Rational® Software

Server Products Installation Guide

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WINDOWS

Rational®
the software development company

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Preface

Rational Software delivers a comprehensive set of integrated tools that embody software engineering best practices and span the entire software development life cycle. Rational Suite's unparalleled level of integration improves communication both within teams and across team boundaries, reducing development time and improving software quality.

Purpose

This manual provides requirements and instructions for installing, configuring, and licensing Rational products on servers for the first time. It is intended to help you plan and set up your Rational enviornment.

- The procedures and requirements for installing and licensing Rational desktop products and client software are covered in the *Installation Guide* for Rational Desktop Products.
- For information about upgrading an existing Rational Suite installation, see the *Rational Suite Upgrade Guide*.

The Table 1 informs you whether the product has a client component and a server component. If the product includes both, see the *Installation Guides* for Rational Server and Desktop Products.

Table 1 Installation Guide Reference

Product	**Client/Server?**	**See** *Installation Guide* for
Rational Suite	Yes	Rational Server Products Rational Desktop Products
Rational ClearCase LT (includes ClearCase Web)	Yes	Rational Server Products Rational Desktop Products
Rational ClearQuest (includes ClearQuest Web)	Yes	Rational Server Products Rational Desktop Products
Rational ClearQuest MultiSite	Yes	Rational Server Products
Rational ManualTestWeb Execution	Yes	Rational Server Products Rational Desktop Products
Rational Process Workbench	No	Rational Desktop Products
Rational ProjectConsole	Yes	Rational Server Products Rational Desktop Products
Rational Purify, PureCoverage, Quantify, and PurifyPlus	No	See the *Rational PurifyPlus Family Release Notes* for the most current requirements and supported software.
Rational QualityArchitect	No	Rational Desktop Products
Rational RequisitePro (includes RequisiteWeb)	Yes	Rational Server Products Rational Desktop Products
Rational Robot	No	Rational Desktop Products
Rational Rose	No	Rational Desktop Products
Rose Data Modeler	No	Rational Desktop Products Rose Data Modeler generates models for serveral vendor databases. The vendor databases are listed in the desktop installation guide. There are no special configuration instructions in either installation guide for Rose Data Modeler databases. See the vendor documention for configuration instructions.

Table 1 Installation Guide Reference

Product	**Client/Server?**	**See** *Installation Guide* for
Rational Rose RealTime	No	Rational Rose RealTime on the *Rational Solutions for Windows Online Documentation* CD.
Rational TeamTest	No	Rational Desktop Products Rational Server Products (to configure Test datastore)
Rational Test Agents (UNIX/Windows)	No	Rational Desktop Products
Rational Test Datastore	Yes	Rational Server Products Rational Desktop Products
Rational Test Enablers	No	Rational Desktop Products
Rational Test Manager	No	Rational Desktop Products Rational Server Products (to configure Test datastore)
Rational Unified Process	No	Rational Desktop Products See the list of supported Web browsers in the desktop installation guide. There are no other pre- and post- installation requirements for Rational Unified Process.
Rational XDE Modeler and Rational XDE Developer	No	See the printed *Release Notes* for XDE Modeler and XDE Developer in the Rational XDE media kit.
Rational XDE Tester	No	Rational XDE Tester and the *Release Notes* in the XDE Tester media kit. To upgrade from Robot J to XDE Tester, see the *Rational Suite Upgrade Guide*.

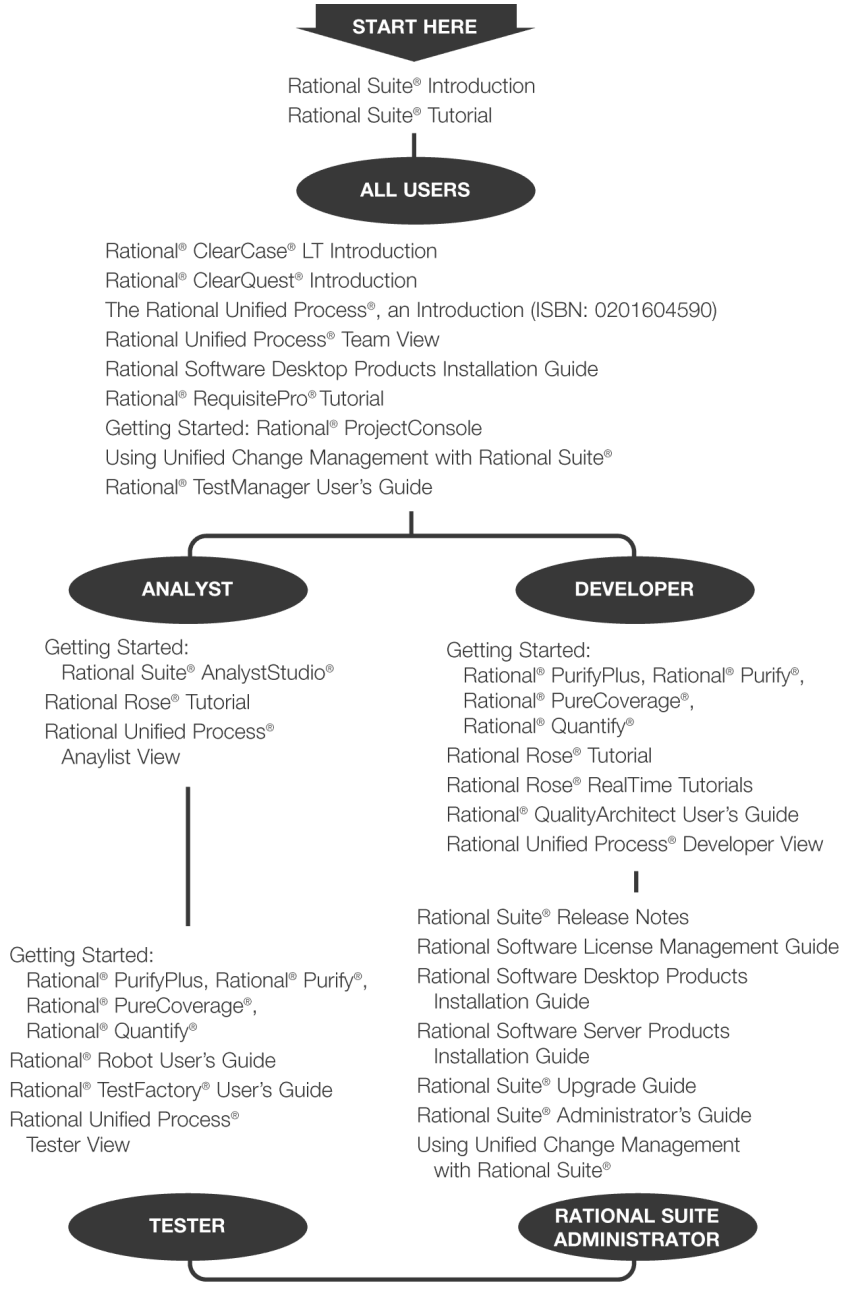
Audience

This manual is intended for database, system, and ClearCase administrators who are installing Rational server products for the first time. All users must have experience with Microsoft Windows and UNIX operating systems, system and database administration, version control software, and scripting languages.

Other Resources

- All manuals are available online, either in HTML or PDF format. The online manuals are on the *Rational Solutions for Windows Online Documentation* CD.
- To send feedback about documentation for Rational products, please send e-mail to `techpubs@rational.com`.
- For more information about Rational Software technical publications, see: `http://www.rational.com/documentation`.
- For more information on training opportunities, see the Rational University Web site: `http://www.rational.com/university`.
- For articles, discussion forums, and Web-based training courses on developing software with Rational Suite products, join the Rational Developer Network by selecting **Start > Programs > Rational Software > Logon to the Rational Developer Network**.

Rational Software Documentation Roadmap



Contacting Rational Customer Support

If you have questions about installing, using, or maintaining this product, contact Rational Customer Support as follows:

Your Location	Telephone	Facsimile	E-mail
North America	(800) 433-5444 (toll free) (408) 863-4000 Cupertino, CA	(781) 676-2460 Lexington, MA	support@rational.com
Europe, Middle East, Africa	+31 (0) 20-4546-200 Netherlands	+31 (0) 20-4546-201 Netherlands	support@europe.rational.com
Asia Pacific	+61-2-9419-0111 Australia	+61-2-9419-0123 Australia	support@apac.rational.com

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

- Your name, company name, telephone number, and e-mail address
- Your operating system, version number, and any service packs or patches you have applied
- Product name and release number
- Your service request number (if you are following up on a previously reported problem)

Before You Install 1

The information in this chapter is to help guide you through planning your installation of Rational products, including Rational Suite. Use the checklists in this chapter to ensure that you meet the requirements before proceeding with server installations. To install Rational desktop and client products, see the *Installation Guide* for Rational Desktop Products.

- If you are setting up Rational Suite, see *Using Your Rational Integrations* on page 26 and *Preparing to Install Rational Suite* on page 37.
- Table 3 on page 26 guides you through the rest of the chapter.

Removing Previous Releases of Rational Products

Before installing Rational products from version 2003.06.00, remove previous versions of Rational products, including the Rational license server. The only exception is Rational ClearCase. You can install 2003.06.00 products with older versions of ClearCase.

For the removal procedure, see the *Removing Rational Products* chapter in this guide.

You or your system administrator must see the *Rational Suite Upgrade Guide* in the *Rational Solutions for Windows Online Documentation* CD-ROM before you try to upgrade your Rational products.

Note: If you are using floating licenses, record the license server name(s) before you remove Rational products from your computer. After you install new Rational products on your computer, reset the hostnames in the Rational License Key Administrator. For more information, see the *Removing Rational Products* chapter in this guide.

Installing Mixed Versions with Rational ClearCase

You can install mixed versions with Rational ClearCase in the following cases:

- Rational ClearQuest standalone or as part of Rational Suite with Rational ClearCase 4.2 - 5.0.
- Rational Suite with Rational ClearCase 4.2 - 5.0.

- Rational XDE with Rational ClearCase 4.2 (fully patched) or 5.0.

Using Your Rational Integrations

This section briefly describes Rational documentation that you should consult before you install and configure Rational products.

Rational Suite Integrations

Table 2 describes where you can find information about configuring Rational Suite.

Table 2 Planning Rational Suite Integrations

To	See
Set up Rational Suite with Unified Change Management	*User's and Administrator's Guide – Unified Change Management and Rational Suite* on the *Rational Solutions for Windows – Online Documentation* CD-ROM. (You do not have to use this installation guide. The *User's and Administrator's Guide* should provide all the information that you need.)
Plan your Rational product integrations, such as Rational RequisitePro and Rational ClearQuest, and plan how you will use the Rational Administrator. The Rational Administrator is automatically installed with Rational Suite.	*Rational Suite Administrator's Guide* on the *Rational Solutions for Windows – Online Documentation* CD-ROM.

Preparing for Rational Server Installations

Table 3 directs you to information in this manual that can help you perform server installations. To install Rational desktop and client products, see the *Installation Guide* for Rational Desktop Products.

Table 3 Rational Server Product Installation Tasks

To	See
Upgrade Rational products.	*Removing Previous Releases of Rational Products* on page 25.

Table 3 Rational Server Product Installation Tasks (continued)

To	See
Learn about specific Rational integrations.	*Using Your Rational Integrations* on page 26.
License your Rational software.	*Licensing Your Rational Products* on page 81.
Determine how you want to deploy your Rational products. Use the Rational Setup Wizard to install products directly from the CD-ROM, to set up a release area (enterprise deployment), or to perform silent installations.	▪ *Selecting a Deployment Method* on page 28. ▪ *Installing Rational Products* on page 93.
Prepare for a Rational Suite Installation.	*Preparing to Install Rational Suite* on page 37.
Prepare for a ClearCase LT installation.	*Preparing to Install ClearCase LT* on page 42.
Prepare for a ClearQuest and ClearQuest MultiSite installation.	*Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50.
Prepare for a ProjectConsole installation.	*Preparing to Install ProjectConsole* on page 68.
Prepare for a RequisitePro installation.	*Preparing to Install RequisitePro* on page 72.
Prepare for a Rational Test installation.	*Preparing to Install Rational Testing Products* on page 76.
Use the Rational Administrator.	The Rational Administrator is installed with all Rational Suite editions, RequisitePro, Robot, Sybase SQL Anywhere, TestFactory, and TestManager. For more information about the Rational Administrator, see the *Rational Suite Administrator's Guide*.
Apply a Service Release.	*Applying Service Releases* on page 115.
Repair or Modify Rational products.	*Reinstalling a Product (Modify or Repair)* on page 113.
Remove Rational products.	▪ *Removing Rational Products* on page 229. ▪ *Using the Command Line to Remove a Product* on page 111.
Customize the Rational Web Platform.	*Customizing the Rational Web Platform* on page 217.

Selecting a Deployment Method

The Rational Setup Wizard provides several deployment methods. If you are planning the Rational product installation for your work environment, select the deployment type that is most efficient for you and your users.

Table 4 describes each deployment type. You can find the instructions for each method in *Installing Rational Products* on page 93.

Table 4 Rational Setup Wizard Deployment Types

Type	Description
Desktop Installation from CD Image	This option enables you to install the product directly from the *Rational Solutions for Windows* CD onto your desktop or server. Place the CD into the CD drive of the computer and launch the Rational Setup Wizard.
Enterprise Deployment	This option enables you to create a network release area and customize the product installation. Using the site defaults file created by the Rational Setup Wizard, users can either install pre-set configurations of the product or install the product with different defaults.
Silent Installation	Although this method does not appear in the Setup Wizard, it is a deployment option. Silent installations ensure that all users have the same products, features, and options on their desktops. These installations can reduce your work as you deploy a product in your development environment. This option does not require users to select any options in the Rational Setup Wizard. For more information, see *Setting Up Silent Installations of Rational Products* on page 109.

Determine if Your Users Should Install from a Release Area or from a CD

Before starting the installation, determine if you want to:

- Create a release area and site defaults file, or
- Install directly from the CD-ROM.

The advantage of the release area is that multiple clients can install from a designated release area. When a service release becomes available it can be applied to the release area and then clients can reinstall from the updated release area.

If you set up a release area, determine if you will need one or more site defaults files to support the cross section of users. To set up a release are and create one or more site defaults files, see *Installing Rational Products* on page 93.

Determining if Your Users Should Perform a Silent Installation

If you determine that you want users to install products from a release area, you may want to direct users to perform unattended installations. The advantage of a silent installation is that client users do not have to select options or make decisions. Silent installations ensure that all users have the same defaults and options on their desktops.

To set up and run a silent installation, see *Setting Up Silent Installations of Rational Products* on page 109.

Administrator Privileges

To install Rational products on a Windows operating system, ensure you are logged on with appropriate privileges. You must be logged on to a Windows domain account that is a member of the local computer's Administrators group.

Server System and Software Requirements

Table 5 provides the recommendations and requirements for operating Rational server products in your environment. You may operate the software on computers that may not meet all the hardware recommendations. The recommendations in this table provide guidelines for good operating performance.

Table 5 Server Requirements and Recommendations

Item	Requirements and Recommendations
Operating Systems	▪ Microsoft Windows XP Professional, Service Pack 1 ▪ Microsoft Windows 2000 Server, Service Pack 2, 3 ▪ Microsoft Windows 2000 Advanced Server, Service Pack 2, 3 ▪ Microsoft Windows 2000 Professional, Service Pack 2, 3 ▪ Microsoft Windows NT 4.0 Server, Service Pack 6a + SRP (Security Rollup Package, Q299444) ▪ Microsoft Windows NT Workstation, Service Pack 6a + SRP (Security Rollup Package, Q299444) **Notes:** ▪ The production release of Windows 2003 Server was not available for final testing for most products at the time this document was finalized. Please visit our web site www.ibm.com/software/rational/ to obtain the latest information on Windows 2003 Server support. ▪ ClearCase LT server supports Windows 2003 Server. ▪ See the Database section of this table for supported UNIX platforms that Windows clients can access.
Hardware	▪ 500-600 MHz or higher ▪ 256-512+ MB RAM ; More memory generally improves performance; required memory depends on the number of concurrent users, amount of data being requested, and the size of the database ▪ 2 x physical memory is the recommended swap space ▪ 250 MB or higher disk space for a Rational point product

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
ClearCase LT Server File Storage Space Requirements	▪ Rational ClearCase LT needs enough disk space on the server to contain the files and databases under source control. The amount of space required depends on the characteristics and use of the VOBs and views. ▪ In addition to the free disk space required to load the Rational ClearCase LT server, the server needs 0.5 to 1.0 MB for each user who will access the ClearCase Web interface through the ClearCase LT server.
Rational Suite Disk Space	▪ Rational Suite Enterprise – 1.6 GB (full), 1.2 GB (typical), 1.9 GB (Enterprise Deployment) ▪ Rational AnalystStudio – 1.2 GB (full), 851 MB (typical) ▪ Rational DevelopmentStudio – 1.4 GB (full), 1.1 GB (typical) ▪ Rational DevelopmentStudio for UNIX (Windows components only) – 515 MB (full), 445 MB (typical) ▪ Rational DevelopmentStudio – RealTime Edition – 1.4 GB (full), 1.1 GB (typical) ▪ Rational DevelopmentStudio – RealTime Edition for UNIX (Windows components only) – 515 MB (full), 445 MB (typical) ▪ Rational TestStudio – 1.4 GB (full), 1.1 GB (typical) ▪ Rational TeamTest – 645 MB (full), 583 MB (typical) ▪ Rational Team Unifying Platform – 1.1 GB (full), 825 MB (typical) **Note:** If Rational ProjectConsole is include in your Rational Suite, it requires 1+ GB for its repository.

