component. Refer to *System requirements for the Quest Central for DB2 Agent machines* on page 2-13 for information about these requirements.
- If you will be running Quest Central against DB2 for z/OS databases, Quest Central for DB2 libraries and the Performance Diagnostics agent reside on the mainframe.
 - Refer to *System requirements for the mainframe* on page 2-15 for information about these requirements.
 - Refer to *Subsystem requirements* on page 2-19 for more information about recommendations for improving Quest Central for DB2 performance and for DB2 authorization requirements.

System requirements for the client machine

Platform Support

The Quest Central for DB2 client software is supported on the following platforms:

- Windows 2000
- Windows XP

■ Preparing to Install Quest Central for DB2

System requirements

Hardware requirements

Before you install Quest Central for DB2, verify that the client machine meets the following hardware requirements:

- Intel Pentium III processor, or higher
- 150 MB of free hard disk space
- 256 MB RAM
- A monitor capable of supporting a resolution of 800 x 600 pixels

Note • It is recommended that you use a monitor resolution of 1024 x 768 pixels, and a color palette that contains *at least* 256 colors. Quest Central does not support large fonts.

- A CD-ROM drive or an internet connection
- A sound card and speakers, if you want to take advantage of audible monitoring alerts
- A mouse

Software requirements

Before you install Quest Central for DB2, verify that the client machine's system meets these software requirements:

- Windows 2000 (with the latest Service Pack installed) or Windows XP.

Note • Windows 2000 users must be either Standard user (Power Users Group) or be Administrator to install Quest Central for DB2.

- IBM DB2 UDB Runtime Client, version 7.1 or higher, installed using the typical install method on the machine where Quest Central for DB2 is installed. Performance Diagnostics and SQL Analysis require DB2 UDB, version 7.2 with FixPak 8 (or higher) applied.

It is recommended that you use DB2 client software of the same version as the DB2 instances you are accessing. Refer to [About DB2 UDB version compatibility](#) on page 2-3 for important information about running different versions of DB2 UDB on the client and server machines.

Note • Quest Central for DB2 requires a DB2 UDB, version 8.1 Runtime Client when monitoring a DB2 UDB, version 8.1 64-bit server.

■ Preparing to Install Quest Central for DB2

System requirements

Refer to *DB2 UDB maintenance requirements* on page 2-6 for important information about which IBM DB2 FixPaks are recommended for Quest Central for DB2.

If you are going to use Quest Central to administer DB2 databases on Linux, you must have the DB2 UDB Client, version 7.2 or higher installed on the Windows machine where the Quest Central client is installed.

Note • Some DB2 UDB, version 7.2 database configuration parameter names are different than they were in version 7.1. If you want to use Quest Central for DB2, version 4.8 to set DB2 UDB, version 7.2 database configuration parameters, you need to have DB2 Runtime Client, version 7.2 installed on the machine where Quest Central is installed.

- If you are going to access DB2 for z/OS databases, you must have IBM DB2 Connect, version 7.1 or higher installed in one of the following locations:
 - The client machine where Quest Central for DB2 is installed
 - A gateway machine that Quest Central for DB2 uses to access the z/OS databases
- You must have at least one of the following DB2 UDB database versions installed on a server in your environment:
 - DB2 UDB Enterprise Edition (EE) or Extended Enterprise Edition (EEE), version 7.1 or higher for Windows NT, UNIX, Linux, or OS/2. Quest Central for DB2 users must have SELECT authority on the system catalog tables to run against DB2 UDB databases. Performance Diagnostics and SQL Analysis require DB2 UDB, version 7.2 with FixPak 8 (or higher) applied.

Or

- DB2 UDB, version 6.1 or higher for OS/390 and z/OS. Quest Central for DB2 users must have SELECT authority on the system catalog tables to run against DB2 for z/OS databases.
- SQL Analysis requires 36 4-kilobyte pages to run an event monitor during a SQL collection process run on the client machine. The `mon_heap_sz` database configuration parameter on the agent machine must be set appropriately to support this functionality. Refer to the *IBM DB2 Universal Database System Monitor Guide and Reference* for more information about setting this database configuration parameter.
- If you want to use Space Management's Batch Analysis reporting feature, Internet Explorer, version 5.0 or later must be installed on the Quest Central client machine to view the report *.html files.

System requirements for the Quest Central for DB2 Agent machines

Platform support

Quest Central uses the Quest Central for DB2 Agent to access DB2 UDB instances and databases on these platforms:

- **Windows**—Windows NT 4.0, Windows 2000, Windows XP
- **UNIX**—Sun Solaris 7 and higher; AIX 4.3 and higher
- **Linux**—Red Hat Enterprise Linux AS 2.1 and 3.0 for Intel x86; SuSE Linux Enterprise Server 8 for IBM mainframes and Intel x86

Hardware requirements

It is recommended that you install the Quest Central for DB2 Agent on server-grade UNIX, Windows, or Linux machines.

Software requirements

Before you install the Quest Central for DB2 Agent on a remote machine, make sure the remote machine's system meets these software requirements:

- You must have DB2 UDB Enterprise Edition (EE) or Extended Enterprise Edition (EEE), version 7.1 or higher for Windows NT, UNIX, Linux, or OS/2 installed on the agent machine. Quest Central for DB2 users must have `SELECT` authority on the system catalog tables to run against DB2 UDB databases.

Refer to [About DB2 UDB version compatibility](#) on page 2-3 for important information about running different versions of DB2 UDB on the client and agent machines.

- You must install the Quest Central for DB2 Agent on each remote server on which you intend to collect SQL using SQL Analysis, run Space Management or Performance Diagnostics features against SMS-managed objects, or execute generated scripts remotely. By default, the Quest Central for DB2 Agent listens on port 5677 for requests from the Quest Central client. If you need the agent to use another port, refer to [Changing the port numbers for the Quest Central for DB2 Agent](#) on page 5-44.

Note • To install the Quest Central for DB2 Agent on a Windows server, you must have administrative privileges for the server machine.

- SQL Analysis requires 36 4-kilobyte pages to run an event monitor during a SQL collection process run on the agent machine. The `mon_heap_sz` database configuration parameter on the agent machine must be set appropriately to support this functionality. Refer to the *IBM DB2 Universal Database System Monitor Guide and Reference* for more information about setting this database configuration parameter.
- Before you start the Quest Central for DB2 Agent on a Sun Solaris 7 server, you must install Solaris 7 patch 106327 on that machine.
- Before you start the Quest Central for DB2 Agent on a Red Hat 3.0 server, install the `compat-libstdc++-7.3-2.96.122.i386.rpm` compatibility library. This library is available on the Red Hat Advanced Server 3.0 installation CDs.

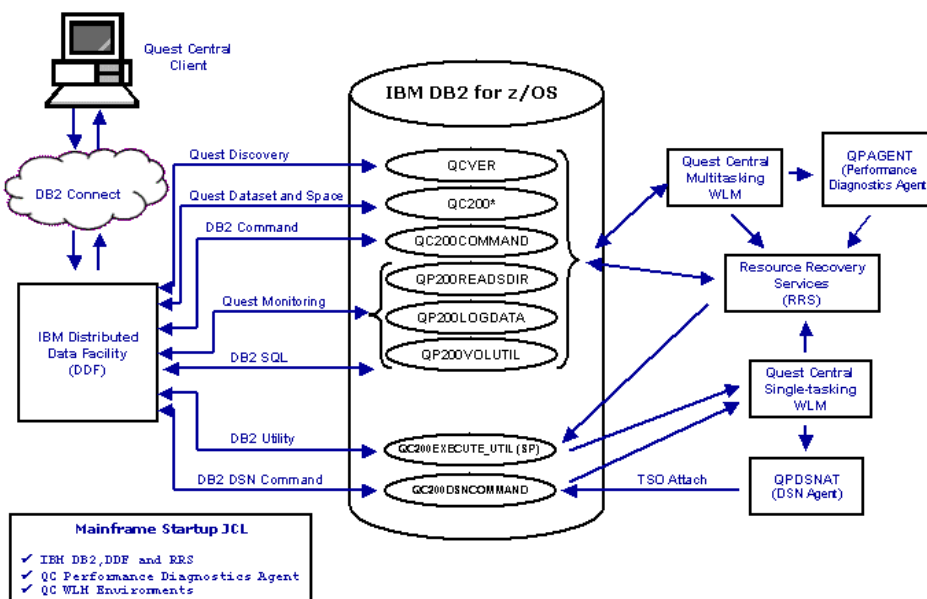
System requirements for the mainframe

Understanding how the Quest Central for DB2 client interacts with the Distributed Data Facility, DB2 for z/OS, the Workload Manager application environments, the Performance Diagnostics agent (QPAGENT), the Resource Recovery Services, and the DSN agent (QPDSNAT) will help you understand why Quest Central for DB2 has mainframe software requirements. This understanding will also help the mainframe systems programmer who completes the mainframe component installation described in *Installing Quest Central for DB2's Mainframe Components* on page 6-1.

■ Preparing to Install Quest Central for DB2

System requirements

The following diagram shows these relationships.



Platform support

Quest Central for DB2 can access DB2 for z/OS databases on z/OS, version 1.4 and higher.

Note • SQL Analysis is not yet available for DB2 for z/OS.

Software requirements

If you are going to run Quest Central against DB2 for z/OS databases, the mainframe must have the following software installed:

- DB2 for OS/390 and z/OS, version 6.1 or higher, with these version-specific PTFs applied:

PTF	DB2 version	Description
UQ44518	6	ODBC enhancement. Note • This PTF is required only if you are installing the Quest Central mainframe components.
UQ48134/ UQ50049	6	Add IGNOREFIELDS functionality in table unload/re-load.
UQ45820	6	Add ability to specify IDENTITY columns.
UQ47204	6	NOT NULL is now a required option for ROWID COLUMN.
UQ50400	6	TYPESCHEMA and TYPENAME are incorrect for row type R in SYSIBM.SYSPARMS.
UQ56823	6	Catalog not correctly updated on BP update to DSNDB07.
UQ56824	7	Catalog not correctly updated on BP update to DSNDB07.

■ Preparing to Install Quest Central for DB2

System requirements

Note • These PTFs (with the exception of UQ44518) are required to support even the limited functionality provided if you choose to not install the Quest Central mainframe components.

- DB2 ODBC (FMID JDB6617 for version 6, FMID JDB7717 for version 7) must be installed on your DB2 subsystem.
- Quest Central for DB2 requires two WLM Application Environments. Make sure these environments have been defined using ISPF Application IWMARIN0. *z/OS V1R4.0 MVS Planning Workload Management* (SA22-7602-06) provides instructions for using the WLM ISPF panels.

Note • Quest Central must have these two WLM environments for its *exclusive* use. Do not attempt to use pre-existing WLM environments used for other applications.

- Your DB2 WLM Application Environment must have the Resource Recovery Services (RRS) subsystem installed and active. *z/OS V1R4.0 MVS Programming Resource Recovery* (SA22-7616-02) and *z/OS V1R4.0 MVS System Commands* (SA22-7627-07) provide instructions for setting up and starting RRS on your system.
- For WLM usage, verify that the load module SORT is in the Link Pack Area (LPA) or is marked reentrant. Due to limitations of the WLM address space starting in Program Status Word (PSW) key 8, a non-reentrant SORT load module causes an ABEND SOC4 when DSNUTILB calls SORT during utility processing.

Note • Users running SYNC SORT in the WLM environment receive ABEND SOC4 errors when DSNUTILB calls SYNC SORT. Users can contact SYNC SORT to obtain a fix tape that contains support for DB2 stored procedures. This fix applies some ZAPs to the current SORT modules, then creates a new SORT stub and aliases to a new reentrant module SYNC FNI. The documentation accompanying the tape provides instructions for applying the fix.

Subsystem requirements

The following requirements must be met for each DB2 subsystem where Quest Central for DB2's mainframe components are installed:

- To improve overall Quest Central performance, the following indexes on the DB2 catalog are recommended:
 - To speed up the filtering of plans by plan owner, define an index on the OWNER column in SYSIBM.SYSPLAN.
 - To increase the speed at which statements are retrieved initially for the Tunable SQL Statements window when tuning plan statements, define an index on the PLNAME column of SYSIBM.SYSTMT.
- The systems programmer who installs Quest Central for DB2's mainframe components must have EXECUTE authority on all packages in the DSNAOCLI collection.
- Quest Central users must have SELECT authority on the system catalog tables to run against DB2 for z/OS databases.
- Users who run the Performance Diagnostics component against DB2 for z/OS subsystems must have DISPLAY, TRACE, and MONITOR1 authority on those subsystems. To examine SQL statements, users must have MONITOR2 authority on the subsystem.

Where do I go from here?

Where do I go from here?

When you have verified that your systems meet the requirements described in this chapter, you should begin your Quest Central installation by following the procedure described in *Installing Quest Central on the Client Machine* on page 3-1.

3

Installing Quest Central on the Client Machine

This chapter provides instructions for installing Quest Central for DB2 on the client machine. This chapter also includes instructions for applying maintenance to an existing Quest Central installation on the client machine. For system requirements information, refer to Chapter 2, *Preparing to Install Quest Central for DB2*.

- The installation process 3-2**
- Step 1: Accessing the installation software 3-4**
- Step 2: Run the installation wizard 3-5**
- Installation maintenance 3-16**
- Where do I go from here? 3-21**

■ Installing Quest Central on the Client Machine

The installation process

The installation process

Installing Quest Central for DB2 on the client machine, the remote DB2 UDB servers, and the mainframe is a four-step process.

The following table provides an overview of the installation processes:

Step	Description	Where to Find Instructions
1	<p>Access the installation software. You can do this by either of these methods:</p> <ul style="list-style-type: none">■ Download the self-extracting installation software files from the Quest web site. <p>Or</p> <ul style="list-style-type: none">■ Load the <i>Quest Central for DB2 Installation CD-ROM</i> into your CD-ROM drive.	<p><i>Step 1: Accessing the installation software</i> on page 3-4</p>
2	<p>Launch the installation wizard and supply the requested information.</p>	<p><i>Step 2: Run the installation wizard</i> on page 3-5</p>

Step	Description	Where to Find Instructions
3	<p>(Optional) You must install the Quest Central Agent on each remote server on which you intend to do any of the following:</p> <ul style="list-style-type: none">■ Use Space Management features to report space-related statistics on SMS-managed tablespaces■ Use Performance Diagnostics' SMS database files component to retrieve statistics from SMS-managed tablespaces■ Execute Database Administration scripts remotely■ Use the SQL Analysis component to collect and analyze SQL <p>Note • You cannot run SQL Analysis collections on a DB2 UDB database unless the Quest Central Agent is installed on the server where the database resides.</p>	<p><i>Step 3: Install the Quest Central for DB2 Agent</i> on page 4-3</p>

■ Installing Quest Central on the Client Machine

Step 1: Accessing the installation software

Step	Description	Where to Find Instructions
4	If you are going to use Quest Central against DB2 UDB for z/OS objects, your site's DB2 administrator and a systems programmer must install the Quest Central mainframe components.	<i>Step 4: Install the mainframe components</i> on page 6-3
	Or	Or
	If you previously installed the mainframe components for Quest Central for DB2 UDB, version 2.x, 3.0, or 3.1, you must upgrade these components to version 4.8.	<i>Step 4: Upgrade the mainframe components</i> on page 6-39

This chapter provides procedures for completing Step 1 and Step 2.

Step 1: Accessing the installation software

To access the installation software:

- Use your web browser to download the self-extracting installation software files from:

http://www.quest.com/quest_central_for_db2/index.asp

Or

Load the *Quest Central for DB2 Installation CD-ROM* into your computer's CD-ROM drive. The CD-ROM contains files for the Quest Central client, the Quest Central Agent for all platforms, and the mainframe component files.

Note • If the installation process does not start automatically, select Start ► Run. In the Run window's **Open** field, type *d:\Setup.exe* (where *d* is the letter assigned to your CD-ROM drive) and click OK.

Go on to *Step 2: Run the installation wizard* on page 3-5.

Step 2: Run the installation wizard

After you have accessed the installation software, you can launch the installation wizard and supply the necessary information to complete the installation on the client machine.

Note • This section provides instructions for installing Quest Central on the client machine. You can also use the installation wizard to un-install Quest Central on the client machine, add components to an existing client installation, or re-install the Quest Central files for an existing client installation. For instructions, see *Installation maintenance* on page 3-18.

To run the installation wizard:

- 1 If you loaded the *Quest Central for DB2 Installation CD-ROM* in your PC in *Step 1: Accessing the installation software* on page 3-4, go on to step 2.

Or

Navigate to the directory or folder where you downloaded *QuestCentralForDB2.exe* from the Quest web site, and double-click this executable file.

The Welcome page of the installation wizard opens.

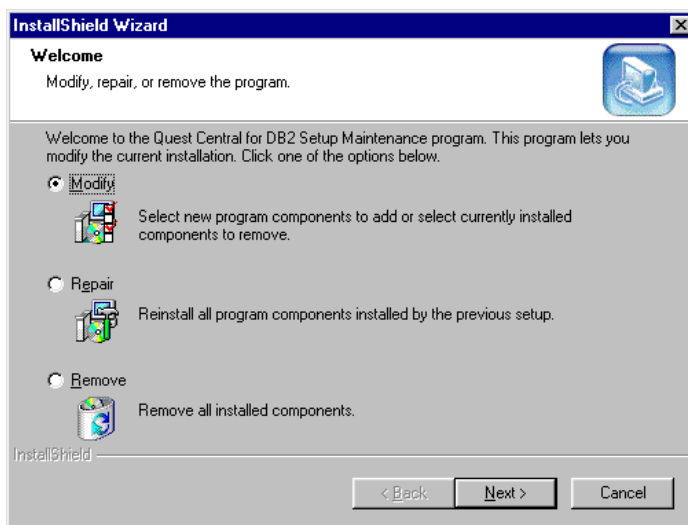
■ Installing Quest Central on the Client Machine

Step 2: Run the installation wizard

- 2 If the current version of Quest Central is already installed on the machine, the installation wizard Welcome page (shown in the following figure) allows you to modify, repair, or remove the already-installed Quest Central.

If the current version of Quest Central is already installed, do either of the following:

- To modify or repair the current Quest Central installation, see *Installation maintenance* on page 3-18.
- To reinstall the current version, follow steps **2a** through **2d** below to remove the Quest Central installation from the machine.



- a Select the **Remove** option, then click **Next**.

A confirmation window opens, asking if you want to remove completely the earlier version of Quest Central.

- b** On the confirmation window, click **OK**.

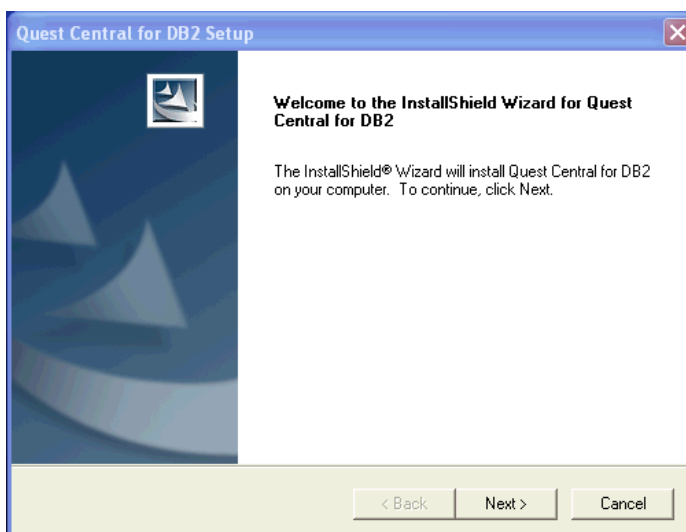
The installation wizard removes the earlier version of Quest Central and displays the Maintenance Complete page.

- c** On the Maintenance Complete page, click **Finish**.

The installation wizard closes.

- d** Re-launch the installation wizard.

The wizard opens the Welcome to the InstallShield Wizard for Quest Central for DB2 page.

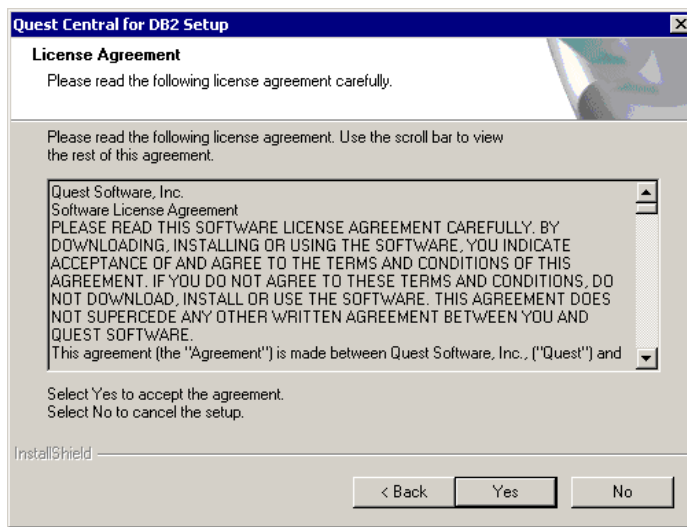


On the Welcome to the InstallShield Wizard for Quest Central for DB2 page, click **Next**.

■ Installing Quest Central on the Client Machine

Step 2: Run the installation wizard

The License Agreement page opens.



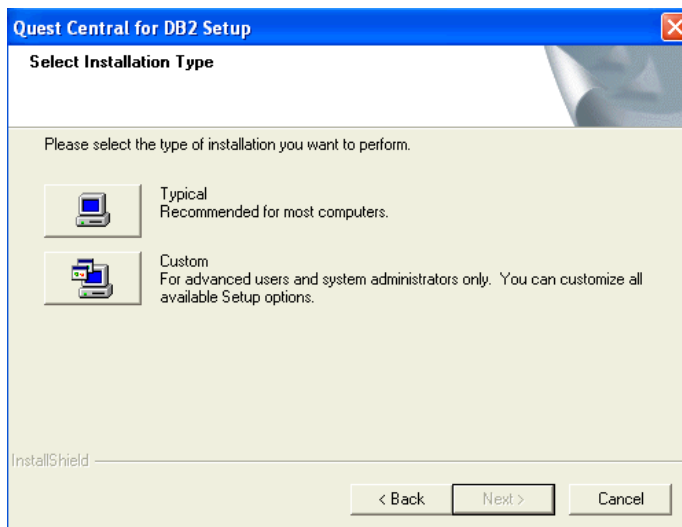
3 On the License Agreement page, do one of the following:

- Click **No** to reject the agreement and cancel the installation.

Or

- Click **Yes** to accept the agreement and display the next wizard page.

The installation wizard displays the Select Installation Type page.



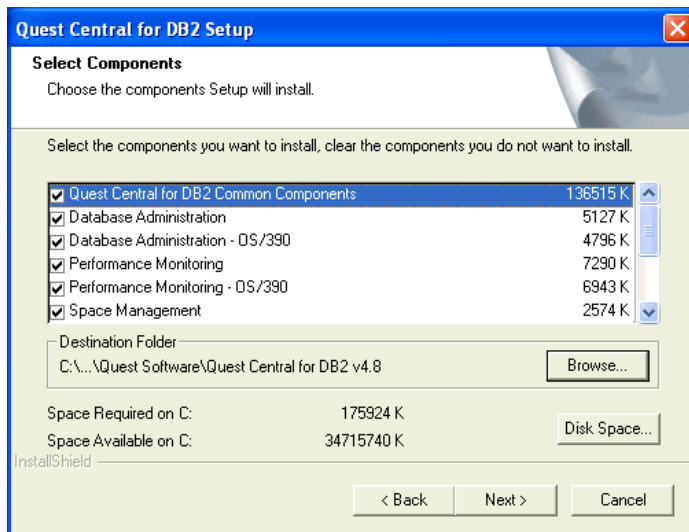
- 4 On the Select Installation Type page, click **Typical**. (The **Typical** option installs all client components.). If you choose to perform a typical installation, follow the instructions in Step 9 on [page 11](#).

If you choose to perform a custom installation, follow the instruction in Step 5 on [page 10](#).

■ Installing Quest Central on the Client Machine

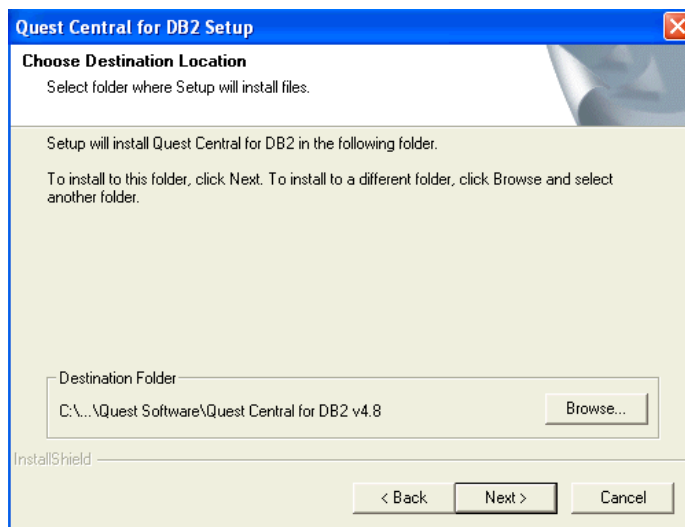
Step 2: Run the installation wizard

When you choose a custom installation, the wizard displays the Select Components page.



- 5 Select the components you want to install from the list.
- 6 Accept the default destination folder or click **Browse** to locate a different destination folder for the files.
- 7 Click **Disk Space** to locate a drive with enough disk space (150 MB of free space) to install the selected components.
- 8 Click **Next** to continue. If you chose to perform a custom installation, follow the instructions in Step 10 on [page 12](#).

The wizard displays the Choose Destination Location page.



- 9 On the Choose Destination Location page, the **Destination Folder** pane shows the default location for the Quest Central files.
 - If you want to accept the default location for the Quest Central files, click **Next**.

Or

■ Installing Quest Central on the Client Machine

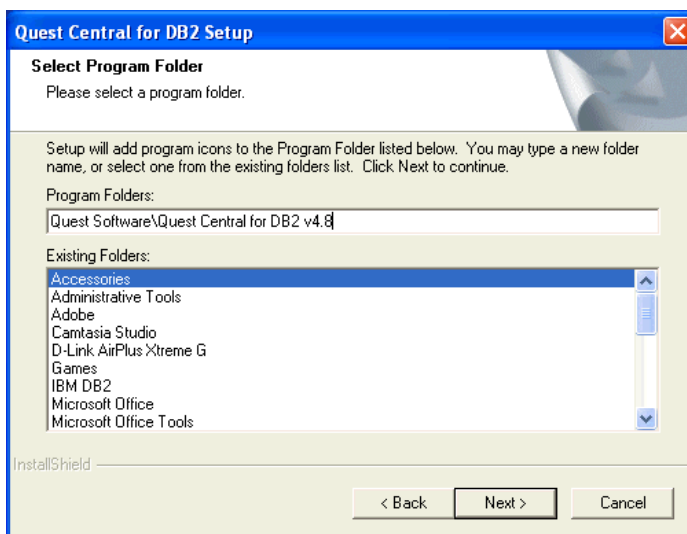
Step 2: Run the installation wizard

- If you want the Quest Central files installed in some other folder, click **Browse** to display the Choose Folder window. From that window, you can type in the name of a new folder (and it will be created for you), or you can navigate to and select the folder where you want Quest Central installed. Click **OK** to close the Choose Folder window.

- 10 Verify that you have sufficient space (150 MB of free space) to install the selected components on the drive where the destination folder resides.

Click **Next**.

The wizard displays the Select Program Folder page.

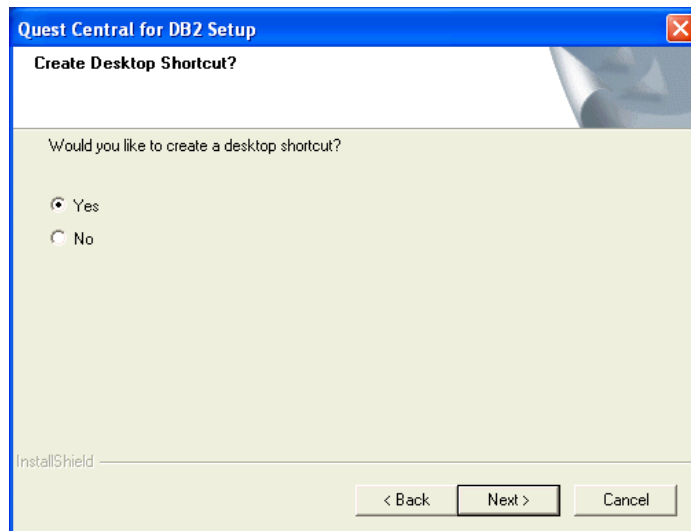


- 11 Use this page to specify the name of the program folder to which the Quest Central icons will be added. By default, the \Quest Central for DB2 v4.8 folder is created and the program icons are added to it.

- If you want to accept the default folder name, click **Next**.
- If you want to specify a different folder name, you may enter it in the **Program Folders** field, or you may select an existing folder name from the **Existing Folders** list.

Click **Next**.

The wizard displays the Create Desktop Shortcut page.



- 12 On the Create Desktop Shortcut page, select the appropriate option, then click **Next**.

■ Installing Quest Central on the Client Machine

Step 2: Run the installation wizard

The wizard displays the Start Copying Files page.



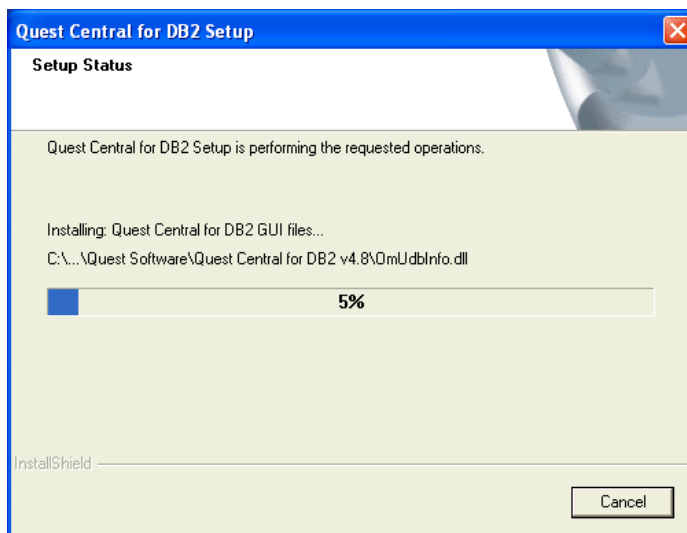
- 13** The setup program is ready to start copying files into the destination folder. The components included in a typical installation are listed in the Current Settings pane.

- If you want to install all the listed components, click **Next**.

Or

- If you want to install only some of the listed components, click **Back** as many times as necessary to return to the Select Installation Type wizard page, then click **Custom**. When the Select Components page opens, select only those components you want to install, then click **Next** until you return to the Start Copying Files wizard page. Click **Next** on the Start Copying Files wizard page.

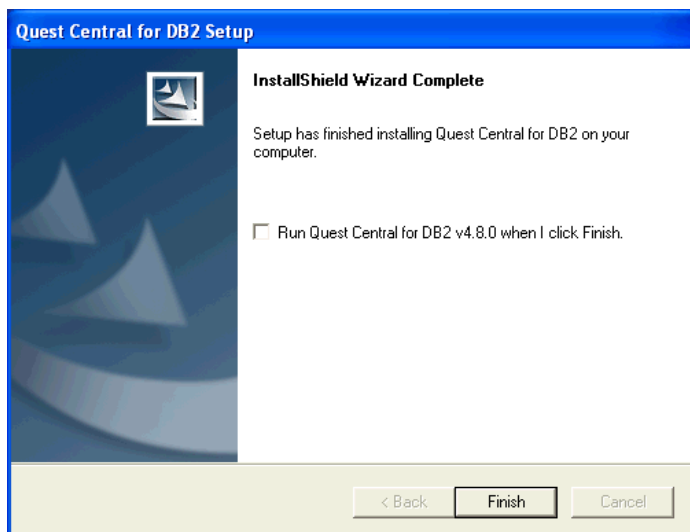
The wizard displays the Setup Status page, which shows the progress of the file copying process.



After all files are copied to the destination directory, the wizard displays the Wizard Complete page.

■ Installing Quest Central on the Client Machine

Step 2: Run the installation wizard



Note • The Release Notes are the only place Quest Central's known issues and limitations are documented, and they contain information that became known after this *Quest Central for DB2 Installation Guide* was printed. We recommend that you review this information before starting Quest Central for DB2.

The Release Notes are available on the Quest Central for DB2 Installation CD-ROM. Also, after installation, the Release Notes can be viewed by selecting Start ► Programs ► Quest Software ► Quest Central for DB2 v4.8 ► Quest Central for DB2 v4.8 Release Notes.

- 14** (Optional) Select the **Run Quest Central for DB2 when I click Finish** option to start Quest Central automatically when the wizard closes.

- 15** Click **Finish**.

Installation is complete on the client machine. If you selected the **Run Quest Central for DB2 when I click Finish** option, Quest Central starts.

- 16** Do one of the following:

- If you need to remove Quest Central components from the client machine, or need to install additional components on the client machine, go on to *Installation maintenance* on page 3-18 for instructions.

Or

- Otherwise, go on to *Where do I go from here?* on page 3-23.

Installation maintenance

You can use the Quest Central installation wizard to perform the following maintenance tasks on the Quest Central files currently installed on a Windows machine.

Note • If you do not need to perform installation maintenance on the client machine, ignore this section and go on to *Where do I go from here?* on page 3-23.

- Add Quest Central components to those already installed on the machine. See *To add components to an existing Quest Central installation:* on page 3-18.
- Un-install some or all of the Quest Central files. See *To un-install Quest Central files:* on page 3-20.
- Re-install all of the Quest Central files laid down by the previous installation. See *To re-install the Quest Central files:* on page 3-22.

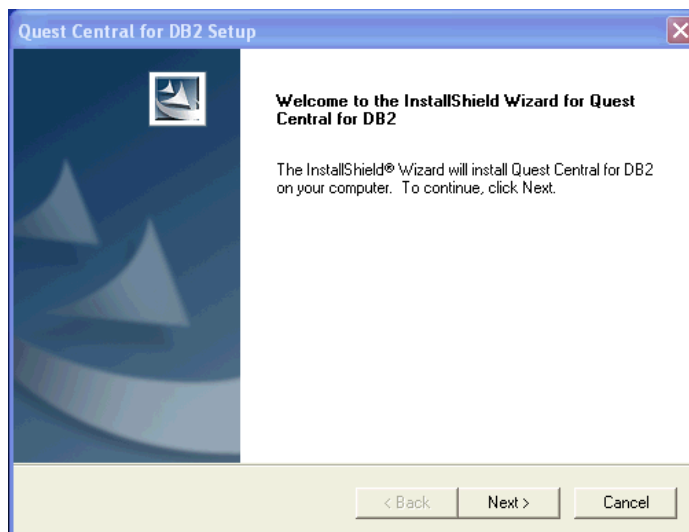
To add components to an existing Quest Central installation:

- 1** On the machine where Quest Central is already installed, insert the *Quest Central for DB2 Installation CD-ROM* in the CD-ROM drive.

Or

Navigate to the directory or folder where you downloaded QuestCentralForDB2.exe from the web site, and double-click this executable file.

The installation wizard displays the Welcome page.



- 2 On the Welcome page, select the **Modify** option, then click **Next**.

The Select Components page opens.

- 3 On the Select Components page, click in the check box next to each component you want added to this machine, then click **Next**.

Note • The installation process installs these additional components in the same directory in which the components already installed on the machine reside.

When all the files have been laid down, the wizard displays the Maintenance Complete page.

■ Installing Quest Central on the Client Machine

Installation maintenance

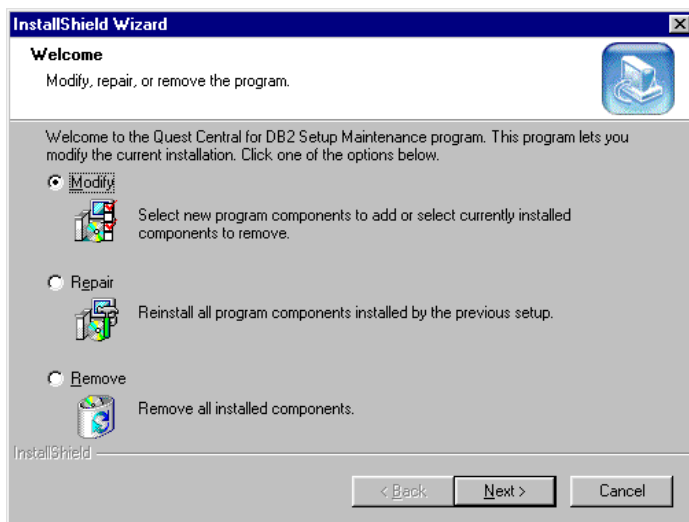
- 4 On the Maintenance Complete page, click **Finish**.

The installation wizard closes, and the new components have been installed on the machine.

