Rational ClearQuest®

Installation Guide

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WINDOWS/UNIX

Rational®
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PATENT

U.S. Patent Nos.5,193,180 and 5,335,344 and 5,535,329 and 5,835,701. Additional patents pending.

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Preface

This manual provides detailed instructions on how to install Rational ClearQuest. Rational ClearQuest is a highly flexible defect and change tracking system that captures and tracks all types of change, for any type of project. This guide explains how to install ClearQuest, ClearQuest Designer, vendor databases, and related tools.

Audience

This guide is intended for the ClearQuest administrator. It assumes that you have read *Introduction for Rational ClearQuest*, the *Rational ClearQuest Release Notes, Administrator's Guide for Rational ClearQuest* and *the Administrator's Guide for Rational ClearQuest MultiSite*. It also assumes that you have experience administering relational databases, and know how to write scripts in VBScript or Perl.

You, the ClearQuest administrator, set up the databases to use with ClearQuest, install ClearQuest, and provide the required set up information to each client user. You (or your client user) can then install ClearQuest on the client machines.

Other ClearQuest documentation

In addition to this guide, ClearQuest includes the following printed documentation:

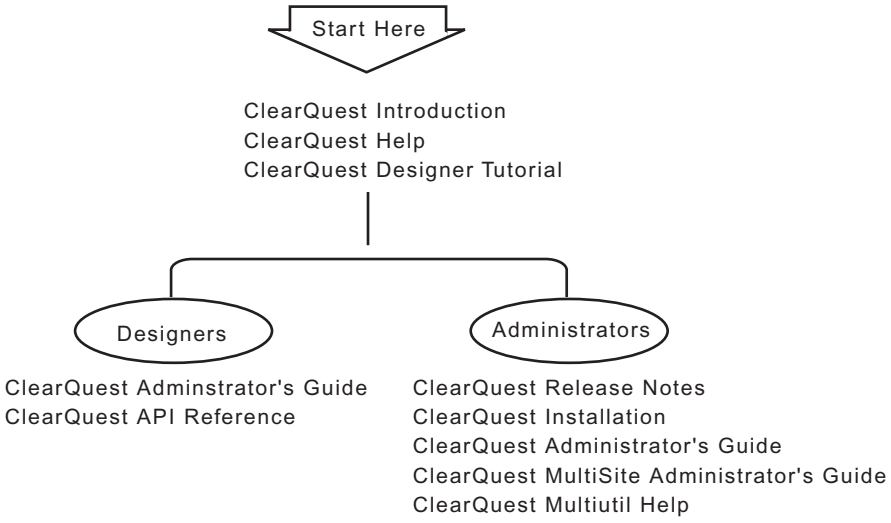
- *Introduction for Rational ClearQuest:* Provides an overview of how to use ClearQuest, and a brief example of how you can customize ClearQuest to fit your organization's workflow.
- *License Management Guide for Rational Suite:* Provides you with the technical information you need to install floating and node-locked license keys, install and configure the Rational license server software, and troubleshoot problems related to licensing Rational Software products.

- *Administrator's Guide for Rational ClearQuest:* This guide is for ClearQuest administrators. It assumes that you have read *Introduction for Rational ClearQuest*, have experience administering relational databases, and know how to write scripts in VBScript or Perl.
- *Administrator's Guide for Rational ClearQuest MultiSite:* This manual is for all MultiSite administrators. It assumes you have experience with ClearQuest. The manual provides an overview of MultiSite, describes how to set up and use it, and gives troubleshooting suggestions.

ClearQuest includes the following online documentation:

- *Rational ClearQuest Release Notes*, located in \Rational\doc\clearquest_readme.htm
- *Rational ClearQuest online Help:* Online Help for ClearQuest.
- *Rational ClearQuest Designer online Help:* Online Help for ClearQuest Designer.
- *Rational ClearQuest Designer Tutorial:* Introduction to the basic tasks of a ClearQuest administrator.
- *Rational ClearQuest API Reference:* Online reference guide explaining the syntax for writing hooks and external applications.
- *Rational ClearQuest Web Help:* Online Help for the ClearQuest web-based client.
- *Rational ClearQuest Maintenance Tool Help:* Online Help for the ClearQuest Maintenance Tool.
- *Rational ClearQuest Import Tool Help:* Online Help for the ClearQuest Import Tool.
- *Rational ClearQuest Microsoft Project Tracker Guide:* Online user guide providing instructions on installing and using the Rational ClearQuest Microsoft Project Tracker.

ClearQuest documentation roadmap



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Note: When you contact Rational Technical Support, please be prepared to supply the following information:

- Your name, telephone number, and company name
- Your computer's make and model
- Your operating system and version number
- Product release number and serial number
- Your case ID number (if you are following up on a previously reported problem)

Installing ClearQuest

1

This chapter describes how to install ClearQuest. You, the ClearQuest administrator, set up the databases to use with ClearQuest, install ClearQuest, and provide the required set up information to each client user. You (or your client user) can then install ClearQuest on the client machines.

Warning: If you are using multiple products from Rational Suite, all products must be from the same Suite version (installed from the same CD-ROM). To upgrade a product from the Suite, uninstall all Rational Suite products and install the desired products from the newer Suite CD-ROM. For more information, refer to *Installation Guide for Rational Suite*.

It's important that you review all the necessary steps before beginning.

This chapter covers the following topics:

- "Before you begin" on page 2
- "Understanding the ClearQuest install process" on page 3
- "Understanding ClearQuest MultiSite master site installation" on page 4
- "Understanding ClearQuest MultiSite replica site installation" on page 5

Before you begin

Warning: Rational Suite installation does not support the automated installation upgrade of Rational software versions prior to Version 2000. Contact Rational Technical Support for instructions on upgrading with earlier versions. If you attempt to install the latest version of Rational software from a version prior to Version 2000, the installation program will display the following messages:

```
Caution: Read carefully before proceeding!
```

```
You have Rational software installed on your computer from
Version 2000 or earlier. If you continue with this
installation, you can damage the software or Rational
repositories that you use with Rational products.
```

To protect your Rational environment, first upgrade your software and repositories to Version 2001A, then upgrade software and repositories to the current version. For more information, see "Upgrading from Earlier Versions of Rational Suite" in the *Installation Guide for Rational Suite*.

Before you install ClearQuest, read the following:

- *Rational ClearQuest Release Notes:* An HTML file that contains the most current system requirements information (including platform version support).
  - For Windows: `<d>:\ClearQuest\clearquest_readme.htm` (where `<d>` is your CD-ROM drive).
  - For UNIX: `<d>:/products/ClearQuestClient/clearquest_readme.htm` (where `<d>` is your CD-ROM drive).
- *Introduction for Rational ClearQuest:* An overview of ClearQuest components and how to use them.
- *Administrator's Guide for Rational ClearQuest:* A guide on how to customize ClearQuest to meet your needs.
- *Administrator's Guide for Rational ClearQuest MultiSite:* A guide on how to create and administer ClearQuest MultiSite database replicas.

Understanding the ClearQuest install process

The following is an overview of the installation process.

1. Set up your database product. As the ClearQuest administrator, you are responsible for setting up the databases your user will use with ClearQuest. See “Configuring vendor databases” on page 7.

2. Optionally, install Seagate’s Crystal Reports Professional Edition™. If you or any of your ClearQuest users will be authoring ClearQuest report formats, install Crystal Reports. If you currently have Crystal Reports 6.0 installed, uninstall it and install Crystal Reports 8.0 **before** installing Rational ClearQuest. The Crystal Reports Installation CD-ROM is included with your ClearQuest Media Kit. For more information on report creating and authoring, refer to *Introduction for Rational ClearQuest* and the ClearQuest online help systems.

3. Set up your license server. See “Licensing Rational software” on page 34. If you are installing ClearQuest MultiSite, set up a license server for both ClearQuest and ClearQuest MultiSite.

4. Install ClearQuest on the administrator’s machine and create the ClearQuest databases. See “Installing ClearQuest” on page 30.

   An administrative installation of ClearQuest involves the following steps:

   - “Installing ClearQuest” on page 30.
   - “Creating ClearQuest databases” on page 31.

5. If you are installing ClearQuest MultiSite and want to use the Rational Shipping Server, follow these steps:

   - If you have ClearCase installed, install the Rational Shipping Server from the ClearCase Installation CD-ROM.
   - If you do not have ClearCase installed, install the Rational Shipping Server from the ClearQuest Installation CD-ROM.

     See “Installing Rational Shipping Server” on page 43.

6. If this installation is an upgrade from a previous release of ClearQuest, upgrade your existing databases to enable access to the new features. If this is the case, see “Upgrading ClearQuest” on page 117.

7. Optionally, customize your installation. See the *Administrator’s Guide for Rational ClearQuest* for details on customizing ClearQuest.

8 If you are installing ClearQuest MultiSite, install ClearQuest at the replica sites and create the ClearQuest database set replicas.

9 Install ClearQuest on the client machines and provide your user with the information they need to connect to ClearQuest. See “Installing and configuring ClearQuest Windows for users” on page 49 and “Installing and configuring ClearQuest UNIX for users” on page 87.

10 If you are installing ClearQuest Web, see “Installing and configuring ClearQuest Web” on page 55.

Understanding ClearQuest MultiSite master site installation

The installation of ClearQuest MultiSite at a master or working repository site is performed by completing the following steps:

1 Set up your database product. As the ClearQuest administrator, you are responsible for setting up the databases your user will use with ClearQuest. See “Configuring vendor databases” on page 7.

2 Set up your license server. See “Licensing Rational software” on page 34.

3 Install ClearQuest MultiSite, see Chapter 4, “Installing and configuring ClearQuest MultiSite” and optionally, the Rational Shipping Server, see “Installing Rational Shipping Server” on page 43.

4 Configure the MultiSite Control Panel on the host machine. See *Administrator’s Guide for Rational ClearQuest MultiSite* for detailed instructions.

5 Customize your schema to use MultiSite mastership features and upgrade your user database(s). See “Setting up mastership for records” on page 47.

6 Create replicas of your user databases and send export packets to respective sites. See Chapter 3, “Creating Replicas” in manual, *Administrator’s Guide for Rational ClearQuest MultiSite*.

7 Install ClearQuest on the client machines and provide your user with the ClearQuest database connection information. See “Installing and configuring ClearQuest Windows for users” on page 49 and “Installing and configuring ClearQuest UNIX for users” on page 87.

8 If you are installing ClearQuest Web, see “Installing and configuring ClearQuest Web” on page 55.

Understanding ClearQuest MultiSite replica site installation

The installation of ClearQuest MultiSite at a replica site is performed by completing the following steps:

1. Set up your database product. As the ClearQuest administrator, you are responsible for setting up the databases your user will use with ClearQuest. See “Configuring vendor databases” on page 7.
2. Set up your license server. See “Licensing Rational software” on page 34 and “Licensing ClearQuest MultiSite” on page 35.
3. Install ClearQuest MultiSite, see Chapter 4, “Installing and configuring ClearQuest MultiSite” and optionally, the Rational Shipping Server, see “Installing Rational Shipping Server” on page 43.
4. **DO NOT** create ClearQuest databases.

Warning: Do NOT create a ClearQuest database before receiving a database replica. A ClearQuest database is automatically created when you import a replica packet into an empty vendor database. If you have created a ClearQuest database with the Maintenance Tool or ClearQuest Designer, the replica import will fail. Delete the vendor databases and create them again.

5. Configure the MultiSite Control Panel on the host machine. See *Administrator’s Guide for Rational ClearQuest MultiSite* for detailed instructions.
6. After receiving replica-creation packets from the working master site, import replica-creation packets into empty vendor databases. See Chapter 5 “Creating Replicas” in the *Administrator’s Guide for Rational ClearQuest MultiSite* for more information.
7. Install ClearQuest on the client machines and provide your users with the ClearQuest database connection information. See “Installing and configuring ClearQuest Windows for users” on page 49 and “Installing and configuring ClearQuest UNIX for users” on page 87.
8. If you are installing ClearQuest Web, see “Installing and configuring ClearQuest Web” on page 55.

Configuring vendor databases 2

Before you install Rational ClearQuest, you need to create and configure the vendor databases for ClearQuest and ClearQuest MultiSite.

ClearQuest and ClearQuest MultiSite require at least two databases:

- A schema repository: This is the master database where ClearQuest and ClearQuest MultiSite store the schema.
- A user database: This is where data entered by ClearQuest users is stored. You can have as many user databases as you need.

This chapter covers the following topics:

- "Choosing a database vendor" on page 8
- "Setting up Microsoft Access" on page 10
- "Setting up SQL Anywhere" on page 10
- "Setting up Microsoft SQL Server 7 and 2000" on page 13
- "Setting up the Oracle Server" on page 17
- "Setting up IBM DB2" on page 24

Choosing a database vendor

Warning: If you are installing ClearQuest MultiSite, do not create additional databases at the replica site. For more information see “Installing and configuring ClearQuest MultiSite” on page 37.

ClearQuest Windows supports the following databases:

- Microsoft Access (supplied with ClearQuest).
- Sybase SQL Anywhere (supplied with ClearQuest).
- Microsoft SQL Server.
- Oracle (NT and UNIX).
- IBM DB2 (Windows).

ClearQuest UNIX supports the following databases:

- Microsoft SQL Server.
- Oracle (UNIX).
- IBM DB2 (Windows).

ClearQuest MultiSite supports the following databases:

- Microsoft SQL Server.
- Oracle (NT* and UNIX).
- IBM DB2 (Windows).

  Note: If you are using the ClearQuest UNIX client, with ClearQuest MultiSite, you cannot use a Oracle NT database.

For specific supported versions, see the *ClearQuest Release Notes*:

- For Windows: `<d>:\ClearQuest\clearquest_readme.htm` (where <d> is your CD-ROM drive).
- For UNIX: `<d>:/products/ClearQuestClient/ClearquestReleaseNotes.htm` (where `<d>` is your CD-ROM drive).

Note: You can use more than one database vendor for ClearQuest databases. For example, you might want to use Oracle or Microsoft SQL Server databases for your schema repository and user databases, then use a Microsoft Access database for your test database. However, we do not

recommend using multiple database vendors when you are using ClearQuest MultiSite due to case sensitivity rules that are not consistent between vendors.

Database case sensitivity

There are two scenarios when it is mandatory that your database sensitivity settings are consistent:

- When you are moving a database from one database vendor type to another.
- When you are using ClearQuest MultiSite and are employing multiple synchronized databases created from different database vendor products.

Review the following case sensitivity properties before determining which database vendor product to use.

Database Vendor	Default Setting	Possible Settings	Comments
MS ACCESS	Case-insensitive	Case-insensitive	MS Access databases are case-insensitive.
SQL ANYWHERE	Case-insensitive	Case-insensitive, Case-sensitive	All databases are created as case-insensitive, this setting can be changed to make it case-sensitive.
DB2	Case-sensitive	Case-sensitive	The case sensitivity is applicable to data only and not database object names.
SQL SERVER	Case-insensitive, Case-sensitive	Case-insensitive, Case-sensitive	The case sensitivity can be decided either by using the installation time option or database creation time option. **Note:** Case sensitivity applies to database object names as well as data.
Oracle	Case-sensitive	Case-sensitive	The case sensitivity is applicable to data only and not database object names.

Setting up Microsoft Access

Note: ClearQuest Web and ClearQuest MultiSite do not support Microsoft Access databases.

If you are using ClearQuest with Microsoft Access:

1. Create one shared directory on the machine for the directory that will contain your Microsoft Access databases.
2. Make a note of the UNC path of the share directory. The path should be of the form:
   `\\<machine_name>\<share_name>\<database_directory>\`

   For example:
   `\\developmentserver\project34share\clearquestdbs\`

The first time you run ClearQuest, you are asked to create a schema repository. Specify this pathname and provide a filename for the schema repository. ClearQuest then creates and initializes the appropriate Access databases in this directory.

Now that you have set up the Access databases, proceed to "Installing and configuring ClearQuest for an administrator" on page 29.

Setting up SQL Anywhere

To create an SQL Anywhere database server, complete the following tasks:

- Install the Sybase SQL Anywhere Server software.

  Note: SQL Anywhere is available on the ClearQuest CD-ROM and can be installed using the Rational Software Setup wizard.

- Choose or create a user account to run the SQL Anywhere database server and set user privileges for that account. See Defining user privileges below.
- Create an SQL Anywhere database server. See "Creating an SQL Anywhere Database Server" on page 12.

  Note: SQL Anywhere databases are created as case-insensitive databases. To migrate to a different database vendor, evaluate your database case sensitivity settings. See "Database case sensitivity" on page 9 for more information.

Defining user privileges

To define privileges for a user account running an SQL Anywhere database server:

1. Make sure you have installed the Sybase SQL Anywhere Server software.
2. Do one of the following:
   a. If your Windows NT computer is running Windows NT Workstation software, click
      Start > Programs > Administrative Tools (Common) > User Manager.
   b. If your Windows 2000 computer is running Windows 2000 Workstation software, click
      Start > Settings > Control Panel > Users and Passwords.
   c. If your Windows NT computer is running Windows NT Server software:
      i. Click **Start > Programs > Administrative Tools (Common) > User Manager for Domains**.
      ii. Click **User > Select Domain** and type the local machine name in the Domain box, and then click **OK**.

      Note: If the user does not already exist, create the user (**User > New User**).
   d. If your Windows 2000 computer is running Windows 2000 Server software:
      i. Click **Start > Settings > Control Panel > Local Users and Groups.**
      ii. Click **User > Action > New User** and type the local machine name in the Domain box, and then click **OK**.
3. Click **Policies > User Rights** to open the User Rights Policy dialog box.
4. Select **Show Advanced User Rights**.
5. In the **Right** list box of the User Rights Policy dialog box, select **Access this computer from network**.
6. Click **Add**.
7. For **List Names From**, select the domain of the account running the SQL Anywhere database server.
8. Click **Show Users**.

9 In the **Names** list, select the account running the SQL Anywhere database server.

10 Click **Add**, and then click **OK**.

11 In the **Right** list box of the User Rights Policy dialog box, select **Log on as a service**.

12 Repeat Steps 6 through 10.

13 In the **Right** list box of the User Rights Policy dialog box, select **Log on locally.**

14 Repeat Steps 6 through 10.

15 Click **OK**.

16 Click **User > Exit**.

Creating an SQL Anywhere Database Server

An SQL Anywhere database server is a process that runs on the database server machine. Its function is to coordinate all activity against your SQL Anywhere databases. You can create one SQL Anywhere server to provide access to all of your database files, including all of the ones in your test datastore(s).

To create an SQL Anywhere database server:

1 Open **Rational Administrator**.

2 Click **Tools > Sybase Central**.

3 In the left pane, click **Services** under **Sybase SQL Anywhere**.

4 In the right pane, double-click **Add Service** to launch the Create New Service wizard and click **Next**.

5 In the Choose Service Type dialog box, select **Network Server** and click **Next**.

6 In the Choose Name and Startup dialog box, enter the name of the service, select the manner in which the service will be started (we recommend **Automatic**), and click **Next**.

7 The Choose Path Name dialog box displays the default path for the executable file for the new service. This is the path to the SQL Anywhere database server executable (DBSRV50.EXE) that exists in the SQLANY50\WIN32 subdirectory within the Rational install directory. This should be set by default.

Note: A Windows 2000 defect causes the path to display incorrectly on the Choose Path Name dialog box. In that case, click **Browse** to locate the DBSRV50.EXE and click **Next**.

8 In the Specify Parameters dialog box use the -n flag and enter the database server name; for example:

-n MyDBServer

The database server name is the only required parameter for Rational tools. The name you enter here is required when creating a ClearQuest database or Rational test datastore.

9 In the Choose Account dialog box, click **Other,** select **Administrator**, enter a password, enter the same password again to confirm, and click **Next**.

Note: The account you specify must have Log on as a Service privilege. If the account does not have this privilege, Sybase displays a message to that affect. Click **Yes** to grant the privilege when the service is intalled.

10 In the Choose Options dialog box, we recommend that you select **Start service when created** and click **Next**.

11 The Ready to Create New Service dialog box displays the settings you have selected. Confirm that the settings are correct and click **Finish**.

Setting up Microsoft SQL Server 7 and 2000

Note: When you install SQL Server, select one of the following sort-order options:

- Dictionary order, case-sensitive.
- Dictionary order, case-insensitive.

If you change sort orders after installing SQL Server, you must rebuild the SQL databases and reload the data.

Note: This will affect case sensitivity of ClearQuest queries. If you want ClearQuest queries to be case-insensitive, set the order here. See “Database case sensitivity” on page 9 for more information.

You need to set up one empty SQL Server database for the ClearQuest schema repository, and one empty SQL Server database for each ClearQuest Client user database (such as the optional SAMPL database). For each SQL Server database, complete the following tasks:

- (Verify) server registration.
- Create an empty database.
- Set up a backup procedure for the database.
- Create an SQL Server login with the db_owner role to use for the ClearQuest database logins (the same login is used by ClearQuest for all connections).

Note: Do not use the SA (system administrator) login. During an upgrade or move process, ClearQuest requires empty databases. However, if the SA login is used, ClearQuest is able to see the System Tables, assumes the database is not empty, and does not allow the upgrade/move process to continue.

Note: When installing SQL Server 2000, it is important to select the default registration name for your database server. This will make the registration name the same as your server's machine name.

To add more user databases to ClearQuest, repeat the succeeding tasks for each new database.

Registering your SQL Server 7 machine

1. In the **SQL Server Enterprise Manager**, select your Windows NT server in the **SQL Server Group**.

   If your server is not shown, register it now by going to Step 2. If your server is already registered, go to "Creating a new SQL Server 7 database" on page 15.

2. Right-click the SQL Server Group and select **New SQL Server Registration**. The Register SQL Server Wizard displays.

3. Select a server name, and click **Next**.

   Note: Make a note of the server name because you will need it during the ClearQuest installation.

4. For Authentication Mode, select **SQL Server Authentication**, then click **Next**.

5. For **Login ID**, type SA and for **Password**, type your SA password. Then click **Next**. (The SA user has the privilege to create logins and databases.)

6 Add this server to an existing group, or create a new group. Then click **Next**.

7 Click **Finish**. The server will appear in the list of servers.

8 Verify from the status window that registration has been completed successfully and then **Close**.

Creating a new SQL Server 7 database

1 From the Getting Started Taskpad, select **Administer SQL Server > Create a database**.

Note: Do not use spaces or non-alphanumeric characters in the database name. (Underscores are acceptable.)

2 In the wizard, specify a file system location for the database and the log. You can accept the defaults for the growth rate of the database and the log.

Note: To give the databases larger initial values, allocate at least 50 MB for the schema repository and at least 15 MB for every 1,000 records expected for your user databases.

3 After you create a database, you are prompted to create a Database Maintenance Plan. The Database Maintenance Plan Wizard allows you to set up a database backup routine. It is strongly recommended that you set up automated nightly backups for all your ClearQuest databases.

4 Set database properties for the new database:

a Select the new database from the server's **databases** folder.

b Right-click the database and select **Properties**.

c On the **Options** tab, select these settings:

- **Select into / bulk copy.**
- **Truncate log on checkpoint**.

d Click **OK**.

Creating a new SQL Server 2000 database

Note: When installing SQL Server 2000, it is important to select the default registration name for your database server. This will make the registration name the same as your server's machine name.

1. Open the SQL Server Enterprise Manager, right-click the server name and select **View > Taskpad**.
2. Click the **Wizards**, go to **Setup a Database**, click **Create a Database Wizard**.
3. In the wizard, specify a file system location for the database and the log. You can accept the defaults for the growth rate of the database and the log.