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
Point Product Disk Space	▪ ClearCase LT Server: 264 MB (full) ▪ ClearQuest Multisite Administrator: 250 MB ▪ ClearQuest Web Server: 250 MB ▪ Rational Shipping Server: 250 MB ▪ Terminal Server (ClearQuest): 250 MB ▪ PurifyPlus for Windows: 70 MB (full), 68 MB (typical) ▪ QualityArchitect: 250 MB ▪ Rational Unified Process: 195 MB (full/typical) ▪ RUP Modeler: 50 MB ▪ RUP Organizer: 2-4 GB ▪ RequisitePro: 192 MB (full), 176 MB (typical) ▪ Robot: 282 MB (full/typical) ▪ Rose Enterprise Edition: 456 MB (full/typical) ▪ SoDA: 150 MB (Microsoft Word), 100 MB (FrameMaker) ▪ TestManager: 379 MB (full/typical)

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
Databases	ClearQuest Databases ▪ IBM DB2 Universal Database 7.2 with Fix Pack 8, 8.1 ▪ Microsoft SQL Server 7.0, Service Pack 4; SQL Server 2000, Service Pack 2, 3 ▪ Oracle server + Client 8.1.6, 8.1.7 ▪ Sybase SQL Anywhere 8.0.1 is available on the *Rational Solutions for Windows* installation disc. It is configured to work only with Rational products. Select SQL Anywhere from the **Product Selection** list in the Rational Setup Wizard. ▪ Microsoft Access 2000, 2002 Service Pack 1, 2 (You cannot use Access from the ClearQuest Web client.) **Note:** ClearQuest also supports Oracle on Solaris 2.6, 7-9 and HP-UX 11.0 QPK1100, 11.11 GoldQPK11i and Bundle11i.
	RequisitePro Enterprise Database ▪ Microsoft SQL Server 7.0, Service Pack 4; SQL Server 2000, Service Pack 2, 3 ▪ Oracle server + client 8.1.7, 9, Service Pack R2 **Note:** RequisitePro also supports Oracle on Solaris 2.6, 7-9 and HP-UX 11.0 QPK1100, 11.11 GoldQPK11i and Bundle11i.
	Rational TestManager Database ▪ Microsoft Access 2000, 2002 Service Pack 1, 2 ▪ Sybase SQL Anywhere 8.0.1 is available on the *Rational Solutions for Windows* installation discs. It is configured to work only with Rational products. Select SQL Anywhere from the **Product Selection** list in the Rational Setup Wizard.

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
ProjectConsole	Collection Agent If you install the agent software on additional computers, agents require the same version of ProjectConsole software as the server. Additional Collection Support: ▪ Microsoft Project 2000 Professional ▪ Microsoft Project 2002 (.mpp only) ▪ Rational XDE v. 2003
	Web Server ▪ Microsoft Word 2000 Service Pack 1 ▪ Microsoft Word 2002
	Template Builder Microsoft Word 2000 Service Pack 1; Word 2002 (required to create ProjectConsole Template Builder templates)
	Repository (supports the same vendor databases as ClearQuest) ▪ IBM DB2 Universal Database 7.1, 7.2 (Fix Pack 8), 8.1 ▪ Microsoft SQL Server 7.0, Service Pack 4; SQL Server 2000, Service Pack 2, 3 ▪ Oracle server + Client 8.0.5, 8.1.6, 8.1.7 ▪ Sybase SQL Anywhere 8.0.1 is available on the *Rational Solutions for Windows* installation disc. It is configured to work only with Rational products. Select SQL Anywhere from the **Product Selection** list in the Rational Setup Wizard. It is not installed by default with the product. ▪ Microsoft Access 2000, 2002 Service Pack 1, 2. **Note:** ProjectConsole also supports Oracle on Solaris 2.6, 7-9 and HP-UX 11.0 QPK1100, 11.11 GoldQPK11i and Bundle11i.

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
Hosted Development Systems (remote sessions)	Rational ClearCase, Rational ClearCase LT, Rational ClearQuest, Rational RequisitePro, Rational Robot, Rational Rose, and Rational SoDA support hosted development on these platforms: ▪ Citrix MetaFrame 1.8, Service Pack 2 ▪ Citrix MetaFrame XP Application Server ▪ Microsoft Windows 2000 Advanced Terminal Server, Service Pack 2, 3 **Notes:** ▪ Rational ClearQuest supports Citrix MetaFrame and Citrix XP on all supported Windows server operating systems. ▪ Rational ClearCase and ClearCase LT do not support remote sessions on Citrix XP and MetaFrame. You must use floating licenses for these products. Node-locked licenses are not supported.
Web Servers	ClearCase Web, ProjectConsole Server, RequisiteWeb use the Rational Web Platform. The Rational Web Platform runs on the server operating systems listed at the beginning of this table.
	For ClearQuest Web: ▪ IIS 5.0 on Windows 2000 Server Service Pack 2, 3 ▪ IIS 4.0 on Windows NT Server Service Pack 6a + SRP (Security Rollup Package, Q299444)
	For Rational ManualTest Web Execution: ▪ Microsoft Internet Explorer 5.0 or later on the Web server ▪ Microsoft Internet Information Services 5.0 (IIS 5.0) on Windows XP and Windows 2000 ▪ Microsoft Personal Web Server (PWS) from the Windows NT 4.0 Option Pack (available from Microsoft, www.microsoft.com) on Windows NT 4.0 Workstation ▪ Microsoft Internet Information Server (IIS) from the Windows NT 4.0 Option Pack (available from Microsoft, www.microsoft.com) on Windows NT 4.0 Server We recommend that you use Windows 2000 Server, Windows 2000 Advanced Server, or Windows NT 4.0 Server as the Web server platform. You cannot use a shared or networked project on Windows XP Professional, Windows 2000 Professional, or Windows NT 4.0 Workstation.

Table 5 Server Requirements and Recommendations (continued)

Item	Requirements and Recommendations
Automated License Key Requests	Internet connection to request and receive license key files. For more information, see the *Rational Software License Management Guide*.
Dual Boot Systems	Rational Suite does not support dual boot systems where both operating systems are on the same partition.
Rational Documentation	Adobe Acrobat Reader 4.x or higher to read online PDF files. Download the free Adobe Acrobat Reader from Adobe.com.
Language Support	You can install Rational Suite on these international operating systems: ▪ Simplified or Traditional Chinese ▪ Dutch ▪ French ▪ German ▪ Hebrew ▪ Italian ▪ Japanese ▪ Korean ▪ Swedish All displays, menus, controls, wizards, reports, and user documentation are in U.S. English. ▪ If you have a Traditional Chinese, Dutch, Hebrew, or Korean operating system, enter data (such as path names) in U.S. English or the ASCII character set. ▪ If you have a Simplified Chinese, French, German, Italian, Japanese, or Swedish operating system, enter data in U.S. English or the native language character set. Regional date, time, currency, and numbering conventions are also supported for both input and output.

Preparing to Install Rational Suite

Table 6 directs you to information that can help you perform Rational Suite administrator installation tasks.

For the most current information related to Rational Suite installation, see the *Rational Suite Release Notes* in the *Rational Solutions for Windows Online Documentation* CD. You can also view the release notes at the end of the Rational Suite installation, or click **Start > Programs > Rational Software > Rational Suite > Rational Suite readme** after you install the software.

Table 6 Rational Suite Installation Checklist

Done	Task
Before Installation Follow the installation requirements for the point products in your Rational Suite. If the product is desktop product, the installation requirements are in the *Installation Guide* for Rational Desktop Products.	
	License your Rational Suite. See *Licensing Your Rational Products* on page 81.
	Plan your Rational Suite environment. Determine how you want to set up your server configuration. You do not have to install the entire Rational Suite on these servers. You can select features of the Rational Suite, such as the ClearQuest Administration Tools, in the Rational Setup Wizard to install on the server computer. See *Planning Your Rational Suite Environment* on page 38.
	Plan the order in which you will install and configure the Rational Suite servers.
	Verify that your server configuration meets the hardware and software requirements for the products that you will be installing from this version of Rational Suite. See *Server System and Software Requirements* on page 30.
	Use the checklist in *Preparing to Install ClearCase LT* on page 42 to help you select a ClearCase LT server. You may want to install and configure the ClearCase LT server before you have client users install Rational Suite on their desktops.
	Use the checklists in *Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50 to help you determine the ClearQuest and ClearQuest MultiSite database and Web server configuration within your Rational Suite environment.
	Use the checklist in *Preparing to Install ProjectConsole* on page 68 to help you select the ProjectConsole server, Template Builder, and data warehouse.
	Use the checklist in *Preparing to Install RequisitePro* on page 72 to help you select your RequisitePro database server and Web server.

Table 6 Rational Suite Installation Checklist (continued)

Done	Task
	Use the checklist in *Preparing to Install Rational Testing Products* on page 76 to help you select the vendor database to store your test data and the Web server for ManualTest Web Execution. To determine where to install other Rational Test products, see the *Installation Guide* for Rational Desktop Products.
	Determine how you want to deploy your Rational Suite. For more information, see *Selecting a Deployment Method* on page 28.
Installing the Rational Suite edition	
	To learn the procedures for installing Rational Suite, see *Installing Rational Products* on page 93.
After Installation Follow the post-installation procedures for the point products in your Rational Suite. The checklists in this chapter will help you track the post-installation tasks.	
	After Install: Configuring ClearCase LT Server and ClearCase Web on page 117.
	After Install: Configuring Databases and Administrative Tasks for ClearQuest on page 121.
	After Install: Configuring ClearQuest Web on page 149 (optional).
	After Install: Configuring ProjectConsole Software on page 171.
	After Install: Configuring RequisitePro Database and Web Server on page 181.
	After Install: Configuring Test Datastores and Test Web Server on page 203.

Planning Your Rational Suite Environment

To help you plan your Rational Suite environment, determine which computers will be servers. Servers need to be highly available, and may need extra memory and disk space. Table 7 describes the types of servers you may need. You will need some of the same servers for installing Rational Suite DevelopmentStudio for UNIX (Windows NT Components). Use the worksheet in Table 8 to help you plan your Rational Suite server environment.

Table 7 Servers Used with Rational Suite

Type of Server	Description
License server	If you purchased floating licenses, install and set up a server to administer the licenses. For more information, see *Licensing Your Rational Products* on page 81.
ClearCase LT server	ClearCase LT is a client/server product. For guidelines about selecting and installing a ClearCase LT server, see *Preparing to Install ClearCase LT* on page 42. If you install the ClearQuest Administration Tools on the ClearCase LT server, install them in a specific order to use the Getting Started Wizard. For more information, see: ▪ *Using the Getting Started Wizard for ClearCase LT Server* on page 49 ▪ *Using the Getting Started Wizard for ClearCase LT Server and ClearQuest* on page 50.
Rational Shipping Server	Both ClearCase MultiSite and ClearQuest MultiSite use the Rational Shipping Server to transfer MultiSite packets. There are special considerations for installing the Rational Shipping Server in a ClearQuest and ClearCase MultiSite environment. For recommendations, see *ClearQuest MultiSite Administration Tools* on page 59 and *Rational Shipping Server* on page 60.

Table 7 Servers Used with Rational Suite (continued)

Type of Server	Description
Database server	▪ If you are using commercial databases with Rational Suite products, you probably want to install those databases on dedicated computers. The following Rational tools require commercial databases: ClearQuest, ProjectConsole, and RequisitePro. ▪ Microsoft Access Runtime is automatically installed when you install at least one Rational Suite product on your system. ▪ Sybase SQL Anywhere is available on the *Rational Solutions for Windows* installation discs, but it is configured to work only with specific Rational products. ▪ The Rational Administrator manages projects and data stores for RequisitePro, ClearQuest, and TestManager. It is included in all Rational Suite editions. For more information about the Rational Administrator, see the *Rational Suite Administrator's Guide*. ▪ We recommend that you install and configure the database vendor software before you install the Rational Suite server software.
Web server	Web server components give users who do not have Rational Suite client software on their desktops the opportunity to access project data. ▪ The Rational Web Platform (RWP) is the Web server for ClearCase Web, ProjectConsole, and RequisiteWeb. Little or no configuration is required unless you want to customize RWP. To customized RWP, see *Customizing the Rational Web Platform* on page 217. ▪ We recommend that you install RWP on a server that does not have to run any other Web servers. Installing RWP on a server that is already running another Web server may result in a port conflict that can cause RWP or the other Web server to fail on start-up. If this is impossible, we recommend that you configure the other Web server to use ports that are not being used by RWP. ▪ ClearQuest Web and ManualTest Web use the Microsoft Internet Information Server (IIS) 4.0 and 5.0. ▪ We recommend that you install the database server and the Web server for ClearQuest Web on different machines. ▪ For optimal performance, do not install the ClearQuest Web server on the ClearCase LT server.

Use the worksheet in Table 8 to help you plan your Rational Suite environment.

Table 8 Rational Suite Environment Worksheet

Product	Server Name	Additional Information (version, Suite or Point Product, node-locked licenses, patches or service releases)
Licenser Server(s)		
ClearCase LT Server (ClearCase Web Server, Rational Web Platform)		
ClearQuest + MultiSite		
Administration Tools		
Database Server		Database Vendor:
Web Server (Optional) (IIS)		
MultiSite Administration Tools		
Rational Shipping Server		
ProjectConsole:		
Server (Rational Web Platform + Report Server + Collection Agent)		
Report Server and Collection Agent (Optional)		
Template Builder		
Data Warehouse		Database Vendor:

Table 8 Rational Suite Environment Worksheet (continued)

Product	Server Name	Additional Information (version, Suite or Point Product, node-locked licenses, patches or service releases)
RequisitePro		
Database Server		Database Vendor:
Web Server (Optional) (Rational Web Platform)		
Testing Products		
Test Datastore		Database Vendor:
ManualTest Web Server (IIS)		

Preparing to Install ClearCase LT

This section helps you prepare to install the ClearCase LT server. To install the ClearCase LT client, see the *Installation Guide* for Rational Desktop Products.

For the most current information related to ClearCase LT features and known issues, see the *ClearCase LT Release Notes* in the *Rational Solutions for Windows Online Documentation* CD. You can view the release notes at the end of the ClearCase LT installation, or click **Start > Programs > Rational Software > Rational ClearCase LT > Rational ClearCase LT readme** after you install the software.

Migrating ClearCase LT to ClearCase

If you plan to upgrade to Rational ClearCase in the future, you can upgrade ClearCase LT to ClearCase within the same version 2003.06.00. For installation requirements, see the *Installation Guide* for Rational ClearCase.

ClearCase LT Installation Checklist

Use the checklist in Table 9 to help you set up the ClearCase LT server (and ClearCase Web server) and perform the required post-installation tasks.

Table 9 ClearCase LT Server Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	If you are evaluating ClearCase LT, see *Installing ClearCase LT for Evaluation* on page 47.
	To understand ClearCase LT as a client/server product, see *Overview of ClearCase LT Server and Client Computers* on page 44.
	The Rational Web Platform software is an optional feature of the ClearCase LT server. See *ClearCase Web Server* on page 45.
	Choose a computer that meets the system and software requirements in *Server System and Software Requirements* on page 30 and *Selecting a ClearCase LT Server* on page 47. For ClearCase LT client system requirements and recommendations, see the *Before You Install* chapter in the *Installation Guide* for Rational Desktop Products. **Note:** For optimal performance, do not install the ClearCase LT server on the ClearQuest vendor database server or the ClearQuest Web server.
	Make sure you have administrator privileges on the system. See *Administrator Privileges* on page 29.
	Determine how you want to deploy ClearCase LT server and the ClearCase LT client. See *Selecting a Deployment Method* on page 28.
	Know the name of the computer that is (or will be) the ClearCase LT server. We recommend that you install and configure the ClearCase LT server before your users install the ClearCase LT client or any Rational Suite that includes a ClearCase LT client. See *Installing ClearCase LT Client as Part of a Rational Suite* on page 46.
	Verify that all computers on which you plan to install ClearCase LT are members of a Windows domain, and that all users who will use ClearCase LT have accounts in a Windows domain and have at least one domain group membership in common. See *Windows Domain Membership Requirements* on page 45.
	Designate a domain group to which all ClearCase LT users belong as the ClearCase Users Group. See *Setting the CLEARCASE_PRIMARY_GROUP Environment Variable* on page 46.