To un-install Quest Central files:

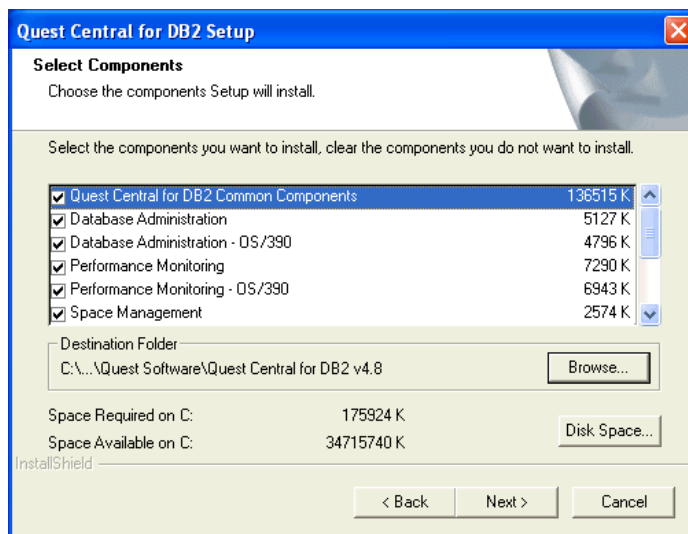
- 1 Re-launch the installation wizard.

The installation wizard displays the Welcome page.



- 2 On the Welcome page, select the **Modify** option, then click **Next**.

The Select Components page opens.



- 3 On the Select Components page, clear the check box next to each component you want removed from this machine, then click **Next**.

When all the files have been removed, the Maintenance Complete page opens.

- 4 On the Maintenance Complete page, click **Finish**.

The installation wizard closes, and the selected components have been removed from the machine.

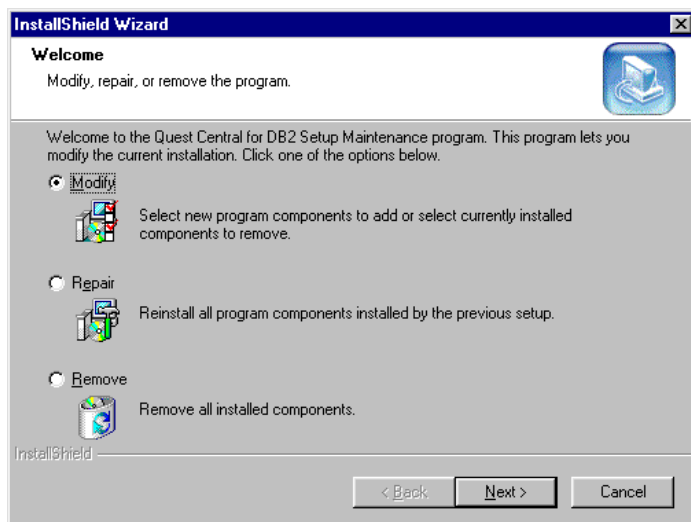
■ Installing Quest Central on the Client Machine

Installation maintenance

To re-install the Quest Central files:

- 1 Re-launch the installation wizard.

The installation wizard displays the Welcome page.



- 2 On the Welcome page, select the **Repair** option, then click **Next**.

The Setup Status page opens, showing the progress of the file copying process. When all the files have been laid down, the Maintenance Complete page opens.

- 3 On the Maintenance Complete page, click **Finish**.

The installation wizard closes, and Quest Central has been re-installed.

Where do I go from here?

Continue with the next installation step, installing the Quest Central Agent. Chapter 4, *Installing the Quest Central for DB2 Agent*, provides instructions for completing this step.

■ Installing Quest Central on the Client Machine

Where do I go from here?

4

Installing the Quest Central for DB2 Agent

This chapter provides instructions for installing and upgrading the Quest Central for DB2 Agent on Windows, UNIX, or Linux servers.

In this chapter

The installation process 4-3

Step 3: Install the Quest Central for DB2 Agent 4-6

Task 1: Installing the Quest Central for DB2 Agent 4-9

Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent 4-31

Task 3: (UNIX and Linux servers only) Update the environment variables . 4-33

Task 4: (Solaris 7 servers only) Apply patch 106327 4-34

Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent 4-35

Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information 4-36

(Optional) Installing the agent in a DB2 UDB EEE environment that uses NFS 4-38

Where do I go from here? 4-39

The installation process

At this point in the Quest Central installation process, you have already accessed the installation software and installed Quest Central for DB2 on the client machine. Refer to [Step 1: Accessing the installation software](#) on page 3-4 and [Step 2: Run the installation wizard](#) on page 3-5.

This chapter provides instructions for installing the Quest Central for DB2 Agent on Windows, UNIX, Linux , and DB2 UDB server machines.

Step	Description	Where to Find Instructions
3	<p>(Optional) You must install the Quest Central for DB2 Agent on each server on which you intend to do any of the following:</p> <ul style="list-style-type: none">■ Use Space Management features to report space-related statistics on SMS-managed tablespaces.■ Use Performance Diagnostics' SMS database files component to retrieve statistics from SMS-managed tablespaces.■ Execute Database Administration scripts remotely.■ Use the SQL Analysis component to collect and analyze SQL. <p>Note • You cannot run SQL Analysis collections on a DB2 UDB database unless the Quest Central for DB2 Agent is installed on the server where the database resides.</p>	<p>Step 3: Install the Quest Central for DB2 Agent on page 4-3</p>

Step 3: Install the Quest Central for DB2 Agent

The Space Management component's Identify Exceptions and Space Calculator features and Performance Diagnostics' SMS database files feature use the Quest Central for DB2 Agent to retrieve space-related statistics for SMS-managed tablespaces. The agent is also required for remote Database Administration script execution and to run SQL Analysis collections on databases.

Note • The Quest Central for DB2 Agent should be installed on database servers only. Do not install the Quest Central for DB2 Agent on a client machine *unless* that machine also acts as a database server for Quest Central clients.

If you do not install the Quest Central for DB2 Agent on a database server, the Space Management component's Identify Exceptions and Space Calculator features are functional, but the space-related statistics they can retrieve from DB2 UDB SMS-managed tablespaces on that server are minimal. Additionally, you cannot run SQL Analysis collections on a DB2 UDB database unless the Quest Central for DB2 Agent is installed on the database server where the database exists.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

For every server where you want the Quest Central for DB2 Agent installed, you need to complete the following tasks:

Task	Description	Where to Find Instructions
1	Install the Quest Central for DB2 Agent.	<i>Task 1: Installing the Quest Central for DB2 Agent</i> on page 4-5 Note • If you need to install the Quest Central for DB2 Agent in a UNIX DB2 UDB EEE environment that uses NFS, follow the procedure in <i>To install the agent in a UNIX or Linux DB2 UDB EEE environment that uses NFS</i> on page 4-33.
2	(UNIX and Linux environments only) Grant the Quest Central for DB2 Agent required authorities.	<i>Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent</i> on page 4-26
3	(UNIX and Linux environments only) Update the appropriate environment variables.	<i>Task 3: (UNIX and Linux servers only) Update the environment variables</i> on page 4-28
4	(Solaris 7 environments only) Apply Solaris 7 patch 106327.	<i>Task 4: (Solaris 7 servers only) Apply patch 106327</i> on page 4-29

Task	Description	Where to Find Instructions
5	(UNIX and Linux environments only) Start the Quest Central for DB2 Agent. Note • The agent starts automatically after installation on a Windows server.	<i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent</i> on page 4-30
6	(For upgrades only on servers that will run SQL Analysis collections) Migrate the Quest Central Job Scheduler and SQL Analysis information from the previous Quest Central for DB2 Agent installation to the new installation.	<i>Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information</i> on page 4-31

Task 1: Installing the Quest Central for DB2 Agent

Determining which installation (upgrade) instructions to use

The Quest Central for DB2 Agent can be installed on Windows, AIX, Solaris, and Linux servers.

- Read the important information in *Important information about upgrading the agent on a Windows machine* on page 4-6, then follow the instructions in *Installing (upgrading) the agent on a Windows server* on page 4-9.

Or

- Read the important information in *Important information about upgrading the agent on a UNIX or Linux server* on page 4-7, then follow the instructions in *Installing (upgrading) the agent on a UNIX or Linux server* on page 4-18.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

Or

- If you are installing the agent in a UNIX DB2 UDB EEE environment that uses NFS, see *(Optional) Installing the agent in a DB2 UDB EEE environment that uses NFS* on page 4-33.

Important information about upgrading the agent on a Windows machine

What an upgrade process involves

The upgrade process on a Windows server installs the new agent in a directory that is different from the one in which the current agent is installed. If you do not intend to run SQL Analysis collections on the server, the upgrade process on the server is complete after the new agent is installed. However, if you *do* intend to run SQL Analysis collections on this server, you must also migrate job scheduler and SQL Analysis configuration information from the previous agent installation to the new installation and upgrade the SQL Analysis Repository. The installation instructions in *Installing (upgrading) the agent on a Windows server* on page 4-9 guide you through either of these upgrade situations.

Special consideration concerning an upgrade

Also note the following about upgrading the agent on a Windows server:

- If you schedule SQL Analysis collection jobs under an agent version previous to 4.8 and then run these jobs using the upgraded agent *before you upgrade the SQL Analysis Repository*, the jobs will fail. Therefore, step 1 (*page 4-9*) in the installation or upgrade process tells you to stop all currently running collections before beginning the agent upgrade. (If you do schedule a collection under the previous agent, make sure the scheduled start time is *after* you will complete the agent and repository upgrade processes.)

- Communication between the version 4.8 Quest Central for DB2 agent and a Quest Central client that is previous to version 4.0.1 is prohibited. For example, SQL Analysis on a version 3.x Quest Central client cannot request a SQL Analysis collection to run on a Windows server that has the version 4.8 Quest Central for DB2 Agent installed. If you have upgraded to the version 4.8 agent, make sure that the Quest Central client is version 4.0.1, 4.5, or 4.8.

Important information about upgrading the agent on a UNIX or Linux server

Upgrade methods

You can perform one of two types of agent upgrades on a UNIX or Linux server:

- Install the new agent in the same Quest home directory as the current agent installation (that is, replace the existing agent installation with the new installation).

Or

- Install the new agent in a home directory that is different from the one in which the current agent is installed.

To complete the upgrade process for either method, you must also migrate job scheduler and SQL Analysis configuration information from the previous agent installation to the new installation, as well as upgrade the SQL Analysis Repository.

See *Installing (upgrading) the agent on a UNIX or Linux server* on page 4-18 for instructions for both upgrade methods.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

Special considerations concerning an upgrade

Also note the following about upgrading the agent on a UNIX server:

- If you schedule SQL Analysis collection jobs under an agent version previous to 4.8 and then run these jobs using the upgraded agent *before you upgrade the SQL Analysis Repository*, the jobs will fail. Therefore, step 1 (on [page 4-9](#)) in the installation or upgrade process tells you to stop all currently running collections before beginning the agent upgrade. (If you do schedule a collection under the previous agent, make sure the scheduled start time is *after* you will complete the agent and repository upgrade processes.)
- Communication between the version 4.8 Quest Central for DB2 agent and a Quest Central client that is previous to version 4.0.1 is prohibited. For example, SQL Analysis on a version 3.x Quest Central client cannot request a SQL Analysis collection to run on a Windows server that has the version 4.8 Quest Central for DB2 Agent installed. If you have upgraded to the version 4.8 agent, make sure that the Quest Central client is version 4.0.1, 4.5, or 4.8.

Installing (upgrading) the agent on a Windows server

Use the following instructions to install the agent for the first time or to upgrade a previous version of the agent on a Windows server.

To install (upgrade) the agent on a Windows server

- 1 Do one of the following:
 - If you are installing the Quest Central for DB2 Agent for the first time on this machine, go directly to step 3.

Or

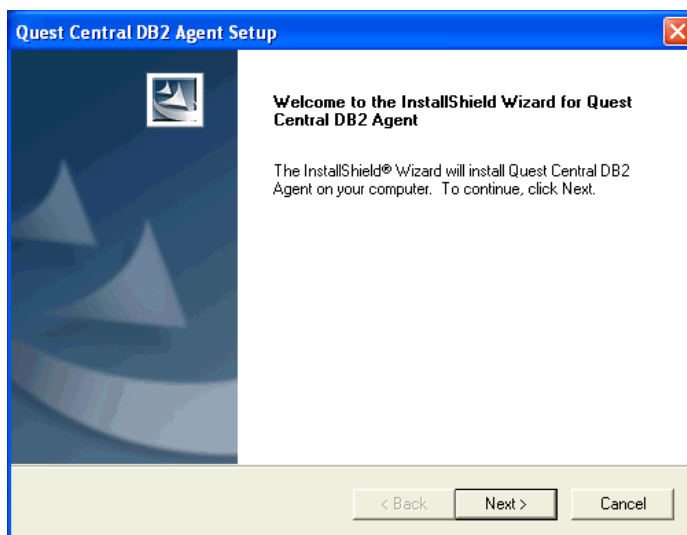
 - If you are upgrading the Quest Central for DB2 Agent on this machine, continue with step 2.
- 2 Perform the following tasks to prepare for the agent upgrade process:
 - Make sure that you stop all SQL Analysis collections currently running against databases on this machine. Use the SQL Analysis component on the Quest Central for DB2 client to stop the collections.
 - If you intend to install the Quest Central for DB2 Agent, version 4.8 in the same directory as the currently installed agent version, create a temporary back-up copy of the agent directory. (You will later need information in this back-up directory to perform the migration process described in the section *Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information* on page 4-31.)

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

- 3 Log on to the Windows server using a user ID that has Administrator authority on this machine.
- 4 Insert the *Quest Central for DB2 4.8 Install* CD-ROM in the CD-ROM drive. Locate `QuestCentralDB2Agentv48.exe` in the `Agents\win32` directory on the CD-ROM, and execute this file.

The installation process starts, and the installation wizard displays its Welcome page.

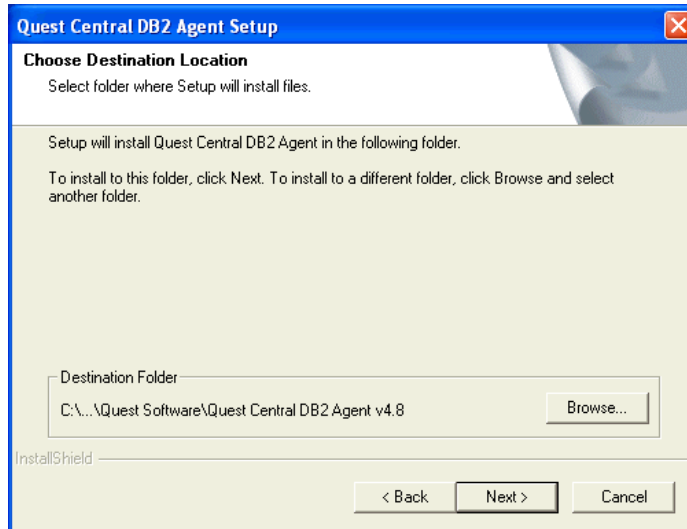


- 5 Do one of the following:
 - If you are installing the version 4.8 agent on a machine that has an earlier version of the agent installed, click **Next**.
- Or**
- If you are re-installing the version 4.8 agent on a machine that still has the previously installed version 4.8 agent, select the **Modify** option on the Welcome page. Then click **Next**.

The wizard displays the License Agreement page.

- 6 On the License Agreement page, click **Yes**.

The wizard displays the Choose Destination Location page.



- 7 The **Destination Folder** pane shows where the agent files are installed by default.
 - If you want to accept the default location for the Quest Central Agent files, click **Next**.

Or

 - If you want the Quest Central for DB2 Agent files installed in some other folder, click **Browse** to display the Choose Folder window. From that window you can type in the name of a new folder (and it will be created for you), or you can navigate to

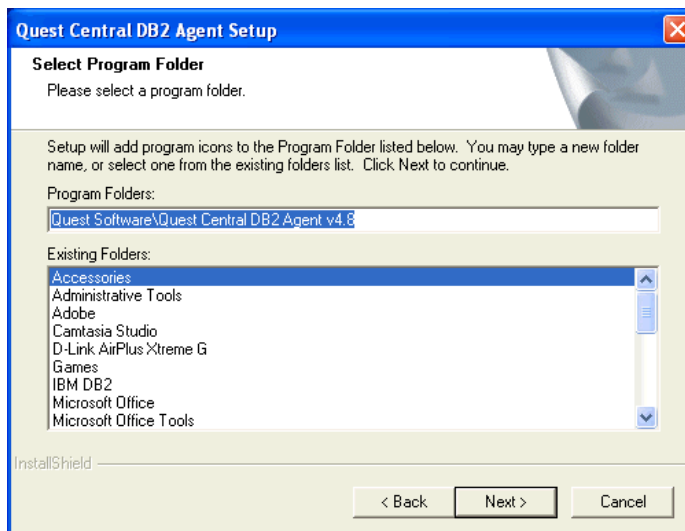
■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

and select the folder where you want the remote agent files installed. Click **OK** to close the Choose Folder window and display the installation wizard.

Click **Next**.

The wizard displays the Select Program Folder page.



- 8** Use the Select Program Folder page to specify the name of the Program Files folder to which the agent icon will be added. By default, the Quest Central DB2 Agent folder is created and the agent icon is added to it.

- If you want to accept the default folder name, click **Next**.

Or

- If you want to specify a different folder name, you may enter it in the **Program Folders** field, or you may select an existing folder name from the **Existing Folders** list.

Click **Next**.

The wizard displays the next page:

- If the wizard detects an account running the default DB2 instance on this machine, the next page is the Service Account Information page. Continue with step **10**.

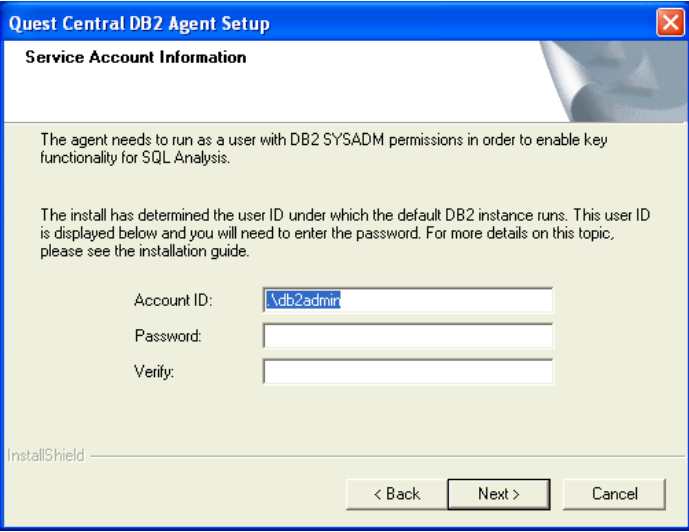
Or

- If the installation wizard detects that there is no account running the default DB2 instance on this machine, the wizard skips the Service Account Information page entirely and displays the Start Copying Files page. Go directly to step **15** on [page 4-16](#).

Note • When this condition exists, before you can run Quest Central, you must use your Windows Services function to specify that both the Quest Central for DB2 Agent and the Quest Central DB2 Launch Service run as the same user account. This account must have the privileges listed in step **11**.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent



The screenshot shows the 'Quest Central DB2 Agent Setup' window with the 'Service Account Information' tab selected. The window has a blue title bar and a standard Windows XP-style interface. The main content area is light yellow and contains instructional text and input fields. The text explains that the agent needs DB2 SYSADM permissions and that the user ID for the default DB2 instance has been determined. Below the text are three input fields: 'Account ID' (containing '\db2admin'), 'Password', and 'Verify'. At the bottom, there is an 'InstallShield' logo and three buttons: '< Back', 'Next >', and 'Cancel'.

Quest Central DB2 Agent Setup

Service Account Information

The agent needs to run as a user with DB2 SYSADM permissions in order to enable key functionality for SQL Analysis.

The install has determined the user ID under which the default DB2 instance runs. This user ID is displayed below and you will need to enter the password. For more details on this topic, please see the installation guide.

Account ID:

Password:

Verify:

InstallShield

< Back Next > Cancel

- 9 The Service Account Information page identifies the user account ID and password used to run the Quest Central for DB2 Agent. The recommended account ID for running the Quest Central for DB2 Agent is the user account ID running the default DB2 instance on the server.
- If the installation program detects that the *local system account* is running the default DB2 instance, the value `LocalSystem` appears in the **Account ID** field. Continue with step 11.
- Or**
- If the installation program detects the *user account ID* that is running the default DB2 instance, this ID automatically appears in the **Account ID** field. Do not perform step 11; go directly to step 12.

Note • If the Quest Central for DB2 Agent will manage multiple DB2 instances on this server, make sure that the user account ID shown in the **Account ID** field is also connected to the SYSADM group for each of the other managed instances.

- 10** In the **Account ID** field, replace LocalSystem with an existing user account ID. This ID must belong to the SYSADM group for the default DB2 instance, and must have the following advanced user rights:

- Act as part of the operating system
- Create a token object
- Increase quotas
- Replace a process level token

Note • If the Quest Central for DB2 Agent will manage multiple DB2 instances on this server, make sure that the user account ID you specify in the **Account ID** field is connected to the SYSADM group for each of the other managed instances.

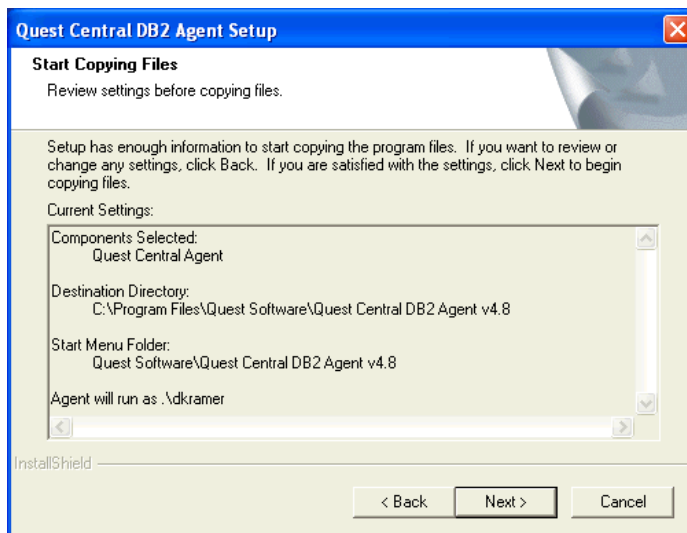
- 11** In the **Password** field, enter the password associated with the user account ID shown in the **Account ID** field.
- 12** Re-enter the password in the **Verify** field.
- 13** Click **Next**.

The wizard displays the Start Copying Files page.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

However, if a message window appears, stating that the password was not entered correctly, you must re-enter the password in the **Verify** field or both the **Password** and **Verify** fields. Then click **Next** to display the Start Copying Files page.



- 14** The set-up program is ready to start copying the Quest Central for DB2 Agent files into the destination folder. The information you specified on the wizard pages is shown in the Current Settings pane.

- If you do not need to change any of the information you have already specified, click **Next**.

Or

- If you want to change any of the information already specified, click **Back** until you return to the wizard page where you can make the necessary changes. When you have made all the necessary changes, click **Next** until you return to the Start Copying Files wizard page. On the Start Copying Files wizard page, click **Next**.

The wizard displays the Setup Status page, showing the progress of the file copying process.

When the Quest Central for DB2 Agent files have been copied successfully to the destination directory, the wizard displays the Install Shield Wizard Complete page.

Note • If the Quest Central for DB2 Agent installation should fail, refer to *Manual intervention for the Quest Central for DB2 Agent on Windows servers* on page 5-40 for instructions on installing the agent manually.

- 15** On the InstallShield Wizard Complete page, click **Finish**.

The wizard closes, and Quest Central for DB2 Agent installation is complete on this server.

- 16** Repeat steps **1** through **16** on all other Windows servers where you need to install or upgrade the agent.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

17 Do one of the following:

- On each Windows server on which you both upgraded the agent *and* intend to run SQL Analysis collections, first complete the task described in *Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information* on page 4-31. Then complete the task described in *Upgrading the SQL Analysis for DB2 Repository* on page 5-36.

Or

- Otherwise, unless you are also installing or upgrading the Quest Central for DB2 Agent on UNIX or Linux servers, you have completed the first-time installation or the upgrade process on each Windows server. Refer to *Where do I go from here?* on page 4-34 for information about what to do next.

Or

- If you need to install or upgrade the Quest Central for DB2 Agent on one or more UNIX or Linux servers, proceed to *Installing (upgrading) the agent on a UNIX or Linux server* on page 4-18.

Installing (upgrading) the agent on a UNIX or Linux server

Use the following instructions to install the agent for the first time or to upgrade a previous version of the agent on a UNIX or Linux server.

To install (upgrade) the agent on a UNIX or Linux server

- 1** If you are upgrading the agent on this machine, you must stop all SQL Analysis collections currently running against databases on this machine. Use the SQL Analysis component on the Quest Central for DB2 client to stop the collections.
- 2** Create a Linux or UNIX user ID `qcdb2` and log on to the server machine as that user (or log on using the user ID for the previous Quest Central for DB2 Agent installation).
- 3** At the command prompt, enter `echo $QUESTHOME` and press Enter to determine whether the `QUESTHOME` environment variable has already been defined on this server.
 - If the `QUESTHOME` variable has not been set on the server, continue with step **4**.

Or

 - If the `echo` command returns the name of the directory assigned to `QUESTHOME`, go directly to step **5**.
- 4** Designate the `QUESTHOME` directory using either method:
 - Use the `qcdb2` home directory as the `QUESTHOME` directory.

Or

 - Create a `QUESTHOME` directory under the `qcdb2` home directory.

Continue with step **6**.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

5 Clean up the QUESTHOME directory:

- a** Use the `cd` command to navigate to the directory assigned to QUESTHOME.
- b** Stop the agent using the following command:

```
QcAgent -stop
```

When you stop the agent, these related processes are also automatically shut down: `quest_launcher`, `QcSched`, `ScAdmin`, and `QcRouter`.

Note • Wait a few minutes for the agent and the related processes to shut down. Then continue with step **5c**.

- c** Verify that the `QcAgent` process and the related processes listed above are not running.

If any of these processes are still running, use the `kill -9` command to shut them down.

- d** (Recommended on AIX machines) Run `slibclean` to remove the unused modules from the kernel and library memory. This is a privileged command that requires root access; please consult your UNIX or Linux systems administrator.

If you are upgrading from a 4.5 agent, you can continue the upgrade process at Step 6.

Or

If you are upgrading an agent previous to 4.5, then continue on with Steps 5e to 5g.

- e To prepare to delete the QUESTHOME directory, create a back-up directory.
- f Use the following command to copy all files from the QUESTHOME directory to the back-up directory:

```
cp -r * back-up directory name
```

Note • You will need information copied to this back-up directory to migrate SQL Analysis job and configuration information from the previous agent installation to the upgraded agent installation. This process is described later in *Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information* on page 4-31.

- g Remove all directories and files from the QUESTHOME directory.
- 6 Use one of the following methods to transfer the installation files to the server:
- **Web Download:** download the server-specific tar file from http://www.quest.com/quest_central_for_db2/index.asp (click on **Download trial software**). Use FTP to transfer this `qcagent.tar` file from your client to the QUESTHOME directory on the UNIX or Linux server.

Note • Use binary mode for the FTP transfer.

Or

- **CD Install:** Use FTP to transfer the appropriate `qcagent.tar` file from your Windows client machine's Quest Central install directory to the QUESTHOME directory on the UNIX or Linux server. The `qcagent.tar` file resides under the `Agents`

■ **Installing the Quest Central for DB2 Agent**

Step 3: Install the Quest Central for DB2 Agent

directory in an operating-system specific subdirectory of the *Quest Central for DB2 4.8* Installation CD. The `qcagent.tar` file resides under the `Agents` directory in an operating-system specific subdirectory of the *Quest Central for DB2 4.8* Installation CD.

Note • Use binary mode for the FTP transfer.

If the UNIX or Linux server has a CD-ROM drive, insert the *Quest Central for DB2 4.8* Installation CD into the drive. Navigate to the appropriate operating-system-specific subdirectory under the `agents` directory. Copy `qcagent.tar` from this subdirectory to the `QUESTHOME` directory on the server.

Server Operating System	File
AIX	<code>\aix\qcagent.tar</code>
Solaris	<code>\solaris\qcagent.tar</code>
Red Hat Enterprise Linux for Intel	<code>\rhIntel\qcagent.tar</code>
SuSE Linux Enterprise Server for IBM mainframes	<code>\suse390\qcagent.tar</code>
SuSE Linux Enterprise Server for Intel	<code>\suseIntel\qcagent.tar</code>

- 7** In the `QUESTHOME` directory where you transferred or copied the `qcagent.tar` file, untar the file, using this command:

```
tar -xvf qcagent.tar
```

Note • Make a note of the file system into which you untarred the `qcagent.tar` file. You will need this information when you update the environment variables in *Task 3: (UNIX and Linux servers only) Update the environment variables* on page 4-28.

- 8 Run `config.sh` from the `QUESTHOME` directory by entering the following command:

```
./bin/config.sh
```

The script sets permissions, moves files, and creates a `qcprofile_platform` file (where *platform* is `aix`, `solaris`, or `linux`) that you can use to set the Quest Central for DB2 Agent environment.

- 9 If you want to install or upgrade the Quest Central for DB2 Agent on other UNIX or Linux servers, repeat steps 1 through 8 on those machines. Otherwise, continue with step 10.

■ **Installing the Quest Central for DB2 Agent**

Step 3: Install the Quest Central for DB2 Agent

- 10** Perform these additional tasks to complete the Quest Central Agent installation or upgrade on each server:

Under these conditions	Perform these tasks
You performed a first-time agent installation.	<i>Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent on page 4-26</i> <i>Task 3: (UNIX and Linux servers only) Update the environment variables on page 4-28</i> <i>Task 4: (Solaris 7 servers only) Apply patch 106327 on page 4-29</i> <i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent on page 4-30</i>
You are upgrading the agent and you are <i>not</i> using SQL Analysis to analyze and collect data on this machine.	<i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent on page 4-30</i>

Under these conditions	Perform these tasks
<p>You are upgrading the agent and</p> <ul style="list-style-type: none">■ You installed the new agent in same home directory where the previous agent installation resided. <p>And</p> <ul style="list-style-type: none">■ You will be using SQL Analysis to analyze and collect data on this machine.	<p><i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent on page 4-30</i></p> <p><i>Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information on page 4-31</i></p> <p><i>Upgrading the SQL Analysis for DB2 Repository on page 5-36</i></p>
<p>You are upgrading the agent and</p> <ul style="list-style-type: none">■ You installed the new agent in a Quest Central home directory different from the directory for the previous agent installation. <p>And</p> <ul style="list-style-type: none">■ You are <i>not</i> using SQL Analysis to analyze and collect data on this machine.	<p><i>Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent on page 4-26</i></p> <p><i>Task 3: (UNIX and Linux servers only) Update the environment variables on page 4-28</i></p> <p><i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent on page 4-30</i></p>

■ **Installing the Quest Central for DB2 Agent**

Step 3: Install the Quest Central for DB2 Agent

Under these conditions	Perform these tasks
You are upgrading the agent and <ul style="list-style-type: none">■ You installed the new agent in a Quest home directory different from the directory for the previous agent installation. And <ul style="list-style-type: none">■ You will be using SQL Analysis to analyze and collect data on this machine.	<i>Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent on page 4-26</i> <i>Task 3: (UNIX and Linux servers only) Update the environment variables on page 4-28</i> <i>Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent on page 4-30</i> <i>Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information on page 4-31</i> <i>Upgrading the SQL Analysis for DB2 Repository on page 5-36</i>

Task 2: (UNIX and Linux servers only) Granting authority to the Quest Central for DB2 Agent

The Quest Central for DB2 Agent requires SYSADM authority. Additionally, the agent requires sufficient authority to open the directory where the DB2 UDB SMS-managed container files exist. The agent must also have READ authority for each of these container files.

Note • If you are going to use the Quest Central for DB2 Agent only to execute Database Administration scripts on a server, you may ignore this task and go on to *Task 3: (UNIX and Linux servers only) Update the environment variables* on page 4-28.

To grant the agent adequate authority

- 1 To grant SYSADM authority to the Quest Central Agent, connect the user ID running the Quest Central Agent to the SYSADM group for each DB2 instance that the agent will service on this UNIX or Linux server.
- 2 For each DB2 instance where the primary group of the instance owner is different from the instance's SYSADM group, do one of the following to grant READ authority to each of the instance's SMS container files:
 - Run the Quest Central for DB2 Agent with root authority.
Or
 - If all instances on the remote server have the same creator, run the Quest Central for DB2 Agent with the user ID of the instances' creator.
Or
 - Grant READ authority on all SMS container files to the qcdb2 user ID.

Note • Whenever an SMS container is added to the instance, you must grant the agent READ authority on the new SMS container file.

- 3 Repeat steps 1 and 2 on every UNIX or Linux server where you installed the Quest Central for DB2 Agent. Then go on to step 4.
- 4 Go on to *Task 3: (UNIX and Linux servers only) Update the environment variables* on page 4-28.

Task 3: (UNIX and Linux servers only) Update the environment variables

To update the environment variables

1 Do one of the following:

- Source the profile from the QUESTHOME directory by issuing the appropriate command:

Platform	Command
AIX	. ./qcprofile_aix
Solaris	. ./qcprofile_solaris
Linux	. ./qcprofile_linux

Note • If you source the profile using this method, it is sourced for the current session only.

Or

- Source the file in .profile so that the required environment is created each time you log on to the server:

Platform	Command
AIX	. /home/qcdb2/qcprofile_aix
Solaris	. /home/qcdb2/qcprofile_solaris
Linux	. /home/qcdb2/qcprofile_linux

- 2 If you installed the Quest Central for DB2 Agent on a Solaris 7 server and have not previously applied patch 106327, continue with *Task 4: (Solaris 7 servers only) Apply patch 106327* on page 4-29.

Otherwise, go directly to *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30.

Note • The user who starts the Quest Central for DB2 Agent process or who uses QcExec for remote script execution on this server must have a DB2 database environment established on this machine. Usually, this is accomplished by using the `db2profile` shell script provided with DB2 UDB.

Task 4: (Solaris 7 servers only) Apply patch 106327

Note • If you are going to use the Quest Central for DB2 Agent only to execute Database Administration scripts on a server, you may ignore this task and go directly to *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30.

If you have not already done so, you must apply Solaris 7 patch 106327 to each Solaris 7 server where the Quest Central for DB2 Agent is installed. The patch must be applied to these servers before you start the Quest Central for DB2 Agent on them.

Note • The agent installation or upgrade is not complete on UNIX or Linux servers until you start the agent. Refer to *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30 for instructions.

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent

After the Quest Central for DB2 Agent has been installed on the UNIX or Linux database servers, the appropriate authority has been granted, and the environment variables have been set, you must start the agent on each database server. For DB2 UDB EEE, you must start the agent on each machine node.

To start and stop the agent on a UNIX or Linux server

- 1** To start the Quest Central for DB2 Agent:
 - a** Use the `cd` command to navigate to the directory where the agent is installed. For example:

```
cd /home/qcdb2/bin
```
 - b** At the command prompt, enter `QcAgent` and press Enter.
- 2** To stop the Quest Central for DB2 Agent:
 - a** Use the `cd` command to navigate to the directory where the agent is installed. For example:

```
cd /home/qcdb2/bin
```
 - b** Enter `QcAgent -stop` and press Enter.

Note • If you want the agent to start automatically when the database server starts, consult your site's UNIX or Linux administrator.

Task 6: (For upgrades only on servers that will run and analyze SQL Analysis collections) Migrating Job Scheduler and configuration information

Note • Only follow these steps if migrating from a 3.x or 4.01 Agent.

This task is required when you have upgraded the Quest Central for DB2 Agent on a Windows, UNIX, or Linux server on which you intend to run SQL Analysis collections.

This task migrates the Quest Central Job Scheduler and SQL Analysis configuration information from the previous agent installation to the version 4.8 agent installation.

To migrate information from the previous Quest Central installation to the new installation

- 1 Stop the version 4.8 Quest Central for DB2 Agent:
 - For a Windows server, use the procedure for stopping the agent described in *Manual intervention for the Quest Central for DB2 Agent on Windows servers* on page 5-40.

Or

 - For a UNIX or Linux server, see *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30.
- 2 From the directory where the Quest Central for DB2 Agent for version 4.8 is installed, run the appropriate command:
 - On the Windows server, run the following:

```
migrateQC.cmd source_directory target_directory
```

■ Installing the Quest Central for DB2 Agent

Step 3: Install the Quest Central for DB2 Agent

The variable *source_directory* is the absolute path either to the directory containing the previous Quest Central Agent installation or to the installation back-up directory created in step 2 on page 4-9. The variable *target_directory* is the absolute path to the directory containing the Quest Central Agent for version 4.8 installation. If a path specification includes blank spaces, you must enclose it with double quotes (").

Or

- On the UNIX or Linux server, run the following:

```
migrateQC.sh source_directory target_directory
```

The variable *source_directory* is either the QUESTHOME directory for the previous Quest Central Agent installation or the installation back-up directory created in step 5 on page 4-20 during the agent installation process. The variable *target_directory* is the QUESTHOME directory for the Quest Central Agent for version 4.8 installation.

- 3 When the script execution is complete, start the Quest Central for DB2 Agent for version 4.8:

- For a Windows server, use the procedure for starting the agent described in *Manual intervention for the Quest Central for DB2 Agent on Windows servers* on page 5-40.

Or

- For a UNIX or Linux server, see *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30.

(Optional) Installing the agent in a DB2 UDB EEE environment that uses NFS

- 4 (Optional) If you created a back-up directory to hold previous agent installation information, remove this back-up directory when you are satisfied that the upgraded agent is functioning correctly.
- 5 Continue with *Upgrading the SQL Analysis for DB2 Repository* on page 5-36.

(Optional) Installing the agent in a DB2 UDB EEE environment that uses NFS

In a UNIX or Linux DB2 UDB EEE environment that uses NFS, you can install the Quest Central for DB2 Agent once in a shared location. However, the agent processes must be run on each machine.