   Note: Do not use spaces or non-alphanumeric characters in the database name. (Underscores are acceptable.)

   Note: To give the databases larger initial values, allocate at least 50 MB for the schema repository and at least 15 MB for every 1,000 records expected for your user databases.
4. After you create a database, you are prompted to create a Database Maintenance Plan. The Database Maintenance Plan Wizard allows you to set up a database backup routine. It is strongly recommended that you set up automated nightly backups for all your ClearQuest databases.

Creating SQL Server logins

Create a **db_owner** login for each ClearQuest database (schema repository and each user database) by selecting the db_owner role for each of the logins you create.

Note: Do not use the SA (system administrator) as the owner login of a ClearQuest database. During an upgrade or move process, ClearQuest requires empty databases. However, if the SA login is used, ClearQuest is able to see the System Tables, assumes the database is not empty, and does not allow the upgrade / move process to continue.

1. Expand the **Security** folder, then right-click **Logins** and click **New Login**. The SQL Server Login Properties - New Login dialog box displays.
2. On the **General** tab, select **SQL Server Authentication** because ClearQuest does not support Windows authentication.

   Note: Because ClearQuest requires an SQL Server login for each database and does not support Windows NT Authentication, your must configure the SQL Server to operate in Mixed Mode (Windows NT Authentication and SQL Server Authentication). This property can be set via Enterprise Manager. Right-click the server and select **Properties** menu, **Security** tab.
3. Enter a name and password.
4. In the Defaults area, select your database and leave the Language set to `<default>`.

5 On the **Server Roles** tab, do not grant *any* server roles.

6 Grant db_owner privileges to the login in the new database.

   a On the **Database Access** tab, select from the **Permit** list the new database to grant the login permission.

   b Under **Permit in database role**, check db_owner and public. Do not grant this user any other privileges.

7 Click **OK** and verify your password.

Migrating from SQL Server 6.5

Use the ClearQuest Maintenance Tool to migrate your schema repository to an SQL Server 7 database. Then use ClearQuest Designer to move previous SQL Server 6.5 user databases to SQL Server 7. You do this by using the Properties dialog box to change the properties of the user database.

Warning: When migrating from SQL Server 6.5 to SQL Server 7, do **NOT** use the SQL Server 7 Upgrade Wizard to upgrade your schema repository and user databases. You need to use the ClearQuest Maintenance Tool and ClearQuest Designer.

Ensuring SQL Server 7 Client connectivity

SQL Server 7 client machines require SQL Server ODBC driver number 3.7*x*. To update the ODBC driver for a client machine:

1 Go to that machine, insert the SQL Server 7 CD-ROM, and run `D:\x86\other\mdac_type.exe`

   where *D:* is the letter of your CD-ROM drive.

2 Choose the **Custom** install option when prompted.

3 Select **ODBC Driver for Microsoft SQL Server** (and unselect other options such as Microsoft JetEngine).

Now that you have set up your SQL Server databases, proceed to “Installing and configuring ClearQuest for an administrator” on page 29.

Setting up the Oracle Server

If you are using ClearQuest with Oracle databases, install and create the databases according to Oracle’s documentation. Follow these guidelines when you set up your Oracle databases:

- Create a specific Oracle database instance, or identify an existing Oracle instance, to use for ClearQuest data.
- Create two or more separate Oracle database user accounts (each with its login):
  - The ClearQuest schema repository user login.
  - One user login for each ClearQuest user database.
- Grant each user login the **Connect and Resource** roles only.

Note: We recommend that you associate each Oracle database user with a unique default tablespace that is separate from all other users. In the Oracle database, users can share the **temporary** tablespace(s), but the temporary tablespace(s) for these users must be separate from the Oracle system tablespace.

Note: Oracle is a case-sensitive database. If you are employing ClearQuest MultiSite or you want to migrate to a different database vendor, you need to evaluate your database case sensitivity settings. See “Database case sensitivity” on page 9 for more information.

Enhancing Oracle search capabilities

With a standard Oracle installation, you cannot perform a string search on multiline text fields. For example, in ClearQuest you cannot search for text in a multiline Notes field.

Oracle does provide an option called the ConText Cartridge (Oracle 8.0.5) or interMediaText (Oracle 8.1.x) that enables string searches in multiline text fields. When installed, multiline text fields become available for queries in ClearQuest.

ConText Cartridge Personality Masks

The collection of all the personalities for a ConText server is called the personality mask. When a ConText server is started, it is assigned a default personality mask consisting of the DDL (D), DML (M), and Query (Q) personalities. The ones pertinent to ClearQuest are described below:

DDL (D) Personality

The DDL personality enables a ConText server to process requests for creating, optimizing, and dropping text indexes. The text index on a column allows the user to query the text stored in the column. This personality is required to run the setup script, `setup_cq_ctx_policy.sql` for multiline searches in ClearQuest.

DML (M) Personality

The DML personality enables a ConText server to automatically update the text index for a table when changes to the table are made that require the text index to be updated. Such changes include inserting new records, updating existing records, and deleting existing records.

Without it, text searches are based on text data that was indexed when the ConText server with M personality was last executed.

Note: When systems have a high volume of text inserts, updates, and deletes, assign the DML personality to multiple servers to better distribute the system load.

Note: The DML personality server should always be running to avoid searching on obsolete text data.

Query (Q) Personality

The Query personality enables a ConText server to process queries for text searches. If no running ConText servers have the Query personality, queries submitted to ConText will fail. In ClearQuest, an error message will be generated if there are no ConText servers with Q personality running at the time the query is executed.

Note: When systems have a high volume of text queries, assign Query personality to multiple servers to better distribute the system load. In some cases where more than one text search is executed simultaneously, a query may fail if there is not enough servers running.

Note: Run at least two ConText servers with all three personalities.

interMediaText Personality Masks

The DML (M) is the only personality used in ConText server for interMediaText. This means a running ConText server is not required to run text searches (In version 8.0.5, you need to have a ConText server with Query

personality to perform text searches). However, there are some issues on not searching with the most current text data. Refer to Oracle interMediaText documentation for more details.

Note: When systems have a high volume of text inserts, updates, and deletes, run multiple servers to better distribute the system load.

Note: The ConText server should always be running to avoid searching on obsolete text data.

Enabling an Oracle 8.0.5 multiline search

To enable Oracle multiline text search for Oracle 8.0.5 with ClearQuest, do the following.

1. Install the ConText Cartridge according to the Oracle documentation.
2. Start at least two ConText servers. Be sure to use the QDM (Query, DDL, DML) personality options. For example:

   ```
   % ctxsrv -user ctxsys/ctxsys -personality QDM -logfile
   $ORACLE_HOME/ctx/log/ctxsrv1.log &
   % ctxsrv -user ctxsys/ctxsys -personality QDM -logfile
   $ORACLE_HOME/ctx/log/ctxsrv2.log &
   ```

   where `ctxsys/ctxsys` is the default username/password.

   Note: You may have to create that `ctx/log` directory. You'll also want to run this in the background. Oracle doesn't provide anything to start this automatically at boot time, so you will either have to run these processes manually or develop a shell script for that purpose. Refer to your Oracle user manuals for additional information.
3. To set up the ClearQuest Oracle user to have the necessary privileges, run the following SQL script using Oracle's SQLPlus utility as the Oracle `ctxsys` user.

   The SQL script (`setup_cq_ora_user.sql`) can be found in the ClearQuest installation directory (`\\Rational Software\ClearQuest\`).

   ```
   sqlplus ctxsys/<password>@<tnsname>
   @setup_cq_ora_user.sql <cquser>
   ```

   where `<cquser>` is the name of the Oracle login used for creating the ClearQuest database.
4. To set up the text indexes required to perform multiline searches, run the SQL script `setup_cq_ctx_policy.sql` located in your ClearQuest installation directory. For example:

```
sqlplus <cquser>/<password>@<tnsname>
@setup_cq_ctx_policy.sql
```

where <cquser> is the name of the Oracle login used for creating the ClearQuest database.

Note: This script needs to be executed for each user database only after the database has been created (either in ClearQuest Maintenance Tool or ClearQuest Designer). Otherwise, the script will not find the necessary ClearQuest tables that it needs.

Enabling Oracle 8.1.x multiline search

To enable Oracle multiline text search for Oracle 8.1.x with ClearQuest, do the following.

1. Install interMediaText according to the Oracle documentation. Generally, this is installed by default when the Oracle server is installed.
2. Perform the Post-Installation Setup procedures documented in *Oracle interMediaText 8.1.5 Technical Overview*. You can find this guide at: `http://www.oracle.com/support/`
3. Start at least one ConText server. The personality parameter is optional. For example run the following command:
   ```
   ctxsrv -user ctxsys/ctxsys -personality M -logfile \
   $ORACLE_HOME/ctx/log/ctxsrv.log &
   ```
   where `ctxsys/ctxsys` is the default username/password.

   Note: You may have to create that `ctx/log` directory. You will also want to run this in the background. Oracle doesn't provide anything to start this automatically, say at boot time, so you will either have to run these processes manually or develop a shell script for that purpose.
4. Start at least one ConText server. For example:
   ```
   % ctxsrv -user ctxsys/<password> -log ctx.log1 &
   ```

5 To set up the ClearQuest Oracle user to have the necessary privileges, run the following SQL script using Oracle's SQLPlus utility as the Oracle `ctxsys` user.

The SQL script (`setup_cq_ora_user.sql`) can be found in the ClearQuest installation directory (`\\Rational Software\ClearQuest\`).

```
sqlplus ctxsys/<password>@<tnsname>
@setup_cq_ora_user.sql \ <cquser>
```

where `<cquser>` is the name of the Oracle login used for creating the ClearQuest database.

6 To set up the text indexes required to perform multiline searches, run the SQL script `setup_cq_intermedia.sql` located in your ClearQuest installation directory. For example:

```
sqlplus <cquser>/<password>@<tnsname>
@setup_cq_intermedia.sql
```

where `<cquser>` is the name of the Oracle login used for creating the ClearQuest database.

Note: This script needs to be executed for each user database only after the database has been created (either in ClearQuest Maintenance Tool or ClearQuest Designer). Otherwise, the script will not find the necessary ClearQuest tables that it needs.

Installing and configuring an Oracle client

The ClearQuest administrator and all ClearQuest Windows users must install Oracle Client Software on their local machines before they can install and use ClearQuest. To install Oracle Client Software, follow the Oracle Networking Products documentation.

Note: If you are using Oracle 8.0.x and 8.1.x clients, you must have the latest patch installed to operate successfully with ClearQuest Web. For more information, see your latest ClearQuest release notes located at:

- For Windows: `<d>:\ClearQuest\clearquest_readme.htm` where `<d>` is your CD-ROM drive
- For UNIX: `<d>:/products/ClearQuestClient/clearquest_readme.htm` where `<d>` is your CD-ROM drive

Creating an Oracle database alias

Before using ClearQuest Windows, all users must use the SQL8*Net Easy Configuration program to configure their computers to access Oracle databases.

Note: Even if you will only be using ClearQuest UNIX clients, you need to use the SQL*Net Easy Configuration tool to configure the administrator's NT workstation to access the Oracle database. ClearQuest UNIX requires that the administrator machine be a Windows machine.

1. From the Start menu, click **Oracle for Windows NT > SQL8*Net Easy Configuration** if using Oracle 8.x and complete these steps:

   a. Select **View Configuration Information** to see if your Oracle database administrator configured a Database Alias for you. If not, go to the next step.

   b. Add a new database alias by selecting **Add Database Alias**. Click **OK**.

   c. Type an SQL8*Net Database Alias (database name your Oracle database administrator set up previously). Make a note of the Database Alias; you will need it during the ClearQuest database setup. Click **OK**.

      Note: All ClearQuest users must use the same Database Alias.

   d. Select **TCP/IP** as the network protocol to use to communicate with the database. Click **OK**.

   e. Type the **Host Name** (the name of database server machine) and the Database Instance (the system ID or SID). See "Setting up the Oracle Server" on page 17.

   f. All ClearQuest users must use the same Database Alias, Database Instance (system ID or SID), TCP/IP protocol, and Host Name (Oracle server machine).

   g. When you click **OK**, the SQLNet8 Easy Configuration program asks you to confirm your choices. Click **Yes** to confirm the current configuration information.

   h. After configuring your database, the installer displays the initial opening screen so that you can configure additional aliases. To quit the program, click **Cancel**.

Setting up IBM DB2

To use ClearQuest with IBM DB2 databases, you need to install IBM DB2 7.1 on your database server.

Note: Please see the ClearQuest release notes before proceeding for more information about using DB2 databases with ClearQuest.

Start > Programs > Rational > Rational ClearQuest > Rational ClearQuest Release Notes).

Note: DB2 is a case-sensitive database. If you are employing ClearQuest MultiSite or you want to migrate to a different database vendor, you need to evaluate your database case sensitivity settings. See “Database case sensitivity” on page 9 for more information.

Creating a new DB2 database

You need to set up one empty DB2 database for the ClearQuest schema repository, and one empty DB2 database for each ClearQuest user database (such as the optional SAMPL database). For each DB2 database, complete the following tasks.

1. From the Start menu, click **IBM DB2 > Control Center**.
2. Enter the login name and password for the DB2 administrator account and click **OK**.
3. From the DB2 Control Center, expand the machine name that corresponds to the database server name.
4. Right-click the **Databases** folder and choose **Create > Database using Wizard**.

   Note: Make sure all DB2 services are running, otherwise this utility will not work.
5. Enter a name of the database.

   Note: DB2 supports database names with eight characters or less.
6. Click **Finish**.
7. Expand the database name folder.
8. Right-click the **Buffer Pools** folder and choose **Create...**
9. On the **Create Buffer Pool** dialog box, enter a name for **Buffer pool name** (such as BFP16K), select **Page size = 16** and click **OK**.

10 Right-click the **DB2** folder, and choose **Stop** (remember to mark the checkbox **Disconnect all applications**), and then **Start** to restart the database with buffer pool activated.

11 Right-click the **Table Spaces** folder and choose **Create > Table space...**

- **a** Enter a name for **Table space name** (in other words: TSPRGR16K), select **Type of table space = Regular**, and **Space management = System**.
- **b** In the **Container name** section, select **Add** button and enter a name for Container (in other words: cntr1a_16K). Click **OK** to close the dialog box.
- **c** In the **Create Table Space** dialog box, click the **Advanced** button.
- **d** Select **Page size = 16**, and select the buffer pool name created earlier for **Buffer pool**, then click **OK**.
- **e** Click **OK** to close **Create Table Space** dialog box.

12 Right-click the **Table Spaces** folder again and choose **Create > Table space...**

- **a** Enter a name for **Table space name** (in other words: TSPTMP16K). Then enter the data in the table below depending on your database version. In the Container name section, select **Add** button.

Table space entries	DB2 6.1	DB2 6.1
Type of table space =	Temporary	System Temporary
Space management =	System	System

- **b** In the **Add Container** dialog box, enter a name for **Container** (in other words: cntr1b_16K), click **OK** to return to the **Create Table Space** dialog box.

  Note: Make sure a unique name is used for each container created.
- **c** Click the **Advanced** button of the **Create Table Space** dialog box.
- **d** On the **Advanced** dialog box, select **Page size = 16**, and select the buffer pool name created earlier for **Buffer pool**. Then click **OK**.
- **e** Click **OK** to close the **Create Table Space** dialog box.

13 Right-click the database name and select **Configure.**

a Select the **Performance** tab, set the value for the parameter **Application heap size = 512** and the parameter **Application control heap size = 512**.

b Select **Log** tab, set value for the parameter **Log File size = 1000**, the **Number of Primary Log Files = 15**, and **Number of Secondary Log Files = 10**.

c Click **OK** to save changes.

14 Right-click the DB2 folder, and choose **Stop**. Then click **Start** to restart the database and make the configuration parameters effective.

Installing DB2 client

All ClearQuest Windows client users (including the ClearQuest administrator) must install DB2 client software on their local machines before they can install and use ClearQuest. To install DB2 client software, follow the IBM documentation.

Note: If the client and server machines are the same, you can skip this step.

Creating a DB2 database alias

Before using ClearQuest Windows client, all users must use the **Client Configuration Assistant** to create a DB2 alias for each ClearQuest schema repository and user database they will use.

1 Install DB2 Client Software according to the IBM DB2 documentation.

2 From the Start menu, choose **IBM DB2 > Client Configuration Assistant**. The Welcome dialog box appears.

3 Click **Add database**.

4 Click **Search the network**.

5 Click **Next**.

6 Expand the Known Systems folder, if you see the database server machine on which the ClearQuest database resides, expand it and select the database name for which you want to create an alias.

Note: If you don't see the machine you need, try expanding the Other Systems folder. If you don't see the machine you need in the Other Systems folder, talk to your database administrator. There may be a network problem.

7 Expand the database server machine folder you need and select the database for which you need to create an alias.

8 Click **Next**.

9 Repeat steps 1 - 8 for each schema repository and user database.

Now that you have set up your DB2 databases, proceed to “Installing and configuring ClearQuest for an administrator” on page 29.

Installing and configuring ClearQuest for an administrator 3

Before installing ClearQuest on client machines you must install it on the administrator's machine, set up licensing, and set up your schema repository and user databases.

If you are using an Oracle or DB2 database, install the Oracle or DB2 client software *before* installing ClearQuest. See "Setting up the Oracle Server" on page 17 or see "Setting up IBM DB2" on page 24 for more information.

This chapter covers the following topics:

- "Installing ClearQuest" on page 30
- "Configuring ClearQuest" on page 31
- "Licensing Rational software" on page 34
- "Installing Crystal Reports" on page 36

Installing ClearQuest

To install ClearQuest for administrators:

1. Load the ClearQuest CD-ROM on the machine you want to administer ClearQuest.
2. If the setup program does not run automatically, navigate to the top level directory of the CD-ROM and double-click setup.exe.
3. Click the button **Configure License** and enter your ClearQuest license information and if applicable, your ClearQuest MultiSite license information. Follow the instructions on your License Certificate and in the online Help for the License Key Administrator.

   Note: Rational ClearQuest uses a license server. If you don't already have a license server installed, it is available on the Rational Solutions for Windows CD-ROM. For more information, see *License Management Guide for Rational Suite*, available on the Rational Solutions for Windows Online Documentation CD-ROM.
4. To install ClearQuest for the administrator do one of the following:

   a. To perform a standard installation of ClearQuest, select the **Typical** install option.

   b. To include an evaluation database with your ClearQuest installation, select the **Custom** install option, expand the **ClearQuest** node and check the **Evaluation Database Installation** box.

   The Rational Software Setup wizard prompts you through the ClearQuest Windows installation.

What do you do next?

- "Configuring ClearQuest" on page 31.
- "Installing and configuring ClearQuest Windows for users" on page 49.

Configuring ClearQuest

Creating ClearQuest databases

After you install ClearQuest and have created the necessary empty vendor databases (see “Installing and configuring ClearQuest for an administrator” on page 29), you must create the ClearQuest databases (schema repository and user databases). Initially you can create a sample user database to use while you familiarize yourself with the product. You can create your production user databases later.

Creating a schema repository

Before you create a new schema repository, you must create a vendor database to use for your schema repository. If you are using Microsoft Access or SQL Anywhere, you are prompted to make a share.

To create a new schema repository, use the ClearQuest Maintenance Tool.

1. Select **Schema Repository > Create**.
2. In the **Existing Connections** area, type a name for the schema repository connection, then press ENTER.
3. In the **Schema Repository Properties** area, enter the properties of the vendor database designated for the schema repository.
   a. Choose a vendor database from the drop-down list.
   b. Enter the required vendor database properties. The information to enter is as follows:

- MS_ACCESS
  - Enter a name for the schema repository. Enter the entire path to the file using a UNC style path. For example:

    ```
    \\DevServer\ProjectShare\CQ_DBS\schema_repo.mdb
    ```

    You can browse to the directory where you want to create the database. Be sure to browse using the Network Neighborhood to preserve the UNC style path name.
- SQL_ANYWHERE
  - Enter a name for the schema repository. Enter the entire path to the file using a UNC style path. For example:

    ```
    \\DevServer\ProjectShare\CQ_DBS\schema_repo.db
    ```

You can browse to the directory where you want to create the database. Be sure to browse using the Network Neighborhood to preserve the UNC style path name.

- Enter the name of the database server.
- Enter the protocols used to communicate with the SQL Anywhere server.
- Enter the database host name. The database host machine must be visible to the client machines via network share and via one or more of the communication protocols. For TCP/IP, this can also be the IP address.

- SQL_SERVER
  - Enter an SQL Server database name for the database that will contain the schema repository.
  - Enter the name of the database server.

Note: If you are using ClearQuest UNIX, each UNIX client must be able to access this server host name exactly as it appears in this entry.

  - Enter the database owner (DBO or Administrator) login.
  - Enter the password for the database owner (DBO or Administrator) login.
  - Enter the general purpose or read/write login.
  - Enter the password for the general purpose or read/write user login.
  - Enter the schema repository or read-only user login.
  - Enter the password for the schema repository or read-only login.
- ORACLE
  - Enter the TNS name (SQL*Net Alias pointing to the Oracle instance).
  - Enter the Oracle login you created for the schema respository.
  - Enter the password for the login.
  - The following options need to be entered in the **Connect Options** field, delimited by semi-colons. For example,

```
Host=<name>; SID=<name>; Server_ver=8.0; Client_ver=7;
Lob_type=LONG
```

Option	Definition
Host	The name of the database server machine. If your ClearQuest deployment will include both UNIX and Windows clients, the Host name is mandatory.
SID	The name of the Database Instance. If your ClearQuest deployment will include both UNIX and Windows clients the SID name is mandatory. On UNIX, the SID is case-sensitive.
Server_ver	Provide the version of the Oracle server you are using. Possible values are 7, 8.0, and 8.1. (For Oracle 8i, use 8.1.)
Client_ver	Provide the version of the Oracle client software you are using. Possible values are 7, 8.0, and 8.1. (For Oracle 8i, use 8.1.) If ClearQuest client users want to use a different Oracle client version than what is entered here by the administrator, they'll need to override the set options manually. The default setting is 7. See Release Notes for details.
Lob_type	Set the type of data you'll be using. The valid data type is LONG.

Note: All ClearQuest users must use the same SQL*Net Alias (TNSname), Database Instance (system ID or SID), TCP/IP protocol, and Host Name (Oracle server machine).

- DB2
  - Enter the Database Alias name (alias pointing to the DB2 database).
  - Enter the DB2 login created for the schema repository.
  - Enter the password for the login.

4 Click **Next**.

5 In the **Sample Database** area:

a Select the **Create sample database** check box.

b In the **Sample DB Schema** list, choose a schema to use for your sample database.

c Optionally, in the **Description** box, enter a description.

6 In the **Sample User Database** area, enter the properties of the vendor database designated for the sample database, see Step 3 for information about database properties.

7 Click **Finish**.

8 Optionally, you can create connection profiles for your users to use when connecting to ClearQuest, see “Using connection profiles” on page 52.

Creating a user database

You create ClearQuest user databases with the ClearQuest Designer, after you have successfully created and connected to a schema repository.

Note: Unless you are using MS Access, you must have first created empty vendor databases before you can create the ClearQuest databases.

1 From the Start menu, choose **Programs > Rational ClearQuest > ClearQuest Designer**.

2 Click **Next** when the Rational Schema Repository dialog box appears.

3 Click **OK** when the ClearQuest Designer Login dialog box appears.

Note: When you click OK, you will be logging in with the default ClearQuest administrator login name and password. The default user name is “admin”; the password is null and should be left blank. You should change this password and create a new login at your earliest convenience.