Table 9 ClearCase LT Server Installation Checklist (continued)

Done	Task
	If you are using ClearCase LT with other products from the Rational Suite, all products must be from the same Suite version (installed from the same CD). For information about the order in which you should upgrade integrated products and convert schemas and data, see the *Rational Suite Upgrade Guide*.
	Rational Suite cannot be installed on a system that can boot multiple Windows NT installations. You can install ClearCase LT on such a system, but you must install it in separate directories for each version of the operating system. For more information, see the *Release Notes* for Rational ClearCase LT.
Installing ClearCase LT server	
	Before you install the software, see *ClearCase LT Server Setup* on page 49. To learn the procedures for installing ClearCase LT servers and clients, see *Installing Rational Products* on page 93.
After Installation	
	Use the **Getting Started Wizard** to configure your ClearCase LT environment. See *Configuring ClearCase LT With The Getting Started Wizard* on page 117.
	Perform additional ClearCase LT server tasks. See *Additional Configuration Tasks* on page 117.

Overview of ClearCase LT Server and Client Computers

This overview describes the client and server parts of ClearCase LT.

- **ClearCase LT server**. Every ClearCase LT client requires the services of a ClearCase LT *server computer* to manage all of the client's access to VOB and view data. The ClearCase LT server runs server processes and supplies storage areas for VOB and view storage. A ClearCase LT client computer can access only one ClearCase LT server. A ClearCase LT server can support multiple VOBs and views, and can service the needs of many ClearCase LT clients.
- **Client.** Each ClearCase LT user works at a ClearCase LT client computer, running commands and programs, various user interfaces, and other software (for example, development tools, a Rational Suite, and operating system utilities). ClearCase LT must be installed on each client.

A ClearCase LT community consists of a ClearCase LT server and one or more ClearCase LT clients. You may have multiple ClearCase LT communities at your site, but each client in a community can access only one ClearCase LT server. You can install a ClearCase LT client without installing a ClearCase LT server, but the client

will not work until the server is installed and accessible by the client. The server computer should be adequately configured. See *Selecting a ClearCase LT Server* on page 47.

Installing ClearCase LT server software on a system also installs ClearCase LT client software on that computer. ClearCase LT client software is installed on the ClearCase LT server to simplify evaluation, administration, and troubleshooting. If you are part of a small workgroup, you may want to use the ClearCase LT server as a client too, but we recommend using a dedicated server whenever possible.

Note: ClearCase LT cannot be installed on a computer that is a Rational ClearCase system.

ClearCase Web Server

The Rational Web Platform is a custom feature in the ClearCase LT server. It is not installed, by default, with the ClearCase LT server software. You do not have to configure this feature. In the few cases that you need to change the standard defaults, see *Customizing the Rational Web Platform* on page 217.

For clients to use the ClearCase Web server, give users the server name. For more information about how clients can access the ClearCase Web server, see the *Before You Install* chapter in the *Installation Guide* for Rational Desktop Products.

Note: If you install the ClearCase LT server on a server that is running any other Web servers, either RWP or the existing Web server can fail on start-up because of a port conflict. We recommend that you install RWP on a server that does not have to run any other Web servers. If this is impossible, we recommend that you configure the other Web server to use ports that are not being used by RWP. If you cannot do this, you must configure RWP to use ports not used by the other Web server. For more information, see *To Change the Default RWP HTTP Port* on page 218.

Windows Domain Membership Requirements

When installed on any Windows platform, the ClearCase LT server and its clients must be members of a Windows domain. To use ClearCase LT from any Windows platform, you must log on to a domain account (not a local, per-system user account).

All ClearCase LT users at your site should have accounts in the same domain if possible. Otherwise, you must configure ClearCase LT to allow access to ClearCase data by users in multiple domains using the procedures described in the *Administrator's Guide* for Rational ClearCase. In addition, all of the ClearCase LT users in a domain must be members of a domain group that your ClearCase LT

administrator has designated as the ClearCase Users Group. See *ClearCase LT Server Setup* on page 49 and the *Administrator's Guide* for Rational ClearCase for more information about domain group membership requirements and domains in general.

Note: You may install ClearCase LT on a non-domain Windows computer if the computer does not need to communicate with other ClearCase LT clients or servers and will be used only by one person. This type of configuration is not practical for production use, but may simplify an evaluation of ClearCase LT.

Setting the CLEARCASE_PRIMARY_GROUP Environment Variable

ClearCase LT access controls consider domain group membership information when determining a user's rights to access ClearCase data. In Windows, a user who logs on to a domain account may not be assigned the primary group specified by the Windows domain account management tools.

To ensure proper assignment, set the user environment variable CLEARCASE_PRIMARY_GROUP to refer to the correct primary group. The value of this variable must be the name of an existing domain group that includes the user as a member. All ClearCase users must be members of this group. This user environment variable (not system environment variable) must be set on every ClearCase computer. On Windows systems, set the value of CLEARCASE_PRIMARY_GROUP using the System program in Control Panel.

For more information on CLEARCASE_PRIMARY_GROUP and ClearCase access controls, see the *Administrator' s Guide* for Rational ClearCase.

Installing ClearCase LT Client as Part of a Rational Suite

There is a specific order to installing ClearCase LT as part of Rational Suite. Install and configure a ClearCase LT server on a separate computer first. Then install the Rational Suite, which includes ClearCase LT client, on users' desktops.

To install the ClearCase LT server:

1. Select ClearCase LT in the **Product Selection** page of the Rational Setup Wizard.
2. The next step depends on how you will install the ClearCase LT server:
   - If you are installing from a CD, select **Install server and client software** in the **Client/Server** page.
   - If you are installing the ClearCase LT server from a release area, the server option should already be selected for you.
   - If you are *setting up* a release area for ClearCase LT, select **Siteprep ClearCase Server** in the **Client/Server** page.

If you install the Rational Suite before you try to install the ClearCase LT server on the same computer, (Installing all ClearCase LT software on the same computer is not recommended unless you are evaluating ClearCase LT.), the Setup Wizard detects the client software that is included in Rational Suite and does not install ClearCase LT server.

Installing ClearCase LT for Evaluation

If you are installing ClearCase LT for evaluation purposes, either as a stand-alone product or as part of a Rational Suite, you may want to use the same computer to simplify the evaluation process. To set up a single-system evaluation configuration:

1. Use the Rational Setup Wizard on the installation CD to install the ClearCase LT server and client on the same computer. In the Wizard:
   a. Select the **Desktop Installation from CD Image** deployment option.
   b. In the **Client/Server** page, select **Install server and client software** option You can use this configuration to evaluate ClearCase LT as a stand-alone product.
2. To evaluate ClearCase LT as part of a Suite, re-run the Rational Setup Wizard on the same computer and select the Rational Suite that you want to evaluate.

Note: If you install the Rational Suite before you install the ClearCase LT server on the same computer, the Setup Wizard detects the client software that is included in Rational Suite and does not install ClearCase LT server on the computer.

To correct this problem:

1. Reinstall the Rational Suite. Use the **Change** option in **Add/Remove Programs.** Select **Modify the Existing Installation.** Clear ClearCase LT from the Rational Suite product feature list in the **Custom Setup** page. For more information, see *Reinstalling a Product (Modify or Repair)* on page 113.
2. Reinstall the ClearCase LT server. Use the same procedure described in Step 1. Select the **Install server and client software** option in the **Client/Server** page.

Selecting a ClearCase LT Server

We recommend that you install the ClearCase LT server before you install any ClearCase LT clients. The characteristics of the ClearCase LT server are critical to the performance and scalability of your entire ClearCase LT community. Selecting an appropriate ClearCase LT server is an important pre-installation step.

A ClearCase LT client on Windows can access a ClearCase LT server running either Windows or UNIX. If your site is using a ClearCase LT server running UNIX, you may skip the remainder of this section. For more information on configuring a ClearCase LT server running UNIX or Windows, see the *Administrator's Guide* for Rational ClearCase.

A ClearCase LT server running Windows is fully interoperable with ClearCase LT clients running either Windows or UNIX operating systems.

The ClearCase LT server runs a number of server processes for each VOB it supports. Because the server may have to support dozens, or even hundreds, of such processes, and support network access from many clients, we recommend that you follow the guidelines in this section when specifying the server's physical memory, storage, processor, and network interface hardware. In addition, you may want to use the performance tuning procedures described in the chapter *Improving VOB Host Performance* in the *Administrator's Guide* for Rational ClearCase.

Note: Use the Windows server, rather than the workstation, variant of the operating system (Windows 2000 Server, for example). Windows limits concurrent network access to systems on which Windows NT Workstation or Windows 2000 Professional software is installed to a maximum of 10 systems. If you anticipate that more than 10 ClearCase LT clients will need to access the ClearCase LT server simultaneously, install Windows NT Advanced Server or Windows 2000 Server software on your ClearCase LT server.

Server Recommendations

To ensure adequate performance for all ClearCase LT clients, we recommend that you install ClearCase LT server software on a computer that meets or exceeds the following requirements:

- **Physical memory (RAM).** The minimum recommended main memory size is 128 MB or half the size of all the VOB databases the server will support, which ever is greater. To this amount, add: 7 MB of memory per VOB, regardless of VOB database size.
- **Disk capacity.** A VOB database must fit in a single disk partition, and VOB databases tend to grow significantly as development proceeds and projects mature. Although there is no rule of thumb for estimating how large a VOB will be, *Appendix F* in the *Administrator's Guide* for Rational ClearCase provides some guidelines that may be useful in establishing VOB server disk capacity requirements.
- **Processing power.** A ClearCase LT server must have adequate CPU capacity. The definition of adequate in this context varies from one hardware architecture to another. With ClearCase LT and similar enterprise applications, server CPU capacity is a critical factor in performance of client operations.
- **High Availability.** The ClearCase LT server should be a robust system that does not need to be rebooted or taken offline frequently. It should be easily accessible over the network — on the same subnet as or at most one or two network hops from any ClearCase LT client.

- **Network Connectivity.** Nearly every access to a VOB places a load on the ClearCase LT server's network interface; a high-bandwidth (100 MB/sec. or greater) network connection to the server is important.

Note: We recommend that you install ClearCase LT server on a dedicated computer for optimal performance during production use. However, for evaluation purposes or for very small teams, you can install and run ClearCase LT server and a Rational Suite on a single computer.

ClearCase LT Server Setup

After the ClearCase LT server software has been installed for the first time, the Getting Started Wizard runs. The Getting Started Wizard does not run if you are upgrading an existing ClearCase LT server to a new version, or if you are reinstalling ClearCase LT server on a computer that has already been configured by the Getting Started Wizard.

The Getting Started Wizard creates two VOBs: one to hold UCM objects for the initial project, and one to hold source code (files and directories) for this project. For more information, see *Using the Getting Started Wizard for ClearCase LT Server* on page 49.

ClearCase access controls require the user who creates a VOB and all users who access it to be members of the ClearCase Users Group. For more information, see *Setting the CLEARCASE_PRIMARY_GROUP Environment Variable* on page 46.

If you can log on as a user who is both a local administrator on the ClearCase LT server and a member of the ClearCase Users Group, do so. It will simplify installation and setup of the ClearCase LT server.

If you cannot log on as a user with this combination of group memberships, you can still install ClearCase LT with local administrator privileges. You will not be able to complete server setup until you log out, and then log on as a member of the ClearCase Users Group.

Using the Getting Started Wizard for ClearCase LT Server

Use the Getting Started Wizard to set up a standard ClearCase LT environment on a single server. The Getting Started Wizard launches automatically after an initial installation of the ClearCase LT server. Use the online Help to complete these tasks:

- Sets up ClearCase LT software configuration management.
  - Creates storage directories for ClearCase VOBs and Views
  - Creates a ClearCase project VOB
  - Creates the initial ClearCase component VOB
  - Creates an initial ClearCase project
- Configures the ClearCase LT client on the ClearCase LT server only.

Using the Getting Started Wizard for ClearCase LT Server and ClearQuest

If you are planning to install ClearQuest Administration Tools and the ClearCase LT server on the same computer, the Getting Started Wizard will configure the ClearCase LT server and performs the following tasks for ClearQuest:

- Creates a schema repository and user database
- Enables the UCM integration with ClearCase LT
- Create user accounts

To use the full capability of the Getting Started Wizard, we recommend an order of installation. For more information, see *Using the Getting Started Wizard for ClearQuest* on page 64.

Preparing to Install ClearQuest and ClearQuest MultiSite

This section helps you prepare and plan ClearQuest and ClearQuest MultiSite server installations. To install the ClearQuest client (native or Web), see the *Installation Guide* for Rational Desktop Products.

For the most current information related to ClearQuest and ClearQuest MultiSite features and known issues, see the *Release Notes* for ClearQuest and ClearQuest MultiSite in the *Rational Solutions for Windows Online Documentation* CD. You can also view the release notes at the end of the ClearQuest installation, or click **Start > Programs > Rational Software > Rational ClearQuest > Rational ClearQuest readme** after you install the software.

ClearQuest and Clearquest Multisite Installation Checklists

Use the following checklists to help you set up a ClearQuest and ClearQuest MultiSite environment and perform the required post-installation tasks:

- *ClearQuest Evaluation Installation Checklist* on page 51

- *ClearQuest Administration Tools Installation Checklist* on page 51
- *ClearQuest Vendor Database Installation Checklist* on page 54
- *ClearQuest MultiSite Administration Tools Installation Checklist* on page 55
- *ClearQuest Web Server (Optional) Installation Checklist* on page 56

The ClearQuest installation checklists for the native and Web clients are in the *Before You Install* chapter in the *Installation Guide* for Rational Desktop Products.

To learn more about the components of the ClearQuest and ClearQuest MultiSite environment, see *ClearQuest and ClearQuest MultiSite Configuration* on page 57.

Use Table 10 to help you evaluate ClearQuest. The evaluation includes a sample database.

Table 10 ClearQuest Evaluation Installation Checklist

Done	Task
Before Installation	
	Get a ClearQuest evaluation license key. See *Licensing Your Rational Products* on page 81.
	Check the system and software requirements for the ClearQuest evaluation computer. See *Server System and Software Requirements* on page 30. See the *Before You Install* chapter of the *Installation Guide* for Rational Desktop Products for client system requirements and recommendations.
	Make sure that you have administrator privileges on the computer. See *Administrator Privileges* on page 29.
Installing and Configuring ClearQuest for Evaluation	
	Install the ClearQuest features for evaluation directly from the CD-ROM. See *Installing Rational ClearQuest for Evaluation* on page 60.

Table 11 ClearQuest Administration Tools Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	Install and configure the empty vendor database before you install the ClearQuest Administration Tools. Use Table 12 to help you perform these tasks. After you have configured the vendor database, return to this checklist.

Table 11 ClearQuest Administration Tools Installation Checklist (continued)

Done	Task
	Plan your ClearQuest and ClearQuest MultiSite configuration. See *ClearQuest and ClearQuest MultiSite Configuration* on page 57. Consider the following recommendations: ▪ The ClearQuest Administration Tools (as well as the ClearQuest MultiSite Administration Tools) can be installed on the vendor database server or a separate computer. If you plan to install the ClearQuest Administration Tools on the same computer as the ClearCase LT server, see *Using the Getting Started Wizard for ClearQuest* on page 64. ▪ We recommend that you install the database server and the Web server for ClearQuest Web on different machines. Using one machine for the servers causes frequent hangs, script time-outs, and generally causes ClearQuest Web to be unreliable. ▪ For optimal performance, do not install the ClearQuest Web server on the ClearCase LT server.
	Check the system and software requirements for ClearQuest servers. See the sections in the following bulleted list for pre-installation requirements: ▪ *Server System and Software Requirements* on page 30. See the *Before You Install* chapter of the *Installation Guide* for Rational Desktop Products for client system requirements and recommendations. ▪ *Setting Up the VS.NET Integration* on page 67. ▪ *Compatibility Issues* on page 67.
	Make sure that you have administrator privileges on the computer. See *Administrator Privileges* on page 29.
	Determine how you want to deploy ClearQuest Administration Tools and ClearQuest client software. See *Selecting a Deployment Method* on page 28. **Note:** You can enable e-mail notification on ClearQuest Windows clients by either setting up a site defaults file for ClearQuest clients or telling users to look in the *Installation Guide* for Rational Desktop Products for instructions.
Installing ClearQuest Administration Tools	
	To learn the procedures for installing ClearQuest Administration Tools and other ClearQuest software, see *Installing Rational Products* on page 93. If you do not want to configure the ClearQuest databases yet, or you did not install and configure the vendor database software before installing ClearQuest Administration Tools and ClearCase LT server on the same computer, skip the database configuration pages in the **Getting Started Wizard**. Use the ClearQuest Maintenance Tool (*Creating the ClearQuest Databases* on page 142) to configure the ClearQuest schema repository and user database later.