To install the agent in a UNIX or Linux DB2 UDB EEE environment that uses NFS

- 1 For the first machine or node, follow the instructions in *Installing (upgrading) the agent on a UNIX or Linux server* on page 4-18.
- 2 Follow the instructions in *To start and stop the agent on a UNIX or Linux server* on page 4-30 to start the agent on the first machine or node.
- 3 Do one of the following:
 - If the user ID is shared across machines, ensure that the .profile log-in script sources the appropriate Quest Central for DB2 Agent profile (qcprofile_aix, qcprofile_solaris, or qcprofile_linux).

Or

■ Installing the Quest Central for DB2 Agent

Where do I go from here?

- On each remaining machine in the EEE environment, source the `qcprofile_aix`, `qcprofile_solaris`, or `qcprofile_linux` file from the command line, using the path of the install directory.
- 4 Start the agent on each remaining machine in the EEE environment.

Where do I go from here?

After the Quest Central for DB2 Agent installation or upgrade completes successfully, the remaining installation step is to install the Quest Central mainframe components. Because you need to use Quest Central's Client Configuration wizard during the mainframe component installation, it is recommended that you go on to Chapter 5, *Starting Quest Central for DB2*, which provides instructions for accessing Quest Central's features, including the Client Configuration wizard.

If you are not installing Quest Central's mainframe components, you need to use the Quest Central client to complete some set-up tasks before you can take advantage of the explain features found throughout Quest Central, use Space Management's View Growth or Statistics features, or use SQL Analysis to collect and analyze SQL information. These set-up tasks are described in Chapter 5, *Starting Quest Central for DB2*.

5

Starting Quest Central for DB2

This chapter provides instructions for starting Quest Central for DB2, accessing its features, and performing post-installation set-up tasks. It also includes instructions for modifying the Quest Central for DB2 Agent service on Windows servers, changing the port number for the Quest Central for DB2 Agent, and creating SQL Analysis for DB2 Repository and assigning a DB2 UDB instance to it.

In this chapter

Starting Quest Central for DB2	5-3
Accessing Quest Central features	5-7
Accessing Quest Central functions	5-8
Accessing online help for Quest Central	5-16
Setting up to use Quest Central features	5-17
Creating EXPLAIN tables in a DB2 UDB environment	5-17
Creating EXPLAIN tables in a DB2 for z/OS environment	5-19
Installing the Space Management repositories	5-22

Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it	5-24
Upgrading the SQL Analysis for DB2 Repository	5-36
Manual intervention for the Quest Central for DB2 Agent on Windows servers	5-40
Installing or removing the agent service manually	5-41
Using the Control Panel to start or to stop the agent on a Windows server manually	5-42
Using the command line to start or to stop the agent on a Windows server manually	5-43
Changing the port numbers for the Quest Central for DB2 Agent	5-44
Process overview	5-45
Step 1: Changing the port number for the DB2 agent	5-46
Step 2: Changing the port number on the Quest Central client	5-47
Where do I go from here?	5-49

Starting Quest Central for DB2

At this point, you have installed Quest Central for DB2 on the client machine and on the Windows, UNIX, or Linux DB2 UDB server machines. You have not yet installed Quest Central for DB2's mainframe components.

- If you are not installing the mainframe components, you need to know how to access Quest Central for DB2's features so you can complete the post-installation set-up tasks.
- Additionally, if you are going to install the mainframe components, you need to know how to start Quest Central and access the Client Configuration wizard before you can start the installation step described in Chapter 6, *Installing Quest Central for DB2's Mainframe Components*.

This chapter provides instructions for starting Quest Central for DB2, accessing its features, and performing post-installation set-up tasks. It also includes instructions for modifying the Quest Central for DB2 Agent service on Windows servers, changing the port number for the Quest Central for DB2 Agent, and for assigning a DB2 UDB instance to a SQL Analysis for DB2 Repository for SQL collection purposes. All of these tasks begin with starting the Quest Central client.

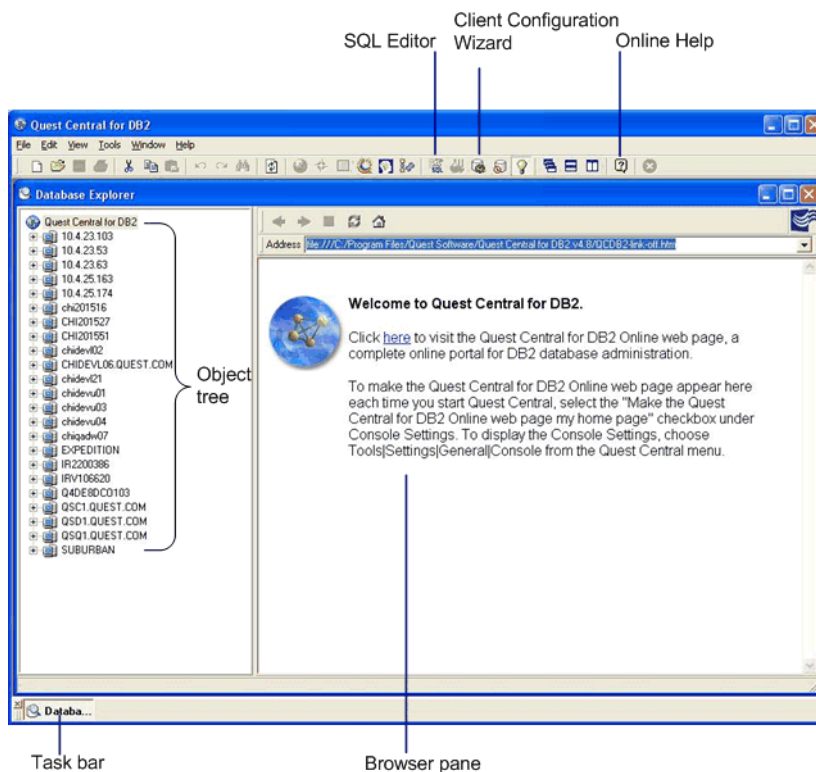
■ Starting Quest Central for DB2

Starting Quest Central for DB2

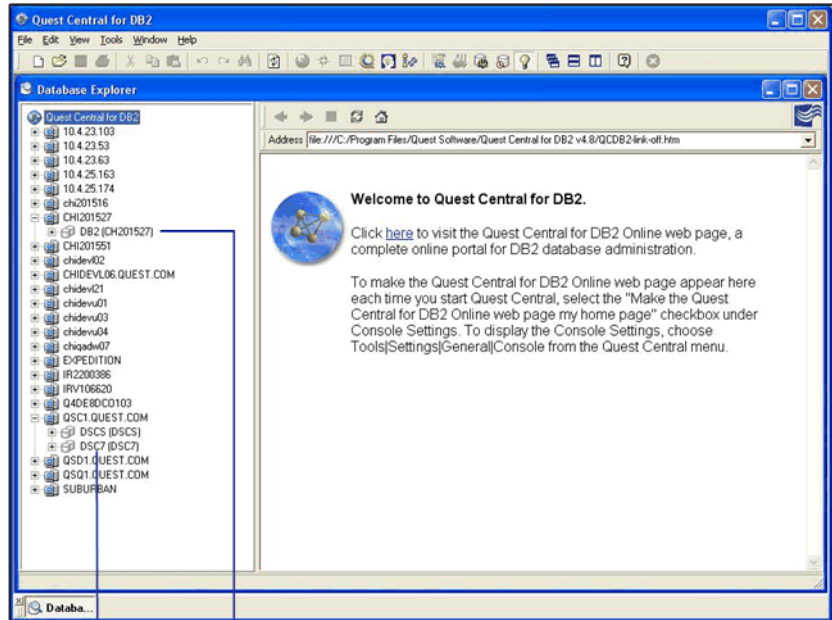
To start Quest Central for DB2

- 1 Select **Start ▶ Programs ▶ Quest Software** (or whichever folder you specified during installation as the Program Folder) ▶ **Quest Central for DB2 v4.8 ▶ Quest Central for DB2 v4.8**.

The Quest Central database explorer opens.



- 2 In the object tree, expand a machine or host to display the instances or subsystems on it.



A DB2 UDB for z/OS subsystem

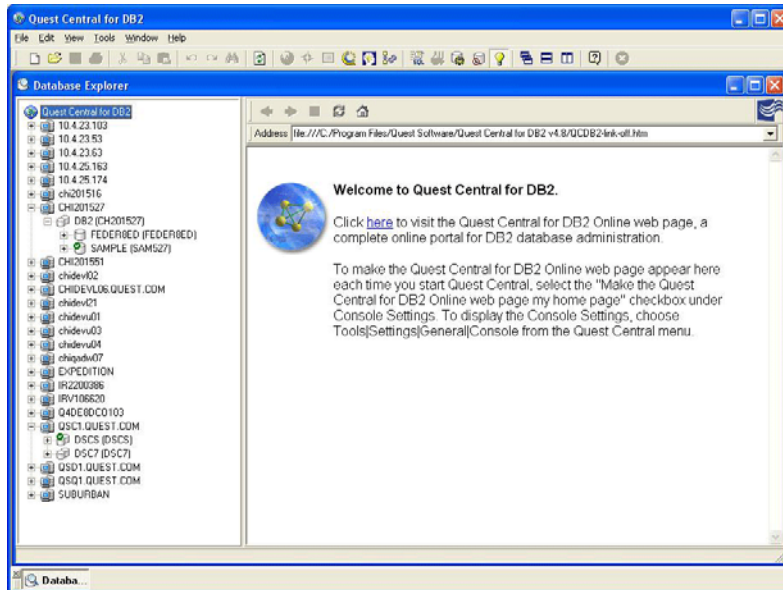
A DB2 UDB instance

Note: The object tree shows no z/OS subsystems until you use the Client Configuration wizard to configure access to them

- 3 Expand an instance to display the databases for that instance.

■ Starting Quest Central for DB2

Starting Quest Central for DB2

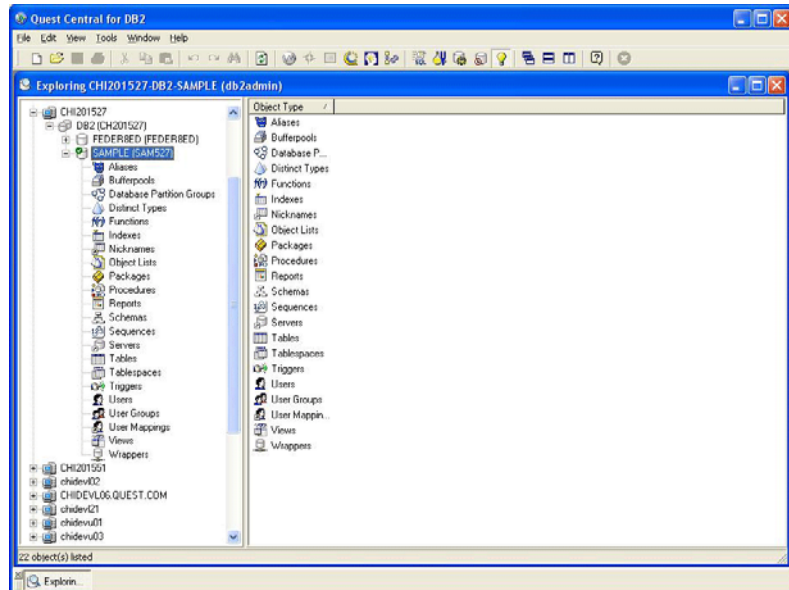


- 4 Expand a database or subsystem to connect to it.

A login window opens.

- 5 On the Quest Central login window, enter the user ID and password you use to connect to the selected database or subsystem. Then click **OK**.

The login window closes and the object tree under the selected database or subsystem expands.

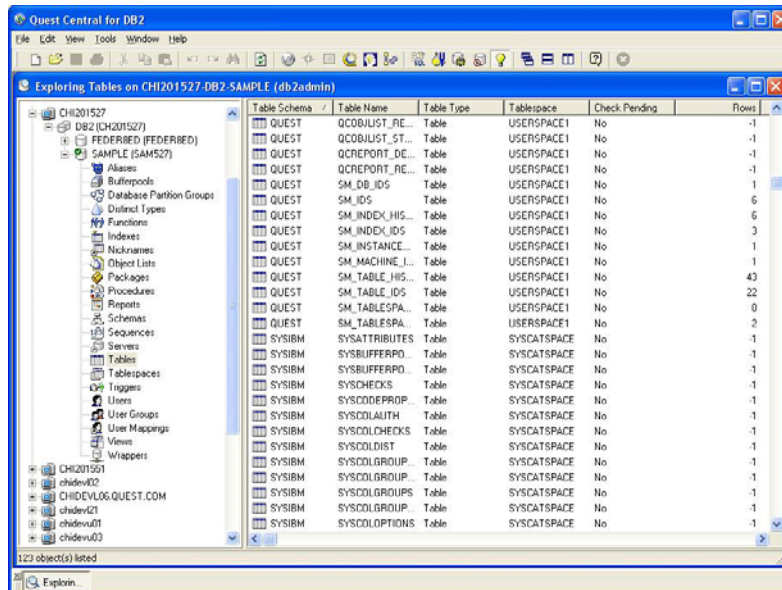


- 6 In the expanded object tree, click on an object type to display a list of all objects of that type in the selected database or subsystem. The list displays in the browser pane.

In the following figure, the browser pane shows all the tables in the SAMPLE database on machine chi201527.

■ Starting Quest Central for DB2

Starting Quest Central for DB2



Accessing Quest Central features

All of Quest Central's features and its online help are accessible through pop-up menus, the menu bar, or the tool bar.

Accessing Quest Central functions

You can access most of Quest Central's features by right-clicking objects in the browser pane or in the object tree, then selecting an option from the pop-up menu.

Features available for objects in the browser pane

To access the functions available for a specific object *in the browser pane*, right-click the object.

Menu Option	Access
Select All	Selects all the objects displayed in the browser pane.
Browse Data	Generates the <code>SELECT</code> statement that reads data from the selected tables or views, executes the statement in ScriptRunner and displays the data on the ScriptRunner's Output tab. Note • This option is available only for tables, views, and aliased tables or views.
Edit Data	Opens the Editing Data window, where you can retrieve table data, modify it, and commit the changes. Note • This option is available only for tables.

■ **Starting Quest Central for DB2**

Accessing Quest Central features

Menu Option	Access
Create Like, Alter, Permissions, Rename, Drop, Bind Like, Rebind, Bind Replace, Clone Permissions, Extract Permissions, Extract DDL, Migrate, Compare	Accesses Database Administration, where you can perform the operation on the selected object.
Storage	Displays a cascaded menu from which you can select a Space Management function: Identify Exceptions Calculate Space Space Usage View Growth Maintain Statistics Validate Statistics

Menu Option	Access
Utilities	Displays a cascaded menu from which you can select a utility: <div><div>Collect Statistics Reorg Rebuild Indexes Copy Quiesce Load Unload Check Data Merge Copy</div><div>Check Indexes Reorg Indexes Export Import Backup Recover Restore Roll Forward</div></div>
Tune SQL	Launches a SQL Tuning session, which provides and applies advice for tuning the SQL in a view, trigger, plan, package, or SQL procedure definition.
Properties	Displays the Properties window, which lists the attributes of the selected object, including its DDL, dependencies, and other properties used to define the object.

DB2 UDB database functions

To access Quest Central functions for DB2 UDB databases on Windows, UNIX, or z/OS Linux, right-click the appropriate database *in the object tree*.

■ Starting Quest Central for DB2

Accessing Quest Central features

Note • To access Quest Central functions for DB2 on z/OS databases, right-click the specific database in the browser pane. The options available on the pop-up menu for the database are described in *Features available for objects in the browser pane* on page 5-9.

Menu Option	Access
Filter	Lets you restrict the list in the browser pane to only those objects that belong to a specified schema or name.
Explore	Launches a subset of the database explorer, showing an object tree and browser pane for just the selected database.
Settings	Displays the Settings window, where you can specify the default Quest Central processing options and your preferences for this database only. Note • These settings will override the global default settings for this database.
Connect, Reconnect, Disconnect	Connects you to, or disconnects you from, the selected database.
Manage Login Remove Database	Lets you alter log-in information for the database and provides access to the Client Configuration wizard, where you can remove the database from the catalog on this machine.
Configure	Lets you specify database configuration parameters for the selected database.

Menu Option	Access
Create Like, Alter, Permissions, Drop, Extract DDL, Migrate, Compare	Accesses Database Administration, where you can perform the selected operation on the database.
Storage	Accesses Space Management's database functions: Identify Exceptions Maintain Statistics Validate Statistics Batch Analysis Install Repository
Utilities	Displays a cascaded menu from which you can select a utility: Backup Restore Roll Forward
Tune SQL	Launches a SQL Tuning session, which provides and applies advice for tuning SQL you want to execute against the selected database.
Analyze SQL, Collect SQL	Launches a SQL Analysis session on the selected database. In this session, you can collect SQL data on the database, analyze the data, pinpoint problem SQL, and tune the SQL.

■ Starting Quest Central for DB2

Accessing Quest Central features

Menu Option	Access
Diagnose	Launches Performance Diagnostics, which monitors activity on the selected database.
Properties	Displays the Properties window, which lists the attributes of the selected database, including its DDL, permissions, dependencies, and other properties used to define the database.

DB2 UDB instance functions

To access Quest Central functions for DB2 UDB instances, right-click the appropriate instance *in the object tree*.

Menu Option	Access
Explore	Launches a subset of the database explorer, showing an object tree and browser pane for just the selected instance.
Add Database Manage Login Remove Instance	Lets you modify instance attachment login information and provides access to the Client Configuration wizard, where you can catalog another database for this instance or uncatalog the instance.
Configure	Lets you specify DB2 instance configuration parameters for the selected instance.
Create Database	Accesses Database Administration, where you can specify the necessary information to create a new database on the instance.
Diagnose	Launches Performance Diagnosis, which monitors activity on the selected DB2 instance.

DB2 UDB for z/OS subsystem functions

To access Quest Central functions for DB2 UDB on z/OS subsystems, right-click the appropriate subsystem *in the object tree*.

Menu Option	Access
Filter	Controls which objects are displayed in the browser pane list.
Explore	Launches a subset of the database explorer, showing an object tree and browser pane for just the selected subsystem.
Manage Login Remove Subsystem	Lets you modify subsystem login information and provides access to the Client Configuration wizard, where you can uncatalog the subsystem.
Connect, Reconnect, Disconnect	Controls the subsystem connection.
Settings	Displays the Settings window, where you can specify the default Quest Central processing options and your preferences for this subsystem only. Note • These settings will override the global default settings for this subsystem.
Install	Launches the Quest Central Mainframe Installation wizard. If you intend to use Quest Central functionality on DB2 on z/OS objects, you must run this wizard to install Quest Central components on the mainframe where the DB2 on z/OS environment resides. Refer to Chapter 6, <i>Installing Quest Central's Mainframe Components</i> for installation instructions.

■ Starting Quest Central for DB2

Accessing Quest Central features

Menu Option	Access
Dataset Templates, JCL Blueprints	Accesses Quest Central's Template facility, which can be used to maintain dynamic dataset allocation and naming definitions, including ready-to-use default templates. Also provides access to the Blueprints facility, where you can define skeleton JCL that can be tailored into executable batch JCL.
Permissions, Extract DDL	Accesses Database Administration, where you can perform the selected operation on the subsystem.
Tune SQL	Launches a SQL Tuning session, which provides and applies advice for tuning SQL you want to run against the selected subsystem.
Diagnose	Launches Performance Diagnostics, which monitors activity on the selected subsystem.

You can also launch a SQL Tuning session from the toolbar at the top of the Quest Central database explorer by clicking the SQL Tuning

 button.

Accessing online help for Quest Central

To access context-sensitive help from any Quest Central window, press F1. You can also access Quest Central help by selecting **Help ▶ Contents ▶ Quest Central for DB2** from the Quest Central menu bar.

Setting up to use Quest Central features

After you have installed Quest Central and know how to access its features, you need to complete certain set-up procedures that enable full functionality for SQL Tuning, SQL Analysis, and Space Management:

- Before you can use the explain features found throughout Quest Central, you must create the DB2 EXPLAIN tables. See [Creating EXPLAIN tables in a DB2 UDB environment](#) on page 5-17 or [Creating EXPLAIN tables in a DB2 for z/OS environment](#) on page 5-19 for instructions.
- Before you can take advantage of Space Management's Collect Statistics, Maintain Statistics, View Growth, or Batch Analysis features, you need to install the Space Management repositories. See [Installing the Space Management repositories](#) on page 5-22 for instructions.
- Before you can collect SQL data on databases for analysis, you must assign each DB2 instance on which you intend to collect data to a SQL Analysis for DB2 Repository. See [Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it](#) on page 5-24. To upgrade an earlier version of the SQL Analysis for DB2 Repository to version 4.8, see [Upgrading the SQL Analysis for DB2 Repository](#) on page 5-36.



Creating EXPLAIN tables in a DB2 UDB environment

DB2 EXPLAIN tables created under your user ID must exist in the database in which you intend to tune SQL statements. These tables are required to run the SQL Tuning Explain feature on the SQL statements. Although you can create the EXPLAIN tables using various methods in your DB2 environment, SQL Tuning's Create Explain Tables function performs this task for you within Quest Central.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

To create the EXPLAIN tables in SQL Tuning for DB2 UDB

- 1** From the object tree in the Quest Central database explorer, connect to the database whose SQL statements you are tuning.
- 2** Click the SQL Tuning  button in the Quest Central tool bar.
The SQL Tuning window opens.
- 3** In the tuning session window, click the Create Explain Tables  button in the SQL Tuning tool bar.
The Create Explain Tables window opens.
- 4** From the **Tablespace** list, select the tablespace in which you want your EXPLAIN tables to reside.
- 5** (Optional) Select **Create Indexes for Explain tables** to create IBM-recommended indexes on the EXPLAIN tables.

Note • For SQL Tuning, the IBM-recommended indexes do not provide optimal performance on the EXPLAIN tables. For best performance, SQL Tuning requires a non-unique, descending index on the EXPLAIN_TIME column in each EXPLAIN table. You can use Quest Central's SQL Editor to build these indexes after you have created the EXPLAIN tables.

- 6** Perform either step:
 - Select the **Generate DDL for missing tables only** option to build a script that creates only those EXPLAIN tables missing under your user ID schema.

Or

- Clear the **Generate DDL for missing tables only** option to build a script that drops all EXPLAIN tables currently under your user ID schema and then creates the new EXPLAIN tables under this same schema.

7 Click **Build Script**.

The SQL Editor window opens, showing the script for creating the EXPLAIN tables.

8 Click .

Messages appear in the bottom pane of the SQL tab on the SQL Editor window as the script executes. The table (and optionally, index) creation process is complete when you see the message that the task has completed successfully.

9 Close the SQL Editor.

Creating EXPLAIN tables in a DB2 for z/OS environment



DB2 EXPLAIN tables created under your SQL ID must exist in the subsystem in which you intend to tune SQL statements. These tables are required to run the SQL Tuning Explain feature on the SQL statements during a tuning session. Although you can create the EXPLAIN tables using various methods in your DB2 environment, SQL Tuning's Create Explain Tables function performs this task for you within Quest Central.

Note • Your current SQL ID is normally the ID with which you are connected to the database. However, for SQL Tuning functions, you can reset this ID on the General tab in the Settings window, which you access within your SQL Tuning session.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

To create the EXPLAIN tables in SQL Tuning for DB2 for z/OS

- 1** From the object tree in the Quest Central database explorer, connect to the subsystem in which you intend to tune SQL statements.
- 2** Click  on the Quest Central tool bar.
The SQL Tuning window opens.
- 3** In the SQL Tuning window, click  on the SQL Tuning tool bar.
The Create Explain Tables window opens.
- 4** From the **Database** list, select the database in which you want to create the EXPLAIN tables. If you do not make a selection, SQL Tuning creates the tables in the default database for the subsystem.
- 5** From the **Tablespace** list, select the tablespace in which you want your EXPLAIN tables to reside. If you do not make a selection, SQL Tuning creates the tables in the default tablespace for the database.
- 6** Ignore the **Create indexes for Explain tables** option. SQL Tuning does not currently support this option in the DB2 for z/OS environment.

Note • If you want to create indexes on the EXPLAIN tables, these indexes are recommended: a non-unique index on the EXPLAIN_TIME column in DSN_STATEMNT_TABLE and a non-unique index on the BIND_TIME column in PLAN_TABLE. After creating the EXPLAIN tables, you can use Quest Central's SQL Editor to build and execute the scripts that create these indexes.

7 Perform either step:

- Select the **Generate DDL for missing tables only** option to build a script that creates only those EXPLAIN tables missing under your SQL ID schema.

Or

- Clear the **Generate DDL for missing tables only** option to build a script that drops all EXPLAIN tables currently under your SQL ID schema and then creates the new EXPLAIN tables under this same schema.

8 Click **Build Script**.

The SQL Editor window opens, showing the script for creating the EXPLAIN tables.

9 Click .

Messages appear in the bottom pane of the SQL tab on the SQL Editor window as the script executes. The table creation process is complete when you see the message that the task has completed successfully.

10 Close the SQL Editor.

Installing the Space Management repositories

Full Space Management functionality is supported by three repositories:

- The Space Management Statistics repository stores collected statistics for use by Space Management's View Growth, Maintain Statistics, and Validate Statistics features.
- Space Management's Batch Analysis feature uses dynamically built object lists as input. The object lists you create are stored in the Object List repository.
- Space Management's Batch Analysis feature generates HTML exception reports that are stored in the Reports repository.

For every DB2 UDB database for which you want to use these features, you must install the repositories manually, following the procedure described in *To install the Space Management repositories for a DB2 UDB database* on page 5-23.

Note • These repositories must also be installed on every DB2 for z/OS subsystem for which you want to use these features. However, the repositories are installed automatically when you install Quest Central's mainframe components on each subsystem, as described in Chapter 6, *Installing Quest Central for DB2's Mainframe Components*.

To install the Space Management repositories for a DB2 UDB database

- 1** In the Quest Central object tree, expand the node for the DB2 UDB instance that contains the database for which you want to install the repositories.
- 2** Right-click the node for the database for which you want to use the View Growth, Maintain Statistics, Validate Statistics, or Batch Analysis features. Then do the following:
 - a** If you have not already defined and saved a connection profile for this database, use the DB2 Connections window to connect to the database.
 - b** Select **Install Repositories** to launch the Repository Installation wizard's Welcome page.
- 3** Click **Next** to display the Repository Selection page.
- 4** On the Repository Selection page, select the appropriate options.
- 5** Click **Next** to display the Tablespace Selection page.
- 6** On the Tablespace Selection page, select the tablespace where you want the repository tables to reside.
- 7** Click **Next** to display the Completing the Quest Central Repository Installation page.
- 8** Click **Finish** to open the SQL Editor, which shows the generated installation script.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

- 9 On the SQL Editor window, click  to execute the script.

The lower pane displays messages as the script executes.

- 10 Repeat steps 1 through 9 on the other databases for which you want to use the View Growth, Maintain Statistics, Validate Statistics, or Batch Analysis features.

Note • You do not have to remember which databases have repositories installed. The first time you attempt to use Space Management's View Growth, Maintain Statistics, Validate Statistics, or Batch Analysis features on a newly added (cataloged) DB2 UDB database, Quest Central automatically prompts you to launch the Repository Installation wizard.

- 11 When you have installed all the necessary repositories, close the SQL Editor.

Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it

SQL Analysis collects and analyzes SQL statement and transaction data on DB2 UDB databases. To perform these tasks, SQL Analysis requires that each DB2 instance on which you intend to collect SQL data be assigned to a SQL Analysis for DB2 Repository. This repository is a DB2 UDB database containing a set of Quest tables and indexes that store the captured SQL statement and transaction data.

You can create multiple SQL Analysis repositories and assign multiple DB2 instances to each repository.

Setting up the DB2 database that will contain the repository

Creating the SQL Analysis for DB2 Repository involves installing the repository tables and indexes in a pre-existing DB2 UDB database. This database must meet certain requirements. Additionally, you can apply certain guidelines to configure the database for optimal repository performance.

Database requirements

The database that will contain the SQL Analysis for DB2 Repository must meet the following requirements:

- The database must be cataloged on the Quest Central client machine.
- The database cannot be one on which you intend to run SQL collections.
- The LOCKTIMEOUT configuration parameter for the database must be set to a value other than -1.

Guidelines for setting up the database for the repository

Appendix B, *Guidelines for Setting Up the SQL Analysis Repository Database*, offers suggestions for configuring the database and creating its tablespaces and bufferpools so that you obtain optimal performance from the SQL Analysis for DB2 Repository.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

Appendix B describes database-setup guidelines that are based on the size of the collections you intend to store in the repository. Briefly, here is a description of these sizes:

- **Small collection**—A collection that captures less than 150,000 statements and transactions
- **Medium collection**—A collection that captures greater than 150,000, but less than 500,000, statements and transactions
- **Large collection**—A collection that captures greater than 500,000 statements and transactions

The guidelines in Appendix B can direct your selection of a method for creating a SQL Analysis for DB2 Repository. These methods are described in *Method 1: Using the Repository Manager to create the repository* on page 5-26 and in *Method 2: Using an SC_REPO script to create medium- or large-collection repository* on page 5-31. Review both methods to decide which works best for creating the repository at your site.

Method 1: Using the Repository Manager to create the repository

SQL Analysis provides the Repository Manager function, which, in one process, both creates the SQL Analysis for DB2 Repository and assigns the DB2 instance to which you are currently attached to this repository.

How the Repository Manager process works

To start this process, you attempt to launch a SQL Analysis session from a database belonging to a DB2 instance that has not been assigned to a SQL Analysis for DB2 Repository (and the repository you select does not yet exist).

When SQL Analysis detects that the DB2 instance to which the database belongs is not assigned to a repository, it opens the Repository Manager to enable the assignment process.

Then, when SQL Analysis detects that the repository that you want to assign does not yet exist in the particular DB2 database that you designate as the repository database, the Repository Manager installs the repository tables and indexes in this database. When the repository creation and assignment process is complete, the SQL Analysis session opens from the initial database. (All other databases in this DB2 instance are automatically assigned to the newly created repository as well.)

About the Repository Manager repository creation script

The script that the Repository Manager uses to create the repository installs all of the repository tables and indexes in the default tablespace USERSPACE1. This repository tablespace configuration is suitable for a repository that will store small collections. However, to obtain optimal performance from a repository that will store medium or large collections, you first need to create the tablespaces described in the guidelines in Appendix B. Then, when the script for creating the repository tables and index is displayed during the Configuration Manager repository creation process, you must modify the script to specify the names of the tablespaces you created. (This step is included in *Using Repository Manager to create the repository* on page 5-28.)

Additional requirements

In addition to the requirements for the DB2 database in which you are installing the SQL Analysis for DB2 Repository (listed in *Database requirements* on page 5-25), requirements exist for the database on which you are collecting or analyzing SQL data and for the server on which this database resides. These requirements are listed in *Requirements for the assignment process* on page 5-33.

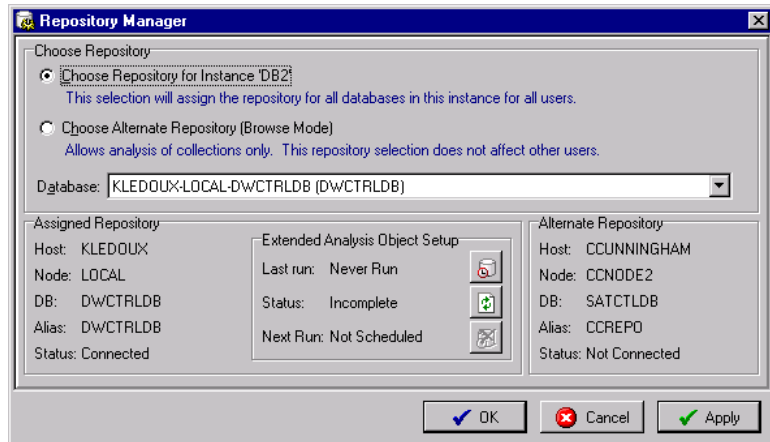
Using Repository Manager to create the repository

To use Repository Manager to create the SQL Analysis for DB2 Repository (and assign a DB2 instance to it)

- 1** From the object tree in the Quest Central database explorer, connect to the DB2 UDB database from which you want to launch a SQL Analysis session to collect and analyze SQL data.
 - 2** Right-click this database name in the object tree, and select either of these options from the right-click menu:
 - **Analyze SQL**—When the repository creation and assignment process is complete, Quest Central opens the main SQL Analysis window, enabling you to perform any SQL collection or analysis function on the database.
- Or**
- **Collect SQL**—When the repository creation and assignment process is complete, Quest Central directly opens the Create Collection window within the SQL Analysis session, enabling you to schedule a SQL collection on the database.

An information window opens, stating that no repository is configured for the DB2 instance containing the database to which you are currently connected.

- 3 Click OK to open the Repository Manager window.



- 4 Select the Choose Repository for Instance '*instance name*' option.
- 5 From the **Database** list, select the database that you have set up to contain the SQL Analysis for DB2 Repository.

Note • This list contains all of the DB2 UDB databases cataloged on your Quest Central client machine.


■ Starting Quest Central for DB2

Setting up to use Quest Central features

- 6 Click OK.

Note • If you have not saved the log-in information you used to connect to the DB2 database that contains the repository, a window appears, prompting you for this information. Provide your database log-in information and click **Connect**.

An information window opens, explaining that no repository tables exist in the selected database. The message asks you whether you want to build the script that creates these tables.

- 7 Click **Yes** to open the SQL Editor window, which displays the script for creating the repository tables in the selected database.
- 8 Make any edits to this script based on the tablespace configuration you have set up.
- 9 Click  to execute the script.

After the repository tables and indexes are created in the selected database, a message appears in the bottom pane of the SQL Editor window, explaining that the script execution completed successfully.

- 10 Close the SQL Editor window.

An information window opens, stating that the repository is successfully configured for the DB2 instance containing the database to which you are currently connected.

- 11 Click **OK** to complete the repository assignment process.

The Analyze SQL session window opens. Your starting point in the session depends on the menu option you selected in step 2 on [page 5-28](#):

- If you selected **Analyze SQL**, the Collections tab on the Analyze SQL session window is in focus. From this tab, you have access to options that create and analyze SQL collections on the database.

Or

- If you selected **Collect SQL**, the Create Collection window opens in the foreground. This window gives you direct access to the parameters you need to define to schedule a SQL collection on the database.



Method 2: Using an SC_REPO script to create medium- or large-collection repository

Quest Central for DB2 provides two scripts—SC_REPO_MEDIUM and SC_REPO_LARGE—that you can run outside of SQL Analysis to create a medium-collection SQL Analysis for DB2 Repository and a large-collection SQL Analysis for DB2 Repository, respectively. Each script both creates the tablespaces recommended in [Suggested tablespace and bufferpool settings](#) on page B-11 and installs the repository tables and indexes in these tablespaces appropriately.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

To run an SC_REPOS script

- 1** Locate the appropriate script in your Quest Central installation directory under \Plugins\DB2:
 - Use SC_REPO_MEDIUM.dd1 to create a SQL Analysis for DB2 Repository that will hold medium collections.
- Or**
- Use SC_REPO_LARGE.dd1 to create a SQL Analysis for DB2 Repository that will hold large collections.
- 2** Copy the appropriate script file to a working directory.
- 3** Make the necessary edits to the script, following the instructions listed in the comment section at the beginning of the script.
- 4** From the object tree in the Quest Central database explorer, connect to the DB2 database in which you want to create the repository.
- 5** Click  to open the SQL Editor.
- 6** Copy the contents of the edited script to the SQL tab in SQL Editor.
- 7** Click  to run the script.

After the script has run, a message appears in the bottom pane of the SQL Editor window, explaining that the script execution completed successfully.

- 8 Close the SQL Editor window.
- 9 Assign the DB2 instance (containing the databases on which you want to collect data) to this repository. Follow the steps in the next section, *Assigning a DB2 instance to a SQL Analysis for DB2 Repository*.

Assigning a DB2 instance to a SQL Analysis for DB2 Repository

To start this process, you attempt to launch a SQL Analysis session from a database belonging to a DB2 instance that has not been assigned to a SQL Analysis for DB2 Repository. When SQL Analysis detects that the DB2 instance to which the database belongs is not assigned to a repository, it opens the Repository Manager to enable the assignment process. After the instance is assigned to the repository, the SQL Analysis session opens.

Requirements for the assignment process

Before you launch the SQL Analysis session, make sure that the following conditions exist:

- The Quest Central for DB2 Agent must already be installed on the server containing the DB2 instance. This procedure is discussed in *Step 3: Install the Quest Central for DB2 Agent* on page 4-3.
- The user account ID running the Quest Central for DB2 Agent on the server belongs to, or is connected to, the SYSADM group for the DB2 instance.
- The user ID used to log in to the DB2 database from which you are launching the SQL Analysis session must belong to the SYSADM group for the DB2 instance.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

- The LOCKTIMEOUT configuration parameter for the database from which you are launching SQL Analysis must be set to a value other than -1.