4 Click **Cancel** when the Open Schema dialog box appears.

5 Choose **Database > New Database**.

6 Enter a logical name for the database you want to create. This name must be five characters or less. Click **Next**.

7 Select the vendor database you plan to use, enter the properties appropriate for that vendor, then click **Next**. For more information about the required parameters for vendor databases, see step 3 under “Creating a schema repository” on page 31. Click **Next**.

8 Click **Next** to accept the default polling parameters.

9 Choose a schema with which to associate your database. You must associate the database with a schema.

10 Click **Finish**.

Licensing Rational software

ClearQuest administrator sets up and maintains licenses using the Rational License Administrator.

For more information about licensing Rational Software products, see the book *License Management Guide for Rational Suite*.

Rational Software product licensing provides two types of licenses:

- **Node-locked license**: Enables a single user to install and use a Rational Software product on a specific system.
- **Floating license**: Enables a specified number of users to install and use a Rational Software product on their systems. Floating licenses are shared among all users of the licensed software.

Note: If you purchase ClearQuest with a node-locked license, your ClearQuest Web functionality is limited to the ability to submit defects and to run one query (predefined by your ClearQuest administrator). To get full ClearQuest Web functionality, you need to purchase a floating license.

The license key certificate included with your purchase of ClearQuest indicates the type of licenses you are working with and the license keys you need to install.

Rational Software makes it easy to install and maintain licenses by providing the Rational License Administrator. Rational Software also provides GLOBEtrotter Inc.'s FLEXlm License Manager for administering floating licenses.

The Rational License Administrator is automatically installed when you install ClearQuest. To use the Rational License Administrator, select **Rational ClearQuest > License Administrator** from the Start menu. For information about installing your product licenses so you can get started using ClearQuest, see the Rational License Administrator online help.

To install the FLEXlm License Manager, select **GLOBEtrotter FLEXlm License Server** from the list of products displayed in the Rational Software Setup program. For additional information about FLEXlm licensing, see the Rational License Administrator online help.

Licensing ClearQuest MultiSite

ClearQuest MultiSite requires both a ClearQuest license and a ClearQuest MultiSite license. Any access to a replicated database requires both a ClearQuest and a ClearQuest MultiSite license, see the *Administrator's Guide for Rational ClearQuest MultiSite*.

You can calculate the number of ClearQuest MultiSite licenses your site needs by determining how many developers will access replicated databases. If all of your developers will access replicated databases, you need the same

number of ClearQuest MultiSite licenses as ClearQuest licenses. If not all developers will access replicated databases, you can purchase fewer ClearQuest MultiSite licenses.

For example, a company has two sites, with 20 developers at site A and 5 developers at site B. The company has three databases at site A; two of them will be replicated to site B and one will not be replicated. Five of the developers at site A will access only the unreplicated database, and the remaining 15 will work in all databases. Therefore, the company needs to purchase the following numbers of licenses:

Site	Number of ClearQuest Licenses	Number of ClearQuest MultiSite Licenses
A	20	15
B	5	5

Note: This example assumes that you purchase a ClearQuest license for each user. If you have fewer ClearQuest licenses than users, you can purchase a proportionate number of ClearQuest MultiSite licenses. For example, if site B purchased three ClearQuest licenses, they would also purchase three ClearQuest MultiSite licenses.

Installing Crystal Reports

To customize the defect reports that ship with ClearQuest, you must install Crystal Reports Professional Edition 8.0. If you currently have Crystal Reports 6.0 installed, you will need to uninstall it and install Crystal Reports 8.0 *before* installing Rational ClearQuest. The Crystal Reports Installation CD-ROM is included with your ClearQuest Media Kit. For more information on report creating and authoring, refer to *Introduction for Rational ClearQuest* and the ClearQuest online help systems.

To install Crystal Reports, use the Crystal Reports installation directions that come with the CD-ROM.

Note: Users who will not be editing existing or creating new report formats, do not need to install Crystal Reports.

Installing and configuring ClearQuest MultiSite

4

This chapter describes how to install ClearQuest MultiSite. You install ClearQuest MultiSite using the same steps you follow when installing ClearQuest (see “Installing ClearQuest” on page 30), with several additional considerations. It’s important to read this chapter before installing ClearQuest MultiSite.

Note: If you are installing ClearQuest MultiSite, be very careful when designing a system that utilizes databases created through different database vendors. Case sensitivity conflicts between database vendors may cause your MultiSite synchronization operations to fail (see “Database case sensitivity” on page 9). SQL language differences between vendors may cause certain queries to be unreadable by the ClearQuest client. See the *Administrator’s Guide for Rational ClearQuest MultiSite* for more information.

Before installing, you should read the following chapters in *Administrator’s Guide for Rational ClearQuest MultiSite*, Chapter 1,“Introducing ClearQuest MultiSite” and Chapter 2, “Deploying ClearQuest MultiSite.”

This chapter covers the following topics:

- “ClearQuest MultiSite overview” on page 38
- “Installing ClearQuest MultiSite for the administrator” on page 43
- “Installing Rational Shipping Server” on page 43
- “Configuring ClearQuest MultiSite” on page 45

ClearQuest MultiSite overview

ClearQuest MultiSite adds a powerful capability to Rational ClearQuest. With ClearQuest MultiSite, developers at different locations can use the same schema and user database. Each location (*site*) has synchronized copies (*replicas*) of the user database and its respective schema repository. At any time, a site can propagate the changes made in its particular replicas to other sites, by sending update packets. The update process can be scheduled by any number of methods to be automatic or can be started manually.

An organization can use ClearQuest MultiSite to distribute independent, but related development efforts across multiple cities, nations, or continents. For example, a company in the United States has development and testing sites in India, Argentina, Japan, and Australia. Because it is impractical for all engineers to access the ClearQuest database in the United States, the company uses ClearQuest MultiSite to distribute the database.

Understanding the architecture of ClearQuest MultiSite

Before you start using ClearQuest MultiSite, you should be familiar with the architecture of ClearQuest.

In summary, ClearQuest uses database sets to organize data. A database set consists of a schema repository and each of its associated user databases. A schema repository holds the metadata that defines user databases (schemas), while a user database is where record information is stored and is what the user accesses to submit and modify records. One schema repository can support multiple user databases. For more information about ClearQuest architecture, see the *Administrator's Guide for Rational ClearQuest*.

ClearQuest MultiSite replicates both a schema repository and an associated user database when it creates a replica site. Consequently, when you work with ClearQuest replicas, you are working with two database replicas, a replicated schema repository and a user database replica.

A replica is a named set of one replicated schema repository and one user database replica. Replicas reside at physical sites.

Term	Definition
Clan	A clan represents a group of replicas that use the same schema repository (a database set). A clan consists of one or more replica families. Replicas originating from the same database set use the same clan name. The clan is named when the first replica is activated. The clan name must be unique.

Term	Definition
Family	A family consists of one or more replicas of the same schema repository or user database. The family name is the same name as the five-character logical database name of the originating ClearQuest database.
Site	A named collection of replicas at the same location consisting of a replicated schema repository and one or more of its user databases.
Replica	A copy of a ClearQuest database and its associated schema repository.
Host	The LAN name or IP address of the network node that has access to a site. The host name is used with the Rational Shipping Server and refers to the machine where the storage bays for the respective replica are located and must be consistent with the name of the host specified when you configured the MultiSite Control Panel.

ClearQuest MultiSite organizes replicas in three ways:

- clans
- families
- sites

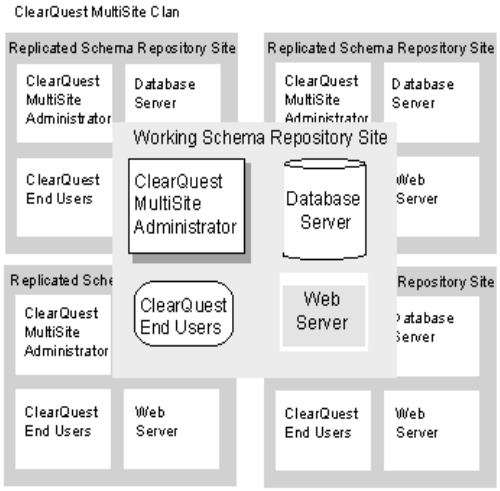
Using clans

A clan represents all the replicas of a single schema repository and its associated databases. Within a clan, a working schema repository is used to propagate changes to schemas and to create additional user databases which can then be replicated.

Note: There can be only one master site in a ClearQuest MultiSite clan.

Understanding the role of the working schema repository site

Within a ClearQuest MultiSite clan, there are two types of sites: a working schema repository site and a replicated schema repository site. Each site can perform different tasks and has a different role within MultiSite.



The working repository site within a clan is used to propagate changes to schemas and to create additional user databases which can then be replicated. Only the working schema repository can make schema changes and a clan can have only one working schema repository.

Type of site	Supported tasks
Working schema repository site	Modifies clan schemas. Creates new ClearQuest clan schema repository and user databases. Submits new records. Creates synchronization packages. Administers MultiSite activities. Administers users of which it has mastership.
Replicated schema repository site	Submits new records. Modifies records of which it has mastership. Administers MultiSite activities. Administers users of which it has mastership.

What software needs to be installed?

Consult the following table for software installation requirements per role. We recommend that you co-locate the ClearQuest MultiSite Administrator and Shipping Server roles. We also recommend that you use a stand-alone machine for the database server.

Role	Purpose	Install ...
ClearQuest MultiSite Administrator*	For ClearQuest and ClearQuest MultiSite administration.	"Installing ClearQuest MultiSite for the administrator" on page 43. "Configuring ClearQuest MultiSite" on page 45.
	If applicable, Shipping server.	"Installing Rational Shipping Server" on page 43. To configure the shipping server see "Configuring Store and Forward" in *Administrator's Guide for Rational ClearQuest MultiSite*.
ClearQuest client	For viewing and submitting ClearQuest records.	"Installing and configuring ClearQuest Windows for users" on page 49.
ClearQuest web server	Serves the ClearQuest Web client to users.	"Installing and configuring ClearQuest Web" on page 55.
Database server	Holds all ClearQuest schema repository and user databases.	"Configuring vendor databases" on page 7.
ClearQuest MultiSite UNIX	For viewing and submitting ClearQuest records.	"Installing and configuring ClearQuest UNIX for users" on page 87.
	For ClearQuest MultiSite administration.	"Configuring ClearQuest MultiSite" on page 45.

* If you are installing ClearQuest MultiSite on UNIX, the MultiSite `multiutil` commands can be executed on the UNIX server if you have the appropriate licenses.

Installing the Rational Shipping Server

Both ClearQuest MultiSite and ClearCase MultiSite use the same store-and-forward components (called the Rational Shipping Server) to transfer update packets. If you are installing ClearQuest MultiSite on a machine where ClearCase or ClearCase MultiSite is already installed, the

shipping server is already installed and the installation option will be deactivated in the ClearQuest installation program. This is to ensure integrity with your ClearCase installation.

Warning: Do not attempt to install the Rational Shipping Server on a machine that has ClearCase LT Client installed. If you attempt to do this, an error message will be displayed during the installation process.

Consult the following table for installation conditions:

Condition:	Action:
If ClearCase or ClearCase MultiSite is not installed on the machine.	Install Rational Shipping Server from the ClearQuest or Rational Suite Installation CD-ROM. Configure the MultiSite Control Panel for use with ClearQuest MultiSite, (see *Administrator's Guide for Rational ClearQuest MultiSite)*.
If ClearCase MultiSite is already installed on the machine.	The MultiSite Control Panel and Rational Shipping Server are already installed. Configure the MultiSite Control Panel for use with ClearQuest MultiSite, (see *Administrator's Guide for Rational ClearQuest MultiSite)*.
If ClearCase is already installed on the machine.	Install the ClearCase MultiSite component from the ClearCase CD-ROM, (see "Installing the Rational Shipping Server from the ClearCase CD-ROM" on page 42).
If ClearCase LT Server is installed on the machine.	Install Rational Shipping Server from the ClearQuest or Rational Suite Installation CD-ROM. Configure the MultiSite Control Panel for use with ClearQuest MultiSite, (see *Administrator's Guide for Rational ClearQuest MultiSite*).
If ClearCase LT Client is installed on the machine.	Do not install the Rational Shipping Server on this machine.

Installing the Rational Shipping Server from the ClearCase CD-ROM

If you are installing ClearQuest MultiSite on a machine where ClearCase is already installed, you cannot use the Rational ClearQuest CD-ROM to install the Rational Shipping Server. You will need to install Rational ClearCase MultiSite from the ClearCase installation CD-ROM.

Note: You need either a ClearQuest MultiSite license or a ClearCase MultiSite license to use the Rational Shipping Server or the MultiSite Control Panel. Although you are allowed to install Rational ClearCase MultiSite, you cannot use it unless you have a license.

Installing ClearQuest MultiSite for the administrator

If you are performing this installation at the master site, you need to create your vendor database. For more information refer to “Installing and configuring ClearQuest MultiSite” on page 37.

Note: If you are installing ClearQuest MultiSite on the same machine as your SQL Server 7.0 or 2000 database, the ClearQuest MultiSite commands may fail if the SQL Server Client software is not also installed.

1. Load the ClearQuest CD-ROM on the machine you want to designate as the ClearQuest MultiSite Administrator.
2. If the setup program does not run automatically, navigate to the top level directory of the CD-ROM and double-click setup.exe.
3. Click the **Configure License** button and enter your ClearQuest license and if applicable, your ClearQuest MultiSite license information. Follow the instructions on your License Certificate and in the online help for the License Key Administrator.

   Rational ClearQuest uses a license server. If you don’t already have a license server installed, it is available on the Rational Solutions for Windows CD-ROM. For more information, see the *License Management Guide for Rational Suite*, available on the Rational Solutions for Windows Online Documentation CD-ROM.
4. To install ClearQuest MultiSite, select the **Custom** install option, expand the **ClearQuest** node and check the following boxes:
   - **MultiSite Administration Tools**
   - **ClearQuest Administration Tools**
   - **Required Files**

Installing Rational Shipping Server

If you have ClearCase MultiSite installed on your machine, the Rational Shipping Server is already installed. If you have ClearCase installed without the MultiSite features, you will have to install the Rational Shipping Server from your ClearCase CD-ROM.

Note: If you are installing ClearQuest MultiSite on a UNIX platform, you will have to have an installation of ClearCase MultiSite to use the Rational Shipping Server.

1. Load the ClearQuest CD-ROM on the machine you want to designate as the ClearQuest MultiSite Administrator.
2. If the setup program does not run automatically, navigate to the top level directory of the CD-ROM and double-click setup.exe.
3. Click the **Configure License** button and enter your ClearQuest license and if applicable, your ClearQuest MultiSite license information. Follow the instructions on your License Certificate and in the online help for the License Key Administrator.

   Note: Rational ClearQuest uses a license server. If you don't already have a license server installed, it is available on the Rational Solutions for Windows CD-ROM. For more information, see *License Management Guide for Rational Suite*, available on the Rational Solutions for Windows Online Documentation CD-ROM.
4. To install ClearQuest MultiSite, select the **Custom** install option, expand the **ClearQuest** node and check the **Rational Shipping Server** box.

   Note: If the Rational Shipping Server box is not shown as a node, you already have ClearCase installed on your computer. If you have ClearCase MultiSite installed on your machine, nothing further is required. If you have ClearCase installed without the MultiSite features, you will have to install the Rational Shipping Server from your ClearCase CD-ROM. For instructions on how to complete this, consult your *Installing Rational ClearCase* guide.

   The Rational Software Setup wizard prompts you through the ClearQuest MultiSite installation.

What do you do next?

- "Configuring ClearQuest MultiSite" on page 45
- "Installing and configuring ClearQuest Windows for users" on page 49
- Optional, "Installing and configuring ClearQuest Web" on page 55
- Optional, "Installing and configuring ClearQuest UNIX for users" on page 87

Configuring ClearQuest MultiSite

Creating ClearQuest databases

After you install ClearQuest and have created the necessary empty vendor databases (see “Configuring vendor databases” on page 7), you must create the ClearQuest databases (schema repository and user databases). Initially you can create a sample user database to use while you familiarize yourself with the product. You can create your production user databases later.

Creating a MultiSite schema repository

1. Launch the ClearQuest Maintenance Tool.
   Start > Programs > Rational ClearQuest > ClearQuest Maintenance Tool

   Note: The first time you launch ClearQuest, the Maintenance Tool runs automatically.

2. Select **Create a new schema repository** and click **Next**.

3. Select the vendor database you plan to use, enter the properties appropriate for that vendor, then click **Next**. Save this information for clients to use when they connect to the databases. The information to enter is as follows:

   - SQL_SERVER
     - Enter the SQL Server database name for the database that will contain the schema repository.
     - Enter the name of the database server.

     Note: If you are using ClearQuest UNIX, each UNIX client must be able to access this server host name exactly as it appears in this entry.

     - Enter the database owner (DBO or Administrator) login.
     - Enter the password for the database owner (DBO or Administrator) login.
     - Enter the general purpose or read / write login.
     - Enter the password for the general purpose or read / write user login.
     - Enter the schema repository or read-only user login.
     - Enter the password for the schema repository or read-only login.

- ORACLE
  - Enter the TNS name (SQL*Net Alias pointing to the Oracle instance).
  - Enter the Oracle login you created for the schema respository.
  - Enter the password for the login.
  - The following options need to be entered in the **Connect Options** field, delimited by semi-colons. For example,

```
Host=<name>;SID=<name>;Server_ver=8.0;Client_ver=7;
Lob_type=LONG
```

Option	Definition
Host	The name of the database server machine. If your ClearQuest deployment will include both UNIX and Windows clients, the Host name is mandatory.
SID	The name of the Database Instance. If your ClearQuest deployment will include both UNIX and Windows clients, the SID name is mandatory. On UNIX, the SID is case-sensitive.
Server_ver	Provide the version of the Oracle server you are using. Possible values are 7, 8.0, and 8.1. (For Oracle 8i, use 8.1.)
Client_ver	Provide the version of the Oracle client software you are using. Possible values are 7, 8.0, and 8.1. (For Oracle 8i, use 8.1.) If ClearQuest client users want to use a different Oracle client version than what is entered here by the administrator, they'll need to override the set options manually. The default setting is 7. See Release Notes for details.
Lob_type	Set the type of data you'll be using. The valid data type is LONG.

Note: All ClearQuest users must use the same SQL*Net Alias (TNSname), Database Instance (system ID or SID), TCP/IP protocol, and Host Name (Oracle server machine).

4. We recommend that you create a sample database using one of the provided schemas. Select a schema, give the sample database a name, then click **Next**.
5. If you created a sample database, you must select a vendor and enter the database properties. When you are finished, click **Next**.

6 You can save these settings as a default profile, or click **Finish** to complete the setup. The profile records the entries you made and saves them to a file (the default name is `cqprofile.ini`). Clients can connect to the database by using the profile file instead by typing the connection information.

Setting up mastership for records

At the master site, you'll need to modify your schema and add the `ratl_mastership` field to the record form of any record type you will use with ClearQuest MultiSite. By allowing the user to access this field (adding it to your record form), any ClearQuest user can change the mastership of any record, if they are at the mastering replica site of the respective record.

For details, see Chapter 7 "Understanding Mastership" in *Administrator's Guide for Rational ClearQuest MultiSite*.

Creating a user database

You can create ClearQuest user databases with the ClearQuest Designer, after you have successfully created a schema repository.

Note: You must have first created empty vendor databases before you can create ClearQuest databases.

1 From the Start menu, choose **Programs > Rational ClearQuest > ClearQuest Designer**.

2 Click **Next** when the Rational Schema Repository dialog box appears.

3 Click **OK** when the ClearQuest Designer Login dialog box appears.

Note: When you click OK, you will be logging in with the default ClearQuest administrator login name and password. The default user name is "admin", the password is null and should be left blank. You should change this password and create a new login at your earliest convenience.

4 Click **Cancel** when the Open Schema dialog box appears.

5 Choose **Database > New Database**.

6 Enter a logical name for the database you want to create. This name must be five characters or less.

7 Click **Next**.

8. Select the vendor database you plan to use, enter the properties appropriate for that vendor, then click **Next**. For more information about the required parameters for vendor databases, see step 3 under “Creating a MultiSite schema repository” on page 45.
9. Click **Next**.
10. Click **Next** to accept the default polling parameters.
11. Choose a schema with which to associate your database. You must associate the database with a schema.
12. Click **Finish**.

Installing and configuring ClearQuest Windows for users

5

ClearQuest Windows must be installed on each users machine. When ClearQuest Windows is installed and connected to the database, your users can enter and modify records.

Note: It is also possible to allow the user to install the ClearQuest Windows client from a network location, (for more information see “Silent ClearQuest installation” on page 109).

This chapter covers the following topics:

- “Installing ClearQuest for the Windows user” on page 50
- “Connecting to ClearQuest databases” on page 50
- “Enabling e-mail notification for the Windows user” on page 53

Installing ClearQuest for the Windows user

To install ClearQuest Windows for the user:

1. Load the ClearQuest CD-ROM.
2. If the setup program does not run automatically, navigate to the top level directory of the CD-ROM and double-click setup.exe.

   The Rational Software Setup wizard prompts you through the ClearQuest Windows installation.
3. Choose the **Typical** installation.
4. Launch the License Administrator to enter your ClearQuest licenses.

Connecting to ClearQuest databases

After installing ClearQuest Windows for your users, (either for an initial or an upgrade installation) they will need to connect (or re-connect) to an existing schema repository. You must provide them with the database properties information.

You can create a connection profile for users to use to connect to the schema repository, (see “Using connection profiles” on page 52).

Note: If you are using Oracle or DB2, your users will need to install the respective client software before installing ClearQuest. For more information, see “Installing and configuring an Oracle client” on page 22 or see “Creating a DB2 database alias” on page 26.

To connect the ClearQuest Windows user to a schema repository, use the ClearQuest Maintenance Tool.

Creating a new connection

1. Select **Connection > New**.
2. In the **Existing Connections** area, name the alias by typing a name in the highlighted item.
3. In the **Schema Repository Properties** group box, enter the properties of the vendor database designated for the schema repository.
   a. Choose a vendor database from the drop-down list.
   b. Enter the required vendor database properties.

- MS_ACCESS
  - Enter the entire path to the schema repository using a UNC style path. For example:

    `\\DevServer\ProjectShare\CQ_DBS\schema_repo.mdb`

    You can browse to the directory containing the database. Be sure to browse using the Network Neighborhood to preserve the UNC style path name.
- SQL_ANYWHERE
  - Enter the path to the schema repository using a UNC style path. For example:

    `\\DevServer\ProjectShare\CQ_DBS\schema_repo.mdb`

    You can browse to the directory containing the database by using Network Neighborhood, which preserves the UNC style path name. To do so:
    - Enter the name of the database server.
    - Enter the protocols used to communicate with the SQL Anywhere server.
    - Enter the database host name.
- SQL_SERVER
  - Enter the SQL Server database name for the database containing the schema repository.
  - Enter the name of the database server.
  - Enter the schema repository or read-only user login.
  - Enter the password for the schema repository or read-only login.
- ORACLE
  - Enter the SQL*Net Alias (alias pointing to the Oracle instance).
  - Enter the Oracle login created for the schema respository.
  - Enter the password for the login.
- DB2
  - Enter the Database Alias name (alias pointing to the DB2 database).
  - Enter the DB2 login created for the schema repository.