Table 11 ClearQuest Administration Tools Installation Checklist (continued)

Done	Task
After Installation	
	▪ If the ClearQuest Administration Tools will access an Oracle database, install Oracle client software on the computer on which you installed the Administration Tools and create an Oracle alias. ▪ If the ClearQuest Administration Tools will access a DB2 database, install the DB2 client software on the computer on which you installed the Administration Tools and create a DB2 alias. See *Installing the Oracle Client or the DB2 Client* on page 65 and *Creating an Oracle Database Alias* on page 135 or *Creating a DB2 Database Alias* on page 140.
	Configure the ClearQuest schema repository and user database. You can use either the **Getting Started Wizard** (if the Administration Tools are on the ClearCase LT server) or the ClearQuest Maintenance Tool to create the ClearQuest databases (schema repository and user database). If you use the ClearQuest Maintenance Tool, see *Required Configuration Steps for ClearQuest* on page 141 and *Creating ClearQuest Databases* on page 149.
	▪ If the ClearQuest clients will access an Oracle database, direct them to install Oracle client software on their desktops and create an Oracle alias. ▪ If the ClearQuest clients will access a DB2 database, direct them to install the DB2 client software on their desktops and create a DB2 alias. Client users can find the instructions in the *Before You Install* and *After You Install* chapters of the *Installation Guide* for Rational Desktop Products.
	Send the ClearQuest connection profiles (connections to the schema repository) to client users. You can either give users the schema repository information so they can create their own connections (*Creating a New Connection* on page 147) or create a connection profile that users can import into their clients (*Creating a Connection Profile* on page 148 and *Importing a Connection Profile* on page 149).
	Tell client users they can log in to the native ClearQuest client. See *Logging In to ClearQuest* on page 148.
	Ensure that users can send and receive e-mail notification. See *Configuring Your ClearQuest Client To Receive E-Mail Notification* on page 148 and *Configuring the ClearQuest Client To Send E-Mail Notification* on page 148.
	Subscribe to the ClearQuest User Group (optional). See *Subscribing to the ClearQuest User Group* on page 141.

Table 12 helps you select and install the vendor database software. After you install the vendor software, configure it for ClearQuest and set up the ClearQuest user database and schema repository.

Table 12 ClearQuest Vendor Database Installation Checklist

Done	Task
Before Installation	
	We recommend that you install the database server and the Web server for ClearQuest Web (optional) on different computers. You do not have to install ClearQuest software on the vendor database server to configure the ClearQuest database (schema repository and user database). **Note:** For optimal performance, do not install the ClearQuest vendor database on the ClearCase LT server.
	Select a database vendor. Read the following sections: ▪ *Installing Rational ClearQuest for Evaluation* on page 60. ▪ *Server System and Software Requirements* on page 30 for a list of supported database vendors. ▪ *Supported Database Servers for ClearQuest* on page 63. ▪ *Setting Up Databases for ClearQuest MultiSite* on page 64 and *Supported Database Servers for ClearQuest MultiSite* on page 64. **Notes:** ▪ ClearQuest MultiSite does not support Microsoft Access and SQL Server Anywhere. If you plan to replicate your ClearQuest database, do not select these database vendors. ▪ ClearQuest Web does not support Microsoft Access.
Installing Vendor Databases	
	Install the vendor software on the database server. Read the vendor documentation for instructions. **Note:** We recommend that you read *After Install: Configuring Databases and Administrative Tasks for ClearQuest* on page 119 for any special considerations before you install the vendor software.
After Installation	
	Configure the user accounts. See the *Administrator's Guide* for Rational ClearQuest.

Table 12 ClearQuest Vendor Database Installation Checklist (continued)

Done	Task
	Configure the empty vendor databases. See *After Install: Configuring Databases and Administrative Tasks for ClearQuest* on page 119. **Note:** Do not configure the ClearQuest schema repository and user database. You can perform those tasks after you install the ClearQuest Administration Tools. See Table 11 on page 51.

Use Table 13 to help you install the ClearQuest MultiSite Administration Tools. This installation checklist assumes that you have already installed the ClearQuest Administration Tools, configured the vendor database, and configured the ClearQuest schema repository and database (Table 11 and Table 12).

Table 13 ClearQuest MultiSite Administration Tools Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	Make sure that you have administrator privileges on the servers. See *Administrator Privileges* on page 29.
	Determine how you want to deploy ClearQuest MultiSite Administration Tools and the Rational Shipping Server. See *Selecting a Deployment Method* on page 28.
Installing ClearQuest MultiSite	
	To learn the procedures for installing the ClearQuest MultiSite Administration Tools and the Rational Shipping Server, see *Installing Rational Products* on page 93.
After Installation	
	▪ If the ClearQuest MultiSite Administration Tools will access an Oracle database, install Oracle client software on the computer on which you installed the Administration Tools and create an Oracle alias. ▪ If the ClearQuest MultiSite Administration Tools will access a DB2 database, install the DB2 client software on the computer on which you installed the Administration Tools and create a DB2 alias. See *Installing the Oracle Client or the DB2 Client* on page 65 and *Creating an Oracle Database Alias* on page 135 or *Creating a DB2 Database Alias* on page 140.

Table 13 ClearQuest MultiSite Administration Tools Installation Checklist

Done	Task
	To configure ClearQuest MultiSite, see: ▪ *Configuring Databases for ClearQuest MultiSite* on page 123. ▪ *Required Configuration Steps for ClearQuest MultiSite* on page 148. ▪ *Optional Configuration Steps for ClearQuest MultiSite* on page 149.

The ClearQuest Web server is an optional component to be installed where IIS is installed. Do not install the ClearQuest Web server software on ClearQuest Web clients.

Use Table 14 to help you install and configure the ClearQuest Web server. This installation checklist assumes that you have already planned your ClearQuest and ClearQuest MultiSite configuration (Table 11 on page 51).

Table 14 ClearQuest Web Server (Optional) Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	Check the system and software requirements for ClearQuest Web. See the sections in the following bulleted list for pre-install requirements: ▪ *Server System and Software Requirements* on page 30. See the *Before You Install* chapter of the *Installation Guide* for Rational Desktop Products for client system requirements and recommendations. ▪ *Installing a Web Server for ClearQuest Web* on page 66. ▪ *Compatibility Issues* on page 67.
	Install the correct Web browsers on the client desktops. See *Installing Web Browsers* on page 66.
	Make sure that you have administrator privileges on the Web server. See *Administrator Privileges* on page 29.
	Determine how you want to install the Web server software. See *Selecting a Deployment Method* on page 28.

Table 14 ClearQuest Web Server (Optional) Installation Checklist (continued)

Done	Task
Install the ClearQuest Web Server	
	▪ Install the Microsoft IIS software on the Web server. See the vendor documentation for instructions. ▪ To learn the procedures for installing the ClearQuest Web server component, see *Installing Rational Products* on page 93.
After Installation	
	▪ If the ClearQuest Web server will access an Oracle database, install Oracle client software on the Web server computer and create an Oracle alias. ▪ If the ClearQuest Web server will access a DB2 database, install the DB2 client software on the Web server computer and create a DB2 alias. See *Installing the Oracle Client or the DB2 Client* on page 65 and *Creating an Oracle Database Alias* on page 135 or *Creating a DB2 Database Alias* on page 140.
	To configure the Web server for ClearQuest Web, see *After Install: Configuring ClearQuest Web* on page 149.

ClearQuest and ClearQuest MultiSite Configuration

ClearQuest supports client users and ClearQuest administrators. The following sections describe the basic ClearQuest components in a ClearQuest Windows configuration:

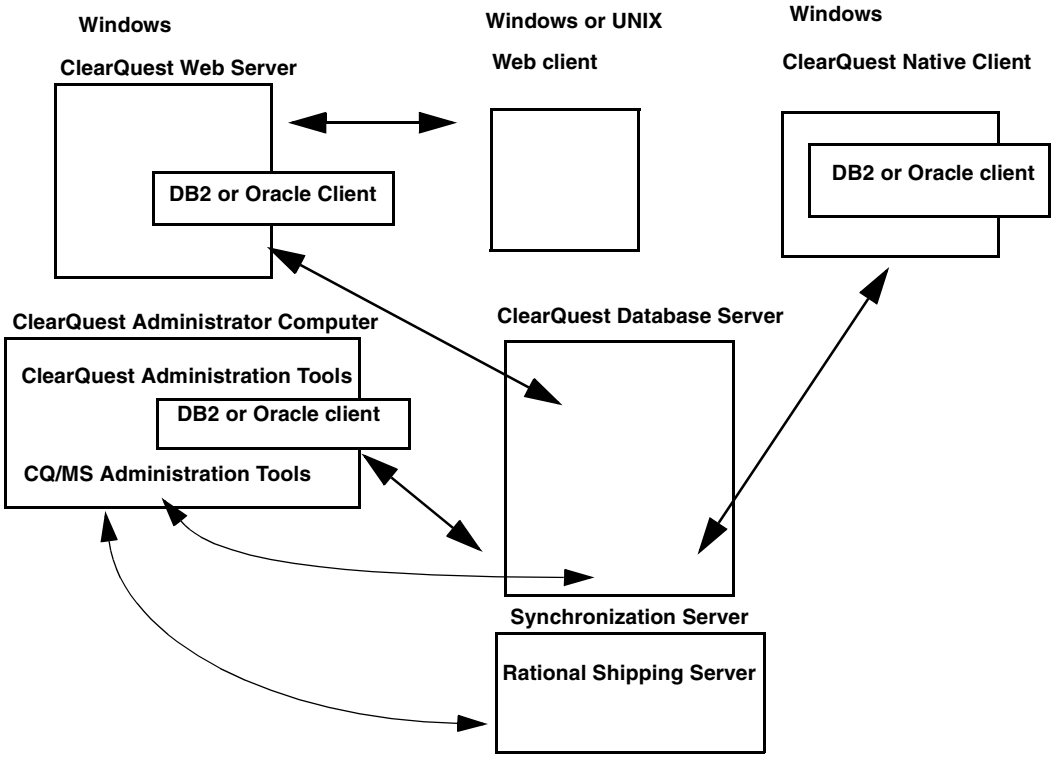
- ClearQuest Administration Tools
- ClearQuest database server
- ClearQuest Web server (optional)
- ClearQuest client (native or Web)

The ClearQuest MultiSite product includes the following additional components:

- ClearQuest MultiSite Administration tools
- Rational Shipping Server

The following diagram illustrates one possible ClearQuest and ClearQuest MultiSite configuration. If you select DB2 or Oracle as your vendor database software, install the client software on native clients, the ClearQuest Administrator computer (if you install all the administration tools on the same computer), and the ClearQuest Web

server. You can install the Rational Shipping Server software on a separate server (the synchronization server). The arrows indicate the communication between components.



ClearQuest Administration Tools

ClearQuest administrators access a ClearQuest schema repository using ClearQuest Administration Tools. A ClearQuest administrator can create and modify a schema repository using these tools.

The ClearQuest Administration Tools (as well as the ClearQuest MultiSite Administration Tools) can be installed on the vendor database server or on a separate computer.

If the ClearQuest Administration Tools access an Oracle or DB2 database, install the appropriate client software on the computer on which you installed the Administration Tools.

ClearQuest Database Server

The vendor database supporting the ClearQuest and ClearQuest MultiSite schema repository and user databases can be installed on a Windows or a UNIX platform. For more information, see *Supported Database Servers for ClearQuest* on page 63 and *Supported Database Servers for ClearQuest MultiSite* on page 64.

We recommend that you install the vendor database and ClearQuest Web on different computers. You are not required to install ClearQuest software on the database server.

ClearQuest Web Server (optional)

If users plan to use the ClearQuest Web interface to access the user database, you must configure ClearQuest Web server software on an IIS server. If the ClearQuest Web server accesses an Oracle or DB2 database, install the appropriate client software on the Web server computer.

ClearQuest Clients (Web and Native)

ClearQuest client users access a ClearQuest user database using either a ClearQuest native client or a ClearQuest Web client. ClearQuest client and ClearQuest Web client users can create and update ClearQuest records in a ClearQuest user database.

To access the ClearQuest user database from a client, users must install either the ClearQuest client or a supported Web browser on their desktops. To install the ClearQuest native client or Web client, see the *Before You Install* chapter in the *Installation Guide* for Rational Desktop Products.

If the ClearQuest native client accesses an Oracle or DB2 database, install the appropriate client software on the client computer.

ClearQuest MultiSite Administration Tools

If you are using ClearQuest MultiSite, the ClearQuest MultiSite Administration Tools must be installed on a Windows platform.

You have several options for where to install the MultiSite Administration Tools and the Rational Shipping Server (page 60). The following are suggested component locations:

- MultiSite Administration Tools and the ClearQuest Administration Tools are installed on one computer called the ClearQuest Administrator's computer; Rational Shipping Server is installed on a separate computer (the synchronization server). Neither component is located on the ClearQuest database server.
- MultiSite Administration Tools, ClearQuest Administration Tools, and the Rational Shipping Server are installed on the ClearQuest database server. You should do this only if your database server has enough memory and processing power to handle the extra work.

- MultiSite Administration Tools, ClearQuest Administrator Tools, and Rational Shipping Server installed on one computer that is designated as the ClearQuest Administrator's computer.

If the ClearQuest Administration Tools access an Oracle or DB2 database, install the appropriate client software on the computer on which you installed the Administration Tools.

Note: If you choose to install ClearQuest MultiSite Administration Tools 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.

Rational Shipping Server

Both ClearCase MultiSite and ClearQuest MultiSite use the Rational Shipping Server to transfer MultiSite packets. It should be installed only on those computers that are responsible for replicating data to other sites. There are special considerations for installing the Rational Shipping Server in a ClearQuest and ClearCase MultiSite environment.

We recommend that you avoid configuring any one computer to run the Shipping Server and both products, because removing either ClearCase or ClearQuest from the computer will remove the Shipping Server that is used by both products and render the remaining product inoperable.

If you must install both ClearCase MultiSite and ClearQuest with the Shipping Server on the same computer, ensure you do the following:

- Install ClearCase first.
- Remove both products if you need to remove one product.

Caution: You should ensure that site defaults files for client computers do not specify installation of the ClearQuest Shipping Server. Any attempt to install ClearCase on a computer where ClearQuest and the Shipping Server are already installed will fail.

Note: This restriction does not apply to ClearCase LT because there is no ClearCase LT MultiSite product. You can install Rational Shipping Server from the *Rational Solutions for Windows* CD on a ClearCase LT server. When you select Rational ClearQuest, select the Shipping Server in the Custom Setup page of the Setup Wizard. See *Using the Custom Setup Page* on page 96.

Installing Rational ClearQuest for Evaluation

The following instructions assume that you will use one computer as the database server and the client.

To install ClearQuest for evaluation:

1. Log in as a user with Administrator rights on the local machine.
2. Insert the *Rational Solutions for Windows Disc 1* into the computer's CD-ROM drive.

   The Rational Setup Wizard starts automatically.

   If autorun is disabled on your computer, click **Start > Run** and enter *cd_drive*: \Setup.exe where *drive* is the letter of the CD-ROM drive.
3. The **Welcome** page to the Rational Setup Wizard appears. Click **Next** to launch the installation, and to advance through the following screens.
4. The **Product Selection** page lists all products available for installation.
5. In the **Deployment Method** page, select the **Desktop Installation from CD Image** option
6. Choose to accept or not to accept the Rational Software license agreement in the **License Agreement** page.
   - If you accept the license agreement, the installation Wizard continues.
   - If you do not accept the license agreement, exit the Setup Wizard by clicking **Cancel** and then **Finish**. For information about changes to the computer, see *Canceling a Product Installation* on page 113.
7. The **Destination Folder** page specifies the directory where the Wizard will install the Rational product. If you want to change the location, click **Change**.

   Note: The installation Wizard requires that all Rational products be installed in the same directory.
8. The **Custom Setup** page provides product feature options for the software installation. Clear all features under Rational ClearQuest.

   If you want to clear features or select new features, click **Help**.

   Note: For disk space requirements, see the *Server System and Software Requirements* on page 30. Do not use the number displayed in Custom Setup or the **Space** button on that page.
9. You do not have to enter information in these pages. (**Default Connection Profile** and **Email Transport Provider**) of the configuration wizard. Use the **Help** to fill in the information. Click **Done**.
10. Click **Install** on the **Ready to Install the Program** page to begin the installation.
11. A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during the Rational Setup program and if the program needs to install shared components on your computer, the Setup Wizard may need to restart your computer.

    Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

After Windows restarts, the second part of the installation process starts automatically after you log on.

12 When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation.

13 Import or enter your Rational license key in the Rational License Key Administrator. For instructions, see *Licensing Your Rational Products* on page 81.