Assigning a DB2 instance to the repository

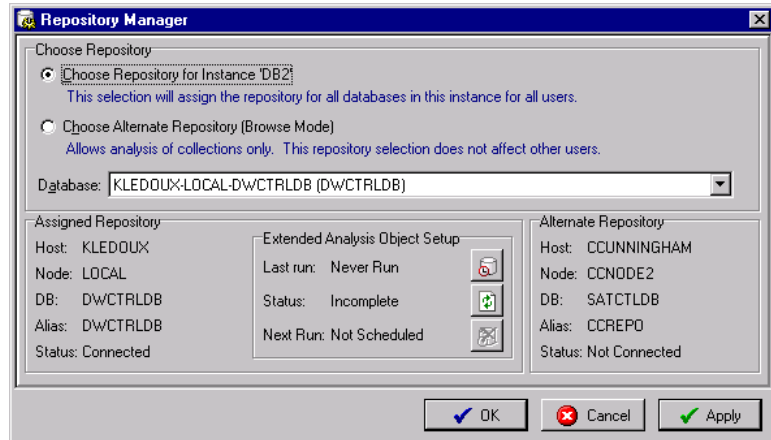
To assign a DB2 instance to the SQL Analysis for DB2 Repository

- 1 From the object tree in the Quest Central database explorer, connect to the DB2 UDB database from which you want to launch a SQL Analysis session to collect and analyze SQL data.
 - 2 Right-click the name of this database in the object tree, and select either of these options from the right-click menu:
 - **Analyze SQL**—When the repository assignment process is complete, Quest Central opens the main SQL Analysis window, enabling you to perform any SQL collection or analysis function on the database.
- Or**
- **Collect SQL**—When the repository assignment process is complete, Quest Central directly opens the Create Collection window within the SQL Analysis session, enabling you to schedule a SQL collection on the database.

An information window opens, stating that no repository is configured for the DB2 instance containing the database to which you are currently connected.

- 3 Click OK.

The Repository Manager window opens.



- 4 Select the **Choose Repository for Instance 'instance name'** option.
- 5 From the **Database** list, select the database that contains the SQL Analysis for DB2 Repository.

Note • This list contains all of the DB2 UDB databases cataloged on the Quest Central client machine.

- 6 Click **OK**.

Note • If you have not saved the log-in information you used to connect to the DB2 database that contains the repository, a window appears, prompting you for this information. Provide your database log-in information and click **Connect**.

■ Starting Quest Central for DB2

Setting up to use Quest Central features

The Repository Manager window closes. An information window appears, stating that the repository is successfully configured for the DB2 instance containing the database on which you want to launch the SQL Analysis session.

- 7 Click **OK** to complete the repository assignment process.

The Analyze SQL session window opens. Your starting point in the session depends on the menu option you selected in step 2 on [page 5-34](#):

- If you selected **Analyze SQL**, the Collections tab on the Analyze SQL session window is in focus. From this tab, you have access to options that create and analyze SQL collections on the database.

Or

- If you selected **Collect SQL**, the Create Collection window displays in the foreground. This window gives you direct access to the parameters you need to define to schedule a SQL collection on the database.

Upgrading the SQL Analysis for DB2 Repository

Use the following information to upgrade each version 2.x, 3.x, or 4.0 SQL Analysis for DB2 Repository that you intend to use for SQL Analysis in Quest Central version 4.8.

About upgrading a repository

Initially, each DB2 UDB instance containing databases (called *managed databases*) on which you intended to collect and analyze data is assigned to a primary SQL Analysis for DB2 Repository. Other DB2 UDB instances on other machines might be assigned to this same repository. Additionally, your environment might require multiple repositories to which to write collection information (although an instance is assigned to only one repository at any one time).

You perform the upgrade process on each *unique* SQL Analysis for DB2 Repository only once. You start the upgrade process by launching a SQL Analysis session on a database within *any* DB2 UDB instance assigned to this repository. When SQL Analysis detects that the repository assigned to the DB2 UDB instance is incompatible with the version 4.8 Quest Central for DB2 Agent installed on the machine where the instance resides, it initiates the upgrade process for you. After the repository is upgraded, it is available to all DB2 instances that are currently assigned to it.

Requirements for upgrading a SQL Analysis for DB2 Repository

Before you upgrade a SQL Analysis for DB2 Repository, do the following:

- Install and start the Quest Central version 4.8 client, as described in Chapter 3, *Installing Quest Central on the Client Machine*.
- Upgrade and start the Quest Central for DB2 Agent on each machine that contains a DB2 UDB instance currently assigned to this repository. This process is described in Chapter 4, *Installing the Quest Central for DB2 Agent*.

Upgrading the repository

To upgrade the SQL Analysis for DB2 Repository

- 1 From the object tree in the Quest Central database explorer, connect to a DB2 UDB database within any DB2 UDB instance to which the SQL Analysis for DB2 Repository you are upgrading is currently assigned.

Note • The machine on which this database exists must have the version 4.8 Quest Central for DB2 Agent running.

- 2 Right-click the name of the DB2 database, and select **Analyze SQL** from the right-click menu.

Note • If you have not saved the log-in information you used to connect to the DB2 database that contains the repository, a window appears, prompting you for this information. Provide your database log-in information and click **Connect**.


An information window opens, stating that an older version of the repository exists and asking whether you want to build a script that alters the repository tables (that is, upgrades the repository).

- 3** Click **Yes** to close the information window.

The SQL Editor window opens, displaying the script for upgrading the repository.

Note • The upgrade process performs Alters on existing repository tables. Therefore, the collection data stored in the current repository tables is not lost.

- 4** (Optional) Edit the script as necessary. For example, you might need to modify the tablespace names for any new tables that are being installed in the repository.

- 5** Click  to execute the script.

After the repository is upgraded, a message appears in the bottom pane of the SQL Editor window, explaining that the script execution completed successfully.

- 6** Close the SQL Editor window.

The repository is successfully upgraded and is ready for use by managed databases in *any* DB2 UDB instance assigned to the repository.

- 7** Repeat Steps **1** through **6** to upgrade each unique SQL Analysis for DB2 Repository.

Manual intervention for the Quest Central for DB2 Agent on Windows servers

When the Quest Central for DB2 Agent is installed from the *Quest Central for Databases - Agent Manual Install* CD-ROM on a Windows server, it is installed as a service that starts automatically when the machine starts. However, there might be circumstances under which you would need to install, remove, start, or stop the Quest Central for DB2 Agent manually on a Windows server:

- If the Install Shield wizard failed for any reason during the agent installation on a server, or if you inadvertently removed the Quest Central for DB2 Agent service from a server, you can install the service from the command prompt.

Refer to *Installing or removing the agent service manually* on page 5-41 for instructions.

- You can use the **Start ▶ Settings ▶ Control Panel ▶ Services** to change the Quest Central for DB2 Agent from an automatically started service to one that is started and stopped manually.

Refer to *Using the Control Panel to start or to stop the agent on a Windows server manually* on page 5-42 for instructions.

- You can use the command prompt to start and stop the Quest Central for DB2 Agent manually on a Windows server.

Refer to *Using the command line to start or to stop the agent on a Windows server manually* on page 5-43 for instructions.

Installing or removing the agent service manually

To install the agent service manually

- 1 Use the `cd` command to navigate to the directory you selected as the Destination Folder from the installation wizard.

The installation wizard copied the agent files to the directory you specified, even if the installation failed at some point.

- 2 At the command prompt, enter the following command:

```
QcAgent -install
```

- 3 Press Enter.

To remove the agent service manually

- 1 Use the `cd` command to navigate to the directory where the agent is installed.

- 2 At the command prompt, enter the following command:

```
QcAgent -remove
```

- 3 Press Enter.

Using the Control Panel to start or to stop the agent on a Windows server manually

To start the agent manually using the Control Panel

- 1 Select **Start** ▶ **Settings** ▶ **Control Panel**.
- 2 On the Control Panel window, double-click **Services**.

Note • Depending on the Windows version running on the server, the **Services** icon might exist in a second-level set of icons accessed by double-clicking another icon, such as **Administrative Tools**, on the Control Panel window.

The Services window opens.

- 3 On the Services window, select Quest Central Agent from the list.
- 4 Click **Start** to start the agent manually.

To stop the agent manually using the Control Panel

- 1 Select **Start** ▶ **Settings** ▶ **Control Panel**.
- 2 On the Control Panel window, double-click **Services**.

Note • Depending on the Windows version running on the server, the **Services** icon might exist in a second-level set of icons accessed by double-clicking another icon, such as **Administrative Tools**, on the Control Panel window.

The Services window opens.

- 3** On the Services window, select Quest Central Agent from the list.
- 4** Click **Stop**.
- 5** Click **OK** to close the Services window.

Using the command line to start or to stop the agent on a Windows server manually

To start the agent manually using the command line

- 1** From the DOS prompt, use the `cd` command to navigate to the directory where the agent is installed.
- 2** At the command prompt, enter the following command:

```
QcAgent -start
```

- 3** Press Enter.

To stop the agent manually using the command line

- 1** Use the `cd` command to navigate to the directory where the agent is installed.
- 2** At the command prompt, enter the following command:

```
QcAgent -stop
```

- 3** Press Enter.

Changing the port numbers for the Quest Central for DB2 Agent

The Space Management component's Identify Exceptions, Batch Analysis, and Calculate Space features use the Quest Central for DB2 Agent to retrieve space-related statistics for SMS-managed tablespaces. The agent is also required for executing Database Administration scripts on remote machines and for retrieving SMS information for Performance Diagnostics. Additionally, if you intend to collect SQL statement, transaction, and connection data on a database, the agent handles communications between the SQL Analysis sub-agents (on the server) and the client in order to collect and report this data.

You install the agent on each database server where SMS-managed tablespaces reside, where Database Administration scripts will be executed, or where the databases on which you will run SQL Analysis collections are located. The database server on which you install the agent can reside on a remote machine or on the same machine as the Quest Central client. (When you install the Quest Central client and the Quest Central for DB2 Agent on the same machine, you must perform two separate installations. However, the Quest Central client installation lays down the files that you can use later to run the agent installation on the same machine.)

The Quest Central client must send to the same port on which the Quest Central for DB2 Agent listens. By default, the client sends to the agent on port 5677. Likewise, by default, the Agent listens on port 5677.

Process overview

When the agent is on a remote server

Changing the port number for the Quest Central for DB2 Agent is a two-step process when the agent is installed on a remote database server. If you change the port number for the agent on the remote server, you must specify this same port number for the agent on the Quest Central client.

Step	Description	Where to Find Instructions
1	Change the port number for the Quest Central for DB2 Agent on the database server.	<i>Step 1: Changing the port number for the DB2 agent</i> on page 5-46
2	Change the port number for the Quest Central for DB2 Agent on the client.	<i>Step 2: Changing the port number on the Quest Central client</i> on page 5-47

When client and server are on the same machine

To change the Quest Central for DB2 Agent port number when the Quest Central client and the agent exist on the same machine, you perform the same two-step procedure (*Step 1: Changing the port number for the DB2 agent* on page 5-46 and *Step 2: Changing the port number on the Quest Central client* on page 5-47) that you perform if the agent were installed on a remote machine. The only difference is that you are editing the port number in two different locations (in the Quest Central client installation directory and in the Quest Central for DB2 Agent installation directory) on the same machine.

■ Starting Quest Central for DB2

Changing the port numbers for the Quest Central for DB2 Agent

Step 1: Changing the port number for the DB2 agent

When the Quest Central for DB2 Agent is installed on a database server, the installation process puts the `qcports.txt` file in the `local_host_name` directory located in the agent installation directory on this server. To change the port number for the Quest Central for DB2 Agent on the server, you must edit this file.

To change the port number for the Quest Central for DB2 Agent on a server

- 1 On the database server, locate the directory or folder that contains the Quest Central for DB2 Agent files.
- 2 Under this directory, navigate to the `local_host_name` directory, where `local_host_name` is the name of your machine. This directory contains the `qcports.txt` file.
- 3 Use a text editor to open `qcports.txt`. This file shows the existing port number for the Quest Central for DB2 Agent (RouterPort).

```
//This file contains port numbers for use
//with Quest Central for DB2
-ServerPort=4027
-RouterPort=5677
-LauncherPort=5678
```

- 4 Overtyping the existing port number for RouterPort with the new port number. Your entry must be an integer in the range 1 - 65535.
- 5 Save `qcports.txt`.
- 6 Close `qcports.txt`.

- 7 Stop, then restart the Quest Central for DB2 Agent:
 - For UNIX servers, refer to *Task 5: (UNIX and Linux servers only) Starting and stopping the Quest Central for DB2 Agent* on page 4-30.
 - For Windows servers, refer to *Using the Control Panel to start or to stop the agent on a Windows server manually* on page 5-42, or to *Using the command line to start or to stop the agent on a Windows server manually* on page 5-43.
- 8 Repeat steps 1 - 7 on each database server where the Quest Central for DB2 Agent is installed.

Note • If you change the port number for the Quest Central for DB2 Agent on the database server, you must also change this port number on the Quest Central client. See *Step 2: Changing the port number on the Quest Central client* on page 5-47.

Step 2: Changing the port number on the Quest Central client

You can use the Quest Central client to change the Quest Central for DB2 Agent port number on the client machine.

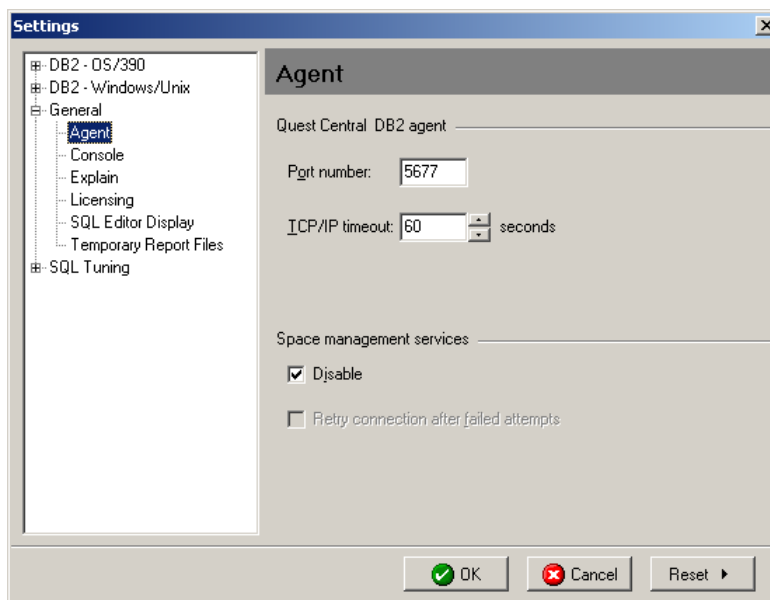
To change the port number on the Quest Central client

- 1 Select **Configure** ► **DB2** ► **DB2 Settings** from the Quest Central menu bar to open the Settings window.
- 2 Expand the **General** node in the Settings tree.

■ Starting Quest Central for DB2

Changing the port numbers for the Quest Central for DB2 Agent

- 3 Click the **Agent** node in the Settings tree.



- 4 To change the Quest Central for DB2 Agent port number on the client, follow these steps:
 - a Under the **Space Management services** heading, clear the **Disable** option.
 - b In the **Port number** field, specify the same port number that you specified for the agent on the database server in *Step 1: Changing the port number for the DB2 agent* on page 5-46. Your entry must be an integer in the range 1 - 65535.
 - c Select the **Retry connection after failed attempts** option if you want Quest Central to continue attempting to connect to a remote database server after an initial connection attempt fails.

5 Click OK.

The Settings window closes, and the new port number for the Quest Central for DB2 Agent is assigned on the Quest Central client.

Note • If you change the port number for the agent on the Quest Central client, make sure that you have also changed this port number on the database server where the Quest Central for DB2 Agent is installed. See *Step 1: Changing the port number for the DB2 agent* on page 5-46 for instructions.

Where do I go from here?

If you have not yet installed Quest Central's mainframe components, go on to Chapter 6, *Installing Quest Central for DB2's Mainframe Components*. It provides instructions for running the mainframe installation wizard and for the systems programmer who completes the mainframe installation.

■ Starting Quest Central for DB2

Where do I go from here?

6

Installing Quest Central for DB2's Mainframe Components

This chapter provides instructions for using the Quest Central for DB2 Mainframe Installation wizard to install or upgrade the Quest Central for DB2 mainframe components. This chapter also provides instructions for the z/OS systems programmer who completes the installation or upgrade.

In this chapter

The installation process	6-3
Step 4: Install the mainframe components	6-6
Task 1: Catalog a subsystem and a database against which Quest Central will run	6-8
Task 2: Ensure a temporary database and tablespace are available	6-10
Task 3: Run the Quest Central Mainframe Installation wizard	6-12
Task 4: Systems programmer completes the installation	6-31
Task 5: (Optional) Install Quest Central on additional subsystems	6-36
Task 6: (Optional) Configure the Performance Diagnostics Agent	6-38

The installation process

At this point in the installation process, you should have Quest Central installed on the client machine. Refer to *Step 1: Accessing the installation software* on page 3-4 and *Step 2: Run the installation wizard* on page 3-5.

If you plan to use the SQL Analysis component, or to retrieve space-related information from remote DB2 UDB or to execute scripts on z/OS servers, you have also installed the Quest Central for DB2 Agent on the server machines. Refer to *Step 3: Install the Quest Central for DB2 Agent* on page 4-3.

The remaining installation task is the completion of Step 4, installing or upgrading Quest Central's mainframe components.

Step	Description	Where to find instructions
4	<p>If you are going to use Quest Central against DB2 for z/OS objects, your site's DB2 administrator and a systems programmer must install the Quest Central mainframe components:</p> <ul style="list-style-type: none">■ Perform a fist-time installation of the mainframe components.Or■ Upgrade an existing mainframe component installation.	<p><i>Step 4: Install the mainframe components</i> on page 6-3</p> <p><i>Step 4: Upgrade the mainframe components</i> on page 6-39</p>

Step 4: Install the mainframe components

Database Administration, Space Management, and Performance Diagnostics functionality is supported by load libraries and database structures that must be installed on the mainframe where the DB2 for z/OS environment resides. In addition to installing the load libraries and the database structures, DB2 permissions must be granted to Quest Central users before they can take advantage of Quest Central's functionality on DB2 for z/OS objects. This part of the installation can be performed by a DB2 administrator or by a systems programmer using the Quest Central Mainframe Installation wizard.

After the load libraries and database structures have been installed and user permissions have been granted, there are some post-installation customization steps that must be performed by your site's systems programmer.

This process involves the following tasks::

Task	Description	Which machine	Where to find procedure
1	Catalog the subsystem and a database against which Quest Central will run. Who —DB2 administrator	PC	page 6-5
2	Ensure there is a temporary database and a temporary tablespace available for object list processing. Who —DB2 administrator	PC	page 6-5

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components


Task	Description	Which machine	Where to find procedure
3	Run the Quest Central Mainframe Installation wizard. Who —DB2 administrator and security administrator	PC	page 6-9
4	Systems programmer completes the installation. Who —Systems programmer	Mainframe	page 6-28
5	(Optional) Install Quest Central on additional subsystems. Who —DB2 administrator and systems programmer	PC and Mainframe	page 6-33
6	(Optional) Systems programmer configures Performance Diagnostics agent. Who —Systems programmer	Mainframe	page 6-35

Task 1: Catalog a subsystem and a database against which Quest Central will run

Before you can launch the Quest Central Mainframe Installation wizard, you must catalog the subsystem and a database against which Quest Central will run.

Note • If the subsystem and database against which you want to run Quest Central are already cataloged, ignore this task and go to *Task 2: Ensure a temporary database and tablespace are available* on page 6-7.

To catalog a subsystem and a database

- 1 On the local machine where the Quest Central client is installed, start Quest Central from the **Start** menu or by double-clicking the desktop shortcut.
- 2 Click  on the Quest Central tool bar to open the Client Configuration wizard.
- 3 On the Client Configuration wizard, click **Next** until the Add a Host page opens.
- 4 On the Add a Host page, do the following:
 - a Enter the name for the machine where the subsystem resides. This can be the machine name or an IP address.
 - b From the **Operating system** list, select MVS, OS/390, z/OS.
 - c Click **Next** to open the Add a DB2 Subsystem page.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- 5** On the Add a DB2 Subsystem page, make the following specifications:
 - a** Specify the name of the location where the DB2 subsystem resides.
 - b** Specify a local alias for the database you will be accessing in the subsystem.
 - c** From the **Protocol** list, select the communications protocol that will be used to communicate with the mainframe where the subsystem exists.
 - d** Specify the protocol-specific information.
 - e** Click **Next** to display the Catalog Script Review page.
- 6** Examine the script on the Catalog Script Review page, then make any necessary changes.
- 7** Click **Next** to display the Completing the Quest Central Client Configuration Wizard page.
- 8** On the Completing the Quest Central Client Configuration Wizard page, click **Finish** to close the wizard and execute the script that catalogs the subsystem.
- 9** Go on to *Task 2: Ensure a temporary database and tablespace are available* on page 6-7.

Task 2: Ensure a temporary database and tablespace are available

Space Management's Batch Analysis feature uses dynamically resolved object lists as input. Object list processing requires the use of a temporary database and a temporary tablespace on every DB2 for z/OS subsystem where you intend to use Space Management's Batch Analysis feature.

- If you already have a temporary database and a temporary tablespace available for the subsystem where you are upgrading Quest Central's mainframe components, go directly to *Task 3: Run the Quest Central Mainframe Installation wizard* on page 6-9.
- If you do not already have these temporary objects available on the subsystem where you are upgrading Quest Central's mainframe components, you need to make some minor changes to the installation *.ddl (instddl6.ddl or instddl7.ddl) file to ensure that these temporary objects are created when Quest Central's mainframe components are installed on that subsystem. These *.ddl files were laid down during installation of the Quest Central client, as described in Chapter 3, *Installing Quest Central on the Client Machine*.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

To edit the installation ddl file

- 1** With Notepad, open the appropriate *.ddl file for your version of DB2 for OS/390 or z/OS:
 - \$QUESTHOME\OS390\instddl6.ddl for version 6
 - \$QUESTHOME\OS390\instddl7.ddl for version 7
- 2** Press Ctrl+F to open Notepad's Find window.
- 3** On the Find window, enter QCTEMPDB in the **Find what** field.
- 4** Click **Find Next** to locate the section you need to modify. The following figure shows the section you need to uncomment.

```
--CREATE DATABASE QCTEMPDB
-- STOGROUP %SGNAME%
-- BUFFERPOOL %TSBUFFPOOL%
-- INDEXBP %IXBUFFPOOL%
-- AS TEMP;

--COMMIT WORK;

--CREATE TABLESPACE QCTEMPTS
-- IN QCTEMPDB
-- USING STOGROUP %SGNAME%
-- PRIQTY 100
-- SECQTY 200
-- ERASE NO
-- SEGSIZE 4
-- BUFFERPOOL %TSBUFFPOOL%
-- LOCKMAX SYSTEM
-- CLOSE YES
-- MAXROWS 255;

--COMMIT WORK;
```

- 5 Remove the two hyphens at the beginning of each line in this section. When you have finished uncommenting this section, it should look like the section shown in the following figure:

```
CREATE DATABASE QCTEMPDB
STOGROUP %SGNAME%
BUFFERPOOL %TSBUFFERPOOL%
INDEXBP %IXBUFFERPOOL%
AS TEMP;

COMMIT WORK;

CREATE TABLESPACE QCTEMPTS
IN QCTEMPDB
USING STOGROUP %SGNAME%
PRIQTY 100
SECQTY 200
ERASE NO
SEGSIZE 4
BUFFERPOOL %TSBUFFERPOOL%
LOCKMAX SYSTEM
CLOSE YES
MAXROWS 255;

COMMIT WORK;
```

- 6 Select **File** ► **Save**.
- 7 Select **File** ► **Exit** to close Notepad.
- 8 Install Quest Central's mainframe components, following the instructions in *Task 3: Run the Quest Central Mainframe Installation wizard* on page 6-9.

Task 3: Run the Quest Central Mainframe Installation wizard

If the subsystem against which you want to run Quest Central has already been cataloged on the local machine, you can launch the Quest Central Mainframe Installation wizard, which guides you through installing the mainframe components.

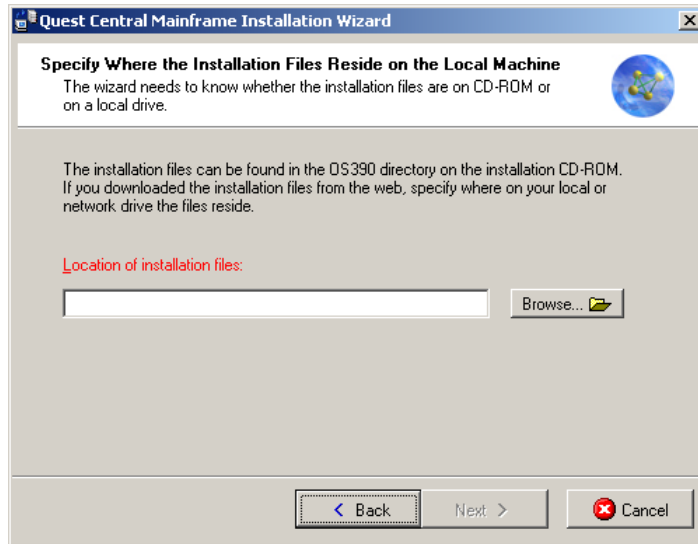
■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

To run the Quest Central Mainframe Installation wizard

- 1** Right-click the appropriate subsystem in the Quest Central object tree to open the Connect window.
- 2** On the Connect window, provide the appropriate information in the **User ID** and **Password** fields.
- 3** Click OK to save the connection profile, establish a connection, and close the Connect window.
- 4** In the Quest Central object tree, right-click the DB2 subsystem, then select **Install** to open the wizard's Welcome page.
- 5** On the Welcome page, click **Next**.

If the installation files have not been moved from the \OS390 subfolder created by the Quest Central for DB2 client installation on the local drive, the page shown in the following figure does not appear; go directly to step 7. Otherwise, the Specify Where the Installation Files Reside on the Local Machine page opens; continue with step 6.



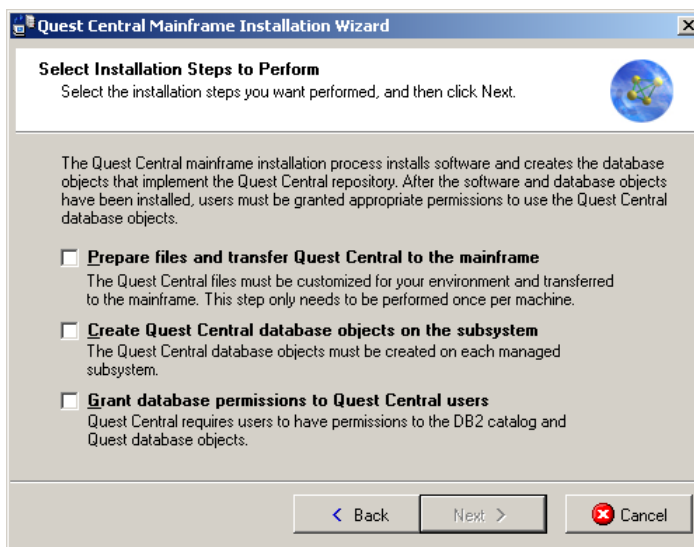
- 6 On the Specify Where the Installation Files Reside on the Local Machine page, do the following:
 - a Click **Browse** to open the Browse for Folder window.
 - b Use the fields and controls on the Browse for Folder window to locate and select the folder where you downloaded the software.
 - c Click **OK**.

The Browse for Folder window closes and the **Location of installation files** field shows the folder you selected.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- d On the Specify Where the Installation Files Reside on the Local Machine page, click **Next** to display the Select Installation Steps to Perform page.



- 7 On the Select Installation Steps to Perform page, select the appropriate options, then click **Next**. Your selections determine which wizard page opens next:
 - If you did *not* select **Prepare files and transfer Quest Central to the mainframe**, but *did* select **Create Quest Central database objects on the subsystem**, the Provide Parameters for Creating the Quest Central Database page opens. Go directly to step 16 on [page 6-21](#).

- If you selected *only* the **Grant database permissions to Quest Central users** option, the Specify Which Users Will Be Granted Quest Central Permissions page opens. Go directly to step **20** on [page 6-24](#).
- If you selected **Prepare files and transfer Quest Central to the mainframe**, the Enter Details about the DB2 Subsystem page (shown in the following figure) opens. Continue with step **8**.

The screenshot shows a window titled "Quest Central Mainframe Installation Wizard". The main heading is "Enter Details about the DB2 Subsystem". Below this, it says "Specify the subsystem ID (SSID) and libraries used by the DB2 subsystem you wish to manage with Quest Central." There is a small globe icon with a network diagram. The text continues: "Details like subsystem ID and library locations are needed to customize the Quest Central JCL and configuration files." A note follows: "Note: If you are connecting to DB2 through a DB2 Connect gateway, verify that the subsystem ID is correct before proceeding. The value entered for you may not be the actual subsystem ID, but an alias for the subsystem defined at the gateway." There are three input fields: "Subsystem ID:" with the value "DSN7", "DB2 exit library:", and "DB2 load library:". At the bottom are three buttons: "< Back", "Next >", and a red "X" button labeled "Cancel".

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- 8 On the Enter Details about the DB2 Subsystem page, do the following:
 - a The **Subsystem ID** field shows the DB2 subsystem to which you are currently connected. Verify that the SSID shown in this field is the actual subsystem ID and not an alias for it (as it was defined at the gateway). If this field is blank, enter the subsystem ID.
 - b In the **DB2 exit library** field, enter the fully-qualified name for the DB2 exit library.
 - c In the **DB2 load library** field, enter the fully-qualified name for the DB2 load library.
 - d Click **Next** to display the Specify Workload Manager (WLM) Environments for Quest Central page.

Quest Central Mainframe Installation Wizard

Specify Workload Manager (WLM) Environments for Quest Central
Enter names of the two WLM environments needed for the DB2 stored procedures and functions used by Quest Central.

Note: If the WLM environments that will be used by Quest Central don't exist already, you can enter names for them now, and then ask your systems programmer to define the environments later.

Single-tasking WLM name:

Multitasking WLM name:

< Back Next > Cancel

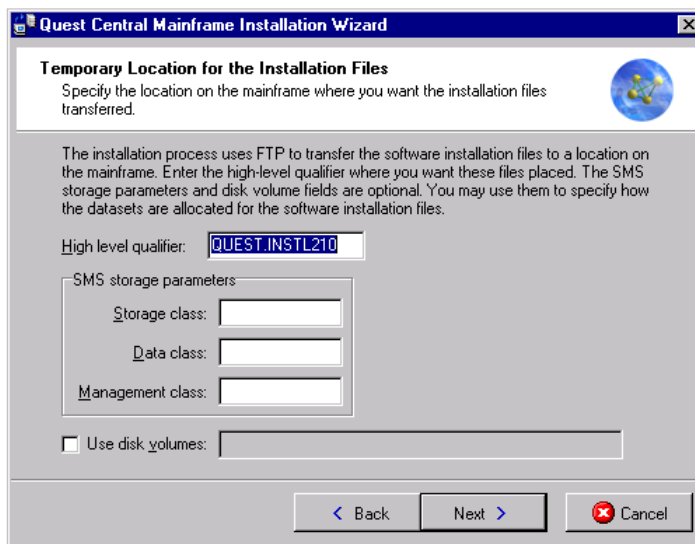
- 9 On the Specify Workload Manager (WLM) Environments for Quest Central page, do the following:
 - a Use the **Single-tasking WLM name** field to specify the name of the single-tasking WLM application environment used by the DB2 stored procedures and functions that are in turn used by Quest Central.
 - b Use the **Multi-tasking WLM name** field to specify the name of the multi-tasking WLM application environment used by the DB2 stored procedures and functions that are in turn used by Quest Central.

Note • The two WLM application environments you specify for this subsystem must be for Quest Central's *exclusive* use. Do not attempt to specify pre-existing WLM environments that are used for other applications.

- c Click **Next** to display the Temporary Location for the Installation Files page.

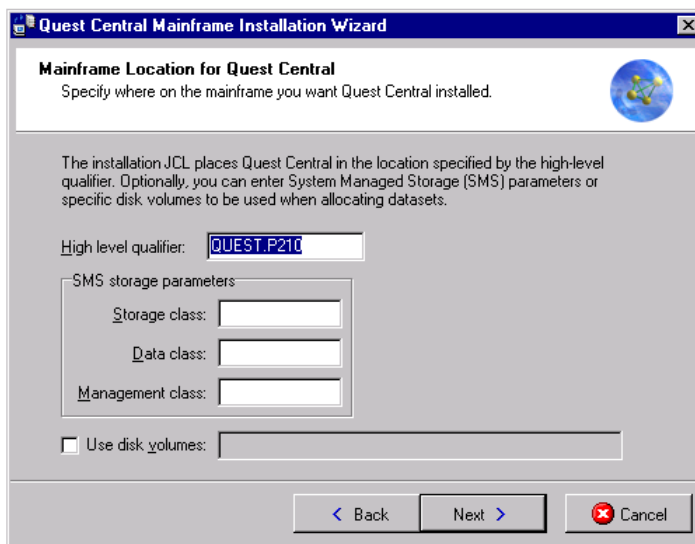
■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components



The screenshot shows a window titled "Quest Central Mainframe Installation Wizard". The main heading is "Temporary Location for the Installation Files". Below this, it says "Specify the location on the mainframe where you want the installation files transferred." There is a small globe icon to the right. A paragraph explains that the installation process uses FTP to transfer files to a location on the mainframe, and that the high-level qualifier is required, while SMS storage parameters and disk volume fields are optional. The "High level qualifier:" field contains the text "QUEST.INSTL210". Below this is a section titled "SMS storage parameters" which contains three sub-fields: "Storage class:", "Data class:", and "Management class:", each with an empty text box. At the bottom of this section is a checkbox labeled "Use disk volumes:" which is currently unchecked. At the very bottom of the window are three buttons: "< Back", "Next >", and a "Cancel" button with a red X icon.

- 10 On the Temporary Location for the Installation Files page, do the following:
 - a Enter a high-level qualifier to identify the location where the wizard can place the installation files *temporarily* after the FTP transfer. This is not necessarily the location where Quest Central will be permanently installed.
 - b (Optional) Make the appropriate specifications in the **SMS Storage Parameters** pane, or select the **Use disk volumes** field to specify how the installation file datasets will be allocated.
 - c Click **Next** to display the Mainframe Location for Quest Central page.



The screenshot shows a Windows-style dialog box titled "Quest Central Mainframe Installation Wizard". The main heading is "Mainframe Location for Quest Central". Below this, it says "Specify where on the mainframe you want Quest Central installed." There is a small globe icon in the top right corner. The text explains: "The installation JCL places Quest Central in the location specified by the high-level qualifier. Optionally, you can enter System Managed Storage (SMS) parameters or specific disk volumes to be used when allocating datasets." There are three input fields: "High level qualifier:" with the text "QUEST.P210" entered; "SMS storage parameters:" which contains three sub-fields: "Storage class:", "Data class:", and "Management class:", all of which are empty; and "Use disk volumes:" which is a checkbox that is currently unchecked. At the bottom right, there are three buttons: "< Back", "Next >", and a "Cancel" button with a red X icon.

- 11** Use the fields on the Mainframe Location for Quest Central page to specify the permanent location where Quest Central is to be installed on the mainframe:
 - a** Enter a high-level qualifier to identify the location where the Quest Central mainframe components will be installed when the JCL is executed.

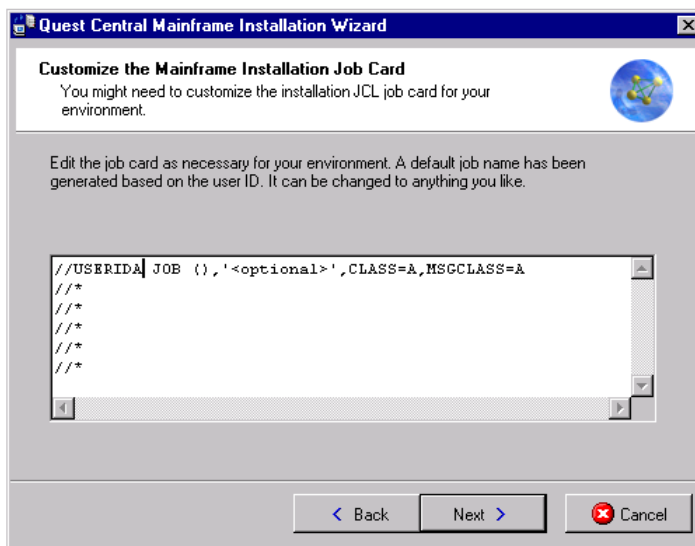
Note • This should *not* be the same high-level qualifier you specified for Quest Central's temporary location, in step 10.

- b** (Optional) Make the appropriate specifications in the SMS Storage Parameters pane, or use the Use disk volumes field to specify where the Quest Central datasets will be allocated.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

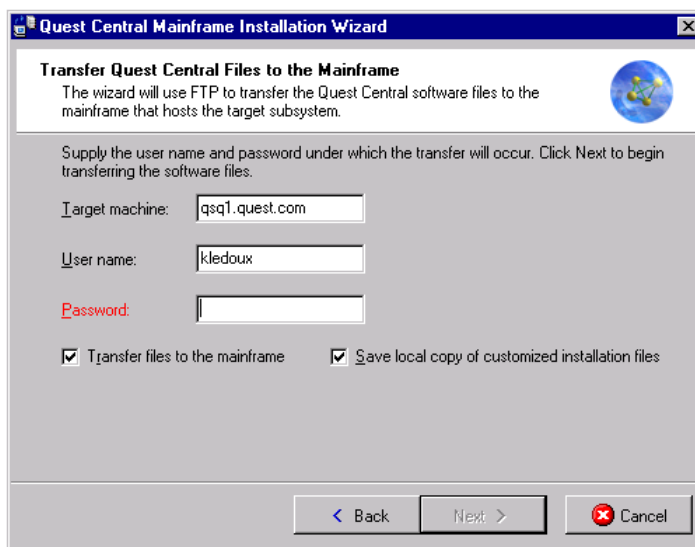
- c Click **Next** to display the Customize the Mainframe Installation Job Card page.