- Enter the password for the login.

4 Click **Finish** to complete the connection.

Using connection profiles

Rather than asking users to enter database connection information when they need to connect to a schema repository, you can create connection profiles that can be used as shortcuts.

Use the ClearQuest Maintenance Tool to export and import connection profiles.

Connection profiles allow you to save database settings for later use, or for distribution to a team, to make it easier to reconnect to a ClearQuest schema repository.

Both ClearQuest administrators and ClearQuest client users can import and export connection profiles for later use.

Creating a connection profile

When you create a connection profile, you “export” your connection information to a file that can later be imported.

1 Select **File > Export Profile**.

2 In the **Export Connection** area, select the connections that you would like to include in your profile.

3 In the **File Name** box, enter the pathname and file name for the profile. Connection profiles must be saved with a .ini extension.

Optionally, you can use the browse button to browse to a location to which to save the profile.

Importing a connection profile

To use a previously-created connection profile, you need to import a connection profile.

1 Select **File > Import Profile**.

2 In the **Import Profile Information** area, enter the path and file name of the profile you would like to import.

3 Click **Finish**.

Enabling e-mail notification for the Windows user

After installing ClearQuest Windows (either for an initial or an upgrade install), the user must enable e-mail notification if they want to receive automatic e-mail messages from ClearQuest Windows. To do this:

1 Launch ClearQuest Windows.

Start > Programs > Rational ClearQuest > Rational ClearQuest

2 Choose **View > E-mail Options**. This opens the E-mail Setup dialog box.

3 Select **Enable E-mail Notification**.

4 Select either **SMTP** or **MAPI**.

5 If you entered SMTP:

- Enter the SMTP host address of your mail server.
- Enter your e-mail address.
- Click **Finish**.

6 If you entered MAPI:

- Choose a MAPI profile from the list.
- Click **Finish**.

Note: MAPI notification will not work without Collaboration Data Objects installed. If you do not have Collaboration Data Objects installed, perform the steps in “Installing Collaboration Data Objects” on page 53.

Installing Collaboration Data Objects

Collaboration Data Objects must be installed in Microsoft Outlook 2000 for ClearQuest MAPI notification to work properly. If you have not already installed Microsoft Outlook 2000, follow the steps below.

If you have Microsoft Outlook 2000 already installed, follow these steps:

1 From the **Start** menu select **Settings > Control Panel** and double-click **Add/Remove Programs**.

2 Select Outlook 2000 (or Office 2000 if that’s how Outlook was installed), and click the **Change** button.

3 Expand Microsoft Office and click the icon for Collaboration Data Objects.

4 Select **Run from my computer** from the drop down list.

5 When you are finished, click **Update Now.**

If you do not have Microsoft Outlook 2000 installed, follow the recommended Microsoft Outlook 2000 installation procedures / guidelines. Be sure to check the option to install the Collaboration Data Objects.

Installing and configuring ClearQuest Web

6

This chapter covers the following topics:

- “Understanding the installation process” on page 56
- “Installing ClearQuest Web software” on page 57
- “Setting up ClearQuest Web for IIS 4” on page 58
- “Setting Up ClearQuest Web for IIS 5” on page 68
- “Enabling e-mail notification for web users” on page 82
- “Configuring web browsers” on page 83
- “Accessing ClearQuest Web” on page 86

Understanding the installation process

Note: If you are using Oracle 8.0.x and 8.1.x clients, you must have the latest patch installed to operate successfully with ClearQuest Web. For more information, see your latest ClearQuest release notes located at:

- For Windows: `<d>:\ClearQuest\clearquest_readme.htm` (where `<d>` is your CD-ROM drive)
- For UNIX: `<d>:/products/ClearQuestClient/clearquest_readme.htm` (where `<d>` is your CD-ROM drive)

The following are special considerations for using ClearQuest Web:

- ClearQuest Web does not support Microsoft Access databases.
- Your browser must have cookies enabled when using ClearQuest Web. See "Configuring web browsers" on page 83.
- Make sure your web server is set to display 256 colors. This is necessary for generating charts.
- You must have first set up the vendor database that ClearQuest will use. See "Configuring vendor databases" on page 7.

To install and configure ClearQuest Web on your Windows server, you must complete the following tasks:

1. Verify that you have either IIS 4.0 or 5.0 installed on your web server machine.
2. Install ClearQuest on the Web server. See, "Installing and configuring ClearQuest for an administrator" on page 29. Make sure you select a **Custom** installation and expand **Web Server Components** and check **Rational ClearQuest Web**.

   Note: We recommend, for improved performance, security, and reliability, that the Web server machine and the database server machine be two different machines, each with its software installed onto an NTFS partition.
3. Install the ClearQuest Web software on your web server machine. See "Installing ClearQuest Web software" on page 57
4. Configure Microsoft Internet Information Server to serve the ClearQuest Web pages. See "Setting up ClearQuest Web for IIS 4" on page 58 or "Setting Up ClearQuest Web for IIS 5" on page 68.

5 Configure the web server so that web clients can take advantage of ClearQuest's e-mail notification feature. See "Enabling e-mail notification for web users" on page 82.

6 Verify that the security settings are enabled to provide full ClearQuest functionality. See "Configuring web browsers" on page 83.

7 Provide the path to ClearQuest Web to your users. See "Accessing ClearQuest Web" on page 86.

Installing ClearQuest Web software

To install ClearQuest Web:

1 Load the ClearQuest CD-ROM in the web server machine.

2 If the setup program does not run automatically, navigate to the top level directory of the CD-ROM and double-click setup.exe.

3 Click the button **Configure License** and enter your ClearQuest license information and if applicable, your ClearQuest MultiSite license information. Follow the instructions on your License Certificate and in the online Help for the License Key Administrator.

Note: Rational ClearQuest uses a license server. If you don't already have a license server installed, it is available on the Rational Solutions for Windows CD-ROM. For more information, see the *License Management Guide for Rational Suite*, available on the Rational Solutions for Windows Online Documentation CD-ROM.

4 To install ClearQuest Web select the **Custom** install option, expand the **Web Server Components** and check the box for **Rational ClearQuest Web**.

The Rational Software Setup wizard prompts you through the ClearQuest Web installation.

Setting up ClearQuest Web for IIS 4

This section is for configuring your web server on a machine using Windows NT (Workstation or Server) with IIS 4. If your web server is on a Windows 2000 Server, which has IIS 5 as an embedded component, see “Setting Up ClearQuest Web for IIS 5” on page 68.

This section contains the following:

- “Setting up an anonymous user account for IIS 4” on page 58
- “Creating a cache directory for IIS 4” on page 61
- “Configuring IIS 4.0 to serve ClearQuest Web pages” on page 61

Setting up an anonymous user account for IIS 4

Create an anonymous user account for IIS to use when it serves the ClearQuest pages. If you are using an SQL Server database, the anonymous user account should be known in the domain that contains the ClearQuest database, and should have full access to that database.

Create the anonymous user account

Create the anonymous user account as follows:

1. Log on as a Windows NT administrator.
2. If the web server belongs to a Windows NT domain, ask your Windows NT system administrator to create a domain user and provide you with the user name and password. (If not, go to Step 4.)
3. Run the User Manager.

   Start > Programs > Administrative Tools > User Manager
4. Select **Policies > User Rights**, select the **Show Advanced Rights** checkbox, and give this user the following privileges on the Web server:
   - **Access this computer from network**
   - **Log on locally**
   - **Log on as a service**

   Also provide access to any other resources used by your hook scripts such as mail accounts or auxiliary databases. Skip to Step 6.

5 If the web server operates in stand-alone mode (does not belong to a Windows NT domain), use the default anonymous account created by the IIS installation (`IUSR_<machine_name>`) for Step 5.

6 Run the User Manager.

Start > Programs > Administrative Tools > User Manager

7 Select **Policies > User Rights**, select the **Show Advanced Rights** checkbox, and give the `IUSR_<machine_name>` account the following privileges:

- **Access this computer from network**
- **Log on locally**
- **Log on as a service**

Also provide access to any other resources used by your hook scripts such as mail accounts or auxiliary databases.

8 Verify that the anonymous user account has a specific, known password (you will need it later). Make sure there are no password policies in effect such as "User must change password at next login," because these prevent the anonymous user account from functioning properly.

Note: If you are using SQL / Anywhere as your database server, please ensure that the IIS anonymous user account has read / write privileges to the directory containing the SQL / Anywhere databases, see "Defining user privileges" on page 11 for details.

Set up the registry key access privileges

Give the web client anonymous user account full access privileges to following registry keys:

- `HKEY_LOCAL_MACHINE\Software\Rational Software\ClearQuest`
- `HKEY_USERS\.Default\Software\Rational Software\ClearQuest`

1 Select **Run** from the Start menu and type `REGEDT32` to start the Registry Editor.

2 In the **HKEY_LOCAL_MACHINE** MDI window, select **Software > Rational Software > ClearQuest**.

3 From the Registry Editor menu, select **Security > Permissions**.

4 In the Registry Key Permissions dialog box, select the anonymous user. For the type of access, select **Full Control**. Select **Replace Permission on Existing Subkeys** so that the anonymous user can update the entire registry tree below ClearQuest.

5 In the **HKEY_USERS** MDI window, select **.Default > Software > Rational Software > ClearQuest**.

6 On the Registry Editor menu, select **Security > Permissions**.

7 In the Registry Key Permissions dialog box, select the anonymous user. For the type of access, select **Full Control**. Select **Replace Permission on Existing Subkeys** so that the anonymous user can update the entire registry tree below ClearQuest.

8 Close the REGEDT32 program.

Set up read access permission

Give the anonymous user account read-access permission to the directory tree containing the ClearQuest web files (this is the WWW directory in the ClearQuest installation area).

Note: If you installed ClearQuest onto a FAT partition instead of an NTFS partition, you will not see a Security tab and can skip this section.

1 Use the Windows Explorer to locate the directory in which you installed ClearQuest. Right-click the WWW directory and select **Properties** from the shortcut menu.

2 On the Properties dialog box, click the **Security** tab. Click **Permissions** and select **Replace Permissions on Subdirectories**.

3 On the Directory Permissions dialog box, click **Add**.

4 Select the anonymous user account.

- If you chose the default local anonymous user name in Step 2, set **List Names From** to the name of the local machine, click **Show Users** below the **Names** list, then select the IUSR_machinename account from the **Names** list.
- If you are using a domain account, select that domain in the **List Names From** field, click **Show Users**, and select the domain account from the **Names** list.

5 Click **Add**.

6 Set **Type of Access** to Read.

7 Click **OK** to close the Add Users and Groups dialog box.

8 Click **OK** to close the Directory Permissions dialog box.

9 Click **OK** to close the WWW Properties dialog box.

Creating a cache directory for IIS 4

To create a cache directory in the ClearQuest Web directory hierarchy:

1 At the top of the web directory tree, there should be a directory called `cache`. If a `cache` directory does not exist, create one under the ClearQuest WWW directory. For example:
`C:\Program Files\Rational\ClearQuest\www\cache`

2 Give the anonymous user full access to everything in this directory tree.

Configuring IIS 4.0 to serve ClearQuest Web pages

This section describes how to configure the IIS 4.0 web server to serve ClearQuest Web pages.

- "Create a virtual directory for IIS 4" on page 61
- "Edit the properties of the virtual directory for IIS 4" on page 63
- "Edit the properties of the cache directory for IIS 4" on page 67
- "Edit the properties of the images directory for IIS 4" on page 67
- "Restart the web server for IIS 4" on page 67

Note: If the Internet Service Manager is not available, you must install the Windows NT 4.0 Option Pack. When installing the Option pack, be sure to explicitly select the Internet Service Manager.

Create a virtual directory for IIS 4

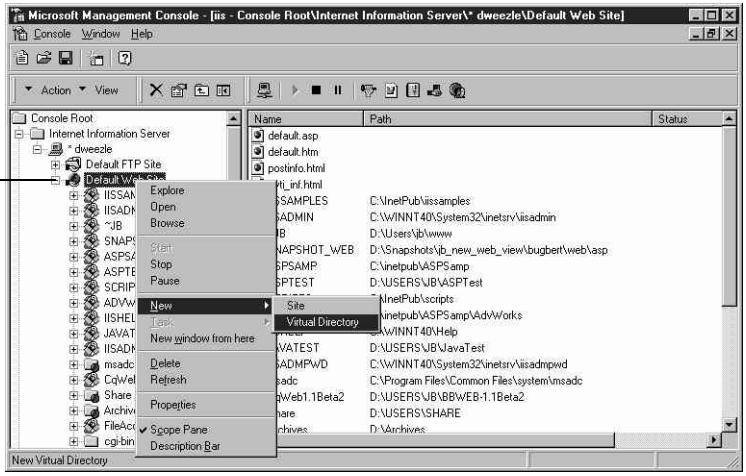
The first step in setting up IIS 4.0 is to create a virtual directory for the web. To create this directory, you use the Internet Service Manager program (Microsoft Management Console) that comes with IIS 4.0.

1 Start the Microsoft Management Console program (Internet Service Manager):

Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager

2 In the Navigator window, right-click **Default Web Site,** then click **New > Virtual Directory** from the shortcut menu.

In the Navigator window, right-click **Default Web Site**

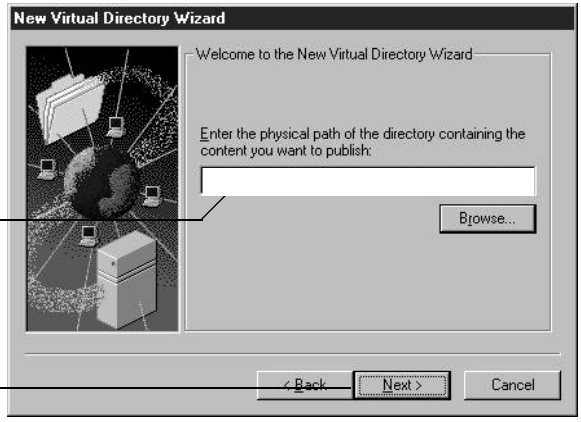


3 In the New Virtual Directory Wizard, type an alias name, such as “CqWeb.” Do not use a “/” character in the alias name.

Type an alias

Click **Next**

4 Type or browse to the name of the directory containing the ClearQuest Web files. These files are located in the WWW subdirectory of the ClearQuest installation directory. For example:
`C:\Program Files\Rational\ClearQuest\www`



Type the name of the directory containing the ClearQuest Web file

Click **Next**

5 Select the default permissions for the virtual directory:

Select
Allow Execute Access
(includes Script Access)

Click **Finish**

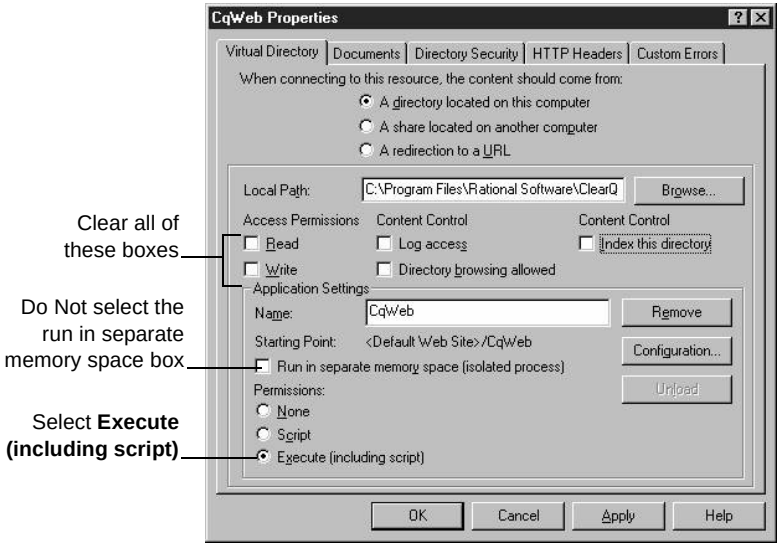
Edit the properties of the virtual directory for IIS 4

Edit the properties of the virtual directory as follows:

1 In the Microsoft Management Console left pane, navigate to the virtual directory you created earlier.

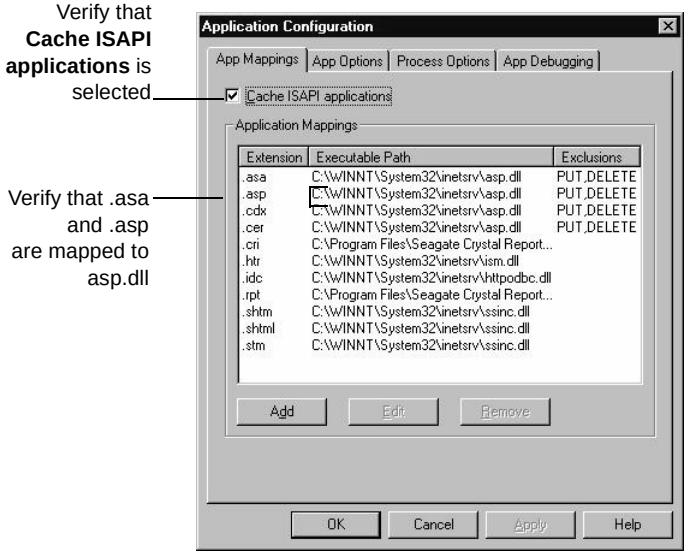
2 Right-click the virtual directory and select **Properties** from the shortcut menu.

3 In the Properties dialog box, click the **Virtual Directory** tab.

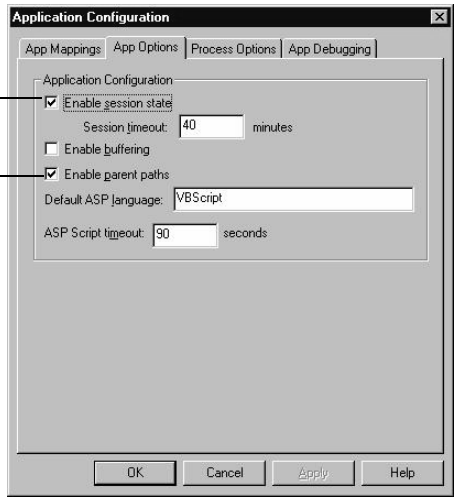


Note: You should *not* run ClearQuest Web in a separate memory space (as an isolated process). If you do so, e-mail rules will not work. If you need to run ClearQuest Web in a separate memory space, see the *ClearQuest Release Notes* (\\ClearQuest\readme.htm) for more information.

4 In the same Properties dialog box, click **Configuration**. In the Application Configuration dialog box, click the **App Mappings** tab.



5 In the same Application Configuration dialog box, click the **App Options** tab.

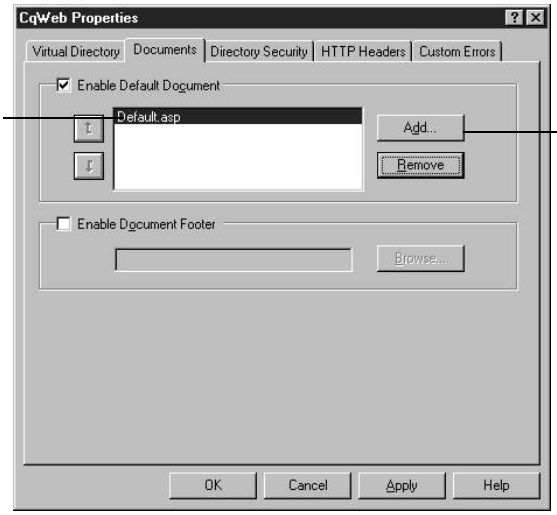


Select **Enable session state** and set the timeout

Select **Enable parent paths**

6 Click **OK** to return to the Properties dialog box.

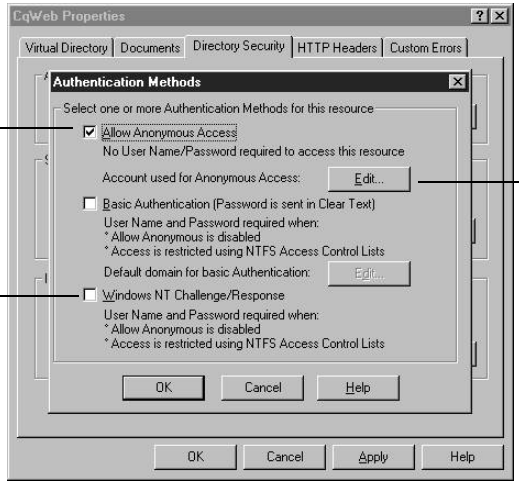
7 In the Properties dialog box, click the **Documents** tab.



If necessary, add the **Default.asp** document to the list of documents - then remove any other documents and select **Default.asp** as the default

Click to add the **Default.asp** document to the list

8 In the same Properties dialog box, click the **Directory Security** tab. In the Anonymous Access and Authentication Control, click **Edit** to open the Authentication Methods dialog box.



Select **Allow Anonymous Access**

Important: Verify that Windows NT Challenge/Response is *NOT* selected - if the box has a check mark be sure to clear it

Then click **Edit** to define the anonymous user account

9 Define the anonymous user account:

Select the anonymous user account created on on page 58

Clear **Enable Automatic Password Synchronization** and type the password

Note: ClearQuest Web does *not* work if **Enable Automatic Password Synchronization** is selected.

10 Click **OK**.

11 Type the password in the Confirm Password dialog box and click **OK**.

12 Click **OK** again to close the Properties dialog box.

Edit the properties of the cache directory for IIS 4

Edit the properties of the cache subdirectory as follows:

1. In the Microsoft Management Console left pane, navigate to the cache directory under the virtual directory name.
2. Right-click the **cache** directory.
3. Click **Properties** from the shortcut menu.
4. In the Properties dialog box, click the **Directory** tab.
5. For Access Permissions, select only **Read**. Verify that no other options are selected.
6. For Permissions, select **None**.
7. Click **OK**.

Edit the properties of the images directory for IIS 4

Edit the properties of the images subdirectory as follows:

1. In the Navigator window of the Microsoft Management Console, expand the directory tree of the Default Web Site until you locate the images directory under your alias name.
2. Right-click the images directory.
3. Click **Properties** from the shortcut menu.
4. In the Properties dialog box, click the **Directory** tab.
5. For Access Permissions, select only **Read**. Verify that no other options are selected.
6. For Permissions, select **None**.
7. Click **OK**.

Restart the web server for IIS 4

Close the Microsoft Management Console, saving your console settings, then restart the web server.

You have completed installing and configuring the ClearQuest web server for IIS 4.

Note: Please remember to use the Maintenance Tool to connect to your ClearQuest Schema Repository. For detailed instructions, see “Connecting to a schema repository” on page 119.

Setting Up ClearQuest Web for IIS 5

This section describes how to set up the ClearQuest Web server for Windows 2000 Server, which includes Microsoft Internet Information Server version 5 as an embedded component. If you are using Windows NT, see “Setting up ClearQuest Web for IIS 4” on page 58.

This section contains the following:

- “Setting up an anonymous user account for IIS 5” on page 68
- “Creating a cache directory for IIS 5” on page 72
- “Configuring IIS 5 to serve ClearQuest Web pages” on page 73

Setting up an anonymous user account for IIS 5

Create an anonymous user account for IIS to use when it serves the ClearQuest pages. If you are using an SQL Server database, the anonymous user account should be known in the domain that contains the ClearQuest database, and should have full access to that database.