14 To set up the evaluation database (Microsoft Access runtime files):

   a Click **Start > Program Files** > **Rational Software** > **Rational ClearQuest** > **Create Rational ClearQuest Evaluation Databases**.

   b Click **Create Evaluation Databases** in the **Rational ClearQuest: Create Evaluation Databases** dialog box. When the schema repository and database are created, click **Exit**.

   c Click **Start > Program Files > Rational Software > Rational ClearQuest**.

   d To log in to the user database, enter **admin** as the user id (no password is required) and select **SAMPL** in the database scroll-down box.

   e Click **All Defects** to view all of the defects in the sample database.

Choosing a Database Vendor

When choosing a database vendor for the ClearQuest databases, see *Server System and Software Requirements* on page 30 for specific supported versions.

ClearQuest supports the following databases:

- Entry-level database: Microsoft Access (The run-time files are supplied with ClearQuest. The run-time files are not the full version of Microsoft Access.)
- Mid-level database: Sybase SQL Anywhere (Select this database as a separate product on the *Rational Solutions for Windows* CD-ROM. This software is not installed with ClearQuest.)
- High-end databases: Microsoft SQL Server on Windows, DB2 on Windows, and Oracle on Windows and UNIX

To decide which database vendor is best for your needs and determine how many simultaneous users you expect to have, use the following general guidelines:

- For initial testing and evaluation or for small groups (fewer than five users), you can use the entry-level database.
- For small- to medium-size groups (five to twenty users), you can use the mid-level database.

- For larger groups (over twenty users), large amounts of data, or to achieve better performance, use the high-end databases.

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, and 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.

Supported Database Servers for ClearQuest

ClearQuest on Windows supports the operating systems and database vendors in Table 15.

We recommend that you install and configure the database server and the Web server for ClearQuest Web on different machines. Using one machine for the servers causes frequent hangs, script timeouts, and generally causes ClearQuest Web to be unreliable.

Note: ClearQuest Web does not support Microsoft Access.

Table 15 Supported Database Servers for ClearQuest

	Microsoft SQL Server		Oracle (32 bit)	DB2	SQL Anywhere		Access	
Version	**7.0 Service Pack 4**	**2000 Service Pack 2, 3**	**8.1.6, 8.1.7**	**Universal Database 7.2 with Fix Pack 8, 8.1**	**5.5.05**	**8.0.1**	**2000**	**2002 Service Pack 1, 2**
Windows NT	X	X	X	X	X	X	X	X
Windows 2000	X	X	X	X	X	X	X	X
Windows XP	X	X	X	X	X	X	X	X
Solaris 2.6			X					
Solaris 7			X					
Solaris 8			X					
Solaris 9			X					
HP-UX 11.00			X					
HP-UX 11.11			X					

Setting Up Databases for ClearQuest MultiSite

When you replicate an existing ClearQuest schema repository and user database, create empty vendor databases at the new site. However, do not create ClearQuest databases at the new site. For more information, see *Required Configuration Steps for ClearQuest MultiSite* on page 148.

Note: If you are using ClearQuest on UNIX with ClearQuest MultiSite, you cannot use an Oracle Windows database.

Supported Database Servers for ClearQuest MultiSite

ClearQuest MultiSite supports the operating systems and database vendors in Table 16.

Table 16 Supported Database for ClearQuest MultiSite

	Microsoft SQL Server		Oracle (32 bit)	DB2
Version	**7.0 Service Pack 4**	**2000 Service Pack 2, 3**	**8.1.6, 8.1.7**	**Universal Database 7.2 with Fix Pack 8, 8.1**
Windows NT	X	X	X	X
Windows 2000	X	X	X	X
Windows XP	X	X	X	X
Solaris 2.6			X	
Solaris 7			X	
Solaris 8			X	
Solaris 9			X	
HP-UX 11.00			X	
HP-UX 11.11			X	

Using the Getting Started Wizard for ClearQuest

You can use the Getting Started Wizard for ClearQuest to create: a defect and change request database, an initial Unified Change Management (UCM) environment, and user accounts. To use the full capabilities of the Wizard, you must follow an order of installation on the server computer designated as the ClearCase LT server and the ClearQuest Administrator computer.

The following table assumes that you have configured and installed the supported vendor software on a database server.

Order of Installation	Getting Started Wizard Activities
1 ClearQuest Aministration Tools 2 ClearCase LT server and client software	Getting Started Wizard launches automatically after you install the ClearCase LT software. The Wizard enables you to: ▪ Create storage directories for ClearCase VOBs and Views ▪ Create a ClearCase project VOB ▪ Create the initial ClearCase component VOB ▪ Create an initial ClearCase project ▪ Create a defect and change request database ▪ Create an initial UCM environment ▪ Create user accounts for ClearQuest

Note: If you are installing ClearCase instead of ClearCase LT, install ClearCase first, then install ClearQuest. To launch the Getting Started Wizard, click **Start** > **Programs** > **Rational Software** > **Rational ClearCase** > **Administration** > **Getting Started Wizard** . The Wizard will perform the ClearQuest configuration tasks.

Installing the Oracle Client or the DB2 Client

To access an Oracle ClearQuest database or DB2 ClearQuest database, install the correct client software on ClearQuest Windows clients, the ClearQuest Web server, and the ClearQuest Administration Tools computer (if applicable).

- To install Oracle client software for an Oracle ClearQuest database, follow the Oracle Networking Products documentation. To create the alias, see *Creating an Oracle Database Alias* on page 133.
- To install DB2 client software for a DB2 ClearQuest database, follow the IBM DB2 database documentation. To create the alias, see *Creating a DB2 Database Alias* on page 138.

  Note: The DB2 Administration Client must be installed on all computers.

Installing a Web Server for ClearQuest Web

If you are planning on using the ClearQuest Web capability, install IIS 4.0 or IIS 5.0 on the Web server. Refer to www.microsoft.com for information on installing IIS on a server platform.

Note: For optimal performance, we recommend at least 1 GB of RAM and a Pentium III processor (500 MHz and greater) on the server.

IIS 4.0

Service Pack 6a (SP6a) and the Security Rollup Package (SRP) for Windows NT Server 4.0 must be installed on the server. Because the installation of IIS 4.0 overwrites several files from the Service Pack, reinstall SP6a after you install IIS to ensure correct system operation.

Install IIS using the Windows NT 4.0 Option Pack. To check if IIS 4.0 is installed, click **Start** > **Programs** > **Windows NT 4.0 Option Pack** > **Microsoft Internet Information Server** > **Internet Service Manager** to access the Internet Service Manager window.

Note: If you perform a custom installation of IIS, install the World Wide Web Server.

Note: You will see a warning stating that Option Pack 4 has not been tested with SP6. You can safely ignore this warning. For more information, see Microsoft Knowledge Base Article #Q195015.

IIS 5.0

IIS 5.0 is usually installed by default when you install Windows 2000 Server, including Service Pack 2 and 3. To verify that IIS is installed, click **Start** > **Settings** > **Control Panel** and double-click **Add/Remove Programs** and then click **Add/Remove Windows Components**. If Internet Information Services is not included in the list of existing programs, you must install it from the Windows 2000 CD.

Installing Web Browsers

If you are planning on using the ClearQuest Web capability, ensure that all client machines that will be using a ClearQuest Web client have the appropriate browser versions. See *Server System and Software Requirements* on page 30 for information on the supported browsers.

To use ClearQuest Web, including the Advanced Query Editor, install either JRE 1.3.x or 1.4.x on ClearQuest Web clients running on Windows or UNIX computers.

On Windows clients using Internet Explorer to access ClearQuest Web, the ClearQuest Web will determine if the existing JRE is sufficient to use. If the existing JRE is not sufficient, the user will prompted to download the required JRE.

On Windows or UNIX clients using Netscape Navigator to access ClearQuest Web, users will be prompted to download a Java plug-in if the Java plug-in is not enabled.

Setting Up the VS.NET Integration

When ClearCase LT is installed, the CQ/VS.Net integration is automatically configured at installation. After installing ClearQuest, when you start VS.Net, the **Workspace Tree** control and the **Activity Grid Control** will support the ClearQuest integration.

Compatibility Issues

With Rational Products

This version of Rational ClearQuest 2003.00.06 is compatible with all other Rational Suite Version 2003 products. It is not compatible with previous releases of ClearQuest or Rational Suite.

With SQL Server 2000 Installation

During the installation process for Microsoft SQL Server 2000, you have the option of selecting Windows only authentication or mixed mode (Windows and SQL Server) authentication. Select mixed mode authentication for ClearQuest to function properly.

Later in the installation process for Microsoft SQL Server 2000, you are prompted for a database instance name. The database instance name must be the same as the computer name of the machine on which you are installing. The instance name can be accomplished by leaving the instance name blank and accepting the default. If an instance name is required, several issues arise:

- Clients running earlier versions of MDAC (such as 2.1.2) will not be able to connect to the database.
- UNIX clients cannot connect to the SQL Server database if you implement a database instance name.
- You will need to install the SQL Server client on the client computer or manually edit the registry. The following is an excerpt from the Microsoft white paper, *Upgrading to SQL Server 2000*:

When using the SQL Server client connectivity components from SQL Server 7.0 or earlier, you must set up an alias using the Client Network Utility before you connect to a named instance of SQL Server 2000. For example, on a SQL Server 7.0 client, to connect to a named instance of SQL Server 2000, you must add an alias that points to \\computername\pipe\MSSQL$instancename\sql\query. If you use an alias name of computername\instancename, clients can connect by specifying this name in the same way as SQL Server 2000 clients do. For the TCP/IP Sockets and NWLink IPX/SPX Net-Libraries, you must use the Client Network Utility to define an alias on the client that specifies the port address on which the named instance is listening.

For more information, go to the Microsoft support Web site at http://support.microsoft.com.

With Internet Explorer 6.0 on Windows XP Operating Systems

Internet Explorer 6.0 on Windows XP operating systems does not come with a JVM installed. When you install ClearQuest Web in this environment, a dialog box opens that allows you to download JVM to your desktop. If you do not install it, ClearQuest Web will not work properly.

Preparing to Install ProjectConsole

This section explains how to install and set up ProjectConsole software on the Web server, report server and collection agent computer(s), repository, and Template Builder. This information is intended for administrators responsible for setting up ProjectConsole for use by the entire development team.

For the latest ProjectConsole and Template Builder installation information, see the *Rational Suite Release Notes* on the *Rational Solutions for Windows Online Documentation* CD. You can also view the release notes at the end of the Rational Suite installation, or click **Start > Programs > Rational Software > Rational Suite > Rational Suite readme** after you install the software.

Use the checklist inTable 17 to help you set up ProjectConsole and perform required post-installation tasks.

Table 17 ProjectConsole Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	Check the system and software requirements for the ProjectConsole server computer and data warehouse. See *Server System and Software Requirements* on page 30.
	Make sure you have administrator privileges on the server computers. See *Administrator Privileges* on page 29.
	Determine if you need additional ProjectConsole report servers and collection agents. See the following sections: ▪ *Setting Up the ProjectConsole Server* on page 70. ▪ *Setting Up Additional ProjectConsole Report Servers and Collection Agents (Optional)* on page 71.
	Determine how you want to deploy the ProjectConsole server, additional report servers and collection agents (if necessary), and Template Builder in your environment. These features are included by default in your Rational Suite installation. See *Selecting a Deployment Method* on page 28.
	Select the data warehouse software. See the following sections: ▪ *Setting Up the ProjectConsole Repository* on page 71. ▪ *Server System and Software Requirements* on page 30. ▪ *Supported Database Servers for ClearQuest* on page 63. ▪ *With SQL Server 2000 Installation* on page 67.

Table 17 ProjectConsole Installation Checklist (continued)

Done	Task
	Install and configure the vendor database software. Read the vendor documentation for installation instructions. Then see *After Install: Configuring Databases and Administrative Tasks for ClearQuest* on page 121. Use the instructions for configuring a vendor database, but do not use the instructions for configuring a ClearQuest schema repository and user database. ▪ Although SQL Anywhere 8.0.1 software is listed as a separate product on the *Rational Solutions for Windows* installation CD, it is automatically installed with the ProjectConsole server components. ▪ If you are using Oracle or DB2 as your data warehouse server, install the Oracle or DB2 client software on any additional report server and collection agent computers and create database aliases. See *Installing the Oracle Client or the DB2 Client* on page 65 and *Creating an Oracle Database Alias* on page 135 and *Creating a DB2 Database Alias* on page 140. ▪ Do not install the database client software on the ProjectConsole Web clients.
	Determine where you want to install the Template Builder software. See *Installing ProjectConsole Template Builder* on page 72.
Installing the ProjectConsole Components	
	To learn the procedures for installing the ProjectConsole software, see *Installing Rational Products* on page 93.
After Installation	
	Configure the ProjectConsole server and additional ProjectConsole report server and collection agents (optional). See *After Install: Configuring ProjectConsole Software* on page 171.
	Configure the ProjectConsole security database. See *After Install: Configuring ProjectConsole Software* on page 171.
	Configure the data warehouse and repository. See *After Install: Configuring ProjectConsole Software* on page 171.
	Tell users to log in to the ProjectConsole server. See the *Installation Guide* for Rational Desktop Products.

Setting Up the ProjectConsole Server

The ProjectConsole server combines the Rational Web Platform (RWP), a report server, and a data collection agent.

To set up the ProjectConsole server, do the following:

1. Install the Rational Suite and ProjectConsole components. The Rational Web Platform, report server, and data collection agent are installed on the server computer automatically.
2. To use the ProjectConsole server to collect data, configure the report server and collection agent software on the server computer. Setting up additional computers as report servers and collection agents is optional.

   A collection agent provides the ProjectConsole server access to project data from Rational Projects or Microsoft Project. It collects artifacts from these data repositories for the Web server and stores the artifacts in a data warehouse.

Note: Installing RWP on a server that is already running another Web server may result in a port conflict that can cause RWP or the other Web server to fail on start-up. We recommend that you install RWP on a server that does not have to run any other Web servers. If this is impossible, we recommend that you configure the other Web server to use ports that are not being used by RWP. If you cannot do this, you must configure RWP to use ports not used by the other Web server. For more information, see *To Change the Default RWP HTTP Port* on page 218.

Setting Up Additional ProjectConsole Report Servers and Collection Agents (Optional)

To set up and run an additional computer as a ProjectConsole report server and collection agent, perform the following tasks:

- Install the ProjectConsole report server and data collection agent software. You can install these features as a stand-alone product by clearing all other features in the Rational Setup Wizard.
- Configure the collection agent software. See *Configuring the ProjectConsole Services* on page 172.

Setting Up the ProjectConsole Repository

The ProjectConsole repository is used to store collected data, navigation tree structure information, and user (and group) authentication information in ProjectConsole.

The security database is created from SQL Anywhere 8.0.1 software. SQL Anywhere is automatically installed with the ProjectConsole server components. It contains information about the ProjectConsole navigation tree structure and authentication information for all users and groups.

Preparing the Data Warehouse

Create the repository only after you have installed the ProjectConsole server and created your data warehouse. The data warehouse is the database server in which ProjectConsole stores the data collected from software development tools as well as Rational point products. You manage the data warehouse with the ProjectConsole Maintenance Tool.

If you want to start using ProjectConsole in a production environment, we recommend that you create a new data warehouse using SQL Anywhere, SQL Server, Oracle, or DB2. Microsoft Access (run-time files only) is provided for demonstration purposes. Although you can use a Microsoft Access database, SQL Anywhere, SQL Server, Oracle, and DB2 are more robust and better suited for an enterprise-scale data warehouse.

The database requirements and preparation for the ProjectConsole data warehouse are identical to those of Rational ClearQuest.

Installing ProjectConsole Template Builder

You can install Template Builder on any computer on which you want to create or modify ProjectConsole report templates. You can install Template Builder on the ProjectConsole server, on a ProjectConsole report server and collection agent computer, or on a computer that has neither the Web server components nor the report server and collection agent software installed. To test the templates created in Template Builder, the source point product must be installed on the Template Builder computer.

To generate reports using Template Builder templates, it is not necessary to install Template Builder on the ProjectConsole server.

If you use Template Builder to create templates on a computer that does not also have the ProjectConsole report server and collection agent software installed, save the templates to the Templates folder in the ProjectConsole installation directory on the server computer.

Note: If you install Template Builder on a computer that also has the report server and collection agent software installed, you do not have to save the templates on the Web server.

Preparing to Install RequisitePro

Rational RequisitePro includes a database server and Web server (optional). This section describes how to install and set up these RequisitePro features.

For the most current information related to RequisitePro features and known issues, refer to the release notes on the *Rational Solutions for Windows Online Documentation* CD. The release notes also appear at the end of the RequisitePro installation and are available from a link in the **Let's Go Rational RequisitePro** application, which appears when you first launch RequisitePro. After the program is installed, you can access them from the Start Menu by clicking **Start > Programs > Rational Software > Rational RequisitePro > Rational RequisitePro readme**.

Use the checklist in Table 18 to help you set up RequisitePro and RequisiteWeb (optional) and perform required post-installation tasks.