- 12 Make any necessary changes to the generated job card shown on the Customize the Mainframe Installation Job Card page.

Note • The default job name is based on the user ID under which you connected to the subsystem where you are installing Quest Central's mainframe components. If you make changes to the default job card, your changes will carry over to the next job card generated by the wizard.

- 13 When you have finished customizing the job card, click **Next** to display the Transfer Quest Central Files to the Mainframe page.



- 14** On the Transfer Quest Central Files to the Mainframe page, enter the **User name** and **Password** under which FTP will transfer the files from the local machine to the temporary location on the mainframe.
- If you select the **Save local copy of customized installation files** option, the wizard saves the files to this directory:
`$QUESTHOME\InstallFiles\SSID`
where *SSID* is the subsystem to which you are connected.
 - If you do not want to transfer the files at this time (but want to save the files locally to perform the transfer later using your own method), select the **Save local copy of customized installation files** option, but clear the **Transfer files to the mainframe** option.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

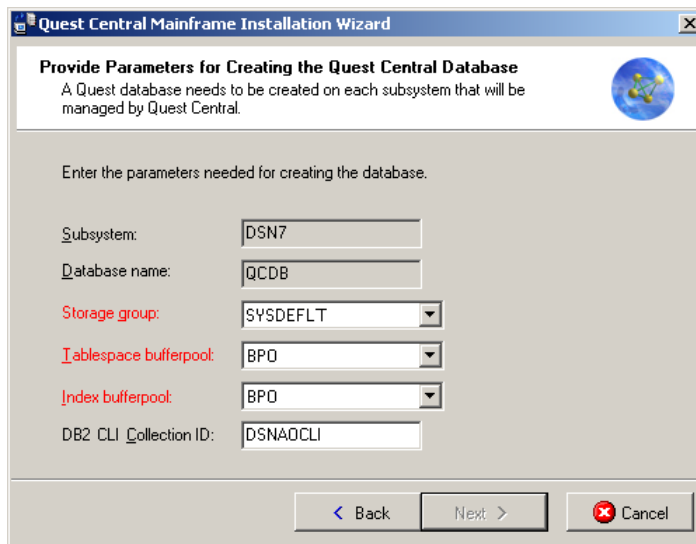
15 Click Next.

If you selected the option to transfer the files to the mainframe, the file transfer starts. When the transfer is complete, the installation files reside in their temporary location on the mainframe. One of the following occurs:

- If you selected only the **Prepare files and transfer Quest Central to the mainframe** option in step 7 on page 6-12, the Completing the Mainframe Installation Wizard page opens. Go directly to step 22 on page 6-27.

Or

- If you selected the **Create Quest Central database objects on the subsystem** option in step 7 on page 6-12, the Provide Parameters for Creating the Quest Central Database page opens. Continue with step 16.



The screenshot shows a Windows-style dialog box titled "Quest Central Mainframe Installation Wizard". The main heading is "Provide Parameters for Creating the Quest Central Database". Below this, a note states: "A Quest database needs to be created on each subsystem that will be managed by Quest Central." There is a small globe icon with a network diagram on the right. The instruction "Enter the parameters needed for creating the database." is followed by several input fields:

- Subsystem:** Text box containing "DSN7".
- Database name:** Text box containing "QCDB".
- Storage group:** Dropdown menu showing "SYSDEFLT".
- Tablespace bufferpool:** Dropdown menu showing "BP0".
- Index bufferpool:** Dropdown menu showing "BP0".
- DB2 CLI Collection ID:** Text box containing "DSNAOCLI".

At the bottom, there are three buttons: "< Back", "Next >", and "Cancel" (with a red X icon).

- 16** On the Provide Parameters for Creating the Quest Central Database page, the **Subsystem** and **Database name** fields show the subsystem you are connected to, and the default name for the Quest database. Do the following:

 - a** Select a **Storage group** for the database objects.
 - b** Assign a **Tablespace bufferpool** to the database.
 - c** Assign an **Index bufferpool** to the database.
 - d** In the **DB2 CLI Collection ID** field, enter the collection identifier that was used when the DB2 installation job DSNTIJCL was run. If you do not know which collection ID to use, consult your systems programmer.
 - e** Click **Next** to display the Specify Workload Manager (WLM) Environments for Quest Central page.
- 17** On the Specify Workload Manager (WLM) Environments for Quest Central page, do the following:

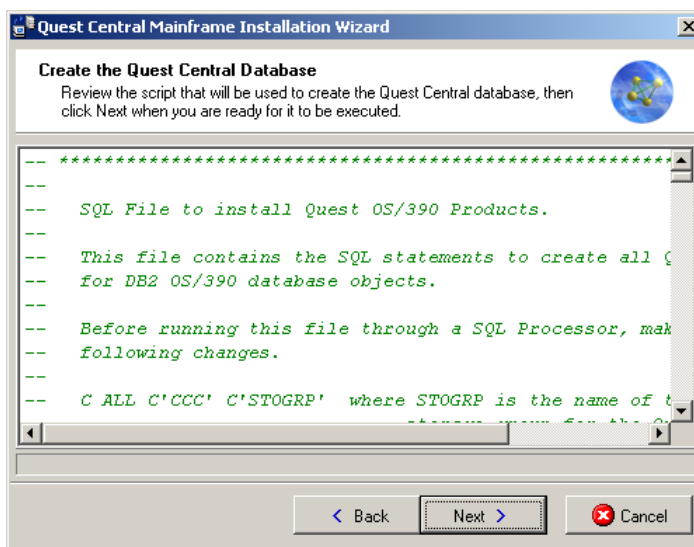
 - a** Use the **Single-tasking WLM name** field to specify the name of the single-tasking WLM application environment used by the DB2 stored procedures and functions that are in turn used by Quest Central.
 - b** Use the **Multi-tasking WLM name** field to specify the name of the multi-tasking WLM application environment used by the DB2 stored procedures and functions that are in turn used by Quest Central.

Note • The two WLM application environments you specify for this subsystem must be for Quest Central's *exclusive* use. Do not attempt to specify pre-existing WLM environments that are used for other applications.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- c Click **Next** to display the Create the Quest Central Database page.



- 18** On the Create the Quest Central Database page, make any necessary changes to the script.

Note • See *What DB2 objects were created by the installation?* on page 6-67 for a complete list of the Quest Central database objects.

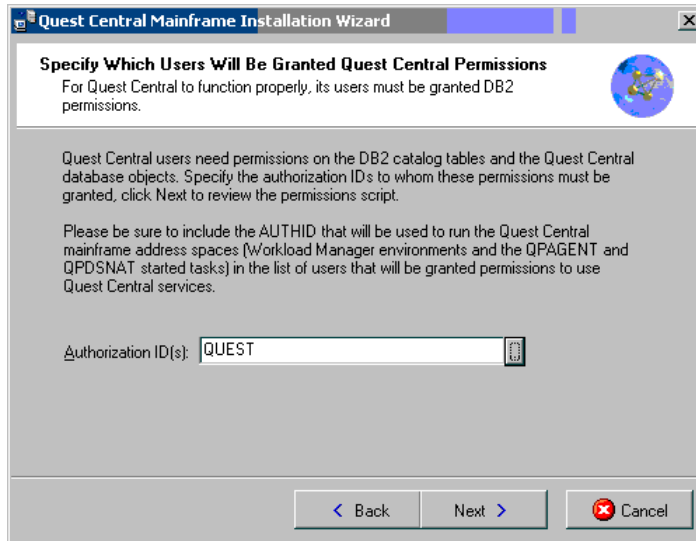
19 Click **Next** to execute the script.

The selections you made on the Select Installation Steps to Perform page determine which page the wizard displays next:

- If you did *not* select the **Grant database permissions to Quest Central users** option (step 7 on page 6-12), the wizard displays the Completing the Mainframe Installation Wizard page. Go directly to step 22 on page 6-27.

Or


- If you selected the **Grant database permissions to Quest Central users** option step 7 on page 6-12), the wizard displays the Specify Which Users Will Be Granted Quest Central Permissions page. Continue with step 22 on page 6-27.



■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

20 On the Specify Which Users Will Be Granted Quest Central

Permissions page, use the  button to the right of the **Authorization ID (s)** field to display the Select Filtered Authorization IDs window, where you complete the following steps:

Note • It is necessary to grant Quest Central permissions to only those users who do not have SYSADM privileges.

- a** On the Select Filtered Authorization IDs window, use the **Authorization IDs** field to enter a filter mask. You may enter a character string, a percent symbol (%) wildcard character, or a combination of these. If you specify the percent symbol, you must use it either by itself or at the end of a character string. The percent symbol is interpreted to mean *match any number of characters (including zero) at this position in the string*.

- b** Click **Retrieve**.

A list of authorization IDs that match the filter you specified appears on the lower half of the window.

- c** Select the authorization ID from the list on the lower half of the window. Use Shift+click or Ctrl+click to select multiple authorization IDs.

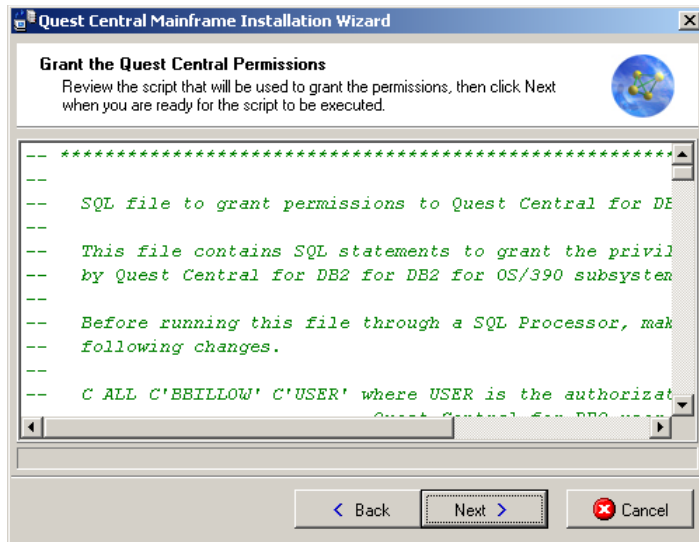
Note • Be sure to include the authorization ID that will be used to run the Quest Central mainframe address spaces (Workload Manager environments and the QPAGENT and QPDSNAT started tasks) in the list of users who will be granted permission to use Quest Central services.

- d Click OK.

The selected authorization IDs are added to the **Authorization IDs** field on the Specify Which Users Will be Granted Quest Central Permissions wizard page. The authorization IDs are separated from each other in the list by a comma (,).

You may also specify RACF groups that are used as secondary authorization IDs, if the appropriate DB2 exits are installed (DSNTIJEX).

- e Click Next to display the Grant the Quest Central Permissions page.



■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- 21** The script shown on the Grant the Quest Central Permissions page will grant permissions to the authorization IDs or RACF groups you listed on the Specify Which Users Will Be Granted Quest Central Permissions page, in step 20. Make any necessary changes, then click **Next**.

The script executes, and the Completing the Mainframe Installation Wizard page opens.



- 22** The wizard has completed its tasks, but there are some further installation tasks that must be completed by your site's systems programmer before Quest Central's mainframe components are fully functional. To complete those tasks, the systems programmer needs to know some of the identifiers you specified on the wizard pages. You can provide that information by doing either of the following:

- Select the **View remaining installation tasks** option.

When you click **Finish**, the installation task file opens, listing the identifier information required by the systems programmer. Print the file and give it to the systems programmer. When you close the installation task file, the wizard closes automatically.

Or

- You can send the file containing the identifier information directly to your site's systems programmer by selecting the **Email remaining installation tasks** option.

When the e-mail window opens, supply the necessary information and click **Send**. The email window and the wizard close.

- 23** Ask your systems programmer to perform the remaining installation task described in *Task 4: Systems programmer completes the installation* on page 6-28.

Task 4: Systems programmer completes the installation

When the wizard has completed its tasks, six Quest Central datasets reside on the mainframe and have the temporary high-level qualifier specified through the wizard in step 10 (page 6-16). The DB2 administrator who ran the wizard can tell the systems programmer what this qualifier actually is; for documentation purposes, these files are referred to by the placeholder `temph1q`.

Dataset	Description
<code>temph1q.SAMPXMI</code>	The SAMPLIB partitioned dataset, converted by the TSO TRANSMIT command to flat-file format for transfer to the mainframe
<code>temph1q.JCLLIB</code>	A customized partitioned dataset containing members required by the systems programmer to complete the mainframe component installation
<code>temph1q.LOADXMI</code>	The LOADLIB partitioned dataset, converted by the TSO TRANSMIT command to a flat-file format that can be transferred to the mainframe
<code>temph1q.PARMLIB</code>	A customized partitioned dataset containing the QPAGENT parameter member, QPAGTPRM
<code>temph1q.QCINST</code>	A customized JCL stream that can run TSO in batch mode to copy <code>temph1q.QSMMSG</code> , <code>temph1q.PARMLIB</code> , and <code>temph1q.JCLLIB</code> to their permanent location and to convert the SAMPLIB to PDS or PDSE format and the LOADLIB to PDSE format
<code>temph1q.QSMMSG</code>	The text file that contains the informational and error messages for Quest Central for DB2

Note • After the systems programmer submits `temph1q.QCINST` for execution in step 1 under *To complete the installation* on page 6-29, the temporary high-level qualifier is replaced by the permanent qualifier specified through the wizard in step 11 (page 6-17). The DB2 administrator who ran the wizard can tell the systems programmer what the permanent qualifier actually is; for documentation purposes, these files are referred to by the placeholder `permh1q`.

To complete the installation

- 1 Submit `temph1q.QCINST` for execution.

When execution completes successfully, the following partitioned datasets (prefixed with `permh1q`) have been created: `SAMPLIB`, `LOADLIB`, `JCLLIB`, `PARMLIB`, and `QSMMSG`.

- 2 If the WLM application environments specified through the wizard in step 9 (page 6-17) or step 17 (page 6-21) have already been defined, verify that all the `STEPLIB` libraries referenced in the `subsystem_nameMSTR JCL` (where `subsystem_name` is the subsystem on which you are installing Quest Central) are also included in the WLM JCL for this subsystem.

Or

If the WLM application environments specified through the wizard in step 9 (page 6-17) or step 17 have not yet been defined, you must define them now. Note the following:

- You must define these environments using ISPF Application IWMARIN0. *z/OS V1R4.0 MVS Planning: Workload Management* (SA22-7602-06) provides instructions for using the WLM ISPF panels.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- Verify that the JCL for the new WLM application environments includes all the STEPLIB libraries referenced in the *subsystem_name*MSTR JCL (where *subsystem_name* is the subsystem on which you are installing the Quest Central mainframe components).

Note • Quest Central must have these two WLM application environments for its *exclusive* use. Do not attempt to use pre-existing WLM environments that are used for other applications.

- 3 Quest Central's mainframe component issues privileged operating system instructions and macros. To ensure that these programs function properly, permhlq.LOADLIB must be APF authorized. To authorize the library dynamically for immediate use, please see the SETPROG command in *z/OS V1R4.0 MVS System Commands* (SA22-7627-07).

Note • Be sure to add the permhlq.LOADLIB to your system's PROGxx member so that the library remains authorized after your z/OS system is IPLd.


- 4 Copy both Workload Manager (WLM) application environment members in permhlq.JCLLIB to a system PROCLIB that is available when starting tasks.

Note • These members were assigned names through the wizard in step 9 (page 6-15) or step 17 (page 6-21).

- 5 Copy the Performance Diagnostics agent JCL member, permhlq.JCLLIB(QPAGENT), to a system PROCLIB.


- 6** (Optional) By default, the started task used to run DSN commands is called QPDSNAT. This same task can be used for multiple DB2 subsystems. If you do not need to change the name of this started task, go directly to step [7](#).

Otherwise, if you *do* need to change the name of this started task, do the following:

- a** Copy `permhlq.JCLLIB(QPDSNAT)` into a system PROCLIB, using the new name.
- b** Click  to open the SQL Editor.
- c** On the SQL Editor's SQL tab, enter the following DDL in the upper pane:

```
ALTER SPECIFIC FUNCTION QUEST.QP200DSNCOMMAND RUN OPTIONS 'ENVAR("STCNAME=newname")'
```

where `newname` is the new name of the QPDSNAT member.

- d** Click  to execute the script.
 - e** Go directly to step [8](#).
- 7** Copy the DSN command processor task member, `permhlq.JCLLIB(QPDSNAT)`, to a system PROCLIB.
- 8** Use TSO/ISPF option 3.4 to delete the following files:

- | | |
|--------------------------------|--------------------------------|
| ■ <code>temphlq.SAMPXMI</code> | ■ <code>temphlq.LOADXMI</code> |
| ■ <code>temphlq.JCLLIB</code> | ■ <code>temphlq.QCINST</code> |
| ■ <code>temphlq.PARMLIB</code> | ■ <code>temphlq.QSMSG</code> |

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- 9 Confirm that the Quest Central mainframe components are completely installed:

a Run `permhlq.JCLLIB(QCIVP)`.

This job verifies that the DB2 CLI has been installed and bound, and tests a sample of the Quest procedures and functions.

b Check the return code and QSPRINT message file:

Return code	Message	Meaning
0	Execution SUCCESSFUL	Success
>4	Execution FAILED maxrc=xx	Problems exist. Save the job output and contact Quest Technical Support: E-mail support@quest.com Phone 949.754.8000 Web www.quest.com/support

- 10 If you want to install Quest Central on another subsystem on the same machine, go on to *Task 5: (Optional) Install Quest Central on additional subsystems* on page 6-33.

If you need to add subsystems to the Performance Diagnostics agent parameter file or specify a non-default MVS subsystem as the Quest subsystem, go on to *Task 6: (Optional) Configure the Performance Diagnostics Agent* on page 6-35.

Otherwise, installation of the Quest Central mainframe components is complete.

Task 5: (Optional) Install Quest Central on additional subsystems

The DB2 administrator and the systems programmer can install Quest Central on additional subsystems without repeating all of Task 3 and Task 4 and without putting any unnecessary files on the mainframe.

Note • These additional subsystems must reside on the same machine as the initial subsystem on which you installed the Quest Central mainframe components in Tasks 1 through 4. If the subsystem resides on a different machine on which the mainframe components have not been installed, you cannot use the procedure described in this section to install them; instead, you must perform Tasks 1 through 4 on that machine.

To install Quest Central on additional subsystems

- 1 (DB2 administrator) Configure a connection to the new subsystem, as described in *Task 1: Catalog a subsystem and a database against which Quest Central will run* on page 6-5.
- 2 (DB2 administrator) Ensure the temporary objects required by object list processing are available, as described in *Task 2: Ensure a temporary database and tablespace are available* on page 6-7.
- 3 (DB2 administrator) Complete steps **1 - 7** of *Task 3: Run the Quest Central Mainframe Installation wizard* on page 6-9, selecting both the **Create Quest Central database objects on the subsystem** and the **Grant database permissions to Quest Central users** options on the Select Installation Steps to Perform page.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

- 4 (DB2 administrator) Complete steps **16 - 23** of *Task 3: Run the Quest Central Mainframe Installation wizard* on page 6-9, specifying appropriate information for the additional subsystem.

Note • The two WLM application environments you specify for this new subsystem must be for Quest Central's *exclusive* use. Do not attempt to specify pre-existing WLM environments that are used for other applications. Additionally, these WLM application environments *must* be different from the ones you specified when Quest Central was installed on any other subsystem.

- 5 (Systems programmer) Create JCL for two new WLM application environments by cloning the JCL already in permhlq.JCLLIB.
- 6 (Systems programmer) Edit the JCL for the new WLM application environments, making appropriate changes to their names and the DB2 parameters.

Note • Verify that the JCL for the new WLM application environments includes all the STEPLIB libraries referenced in the *subsystem_name*MSTR JCL (where *subsystem_name* is the subsystem on which you are installing the Quest Central mainframe components).

- 7 (Systems programmer) Copy these two new WLM application environment members to a system PROCLIB that is available when starting tasks.
- 8 (DB2 administrator and systems programmer) For each additional subsystem where you want Quest Central installed on this machine, repeat steps **1 - 7** of this procedure. Then continue with step **9**.

- 9 (Systems Programmer) If you need to add subsystems to the Performance Diagnostics agent parameter file or specify a non-default MVS subsystem as the Quest subsystem, go on to [Task 6: \(Optional\) Configure the Performance Diagnostics Agent](#) on page 6-35.

Otherwise, installation of the Quest Central mainframe components is complete.

Task 6: (Optional) Configure the Performance Diagnostics Agent

After the systems programmer completes the Quest Central mainframe component installation, there are two post-installation configuration tasks that the systems programmer might need to perform:

- **Adding subsystems to the Performance Diagnostics agent parameter file**—Refer to [Adding subsystems to the Performance Diagnostics Agent parameter file](#) on page 6-36 for more information.
- **Specifying a non-default MVS subsystem as the Quest subsystem name**—Refer to [Specifying a non-default MVS subsystem as the Quest subsystem name](#) on page 6-37 for more information.

■ Installing Quest Central for DB2's Mainframe Components

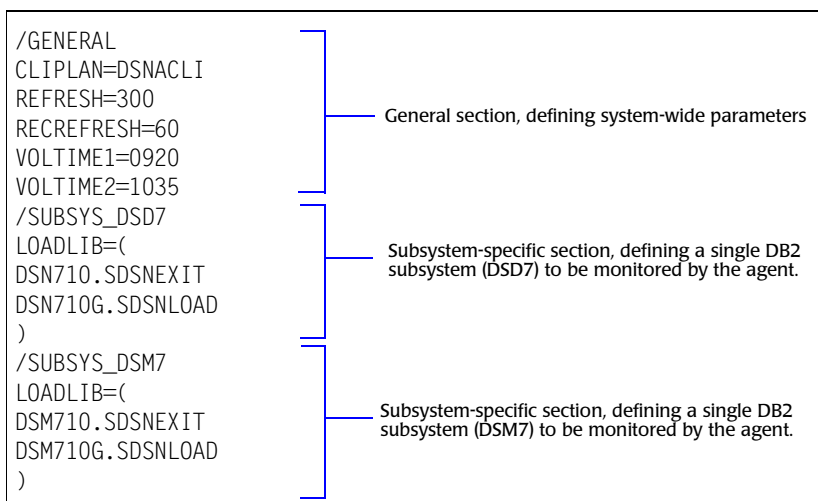
Step 4: Install the mainframe components

Adding subsystems to the Performance Diagnostics Agent parameter file

The sample Performance Diagnostics agent parameter file is contained in dataset member `permh1q.PARMLIB(QPAGTPRM)`. This file has two sections:

- The general section defines the system-wide parameters.
- The subsystem-specific section defines a DB2 subsystem that the agent monitors.

See the sample parmfile (as installed) for documentation about the individual keywords and how to use them. The figure below shows a sample Performance Diagnostics agent parameter file.



To add a subsystem to the Performance Diagnostics Agent parameter file

- 1** Use TSO/ISPF to edit the subsystem-specific section:
 - a** Specify the DB2 load libraries associated with the subsystem.

Note • You may ignore step **1a** if your site has only one version of DB2 for z/OS installed and the exit and load libraries are included in the LINKLIST.

- b** Save your changes to the parameter file.
- 2** (Optional) Repeat step **1** for each DB2 subsystem that will be monitored by the Performance Diagnostics Agent.

Specifying a non-default MVS subsystem as the Quest subsystem name

The Quest subsystem name is the name of an MVS subsystem that is used by the agent to allow the DB2 user-defined functions to communicate with the agent. If it is not already defined to z/OS, this subsystem will be defined at startup.

You can customize `permh1q.JCLLIB(QPAGENT)` to specify an MVS subsystem name other than `QSFT` as the Quest subsystem name.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Install the mainframe components

The following figure shows the sample JCL in QPAGENT:

Default name —

```
//QPAGENT PROC SSID=QSFT,           <== QUEST SUBSYSTEM NAME
//   QHLQ='QUEST.P200',             <== HIGH LEVEL FOR QUEST LIBS
//   LHLQ='QUEST.P200',             <== HIGH LEVEL FOR QUEST LOADLIB
//   SFX='RM'                       <== PARM MEMBER SUFFIX
//*****
//*
//* STARTED TASK JCL FOR QUEST SPOTLIGHT AGENT.
//*
//* THIS STARTED TASK INSTALLS ITSELF AS AN MVS SUBSYSTEM IF THE
//* SUBSYSTEM HASN'T BEEN DEFINED. TO CHANGE DEFAULT SUBSYSTEM
//* ID FROM QSFT, CHANGE THE SSID= PARM ABOVE.
//* NOTE THAT IF THE SSID IS CHANGED, ALL DB2 OS390 PERFORMANCE
//* MONITORING CLIENTS WILL HAVE TO CHANGE THE SSID IN THE
//* FILE-OPTIONS PANEL.
//*
//* CHANGE THE QHLQ TO BE THE QUALIFIER USED WHEN INSTALLING
//* QUEST PRODUCTS.
//*
//* CHANGE THE LHLQ TO BE THE QUALIFIER USED FOR QUEST LOADLIB.
//*
//*****
//EXECAGNT EXEC PGM=QPSVMAIN,PARM='&SSID,&SFX'
//STEPLIB DD DISP=SHR,DSN=&QHLQ..LOADLIB
//QPPARMS DD DISP=SHR,DSN=&QHLQ..PARMLIB
//QSMMSG DD DISP=SHR,DSN=&QHLQ..QSMMSG
```

To specify a non-default MVS subsystem as the Quest subsystem

- 1 Use TSO/ISPF to replace QSFT with the appropriate subsystem name in the first line of QPAGENT.

Note • If you change the Quest subsystem name to something other than QSFT, you must also have all Performance Diagnostics clients point to the MVS subsystem name you specify in QPAGENT.

- 2 Save the change you made to `permhlq.JCLLIB(QPAGENT)`.
- 3 Copy the revised member `permhlq.JCLLIB(QPAGENT)` to the system PROCLIB you used in step 2 of Task 3, on [page 6-10](#).

Step 4: Upgrade the mainframe components

This section guides you through the process of upgrading older Quest Central mainframe components installed on a subsystem to version 4.8.

The first part of this process involves upgrading the Quest Central files (`Upgrade210_300.dd1`, `Upgrade300_310.dd1`, `Upgrade310_480.dd1`) on the mainframe and the Quest Central DB2 database objects on the subsystem. (User permissions on the upgraded database objects are restored automatically, based on existing permissions.) A DB2 administrator performs this part of the process using the Quest Central Mainframe Installation wizard.

After the files on the mainframe and the DB2 database objects on the initial subsystem have been upgraded, your site's systems programmer must perform some post-upgrade customization steps to complete the upgrade.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

After up you have upgraded one subsystem, for each subsequent subsystem you upgrade, you need to upgrade only the Quest Central DB2 database objects on that subsystem.

Task	Description	Which machine	Where to find procedure
1	Ensure that a temporary database and tablespace are available for object list processing. Who —DB2 administrator	PC	page 6-41
2	Run the Quest Central Mainframe Installation wizard. Who —DB2 administrator	PC	page 6-43
3	Systems programmer completes the upgrade. Who —Systems programmer	Mainframe	page 6-59
4	(Optional) Upgrade Quest Central on additional subsystems. Who —DB2 administrator and Systems programmer	PC and mainframe	page 6-64

Task 1: Ensure a temporary database and tablespace are available

Space Management's Batch Analysis feature uses dynamically resolved object lists as input. Object list processing requires the use of a temporary database and a temporary tablespace on every DB2 for z/OS subsystem where you intend to use Space Management's Batch Analysis feature.

- If you already have a temporary database and a temporary tablespace available for the subsystem where you are installing Quest Central's mainframe components, go directly to *Task 2: Ensure a temporary database and tablespace are available* on page 6-7.
- If you do not already have these temporary objects available on the subsystem where you are upgrading Quest Central's mainframe components, you need to make some minor changes to the upgrade *.ddl file (Upgrade310_480.ddl) to ensure their creation when Quest Central's mainframe components are upgraded on that subsystem. These files were laid down during installation of the Quest Central client, as described in Chapter 3, *Installing Quest Central on the Client Machine*.

To edit the installation ddl file

- 1 With Notepad, open \$QUESTHOME\OS390\Upgrade310_480.DDL.
- 2 Press Ctrl+F to open Notepad's Find window.
- 3 On the Find window, enter QCTEMPDB in the **Find what** field.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

- 4 Click **Find Next** to locate the section you need to modify. The following figure shows the section you need to uncomment.

```
--CREATE DATABASE QCTEMPDB
-- STOGROUP %SGNAME%
-- BUFFERPOOL %TSBUFFPOOL%
-- INDEXBP %IXBUFFPOOL%
-- AS TEMP;

--COMMIT WORK;

--CREATE TABLESPACE QCTEMPTS
-- IN QCTEMPDB
-- USING STOGROUP %SGNAME%
-- PRIQTY 100
-- SECQTY 200
-- ERASE NO
-- SEGSIZE 4
-- BUFFERPOOL %TSBUFFPOOL%
-- LOCKMAX SYSTEM
-- CLOSE YES
-- MAXROWS 255;

--COMMIT WORK;
```

- 5 Remove the two hyphens at the beginning of each line in this section. When you have finished uncommenting this section, it should look like the section shown in the following figure:

```
CREATE DATABASE QCTEMPDB
STOGROUP %SGNAME%
BUFFERPOOL %TSBUFFPOOL%
INDEXBP %IXBUFFPOOL%
AS TEMP;

COMMIT WORK;

CREATE TABLESPACE QCTEMPTS
IN QCTEMPDB
USING STOGROUP %SGNAME%
PRIQTY 100
SECQTY 200
ERASE NO
SEGSIZE 4
BUFFERPOOL %TSBUFFPOOL%
LOCKMAX SYSTEM
CLOSE YES
MAXROWS 255;

COMMIT WORK;
```

- 6 Select **File** ► **Save**.
- 7 Select **File** ► **Exit** to close Notepad.
- 8 Upgrade Quest Central's mainframe components, following the instructions in *Task 2: Run the Quest Central Mainframe Installation wizard* on page 6-43.

Task 2: Run the Quest Central Mainframe Installation wizard

The Quest Central Mainframe Installation wizard guides you through the upgrade process.

You must upgrade the Quest Central files on the mainframe and the Quest Central DB2 database objects on each subsystem. For the first subsystem you upgrade, you may perform these steps together during a single execution of the wizard. Alternatively, you can perform these steps separately, upgrading the mainframe files with the first execution of the wizard, and then re-launching the wizard to upgrade the DB2 database objects on the subsystem. Thereafter, for each additional subsystem you upgrade on the same machine, you need to run the wizard to upgrade only the Quest Central DB2 database objects on that subsystem.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

To run the Quest Central Mainframe Installation wizard

- 1** Double-click the appropriate subsystem in the Quest Central object tree to open the Connect window.
- 2** On the Connect window, specify the appropriate information in the **User ID** and **Password** fields.

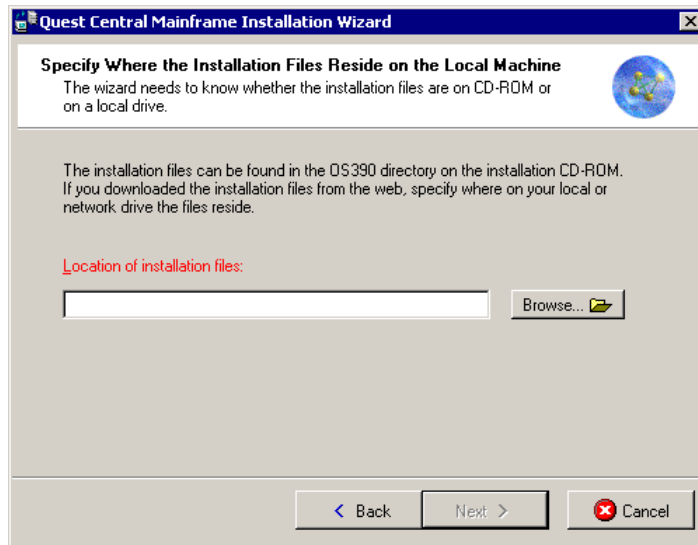
When the connection is established, one of two things happens:

- If this is the first time you have connected to the subsystem since you installed the Quest Central version 4.8 client, a message window appears, recommending that you upgrade the Quest Central mainframe components for this subsystem. Click **OK** to close the window, and right-click the subsystem again to display a menu.

Or

- A menu pops up from the subsystem in the object tree.
- 3** From the right-click menu, select **Install** to open the wizard's Welcome page.

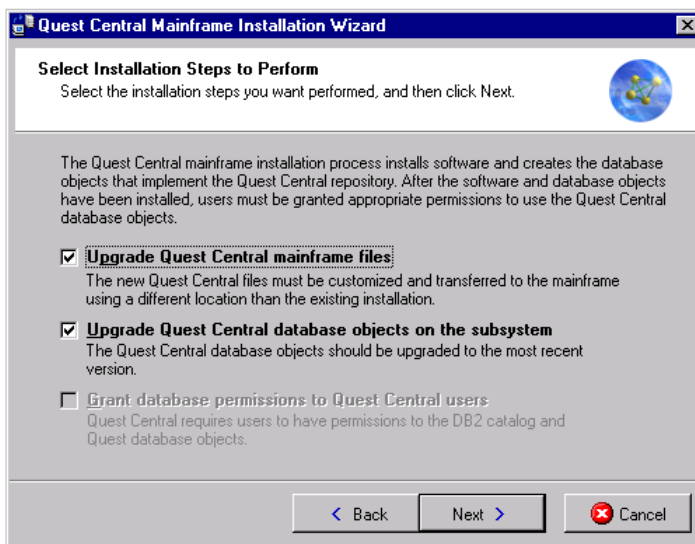
- 4 On the Welcome page, click **Next** to display the Specify Where the Installation Files Reside on the Local Machine page.



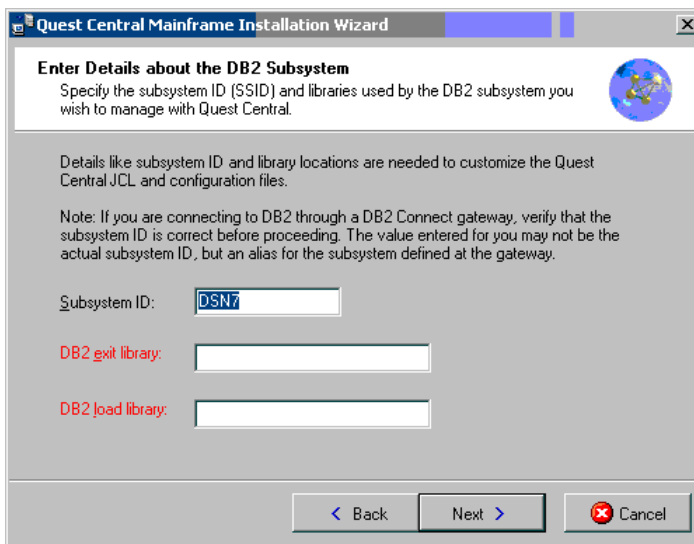
- 5 Click **Browse** to open the Browse for Folder window, where you can locate and select the \$QUESTHOME\InstallFiles directory on the client machine or on the *Quest Central for Databases - Installation* CD-ROM. Then click **OK** to close the Browse for Folder window.
- 6 Click **Next** to open the Select Installation Steps to Perform page.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components



- 7 On the Select Installation Steps to Perform page, select the appropriate options, then click **Next**. Your selections determine which page the wizard opens next:
- If you did *not* select **Upgrade Quest Central mainframe files**, but *did* select **Upgrade Quest Central database objects on the subsystem**, the Provide Parameters for Creating the Quest Central Database page opens. Go directly to step 19 on page 6-57.
 - If you selected **Upgrade Quest Central mainframe files**, the Enter Details about the DB2 Subsystem page (shown in the following figure) opens. Continue with step 11.



The screenshot shows a Windows-style window titled "Quest Central Mainframe Installation Wizard". The main heading is "Enter Details about the DB2 Subsystem". Below this, it says: "Specify the subsystem ID (SSID) and libraries used by the DB2 subsystem you wish to manage with Quest Central." There is a small globe icon on the right. A paragraph explains: "Details like subsystem ID and library locations are needed to customize the Quest Central JCL and configuration files." A note follows: "Note: If you are connecting to DB2 through a DB2 Connect gateway, verify that the subsystem ID is correct before proceeding. The value entered for you may not be the actual subsystem ID, but an alias for the subsystem defined at the gateway." There are three input fields: "Subsystem ID:" with the value "DSN7", "DB2 exit library:" (empty), and "DB2 load library:" (empty). At the bottom are buttons for "< Back", "Next >", and a "Cancel" button with a red X icon.

- 8 On the Enter Details about the DB2 Subsystem page, do the following:
 - a The **Subsystem ID** field shows the DB2 subsystem to which you are currently connected. Verify that the SSID shown in this field is the actual subsystem ID and not an alias for it (as it was defined at the gateway).
 - b In the **DB2 exit library** field, enter the fully-qualified name for the DB2 exit library.
 - c In the **DB2 load library** field, enter the fully-qualified name for the DB2 load library.
 - d Click **Next** to display the Specify Workload Manager (WLM) Environments for Quest Central page.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

Quest Central Mainframe Installation Wizard

Specify Workload Manager (WLM) Environments for Quest Central
Enter names of the two WLM environments needed for the DB2 stored procedures and functions used by Quest Central.

Note: If the WLM environments that will be used by Quest Central don't exist already, you can enter names for them now, and then ask your systems programmer to define the environments later.