Create the anonymous user account

Create the anonymous user account as follows:

1. Log on as a Windows 2000 administrator.
2. If the web server belongs to a Windows domain, ask your Windows system administrator to create a domain user and provide you with the user name and password. (If not, go to Step 4.)
3. For this domain user, click **Start > Settings> Control Panel > Administrative Tools > Local Security Policy**, select **Local Policies > User Rights Assignment**. For each of the following double-click to view the **Local Security Setting** dialog box then use the **Add** button to grant this user the following privileges on the Web server:
   - **Access this computer from network**.

- **Log on as a service**.
- **Log on locally**.

Also provide access to any other resources used by your hook scripts, such as mail accounts. (Go to Step 6.)

4 If the web server operates in stand-alone mode (does not belong to a Windows NT domain), use the default anonymous account created by the IIS installation (`IUSR_<machine_name>`).

Click **Start > Settings > Control Panel > Administrative Tools > Local Security Policy**

5 Select **Local Policies > User Rights Assignment**, and use the **Add** button to grant this user the following privileges on the Web server:

- **Access this computer from network**.
- **Log on as a service**.
- **Log on locally.**

Also provide access to any other resources used by your hook scripts, such as mail accounts.

6 Verify that the anonymous user account has a specific, known password (you will need it later). Make sure there are no password policies in effect such as "User must change password at next login," because these prevent the anonymous user account from functioning properly.

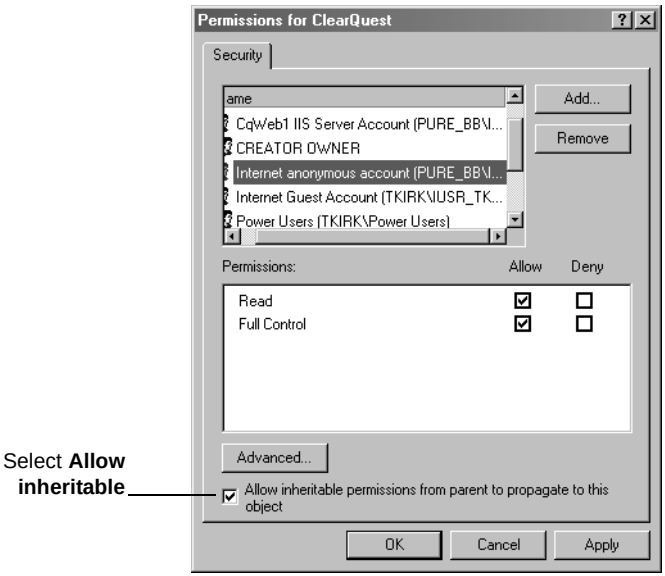
Note: If you are using SQL / Anywhere as your database server, please ensure that the IIS anonymous user account has read / write privileges to the directory containing the SQL / Anywhere databases, (see"Defining user privileges" on page 11 for details).

Set up the registry key access privileges

Give the web client anonymous user account full access privileges to following registry keys:

- `HKEY_LOCAL_MACHINE\Software\Rational Software\ClearQuest`
- `HKEY_USERS\.Default\Software\Rational Software\ClearQuest`

1. Select **Run** from the Start menu and type `REGEDT32` to start the Registry Editor.
2. In the **HKEY_LOCAL_MACHINE** MDI window, select **Software > Rational Software > ClearQuest**.
3. From the Registry Editor menu, select **Security > Permissions**.
4. Click **Add** to add the anonymous user account.
5. In the **Select Users, Computers, or Groups** dialog box, do one of the following:
   - If you chose the default local anonymous username, set **Look In** to the name of the local machine and select the **IUSR_machinename** account from the **Name** list.
   - If you are using a domain account, select that domain in the **Look in** to name of the domain and select the domain account name from the **Name** list.
6. Click **Add**, and then click **OK** to close the Select Users, Computers, or Groups dialog box.
7. Highlight the new added account, and in the **Permissions:** area, check Allow for **Full Control** box.
8. Select **Allow inheritable permissions**. Click **OK**.



9 In the **HKEY_USERS** MDI window, select **\.Default > Software > Rational Software > ClearQuest**

10 Repeat Step 3 through Step 8 for the **HKEY_USERS**.

11 Close the REGEDT32 program.

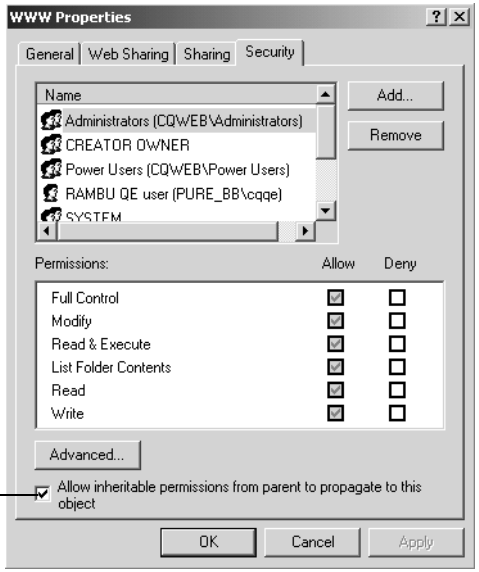
Set up read access permission

Give the anonymous user account read access permission to the directory tree containing the ClearQuest web files (this is the WWW directory in the ClearQuest installation area).

Note: If you installed ClearQuest onto a FAT partition instead of an NTFS partition, you will not see a Security tab and can skip this section.

1 Use Windows Explorer to locate the directory in which you installed ClearQuest. Right-click the WWW directory and select **Properties** from the shortcut menu.

2 On the Properties dialog box, click the **Security** tab and select **Allow inheritable permissions**.



Select **Allow inheritable**

3 On the Security tab, click **Add**.

4 Select the anonymous user account:

- If you chose the default local anonymous username in Step 2, set **Look in** to the name of the local machine, then select the IUSR_machinename account from the **Name** list.
- If you are using a domain account, select that domain in the **Look in** field, and select the domain account from the **Name** list.

5 Click **Add**, then click **OK**.

6 On the Security tab, in the **Permissions** section, select the checkbox to allow Read, then click **OK**.

Creating a cache directory for IIS 5

Create a cache directory in the ClearQuest Web directory hierarchy.

Note: If you installed ClearQuest onto a FAT partition instead of an NTFS partition, you will not see a Security tab and can skip this section.

1 At the top of the web directory tree, there should be a directory called `cache`. If a `cache` directory does not exist, create one on your ClearQuest WWW directory. For example:
`C:\Program Files\Rational\ClearQuest\www\cache`

2 Right-click the cache directory to see its properties.

3 On the Properties dialog box, click the **Security** tab.

4 Select the anonymous user account:

- If you chose the default local anonymous username in Step 2, set **Look in** to the name of the local machine, then select the IUSR_machinename account from the **Name** list.
- If you are using a domain account, select that domain in the **Look in** field, and select the domain account from the **Name** list.

5 Click **Add**, then click **OK**.

6 In the **Permissions** section, select the checkbox to allow Full Control, then click **OK**.

Configuring IIS 5 to serve ClearQuest Web pages

This section describes how to configure the IIS 5 web server to serve ClearQuest Web pages.

- "Create a virtual directory for IIS 5" on page 74
- "Edit the properties of the virtual directory for IIS 5" on page 76
- "Editing the properties of the cache directory for IIS 5" on page 80
- "Edit the properties of the images directory for IIS 5" on page 80
- "Restart the web server for IIS 5" on page 81

Create a virtual directory for IIS 5

Create a virtual directory for the web as follows:

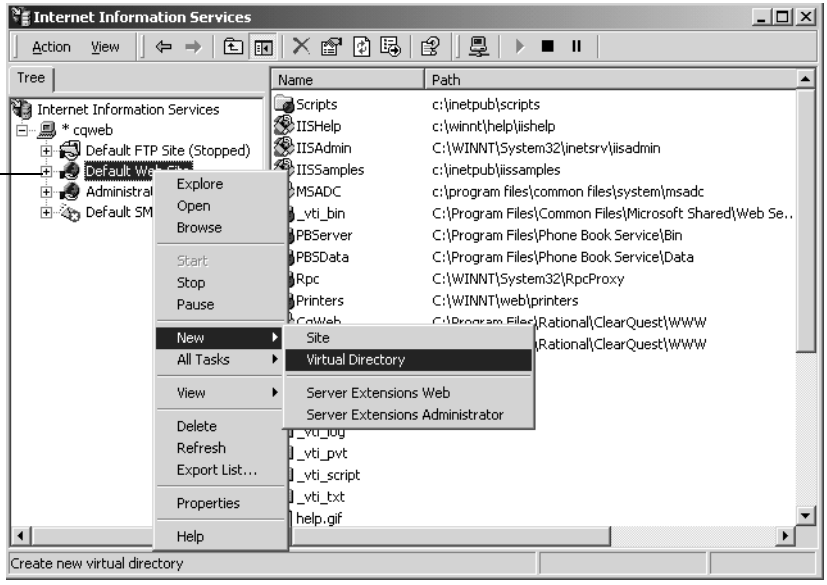
1 Start the Internet Services Manager.

Start > Settings > Control Panel > Administrative Tools > Internet Services Manager.

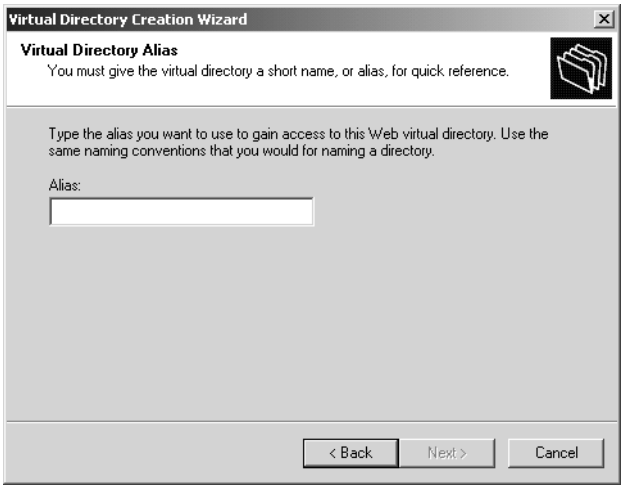
2 In the Navigator window, right-click **Default Web Site**.

3 On the shortcut menu, click **New > Virtual Directory** and **Next.**

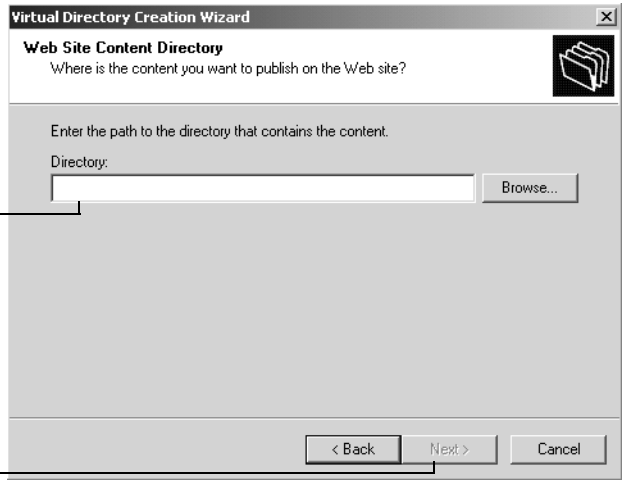
In the Navigator window, right-click **Default Web Site**



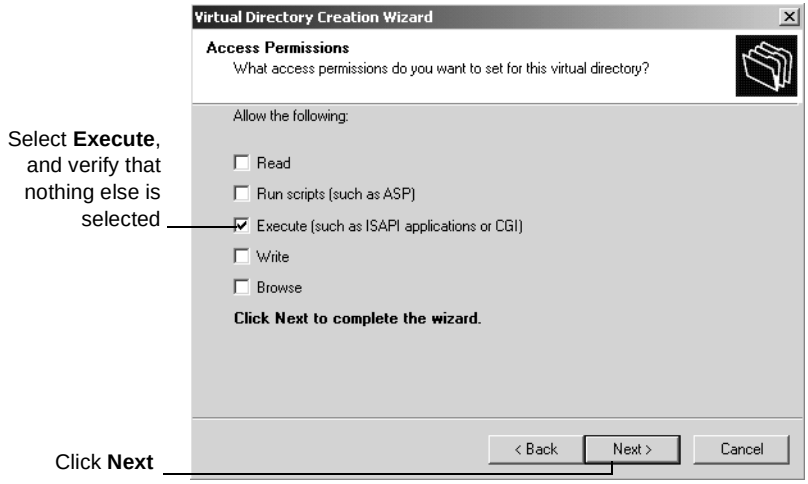
4 Type an alias name, such as CqWeb. Do not use a " / " character in the alias name. Then click **Next**.



5 Type or browse to the name of the directory containing the ClearQuest Web files. These files are located in the WWW subdirectory of the ClearQuest installation directory. For example:
`C:\Program Files\Rational\ClearQuest\www`



6 Clear **Read**, clear **Run scripts**, and select **Execute**. Then click **Next**.



7 Click **Finish** to complete the Wizard.

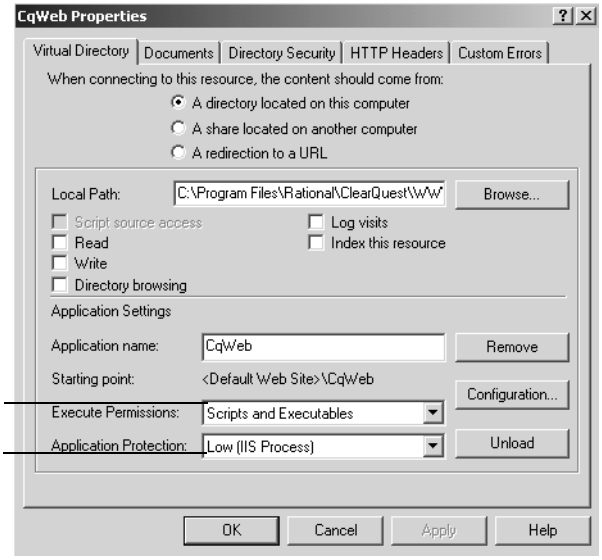
Edit the properties of the virtual directory for IIS 5

Edit the properties of the virtual directory as follows:

1 In the Internet Information Services left pane, navigate to the virtual directory you created earlier.

2 Right-click the virtual directory and select **Properties** from the shortcut menu.

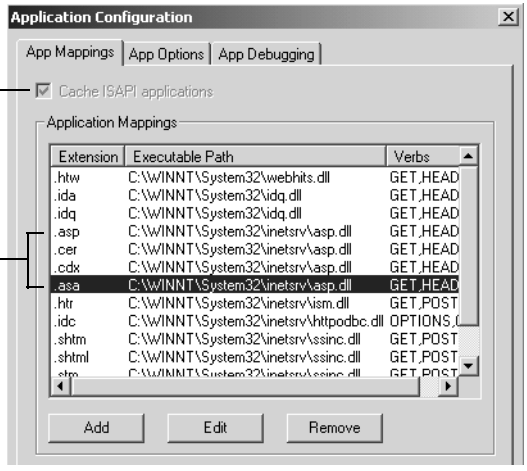
3 In the Properties dialog box, click the **Virtual Directory** tab.



Verify that **Scripts and Executables** is selected

Verify that **Low (IIS Process)** is selected

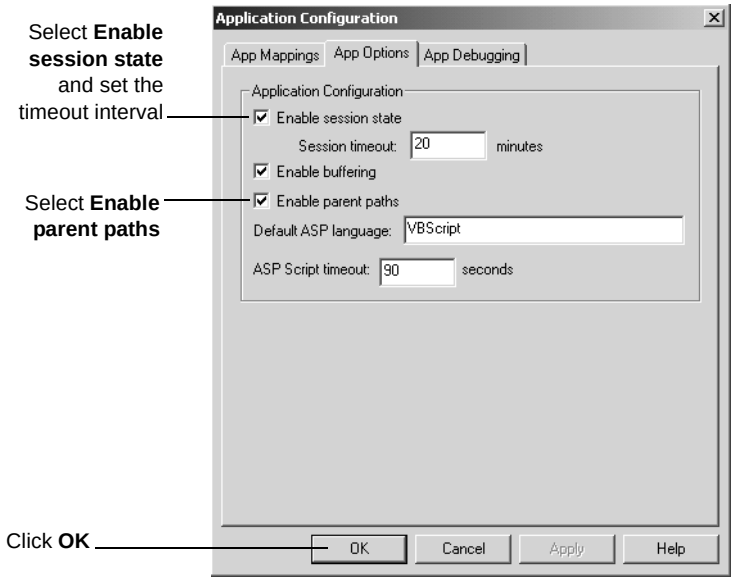
4 In the same Virtual Directory tab, click **Configuration**. In the Application Configuration dialog box, click the **App Mappings** tab.



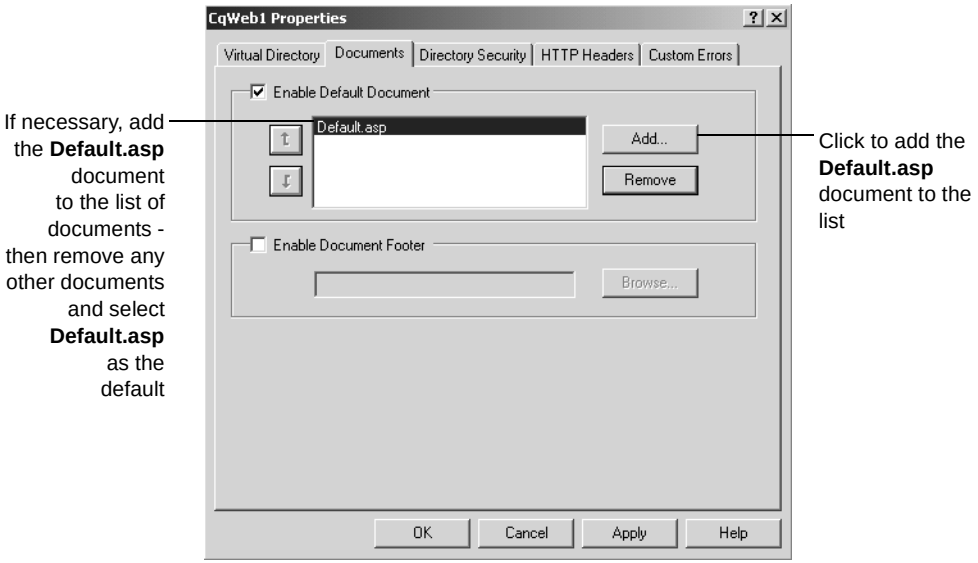
Verify that **Cache ISAPI applications** is selected

Verify that .asa and .asp are mapped to asp.dll

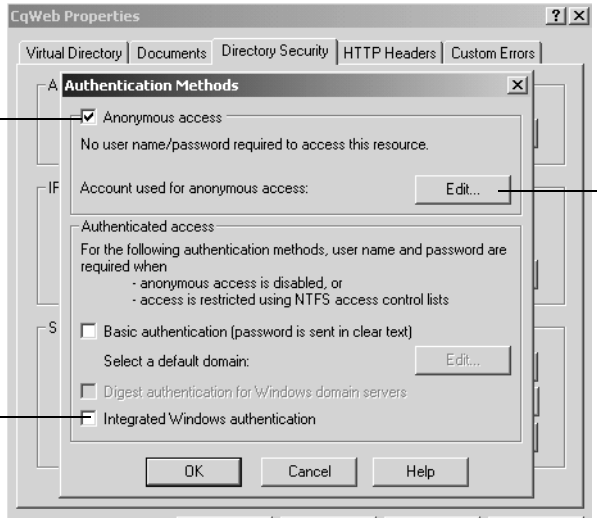
5 In the same Application Configuration dialog box, click the **App Options** tab.



6 In the Properties dialog box, click the **Documents** tab.



7 In the same Properties dialog box, click the **Directory Security** tab. In the Anonymous Access and Authentication Control, click **Edit** to open the Authentication Methods dialog box.



Select **Allow Anonymous Access**

Verify that Integrated Windows authentication is NOT selected - if the box has a check mark, be sure to clear it

Then click **Edit** to define the anonymous user account

8 Define the anonymous user account:

Select the anonymous user account created on page 58

Clear **Allow IIS to control password**, and type the password

9 Click **OK**.

10 Type the password in the Confirm Password dialog box, then click **OK**.

11 Click **OK**, then click **OK** again to close the Properties dialog box.

Editing the properties of the cache directory for IIS 5

Edit the properties of the cache subdirectory as follows:

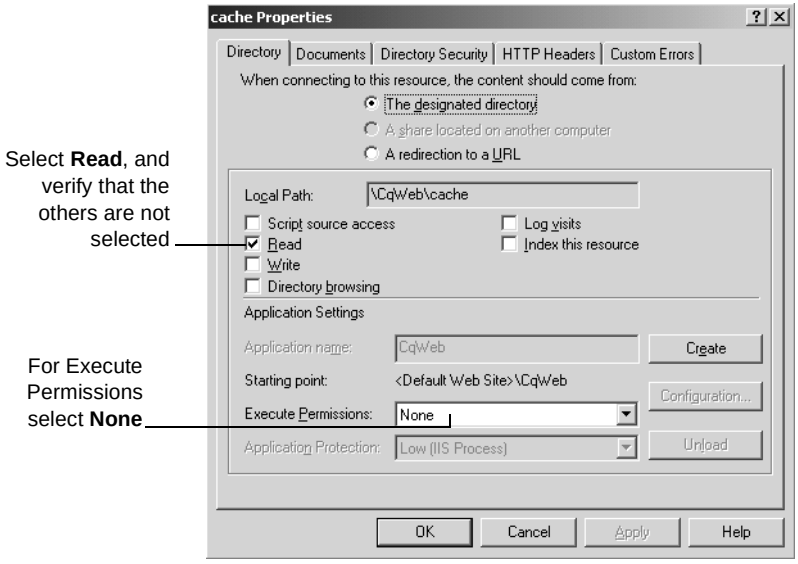
1. In the Internet Information Services left pane, navigate to the cache directory under the virtual directory name.
2. Right-click the cache directory.
3. Click **Properties** from the shortcut menu.
4. In the Properties dialog box, click the **Directory** tab.
5. Select the **Read** check box. Verify that no other options are selected.
6. For Execute Permissions, select **None**.
7. Click **OK**.

Edit the properties of the images directory for IIS 5

Edit the properties of the images subdirectory as follows:

1. In the Navigator window of Internet Information Services, expand the directory tree of the Default Web Site until you locate the images directory under your alias name.
2. Right-click the images directory.
3. Click **Properties** from the shortcut menu.
4. In the Properties dialog box, click the **Directory** tab.
5. Select the **Read** check box. Verify that no other options are selected.

6 For **Execute Permissions**, select **None**.



7 Click **OK**.

Restart the web server for IIS 5

Close Internet Information Services, saving your console settings, then restart the web server.

You have completed installing and configuring the ClearQuest web server for IIS 5.

Note: Please remember to use the Maintenance Tool to connect to your ClearQuest Schema Repository. For detailed instructions, see “Connecting to a schema repository” on page 119.

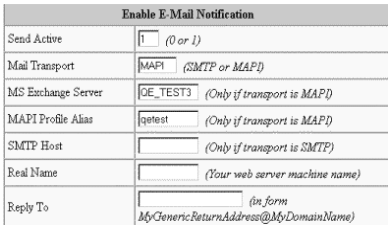
Enabling e-mail notification for web users

After installing ClearQuest Web (either for an initial or an upgrade install), you can set up your ClearQuest web clients to have e-mail notification according to the business rules of your schema.