Table 18 RequisitePro Servers Installation Checklist

Done	Task
Before Installation	
	License your Rational software. See *Licensing Your Rational Products* on page 81.
	Determine how you want to deploy RequisitePro servers and the client software to users. See *Selecting a Deployment Method* on page 28.
	Select a vendor database and check the system and software requirements for the RequisitePro database. See the following sections: ▪ *Server System and Software Requirements* on page 30. ▪ *Configuring the RequisitePro Database* on page 75.
	Determine if you want to install and set up a RequisiteWeb server. Check the system and software requirements for RequisiteWeb. See the following sections: ▪ *Server System and Software Requirements* on page 30. ▪ *Configuring RequisiteWeb* on page 75. **Note:** RequisitePro clients users can also use RequisiteWeb.
	Ensure that you have administrator privileges on the servers. See *Administrator Privileges* on page 29.
	Determine if you want to use the Rational E-Mail Reader. See *Configuring E-mail for Discussions* on page 76.
	Preview the options that you install in each RequisitePro server installation. See *Custom Setup Options for Rational RequisitePro Servers* on page 74
Installing RequisitePro	
	Install the vendor software on the database server. Read the vendor documentation for instructions.
	To learn the procedures for installing RequisitePro (database setup and Web server features) servers and clients, see *Installing Rational Products* on page 93.

Table 18 RequisitePro Servers Installation Checklist (continued)

Done	Task
After Installation	
	Configure the RequisitePro database. See *Configuring Oracle for RequisitePro* on page 181 or *Configuring SQL Server for RequisitePro* on page 188.
	If you chose Oracle software for your database server, install the Oracle client software on the RequisiteWeb server and create an Oracle alias. See also *Installing Oracle Database Client Software* on page 75 and *Defining Database Aliases on Each RequisitePro Client* on page 188.
	If the RequisitePro clients will access an Oracle database, direct them to install Oracle client software on their desktops and create an Oracle alias on each client.
	Configure the RequisiteWeb Server. See *Setting Up RequisiteWeb* on page 193.
	Give users the ReqWeb URL (optional) so they can log into RequisiteWeb. See the *Installation Guide* for Rational Desktop Products.
	Configure e-mail for RequisitePro discussions. See *Configuring the Rational E-Mail Reader* on page 192.
	The Rational Administrator is installed with RequisitePro. For more information about the Rational Administrator, see the *Rational Suite Administrator's Guide*.

Custom Setup Options for Rational RequisitePro Servers

Table 19 describes the Custom Setup options in a RequisitePro server installation.

Table 19 Custom Setup Options for Rational RequisitePro

Option	Description
Database Setup	This option includes schema creation scripts and setup instructions.
Sample Projects	This option includes a set of sample projects to get started with RequisitePro.
Web Server Components for RequisiteWeb	This option includes RequisiteWeb server program files and setup instructions.

Configuring the RequisitePro Database

RequisitePro can be used with Oracle, Microsoft SQL Server and Microsoft Access databases. To create and access RequisitePro projects in Oracle or in Microsoft SQL Server databases, configure an Oracle or SQL Server schema on your database server. Refer to Oracle or Microsoft documentation for information on installing Oracle or Microsoft SQL Server.

See *After Install: Configuring RequisitePro Database and Web Server* on page 181 for how to configure the Oracle or SQL Server database for RequisitePro projects. The RequisitePro Data Transport Wizard enables you to move a Rational RequisitePro project from one database to another.

Installing Database Configuration Scripts

If you are setting up an Oracle or SQL Server database and choose the default installation of RequisitePro, the Rational Setup Wizard installs schema creation scripts in the following locations on your local server:

C:\Program Files\Rational\RequisitePro\database\oracle
C:\Program Files\Rational\RequisitePro\database\sqlserver

Installing Oracle Database Client Software

For users to access RequisitePro projects on Oracle databases, they must install Oracle Administrator client software on their desktops.

RequisiteWeb users do not have to install RequisitePro software or the Oracle client software on their desktops. To configure a RequisitePro Web server that will access an Oracle database, install the Oracle Administrator client software on the Web server.

To install Oracle client software, follow the Oracle Networking Products documentation.

Configuring RequisiteWeb

Rational RequisiteWeb allows clients to read, create, and modify Rational RequisitePro project requirements across an intranet. RequisiteWeb uses the Rational Web Platform (RWP) and Netscape Navigator and Microsoft Internet Explorer to provide client access to RequisitePro project data. RequisiteWeb must be installed on a Windows server. See *Custom Setup Options for Rational RequisitePro Servers* on page 74 for the specific **Custom Setup** option to select in the Rational Setup Wizard. After you configure the database and install the RequisiteWeb components on the Web server, see *Setting Up RequisiteWeb* on page 193.

Note: Installing RWP on a server that is already running another Web server may result in a port conflict that can cause RWP or the other Web server to fail on start-up. We recommend that you install RWP on a server that does not have to run any other

Web servers. If this is impossible, we recommend that you configure the other Web server to use ports that are not being used by RWP. If you cannot do this, you must configure RWP to use ports not used by the other Web server. For more information, see *To Change the Default RWP HTTP Port* on page 218.

Configuring E-mail for Discussions

The Rational E-Mail Reader offers full e-mail integration with RequisitePro by associating an e-mail handler with each RequisitePro project. Initial discussion items and replies are automatically stored in the RequisitePro database and sent to discussion participants via e-mail. Participants can reply to the discussion items using their e-mail, as well as from within RequisitePro. See *Configuring the Rational E-Mail Reader* on page 192 for more information.

Caution: The E-mail Setup option on the RequisitePro Tools menu only configures notification e-mail for users who initiate a discussion or reply to a discussion from within the RequisitePro Discussion dialog box. To allow users to reply to discussions via e-mail, and to enable discussion e-mail for RequisiteWeb users, configure an e-mail handler for each project using the Rational E-mail Reader.

Preparing to Install Rational Testing Products

This section explains what you need to know before you install Rational testing products. With Rational testing products, you can plan, develop, and execute both functional and performance tests for your Windows applications, as well as manage all testing activities — planning, design, development, execution, and analysis — using Rational TestManager.

For the most current information related to features and known issues in Rational testing products, refer to the release notes on the *Rational Solutions for Windows Online Documentation* CD. The release notes also appear at the end of each product installation. After a testing product is installed, you can access the release notes by clicking **Start > Programs > Rational Software > Rational <*testing product*> > Rational <*testing product*> readme**.

Use the checklist in Table 20 to help you set up your test environment and perform post-installation tasks.

Table 20 Rational Testing Products Installation Checklist

Done	Task
Before Installation	
	Get the license keys for your Rational testing products. See *Licensing Your Rational Products* on page 81.

Table 20 Rational Testing Products Installation Checklist (continued)

Done	Task
	Make sure you have administrator privileges on server systems. See *Administrator Privileges* on page 29.
	Check the system and software requirements for Rational testing products. See *Server System and Software Requirements* on page 30.
	Determine how you want to deploy the testing products in your environment. See *Selecting a Deployment Method* on page 28.
	Make sure that all computers have TCP/IP installed. Install updates to your network software.
	Verify that the computers are communicating with each other. (If you have any problems, see your network administrator.)
	Decide which type of database you need for your Rational Test Datastore. For more information, see *About Rational Test Datastores* on page 78. I
	If you want to convert a Microsoft Access test datastore to a SQL Anywhere test datastore, see *Converting a Microsoft Access Test Datastore* on page 78.
	Decide whether you want to attach the ClearQuest database to a Rational Administrator project. For more information about using the Rational Administrator, see the *Rational Suite Administrator's Guide*. The Rational Administrator is included in RequisitePro, Robot, SQL Anywhere, TestFactory, TestManager, and Rational Suite editions.
Installing Rational Testing Products	
	To learn the procedures for installing Rational ManualTest Web, Sybase SQL Anywhere, or other testing products that include Microsoft Access and the Rational Administrator, see *Installing Rational Products* on page 93. **Note:** For Sybase SQL Anywhere, we recommend using a dedicated server for optimal performance. All clients should have network access to this computer.
After Installation	
	To set up the Web server for ManualTest Web Execution, see *Configuring Rational ManualTest Web Execution* on page 209.
	Create the test datastore. See *Configuring Test Datastores* on page 203 and the *Rational Suite Administrator's Guide*. If you are converting a Microsoft Access test datastore to a SQL Anywhere test datastore, see: ▪ *Converting a Microsoft Access Test Datastore* on page 203. ▪ *Converting a Test Datastore from Microsoft Access to SQL Anywhere* on page 208.

About Rational ManualTest Web Execution

A *manual test script* is a set of testing instructions that are run by a human tester. A manual test script can consist of steps and verification points that you type into a manual test script using Rational ManualTest. After you create a manual test script and associate it with a test case, creating a test case implementation, you can run the test case from a Web browser. For information about creating a manual test script and about test case implementations, see the *Rational TestManager User's Guide*.

About Rational Test Datastores

A Rational test datastore stores functional and performance testing assets and artifacts such as suites, test plans, test cases, reports, test logs, and scripts, as well as information about users, groups, and computers. When you create a new test datastore from the Rational Administrator, you have the option of using two types of database engines: Microsoft Access or Sybase SQL Anywhere.

Note: The Rational Administrator is included in RequisitePro, Robot, Sybase SQL Anywhere, TestFactory, TestManager, and Rational Suite editions. For information about the Rational Administrator, see the *Rational Suite Administrator's Guide*.

- **Microsoft Access** – Microsoft Access is the default database engine for a test datastore. The run-time files are installed automatically when you install your Rational software. (The Microsoft Access run-time files are not the full version of Microsoft Access.) We recommend using Microsoft Access when no (or very limited) concurrent access to the test datastore is necessary. Microsoft Access is relatively low maintenance but is better suited to single-user access.
- **Sybase SQL Anywhere** – We recommend using this type of database engine when two or more concurrent users access a test datastore simultaneously. Data access for a SQL Anywhere database server is faster than for a comparably sized Microsoft Access database. However, a SQL Anywhere database does require more maintenance than a Microsoft Access database.

Converting a Microsoft Access Test Datastore

If you have a Microsoft Access test datastore and want to convert it to a SQL Anywhere test datastore, perform the following tasks:

Note: When you change from a Microsoft Access test datastore to a SQL Anywhere test datastore, the Crystal Reports dictionaries are replaced. All modifications out of the box to the Crystal Reports dictionaries are lost.

- Install the Sybase SQL Anywhere software.
- Back up your test datastore before starting the conversion.

Note: You cannot change a SQL Anywhere test datastore to a Microsoft Access test datastore.

Installing the SQL Anywhere Database Software

When you install the SQL Anywhere database server software, you are also installing the Rational Administrator and other Rational components that you need to manage Rational projects and test datastores in a networked, client/server environment. However, we strongly suggest that you install the server software along with a full install of the Rational product that you purchased. The SQL Anywhere database server software provides tools, samples, and related library files for your SQL Anywhere database server.

- For the installation procedure, see *Installing Rational Products* on page 93. Select SQL Anywhere in the **Product Selection** page.

  Note: We recommend using a dedicated computer for optimal performance. All clients should have network access to this computer.

- For information about setting up SQL Anywhere, see *After Install: Configuring Test Datastores and Test Web Server* on page 203.

Licensing Your Rational Products

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This chapter provides quick information for customers who are licensing their Rational products for the first time. You can request and install license keys before or after installing Rational products. Most Rational products require a license key before you can launch the product.

The *Rational Software License Management Guide* describes the web-based license manager AccountLink, Rational Common Licensing, and the Rational License Key Administrator (LKAD). It also provides instructions for requesting, installing, upgrading, configuring, and moving floating, named-user floating, and node-locked license keys.

This chapter explains product-specific licensing information:

- *Suite Versus Point-Product Licenses* on page 80
- *Licensing on Hosted Development Systems* on page 81
- *Licensing ClearCase LT* on page 81
- *Licensing ClearQuest and ClearQuest MultiSite* on page 81
- *Licensing Rational Testing Products* on page 82
- *Licensing Web Clients* on page 83
- *Licensing Windows NT Components for DevelopmentStudio on UNIX* on page 83

See Table 21 for instructions in basic licensing tasks.

Table 21 Basic Licensing Tasks

To	Task
Get your permanent (or Term License Agreement) license key. Term License Agreement means the license key has an expiration date built into it.	Use your License Key Certificate to request permanent license keys from AccountLink (www.rational.com/accountlink), Rational's web-based license key management tool. See *Using Your Rational License Key Certificate* on page 83 and *Using AccountLink to Request Permanent License Keys* on page 84.
Get your evaluation license key.	Get the license key from your Rational sales representative or the Try-It Center on www.rational.com.

Table 21 Basic Licensing Tasks (continued)

To	Task
Install node-locked license keys on your desktop.	Use the License Key Administrator (LKAD) Wizard to install your license keys. The LKAD Wizard launches at the end of installation or you can open the LKAD from the **Start** Menu under the **Rational Software** folder. See *Importing Permanent Node-Locked Keys* on page 85 and *Entering Temporary Node-Locked Keys* on page 85.
Install floating license keys on the Rational license server.	1 Install the Rational license server software. See *Installing the Floating License Server* on page 86. 2 Use the License Key Administrator (LKAD) Wizard to install the license keys. The LKAD Wizard launches at the end of installation or you can open the LKAD from the **Start** Menu under the **Rational Software** folder. See *Importing Permanent Floating Keys* on page 88 and *Entering Temporary Floating Keys* on page 89. 3 Start the license server. See *Starting the Rational Windows License Server* on page 89. 4 Give users the name of the Rational license server. See *Configuring Desktops to Use Single or Multiple License Servers* on page 90.
Configure client desktops to request licenses from the Rational license server.	1 Create a release area and site defaults file. See *Creating a Release Area and Site Defaults File* on page 99. 2 Give users the shortcut to the release area. Or,
	1 Give users the name of the Rational license server. 2 They can use the License Key Administrator (LKAD) Wizard to specify the license server. The LKAD Wizard launches at the end of installation. See *Configuring Desktops to Use Single or Multiple License Servers* on page 90.

Suite Versus Point-Product Licenses

A Rational license key indicates whether it enables a Rational Suite license, such as Rational Suite DevelopmentStudio, or a point-product license, such as Rational Purify. A Rational Suite license key lets you run all of the products contained within the Rational Suite concurrently. It causes the check-out of a single floating or node-locked license.

Licensing on Hosted Development Systems

The Rational products that support the hosted development systems in *Server System and Software Requirements* on page 30 require floating licenses.

Licensing ClearCase LT

This section describes Rational ClearCase LT licensing.

- The ClearCase LT server and ClearCase LT client require separate floating licenses when they are installed on separate computers. If you are evaluating ClearCase LT, you need only one floating license because the ClearCase LT server acts as both server and client.
- ClearCase LT can use a node-locked Rational Suite license key. After you have installed the node-locked license, use the License Usage Mapper to specify that ClearCase LT is to use the Rational Suite key. Rational does not provide a stand-alone node-locked license for ClearCase LT. See the *Rational Software License Management Guide* or the License Key Administrator Help for more information about the License Usage Mapper.

Licensing ClearQuest and ClearQuest MultiSite

Licensing ClearQuest

Each ClearQuest native client requires access to a floating license or node-locked license. For information about licensing the ClearQuest Web client, see *Licensing Web Clients* on page 83.

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.

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. All of the developers at site B will access replicated 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 proportional number of ClearQuest MultiSite licenses. For example, if site B purchased three ClearQuest licenses, they would also purchase three ClearQuest MultiSite licenses.

Licensing Sybase SQL Anywhere

The SQL Anywhere database software on the *Rational Solutions for Windows* CD does not require a separate license. It is configured to work only with Rational products.

Licensing Rational Testing Products

This section describes the types of licenses you need to use Rational testing products.

- Rational Suite TestStudio requires floating licenses.
- Virtual Tester and Protocol licenses for performance testing require floating licenses.
- To record GUI test scripts on multiple computers, to install Rational Robot stand-alone on each computer. A separate node-locked license is required for Robot-only installations.

Licensing Web Clients

To use ClearCase Web, ClearQuest Web, ManualTest Web, ProjectConsole, and RequisiteWeb your license administrator should install floating licenses on a Rational license server. The Web server (ClearQuest Web server or Rational Web Platform) requests a license key from the Rational license server on behalf of each Web client. You do not have to install a license key on your desktop to use the Web client.

Licensing Windows NT Components for DevelopmentStudio on UNIX

To run the Windows NT components for DevelopmentStudio on UNIX, request a floating license from AccountLink (www.rational.com/accountlink). When you receive the permanent license key file from AccountLink, import the file on the Rational license server.

- A UNIX license server can serve floating licenses to Windows and UNIX clients. To set up a Rational license server on a UNIX system, see the *Rational Software License Management Guide*.
- A Windows license server can serve floating licenses to Windows and UNIX clients.