Single-tasking WLM name:

Multitasking WLM name:

< Back Next > Cancel

- 9 On the Specify Workload Manager (WLM) Environments for Quest Central page, do the following:
 - a In the **Single-tasking WLM name** field, specify the same single-tasking WLM application environment that you specified for this subsystem for the older version of Quest Central for DB2. This environment is used by the DB2 stored procedures and functions that are in turn used by Quest Central.
 - b In the **Multi-tasking WLM name** field, specify the same multi-tasking WLM application environment that you specified for this subsystem for the older version of Quest Central for DB2. This environment is used by the DB2 stored procedures and functions that are in turn used by Quest Central.

- c Click **Next** to display the Temporary Location for the Installation Files page.

The screenshot shows a Windows-style dialog box titled "Quest Central Mainframe Installation Wizard". The main heading is "Temporary Location for the Installation Files". Below the heading, it says: "Specify the location on the mainframe where you want the installation files transferred." To the right of this text is a small globe icon. Below this, a paragraph explains: "The installation process uses FTP to transfer the software installation files to a location on the mainframe. Enter the high-level qualifier where you want these files placed. The SMS storage parameters and disk volume fields are optional. You may use them to specify how the datasets are allocated for the software installation files." There are three input fields: "High level qualifier:" with the text "QUEST.INSTL210" entered; "SMS storage parameters:" which contains three sub-fields: "Storage class:", "Data class:", and "Management class:", all of which are empty; and a checkbox labeled "Use disk volumes:" which is unchecked. At the bottom right, there are three buttons: "< Back", "Next >", and a "Cancel" button with a red X icon.

- 10 On the Temporary Location for the Installation Files page, perform the following steps:

Note • The temporary location you specify here must be different from the temporary location you specified when the older version of Quest Central's mainframe components were installed.

- a Enter a high-level qualifier to identify the location where the wizard can place the upgrade files temporarily after the FTP transfer. This is not necessarily the location where Quest Central will be permanently installed.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

- b** (Optional) Make the appropriate specifications in the **SMS Storage Parameters** pane, or select the **Use disk volumes** field to specify how the upgrade file datasets will be allocated.
- c** Click **Next** to display the Mainframe Location for Quest Central page.

Quest Central Mainframe Installation Wizard

Mainframe Location for Quest Central
Specify where on the mainframe you want Quest Central installed.

The installation JCL places Quest Central in the location specified by the high-level qualifier. Optionally, you can enter System Managed Storage (SMS) parameters or specific disk volumes to be used when allocating datasets.

High level qualifier:

SMS storage parameters:

Storage class:

Data class:

Management class:

☐ Use disk volumes:

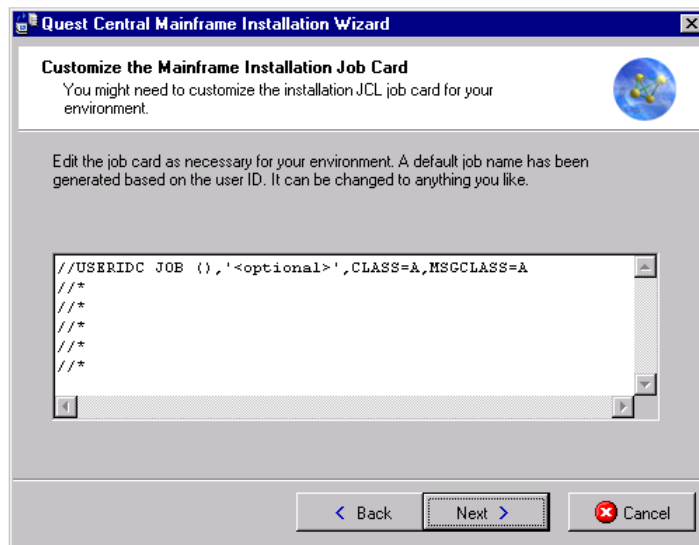
< Back Next > Cancel

- 11** Use the fields on the Mainframe Location for Quest Central page to specify the permanent location where the newest version of Quest Central is to be installed on the mainframe:

Note • The permanent location you specify here must be different from the permanent location you specified when the older version of Quest Central's mainframe components were installed.

Step 4: Upgrade the mainframe components

- a Enter a high-level qualifier to identify the location where the Quest Central mainframe components will be installed when the JCL is executed.
- b (Optional) Make the appropriate specifications in the **SMS Storage Parameters** pane, or use the **Use disk volumes** field to specify where the Quest Central datasets will be allocated.
- c Click **Next** to display the Customize the Mainframe Installation Job Card page.



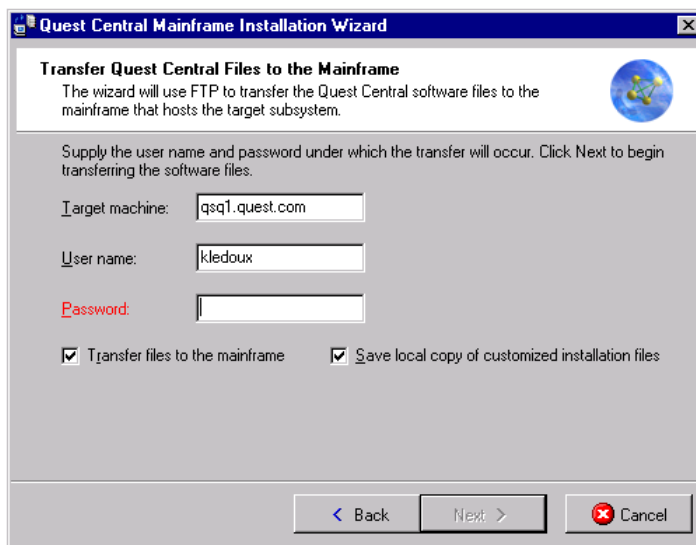
■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

- 12 Make any necessary changes to the generated job card shown on the Customize the Mainframe Installation Job Card page.

Note • The default job name is based on the user ID under which you connected to the subsystem where you are upgrading Quest Central's mainframe components. If you make changes to the default job card, your changes carry over to the next job card generated by the wizard.

- 13 When you have finished customizing the job card, click **Next** to display the Transfer Quest Central Files to the Mainframe page.



The screenshot shows the 'Quest Central Mainframe Installation Wizard' window. The title bar is blue with the text 'Quest Central Mainframe Installation Wizard'. The main window has a light gray background. At the top, there is a section titled 'Transfer Quest Central Files to the Mainframe' with a small globe icon. Below this, a text box explains: 'The wizard will use FTP to transfer the Quest Central software files to the mainframe that hosts the target subsystem.' Below this, there is a text box for 'Target machine:' with the value 'qsq1.quest.com'. Below that is a text box for 'User name:' with the value 'kledoux'. Below that is a text box for 'Password:' which is empty. At the bottom, there are two checked checkboxes: 'Transfer files to the mainframe' and 'Save local copy of customized installation files'. At the very bottom, there are three buttons: '< Back', 'Next >', and 'Cancel' with a red X icon.

- 14** On the Transfer Quest Central Files to the Mainframe page, enter the **User name** and **Password** under which FTP will transfer the files from the local machine to the temporary location on the mainframe. Additionally, note the following:

- If you select the **Save local copy of customized installation files** option, the wizard saves the files to this location:

`$QUESTHOME\InstallFiles\SSID`

where *SSID* is the subsystem to which you are connected.

- If you do not want to transfer the files at this time (but want to save the files locally to perform the transfer later), select the **Save local copy of the customized files** option, but clear the **Transfer files to the mainframe** option.

- 15** Click **Next**.

If you selected the **Transfer files to the mainframe** option, the file transfer starts. When the transfer is complete, the upgrade files reside in their temporary location on the mainframe. One of the following occurs:

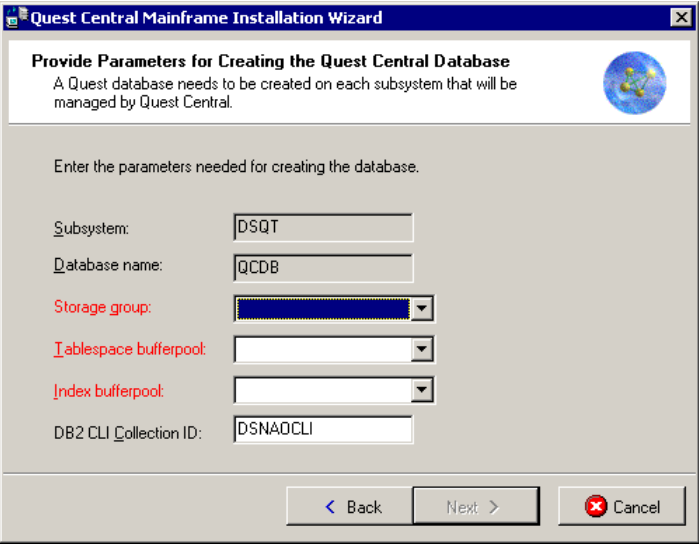
- If you selected *only* the **Upgrade Quest Central mainframe files** option in step **10**, the Completing the Mainframe Installation wizard page opens. Go directly to step **23** on [page 6-58](#).

Or

- If you selected the **Upgrade Quest Central database objects on the subsystem** option in step **10** on [page 6-46](#), the Provide Parameters for Creating the Quest Central Database page opens. Continue with step **19**.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components



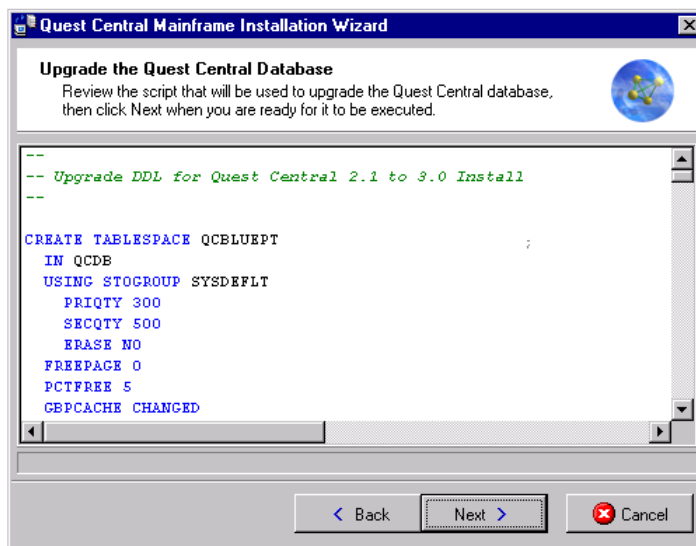
The screenshot shows a Windows-style dialog box titled "Quest Central Mainframe Installation Wizard". The main heading is "Provide Parameters for Creating the Quest Central Database". Below this, a note states: "A Quest database needs to be created on each subsystem that will be managed by Quest Central." The instruction "Enter the parameters needed for creating the database." is followed by several input fields: "Subsystem:" with the text "DSQT", "Database name:" with the text "QCDB", "Storage group:" with a dropdown menu, "Tablespace bufferpool:" with a dropdown menu, "Index bufferpool:" with a dropdown menu, and "DB2 CLI Collection ID:" with the text "DSNAOCLI". At the bottom right are three buttons: "< Back", "Next >", and a "Cancel" button with a red X icon.

- 16** On the Provide Parameters for Creating the Quest Central Database page, the **Subsystem** and **Database name** fields show the subsystem to which you are connected and the default name for the Quest database. Do the following:
- a** From the **Storage group** list, select the storage group where the indexes and tablespaces for the Quest database will be stored.
 - b** From the **Tablespace bufferpool** list, select the bufferpool you want used by the tablespaces for the Quest database.
 - c** From the **Index bufferpool** list, select the bufferpool you want used by the indexes for the Quest database.

- d** In the **DB2 CLI Collection ID** field, enter the location identifier that was used when the DB2 installation job DSNTIJCL was run.
 - e** Click **Next** to display the Specify Workload Manager (WLM) Environments for Quest Central page.
- 17** On the Specify Workload Manager (WLM) Environments for Quest Central page, do the following:
 - a** In the **Single-tasking WLM name** field, specify the same single-tasking WLM application environment that you specified for this subsystem for the older version of Quest Central for DB2. This environment is used by the DB2 stored procedures and functions that are in turn used by Quest Central.
 - b** In the **Multi-tasking WLM name** field, specify the same multi-tasking WLM application environment that you specified for this subsystem for the older version of Quest Central for DB2. This environment is used by the DB2 stored procedures and functions that are in turn used by Quest Central.
 - c** Click **Next** to display the Upgrade the Quest Central Database page.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components



- 18** On the Upgrade the Quest Central Database page, review the script. You can verify that the script will perform the necessary upgrades against the DB2 objects and will re-grant the necessary permissions to users on these objects when it executes.

Note • When this script is executed, it first upgrades any version 2.0 components to version 2.1, then upgrades the version 2.1 components to version 3.0, and so on, until it finally upgrades the version 4.0 components to version 4.8.

- 19** Click **Next** to execute the script.

When the script has executed successfully, the wizard displays the Completing the Mainframe Installation Wizard page.



■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

20 The wizard has completed its tasks, but there are some further installation tasks that must be completed by your site's systems programmer before Quest Central's mainframe components are fully functional. To complete those tasks, the systems programmer needs to know some of the identifiers you specified on the wizard pages. You can provide that information by doing either of the following:

- Select the **View remaining installation tasks** option.

When you click **Finish**, the installation task file opens, listing the identifier information required by the systems programmer. Print the file and give it to the systems programmer. When you close the installation task file, the wizard closes automatically.

Or

- You can send the file containing the identifier information directly to your site's systems programmer by selecting the **E-mail remaining installation tasks** option.

When the e-mail window opens, supply the necessary information and click **Send**. The e-mail window and the wizard close.

21 Ask your systems programmer to perform the remaining installation task described in *Task 3: Systems Programmer completes the upgrade* on page 6-59.

Task 3: Systems Programmer completes the upgrade

When the wizard has completed its tasks, six upgraded Quest Central datasets reside on the mainframe and have the temporary high-level qualifier specified through the wizard in step 13 (page 6-49). The DB2 administrator who ran the wizard can tell the systems programmer what this qualifier actually is; for documentation purposes, these files are referred to by the placeholder `temph1q`.

Dataset	Description
<code>temph1q.SAMPXMI</code>	The <code>SAMPLIB</code> partitioned dataset, converted by the <code>TSO TRANSMIT</code> command to flat-file format for transfer to the mainframe
<code>temph1q.JCLLIB</code>	A customized partitioned dataset containing members required by the systems programmer to complete the mainframe component installation
<code>temph1q.LOADXMI</code>	The <code>LOADLIB</code> partitioned dataset, converted by the <code>TSO TRANSMIT</code> command to a flat-file format that can be transferred to the mainframe
<code>temph1q.PARMLIB</code>	A customized partitioned dataset containing the <code>QPAGENT</code> parameter member, <code>QPAGTPRM</code>
<code>temph1q.QCINST</code>	A customized JCL stream that can run TSO in batch mode to copy <code>temph1q.QSMMSG</code> , <code>temph1q.PARMLIB</code> , and <code>temph1q.JCLLIB</code> to their permanent location and to convert the <code>SAMPLIB</code> to PDS or PDSE format and the <code>LOADLIB</code> to PDSE format
<code>temph1q.QSMMSG</code>	The text file that contains the informational and error messages for Quest Central for DB2

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

Note • After the systems programmer submits `temph1q.QCINST` for execution in step **1** under *To complete the upgrade* on page 6-60, the temporary high-level qualifier is replaced by the permanent qualifier specified through the wizard in step **14** (page 6-50). The DB2 administrator who ran the wizard can tell the systems programmer what the permanent qualifier actually is; for documentation purposes, these files are referred to by the placeholder `permh1q`.

To complete the upgrade

- 1** Submit `temph1q.QCINST` for execution.

When execution completes successfully, the following partitioned datasets (prefixed with `permh1q`) have been created: `SAMPLIB`, `LOADLIB`, `JCLLIB`, `PARMLIB`, and `QSMG`.

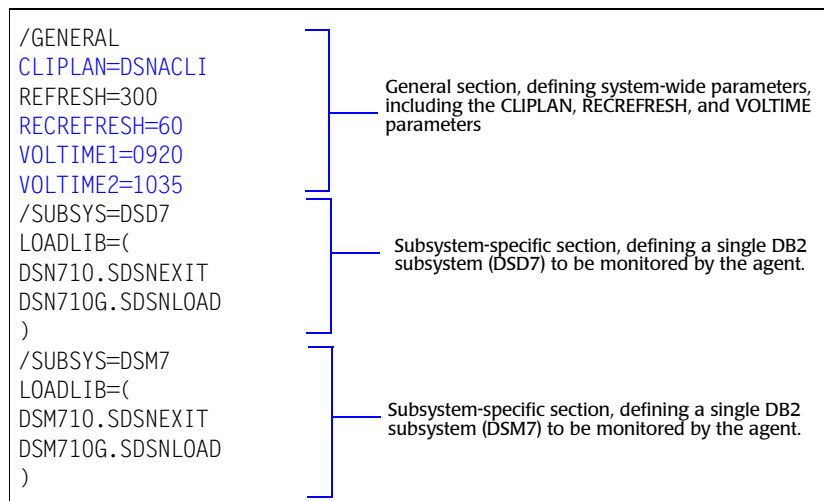
- 2** Quest Central's z/OS component issues privileged operating system instructions and macros. To ensure that these programs function properly, `permh1q.LOADLIB` must be APF authorized. To authorize the library dynamically for immediate use, please see the `SETPROG` command in *z/OS V1R4.0 MVS System Commands* (SA22-7627-07).

Note • Be sure to add the `permh1q.LOADLIB` to your system's `PROGxx` member so that the library remains authorized after your z/OS system is IPLd.

- 3** Copy both Workload Manager (WLM) application environment members (identified in step **12** on page 6-48 or in step **20** on page 6-55) currently in `permh1q.JCLLIB` to the system `PROCLIB` that contains the older version of these members. The old members are replaced with the members for version 4.8.

Note • Verify that the JCL for the these WLM application environments include all the STEPLIB libraries referenced in the *subsystem_name*MSTR JCL (where *subsystem_name* is the subsystem on which you are upgrading the Quest Central mainframe components).

- 4 Copy the parameter file QPAGTPRM from the older Quest Central permhlq.PARMLIB to the version 4.8 permhlq.PARMLIB.
- 5 Add the CLIPLAN and RECREFRESH parameters to the version 4.8 permhlq.PARMLIB. See the sample parmfile (as installed) for documentation about the individual keywords and how to use them. These parameters are shown in the following figure.




- 6 Copy the Performance Diagnostics agent JCL member, permhlq.JCLLIB(QPAGENT), to the system PROCLIB that contains the older version of this member. The old member is replaced with the member for version 4.8.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components


- 7** (Optional) By default, the started task used to run DSN commands is called QPDSNAT. This same task can be used for multiple DB2 subsystems. If you do not need to change the name of this started task, go on to step **8**.

Otherwise, if you do need to change the name of this started task, do the following:

- a** Copy `permhlq.JCLLIB(QPDSNAT)` into a system PROCLIB, using the new name.
- b** Click  to open the SQL Editor.
- c** On the SQL Editor's SQL tab, enter the following DDL in the upper pane:

```
ALTER SPECIFIC FUNCTION QUEST.QP200DSNCOMMAND RUN OPTIONS 'ENVAR("STCNAME=newname")'
```

where newname is the new name of the QPDSNAT member.

- d** Click  to execute the script.
 - e** Continue with step **8**.
- 8** Copy the DSN command processor task member, `permhlq.JCLLIB(QPDSNAT)`, to the system PROCLIB to replace the older version of this member.
- 9** Refresh the single-tasking and multi-tasking WLM application environments from the system console by issuing the VARY WLM commands. For information about these commands, refer to *z/ OS V1R4 MVS System Commands* (SA22-7627-07).

Step 4: Upgrade the mainframe components

10 Use TSO/ISPF option 3.4 to delete the following files:

- temph1q.SAMPXMI ■ temph1q.LOADXMI
- temph1q.JCLLIB ■ temph1q.QCINST
- temph1q.PARMLIB ■ temph1q.QSMSG

11 Confirm that the Quest Central mainframe components are completely upgraded:

a Run permh1q.JCLLIB(QCIVP).

This job verifies that the DB2 CLI has been installed and bound, and tests a sample of the Quest procedures and functions.

b Check the return code and QSPRINT message file:

Return code	Message	Meaning
0	Execution SUCCESSFUL	Success.
>4	Execution FAILED maxrc=xx	Problems exist. Save the job output and contact Quest Technical Support: E-mail support@quest.com Phone 949.754.8000 Web www.quest.com/support

12 If you want to upgrade Quest Central on another subsystem on the same machine, go on to *Task 4: (Optional) Upgrade Quest Central on additional subsystems* on page 6-64.

■ Installing Quest Central for DB2's Mainframe Components

Step 4: Upgrade the mainframe components

Additionally, if the Performance Diagnostics Agent (QPAGENT) is installed on the mainframe, you need to stop and start the QPAGENT address space using the MVS STOP and START commands as described in *z/OS V1R4.0 MVS System Commands (SA22-7627-07)*.

Otherwise, the Quest Central mainframe components upgrade is complete.

Task 4: (Optional) Upgrade Quest Central on additional subsystems

The DB2 administrator and the systems programmer can upgrade Quest Central DB2 database objects on additional subsystems without repeating all of Task 2 and without putting any unnecessary files on the mainframe.

Note • These additional subsystems must reside on the same machine as the initial subsystem on which you upgraded Quest Central mainframe components in Tasks 1 through 3. If the additional subsystems reside on a different machine than the subsystem already upgraded, you cannot use the procedure described in this section to upgrade them. You must upgrade the additional subsystems using the procedures described in Tasks 1 through 3.

To upgrade Quest Central on additional subsystems

- 1 (DB2 administrator) Ensure the temporary objects required for object list processing are available, as described in *Task 1: Ensure a temporary database and tablespace are available* on page 6-41.
- 2 (DB2 administrator) Complete steps **1 - 10** of *Task 2: Run the Quest Central Mainframe Installation wizard* on page 6-43, selecting *only* the **Upgrading Quest Central database objects on the subsystem** option on the Select Installation Steps to Perform page.

- 3 (DB2 administrator) Complete steps 19 - 24 of *Task 2: Run the Quest Central Mainframe Installation wizard* on page 6-43, specifying appropriate information for the additional subsystem.

Note • The two WLM application environments you specify for this additional subsystem must be for Quest Central's *exclusive* use. Do not attempt to specify pre-existing WLM environments that are used for other applications. Additionally, these WLM application environments must be different from the ones you specified for the Quest Central upgrade on any other subsystem.

- 4 (Systems programmer) Create JCL for two new WLM application environments by cloning the JCL already in permhlq.JCLLIB.
- 5 (Systems programmer) Edit the JCL for the new WLM application environments, making appropriate changes to their names and the DB2 parameters.

Note • Verify that the JCL for these WLM application environments includes all the STEPLIB libraries referenced in the *subsystem_name*MSTR JCL (where *subsystem_name* is the subsystem on which you are upgrading the Quest Central mainframe components).

- 6 (Systems programmer) Copy these two new WLM application environment members to the system PROCLIB that contains the older version of these members. The old members are replaced with the members for version 4.8.
- 7 Refresh the WLM application environments from the system console by issuing the VARY WLM commands. For information about these commands, refer to *z/OS V1R4.0 MVS System Commands* (SA22-7627-07).

■ **Installing Quest Central for DB2's Mainframe Components**

What mainframe objects were created by the installation?

- 8** (DB2 administrator and systems programmer) Repeat steps **1 - 7** of this procedure for each additional subsystem on the same machine where the Quest Central components need to be upgraded.

Otherwise, the Quest Central mainframe components upgrade is complete.

What mainframe objects were created by the installation?

When the installation or upgrade is complete, the following seven mainframe objects reside on your z/OS system. These objects are required for full Quest Central functionality:

Object	Where It resides
Single-task WLM procedure	SYSTEM.PROCLIB
Multi-task WLM procedure	SYSTEM.PROCLIB
QPAGENT procedure	SYSTEM.PROCLIB
QPDSNAT procedure	SYSTEM.PROCLIB
QPAGTPRM parameter file	permh1q.PARMLIB
Quest Central message file	permh1q.QSMG
Quest load library	permh1q.LOADLIB

What DB2 objects were created by the installation?

The installation process creates the following DB2 UDB for z/OS objects:

Object type	Object name
Database	QCDB
	QCTEMPDB
Tablespace	QCBUEPT
	QCJFITS
	QCLOBAUX
	QCOBJLST
	QCRECLOG
	QCRECTS
	QCRPT
	QCTEMPLT
	QCUTLIN
	QCUTLOUT
	QCSMTS (version 6 DDL only)
	QPLOGTS
	QPVOLTS
	QCRTEMPTS

■ Installing Quest Central for DB2's Mainframe Components

What DB2 objects were created by the installation?

Object type	Object name
Table	QUEST.QC_LOBAUXTB045 QUEST.QCBLUEPT_REP0030 QUEST.QCBLUEPT_STMT030 QUEST.QCJFI300_INPUT QUEST.QCJFI300_OUTPUT QUEST.QCOBJLIST_REP0045 QUEST.QCOBJLIST_STMT045 QUEST.QCRECORD_LOG_0300 QUEST.QCRECORDING_0300 QUEST.QCREPORT_DETAIL045 QUEST.QCREPORT_REP0045 QUEST.QCTEMPLATE_REP0200 QUEST.QCUTL200_TEMPLATES QUEST.QCUTL200_OUTPUT QUEST.QPLOGTB QUEST.QPVOLTB QUEST.SM_TABLEPART_HIST (version 6 DDL only) QUEST.SM_TABLES_HIST (version 6 DDL only) QUEST.SM_INDEXES_HIST (version 6 DDL only) QUEST.SM_INDEXPART_HIST (version 6 DDL only)
Index	QUEST.QCBLUEPT_REP0030 QUEST.QCBLUEPT_STMT030 QUEST.QCLOBAUX045IX QUEST.QCOBJLIST_REP0045 QUEST.QCOBJLIST_STMT040 QUEST.QCRECORD_LIX_0300 QUEST.QCRECORDING_X_0300 QUEST.QCREPORT_DET_IX QUEST.QCREPORT_REPO_IX QUEST.QCTEMPLATE_REP0200 QUEST.QPVOLTB_IX1 QUEST.SM_INDEXES_IX01 (version 6 DDL only) QUEST.SM_INDEXES_IX02 (version 6 DDL only) QUEST.SM_INDEXPART_IX01 (version 6 DDL only) QUEST.SM_TABLEPART_IX02 (version 6 DDL only)

What DB2 objects were created by the installation?

Object type	Object name
Function	QUEST.QC200CHECKPDS QUEST.QC200COMMAND QUEST.QC200DSVOLSTATS QUEST.QC200GETVOLUMEINFO QUEST.QC200LISTMEMBER QUEST.QC200STOGROUPVOLS QUEST.QC200SUBSYSINFO QUEST.QC200ZPARM QUEST.QCVER QUEST.QP200DSNCOMMAND QUEST.QP200LOGDATA QUEST.QP200READSDIR QUEST.QP200READSPC QUEST.QP200VOLUTIL QUEST.QP310LOGDATA QUEST.QP310VOLUTIL QUEST.QP450LOGDATA QUEST.QP450READSDIR QUEST.QP450VOLTUIL
Procedure	QUEST.QC200EXECUTE_UTIL QUEST.QC200SQLMSG QUEST.QC300JFI QUEST.QC45_OBJLIST_390 QUEST.QC450RETHLQ
Global Temporary Table	QUEST.QC_UTILOBJ
Schema	QUEST
View	QUEST.SM_INDEXES QUEST.SM_INDEXPART QUEST.SM_TABLEPART QUEST.SM_TABLES

Where do I go from here?

Where do I go from here?

If your license includes the SQL Analysis component, you also need to configure SQL Analysis on each machine where you plan to run SQL Analysis. Refer to *Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it* on page 5-24 for further instructions.

Otherwise, your Quest Central for DB2 installation is complete.

A

Installing Quest Central Using Silent Mode

This appendix provides instructions for installing Quest Central for DB2 using silent (unattended) mode.

About silent installation	A-2
Requirements	A-2
What are the advantages of using the silent install?	A-2
How does silent installation work?	A-3
Running a silent installation	A-3
Making changes to setup.iss	A-6

About silent installation

In a standard installation, the `setup.exe` program installs Quest Central for DB2 using an InstallShield wizard that walks you through the installation steps. However, `setup.exe` can also be run in silent (unattended) mode.

Note • Silent installation is supported only for installing the Quest Central client and the agent on Windows machines. You cannot run a silent install on UNIX or Linux/z/OS machines or on the mainframe.

Requirements

The silent installation must be the first installation of the Quest Central for DB2 client on a clean system, or the installation fails.

What are the advantages of using the silent install?

Silent installation provides a convenient method of pushing Quest Central for DB2 onto multiple machines that have the same installation parameters, or require the same subset of Quest Central components, or require the same installation directory path.

How does silent installation work?

Silent installation is a two-phase process.

Phase	Description	How do I implement it?
1	Record in a response file the information specified on the wizard pages.	Run <code>setup.exe -r</code> from the command line. This launches the installation wizard, creates the <code>setup.iss</code> response file, and writes the installation parameters to the file.
2	Launch the silent installations.	Run <code>setup.exe -s</code> from the Windows system root directory, using the installation parameters in <code>setup.iss</code> as input.

Running a silent installation

To run setup.exe in silent mode:

- 1 To create the silent response file, at the command line in the location where the setup files reside, enter the following command:

```
setup.exe -r
```

This launches the installation wizard, creates the `setup.iss` file in the Windows system root directory, and records the installation parameters in the file.

■ Installing Quest Central Using Silent Mode

About silent installation

- 2 (Optional) If you do not know the path for the Windows system root directory, at the command line, issue this command: `echo %systemroot%`

The system returns the path for the Windows system root directory.

- 3 At the command line, enter one of the following:

- Enter `installfilelocation setup.exe -s -f1path\filename`, where:

Token	Meaning
<i>installfilelocation</i>	Identifies the location of the setup files. This can be a network drive and folder (for example, <code>V:\Admin\QCDB2</code>), a hard drive and folder (for example, <code>C:\Programs\QCDB2</code>) or the CD-ROM drive on your machine (for example, <code>E:\</code>).
<i>path</i>	Identifies the folder where the response file resides.
<i>filename</i>	Identifies the response file.

Example: `E:\Setup.exe -s -f1c:\wWindows\setup.iss`

Or

- If you want the setup log file written to some other location or name, enter *installfilelocation* `setup.exe -s -f1path\filename -f2logpath\logfile`, where:

Token	Meaning
<i>installfilelocation</i>	Identifies the location of the setup files. This can be a network drive and folder (for example, V:\Admin\QCDB2), a hard drive and folder (for example, C:\Programs\QCDB2) or the CD-ROM drive on your machine (for example, E:\).
<i>path</i>	Identifies the folder where the response file resides.
<i>filename</i>	Identifies the response file.
<i>logpath</i>	Identifies the folder where you want the log file written.
<i>logfile</i>	Identifies the log file.

- 4 (Optional) If you want to automate the silent installations over a network, do the following:
 - a Copy the Quest Central setup files and the `setup.iss` file to a shared network directory.
 - b Add the `setup.exe` command to the logon scripts for the appropriate users. Be sure to include the appropriate command parameters.

■ Installing Quest Central Using Silent Mode

About silent installation

Making changes to setup.iss

Using any text editor, you can modify the setup.iss file to change the install parameters without having to run setup.exe -r again. For example, you can change the installation directory by updating the szDir value, which is highlighted in the following figure.

szDir value ►

```
[InstallShield silent]
version=v6.00.00
File=Response File
[File Transfer]
OverwrittenReadOnly=NoToAll
[{$C1[{$C1BB8646-75CB-4687-8981-A3C7A8345356}-DlgOrder]}
Dlg0={$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdWelcome-0
Count=7
Dlg1={$C1BB8646-75CB-4687-8981-A3C7A8345356}-AskOptions-0
Dlg2={$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdComponentDialog-0
Dlg3={$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdSelectFolder-0
Dlg4={$C1BB8646-75CB-4687-8981-A3C7A8345356}-AskOptions-1
Dlg5={$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdStartCopy-0
Dlg6={$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdFinish-0
[{$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdWelcome-0]
Result=1
[{$C1BB8646-75CB-4687-8981-A3C7A8345356}-AskOptions-0]
Result=1
Sel-0=0
[{$C1BB8646-75CB-4687-8981-A3C7A8345356}-SdComponentDialog-0]
szDir=C:\Program Files\Quest Software\Quest Central for DB2 v1.1
Quest Central Common-type=string
Quest Central Common-count=3
Quest Central Common-0=Quest Central Common\Quest Central
Quest Central Common-1=Quest Central Common\Common
Quest Central Common-2=Quest Central Common\Common SQLab
Component-type=string
Component-count=3
Component-0=Quest Central Common
Component-1=SQLab
Component-2=SQLab390
Result=1
```

```
{C1BB8646-75CB-4687-8981-A3C7A8345356}-SdSelectFolder-0]
szFolder=Quest Software\Quest Central for DB2 v1.1
Result=1
[{C1BB8646-75CB-4687-8981-A3C7A8345356}-AskOptions-1]
Result=1
Sel-0=1
Sel-1=0
[{C1BB8646-75CB-4687-8981-A3C7A8345356}-SdStartCopy-0}
Result=1
[Application]
Name=Quest Central
version=1.1
Company=Quest Software
Lang=0009
[{C1BB8646-75CB-4687-8981-A3C7A8345356}-SdFinsih-0}
Result=1
BOpt1=0
BOpt2=0
```

■ Installing Quest Central Using Silent Mode

About silent installation

B

Guidelines for Setting Up the SQL Analysis Repository Database

This appendix provides guidelines for configuring the DB2 database in which you intend to install a SQL Analysis for DB2 Repository. These guidelines can help you obtain optimal performance from the repository.

In this appendix

SQL Analysis for DB2 Repository performance concerns	B-4
Disclaimer	B-5
Alternative to these tuning guidelines	B-5
Collection size definitions	B-6

The guidelines	B-6
Repository-dedicated database recommended	B-6
Suggested DB2 Registry settings	B-7
Suggested database manager configuration settings	B-8
Suggested database configuration settings	B-8
Suggested tablespace and bufferpool settings	B-11
Container location recommendations	B-18
Recommendations for specific repository tables and indexes	B-18
Maintenance guidelines	B-19
 Estimating tablespace sizes for the SQL Analysis for DB2 Repository	 B-21
Step 1: Estimate the number of collections you intend to store in the SQL Analysis for DB2 Repository	B-22
Step 2: Estimate the average number of rows that a single collection inserts in each repository table	B-23
Step 3: Estimate the number of rows required to store the text of unique statements	B-24
Step 4: Calculate the number of rows each table requires for all collections	B-25
Step 5: Determine the number of rows that fit on a data page for each table	B-26
Step 6: Calculate the number of data pages required for each repository table	B-28
Step 7: Determine the number of keys that fit on an index page for each index	B-30
Step 8: Calculate the number of index pages required for each repository index	B-32
Step 9: Calculate the tablespace sizes for your SQL Analysis for DB2 Repository	B-34
 Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes	 B-41
Rows per page in repository tables that store collection information	B-42
Rows per page in repository tables that store Extended Analysis information	B-43

Rows per page in repository tables that store Custom Report
information B-44

Keys per page in repository indexes that store collection information B-44

Keys per page in repository indexes that store Extended Analysis
information B-46

Keys per page in repository indexes that store Custom Report
information B-47

SQL Analysis for DB2 Repository performance concerns

The SQL Analysis for DB2 Repository is a set of tables and their indexes that you install in an existing DB2 database. The tables will store SQL statement, transaction, catalog, and EXPLAIN data gathered during the SQL Analysis collection processes.

During a SQL Analysis collection, the Quest Central for DB2 Agent, which controls the collection process, generally inserts a large number of records and performs a moderate number of record updates in these repository tables. The agent also issues queries against these tables. Subsequently, any issues with the bufferpools or tablespaces associated with these tables in the DB2 database—as well as any unit-of-work, I/O, or logging issues—impact the agent's performance.


SQL Analysis on the Quest Central client provides user access to the repository data. SQL Analysis heavily queries the repository tables to provide views of the collection data and performs a moderate number of deletes on the repository database. Again, bufferpool, tablespace, and I/O—as well as sorting—issues impact the performance of SQL Analysis on the client.

The following guidelines suggest ways in which you can set up the DB2 database that contains the SQL Analysis for DB2 Repository to help ensure effective SQL Analysis performance.

Disclaimer

The Quest Central for DB2 Agent and SQL Analysis on the Quest Central client are DB2 UDB applications that are subject to performance-tuning as needed if you are not obtaining satisfactory performance from your collection processes and analyses. Applying the following set-up procedures to the DB2 database that contains the SQL Analysis for DB2 Repository provides a basis for this tuning process. Keep in mind that these guidelines provide a start for performance-tuning; your environment might require additional tuning procedures.

Alternative to these tuning guidelines

As an alternative to applying the following set-up procedures to the DB2 database that will contain the SQL Analysis for DB2 Repository, you can create filters when you prepare to run a SQL Analysis collection. These filters can reduce the amount of data gathered in the collection. For more information about these filters, press F1 from the Create Collection window. (This window opens when you click the **Create Collection**  button from the SQL Analysis tool bar.)

Collection size definitions

Certain guidelines described in the sections that follow are specific to the size of the collections that you intend to run in your environment. Therefore, before applying these guidelines, determine a general size—*small*, *medium*, or *large*—for the set of collections you intend to store in the repository.

Collection size	Description
small	A collection that captures fewer than 150,000 statements and transactions
medium	A collection that captures more than 150,000—but fewer than 500,000—statements and transactions
large	A collection that captures more than 500,000 statements and transactions

The guidelines

To help achieve effective SQL Analysis for DB2 Repository performance, follow these guidelines in setting up the DB2 database in which the repository will reside.