1 Log in to your ClearQuest Web Client with administrator privileges.

2 In the tool bar, select **Operations** and then **Edit Web Settings**.

3 Scroll down to **Enable E-Mail Notification**.



4 Enter your e-mail settings.

Setting	Description
Send Active	Enter 1 to enable e-mail notification. Enter 0 to disable it.
Mail Transport	Specify SMTP or MAPI depending on your mail transport type.
MAPI Server	If you are using MAPI, enter the mail server name.
MAPI Profile Alias	If you are using MAPI, enter the profile alias name.
SMTP Host	If you are using SMTP, enter the host name.
Real Names	Enter your web server machine name or leave blank. If you enter a web server name, messages will display the server name in the **From** field.
Reply To	Enter generic reply-to address for this web server or leave blank.

Note: For e-mail notification to work, you must have added the e-mail package to your schema and set up record types for packages. For more information on adding packages and setting up record types, see *Administrator's Guide for Rational ClearQuest* or the ClearQuest Designer help system.

5 At the top of the web page click **OK** to commit your changes.

Note: MAPI notification will not work without Collaboration Data Objects installed. If you do not have Collaboration Data Objects installed, perform the steps in “Installing Collaboration Data Objects” on page 83.

Installing Collaboration Data Objects

Collaboration Data Objects must be installed in Microsoft Outlook 2000 for ClearQuest MAPI notification to work properly. If you have not already installed Microsoft Outlook 2000, follow the steps below.

If you have Microsoft Outlook 2000 already installed:

1 From the **Start** menu select **Settings > Control Panel** and double-click **Add/Remove Programs**.

2 Select Outlook 2000 (or Office 2000 if that’s how Outlook was installed), and click the **Change** button.

3 Expand Microsoft Office and click the icon for Collaboration Data Objects.

4 Select **Run from my computer** from the drop down list.

5 When you are finished, click **Update Now**.

If you do not have Microsoft Outlook 2000 installed, follow the recommended Microsoft Outlook 2000 installation procedures / guidelines. Be sure to check the option to install the Collaboration Data Objects.

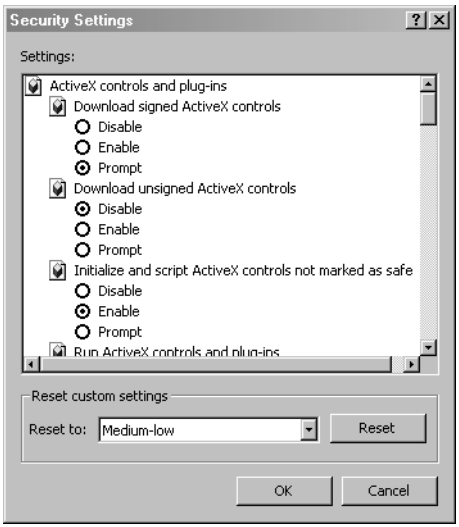
Configuring web browsers

To provide full ClearQuest functionality to your web users, you will need to verify that the following options have been enabled on each of the users web browsers. Follow the appropriate steps depending on whether your web user is invoking an Internet Explorer browser, (see “Configuring the Internet Explorer browser” on page 84) or a Netscape browser, (see “Configuring the Netscape browser” on page 85).

Configuring the Internet Explorer browser

To configure your Internet Explorer:

1. Launch the Internet Explorer browser from the web user's desktop.
2. Select **Tools > Internet Options** from the browser tool bar.
3. Click the **Security** tab and enable the following nodes:



   a. For **ActiveX controls and plug-ins**, enable the following options:

      - Download signed ActiveX controls
      - Run ActiveX controls and plug-ins (this is for the ClearQuest Advanced query editor)
      - Script ActiveX controls marked safe for scripting

   b. For the **Cookies** node, **Enable** for the following functionality:

      - **All cookies that are stored on your computer** and
      - **All per-session cookies (not stored)**

   c. For **Microsoft VM**, enable **Java permissions** by clicking on any of the following conditions:

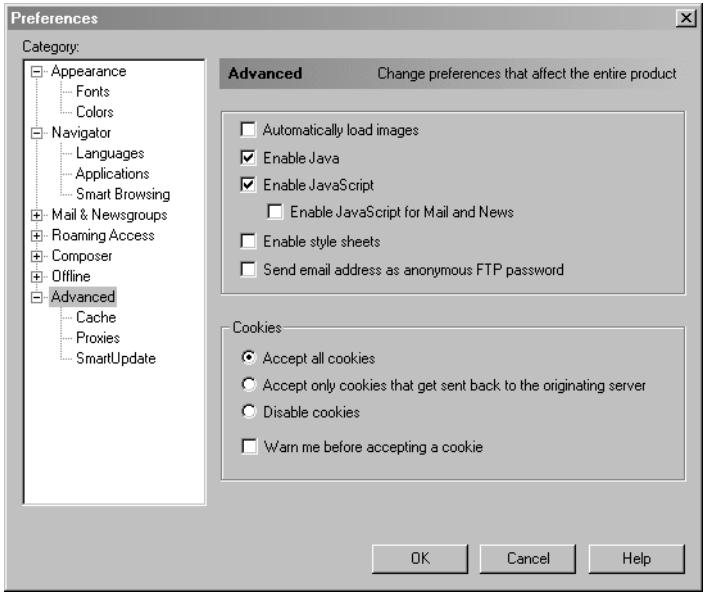
      - **Custom**
      - **High Safety**

- **Medium Safety**
- **Low Safety**

Configuring the Netscape browser

To configure your Netscape browser:

1. Launch the Netscape browser from the web user's desktop.
2. Select **Edit > Preferences** from the browser tool bar.
3. Expand the **Advanced** node in the left pane tree and verify that the following options as a minimum are enabled:



- Enable Java
- Enable JavaScript
- Accept only cookies that get sent back to original server

  OR

  Accept all cookies

Accessing ClearQuest Web

To enable web users to access ClearQuest over the web, tell them to enter the URL:

```
http://<host>/<alias>
```

where:

`<host>` is the host name of the ClearQuest Web server machine, and

`<alias>` is the directory containing the ClearQuest Web files.

Using the Advanced Query Editor

ClearQuest Web's advanced query editor requires Java Runtime (JRE) plug-in. For Windows platforms, this plug-in is provided by ClearQuest Web if it is not already installed on the client machine. For UNIX platforms, users are directed to the JavaSoft web site which may or may not have a download for the desired platform.

Note: Only users with Query Editor privileges or Super User privileges can access this function.

Note: The Java Runtime Environment is under active development by JavaSoft, and may not be available for all platforms. Consult the JavaSoft and Netscape web sites for details. On platforms where the JRE is not available, clients will not be able to use the Advanced Query Editor function of ClearQuest Web.

Installing and configuring ClearQuest UNIX for users

7

This chapter describes how to install ClearQuest UNIX. You, the ClearQuest administrator, set up the databases to use with ClearQuest, install ClearQuest, and provide the required set up information to each client user.

This chapter covers the following topics:

- “Understanding the install process” on page 88
- “Installing the ClearQuest UNIX client” on page 90
- “Configuring database connectivity” on page 94
- “Configuring ClearQuest UNIX” on page 104
- “Enabling e-mail notification for UNIX users” on page 107

Understanding the install process

A standard ClearQuest UNIX installation requires setup and installation procedures performed on the following platforms:

- "The database server" on page 88
- "The Windows administrator workstation" on page 89
- "The UNIX file server" on page 89
- "The UNIX user machine" on page 90

The database server

1. Set up your database product on your database server. As the ClearQuest administrator, you are responsible for setting up the databases your users will use with ClearQuest. See "Choosing a database vendor" on page 8.
2. Install and configure your vendor database alias. See "Creating an Oracle database alias" on page 23, and "Creating a DB2 database alias" on page 26.

   Note: You do not have to create an alias for a Microsoft SQL Server database.
3. Optionally, if you are using Oracle as your database vendor, you can enable multiline searches by installing Oracle search options. See "Enhancing Oracle search capabilities" on page 18.
4. Configure the database connectivity:

   a. If you are using Oracle as your database vendor, install OpenLink Request Broker to enable database connections. See "Installing OpenLink Request Broker with Oracle" on page 96.

   b. If you are using Microsoft SQL Server as your database vendor, see "Installing OpenLink Request Broker with Microsoft SQL Server" on page 95.

   c. If you are using DB2 as your database vendor, use the DB2 administrator tool, see "Configuring DB2 databases for ClearQuest UNIX" on page 103.

   Note: The OpenLink Request Broker software can instead be installed on the UNIX file server if the UNIX file server is NFS mountable by the database server, however, it needs to execute locally on the database server.

The Windows administrator workstation

1. Install the database vendor client software. See “Installing and configuring an Oracle client” on page 22 and “Installing DB2 client” on page 26. If you are using Microsoft SQL Server as your database vendor, you do not need to install client software.
2. Install ClearQuest for Windows on the administrator’s workstation and create the ClearQuest databases. See “Installing and configuring ClearQuest for an administrator” on page 29.

   Note: The ClearQuest administrator version must be installed on a Windows machine. All ClearQuest customizations are done with the ClearQuest Designer, a Windows-only application.
3. Create a schema repository and the user databases. See “Creating ClearQuest databases” on page 31.
4. Optionally, customize your installation. See the *Administrator’s Guide for Rational ClearQuest* for details on customizing ClearQuest.
5. Optionally, install Crystal Reports. “Installing Crystal Reports” on page 36.
6. Optionally, install and configure ClearQuest Windows Workstations. “Installing and configuring ClearQuest Windows for users” on page 49.

The UNIX file server

If you choose to do a network install, the UNIX file server must be NFS mountable by all the UNIX ClearQuest client machines and by the Oracle database server.

1. If you are using DB2 as database vendor you will need to install the DB2 client software on the UNIX file server. Follow the DB2 instructions for installing the client.
2. Install ClearQuest UNIX client. See “Installing the ClearQuest UNIX client” on page 90.

The UNIX user machine

1. If you are using DB2 as database vendor you will need to install the DB2 client software on the UNIX user machine. Follow the DB2 instructions for installing the client.
2. If you are not doing a network install, you will need to install ClearQuest UNIX client on the UNIX user machine. See “Installing the ClearQuest UNIX client” on page 90.
3. Launch the ClearQuest UNIX client and connect the client to the database. See “Configuring ClearQuest UNIX” on page 104.

Installing the ClearQuest UNIX client

For ClearQuest UNIX, the system administrator needs to install the ClearQuest client software and let the user know where to find the installation.

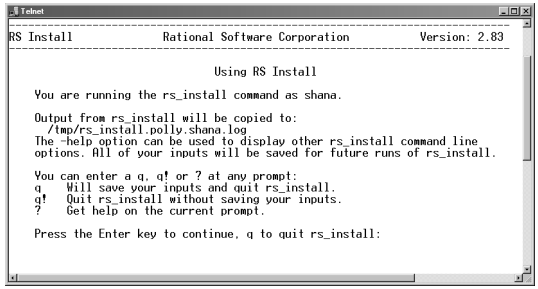
Note: When you install the ClearQuest UNIX client, you also install all the ClearQuest MultiSite functionality. This functionality will be available to the user only if a ClearQuest MultiSite license is enabled.

To install the ClearQuest client, do the following:

1. Log in as the user who will own the ClearQuest installation. This user will perform administrative functions such as managing the database registry.

   Note: All other users need read-only access to the installation directories.
2. From the ClearQuest CD-ROM, run `rs_install`. The **License Agreement** menu will be displayed. Read the license agreement and enter **y** or **yes** to accept the agreement.
3. The next prompt will ask if you want this license agreement displayed the next time you run `rs_install`. Enter y[es] or n[o].

4 The `rs_install` utility has an extensive online help system. To access the help system, enter ? at anytime during the installation process.

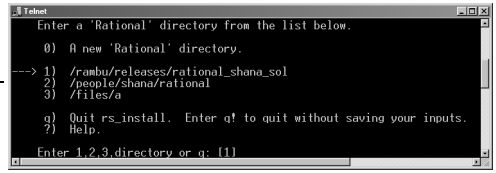


5 You can enter **q**, **q!**, or **?**, at any time during the installation process. Press **Enter** to continue with the installation process.

6 The **Enter Install Location** screen opens. From here you are asked to define the location of your Rational directory.

7 This directory must be accessible from all the UNIX client machines. The script will locate earlier directories. Press **Enter** to display the locations.

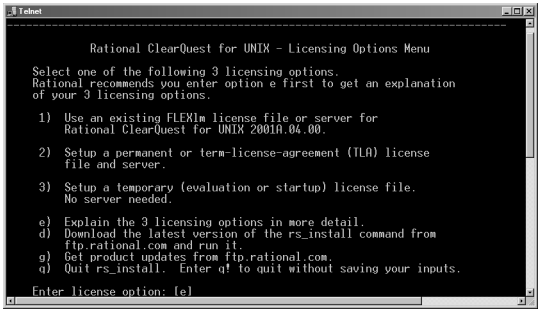
Default Setting



8 The default option for installation is identified by an arrow. To select the default setting, press **Enter**. To install in a new location type **0** and press **Enter**.

9 Select **e** to get a description of the three types of licensing options available for ClearQuest from the Licensing Options Menu agreement. The available options are:

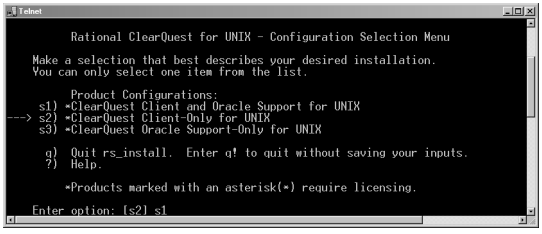
- Use an existing Flexlm license
- Set up a new permanent license server
- Set up a temporary license server



10 Select the appropriate option and press **Enter**. For this scenario the option **1)** was selected.

Note: If you selected to set up a new license, the script will ask you for a directory location.

11 Select which parts of the UNIX installation to install from the **Configuration Selection Menu**. If this is a new installation, select option **s1)**.



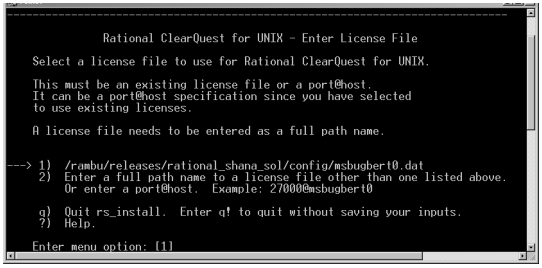
Note: If you are not using Oracle as the ClearQuest UNIX database vendor, you do not have to install the Oracle Support module. If this is the case, select option **s2)**.

Note: If you are using an Oracle database for the ClearQuest schema repository and user databases, you need to install the Oracle Support module. This module includes the OpenLink Request Broker application. See “Installing OpenLink Request Broker with Oracle” on page 96.

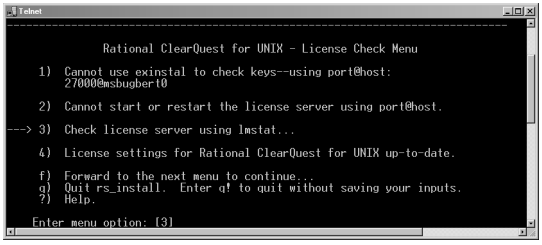
12 Select a license file to use from the next screen. Enter the `port@hostname` name. For example,
`27000@server`

where “port” is 27000 and “host” is the name of the Windows license server.

The “host” name needs to be a permanent name; if your network uses DHCP, you may need a variation or special form of the host name. Check with your network administrator.



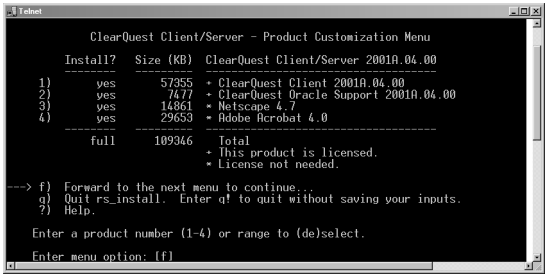
13 Optionally, you can choose to test the license server at this time. Select option 3) to test the license server. This step may install a small part of the UNIX license server software in order to perform the check. If the check fails, you may still proceed with the installation, but you will have to repeat the licensing set up at a later time.



14 The status will be reported to your screen, press **Enter** to continue, and **Enter** again to forward the menu.

15 A list of the modules and products that will be installed with the default installation will be displayed on your screen in the **Product Customization Menu**. To omit installation for a product, enter the number (or sequence of

numbers) to the left of the product description. Example: if you already have Adobe Acrobat and Netscape 4.7, you can omit the additional installation by entering **3-4**, and pressing **Enter**.



The product list will be displayed with the modifications you entered. For example, items 3 and 4 would have a "no" in the first column to the right and no space requirements would be displayed. Press **Enter** to continue.

Note: Installing Adobe Acrobat and Netscape 4.7 are optional, however:

- Acrobat is useful for reading ClearQuest pdf files provided in the $CQ_HOME/books directory.
- ClearQuest UNIX help system requires Netscape 4.7 or higher.

16 Select the mode option in the **Install Mode** menu. Available options are:

- ask
- skip
- reinstall

17 Select **f) Forward** to start the install process.

18 When the installation finishes, the **Database Registry Menu** will ask you to enter the location of where to store the registry information regarding the schema repository.

Note: This directory must be readable by all machines and users that will run this installation of ClearQuest. It must also be writable by the user who will be the ClearQuest administrator.

Configuring database connectivity

If your ClearQuest installation will include ClearQuest UNIX clients, your vendor database can be either MS SQL, Oracle, or DB2.

You will have to establish the connectivity between your database vendor and your UNIX user. The way you do this is dependent on which database vendor you have used to create your ClearQuest databases.

- If you are using Microsoft SQL Server or Oracle databases the OpenLink Request Broker is used as the agent. The OpenLink Request Broker application is provided with the ClearQuest UNIX installation CD-ROM. See "Installing OpenLink Request Broker with Microsoft SQL Server" on page 95, and "Installing OpenLink Request Broker with Oracle" on page 96.
- If you are using DB2, use the DB2 command line administrator tool to establish connectivity. See "Configuring DB2 databases for ClearQuest UNIX" on page 103.

Depending on which database vendor product you are using, proceed to the following sections:

- "Installing OpenLink Request Broker with Microsoft SQL Server" on page 95
- "Installing OpenLink Request Broker with Oracle" on page 96
- "Configuring DB2 databases for ClearQuest UNIX" on page 103

Installing OpenLink Request Broker with Microsoft SQL Server

To enable Microsoft SQL Server databases to run on a Windows machine as a back-end database, you will need to install the OpenLink Request Broker on the SQL Server machine. The OpenLink Request Broker software is provided on the ClearQuest UNIX Installation CD-ROM.

1. Insert the ClearQuest UNIX CD-ROM into the Windows SQL Server database server machine.
2. Run the `opl.exe` file in the `openlink` subdirectory on the ClearQuest installation CD-ROM. This is a self extracting zip file that has a default directory location defined as C:\Program Files\OpenLink. You can change the location to the directory name of your choice.
3. Execute the following at the command line:
   `cqperl oplrqb.pl`
4. The perl script will prompt you for the directory where you unzipped the data. Type in the directory path and select **Enter**. The request broker will be installed and the `oplrqb` service will be registered. No other server configuration is necessary.

5 Connect to it from the UNIX client as you would the Windows client. The following information is required to successfully connect.

Note: The Windows Server host name that you enter must be accessible from all UNIX clients. When in doubt, use the **ping** command to verify connectivity.

- Vendor: SQLSERVER
- Server: <Server hostname>
- Database: <Database name for Master Schema Repository>
- User Name: <SQL Server User Name created for Master Schema Repository>
- Password: <SQL Server Password created for Master Schema Repository>

Installing OpenLink Request Broker with Oracle

After setting up your database server, (see "Configuring vendor databases" on page 7), you must also install OpenLink Request Broker to facilitate database connections. For instruction on installing the OpenLink Request Broker software, see Step 11 on page 92.

1 Log in to the Oracle server as the same user ID you will use when installing ClearQuest.

2 Change to the `openlink_server` directory in the Rational root directory that was created when you installed the ClearQuest components.
`cd [Rational_dir]/releases/ClearQuestOracleSupport.[version]/openlink_server/[arch]`

where:

`Rational_dir`

is the Rational installation directory.

`version`

is the Rational installation version number. Example: `2001A.04.00`

`arch`

is the hardware system. Use one of the following options depending on your system:

- `hp11_pa`
- `sun5`

- aix
- linux

3 Run the installation script by entering the following at the command line:
`sh install.sh`

4 The script will prompt you for the installation information. Accept default values when they are available.

5 After the installation script is complete, execute the post_install.sh at the command line to configure your oracle settings:

`sh post_install.sh`

6 The post_install shell program will prompt you to enter the values for your Oracle home directory (ORACLE_HOME) and your oracle system id (ORACLE_SID).

Note: You may rerun this script to reset the options at any time.

7 The configuration process is complete. Type `Quit` to close the OpenLink Configuration Utility.

Installing the OpenLink ODBC catalog views for Oracle 7 or Oracle 8

This task is done while connected to the internal database. Run the Oracle `svrmgrl` with the corresponding sql script, and use `odbccat7.sql` for Oracle 7 or `odbccat8.sql` for Oracle 8. The scripts are located in the newly created bin directory.

1 Log in as the Oracle database administrator.

2 Change to the directory containing the `odbccat7.sql` or `odbccat8.sql` script:
`cd [Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/[arch]/bin`

where

`Rational_dir`

is the Rational installation directory.

`version`

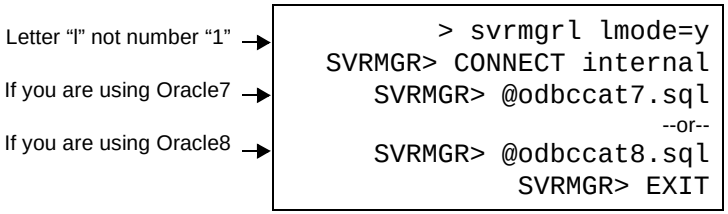
is the Rational installation version number. Example: `2001A.04.00`

`arch`

is the hardware system. Use one of the following options depending on your system:

- `hp11_pa`
- `sun5`
- `aix`
- `linux`

3 Enter the following:



For more information, see the comments in the `odbccat*.sql` file.

After installing the OPenLInk Request Broker for Oracle, you should configure it to automatically start up at boot time. See:

- “Automating startup on reboot for Solaris” on page 99
- “Automating startup on reboot for HP-UX” on page 100
- “Automating startup on reboot for Linux” on page 101
- “Automating startup on reboot for AIX” on page 102

Automating startup on reboot for Solaris

The following instructions assume your UNIX installation uses the typical directories for startup and shutdown scripts. To automatically restart the OpenLink Request Broker after rebooting the server:

1. Log in as root (root privileges are required for this step).
2. After installing the cd-image, there will be a file named `rc.OpenLinkBroker` in:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/sun5`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
3. Copy the `rc.OpenLinkBroker` script to the `/etc/init.d` directory.
   `cp rc.OpenLinkBroker /etc/init.d/openlinkbroker`
4. Edit the `/etc/init.d/openlinkbroker` script to change the value of `BIN_DIR` to be:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/sun5/bin`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
5. Make the script executable:
   `chmod +x /etc/init.d/openlinkbroker`
6. Make symbolic links for startup and shutdown as follows. Note that the example uses “98” for startup and “02” for shutdown. You may need to use different numbers so that the startup script is invoked after any Oracle and NFS start up scripts.

```
>ln -s /etc/init.d/openlinkbroker /etc/rc2.d/
S98openlinkbroker
>ln -s /etc/init.d/openlinkbroker /etc/rc2.d/
K02openlinkbroker
```

Automating startup on reboot for HP-UX

1 Log in as root (root privileges are required for this step).

Note: After installing the cd-image, there will be a file named `rc.OpenLinkBroker` in:
`[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/hp11_pa`

where:

`Rational_dir`

is the Rational installation directory.