Using Your Rational License Key Certificate

Rational Common Licensing requires that you use your Rational License Key Certificate to request permanent license keys. You will find the certificate enclosed in a large green envelope in your product shipment or you will receive a certificate from your Rational sales representative. The information, especially the Rational Account Number, on this certificate verifies that your company has purchased licenses to run Rational products.

- To get your permanent or Term License Agreement (TLA) node-locked or floating license keys, supply information from your Rational License Key Certificate to AccountLink (www.rational.com/accountlink).
- If you are unable to access AccountLink to request permanent license keys or there is a delay in receiving your permanent keys, enter the temporary license key printed on the License Key Certificate into the Rational License Key Administrator (LKAD).

Using AccountLink to Request Permanent License Keys

In AccountLink, you can order and return permanent node-locked, floating, and named-user floating license keys for Windows and UNIX products.

Note: AccountLink does not support temporary license key transactions.

AccountLink's interface offers three license transactions:

1. **Get License Key(s)** – Request your permanent license key. To order a permanent key, you need your Rational License Key Certificate, the host name and host ID, or ethernet address of the license server or desktop.

   You can register:

   - Rational Windows or UNIX products that will be served from a Rational license server.
   - Single, multiple, or redundant Rational license servers on Windows or UNIX systems.
   - Remote Windows or UNIX computers; you do not need to sit at the computer that you are requesting license keys for.

   To find out more about the host name and host ID, see the *Rational Software License Management Guide*. To order permanent license keys for a redundant server environment, specify the redundant servers' host IDs in the following order:

   a Primary license server

   b Secondary license server

   c Tertiary or backup license server

   The clients communicate with the redundant servers in that order.

2. **Return License Key(s)** – *Return* the existing license key to your Rational account and then request a license key for the new desktop or server. This adjusts the count of registered products in your account and enables you to receive a license key for the new computer. To learn more about returning license keys, see *Returning or Moving Keys for Administrators* on page 101.

3. **Request a Copy of a License File** – Get a copy of a license key file for any desktop or server that has license keys already registered to it. You may need this transaction when your hard disk is reformatted, you need to restore the software on your system, or your license keys become corrupt. This transaction does not require that you return or add license keys.

Importing Permanent Node-Locked Keys

Use the Rational License Key Administrator (LKAD) or the LKAD Wizard to import the license key file on your desktop after you install the Rational product.

Note: You must have local administrative privileges on the computer to import the license key into the LKAD or LKAD Wizard.

To import a license key file in the LKAD:

1. Select **License Keys > Import License Key(s)** on the menu bar.
2. In the **Import License Key(s)** dialog box, find the `*.upd` or `*.txt` file (license key file) and highlight it.
3. Click **Open**. The default location for the license key file is *<Install Path>*\Rational\common.
4. Click the **Import** button in the **Confirm Import** dialog box.

Other Methods

- If your e-mail program supports launching programs from file attachments, double-click the .upd or .txt attachment in the e-mail notification you received from Rational Software. Select **Open it** in the **Opening Mail Attachment** dialog box. Click the **Import** button in the **Confirm Import** dialog box.
- Save the file attachment to any folder and double-click the license file.
- Use the LKAD Wizard.

Entering Temporary Node-Locked Keys

Temporary node-locked license keys can be entered in the LKAD or the LKAD Wizard. Launch the LKAD Wizard or the LKAD after installing the product.

Note: You must have local administrative privileges on the computer to import the license key into the LKAD or LKAD Wizard.

To enter license information in the LKAD:

1. Select **License Keys > Enter a License** in the menu bar of the License Key Administrator.
2. Select the type of license.
3. In the next dialog box, enter the following information:
   - Product
   - Expiration Date

- License Key
- Quantity (if you are installing a floating license key)

4 Click **Finish**. The License Key Administrator adds this information to the license key `*.dat` file in *<Install Path>*\Rational\common.

Installing the Floating License Server

This section describes how to install the Rational License server software that enables you to flexibly install and manage license keys. You do not have to have a license key to operate the Rational license server software.

Before You Install the License Server on a Windows Server

The requirements for installing the Rational license server on a Windows server are minimal:

- The Rational license server runs on Windows operating systems (NT 4.0 or higher), except Windows 9x and XP Home systems.
- The Windows server must have a C:\ drive.
- You must have Windows administrator privileges on the local system.
- The default TCP/IP port number is 27000.
- There is no minimum recommended processor, memory, or disk space.

Note: Make sure that you have a current backup of your registry and system directories before running the Rational installation program.

Default Installation Path

The Rational Setup Wizard uses C:\Program Files\Rational as the default installation path. If your C:\ drive lacks sufficient free disk space, either specify another drive or make space available on the default drive. A C:\ drive must exist on the license server regardless of where you install the Rational license server software.

Using the Rational Setup Wizard

This section describes how to install the Rational license server from the *Rational Solutions for Windows* CD. If you would like to install the Rational license server from a release area or set up a silent installation, see the instructions in *Installing Rational Products* on page 91. The Rational Setup Wizard guides you through the software installation. Click **Next** to launch the installation, and to advance through the following screens.

Rational_Install Log

The Setup Wizard does not display an error summary. The log of installation activities called Rational_install.log records all installation activities. You and a Customer Support representative can use the log to trace any installation errors.

By default, the install log file is in the TEMP directory. The location of the directory depends on the TEMP environment variable set on the computer. To find the location, open a command Window and type **echo %TEMP%** at the DOS prompt.

This folder and file may be hidden. To display them in Windows Explorer, set **Show Hidden Files and Folders**.

Note: Interrupting an installation that is in progress may leave your system in an indeterminate state. If you try to close the Rational Setup Wizard window while the installation is in progress, you are asked to confirm that you want to exit from the incomplete installation.

To install the Rational license server from the CD:

1. Log in as a user with administrator rights on the local computer on which you want to install the product.
2. Insert the *Rational Solutions for Windows* Disc 1 into the computer's CD-ROM drive.

   The Rational Setup Wizard starts automatically.

   If autorun is disabled on your system, click **Start > Run** and enter *cd_drive*:\Setup.exe where *cd_drive* is the letter of the CD drive.
3. The **Product Selection** page lists all products available for installation. Select the Rational License Server.
4. Select the **Desktop Installation from CD Image** option in the **Deployment Method** page.
5. Choose to accept or not to accept the Rational Software license agreement in the **License Agreement** page. To view the Open Source license agreement, select the check box **View Open Source Agreement**.
   - If you accept the license agreement, the installation Wizard continues.
   - If you do not accept the license agreement, exit the Setup Wizard by clicking **Cancel** and then **Finish**. For information about changes to the computer, see *Canceling a Product Installation* on page 111.
6. The **Destination Folder** page specifies the directory where you want to install the license server software. Click **Change** to modify the location.

   Note: The installation Wizard requires that all Rational products be installed in the same directory.
7. Click **Install** on the **Ready to Install the Program** dialog to begin the installation.

8 A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during Rational Setup, or if the Wizard needs to install shared components on your system, the Setup Wizard may need to restart your system.

   Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

9 When the **Setup Complete** dialog appears, we recommend that you review the current information related to features and known issues in the **readme** file. In addition, the **Take me to the Rational Developer Network** option is selected, by default. Click **Finish** to complete the installation.

Note: Install the floating license keys on the license server before you start the server. See *Importing Permanent Floating Keys* on page 88.

Importing Permanent Floating Keys

Import the license key file on the license server by using the Rational License Key Administrator (LKAD). To install named-user floating license keys, see the *Rational Software License Management Guide.*

Note: You must have local administrative privileges on the server before you can import the license key into the LKAD.

To import a license key file in the LKAD:

1 Select **License Keys > Import License Key(s)** on the menu bar.

2 In the **Import License Key(s)** dialog box, find the `*.upd` or `*.txt` file (license key file) and highlight it.

3 Click **Open**. The default location for the license key file is *<Install Path>*\Rational\common.

4 Click the **Import** button in the **Confirm Import** dialog box.

Other Methods

- If your e-mail program supports launching programs from file attachments, double-click the .upd or .txt attachment in the e-mail notification you received from Rational Software. Select **Open it** in the **Opening Mail Attachment** dialog box. Click the **Import** button in the **Confirm Import** dialog box.
- Save the file attachment to any folder and double-click the license file.
- Use the LKAD Wizard.

Entering Temporary Floating Keys

You may enter a temporary or evaluation license key on the license server if you are evaluating the product or AccountLink is unavailable.

Note: You must have local administrative privileges on the server before you can enter the license key into the LKAD.

To enter license information in the LKAD:

1. Select **License Keys > Enter a License** in the menu bar of the License Key Administrator.
2. Select the type of license.
3. In the next dialog box, enter the following information:
   - Product
   - Expiration Date
   - License Key
   - Quantity (if you are installing a floating license key)
4. Click **Finish**. The License Key Administrator adds this information to the license key `*.dat` file in *<Install Path>*\Rational\common.

Starting the Rational Windows License Server

Start the Rational license server after you have imported or entered the license keys. The Rational license server will not start until license keys are installed. Use the correct procedure based on the Windows O/S version on your server.

Note: Although the control panel applet may still appear on your server from an earlier release of Rational server software, starting with version 2001, the Rational license server does not use the FLEXlm control panel applet.

Table 22 License Server Start Instructions

Operating Sysem	Procedure
Windows XP	1 Click **Start** and select **Settings > Control Panel > Administrative Tools > Services > FLEXlm License Manager.** 2 Click **Start the service**.

Table 22 License Server Start Instructions (continued)

Operating Sysem	Procedure
Windows 2000	1 Click **Start** and select **Settings > Control Panel > Administrative Tools > Services > FLEXlm License Manager**. 2 In the **General** tab, click **Start** under **Service Status**.
Windows NT	1 Click **Start** and select **Settings > Control Panel > Services**. 2 Select the **FLEXlm License Manager** in the **Services** dialog box and click **Start**.

Configuring Desktops to Use Single or Multiple License Servers

Enter the license server's host name in the License Key Administrator (LKAD) of your desktop. Your license administrator should tell you whether the Rational license server has been started before you specify the license server.

Configuring Desktops to Use Single or Multiple License Servers

The following procedure lets you specify one or multiple license servers on your desktop. Do not use the following procedure to enter redundant servers.

To enter the license server hostname(s) on a desktop:

1. Select **Settings > Client/Server Configuration**.
2. Click **Add Server**.
3. **Single** should be the default value next to **Server Type**. Enter the hostname of the license server in the **Values** column next to **Server Name** by clicking **New-Server**. Press the **Enter** key after entering the host name.

   Additional Servers

   If your system administator has given you the host names of additional license servers, click the **Add Server** button and enter the host name for each server.
4. Click **OK** after you have entered all servers.

Installing Rational Products

3

Use the Rational installation program for initial and upgrade installations of Rational products. This chapter describes the Rational Setup Wizard and how the Wizard can help you deploy Rational products directly from the *Rational Solutions for Windows* CD-ROM, from a release area on a network, and in silent installation mode. For descriptions of these methods, see *Selecting a Deployment Method* on page 28.

Note: See the *Installation Guide* for Rational Desktop Products for more information about installing and configuring desktop or client software.

Removing Previous Releases of Rational Products

Before installing Rational products from version 2003.06.00, remove previous versions of Rational products, including the Rational license server. The only exception is Rational ClearCase. You can install 2003.06.00 products with older versions of ClearCase.

For the removal procedure, see the *Removing Rational Products* chapter in this guide.

You or your system administrator must see the *Rational Suite Upgrade Guide* in the *Rational Solutions for Windows Online Documentation* CD-ROM before you try to upgrade your Rational products.

Note: If you are using floating licenses, record the license server name(s) before you remove Rational products from your computer. After you install new Rational products on your computer, reset the hostnames in the Rational License Key Administrator. For more information, see the *Removing Rational Products* chapter in this guide.

Deploying Rational Products

Use Table 23 to help you find the correct procedures for the deployment method that you have selected for your users. If the references are numbered, read the sections in the order specified. To install ClearCase LT or ClearQuest for evaluation, see *Installing ClearCase LT for Evaluation* on page 47 or *Installing Rational ClearQuest for Evaluation* on page 60.

Table 23 Deployment Methods

Method	See
Install directly from the *Rational Solutions for Windows* CD-ROM.	1 *Using the Rational Setup Wizard* on page 93. 2 *Using the Custom Setup Page* on page 94. 3 *Specifying the Rational License Server* on page 97. 4 *Installing Rational Products from the CD* on page 97. 5 *Post-Installation Tasks* on page 109.
Create a release area and site defaults file using the Rational Setup Wizard.	1 *Using the Rational Setup Wizard* on page 93. 2 *Specifying the Rational License Server* on page 97. 3 *Using the Setup Wizard to Create a Release Area and Site Defaults File* on page 100.
Create multiple site defaults files for a release area.	1 Create a release area using the Rational Setup Wizard. 2 *Running the Site Preparation Wizard to Create Multiple Sitedef Files* on page 103.
Install from a release area on a network (using the standard configuration).	1 *Installing Rational Products from a Release Area* on page 103. 2 *Post-Installation Tasks* on page 109.
Install from a release area on a network (customizing the client configuration for your desktop).	1 *Installing Rational Products from a Release Area* on page 103. 2 *Using the Custom Setup Page* on page 94. 3 *Post-Installation Tasks* on page 109.
Cancel a product installation.	▪ *Canceling a Product Installation* on page 111, or, ▪ *Canceling a Silent Installation* on page 109.
Reinstall the product (modify or repair).	*Reinstalling a Product (Modify or Repair)* on page 111.

Table 23 Deployment Methods (continued)

Method	See
Set up a silent installation in a release area.	*Setting Up Silent Installations of Rational Products* on page 107.
Perform a silent installation.	1 *Performing a Silent Installation* on page 108. 2 *Post-Installation Tasks* on page 109.
Remove a product.	▪ *Removing Rational Products* on page 225, or, ▪ *Using the Command Line to Remove a Product* on page 109.
Use command line syntax.	*Command Line Syntax* on page 112.
Apply a service release.	*Applying Service Releases* on page 113.

Using the Rational Setup Wizard

The Rational Setup Wizard installs Rational Software products. Your Rational product shipment includes three *Rational Solutions for Windows* CD-ROMs:

- Disc 1-2 provide the Rational products to install.
- Disc 3 provides Rational product documentation.
- Installation blocks and warnings are listed in *Rational Setup Wizard Warnings or Blocks* on page 112.

Rational_Install Log

The Setup Wizard does not display an error summary. The log of installation activities called Rational_install.log records all installation activities. You and a Customer Support representative can use the log to trace any installation errors.

By default, the install log file is in the TEMP directory. The location of the directory depends on the TEMP environment variable set on the computer. To find the location, open a command Window and type **echo %TEMP%** at the DOS prompt.

This folder and file may be hidden. To display them in Windows Explorer, set **Show Hidden Files and Folders**.

Before You Start the Rational Setup Wizard

The following general requirements are necessary to run the Rational Setup Wizard on the system.

- Stop all applications, including SQL Anywhere services, before you begin the installation.
- Make sure you have administrator privileges before installing Rational products.

  To use the Rational Setup Wizard on a Windows operating system, you must have Windows administrator privileges on the local computer. Log in as one of the following users:

  - Local administrator
  - Member of the local administrator's group
  - Domain administrator who is a member of the local administrator's group
- Turn off all virus protection software. These programs often run in the background and interfere with the install application's performance because the virus protection checks each file that is installed.
- Make certain that the system meets the minimum requirements and the correct operating system.
- The Rational Setup Wizard uses C:\Program Files\Rational as the default installation path.
- The Rational Setup Wizard installs Microsoft Core Components and some additional files on the same drive as the operating system (often the C:\ drive), even if you have specified an alternate drive for installation. These files can require 5-15 MB of temporary disk space on your hard drive.
- The Rational Setup Wizard requires that you install all Rational products in the same directory. If you already have Rational products installed on the computer, the Setup Wizard installs additional Rational products in the same directory.
- Make sure that you have a current backup of your registry and system directories.
- Turn off any user interface managers or environments that run on Microsoft Windows.

Using the Custom Setup Page

Use Table 24 to help you install the correct server features for your Rational product when you install the product from the CD-ROM image or when you customize your own configuration as you install from a release area.

The Custom Setup page lists the features for the product to be installed. The feature list in a Rational Suite edition includes Rational point products. The Custom Setup page appears in Step 9 of the procedure in *Installing Rational Products from the CD* on page 97.

Note: For disk space requirements, see the *Server System and Software Requirements* on page 30. Do not use the number displayed in Custom Setup or the **Space** button on that page.