Repository-dedicated database recommended

The DB2 database that will contain the SQL Analysis for DB2 Repository should be dedicated solely for use as the repository.

Suggested DB2 Registry settings

The following are recommended DB2 Registry settings for the database containing the SQL Analysis for DB2 Repository:

- Set DB2_PARALLEL_IO to * (or set this parameter to a comma-delimited list of the names of the specific tablespaces used by the repository tables, temporary tables, and indexes) when the repository tables exist in DMS tablespaces *and* at least one of the following conditions exists:
 - The repository table data and indexes reside in separate DMS tablespaces.
- Or**
- The repository tablespaces reside in more than one container per tablespace.
- Or**
- The repository tablespaces are located on separate physical disks.
- Set DB2NTNOCACHE to ON if the tablespaces in which the database resides are located in DMS file-based containers on a Windows NT, 2000, 2003, or XP machine.
- Set DB2_HASH_JOIN to YES if the repository resides in a DB2 UDB, version 7 database. (The default value for a DB2 UDB, version 8 database is YES.)

■ **Guidelines for Setting Up the SQL Analysis Repository Database**

The guidelines

Suggested database manager configuration settings

Set the database manager configuration parameter `INTRA_PARALLEL` to YES if the machine containing the SQL Analysis for DB2 Repository database has multiple CPUs.

Suggested database configuration settings

The following chart describes recommended database configuration parameter settings for the DB2 database containing the SQL Analysis for DB2 Repository.

Parameter	Recommendation
DB_HEAP	<p>Choose an appropriate value within the value range for the machine type:</p> <ul style="list-style-type: none">■ On a Windows machine, use a value between 900 and 1200, inclusively.■ On a UNIX machine, use a value between 1500 and 1800, inclusively. <p>Increase or decrease this value as needed for LOGBUFSZ or bufferpool size changes.</p>
DFT_DEGREE	<p>Use -1 if the <code>INTRA_PARALLEL</code> database manager configuration parameter is set to YES.</p>

Parameter	Recommendation
LOGBUFSZ	<p>Start with 256.</p> <p>In general, the value should establish a log buffer that is large enough to accommodate the average log space usage for a SQL Analysis Agent transaction. A buffer of this size helps reduce the number of times that a transaction is split across multiple I/Os.</p> <p>Use Quest Central’s Performance Diagnostics for DB2 component to determine whether this setting needs to be adjusted to accommodate the average log space usage at your site.</p>
LOGFIL_SIZ	<p>Start with 16384.</p> <p>In general, the value should establish a log file large enough to avoid frequent creation of secondary log files and frequent log file swapping. Use Quest Central’s Performance Diagnostics for DB2 component to determine whether this setting needs to be adjusted to accommodate the log space usage at your site.</p>
LOGPRIMARY	<p>Use 4 or greater.</p>
LOGSECOND	<p>Use 2 or greater.</p>

■ Guidelines for Setting Up the SQL Analysis Repository Database

The guidelines

Parameter	Recommendation
SORTHEAP	<p>Choose the appropriate value based on the general size of collections that you intend to run in your environment (or that you intend to store in the repository):</p> <ul style="list-style-type: none">■ For a small-collection environment, use 2000.■ For a medium-collection environment, use 4000.■ For a large-collection environment, use 8000.
CHNGPGS_THRESH	<p>Start with 60.</p> <p>You might need to decrease this value if you increase the bufferpool size. Use Quest Central's Performance Diagnostics for DB2 component to determine whether infrequent bufferpool threshold cleans or excessive victim page cleans are occurring. Either of these conditions might indicate the need to reduce this parameter value.</p>
NUM_IOCLEANERS	Use a value between 3 and 5, inclusively.
NUM_IOSERVERS	Use a value between 6 and 10, inclusively.
LOCKTIMEOUT	Use a positive-integer value appropriate for your environment.

Suggested tablespace and bufferpool settings

The following sections (*For small-collection sites* on page B-12, *For medium-collection sites* on page B-13, and *For large-collection sites* on page B-15) describe guidelines for setting up both the DB2 tablespaces that will contain SQL Analysis for DB2 Repository tables and the bufferpools assigned to these tablespaces. These guidelines vary according to the size of collections run at your site. Locate the appropriate section below that lists guidelines for your site's collection size.

Repository table distinctions in the guidelines

Certain guidelines in the following three sections distinguish between repository tables and indexes that hold SQL Analysis collection information only and those repository tables and indexes that hold Extended Analysis and Custom Report information. For complete listings of these two types of tables and indexes, refer to the charts in *Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes* on page B-41.

The guidelines

For small-collection sites

In a small-collection environment, each collection captures fewer than 150,000 statements and transactions.

If your site meets this criterion (or if the SQL Analysis for DB2 Repository will store collections no larger than this size), use the guidelines in Table B-1 and Table B-2 for setting up the tablespaces and bufferpools in the DB2 database that will contain the repository.

For information about estimating the size of each recommended tablespace, refer to *Estimating tablespace sizes for the SQL Analysis for DB2 Repository* on page B-21.

Table B-1 • Tablespace settings for small-collection sites

Parameter	Recommendation
Page size	Specify 4K.
Number of tablespaces	Create two: <ul style="list-style-type: none">■ One SMS tablespace for all repository tables and indexes■ One SMS tablespace for temporary tables
Extent size	Specify 32 pages.
Pre-fetch size	Specify 64 to 128 pages.

Table B-2 • Bufferpool settings for small-collection sites

Recommended bufferpool	Page size	Pool size (in pages)
One bufferpool for the tablespace containing repository tables and indexes	4K	4000
One bufferpool for the tablespace containing temporary tables	4K	4000

For medium-collection sites

In a medium-collection environment, each collection captures more than 150,000—but fewer than 500,000—statements and transactions.

If your site meets this criterion (or if the SQL Analysis for DB2 Repository will store collections no larger than this size), use the guidelines in Table B-3 and Table B-4 for setting up the tablespaces and bufferpools in the DB2 database that will contain the repository.

For information about estimating the size of each recommended tablespace, refer to *Estimating tablespace sizes for the SQL Analysis for DB2 Repository* on page B-21.

Table B-3 • Tablespace settings for medium-collection sites

Parameter	Recommendation
Page size	Specify 4K or 32K (see next row).
Number of tablespaces	<p>Create four:</p> <ul style="list-style-type: none">■ One 32K-page DMS tablespace for those repository tables that store collection information only■ One 32K-page DMS tablespace for indexes on repository tables that store collection information only■ One DMS tablespace for temporary tables■ One 4K-page SMS tablespace for all other repository tables (which store Extended Analysis and Custom Report information) and their indexes
Extent size	Specify 32 pages.
Pre-fetch size	<p>Use these numbers of pages:</p> <ul style="list-style-type: none">■ For the tablespace containing indexes on repository tables that store collection information, specify a value between 64 to 128, inclusively.■ For all other tablespaces, specify 128.

Table B-4 • Bufferpool settings for medium-collection sites

Recommended bufferpool	Page size	Pool size (in pages)
One bufferpool for all DMS tablespaces containing both temporary tables and those repository tables containing collection information only	32K	6144
One bufferpool for the tablespace containing the indexes for repository tables that hold collection information only	32K	1024
One bufferpool for all other repository tables (which store Extended Analysis and Custom Report information) and indexes	4K	2000

For large-collection sites

In a large-collection environment, each collection collects greater than 500,000 statements and transactions.

If your site meets this criterion (or if the SQL Analysis for DB2 Repository will store collections of this size), use the guidelines in Table B-5 and Table B-6 for setting up the tablespaces and bufferpools in the DB2 database that will contain the repository.

■ Guidelines for Setting Up the SQL Analysis Repository Database

The guidelines

For information about estimating the size of each recommended tablespace, refer to *Estimating tablespace sizes for the SQL Analysis for DB2 Repository* on page B-21.

Table B-5 • Tablespace settings for large-collection sites

Parameter	Recommendation
Page size	Specify 4K or 32K (see next row).
Number of tablespaces	<p>Create six to eight:</p> <ul style="list-style-type: none">■ One 32K-page DMS tablespace for the SC_STATISTICS repository table■ One 32K-page DMS tablespace for indexes on SC_STATISTICS■ Additionally, if transaction volume is large:<ul style="list-style-type: none">One 32K-page DMS tablespace for the SC_TRANSACTIONS repository tableOne 32K-page DMS tablespace for indexes on SC_TRANSACTIONS■ One 32K-page DMS tablespace for all other repository tables that store collection information only■ One 32K-page DMS tablespace for all other indexes on tables that store collection information■ One 4K-page SMS tablespace for repository tables that store Extended Analysis and Custom Report information and for indexes on these tables■ One 32K-page DMS tablespace for temporary tables

Table B-5 • Tablespace settings for large-collection sites

Parameter	Recommendation
Extent size	Specify 32 pages.
Pre-fetch size	Use these numbers of pages: <ul style="list-style-type: none">■ For the tablespace containing indexes on the repository tables that store collection data only, specify a value between 64 and 128, inclusively.■ For all other tablespaces, specify 128.

Table B-6 • Bufferpool settings for large-collection sites

Recommended bufferpool	Page size	Pool size (in pages)
One bufferpool for all DMS tablespaces containing both temporary tables and those repository tables containing collection information only	32K	8192
One bufferpool for the tablespace containing the indexes for repository tables that hold collection information only	32K	2048
One bufferpool for all other repository tables (which store Extended Analysis and Custom Report information) and indexes	4K	3000

Container location recommendations

General recommendations

The most desirable configuration is to have each of the three tablespace types—for repository tables, for temporary tables, and for indexes—on separate physical disks.

If the use of separate physical disks for each type of tablespace is not possible, the next best configuration is to have the tablespaces for repository tables on a disk separate from the disk containing the tablespaces for repository indexes. It is recommended that the tablespaces for temporary tables be placed on the physical disk containing the index tablespaces.

The least desirable configuration is to have all three types of tablespace on the same physical disk.

DMS container type recommendation

For DMS tablespaces, device-based containers are preferred over file-based containers.

Recommendations for specific repository tables and indexes

The following recommendations are for setting up specific SQL Analysis for DB2 Repository tables and their indexes.

Clustering indexes

For medium- and large-collection environments, the performance of the SQL Analysis Client benefits from converting the following primary indexes (each listed below with its associated repository table) to clustering indexes:

Primary index	For repository table
SC_PATS_PK	SC_PATTERNS
SC_STATS_PK	SC_STATISTICS
SC_TRANS_PK	SC_TRANSACTIONS

Free space allowance

For each repository table and index listed above, set the PCTFREE parameter to 10 to accommodate periodic table and index REORG processing.

Maintenance guidelines

To help DB2 choose efficient access paths to SQL Analysis for DB2 Repository tables and to DB2 objects accessed by the collected SQL during SQL Analysis agent and client processes, you need to run certain utilities at specific times.

■ Guidelines for Setting Up the SQL Analysis Repository Database

The guidelines

Recommended utility runs

Follow these guidelines:

- Run the RUNSTATS utility at least once against the system catalog tables on the database that contains the SQL Analysis for DB2 Repository.
- Run the RUNSTATS utility periodically against the SQL Analysis for DB2 Repository tables, especially after the first couple of collections run.
- Run the REORGCHK utility periodically against the SQL Analysis for DB2 Repository tables to determine whether you need to run the REORG utility on the tables.
- Run the RUNSTATS utility at least once against the system catalog tables on each DB2 database on which the SQL Analysis Agent will be collecting data, especially if your applications issue static SQL.
- Run the REORGCHK utility against the system catalog tables on each DB2 database on which the SQL Analysis Agent will be collecting data to determine whether you need to run the REORG utility on these tables.

Options for executing Collect Statistics (RUNSTATS)

When you use the Quest Central for DB2 Collect Statistics feature to run RUNSTATS on the repository and system catalog tables, select the following options on the Collect Table Statistics window:

- Collect table statistics option
- Collect column statistics option
- On key columns option (under Collect column statistics)

- Collect distribution statistics option
- On all columns option (under Collect distribution statistics)
- Collect index statistics option
- Collect detailed statistics option (under Collect index statistics)

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

The following process helps you to determine size of each tablespace that the guidelines for setting up your SQL Analysis for DB2 Repository database recommend.

Note • This process focuses on determining sizes for those tablespaces that will store SQL Analysis collection information, not for those tablespaces that will store SQL Analysis Extended Analysis or Custom Report information or temporary data. However, Step 9 offers suggestions for estimating the sizes for the tablespaces that will hold Extended Analysis, Custom Report, and temporary data.

Step	Description	Location
1	Estimate the number of collections you intend to store in the SQL Analysis for DB2 Repository.	page B-22
2	Estimate the average number of rows that a single collection inserts in each repository table.	page B-23
3	Estimate the number of rows required to store the text of unique statements.	page B-24

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Step	Description	Location
4	Calculate the number of rows each table requires for all collections.	page B-25
5	Determine the number of rows that fit on a data page for each table.	page B-26
6	Calculate the number of data pages required for each repository table.	page B-28
7	Determine the number of keys that fit on an index page for each index.	page B-30
8	Calculate the number of index pages required for each repository index.	page B-32
9	Calculate the tablespace sizes for your SQL Analysis for DB2 Repository.	page B-34

Step 1: Estimate the number of collections you intend to store in the SQL Analysis for DB2 Repository

To estimate the number of collections that the repository will store

- Use any of the following parameters (or your own parameters) to help you develop this estimate:
 - Base your estimation on the number of SQL Analysis collections run historically at your site and stored in a specific repository.

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

- Use the SQL Analysis for DB2 Repository Manager to create a test repository in USERSPACE1. Run collections as you would during a typical time frame to help you gauge the number of collections you tend to store in the repository over a period of time.

Step 2: Estimate the average number of rows that a single collection inserts in each repository table

To estimate the number of rows each repository table will store for a single typical SQL Analysis collection

- Use the following chart to determine an estimate for each table:

Repository table	Row estimation guideline
QUEST.SC_COLINFO	Use a value between 16 and 145. The average is 16 rows for a single collection.
QUEST.SC_COLLECTION	Use 1. (One row is generated per collection.)
QUEST.SC_CONNECTIONS	Estimate the average number of applications that you expect to disconnect during a single collection period.
QUEST.SC_DEADLOCKS	Estimate the average number of deadlocks you expect a typical collection to encounter.
QUEST.SC_DLDETAIL	Estimate the average number of applications involved in a typical deadlock situation.

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository table	Row estimation guideline
QUEST.SC_LITERALS	Calculate the following: <i>4 * the average number of unique SQL statements detected during a single collection period</i>
QUEST.SC_PATTERNS	Estimate the average number of unique SQL statements detected during a single collection period.
QUEST.SC_STATISTICS	Estimate the average number of SQL statement executions captured during a single collection period.
QUEST.SC_SUMMARY	Use this formula to calculate the number of rows: <i>2 + (2 * number of applications detected during a collection period) + (2 * number of packages detected during a collection period) + (2 * number of user IDs detected during a collection period)</i>
QUEST.SC_TRANSACTIONS	Estimate the average number of transactions captured during the collection period.
QUEST.SC_WORKLOAD	Use a value between 60 and 1440. The average number of rows is 60.

Step 3: Estimate the number of rows required to store the text of unique statements

The QUEST.SC_STMT_TEXT table is designed to store the text of each unique statement in 254-byte rows. With this row size, a unique statement can require multiple rows to store its text.

To estimate the number of rows required to store the text of unique statements

- ▶ Use the following formula. (This calculation requires that you provide the number of unique statements you expect to store in the repository for all collections.)
$$(8 * 1024 \text{ (total number of unique statements expected to be stored in repository)}) / 254$$

Note • In this equation, the value 8 * 1024 is the average length (in bytes) of a SQL statement. Adjust this number as needed for your environment.

Step 4: Calculate the number of rows each table requires for all collections

To calculate the number of rows that each repository table requires to store information for all collections

- ▶ Multiply each value you determined in Step 2 (page B-23) by the number of collections that you indicated in Step 1 (page B-22).

Repository table	Row calculation for all collections
QUEST.SC_COLINFO	Step 1 value * Step 2 value for QUEST.SC_COLINFO
QUEST.SC_COLLECTION	Step 1 value * Step 2 value for QUEST.SC_COLLECTION
QUEST.SC_CONNECTIONS	Step 1 value * Step 2 value for QUEST.SC_CONNECTIONS
QUEST.SC_DEADLOCKS	Step 1 value * Step 2 value for QUEST.SC_DEADLOCKS

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository table	Row calculation for all collections
QUEST.SC_DLDETAIL	Step 1 value * Step 2 value for QUEST.SC_DLDETAIL
QUEST.SC_LITERALS	Step 1 value * Step 2 value for QUEST.SC_LITERALS
QUEST.SC_PATTERNS	Step 1 value * Step 2 value for QUEST.SC_PATTERNS
QUEST.SC_STATISTICS	Step 1 value * Step 2 value for QUEST.SC_STATISTICS
QUEST.SC_SUMMARY	Step 1 value * Step 2 value for QUEST.SC_SUMMARY
QUEST.SC_TRANSACTIONS	Step 1 value * Step 2 value for QUEST.SC_TRANSACTIONS
QUEST.SC_WORKLOAD	Step 1 value * Step 2 value for QUEST.SC_WORKLOAD

Step 5: Determine the number of rows that fit on a data page for each table

To determine the number of rows that each data page for a specific SQL Analysis for DB2 Repository table will hold

- 1 Determine what page size you intend to use for the tablespace that will store the specific repository table.

The section [Suggested tablespace and bufferpool settings](#) on page B-11 recommends page sizes for various tablespaces in which you intend to store collection data.

- 2 Use the chart below to determine the number of rows that can fit on a page of the specific page size for a given table.

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

For example, if you are using a 32K page size to create the tablespace that will store the `QUEST.SC_COLLECTION` table, locate the **Rows per 32K page** column in the chart. Move down the column to the value corresponding to the `QUEST.SC_COLLECTION` table. The value 198 indicates that, based on the average row size for this table, each data page for the table will hold 198 rows.

You need the rows-per-page value for each table to perform the calculations in Step 6 ([page B-28](#)).

Repository table	Row size (in bytes)	Rows/ 4K page	Rows/ 8K page	Rows/ 16K page	Rows/ 32K page
<code>QUEST.SC_COLINFO</code>	63	55	111	223	255
<code>QUEST.SC_COLLECTION</code>	155	24	49	98	198
<code>QUEST.SC_CONNECTIONS</code>	914	4	8	17	35
<code>QUEST.SC_DEADLOCKS</code>	88	41	82	166	255
<code>QUEST.SC_DLDETAIL</code>	465	8	17	34	68
<code>QUEST.SC_LITERALS</code>	128	29	58	118	236
<code>QUEST.SC_PATTERNS</code>	157	24	48	97	195
<code>QUEST.SC_STATISTICS</code>	500	7	15	31	64
<code>QUEST.SC_SUMMARY</code>	407	9	19	39	78
<code>QUEST.SC_TRANSACTIONS</code>	327	11	24	48	97

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository table	Row size (in bytes)	Rows/ 4K page	Rows/ 8K page	Rows/ 16K page	Rows/ 32K page
QUEST.SC_WORKLOAD	412	9	19	38	77
QUEST.SC_STMT_TEXT	240	16	32	65	130

Step 6: Calculate the number of data pages required for each repository table

To calculate the number of data pages that each SQL Analysis for DB2 Repository table requires

- 1 Divide the value calculated for each table in Step 4 (page B-25) by the rows-per-page value determined for the table in Step 5 (page B-26).

The chart below lists this calculation for each table.

- 2 Round the final value for each table *up* to the next integer.

Note • This step includes calculating the number of data pages required for the QUEST.SC_STMT_TEXT table, as shown in the following chart. You use the value determined in Step 3 (page B-24) in this specific calculation.

Repository table	Row calculation for all collections
QUEST.SC_COLINFO_PK	Step 4 value for QUEST.SC_COLINFO / Step 5 rows-per-page value for QUEST.SC_COLINFO
QUEST.SC_COLL_PK	Step 4 value for QUEST.SC_COLLECTION / Step 5 rows-per-page value for QUEST.SC_COLLECTION

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository table	Row calculation for all collections
QUEST.SC_CONNECTIONS	Step 4 value for QUEST.SC_CONNECTIONS / Step 5 rows-per-page value for QUEST.SC_CONNECTIONS
QUEST.SC_DEADLOCKS	Step 4 value for QUEST.SC_DEADLOCKS / Step 5 rows-per-page value for QUEST.SC_DEADLOCKS
QUEST.SC_DLDETAIL	Step 4 value for QUEST.SC_DLDETAIL / Step 5 rows-per-page value for QUEST.SC_DLDETAIL
QUEST.SC_LITERALS	Step 4 value for QUEST.SC_LITERALS / Step 5 rows-per-page value for QUEST.SC_LITERALS
QUEST.SC_PATTERNS	Step 4 value for QUEST.SC_PATTERNS / Step 5 rows-per-page value for QUEST.SC_PATTERNS
QUEST.SC_STATISTICS	Step 4 value for QUEST.SC_STATISTICS / Step 5 rows-per-page value for QUEST.SC_STATISTICS
QUEST.SC_SUMMARY	Step 4 value for QUEST.SC_SUMMARY / Step 5 rows-per-page value for QUEST.SC_SUMMARY
QUEST.SC_TRANSACTION	Step 4 value for QUEST.SC_TRANSACTION / Step 5 rows-per-page value for QUEST.SC_TRANSACTION
QUEST.SC_WORKLOAD	Step 4 value for QUEST.SC_WORKLOAD / Step 5 rows-per-page value for QUEST.SC_WORKLOAD
QUEST.SC_STMT_TEXT	Step 3 value for QUEST.SC_STMT_TEXT / Step 5 rows-per-page value for QUEST.SC_STMT_TEXT

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Step 7: Determine the number of keys that fit on an index page for each index

To determine the number of keys that each index page for a specific SQL Analysis for DB2 Repository index will hold

- 1 Determine what page size you intend to use for the tablespace that will store the specific repository index.

The section [Suggested tablespace and bufferpool settings](#) on page B-11 recommends page sizes for tablespaces in which you intend to store repository indexes.

- 2 Use the following chart to determine the number of keys that can fit on a page of the specific page size for a given index.

For example, if you are using a 32K page size to create the tablespace that will store the `QUEST.SC_COLL_PK` index, locate the **Keys per 32K page** column in the chart. Move down the column to the value corresponding to the `QUEST.SC_COLL_PK` index. The value 1729 indicates that, based on the key size for this index, each index page for the index will hold 1729 keys.

You need the keys-per-page value for each index to perform the calculations in Step 8 ([page B-32](#)).

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_COLINFO_PK	12	171	346	697	1400
QUEST.SC_COLL_PK	8	211	428	862	1729

Guidelines for Setting Up the SQL Analysis Repository Database ■

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_CONN_PK	22	116	234	472	948
QUEST.SC_DEADLOCKS_PK	38	76	154	311	625
QUEST.SC_DLDDETAIL_PK	38	76	154	311	625
QUEST.SC_LITS_PK	20	124	251	505	1013
QUEST.SC_PATS_PK	41	71	145	293	588
QUEST.SC_STATS_PK	26	102	208	418	840
QUEST.SC_STATS_IX1	44	67	137	276	554
QUEST.SC_SUMM_PK	16	143	291	586	1176
QUEST.SC_TRANS_PK	26	102	208	418	840
QUEST.SC_TRANS_IX1	44	67	137	276	554
QUEST.SC_WORKLOAD_PK	16	143	291	586	1176
QUEST.SC_STEXT_PK	36	79	161	325	653

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Step 8: Calculate the number of index pages required for each repository index

To calculate the number of index pages that each SQL Analysis for DB2 Repository index requires

- 1 Divide the Step 4 (page B-25) value for the table that corresponds to the index by the keys-per-page value determined for the index in Step 7 (page B-32).

The following chart lists this calculation for each index.

- 2 Round the final value for each index *up* to the next integer.

Note • This step includes calculating the number of index pages required for the `QUEST.SC_STEXT_PK` index. You use the value determined in Step 3 (page B-24) in this calculation.

Repository table	Row calculation for all collections
<code>QUEST.SC_COLINFO_PK</code>	<i>Step 4 value for <code>QUEST.SC_COLINFO</code> / Step 7 keys-per-page value for <code>QUEST.SC_COLINFO_PK</code></i>
<code>QUEST.SC_COLL_PK</code>	<i>Step 4 value for <code>QUEST.SC_COLLECTION</code> / Step 7 keys-per-page value for <code>QUEST.SC_COLL_PK</code></i>
<code>QUEST.SC_CONN_PK</code>	<i>Step 4 value for <code>QUEST.SC_CONNECTIONS</code> / Step 7 keys-per-page value for <code>QUEST.SC_CONN_PK</code></i>
<code>QUEST.SC_DEADLOCKS_PK</code>	<i>Step 4 value for <code>QUEST.SC_DEADLOCKS</code> / Step 7 keys-per-page value for <code>QUEST.SC_DEADLOCKS_PK</code></i>
<code>QUEST.SC_DLDETAIL_PK</code>	<i>Step 4 value for <code>QUEST.SC_DLDETAIL</code> / Step 7 keys-per-page value for <code>QUEST.SC_DLDETAIL_PK</code></i>

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Repository table	Row calculation for all collections
QUEST.SC_LITS_PK	Step 4 value for QUEST.SC_LITERALS / Step 7 keys-per-page value for QUEST.SC_LITS_PK
QUEST.SC_PATS_PK	Step 4 value for QUEST.SC_PATTERNS / Step 7 keys-per-page value for QUEST.SC_PATS_PK
QUEST.SC_STATS_PK	Step 4 value for QUEST.SC_STATISTICS / Step 7 keys-per-page value for QUEST.SC_STATS_PK
QUEST.SC_STATS_IX1	Step 4 value for QUEST.SC_STATISTICS / Step 7 keys-per-page value for QUEST.SC_STATS_IX1
QUEST.SC_SUMM_PK	Step 4 value for QUEST.SC_SUMMARY / Step 7 keys-per-page value for QUEST.SC_SUMM_PK
QUEST.SC_TRANS_PK	Step 4 value for QUEST.SC_TRANSACTIONS / Step 7 keys-per-page value for QUEST.SC_TRANS_PK
QUEST.SC_TRANS_IX1	Step 4 value for QUEST.SC_TRANSACTIONS / Step 7 keys-per-page value for QUEST.SC_TRANS_IX1
QUEST.SC_WORKLOAD_PK	Step 4 value for QUEST.SC_WORKLOAD / Step 7 keys-per-page value for QUEST.SC_WORKLOAD_PK
QUEST.SC_STEXT_PK	Step 3 value for QUEST.SC_STMT_TEXT / Step 7 keys-per-page value for QUEST.SC_STEXT_PK

Step 9: Calculate the tablespace sizes for your SQL Analysis for DB2 Repository

The tablespace sizing formulas presented in this step are organized by tablespace configurations for repositories that will store small, medium, or large collections.

These collection sizes and the repository tablespace configurations associated with these collection sizes are described in more detail in the section *Suggested tablespace and bufferpool settings* on page B-11.

Collection size definitions

Collections sizes are defined as follows:

- Small collection—A collection that gathers fewer than 150,000 statements and transactions
- Medium collection—A collection that gathers more than 150,000, but fewer than 500,000, statements and transactions
- Large collection—A collection that gathers more than 500,000 statements and transactions

Repository table distinctions in the guidelines

Certain guidelines in the following sections (*Tablespace sizes for a small-collection repository* on page B-35, *Tablespace sizes for a medium-collection repository* on page B-36, and *Tablespace sizes for a large-collection repository* on page B-38) distinguish between repository tables and indexes that hold SQL Analysis collection information only and those repository tables and indexes that hold Extended Analysis and Custom Report information. For complete listings of these two types of tables and indexes (and their rows-per-page information), refer to the charts in *Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes* on page B-41.

Estimating tablespace sizes

To estimate tablespace sizes for a repository that will store small collections

- ▶ Use the guidelines presented in *Tablespace sizes for a small-collection repository* on page B-35.

To estimate tablespace sizes for a repository that will store medium collections

- ▶ Use the guidelines presented in *Tablespace sizes for a medium-collection repository* on page B-36.

To estimate tablespace sizes for a repository that will store large collections

- ▶ Use the guidelines based presented in *Tablespace sizes for a large-collection repository* on page B-38.

Tablespace sizes for a small-collection repository

If you intend for the SQL Analysis for DB2 Repository to store small collections (fewer than 150,000 statements and transactions captured), use the specified calculation to determine the size of each recommended tablespace:

Recommended tablespace	Tablespace size calculation or recommendation
One SMS tablespace for all repository tables and indexes	<p>Use this calculation:</p> <p><i>total of final values for all tables in Step 6 + total of final values for all indexes in Step 8</i></p> <p>You can use the default tablespace USERSPACE1 or a another tablespace that meets the size requirements.</p>

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Recommended tablespace	Tablespace size calculation or recommendation
One SMS tablespace for temporary tables	Use an SMS tablespace with a storage capacity of at least 500MB.

Tablespace sizes for a medium-collection repository

If you intend for the SQL Analysis for DB2 Repository to store collections of medium size (more than 150,000—but fewer than 500,000—statements and transactions captured), use the specified calculation to determine the size of each recommended tablespace listed in the following table.

Note • To set up this tablespace configuration, you can run the script `SC_REPO_MEDIUM.dd1` that creates both the recommended tablespaces and the repository tables and indexes. You can also create the recommended tablespaces on your own and then use the SQL Analysis for DB2 Repository Manager to create the repository tables and indexes within these tablespaces. Both methods are discussed in *Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it* on page 5-24.

Recommended tablespace	Tablespace size calculation or recommendation
One DMS tablespace for all repository tables that store collection information	<p>Total up the final values for all tables in Step 6 (page B-28).</p> <p>If you are running SC_REPO_MEDIUM.ddl to set up the repository, replace @DATA_PAGES (in the CREATE TABLESPACE @SCREPO_DATA_TS clause) with this total value.</p>
One DMS tablespace for indexes on all repository tables that store collection information	<p>Total up all final values in Step 8 (page B-32).</p> <p>If you are running SC_REPO_MEDIUM.ddl to set up the repository, replace @INDEX_PAGES (in the CREATE TABLESPACE @SCREPO_INDEX_TS clause) with this total value.</p>
One DMS tablespace for temporary tables	<p>Specify the number of pages equal to 1GB of storage.</p> <p>If you are running SC_REPO_MEDIUM.ddl to set up the repository, replace @TEMP_PAGES (in the CREATE TEMPORARY TABLESPACE @TEMP_TS clause) with this value.</p>

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Recommended tablespace	Tablespace size calculation or recommendation
One SMS tablespace for repository tables that store Extended Analysis and Custom Report information and for the indexes on these tables	<p>You can use the default tablespace USERSPACE1. (These repository tables and indexes use an insignificant amount of space.)</p> <p>For information about row and key sizes for these tables and indexes, refer to <i>Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes</i> on page B-41.</p>

Tablespace sizes for a large-collection repository

If you intend for the SQL Analysis for DB2 Repository to store large collections (greater than 500,000 statements and transactions captured), use the calculations below to determine the size of each recommended tablespace.

Note • To set up this tablespace configuration, you can run the script `SC_REPO_LARGE.dd1` that creates both the recommended tablespaces and the repository tables and indexes. You can also create the recommended tablespaces on your own and then use the SQL Analysis for DB2 Repository Manager to create the repository tables and indexes within these tablespaces. Both methods are discussed in *Creating a SQL Analysis for DB2 Repository and assigning a DB2 instance to it* on page 5-24.

Recommended tablespace	Tablespace size calculation or recommendation
One DMS tablespace for SC_STATISTICS repository table	<p>Specify the final value for the SC_STATISTICS table in Step 6 (page B-28).</p> <p>If you are running SC_REPO_LARGE.ddl to set up the repository, replace @DATA_PAGES_STATS (in the CREATE TABLESPACE @SCREPO_STATS_TS clause) with this value.</p>
One DMS tablespace for indexes on SC_STATISTICS	<p>Add the final value for SC_STATS_PK to the final value for SC_STATS_IX1 in Step 8 (page B-32).</p> <p>If you are running SC_REPO_LARGE.ddl to set up the repository, replace @INDEX_PAGES_STATS (in the CREATE TABLESPACE @SCREPO_STATS_INDEX_TS clause) with this total value.</p>
One DMS tablespace for SC_TRANSACTIONS repository table	<p>Specify the final value for the SC_TRANSACTIONS table in Step 6 (page B-28).</p> <p>If you are running SC_REPO_LARGE.ddl to set up the repository, replace @DATA_PAGES_TRANS (in the CREATE TABLESPACE @SCREPO_TRANS_TS clause) with this value.</p>

■ Guidelines for Setting Up the SQL Analysis Repository Database

Estimating tablespace sizes for the SQL Analysis for DB2 Repository

Recommended tablespace	Tablespace size calculation or recommendation
One DMS tablespace for indexes on SC_TRANSACTIONS	<p>Add the final value for SC_TRANS_PK to the final value for SC_TRANS_IX1 in Step 8 (page B-32).</p> <p>If you are running SC_REPO_LARGE.dd1 to set up the repository, replace @INDEX_PAGES_TRANS (in the CREATE TABLESPACE @SCREPO_TRANS_INDEX_TS clause) with this total value.</p>
One DMS tablespace for all other repository tables that store collection information	<p>Total up the final values in Step 6 (page B-28) for all other repository tables.</p> <p>If you are running SC_REPO_LARGE.dd1 to set up the repository, replace @DATA_PAGES (in the CREATE TABLESPACE @SCREPO_DATA_TS clause) with this total value.</p>
One DMS tablespace for all other indexes on repository tables that store collection information	<p>Total up the final values in Step 8 (page B-32) for all other repository indexes.</p> <p>If you are running SC_REPO_LARGE.dd1 to set up the repository, replace @INDEX_PAGES (in the CREATE TABLESPACE @SCREPO_INDEX_TS clause) with this total value.</p>

Recommended tablespace	Tablespace size calculation or recommendation
One DMS tablespace for temporary tables	<p>Specify the number of pages equal to 1 GB of storage.</p> <p>If you are running <code>SC_REPO_LARGE.dd1</code> to set up the repository, replace <code>@TEMP_PAGES</code> (in the <code>CREATE TEMPORARY TABLESPACE @TEMP_TS</code> clause) with this value.</p>
One SMS tablespace for repository tables that store Extended Analysis and Custom Report information and for the indexes on these tables	<p>You can use the default tablespace <code>USERSPACE1</code>. (These repository tables and indexes use an insignificant amount of space.)</p> <p>For information about row and key sizes for these tables and indexes, refer to <i>Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes</i> on page B-41.</p>

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes

These charts serve as references to the row or key size and the number of rows or keys that fit on a tablespace page in each table and index in the SQL Analysis for DB2 Repository.

■ Guidelines for Setting Up the SQL Analysis Repository Database

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes

Rows per page in repository tables that store collection information

The following chart lists the average row size and the number of rows that fit on a tablespace page (per page size) for each repository table that stores SQL Analysis collection data:

Repository table	Row size (in bytes)	Rows/ 4K page	Rows/ 8K page	Rows/ 16K page	Rows/ 32K page
QUEST.SC_COLINFO	63	55	111	223	255
QUEST.SC_COLLECTION	155	24	49	98	198
QUEST.SC_CONNECTIONS	914	4	8	17	35
QUEST.SC_DEADLOCKS	88	41	82	166	255
QUEST.SC_DLDETAIL	465	8	17	34	68
QUEST.SC_LITERALS	128	29	58	118	236
QUEST.SC_PATTERNS	157	24	48	97	195
QUEST.SC_STATISTICS	500	7	15	31	64
QUEST.SC_SUMMARY	407	9	19	39	78
QUEST.SC_TRANSACTIONS	327	11	24	48	97
QUEST.SC_WORKLOAD	412	9	19	38	77
QUEST.SC_STMT_TEXT	240	16	32	65	130

Rows per page in repository tables that store Extended Analysis information

The following chart lists the average row size and the number of rows that fit on a tablespace page (per page size) for each repository table that stores Extended Analysis data:

Repository table	Row size (in bytes)	Rows/ 4K page	Rows/ 8K page	Rows/ 16K page	Rows/ 32K page
QUEST.SC_COLDEP	66	55	111	223	225
QUEST.SC_COLUMNS	128	129	58	118	236
QUEST.SC_EXPLAIN_DATA	330	11	23	47	96
QUEST.SC_EXPLAIN_SUMM	150	25	50	101	204
QUEST.SC_HOSTIDS	128	29	58	118	236
QUEST.SC_IDXDEP	82	43	88	177	255
QUEST.SC_INDEXES	128	29	58	118	236
QUEST.SC_TABDEP	60	57	116	233	255
QUEST.SC_TABLES	128	29	58	118	236
QUEST.SC_VIEWDEP	33	93	188	255	255

■ Guidelines for Setting Up the SQL Analysis Repository Database

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes

Rows per page in repository tables that store Custom Report information

The following chart lists the average row size and the number of rows that fit on a tablespace page (per page size) for each repository table that stores SQL Analysis Custom Report data:

Repository table	Row size (in bytes)	Rows/ 4K page	Rows/ 8K page	Rows/ 16K page	Rows/ 32K page
QUEST.SC_QUERIES	128	29	58	118	236
QUEST.SC_QUERY_DATA	128	29	58	118	236

Keys per page in repository indexes that store collection information

The following chart lists the index key size and the number of keys that fit on a tablespace page (per page size) for each repository index used by collection processes:

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_COLINFO_PK	12	171	346	697	1400
QUEST.SC_COLL_PK	8	211	428	862	1729

Guidelines for Setting Up the SQL Analysis Repository Database

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_CONN_PK	22	116	234	472	948
QUEST.SC_DEADLOCKS_PK	38	76	154	311	625
QUEST.SC_DLDDETAIL_PK	38	76	154	311	625
QUEST.SC_LITS_PK	20	124	251	505	1013
QUEST.SC_PATS_PK	41	71	145	293	588
QUEST.SC_STATS_PK	26	102	208	418	840
QUEST.SC_STATS_IX1	44	67	137	276	554
QUEST.SC_SUMM_PK	16	143	291	586	1176
QUEST.SC_TRANS_PK	26	102	208	418	840
QUEST.SC_TRANS_IX1	44	67	137	276	554
QUEST.SC_WORKLOAD_PK	16	143	291	586	1176
QUEST.SC_STEXT_PK	36	79	161	325	653

■ Guidelines for Setting Up the SQL Analysis Repository Database

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes

Keys per page in repository indexes that store Extended Analysis information

The following chart lists the index key size and the number of keys that fit on a tablespace page (per page size) for each repository index used by Extended Analysis processes:

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_COLDEP_PK	48	63	127	257	515
QUEST.SC_COLUMNS_PK	12	171	346	697	1400
QUEST.SC_EXPLAINDATA_PK	62	50	102	206	414
QUEST.SC_EXPLAINSUMM_PK	58	53	108	218	438
QUEST.SC_HOSTIDS_PK	4	276	560	1127	2261
QUEST.SC_IDXDEP_PK	60	52	105	212	426
QUEST.SC_INDEX_PK	12	171	346	697	1400
QUEST.SC_TABDEP_PK	44	67	137	276	554
QUEST.SC_TABLE_PK	8	211	428	862	1729
QUEST.SC_VIEWDEP_PK	12	171	346	697	1400

Keys per page in repository indexes that store Custom Report information

The following chart lists the index key size and the number of keys that fit on a tablespace page (per page size) for each repository index used by SQL Analysis Custom Report processes:

Repository index	Key size (in bytes)	Keys/ 4K page	Keys/ 8K page	Keys/ 16K page	Keys/ 32K page
QUEST.SC_QUERIES_PK	36	79	161	325	653
QUEST.SC_QUERIES_IDKEY	8	211	428	862	1729
QUEST.SC_QRYDAT_PK	14	156	316	637	1278

■ Guidelines for Setting Up the SQL Analysis Repository Database

Rows or keys per page in SQL Analysis for DB2 Repository tables and indexes



Editing QCIVP

This appendix describes how to edit the Quest Central mainframe components installation verification program, QCIVP.