`version`

is the Rational installation version number. Example: `2001A.04.00`

2 Copy the rc.OpenLinkBroker script to the /sbin/init.d/ directory.

cp rc.OpenLinkBroker /sbin/init.d/openlinkbroker

3 Edit the `/sbin/init.d/openlinkbroker` script to change the value of `BIN_DIR` to be:
`[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/hp11_pa/bin`

where:

`Rational_dir`

is the Rational installation directory.

`version`

is the Rational installation version number. Example: `2001A.04.00`

4 Make the script executable.
`chmod +x /sbin/init.d/openlinkbroker`

5 Make symbolic links for startup and shutdown as follows. Note that the example uses “98” for startup and “02” for shutdown. You may need to use different numbers so that the startup script is invoked after any Oracle and NFS start up scripts.

```
>ln -s /sbin/init.d/openlinkbroker/sbin/rc2.d/
S98openlinkbroker
>ln -s /sbin/init.d/openlinkbroker/sbin/rc2.d/
K02openlinkbroker
```

Automating startup on reboot for Linux

1. Log in as root (root privileges are required for this step).
2. After installing the cd-image, there will be a file named `rc.OpenLinkBroker` in:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/linux`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
3. Copy the `rc.OpenLinkBroker` script to the `/etc/rc.d/init.d` directory.
   `cp rc.OpenLinkBroker /etc/rc.d/init.d/openlinkbroker`
4. Edit the `/etc/rc.d/init.d/openlinkbroker` script to change the value of `BIN_DIR` to be:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/linux/bin`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
5. Make the script executable:
   `chmod +x /etc/rc.d/init.d/openlinkbroker`
6. Make symbolic links for startup and shutdown as follows. Note that the example uses “98” for startup and “02” for shutdown. You may need to use different numbers so that the startup script is invoked after any Oracle and NFS start up scripts.
   ```
   >ln-s/etc/rc.d/init.d/openlinkbroker/etc/rc.d/rc3.d/S98openlinkbroker
   >ln -s /etc/rc.d/init.d/openlinkbroker/etc/rc.d/rc3.d/K02openlinkbroker
   ```

Automating startup on reboot for AIX

1. Log in as root (root privileges are typically required for this step).
2. After installing the cd-image, there will be a file named `rc.OpenLinkBroker` in:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/aix`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
3. Copy the `rc.OpenLinkBroker` script to the `/etc` directory.
   `cp rc.OpenLinkBroker /etc/rc.openlinkbroker`
4. Edit the `/etc/rc.Openlinkbroker` script to change the value of `BIN_DIR` to be:
   `[Rational_dir]/releases/ClearQuestSupport.[version]/openlink_server/aix/bin`

   where:

   `Rational_dir`

   is the Rational installation directory.

   `version`

   is the Rational installation version number. Example: `2001A.04.00`
5. Make the script executable:
   `chmod +x /etc/rc.openlinkbroker`
6. Edit `/etc/inittab` and add the line:
   `openlinkbroker:2:wait:/etc/rc.openlinkbroker`

Configuring DB2 databases for ClearQuest UNIX

Once the DB2 client software is installed on the ClearQuest UNIX client machine, perform the following steps:

1. Log in to the ClearQuest UNIX client machine as a user with privileges to modify the database instance (perhaps the UNIX user that created the DB2 instance).

2. Ensure that the `DB2INSTANCE` environment variable is set to the correct DB2 instance. This is very important. The IBM DB2 ODBC driver requires that this environment variable be set for all operations. ClearQuest UNIX will not operate properly with DB2 if the `DB2INSTANCE` environment variable is not set. A typical symptom of the `DB2INSTANCE` environment variable not being set is that the IBM DB2 ODBC driver will cause a Segmentation Fault after attempting to log in to the DB2 database.

3. Run the DB2 command line administration tool, `db2`.

4. Create a DB2 TCP/IP NODE for use by ClearQuest UNIX. The node alias needs to be the same for all DB2 clients. The port number is the TCP/IP port used by the DB2 service. This is typically set to 51164.
```
db2> CATALOG TCPIP NODE <nodealias> REMOTE
<serverhostname> SERVER <port number>
```

5. Create a DB2 database alias for both the Master Schema Repository and a User database. The database alias needs to be the same for all DB2 clients.
```
db2> CATALOG DATABASE <database name> AS <database
alias> AT NODE <node alias>
```

6. Test the connection to the DB2 database. The `CONNECT` command should succeed.
```
db2> CONNECT TO <database alias> USER <Windows user id>
USING <Windows password>
db2> DISCONNECT CURRENT
db2> QUIT
```

7. Create a symbolic link from the ClearQuest install area into the IBM DB2 installation area for the IBM DB2 ODBC device driver. This is required because ClearQuest UNIX does not redistribute the IBM DB2 device driver. A typical symptom of this step being omitted is that ClearQuest UNIX will indicate that the specified driver could not be loaded while attempting to log in to the DB2 database. This step needs to be completed for every ClearQuest UNIX install area that will access DB2.
```
cd <rational directory>/releases/
ClearQuestClient.2001.03.00
cd <architecture >/shlib
```

```
ln -fs <IBM DB2 Install Dir>/V6.1/lib/libdb2.so
db_IBMDB2
```

8. Launch ClearQuest UNIX and configure the connection as follows:
   - Vendor: DB2
   - Server: <server host name>
   - Database: <database alias for Master Schema Repository>
   - User Name: <Windows user id>
   - Password: <Windows password>
   - Repeat steps 1 - 8 for each schema repository and user database.

Configuring ClearQuest UNIX

You should tell the ClearQuest UNIX user where ClearQuest is installed. They can then run ClearQuest directly, or source a configuration file that will modify their path.

To run ClearQuest UNIX:

1. Add the ClearQuest home directory to the client machines' path: `[Rational_dir]/releases/ClearQuestClient.2001A.04.00/bin`

   or use the `source` command on the `cq_setup.csh` file to set the ClearQuest home environment variable (`$CQ_HOME`):

   ```
   source [Rational_dir]/cq_setup.csh
   ```

   OR

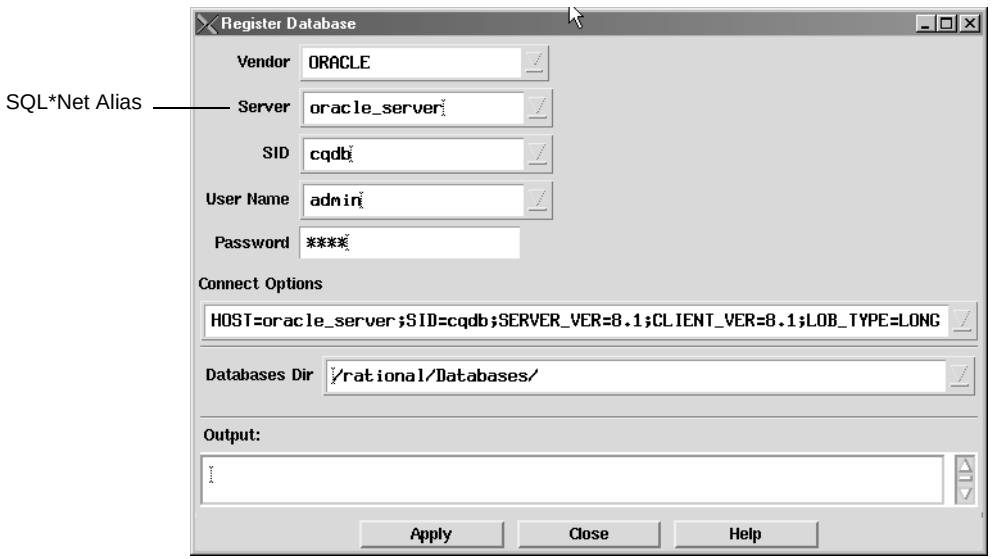
   ```
   source [Rational_dir]/cq_setup.sh
   ```

2. To run ClearQuest UNIX, type `clearquest`.

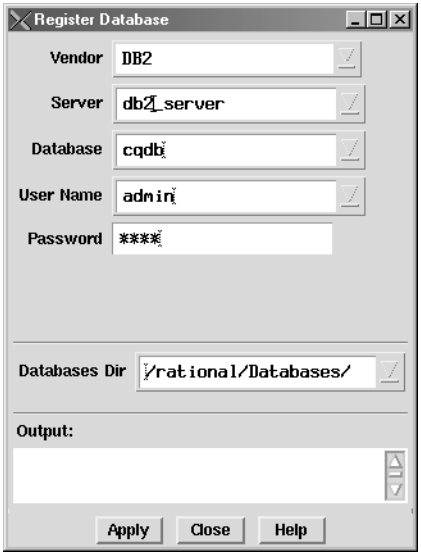
3 The first time you run the ClearQuest / UNIX client, the **Register Database** dialog box displays. Enter the information to connect to the schema repository. Refer to the following table for examples of database connection data.

Parameter	SQL Server	Oracle	DB2
Vendor	SQLSERVER	ORACLE	DB2
Server	host name	SQL*Net alias	host name
Database	schema repository database name	Not Required	schema repository database alias
SID	Not Required	Instance ID for the Oracle database server. This is case-sensitive.	Not Required
User Name	user name	user name	user name
Password	password	password	password
Connect Options	Not Required	HOST=host SID= sid SERVER_VER=8.0 CLIENT_VER=7.0	Not Required

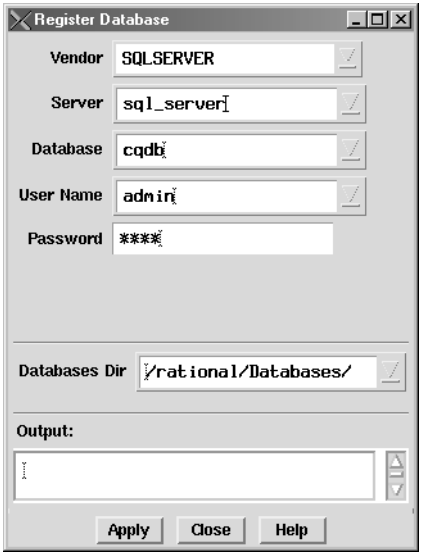
Example screen for an Oracle database:



Example screen for a DB2 database:



Example screen for an SQL Server database:



4 Click **Apply** and then **Close**.

Enabling e-mail notification for UNIX users

After installing ClearQuest (either for an initial or an upgrade install), the user must enable e-mail notification if they want to send automatic e-mail messages from ClearQuest. To do this:

1. Launch ClearQuest. Type `clearquest` at a UNIX shell prompt.
2. Within **ClearQuest**, choose **View > E-mail Options**. This opens the E-mail Setup dialog box.
3. Select **Enable E-mail Notification**.
4. Enter your e-mail address.
5. Click **OK**.

Silent ClearQuest installation 8

You can configure Rational Software Setup to perform silent installations of Windows versions of Rational software. Silent installations allow you to perform an installation of a Rational Software product, using the same parameters, repeatedly on a number of systems.

The following sections provide a brief summary of the silent installation features.

We recommend you read Rational's *Silent Installation White Paper* before you attempt a silent installation. The white paper is available from the Rational Web site at http://www.rational.com/products/whitepapers/101458.jsp/.

Overview of silent installations

This section describes how to perform a silent install. The basic steps, explained below, are:

1. Record an installation session.
2. Optionally, add a post-installation command to the recorded installation.
3. Execute the installation procedure.

Recording the software installation

You can record a software installation session and then use the responses that you provide to replay the installation. At the end of the recorded installation procedure, you will be given the option to exit without installing the product.

1. Insert the Rational ClearQuest software CD-ROM in a CD-ROM drive.
2. Open a command window on your system and run `RSSetup` with the `-autocapture` switch. For example:
   `<Install Location>\setup\rssetup -autocapture`

   Where `<Install Location>` is the location of the Rational ClearQuest software CD-ROM.
3. When the Rational Software Setup program starts, proceed with the installation procedure on “Understanding the ClearQuest install process” on page 3. Your responses will be recorded in the responses file which is named as follows:
   `<Install Path>\RSSetup\response.ini`

   Note: The option to use a temporary license is not supported when using the `-autocapture` switch. The silent installation procedure will not support the capture of license certificate information into the `response.ini` file.
4. After you have answered all of the questions related to the installation, you will be prompted to continue with the installation of the product or to exit from the setup program. Click **OK** to proceed with the installation or **Cancel** to exit. Even if you cancel at this point, your answers are still saved.

Example

The following example shows how to record an installation of Rational ClearQuest.

```
<Install Location>\setup\rssetup -autocapture /product
ClearQuest-1.1
```

Specifying a post-installation command

You can specify a command that will be performed after the silent installation has completed.

1. After you have completed preparation for a silent installation, perform the following step:
   - Edit the response file by appending lines with the label `[PostInstallCmd]` to the end of the file.

     ```
     [PostInstallCmd]
     Command=post-installation-commands.bat
     ```

     where, the `post-installation-commands.bat` is a batch file that contains the commands you want to execute. Such a file might contain the following commands:

     ```
     licadmin -fserver.txt
     net send administrator “Installation Complete”
     ```

     In this example, the License Key Administrator, `licadmin`, starts and uses the information in `server.txt` to specify the name of the license server that the current system will use. The batch file then sends a message to the administrator, indicating that the installation procedure is complete.
2. Save the response file to a unique name (to ensure that is it not overwritten by subsequent autocaptures). For example, save the response file with a name such as `C:\responses\ent-w-post.ini`.

Performing a silent installation

After you have recorded your responses, use the response file to replay the installation. For example:

```
<Install Location>\setup\rssetup -silent
-response:response-path
```

Where `response-path` is the path of the response file. The default path is as follows:

```
"C:\Program Files\Rational\RSSetup\response.ini"
```

Note: If a response file is in the default location, that response file will be used each time you run the installation procedure. Specifying a response file, using the `-response:response-path` parameter, will override the default response file.

If you specify `-autocapture` on the `RSSetup` command line, your installation will initially select the product name identified in the previous `response.ini` file, but will allow you to select a new product for installation. A new `response.ini` file will be saved at the end of the installation procedure.

Preparing multiple response files

You can save multiple response files to support attended installation of different products.

1. Identify a directory where you will store your response files. The following examples use a directory named as follows:
   `C:\responses`
2. Record the response file for each product you want to install.
3. Rename the response file with a unique file name. For example, save the ClearQuest 2.0 response file as:
   `C:\responses\ClearQuest2_0responses.ini`
4. Perform the installation and specify the path to the response file as a parameter to the `-response` switch. For example:
   ```
   <Install Location>\setup\rssetup -silent
   -response:C:\response\ClearQuest2_0response.ini
   ```

Examples

To record an installation of Rational ClearQuest version 2.0:

```
<Install Location>\setup\rssetup -autocapture /product
ClearQuest-2.0
```

To remove Rational ClearQuest version 2.0:

```
<Install Location>\setup\rssetup /uninstall /product
ClearQuest-2.0
```

Command line utilities

RSSetup

This section provides the syntax for RSSetup, as well as a table of RSSetup command parameters.

Syntax

```
RSSetup [-silent [-response:response-path]]|
   [-verbose [-response:response-path]] |
   [-autocapture]
   [/product <product>] [/install /uninstall /update]
```

RSSetup Command Parameter	Description
-silent	Performs a silent (unattended) installation.
-verbose	Replays a previously recorded installation, allowing you to override the recorded responses. **Note**: If you override the responses, those changes are not written to the response file.
-response:**response-path**	Specifies the path to the response file. **response-path** is the path for the response file. You must specify the **response-path**. The default path is <Install Location>\Setup\RSSetup\response.ini, where <Install Location> is the location of the installation files.
-autocapture	Records your responses to a software installation, storing the responses in a file for later replay.
/product **product-identifier**	Specifies the product you are installing. This parameter does not apply for silent installations. For a silent installation, you specify the product name in the response file. Look on page 114 for the list of identifiers you can use with this switch.
/install	Installs the product you specified with the /product switch. This switch cannot be combined with /uninstall or /update. This parameter does not apply for silent installations. For a silent installation, you specify the product name in the response file.
/uninstall	Removes the product you specified with the /product switch. This switch cannot be combined with /install or /update.

RSSetup Command Parameter	Description
/update	Updates the product you specified with the /product switch. This switch cannot be combined with /install or /uninstall. This parameter does not apply for silent installations.

The table below lists the product identifiers you must use with the /product switch.

Product Name	Product Identifiers
Rational LoadTest	atbuLoadTest
Rational Suite Performance Studio Agent	atbuPSAgent
Rational Suite Performance Studio	atbuRSuitePerformanceStudio
Rational Test Enablers	atbuSetupEnablers
Rational TeamTest	atbuTeamTest
Rational TestAccelerator	atbuTestAccelerator
Rational Robot	atbuTSRobot
Rational ClearQuest	ClearQuest-1.1
Rational PureCoverage	coverageNT
Rational Suite DevelopmentStudio for UNIX	dsbuRSDSU
Rational Developer Kit	dsbuDeveloperKit
Rational Purify	purifyNT
Rational Quantify	quantifyNT
Rational RequisitePro	rmbuRequisitePro
Rational RequisiteWeb	rmbuRequisiteWeb
Rational Rose Inline EJB Addin	Inline
Rational Rose Enterprise Edition	Rose98i
Rational Rose Professional C++ Edition	Rose98iC++Professional
Rational Rose Professional J Edition	Rose98iJavaProfessional
Rational Rose Modeler Edition	Rose98iModeler
Rational Rose Professional Visual Basic Edition	Rose98iVBProfessional

Product Name	Product Identifiers
Rational Rose Professional Data Modeler Edition	RoseDataModelerProfessional
Rational Unified Process	ruObjectory51
Rational SoDA for Word	SoDA
Rational Suite AnalystStudio	wsbuAnalystEdition
Rational Suite DevelopmentStudio	wsbuDevelopmentStudio
Rational Suite Development Studio - RealTime Edition	wsbuDevelopmentStudioRT
Rational Suite Enterprise	wsbuEnterprise
Rational License Server	wsbuFLEXlmServer
Sybase SQL Anywhere Database Server	wsbuSQLAnywhereServer
Rational Suite TestStudio	wsbuTestStudio
Rational Suite Web Server Components	wsbuWebComponents

License Key Administrator

You can run the Rational License Key Administrator from a command line or batch file to automate your license key installations and configuration.

For more information about the License Key Administrator command line options and usage, refer to your *License Management Guide for Rational Suite* manual.

Syntax

```
licadmin -ffilename.ext
```

Parameter	Description
`-ffilename.ext`	Specifies the path to the license parameter file. The license parameter file specifies the name of the license key server that you will use. For example: **Server:group-license-server** The keyword Server is case-sensitive.

The status of the execution of this command is written to a file named `filename.ext_STATUS`, where filename.ext is the name of the license parameter file you used. The status file is created in the directory where you executed the `licadmin` command.

Example

1. Create a file that contains the following line:
   `Server:group-license-server.`

   where **`group-license-server`** is the name of your License Server system.

2. Save the file as `server-info.txt`.

3. In a command window, run the following command:
   `licadmin -fserver-info.txt.`

   Your system will be configured to use floating license keys from `group-license-server`.

Upgrading ClearQuest

9

This chapter describes how to upgrade your ClearQuest databases and packages created with a previous installation.

Note: If this is your first installation of ClearQuest, no upgrading is required.

Before you begin the upgrade, read the release notes to become familiar with what has changed in this release.

Start > Programs > Rational > Rational ClearQuest > Rational ClearQuest Release Notes

Topics covered in this chapter include:

- "Understanding the upgrade process" on page 118
- "Upgrading packages basics" on page 120
- "Applying schema changes to user databases" on page 124
- "Upgrading feature levels" on page 126
- "Some helpful utilities" on page 133

Understanding the upgrade process

The upgrade process is dependent on the complexity of your system and the extent to which you have customized your schema. Review the following conditions for applicability to your ClearQuest system.

If you are starting from this version	Then upgrade as follows
Rational 2001A or 2001	Follow the procedures in this chapter.
Rational 2000	1 Upgrade to version 2001A.04.00, following the procedure supplied by Rational Technical Support. 2 Upgrade from version 2001A.04.00 to the current version by following the procedures in this chapter.
Rational 1.5, 1.1, or 1.0	1 Upgrade to version 2000.02.10, following the procedure supplied by Rational Technical Support. 2 Upgrade from version 2000.02.10 to version 2001A.04.00, following the procedure supplied by Rational Technical Support. 3 Upgrade from version 2001A.04.00 to the current version by following the procedures in this chapter.
A Rational point product, any version	Contact Technical Support for more information.

- If you have designed your ClearQuest system based on the ClearQuest predefined schemas or have added packages to your customized schema, apply the latest packages. To determine whether packages have been installed in your schema, see “Analyzing your current package version” on page 121. See “Applying package upgrades” on page 122 to apply the package upgrades.
- If you have integrations with other Rational products embedded in your ClearQuest system, install the latest version of the integration product and then upgrade the integrations with ClearQuest to the latest packages.
- If you want to use the latest ClearQuest features or if you have a ClearQuest release prior to release 2.0, upgrade your feature level, see “Upgrading feature levels” on page 126.
- If you are upgrading a ClearQuest installation or integration that was installed from the Rational Suite CD-ROM, refer to “Upgrading from Earlier Versions of Rational Suite in the *Installation Guide for Rational Suite*.

ClearQuest for the administrator

The following steps summarize the upgrade procedure for the administrator.

- If you want to author report formats, upgrade to Crystal Reports™ 8.0.
- Install ClearQuest. It is not necessary to uninstall previous versions of ClearQuest before installing ClearQuest. See “Installing and configuring ClearQuest for an administrator” on page 29.
- Installing ClearQuest may reset the connection to the ClearQuest database. Launch the **Rational ClearQuest Maintenance Tool** to establish a new connection to your ClearQuest database. See “Connecting to a schema repository” on page 119.
- If you have added integrations or packages to your ClearQuest schema, upgrade the packages, see “Upgrading packages basics” on page 120.
- Configure ClearQuest Web as needed. See “Installing and configuring ClearQuest Web” on page 55.

ClearQuest for the user

- Install ClearQuest client software. It is not necessary to uninstall previous versions of ClearQuest before installing ClearQuest. See “Installing and configuring ClearQuest Windows for users” on page 49.
- Installing ClearQuest resets the connection to the ClearQuest database. Run ClearQuest Maintenance Tool to establish a new connection to your ClearQuest database. See “Connecting to a schema repository” on page 119.

Connecting to a schema repository

After you have installed the latest ClearQuest release, you may have to reconnect to your schema repository.

1. Launch the ClearQuest Maintenance Tool.

   Start > Programs > Rational > Rational ClearQuest > Rational ClearQuest Maintenance Tool

2. Select **Connection > New** from the menu.
3. Enter your database properties in the right panel and give your connect node a new name in the left panel.
4. Alternatively, if you saved a profile that includes all the information you need before you install the latest ClearQuest version you can:

a Select **File > Import Profile** from the menu.

b Enter the path and filename in the **File Name** text field. Click **Next**.

Note: A profile file has an *.ini extension.
For example: `dev_profile.ini`.

c Check the databases you want to load into ClearQuest.

5 Click **Finish**. Your database will be connected to ClearQuest and be displayed in the left panel tree node.

Upgrading packages basics

If any of the following conditions apply, upgrade the packages installed in your schema:

- You are currently using or have built your schema based on any of the following predefined schemas:
  - Defect Tracking
  - AnalystStudio
  - DeveloperStudio
  - TestStudio
  - UnifiedChangeManagement
  - Enterprise
- You have customized your schema by adding integrations or individual packages.

If you do not have any ClearQuest packages installed, proceed to the "Upgrading feature levels" on page 126. For more information on adding integrations and packages, refer to *Administrator's Guide for Rational ClearQuest*.

At a high level, the steps you should follow to upgrade packages are:

1 Find out whether you need to upgrade any existing packages. See "Analyzing your current package version" on page 121.

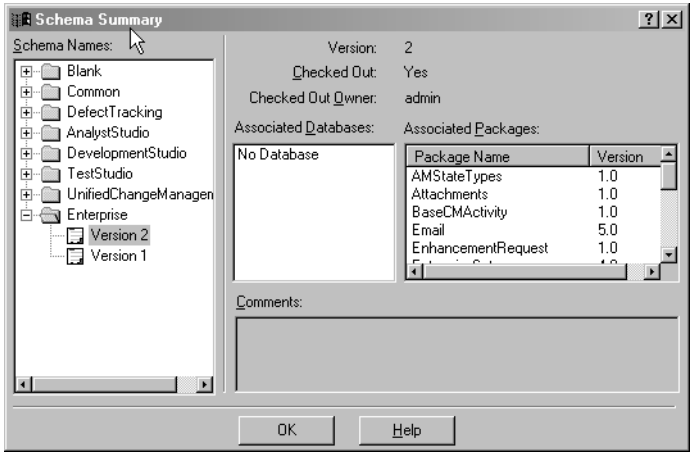
2 Upgrade your ClearQuest packages. See "Applying package upgrades" on page 122.

3 Upgrade your user databases. See "Applying schema changes to user databases" on page 124.

Analyzing your current package version

To find out whether packages have been added to your schema repository perform the following:

1. Log on to ClearQuest Designer with Super User or Schema Designer privileges.
2. Click **Cancel** in the Open Schema Dialog box.
3. Choose **View > Schema Summary** to determine the packages are currently applied to the schema.
4. Open the folder with your schema name and select the appropriate version. If multiple databases are associated with this schema they will be displayed in the central list display.



5. The list in the right scroll area will display every package name and version currently installed in your schema. If no package names are present, no additional upgrade is required.

6 The following table contains the latest version numbers for the packages upgraded with this release. If your packages are not updated to the latest release, upgrade them now. Refer to “Applying package upgrades” on page 122.

Package Name	Latest Version
E-mail	6.0
Repository	3.0
RequisitePro	1.6
RequisitePro	1.6 Upgrade
TeamTest	4.0
UnifiedChange Management	4.0

Applying package upgrades

Note: If you are upgrading a RequisitePro integration with ClearQuest, consult the “Upgrading ClearQuest” section of the *Installation Guide for Rational Suites*.

To upgrade all your existing packages:

1 Log in to ClearQuest Designer with Super User or Schema Designer privileges.

2 If the Open Schema Dialog box is displayed, click **Cancel**.

3 Select **Package > Upgrade Installed Packages** from the ClearQuest Designer menu.

4 Select the schema name from the list of schema repositories. Click **Next**.

5 The list of all the packages that need to be applied will be shown. To continue, click **Upgrade**.

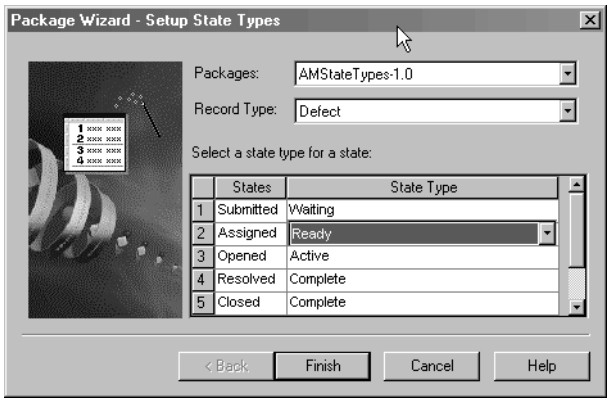
6 Once the upgrade is complete, click **Exit**.

If you are upgrading a UCM integration from release 2000.02.10, map the UCM state types prior to testing the upgrade in Step 7. To do so:

a From the ClearQuest Designer menu, select **Package > Setup State Types**.

b In the Package Wizard, select **AMStateTypes** from the scroll down **Packages** menu and accept the default value for the **Record Type**.

c Map each of the ClearQuest states (shown in the right column) to the appropriate State Type from the pull down menus in the **State Type** or left column.



d If you have UCM integrations with additional record types, they will be listed in the **Record Type** scroll down menu. Select the next record type and repeat the mapping process for each of the record types.

Note: For more information on mapping **State Types** refer to *Administrator's Guide for Rational ClearQuest*.

7 Verify your work by selecting **File > Test Work** from the ClearQuest Designer menu. Select the test database associated with the chosen schema and click **OK** to continue. For more information on testing schema changes refer to *"Administrator's Guide for Rational ClearQuest."*

8 After the testing is complete and you verify that there are no errors, click **Next**.

Note: If the upgrade process fails, the errors will be displayed in the status window.

9 Check in your changes by selecting **File > Check in** from the menu and click **OK**.

Applying schema changes to user databases

Warning: This action cannot be reversed. Back up your schema repository and user databases. For back up procedures refer to your database vendor documentation.

Note: Perform a database upgrade on a test database before updating your user databases. For instructions on creating a test database, see "Working with test databases" in the *Administrator's Guide for Rational ClearQuest*.

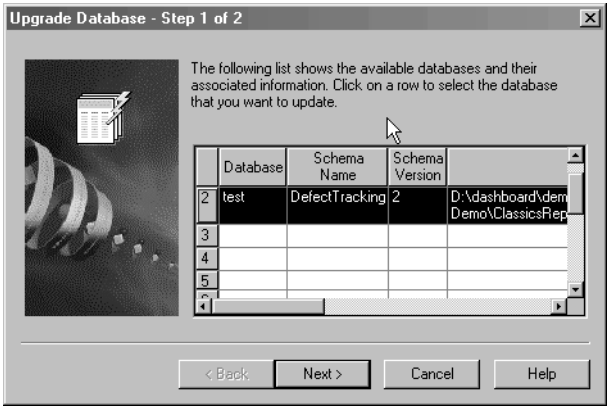
To upgrade your user database integrations:

1 Log in to your ClearQuest Designer with Super User or Designer privileges.

2 Select **Database > Upgrade Database**.

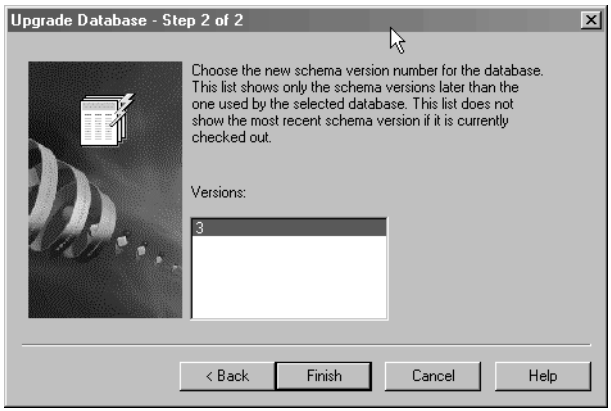
A message warns that this action cannot be reversed, recommends that you back up your databases before proceeding and asks for confirmation to continue. If you have backed up your databases, click **Yes**.

3 Select the user database from the list presented in the Upgrade Database wizard. Click **Next**.



4 Select the schema version from the list. If your most recent version is not shown in this list, it probably hasn't been checked in. In that case, cancel this wizard. Open the schema from the File menu and check it in. Then restart this process.

5 Click **Finish**. When the user database upgrade completes, a message will be displayed saying the database has been upgraded successfully.



Upgrading feature levels

If you want to use the new features available with the latest ClearQuest version (see the ClearQuest Release Notes for new features), or if you have a ClearQuest version prior to 2.0 currently installed, you must upgrade your databases.

ClearQuest now maintains backward compatibility making it possible for you to incrementally install the new ClearQuest release. However, prior to upgrading your schema repositories and user databases to the latest feature level, all ClearQuest users must have the latest ClearQuest installation.

The following table depicts when a database upgrade is required.

Current Release version	Upgrade requirements	Downward Compatibility
1.0	Must upgrade to 2001A	1.0
1.1 and 1.1 Service Packs	Must upgrade to 2001A	1.1
2.0	Upgrade for new features	2.0
2000	Upgrade for new features	2.0
2001	Upgrade for new features	2.0 2000
2001A	New features are: Security ClearQuest MultiSite	2.0 2000 2001

Note: If you are upgrading Oracle databases, you can speed up the upgrade process significantly by running the Oracle **ANALYZE** command. Refer to your Oracle documentation for detailed instructions.

Overview of feature level upgrade process

Because it is important to minimize your production system down time, we strongly recommend that you first perform the feature level upgrade on a test system. Here are the steps:

1. Perform a test upgrade:
   - **a** Create a testbed from a copy of your production databases.
   - **b** Create an upgrade database set for the testbed.
   - **c** Upgrade the testbed.

d Verify that the test upgrade was successful.

2 Upgrade the production databases.

a Create an upgrade database set for the production databases.

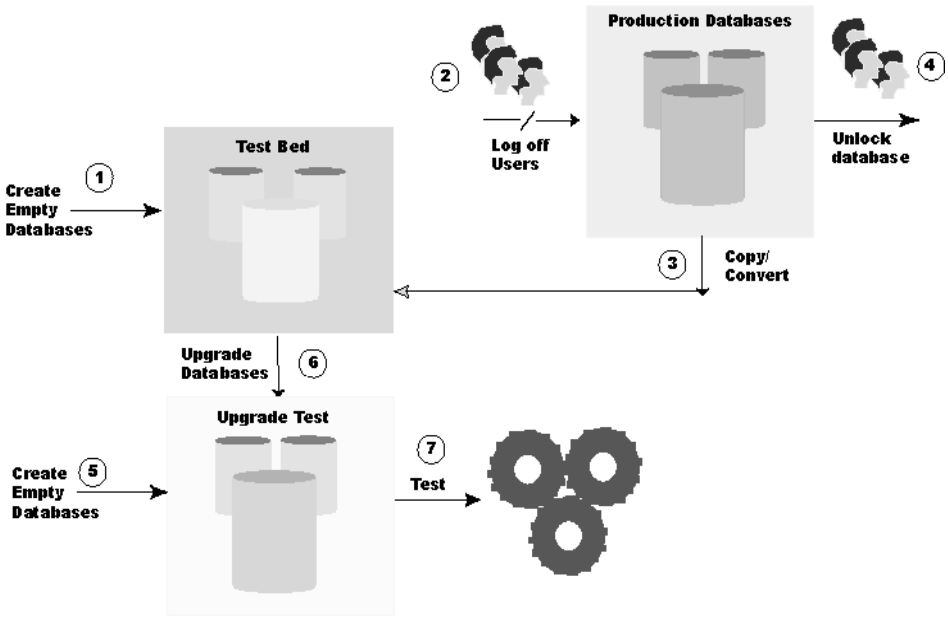
b Upgrade the production databases.

c Verify that the production upgrade was successful.

d Connect users to the new upgraded databases.

Preparing your testbed

Because it is important to minimize your production system down time, we strongly recommend that you first perform the feature level upgrade on a test system. The feature level test upgrade process is represented in the following diagram.



1 Create a new empty database for each of your schema repositories and user databases. This set of databases will be referred to as the testbed. For information on creating vendor databases see:

- “Setting up Microsoft Access” on page 10
- “Setting up SQL Anywhere” on page 10

- “Setting up Microsoft SQL Server 7 and 2000” on page 13
- “Setting up the Oracle Server” on page 17
- “Setting up IBM DB2” on page 24

Warning: Create empty databases only. Do not use your vendor database tools to move or copy the data.

2. Log off all of your users to ensure database consistency.
3. Copy existing production schema repository and user databases to your testbed databases and establish a connection to ClearQuest. Use the ClearQuest `installutil` utility with options `convertschemarepo` and `convertuserdb`. For detailed usage of these options refer to “Creating database copies” on page 134.
4. The convert options for `installutil` also locks the production database. To allow users to continue using the production database while you are upgrading the testbed, unlock the production database. See “Unlocking databases” on page 133.
5. Create another new empty “upgrade” database for each of the databases in your testbed. This set of databases will be referred to as the *upgrade databases*.
6. Launch the ClearQuest Maintenance Tool and begin the upgrade process. See “Upgrading your databases” on page 129.
7. Verify that the upgrade process completed successfully:
   - Verify through the ClearQuest Maintenance Tool upgrade dialog box that the upgrade was completed successfully. Alternately, you can view the log file created in your `\Temp` directory.
   - Enter a few test records of each record type and move them through your entire state model to be sure the upgrade is working correctly.

Upgrading your databases

The upgrade steps are the same whether you are performing a test upgrade or the final production upgrade.

To perform an upgrade on an existing connection:

1. In the **Existing Connections** area, select the connection you need to upgrade.
2. In the ClearQuest Maintenance Tool, click **Schema Repository > Upgrade > Selected Connection**.
3. In the Schema Repository Properties area, verify the properties of the schema repository you wish to upgrade.
4. Click **Next**.
5. When asked if you want to upgrade the user databases associated with the schema repository, select Yes or No. Keep in mind that user databases are locked during the upgrade process.
6. In the **Login Information** area, enter your login name and password. You must have Super User privileges to upgrade a schema repository and / or user databases.
7. Click **Next**.
8. If you chose to upgrade a user databases, select the user database(s) you'd like to upgrade and click **Next**.
9. In the New Schema Repository Properties area, enter the database properties of the new vendor database that will contain the upgraded schema repository and click **Next**.
10. If you chose to upgrade a user database(s), in the New User Database area, enter the database properties of the new vendor database that will contain the upgraded user database.
11. If you are upgrading more than one user database, click Next and repeat Step 10. If not, click **Finish**.
12. Verify that the upgrade process completed successfully:
    - Verify that the upgrade was completed successfully. You can view the log file created in your `\Temp` directory.
    - Enter a few test records and move them through your entire state model to be sure the upgrade is working correctly.

13 Do one of the following depending on what databases you are upgrading:

- If this completes your testbed upgrade process, proceed to “Preparing your production databases” on page 132.
- If this completes your production database upgrade, inform users of the new connection information.

To upgrade a schema repository that you are not connected to:

1. In the ClearQuest Maintenance Tool, click **Schema Repository > Upgrade > Other**.
2. In the Schema Repository Properties area, enter the properties of the schema repository you wish to upgrade.
3. Click **Next**.
4. When asked if you want to upgrade the user databases associated with the schema repository, select Yes or No. Keep in mind that user databases are locked during the upgrade process.
5. In the **Login Information** area, enter your login name and password. You must have Super User privileges to upgrade a schema repository and / or user databases.
6. Click **Next**.
7. If you chose to upgrade a user databases, select the user database(s) you'd like to upgrade and click **Next**.
8. In the **New Schema Repository Properties** area, enter the database properties of the new vendor database that will contain the upgraded schema repository and click **Next**.
9. If you chose to upgrade a user database(s), in the New User Database area, enter the database properties of the new vendor database that will contain the upgraded user database.
10. If you are upgrading more than one user database, click **Next** and repeat Step 10. If not, click **Finish**.
11. Verify that the upgrade process completed successfully:
    - Verify that the upgrade was completed successfully. You can view the log file created in your `\Temp` directory.
    - Enter a few test records and move them through your entire state model to be sure the upgrade is working correctly.
12. Do one of the following depending on what databases you are upgrading:
    - If this completes your testbed upgrade process, proceed to "Preparing your production databases" on page 132.
    - If this completes your production database upgrade, inform users of the new connection information.

Preparing your production databases

After you have verified that the test upgrade was successful, perform the following steps on your production databases.

Note: You may discard your testbed and test upgrade databases after completion of the validation process.

1. Create a new empty database for each of your schema repositories and user databases. For information on creating vendor databases see:
   - “Setting up Microsoft Access” on page 10
   - “Setting up SQL Anywhere” on page 10
   - “Setting up Microsoft SQL Server 7 and 2000” on page 13
   - “Setting up the Oracle Server” on page 17
   - “Setting up IBM DB2” on page 24

   Warning: Create empty databases only. Do not use your vendor database tools to move or copy the data. ClearQuest updates the data structure and moves it into the new databases as part of the upgrade process.
2. Log off all of your users.
3. Launch the ClearQuest Maintenance Tool and begin the upgrade process. See “Upgrading your databases” on page 129.

Some helpful utilities

Unlocking databases

When you create database copies using the `installutil`, the `convertschemarepo` option locks your production database prior to copying it to your testbed. To allow users to continue using your original databases while you test the upgrade, unlock the database.

Note: After completion of final upgrade, do not unlock your original databases. Keeping the original databases locked prevents your users from accessing the wrong databases.

1 Open a command line window (a DOS prompt).

2 To unlock the schema repository, enter the following command at the command line for your vendor database:

```
installutil unlockschemarepo <db_vendor> <server>
<database> <dbo_login> <dbo_password> ""
```

where:

Variable	Access	SQL Anywhere	MS SQL	Oracle	DB2
db_vendor	MS_ACCESS	SQL_ANYWHERE	SQL_SERVER	ORACLE	DB2
server	"" (Empty String)	database server name	host name	SQL*Net alias	not required
database	full path to the schema repository database	full path to the schema repository database	schema repository database name	schema repository database name	schema repository database alias
dbo_login	admin	admin	db owner user name	db owner user name	db owner user name
dbo_password	admin	admin	db owner password	db owner password	db owner password
connect_options	""	""	""	HOST=host SID= sid	""

3 To unlock user databases, repeat the above steps with the following exceptions:

- The **installutil** subcommand to use is **unlockuserdb** instead of **unlockschemarepo**.
- Point to the vendor database containing the original user database, not the schema repository.

Creating database copies

To copy your schema repository and create a sample database for testing the upgrade process use the `installutil` command line utility with the `convertschemarepo` option. This option will:

- Copy the original database to a new database.
- Connect ClearQuest to the database copy.
- Lock the original database.

  Note: Before executing this command, perform a database backup and create new database(s) using your database vendor tools.

To create a copy of your databases to test the upgrade process in an off line environment:

1. Create new test databases following the instructions for your vendor in “Configuring vendor databases” on page 7.
2. Use the `installutil convertschemarepo` to copy your existing schema repository and connect it to ClearQuest. See “installutil convertuserdb” on page 136 for sample input parameters by vendor type.
3. Use the `installutil convertuserdb` to copy each of your existing user databases and connect them to ClearQuest. See “installutil convertuserdb” on page 136 for sample input parameters by vendor type.

installutil convertschemarepo

Syntax:

```
installutil convertschemarepo <cq_login> <cq_password>
<to_db_vendor> <to_server> <to_database> <to_dbo_login>
<to_dbo_password> <to_rw_login> <to_rw_password>
<to_ro_login> <to_ro_password> <to_connect_options>
[tcpip,ipx,netbios,namedpipes] [host1,host2,...]
```

Where:

Parameter	Description
cq_login	The user login name to ClearQuest databases that you want to copy. The user must have Super User privileges.
cq_password	The user login password to ClearQuest that has Super User privileges.
to_db_vendor	The new upgrade database vendor name. Available choices are MS_ACCESS, SQL_ANYWHERE, SQL_SERVER, ORACLE, DB2.
to_server	The new upgrade database server name.
to_database	The new upgrade database name.
to_dbo_login	A String containing the new empty database owner's login name.
to_dbo_password	A String containing the new empty database owner's login password.
to_rw_login	A String containing the empty database read/write login name.
to_rw_password	A String containing the new empty database read/write login password.
to_ro_login	A String containing the new empty database read only login name.
to_ro_password	A String containing the new empty database read only login name.
to_connect_options	This is only required for Oracle where the parameters are: (HOST=host;SID=sid; server_ver=server_version_number; client_ver=client_version_number).
[tcpip,ipx,netbios, namedpipes]	These are optional parameters for specifying networks.
[host1,host2,...]	These are optional parameters for identifying multiple host machines.

installutil convertuserdb

Syntax:

```
installutil convertuserdb <cq_login> <cq_password>
<user_dbname> <to_user_db_vendor> <to_user_server>
<to_user_database> <to_user_dbo_login>
<to_user_dbo_password> <to_user_rw_login>
<to_user_rw_password> <to_user_connect_options>
[tcpip,ipx,netbios,namedpipes] [host1,host2,...]
```

Where:

Parameter	Description
cq_login	The user login name to ClearQuest databases that you want to copy. The user must have Super User privileges.
cq_password	The user login password to ClearQuest that has Super User privileges.
user_dbname	The name of the userdb that you want to convert.
to_user_db_vendor	The new upgrade user database vendor name. Available choices are MS_ACCESS, SQL_ANYWHERE, SQL_SERVER, ORACLE, DB2.
to_user_server	The new upgrade user database server name.
to_user_database	The new upgrade user database name.
to_user_dbo_login	A String containing the new empty user database owner's login name.
to_user_dbo_password	A String containing the new empty user database owner's login password.
to_user_rw_login	A String containing the empty user database read/write login name.
to_user_rw_password	A String containing the new empty user database read/write login password.
to_user_connect_options	This is only required for Oracle where the parameters are: (HOST=host;SID=sid; server_ver=server_version_number; client_ver=client_version_number).
[tcpip,ipx,netbios, namedpipes]	These are optional parameters for specifying networks.
[host1,host2,...]	These are optional parameters for identifying multiple host machines.

Sample data by vendor type

The following table provides example command line input parameters by database type.

Parameter	Access	SQL Anywhere	MS SQL	Oracle	DB2
db_vendor	MS_ACCESS	SQL_ANYWHERE	SQL_SERVER	ORACLE	DB2
server	“” (Empty String)	database server name	host name	SQL*Net alias	not required
database	full path to the schema repository database	full path to the schema repository database	schema repository database name	schema repository database name	schema repository database alias
dbo_login	admin	admin	db owner user name	db owner user name	db owner user name
dbo_password	admin	admin	db owner password	db owner password	db owner password
rw_login	admin	admin	read/write owner user name	read/write owner user name	db owner user name
rw_password	admin	admin	read/write owner password	read/write owner password	db owner password
ro_login	admin	admin	read only owner user name	read only owner user name	db owner user name
ro_password	admin	admin	read only owner password	read only owner password	db owner password
connect_options	“”	“”	“”	HOST=host SID= sid SERVER_VER=8.0 CLIENT_VER=7.0	“”

Troubleshooting tips

Warning: Your database upgrade will fail if any of the following conditions apply:

- You currently have a ClearQuest schema checked out.

  Solution: Check in your ClearQuest schema.

- You currently have your ClearQuest database locked.

  Solution: Unlock your database. For instructions on how to unlock your database, see “Unlocking databases” on page 133.

- You have customized your schema to include Record Types or fields that have a **ratl_** prefix. The prefix **ratl_** is a system owned prefix name for both record type and field names; you will no longer be able to create using this as a prefix.

  Solution: Contact Rational Technical Support. They will walk you through the process to correct this condition.

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