In this appendix

What is QCIVP?	C-2
Where does QCIVP reside?	C-2
How do I run QCIVP?	C-2
Why would I want to edit QCIVP?	C-3
Editing QCIVP	C-3

What is QCIVP?

When you install Quest Central's mainframe components, you have an opportunity to run QCIVP, the mainframe installation verification program. QCIVP verifies that the DB2 CLI has been installed and bound; it also runs a sample of Quest Central's procedures and functions, then writes the output to the QSPRINT message file.

Where does QCIVP reside?

When you installed or upgraded the Quest Central mainframe components, the installation or upgrade program laid down the permhlq.JCLLIB(QCIVP) partitioned dataset member (where permhlq is the permanent location you specified for the Quest Central mainframe components during the installation ([page 6-17](#)) or upgrade ([page 6-50](#)) process).

How do I run QCIVP?

The installation and upgrade processes are described in detail in Chapter 6, *Installing Quest Central for DB2's Mainframe Components*.

The instructions for running QCIVP appear in the following sections:

- For a first-time installation of the Quest Central mainframe components, the procedure for running QCIVP is in *Task 4: Systems programmer completes the installation* on page 6-28.
- For an upgrade to the Quest Central mainframe components, the procedure for running QCIVP is in *Task 3: Systems Programmer completes the upgrade* on page 6-59.

Why would I want to edit QCIVP?

You might need to edit QCIVP in the following situations:

- You want to enable application tracing while QCIVP is running so that a series of trace messages are written to a user-supplied file for every call to a CLI function for that job.
- In situations where two or more DB2 subsystems share the same exit library (and therefore share a common DSNHDECP member in that library), the default subsystem ID in DSNHDECP matches one of the subsystem IDs, but not the others. You need a mechanism for providing the correct DB2 subsystem ID for connection to the subsystems whose IDs do not match the default SSID in DSNHDECP. You can accomplish this by coding a DSNAOINI override in QCIVP.

Editing QCIVP

Use the appropriate procedure:

- To enable application tracing, follow the instructions in *To enable application tracing* on page C-4.
- To disable application tracing, follow the instructions in *To disable application tracing* on page C-5.
- To enable application tracing and change a DB2 SSID from its default value in DSNHDECP to an actual DB2 SSID, follow the instructions in *To enable application tracing and change the default DB2 SSID* on page C-7.
- To change the default DB2 SSID in DSNHDECP from its default value to an actual DB2 SSID without also enabling application tracing, follow the instructions in *To change the default DB2 SSID without enabling application tracing* on page C-8.

To enable application tracing

Note • Be aware that you are enabling application tracing for the duration of the QCIVP job only. Enabling application tracing for QCIVP does not affect the long term results obtained from the WLM procedures.

- 1 Open permhlq.JCLLIB(QCIVP) in an ISPF EDIT session (where permhlq is the permanent location specified when the Quest Central mainframe components were installed or upgraded).
 - 2 Turn off sequence numbering:
 - a Type NUM OFF at the EDIT session command line.
 - b Press Enter.
-

Note • If you fail to turn sequence numbering off, odd errors occur. Be aware that you might need to turn off sequence numbering every time you edit QCIVP.

- 3 Add the following cards to QCIVP:

```
//APPTRC DD SYSOUT=*  
//DSNAOINI DD *  
#Turn on application tracing  
[COMMON]  
APPLTRACE=1  
APPLTRACEFILENAME="DD:APPTRC"  
/*
```

- 4 Save your changes to QCIVP.
- 5 Exit the ISPF EDIT session.

- 6 Confirm that sequence numbering is truly turned off by opening `permhlq.JCLLIB(QCIVP)` in another ISPF EDIT session. There should be no sequence numbers in columns 73-80 for the lines appearing between the `//DSNA0INI` line and the `//*` line.
- 7 Confirm that your square brackets translated correctly:
 - a Type `FIND X'AD'` ALL in the command line and press Enter.
 - b Make sure the `FIND` command locates all the left brackets.
 - c Type `FIND X'BD'` ALL in the command line and press Enter.
 - d Make sure the `FIND` command locates all the right brackets.
 - e If `FIND` failed to locate even one bracket, type `HEX ON` in the command line, press Enter, then make the appropriate edits in HEX mode.
- 8 Save your changes to QCIVP.

To disable application tracing

- 1 Open `permhlq.JCLLIB(QCIVP)` in an ISPF EDIT session (where `permhlq` is the permanent location specified when the Quest Central mainframe components were installed or upgraded).
- 2 Turn off sequence numbering:
 - a Type `NUM OFF` at the EDIT session command line.
 - b Press Enter.

Note • If you fail to turn sequence numbering off, odd errors occur. Be aware that you might need to turn off sequence numbering every time you edit QCIVP.

- 3** Edit the following card to set APPLTRACE to zero, as shown in the following figure:

```
//APPTRC DD SYSOUT=*  
//DSNAOINI DD *  
#Turn on application tracing  
[COMMON]  
APPLTRACE=0  
APPLTRACEFILENAME="DD:APPTRC"  
//*
```

- 4** Save your changes to QCIVP.
- 5** Exit the ISPF EDIT session.
- 6** Confirm that sequence numbering is truly turned off by opening permhlq.JCLLIB(QCIVP) in another ISPF EDIT session. There should be no sequence numbers in columns 73-80 for the lines appearing between the //DSNAOINI line and the //* line.
- 7** Confirm that your square brackets translated correctly:
 - a** Type FIND X'AD' ALL in the command line and press Enter.
 - b** Make sure the FIND command locates all the left brackets.
 - c** Type FIND X'BD' ALL in the command line and press Enter.
 - d** Make sure the FIND command locates all the right brackets.
 - e** If FIND failed to locate even one bracket, type HEX ON in the command line, press Enter, then make the appropriate edits in HEX mode.
- 8** Save your changes to QCIVP.

To enable application tracing and change the default DB2 SSID

- 1 Open permhlq.JCLLIB(QCIVP) in an ISPF EDIT session (where permhlq is the permanent location specified when the Quest Central mainframe components were installed or upgraded).
- 2 Turn off sequence numbering:
 - a Type NUM OFF at the EDIT session command line.
 - b Press Enter.

Note • If you fail to turn sequence numbering off, odd errors occur. Be aware that you might need to turn off sequence numbering every time you edit QCIVP.

- 3 Add the following cards to QCIVP, replacing all occurrences of XXXX with the appropriate non-default DB2 SSID:

```
//APPTRC DD SYSOUT=*  
//DSNAOINI DD *  
#Turn on application tracing and change default DB2 SSID  
#Change each occurrence of XXXX to the actual DB2 SSID  
#Change plan name if CLI plan is not DSNACLI  
[COMMON]  
MVSDEFAULTSSID=XXXX  
APPLTRACE=1  
APPLTRRACEFILENAME="DD:APPTRC"  
[XXXX]  
MVSATTACHTYPE=CAF  
PLANNAME=DSNACLI  
/**
```

- 4 Save your changes to QCIVP.
- 5 Exit the ISPF EDIT session.

■ Editing QCIVP

Editing QCIVP

- 6 Confirm that sequence numbering is truly turned off by opening `permhlq.JCLLIB(QCIVP)` in another ISPF EDIT session. There should be no sequence numbers in columns 73-80 for the lines appearing between the `//DSNA0INI` line and the `//*` line.
- 7 Confirm that your square brackets translated correctly:
 - a Type `FIND X'AD'` ALL in the command line and press Enter.
 - b Make sure the `FIND` command locates all the left brackets.
 - c Type `FIND X'BD'` ALL in the command line and press Enter.
 - d Make sure the `FIND` command locates all the right brackets.
 - e If `FIND` failed to locate even one bracket, type `HEX ON` in the command line, press Enter, then make the appropriate edits in HEX mode.
- 8 Save your changes to QCIVP.

To change the default DB2 SSID without enabling application tracing

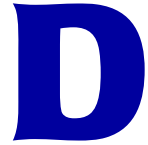
- 1 Open `permhlq.JCLLIB(QCIVP)` in an ISPF EDIT session (where `permhlq` is the permanent location specified when the Quest Central mainframe components were installed or upgraded).
- 2 Turn off sequence numbering:
 - a Type `NUM OFF` at the EDIT session command line.
 - b Press Enter.

Note • If you fail to turn sequence numbering off, odd errors occur. Be aware that you might need to turn off sequence numbering every time you edit QCIVP.

- 3 Add the following cards to QCIVP, replacing all occurrences of XXXX with the appropriate non-default DB2 SSID:

```
//APPTRC DD SYSOUT=*  
//DSNAOINI DD *  
#Change default DB2 SSID  
#Change each occurrence of XXXX to the actual DB2 SSID  
#Change plan name if CLI plan is not DSNACLI  
[COMMON]  
MVSDEFAULTSSID=XXXX  
[XXXX]  
MVSATTACHTYPE=CAF  
PLANNAME=DSNACLI  
/**
```

- 4 Save your changes to QCIVP.
- 5 Exit the ISPF EDIT session.
- 6 Confirm that sequence numbering is truly turned off by opening permhlq.JCLLIB(QCIVP) in another ISPF EDIT session. There should be no sequence numbers in columns 73-80 for the lines appearing between the //DSNAOINI line and the /** line.
- 7 Confirm that your square brackets translated correctly:
 - a Type FIND X'AD' ALL in the command line and press Enter.
 - b Make sure the FIND command locates all the left brackets.
 - c Type FIND X'BD' ALL in the command line and press Enter.
 - d Make sure the FIND command locates all the right brackets.
 - e If FIND failed to locate even one bracket, type HEX ON in the command line, press Enter, then make the appropriate edits in HEX mode.
- 8 Save your changes to QCIVP.



Contacting Technical Support

Contacting Quest Technical Support

To contact Quest Technical Support

- Visit the support web site for current contact information and hours of operation: www.quest.com/support.

■ **Contacting Technical Support**

Contacting Quest Technical Support

Index

A

accessing

- Client Configuration wizard 6-5
- Configuration Manager 5-4
- Database Administration features 5-10, 5-13, 5-14, 5-16
- installation software
 - downloading, using a web browser 3-5
 - from CD-ROM 3-5
- mainframe components upgrade process 6-43
- mainframe installation wizard
 - for a first-time installation 6-9
 - for an upgrade 6-44
- online help 5-4, 5-16
- Performance Diagnostics features 5-14, 5-16
- Quest Central features 5-9
- Quest Central for DB2 release notes 1-25
- ScriptRunner 5-4
- settings for Quest Central 5-12, 5-15
- Space Management features 5-10, 5-13
- Space Management repository installation wizard 5-23
- SQL Analysis features 5-13
- SQL Tuning features 5-11, 5-13,

5-16

Template facility 5-16

utilities for DB2 5-11, 5-13

adding

components to an existing client installation 3-18

Quest Central's mainframe components to additional subsystems

during a first-time install 6-33

during an upgrade 6-64

subsystems to QPAGTPARM parameter file for a first-time install 6-36

agent (Performance Diagnostics)

configuring the parameter file on mainframe 6-36

specifying non-default subsystems 6-37

agent (Quest Central for DB2)

about the Quest Central for DB2 Agent 4-3

granting authority on UNIX or Linux servers 4-26

hardware requirements 2-14

-install command 5-41

installing or upgrading

on UNIX or Linux servers 4-3

on UNIX or Linux servers with DB2 UDB EEE envi-

- environments using NFS 4-33
 - on Windows servers 4-3
 - migrating SQL Analysis configuration and job information during agent upgrade 4-31
 - platform support 2-13
 - port number
 - changing 5-44
 - default 2-14
 - remove command 5-41
 - software requirements 2-14
 - start command 5-43
 - starting on UNIX or Linux servers 4-30
 - starting or stopping manually on Windows servers 5-40
 - stop command 5-43
 - stopping on UNIX or Linux servers 4-20, 4-30
 - user account ID for running agent 4-14
 - AIX
 - changing the Quest Central for DB2 Agent port number 5-45
 - downloading qcagent.tar 4-21
 - environment variables, updating 4-28
 - granting the Quest Central for DB2 Agent authority 4-27
 - installing the Quest Central for DB2 Agent on an AIX server 4-19
 - qcprofile_aix file, creating 4-23
 - running config.sh 4-23
 - starting and stopping the agent 3-18
 - starting and stopping the Quest Central for DB2 Agent 4-30
 - upgrading the Quest Central for DB2 Agent 4-3
 - APF authorization on Quest load library
 - for a first-time installation 6-30
 - for an upgrade 6-60
 - authorities
 - for DB2 on z/OS
 - for running Performance Diagnostics 2-19
 - on packages in DSNAOCLI collection 2-19
 - for installing on Windows 2000 2-11
 - for installing Quest Central for DB2 Agent on NT servers 2-14
 - granting authority to the Quest Central for DB2 Agent 4-26
 - granting database permissions to Quest Central users on the mainframe
 - during a first-time installation 6-24
 - during an upgrade 6-39
- B**
- browser pane, Quest Central 5-4
 - browsing data 5-9

C

changing the Quest Central for DB2
 Agent port number
 when agent and client are on same machine 5-45
 when agent is on a remote server 5-45

Client Configuration wizard, accessing 5-4, 5-12, 6-5

client machine
 hardware requirements 2-10
 installing Quest Central 3-5
 platform support 2-9
 software requirements 2-11

commands
 cd 5-41
 echo 4-19
 -install 5-41
 kill -9 4-20
 migrateQC 4-31
 -remove 5-41
 slibclean 4-20
 -start 5-43
 -stop 5-43
 tar -xvf 4-22

Compare feature
 support on DB2 on z/OS 1-10
 support on DB2 UDB 1-5

config.sh file, running 4-23

configuration parameters, setting
 database 5-12
 instance 5-14

configuring
 a connection to a subsystem 6-5
 databases 5-12
 Performance Diagnostics Agent

agent (QPAGENT) for non-default subsystems 6-37
 parameter file (QPAGTPRM) 6-36

SQL Analysis for DB2 5-24

connecting to a database 5-12
 contacting Quest Software technical support 6-32, 6-63, D-1
 customer support, contacting 6-32, 6-63, D-1

D

Database Administration
 accessing features 5-10, 5-13, 5-14, 5-16

Database Administration for DB2
 DB2 UDB version compatibility issues 2-4
 limitations and issues 1-25
 Version 4.8 features
 DB2 UDB 1-5
 DB2 UDB for z/OS 1-10

database configuration parameters
 LOCKTIMEOUT 5-34
 mon_heap_sz 2-13
 setting 5-12

datasets
 permhlq.JCLLIB 6-30, 6-34, 6-60, 6-65
 permhlq.LOADLIB, APF authorization 6-30
 temphlq.JCLLIB 6-28, 6-59
 temphlq.LOADXMI 6-28, 6-59
 temphlq.PARMLIB 6-28, 6-59
 temphlq.QCINST 6-28, 6-59
 temphlq.QSMSG 6-28, 6-59

- temphlq.SAMPXMI 6-28, 6-59
- DB2 Connect, software requirement 2-12
- DB2 database environments, setting up 4-29
- DB2 exits, DSNTIJEX 6-25
- DB2 on z/OS/, required PTFs 2-17
- DB2 UDB support
 - DB2 UDB maintenance level requirements 2-6
 - DB2 UDB V6.1 for z/OS 2-13
 - DB2 UDB V7.1 2-13
 - DB2 UDB V8.1 2-13
 - Linux 2-12
- DB2 UDB version compatibility issues 2-3
 - Database Administration 2-4
 - Performance Diagnostics 2-5
 - SQL Analysis 2-4
- deleting temporary datasets from mainframe
 - after a first-time installation 6-31
 - after an upgrade 6-63
- disconnecting from a database 5-12
- downloading
 - installation software, using a web browser 3-5
 - patch 106327 for Solaris 7 servers 2-15
 - release notes 1-25
- DSNTIJCL job 6-55
- DSNTIJEX exit 6-25

E

- echo command 4-19
- editing

- installation verification program C-3
- QCIVP C-3
- executing temphlq.QCINST
 - for a first-time install 6-29
 - for an upgrade 6-60
- Explain tables, creating
 - in DB2 for z/OS 5-19
 - in DB2 UDB 5-17

F

- files
 - accessing release notes 1-25
 - deleting temporary datasets from mainframe
 - for a first-time installation 6-31
 - for an upgrade 6-63
 - instddl6.ddl 6-8
 - instddl7.ddl 6-8
 - Performance Diagnostics Agent parameter file 6-66
 - Performance Diagnostics Agent procedure (QPAGENT) 6-66
 - permhlq.JCLLIB 6-34, 6-65
 - permhlq.LOADLIB 6-66
 - permhlq.PARMLIB 6-66
 - permhlq.QSMMSG 6-66
 - QcAgent, deleting 4-21
 - qcports.txt 5-46
 - response files for unattended (silent) installation A-3
 - running config.sh 4-23
 - SC_REPO_LARGE.ddl 5-31
 - SC_REPO_MEDIUM.ddl 5-31

setup.iss response file [A-3](#)
 temphlq.JCLLIB [6-28](#), [6-59](#)
 temphlq.LOADXMI [6-28](#), [6-59](#)
 temphlq.PARMLIB [6-28](#), [6-59](#)
 temphlq.QCINST [6-28](#), [6-59](#)
 temphlq.QSMMSG [6-28](#), [6-59](#)
 temphlq.SAMPXMI [6-28](#), [6-59](#)
 Upgrade310_450.ddl [6-41](#)

filtering

the browser pane list [5-12](#)
 the explorer pane [5-15](#)

G

granting permissions to authorization
 IDs or RACF groups
 during a first-time installation of
 the mainframe components [6-26](#)
 during an upgrade of the main-
 frame components [6-56](#)
 guidelines, setting up SQL Analysis for
 DB2 Repository database [B-4](#)

H

hardware requirements
 client machine [2-10](#)
 Quest Central for DB2 Agent [2-14](#)
 help, accessing [5-16](#)
 high-level qualifiers
 replacing temphlq with permhlq
 during a first-time installation
 [6-29](#)
 during an upgrade [6-60](#)
 specifying the permanent qualifier
 (permhlq)

 during a first-time installation
 [6-17](#)
 during an upgrade [6-51](#)
 specifying the temporary qualifier
 (temphlq)
 during a first-time installation
 [6-16](#)
 during an upgrade [6-49](#)

I

IMPORT utility support
 during extended alters, migra-
 tions, synchronizations
 [1-9](#)
 for DB2 UDB tables [1-3](#)
 -install command [5-41](#)
 installation
 adding components to an existing
 client installation [3-18](#)
 automating a silent install over the
 network [A-5](#)
 installing the Quest Central for
 DB2 Agent in a Unix EEE
 environment using NFS
 [4-33](#)
 installing the Quest Central for
 DB2 Agent on a UNIX or
 Linux machine [4-3](#)
 installing the Quest Central for
 DB2 Agent on a Windows
 machine [4-3](#)
 re-installing the Quest Central cli-
 ent files [3-22](#)
 running an unattended (silent) in-
 stallation on Windows
 machines [A-2](#)

- software
 - accessing by downloading 3-5
 - accessing from CD-ROM 3-4
- un-installing Quest Central files 3-20
- wizard
 - installing Quest Central for DB2 Agent on a Windows machine 4-10
 - installing Quest Central on client machine 3-5
 - installing Quest Central on the mainframe 6-9
 - launching the Space Management repository installation wizard 5-22
 - upgrading Quest Central on the mainframe 6-43
- installation verification program
 - editing C-3
 - location of C-2
 - running C-2
- instance configuration parameters, setting 5-14
- instddl6.ddl, modifying 6-8
- instddl7.ddl, modifying 6-8

L

- limitations of Quest Central 1-25
- Linux
 - DB2 Client version compatibility 2-12
 - downloading qcagent.tar 4-21
 - environment variables, updating 4-28
 - granting the Quest Central for

- DB2 Agent authority 4-27
 - installing the Quest Central for DB2 Agent on a Linux server 4-19
 - platform support for the Quest Central for DB2 Agent 2-13
 - qcprofile_linux file, creating 4-23
 - Red Hat Enterprise support 2-13
 - Red Hat Enterprise version supported 2-13
 - running config.sh 4-23
 - starting and stopping the Quest Central for DB2 Agent 4-30
 - SuSE version supported on z/OS 2-13
 - upgrading the Quest Central for DB2 Agent 4-3
- LOAD utility support
 - during extended alters, migrations, synchronizations 1-9
 - for DB2 on z/OS tables 1-3
 - for DB2 UDB tables 1-3
- LOCKTIMEOUT database configuration parameter 5-25, 5-34

M

- mainframe
 - configuring a connection 6-5
 - configuring the Performance Diagnostics agent 6-35
 - DB2 on z/OS subsystem requirements 2-19
 - DB2 PTF requirements 2-17

- operating system support 2-16
 - platform support 2-16
 - Quest Central DB2 database objects 6-67
 - running the installation wizard
 - for a first-time installation 6-9
 - for an upgrade 6-43
 - software requirements 2-17
 - systems programmer installation tasks
 - for a first-time installation 6-28
 - for upgrading the software 6-59
 - upgrading the Quest Central mainframe components 6-39
 - Migrate feature
 - support on DB2 on z/OS 1-10
 - support on DB2 UDB 1-5
 - migrateQC command 4-31
 - migrating SQL Analysis configuration and job information during Quest Central for DB2 Agent upgrade 4-31
 - mon_heap_sz database configuration parameter 2-13
- N**
- NFS, installing the Quest Central for DB2 Agent in UNIX EEE environments running NFS 4-33
- O**
- object list repository
 - installing for a DB2 on z/OS subsystem 5-22
 - installing for a DB2 UDB database 5-22
 - object tree, expanding 5-4
 - ODBC requirement for DB2 on z/OS 2-17
 - online help, accessing 5-4, 5-16
- P**
- Performance Diagnostics
 - accessing features 5-14, 5-16
 - Performance Diagnostics for DB2
 - agent parameter file (QPAGT-PRM) 6-66
 - agent procedure file (QPAGENT) 6-66
 - configuring the agent on the mainframe 6-35
 - limitations and issues 1-25
 - required authorities for DB2 on z/OS 2-19
 - specifying non-default subsystems for the agent 6-37
 - Version 4.8 features
 - DB2 UDB 1-13
 - DB2 UDB for z/OS 1-16
 - permhlq.JCLLIB 6-30, 6-60
 - permhlq.LOADLIB
 - APF authorization 6-30
 - created by executing QCINST 6-60
 - permhlq.PARMLIB 6-60
 - permhlq.QSMMSG 6-60
 - permhlq.SAMPLIB 6-60
 - permissions, granting to authorization IDs or RACF groups

- during a first-time installation of the mainframe components 6-26
- during an upgrade of the mainframe components 6-56
- platform support
 - mainframe 2-16
 - Quest Central client 2-9
 - Quest Central for DB2 Agent 2-13
- product support, contacting 6-32, 6-63, D-1
- PTFs required on DB2 for a/OS
 - UQ48134 2-17
- PTFs required on DB2 for z/OS
 - UQ44518 2-17
 - UQ45820 2-17
 - UQ47204 2-17
 - UQ50049 2-17
 - UQ50400 2-17
 - UQ56823 2-17
 - UQ56824 2-17

Q

- QcAgent file, deleting 4-21
- qcagent.tar
 - default location 4-21
 - downloading 3-4
 - finding non-default location 4-21
- QcExec, setting up a DB2 database environment for 4-29
- QCINST
 - executing for a first-time installation 6-29
 - executing for an upgrade 6-60
- QCIVP
 - editing C-3

- location of C-2
- running C-2
- qcports.txt file 5-46
- QPAGENT
 - configuring for non-default subsystems 6-37
 - copying to system PROCLIB for a first-time installation 6-30
 - for an upgrade 6-61
- QPAGENT started task 6-24
- QPAGTPRM, adding subsystems during a first-time install 6-36
- QPDSNAT started task 6-24
- Quest Central
 - accessing features 5-9
 - architecture overview 2-2
 - browser pane 5-4
 - client-mainframe architecture 2-16
 - contacting Technical Support D-1
 - installing
 - agent on DB2 server machines 4-3
 - mainframe components 6-2
 - on the client machine 3-2
 - limitations 1-25
 - object tree 5-4
 - settings 5-12, 5-15
 - starting 5-4
 - system requirements 2-8
 - task bar 5-4
 - upgrading Quest Central for DB2 Agent 5-36
 - Version 4.8 features 1-2
- Quest Central Agent

downloading qcagent.tar 3-4
 Quest Central for DB2 Agent
 about 4-3
 granting authority on UNIX or Linux servers 4-26
 hardware requirements 2-14
 -install command 5-41
 installing or upgrading
 on UNIX or Linux servers 4-3
 on UNIX or Linux servers with DB2 UDB EEE environments using NFS 4-33
 on Windows servers 4-3
 migrating SQL Analysis configuration and job information during agent upgrade 4-31
 platform support 2-13
 port number
 changing 5-44
 default 2-14
 -remove command 5-41
 software requirements 2-14
 -start command 5-43
 starting and stopping manually on Windows servers 5-42
 starting on UNIX or Linux servers 4-30
 -stop command 5-43
 stopping on UNIX or Linux servers 4-20, 4-30
 user account ID for running agent 4-14
 Quest technical support, contacting D-1
 QUESTHOME, updating on AIX, So-

laris, or Linux 4-28

R

readme.txt, accessing 1-25
 Red Hat Enterprise Linux support 2-13
 re-installing Quest Central on the client machine 3-22
 release notes, accessing 1-25
 -remove command 5-41
 removing temporary datasets from mainframe
 after a first-time installation 6-31
 after an upgrade 6-63
 reports repository
 installing for a DB2 on z/OS subsystem 5-22
 installing for a DB2 UDB database 5-22
 repository
 guidelines for setting up SQL Analysis Repository database B-4
 installing the Space Management repositories
 on a DB2 on z/OS subsystem 5-22
 on a DB2 UDB database 5-22
 installing the SQL Analysis for DB2 Repository 5-24
 upgrading the SQL Analysis for DB2 Repository 5-36
 Repository Manager, using
 to assign a DB2 instance to a SQL Analysis for DB2 Repository 5-33
 to create the SQL Analysis for DB2

- Repository [5-26](#)
- to upgrade the SQL Analysis for DB2 Repository [5-36](#)
- requirements
 - agent machine
 - hardware [2-14](#)
 - software [2-14](#)
 - AIX on the machine where the Quest Central for DB2 Agent resides [2-13](#)
 - client machine
 - hardware [2-10](#)
 - platform [2-9](#)
 - software [2-11](#)
 - DB2 maintenance levels
 - DB2 for z/OS [2-17](#)
 - DB2 UDB [2-6](#)
 - for running an unattended (silent) installation on Windows machines [A-3](#)
 - mainframe
 - platform [2-16](#)
 - software [2-17](#)
 - Quest Central for DB2 Agent
 - hardware [2-14](#)
 - platform [2-13](#)
 - software [2-14](#)
 - Red Hat Linux on machine where the Quest Central for DB2 Agent resides [2-13](#)
 - RRS for Quest Central on the mainframe [2-18](#)
 - Solaris on the machine where the Quest Central for DB2 Agent resides [2-13](#)
 - SuSE Linux on the machine where
 - the Quest Central for DB2 Agent resides [2-13](#)
 - Windows on the machine where the Quest Central for DB2 Agent resides [2-13](#)
 - WLM application environments on mainframe [2-18](#)
 - response file for unattended (silent) installation [A-3](#)
 - RRS requirement for Quest Central [2-18](#)
- S**
 - SC_REPO_LARGE.ddl script [5-31](#)
 - SC_REPO_MEDIUM.ddl script [5-31](#)
 - ScriptRunner, accessing [5-4](#)
 - setting
 - instance configuration parameters [5-14](#)
 - setting up DB2 database environments on UNIX servers [4-29](#)
 - settings for Quest Central, accessing [5-12](#), [5-15](#)
 - setup.iss
 - making changes [A-6](#)
 - setup.iss file [A-3](#)
 - silent (unattended) installation
 - automating the installation over the network [A-5](#)
 - silent installation
 - advantages [A-2](#)
 - requirements [A-2](#)
 - running a silent install [A-2](#)
 - software requirements
 - client machine [2-11](#)
 - mainframe [2-17](#)

- ODBC requirement for DB2 z/OS 2-17
- Quest Central for DB2 Agent 2-14
- Resource Recovery Services (RRS) 2-18
- WLM application environments on the mainframe 2-18
- Solaris
 - applying patch 106327 to Solaris 7 servers 4-29
 - changing the Quest Central for DB2 Agent port number 5-45
 - downloading patch 106327 2-15
 - downloading qcagent.tar 4-21
 - environment variables, updating 4-28
 - granting the Quest Central for DB2 Agent authority 4-27
 - installing the Quest Central for DB2 Agent on a Solaris server 4-19
 - qcprofile_solaris file, creating 4-23
 - running config.sh 4-23
 - starting and stopping the agent 3-18
 - starting and stopping the Quest Central for DB2 Agent 4-30
 - upgrading the Quest Central for DB2 Agent 4-3
- Space Management
 - accessing features 5-10, 5-13
- Space Management for DB2
 - installing the repositories 5-22
 - limitations and issues 1-25
- Quest Central for DB2 Agent on remote database servers 4-3
 - repositories, installing 5-22
 - Version 4.8 features
 - DB2 UDB 1-17
 - DB2 UDB for z/OS 1-20
- SQL Analysis
 - accessing features 5-13
- SQL Analysis for DB2
 - creating a repository 5-24
 - DB2 UDB version compatibility issues 2-4
 - initially configuring a DB2 instance to a repository 5-24
 - limitations and issues 1-25
 - setting up DB2 database that will contain repository B-4
 - sub-agents 5-44
 - upgrading a repository 5-36
 - Version 4.8 features 1-24
- SQL Analysis for DB2 Repository
 - creating
 - overview 5-24
 - using Repository Manager 5-26
 - using SC_REPO scripts 5-31
 - initially assigning a DB2 instance to
 - as part of repository creation process 5-26
 - overview 5-24
 - when repository already exists 5-33
 - setting up DB2 database that will contain repository B-4

- upgrading 5-36
- SQL Tuning
 - accessing features 5-11, 5-13, 5-16
- SQL Tuning for DB2
 - creating the Explain tables
 - in DB2 for z/OS 5-19
 - in DB2 UDB 5-17
 - limitations and issues 1-25
 - Version 4.8 features 1-21
- start command 5-43
- started tasks
 - QPAGENT 6-24
 - QPDSNAT 6-24
- starting
 - client installation wizard 3-5
 - mainframe installation wizard
 - for first-time installation 6-10
 - for upgrade 6-44
 - Quest Central 5-4
 - Quest Central for DB2 Agent installation wizard on Windows machines 4-10
- statistics repository
 - installing for a DB2 on z/OS sub-system 5-22
 - installing for a DB2 UDB database 5-22
- stop command 5-43
- sub-agents (SQL Analysis for DB2) 5-44
- SuSE Linux Enterprise Server Linux support 2-13
- SYNCSORT fix requirement 2-19
- system requirements
 - client machine
 - hardware requirements 2-10

- platform support 2-9
- software requirements 2-11
- mainframe
 - platform support 2-16
 - software requirements 2-17
- Quest Central for DB2 Agent
 - hardware requirements 2-14
 - platform support 2-13
 - software requirements 2-14

T

- technical support, contacting D-1
- temphlq.replacing with permhlq
 - during a first-time installation 6-29
 - during an upgrade 6-60
- temphlq.JCLLIB 6-28, 6-59
- temphlq.LOADXMI 6-28, 6-59
- temphlq.PARMLIB 6-28, 6-59
- temphlq.QCINST 6-28, 6-59
- temphlq.QCINST, executing
 - for a first-time installation 6-29
 - for an upgrade 6-60
- temphlq.QSMMSG 6-28, 6-59
- temphlq.SAMPXMI 6-28, 6-59
- Template facility
 - accessing 1-5, 5-16
 - support for 1-3
- temporary database objects for object list processing
 - creating on a DB2 on z/OS sub-system 6-7
 - creating on a DB2 UDB database 5-23

U

- unattended (silent) installation
 - automating the installation over the network [A-5](#)
- unattended installation
 - requirements [A-2](#)
- uninstalling
 - earlier versions of Quest Central [3-6](#)
 - Quest Central [3-20](#)
- uninstalling the Quest Central for DB2 Agent [5-41](#)
- UNIX
 - installing the Quest Central for DB2 Agent [4-19](#)
 - installing the Quest Central for DB2 Agent in a EEE environment using NFS [4-33](#)
 - platform support for the Quest Central for DB2 Agent [2-13](#)
 - upgrading the Quest Central for DB2 Agent [4-3](#)
- UNIX AIX support for the Quest Central for DB2 Agent [2-13](#)
- UNIX Solaris support for the Quest Central for DB2 Agent [2-13](#)
- Upgrade310_450.ddl [6-41](#)
- upgrading
 - mainframe components [6-39](#)
 - Quest Central for DB2 Agent [4-3](#)
 - SQL Analysis for DB2 Repository [5-36](#)
- UQ44518 PTF requirement [2-17](#)
- UQ45820 PTF requirement [2-17](#)
- UQ47204 PTF requirement [2-17](#)

- UQ48134 PTF requirement [2-17](#)
- UQ50049 PTF requirement [2-17](#)
- UQ50400 PTF requirement [2-17](#)
- UQ56823 PTF requirement [2-17](#)
- UQ56824 PTF requirement [2-17](#)
- user account ID for running the Quest Central for DB2 Agent [4-14](#)
- utilities for DB2, accessing [5-11](#), [5-13](#)
- utility support
 - DB2 on z/OS
 - Check [1-3](#)
 - Check Index [1-3](#)
 - Collect Statistics [1-3](#)
 - Copy [1-3](#)
 - Load [1-3](#)
 - Merge Copy [1-3](#)
 - Quiesce [1-3](#)
 - Rebuild [1-3](#)
 - Recover [1-3](#)
 - Reorg [1-3](#)
 - Unload [1-3](#)
 - DB2 UDB
 - Backup [1-3](#)
 - Collect Statistics [1-3](#)
 - Export [1-3](#)
 - Import [1-3](#)
 - Load [1-3](#)
 - Quiesce [1-3](#)
 - Rebuild Index [1-3](#)
 - Reorg [1-3](#)
 - Restore [1-3](#)
 - Roll Forward [1-3](#)
- IMPORT
 - during extended alters, migrations, synchronizations [1-9](#)

LOAD

- during extended alters, migrations, synchronizations [1-9](#)

W

Windows

- 98 platform support [2-9](#)
- ME platform support [2-9](#)
- running an unattended (silent) install on Windows machines [A-3](#)
- XP platform support [2-9](#)

Windows NT

- running the installation wizard on the client machine [3-5](#)

WLM

- creating application environments [6-29](#)
- software requirement [2-18](#)
- specifying application environment names for [6-14](#), [6-21](#), [6-48](#), [6-53](#)

Workload Manager (WLM)

- creating application environments [2-18](#), [6-29](#)
- software requirement [2-18](#)
- specifying application environment names for [6-14](#), [6-21](#), [6-48](#), [6-53](#)