Table 24 Server Custom Setup in Rational Setup Wizard

To Install	Choose Product	Custom Options	Notes
Rational Suite Edition	Rational Suite	The products included in the Suite edition will be selected. For example, under ClearQuest, you will see the ClearQuest Administration Tools, Web server, etc.	▪ Does not install the ClearCase LT Server. ▪ Under each product in the Rational Suite, you will see features displayed as they are displayed in the rest of the Custom Options column.
ClearCase LT server	ClearCase LT	▪ Rational ClearCase Microsoft Visual Studio.NET ▪ Web server	▪ Install from CD-ROM: Select the server and client software option for the ClearCase LT server in the Client/Server page. ▪ Create Release Area: Select Siteprep ClearCase Server in the Client/Server page.
ClearQuest Administration Tools	ClearQuest	Administration Tools	To plan your ClearQuest configuration, see *Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50. No other ClearQuest features are required.
ClearQuest MultiSite Administration Tools	ClearQuest	MultiSite Administration Tools	To plan your ClearQuest configuration, see *Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50. No other ClearQuest features are required.

Table 24 Server Custom Setup in Rational Setup Wizard (continued)

To Install	Choose Product	Custom Options	Notes
ClearQuest database	SQL Anywhere 8.0.1	See Notes.	▪ Do not select Rational ClearQuest in the Setup Wizard's Product Selection page. Install SQL Anywhere as a separate product. ▪ To install other vendor database software, read the vendor documentation. ▪ No ClearQuest features are required when you install the vendor database.
ClearQuest MultiSite	Rational Shipping Server	See Notes.	To plan your ClearQuest configuration, see *Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50. No other ClearQuest features are required.
ClearQuest Web server used with IIS	ClearQuest	ClearQuest Web	To plan your ClearQuest configuration, see *Preparing to Install ClearQuest and ClearQuest MultiSite* on page 50.
ManualTest Web Execution	▪ Any Rational Suite ▪ Robot ▪ TeamTest ▪ TestManager	Web Server Components > Rational ManualTest Web Execution	You do not have to install any other Rational testing product on the server. You can clear all the other features.
ProjectConsole software	Any Rational Suite	▪ ProjectConsole > Web Server Components (includes Report Server and Data Collection Agent software) ▪ ProjectConsole > Report Server and Data Collection Agent (Select this option if you want to configure additional Agents) ▪ ProjectConsole > Template Builder	ProjectConsole is included in all Rational Suite editions.

Table 24 Server Custom Setup in Rational Setup Wizard (continued)

To Install	Choose Product	Custom Options	Notes
RequisitePro Database	RequisitePro	▪ Database Setup ▪ Sample Projects	If you are installing RequisitePro on a client, you do not need to install the Database Setup.
RequisiteWeb	RequisitePro	Web Server Components > Rational RequisiteWeb	Do not install RequisiteWeb on a computer that has JIntegra already installed.

Specifying the Rational License Server

You can provide a Rational license server name in the Rational Setup Wizard if you are using floating licenses. You may provide the license server name if you plan to have users install from a release area or run a silent installation from the release area. If your product requires a license key and you do not provide the server name, users will see the Rational License Key Administrator (LKAD) launch at the end of the installation.

Installing Rational Products from the CD

This section describes a typical installation of a Rational product from the *Rational Solutions for Windows* CD. The Rational Setup Wizard Program guides you through the software installation. If you are installing Rational ClearCase LT or ClearQuest for evaluation, see *Installing ClearCase LT for Evaluation* on page 47 or *Installing Rational ClearQuest for Evaluation* on page 60.

1. Log in as a user with Administrator rights on the local machine.
2. Insert the *Rational Solutions for Windows Disc 1* into the computer's CD-ROM drive.

   The Rational Setup Wizard starts automatically.

   If autorun is disabled on your computer, click **Start > Run** and enter *cd_drive*:\Setup.exe where *drive* is the letter of the CD-ROM drive.
3. The **Welcome** page to the Rational Setup Wizard appears. Click **Next** to launch the installation, and to advance through the following screens.
4. The **Product Selection** page lists all products available for installation. Select the product you want to install.
5. Select the **Desktop Installation from CD Image** option in the **Deployment Method** page.

6 If you are installing ClearCase LT, you will see the **Client/Server** page. The client software on the clients will not work until you have installed and configured the server (and client software).

- If you are installing and configuring the server software, select **Install the server and client software.**
- If you are installing client software, select **Install the client software only.**

7 Choose to accept or not to accept the Rational Software license agreement in the **License Agreement** page.

- If you accept the license agreement, the installation Wizard continues.
- If you do not accept the license agreement, exit the Setup Wizard by clicking **Cancel** and then **Finish**. For information about changes to the computer, see *Canceling a Product Installation* on page 111.

8 On the **Destination Folder** page, specify the directory where you want to install the Rational product. If you want to modify the location, click **Change**.

Note: The installation Wizard requires that all Rational products be installed in the same directory.

9 The **Custom Setup** page provides product feature options for the software installation. You can either accept the default typical features on the page or you can customize the installation. Refer to the table in *Using the Custom Setup Page* on page 94 for the product features that you want to install.

If you want to clear features or select new features, click **Help**.

Note: For disk space requirements, see the *Server System and Software Requirements* on page 30. Do not use the number displayed in Custom Setup or the **Space** button on that page.

10 Depending on the product that you have selected, you will see one or more custom configuration pages in the wizard. Use the **Help** to provide instructions in this section of the configuration wizard.

- Enter the required information in each page of the wizard. (All required information displays in the left panel of the wizard with a red dot.)
- To navigate through the pages, you can either click **Nex**t to see them sequentially or click on the page title in the left pane to access the page directly and nonsequentially.

When you complete the last page, click **Done**.

11 Click **Install** on the **Ready to Install the Program** page to begin the installation.

12 A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during the Rational Setup program and if the program needs to install shared components on your computer, the Setup Wizard may need to restart your computer.

Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

After Windows restarts, the second part of the installation process starts automatically after you log on.

13 When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation.

Creating a Release Area and Site Defaults File

A release area contains site defaults files and all the files that will be used in subsequent installations. For example, part of setting up a release area is to specify information, such as client software and license servers. This information is stored in a site defaults file and used when a Rational product, such as ClearCase LT or ClearQuest, is installed on clients.

There are two methods for creating site defaults files. Both methods create an on-disk image of product files in a shareable directory on the network. The first method creates a release area (Enterprise Deployment). The second method (Site Preparation Wizard) does not create a release area. You can also use these methods to install the product on your computer after creating a site defaults file.

- Run the Rational Setup Wizard on the *Rational Solutions for Windows CD-ROM*. See *Using the Setup Wizard to Create a Release Area and Site Defaults File* on page 100 for more information.
- Run the Site Preparation Wizard multiple times to create multiple site defaults files. See *Running the Site Preparation Wizard to Create Multiple Sitedef Files* on page 103 for more information.

Note: Do not use the Enterprise Deployment option in the Rational Setup Wizard or the Site Preparation Wizard on Windows 9*x* computers. You cannot create a site defaults file or release area on Windows 9*x* systems.

Using the Setup Wizard to Create a Release Area and Site Defaults File

This section explains how you can use the Rational Setup Wizard to create a release area and populate it with site defaults files. You can create a meaningful name for each site defaults file, such as CQdevelopers.dat. By default, the file is named sitedefs.dat if you do not specify a name for it. Do not name a file with an additional suffix, such as sitedefs.developers.dat.

You can use this release area to install Rational servers. Client users can use this release area to install Rational products on their desktops.

1. Make the release area directory shareable. Even if the drive containing that directory is already shareable, making the directory itself shareable makes it easier to find the product release area.

   a. In Windows Explorer, right-click the network release area to display the directory shortcut menu.

   b. Click **Sharing**. The **Properties** page appears.

   c. On the **Sharing** tab, click **SHARE this folder** and supply a meaningful share name, such as **ClearQuest 6.0 Release Area**.

   Note: The Setup Wizard creates a shortcut to the site defaults file only if the release area is created under a network share. The shortcut appears in the release area, for example, as sitedefs or CQdevelopers without the suffix .dat.

2. Log in as a user with Administrator rights on the local computer.

3. Insert the *Rational Solutions for Windows Disc 1* into the computer's CD-ROM drive.

   The Rational Setup Wizard starts automatically.

   If autorun is disabled on your computer, click **Start > Run** and enter *cd_drive*: \Setup.exe where *drive* is the letter of the CD-ROM drive.

   The Rational Setup Wizard Program guides you through the software installation. Click **Next** to open the page.

4. The **Product Selection** page lists all products available for installation. Select the product that you want to create a release area for. Click **Next**.

5. Select the **Enterprise Deployment** option in the **Deployment Method** page. Click **Next**.

6. Depending on the product you have selected, you will see one or more custom configuration pages in the wizard. Use the **Help** to provide instructions in this section of the wizard.

   Enter the required information in each page of the wizard. (All required information displays in the left panel of the wizard with a red dot.)

To navigate through the pages, you can either click **Nex**t to see them sequentially or click on the page title in the left pane to access the page directly and nonsequentially.

7 In the **Completion** pages, you are required to fill in the **Description** page and the **Create a Release Area** page. The **Launch Installation** is optional.

   a In the **Description** page, enter a description for users. When you are done, click **Next.**

   b In the **Create a Release Area** page, enter the release area location and filename for the site defaults file (**.dat*) that will be created.

   Note: Do not use multi-byte characters.

   - If you want to install software on your computer based on the site defaults that you just entered, click **Next** to go to the **Launch Installation** page. Select **Launch installation using these settings**. You will save the site defaults information to a file and then proceed with the installation on your computer. Click **Done** and then **Next**.

     Skip to *Installing the Product on Your Computer* on page 101 for the rest of the instructions.

   - If you only want to create a release area, click **Done** and then **Next** to create the site defaults file.

8 When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation of the release area.

For more information about how to install products from this release area, see *Installing Rational Products from a Release Area* on page 103.

Installing the Product on Your Computer

When you create a release area, you have the option to install the product on your desktop.

1 In the **Launch Installation** page, select **Launch installation using these settings** and then click **Done** and then **Next**.

2 When the Rational Setup Wizard Completed page appears, click **Finish** to complete the installation of the release area.

3 When the installation begins, click **Next**. Choose to accept or not to accept the Rational Software license agreement in the **License Agreement** page.

   - If you accept the license agreement, the Setup Wizard continues.

- If you do not accept the license agreement, exit the Setup Wizard by clicking **Cancel** and then **Finish**. For information about changes to the computer, see *Canceling a Product Installation* on page 111.

4 Specify the **Destination folder**, and then click **Next,** or change the destination by clicking **Change.**

5 In the **Site Default Configuration** page, you will see the Release Area Description that you entered previously. Decide whether you want the site defaults that you set installed on your computer. Either click **Use the standard configuration** (These are site defaults that you set.) or **I will create my own custom client configuration**.

- If you select **I will create my own custom client configuration**:
  - The **Custom Setup** page displays product features to select. For more information, see *Using the Custom Setup Page* on page 94.

  Note: For disk space requirements, see the *Server System and Software Requirements* on page 30. Do not use the number displayed in Custom Setup or the **Space** button on that page.

  - When you click **Next,** you may change any of the existing site default values. (Any changes to the site default values apply only to this single installation.) After modifying the values, click **Done** and then click **Install** to begin the installation.
- If you select **Use the standard configuration**, then the features for the existing site default values will be used for the installation. Click **Next** and then click **Install** to begin the installation.

6 A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during the Rational Setup program and if the program needs to install shared components on your computer, the Setup Wizard may need to restart your computer.

Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

After Windows restarts, the second part of the installation process starts automatically after you log on.

7 When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation.

Running the Site Preparation Wizard to Create Multiple Sitedef Files

In some cases, your site may require multiple site defaults files. For example, if two groups, say a database administrator's group and a client user group, both use ClearQuest but need to work with different default settings (such as ClearQuest features), then you can create one site defaults file for each group.

To create multiple site defaults for a release area:

1. Create the initial release area by following the instructions in *Using the Setup Wizard to Create a Release Area and Site Defaults File* on page 100. Set up this area with the site-specific parameters relevant to the first group of users.
2. Select the site defaults file created in Step 1 (sitedefs.dat, for instance) as a starting point by clicking **File** > **Open** or typing the command siteprep.exe <*sitedefs.dat*>. The Rational Site Preparation Wizard displays the values set in sitedefs.dat. Keep the values that apply to both groups and change the ones according to the needs of the second group.

   Note: If you double-click on siteprep.exe in the release area or use the command siteprep.exe without the site defaults filename, the Site Preparation Wizard launches without displaying the values set in the existing site defaults file.
3. Click **File** > **Save as** to save a new site defaults file. You are prompted to enter a file name and folder for the new site defaults file:
   - If you started the site preparation on the command line and specified a file-name argument for the site defaults file, for example, sitedefs.dat, the **Folder** and **File name** boxes display this information. You could save the modified site defaults files with a new file name, for example sitedefs_cqclient.dat.
   - If no file name was previously specified, the **File name** box is blank. Type a file name that does not currently exist in the release area.

     Note: If you enter the name of an existing site defaults file, a warning message appears. You can overwrite the existing file or specify a different file name to create a new site defaults file.

According to your needs, you may create additional site defaults files in this way.

Installing Rational Products from a Release Area

When users install Rational products from a release area designated by you, in most cases, they accept the defaults as presented on the installation screens. Users who do not want to accept the defaults should speak to you before they make changes.

Installing from a release area includes the following steps:

1. Create one or more site defaults files in a release area using the Rational Setup Wizard or the Site Preparation Wizard. Give users the path to the site defaults file or have them click the shortcut to the site defaults file created by the Rational Setup Wizard. For instructions, see *Using the Setup Wizard to Create a Release Area and Site Defaults File* on page 100.
2. Users can then access the release area from the command line or click the shortcut. The command line or shortcut will launch the Setup Wizard on their desktops. The Setup Wizard will use the settings in the site defaults file to install the product.
3. To install products from a release area, users can use the standard configuration set by you or they can customize the standard client configuration for their desktops. For more information, see the following procedures.

Note: If users type only siteprep.exe in the command window or click siteprep.exe, the Setup Wizard uses the settings in sitedefs.dat (the default site defaults file name). If there are other site defaults files, such as developers_cq.dat, that you would like them to use, tell them to specify developers_cq.dat or click the specific shortcut, developers_cq or developers_cq.link

If users click siteprep.exe (without specifying a site defaults file name) and there is no site defaults file called sitedefs.dat in the release area, the Site Preparation Wizard launches to create a new site defaults file.

Using a Standard Configuration

Before following these instructions, read the overview information in the previous paragraphs. You or your administrator must create a release area and a site defaults file before you can install a product from the release area.

To install a default configuration from the release area:

1. Log on as a user with local administrator privileges.
2. To install a Rational product using the settings in a specific site defaults file, either specify the name of the site defaults file on the command line or click the associated site defaults shortcut in the release area. For example, to install ClearQuest using the settings in sitedefs_cqclient.dat, map a network drive from your computer to the shared release area. Then,
   - In the DOS Windows, use the cd command to navigate to the root directory of the release area. Then enter, for example, setup.exe sitedefs_cqclient.dat, or
   - In Windows Explorer, expand the mapped drive and launch the shortcut, for example, sitedefs_cqclient.link or sitedefs_cqclient.
3. The Rational Setup Wizard guides you through the software installation. In each page, click **Next** to open the next page. Click **Help** for more information.

- The **License Agreement** page displays the Rational Software license agreement. If you accept the license agreement and click **Next**, the installation continues.
- If you do not accept it, the installation does not let you proceed further. Click **Cancel** and exit from the installation. You will not see any visible changes to the system. The program returns your system to the state it was in before you launched the Rational Setup Wizard.

  Note: If you do not have the correct version of Windows Installer software on your computer, the Rational Setup Wizard will install it for you. Canceling the installation does not remove the updated version of Windows Installer. In some cases, you may have to restart the computer.

4. The **Destination Folder** page displays the default destination folder for the installation. Click **Change** to select a different destination folder for the installation. Click **Next.**
5. Click **Use the standard configuration** on the **Site Default Configuration** page. The default features for the product and the existing site default values will be used for the client installation. Click **Next**.
6. Click **Install** to begin the installation on your client desktop.
7. A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during the Setup Wizard, and if the Wizard needs to install shared components on your computer, the Setup Wizard may need to restart your computer.

   Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

   After Windows restarts, the second part of the installation process starts automatically after you log on.
8. When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation.

Customizing Your Own Configuration

Before following these instructions, read the overview of installing a product from a release area in this section. You or your administrator must create a release area and a site defaults file before you can install a product from the release area.

To customize a configuration for a specific computer:

1. Log on as a user with local administrator privileges.
2. To install a Rational product using the settings in a specific site defaults file, either specify the name of the site defaults file on the command line or click the associated site defaults shortcut in the release area. For example, to install ClearQuest using the settings in sitedefs_cqclient.dat, map a network drive from your computer to the shared release area. Then,
   - In the DOS Window, use the cd command to navigate to the root directory of the release area. Then enter, for example, setup.exe sitedefs_cqclient.dat, or
   - In Windows Explorer, expand the mapped drive and launch the shortcut, for example, sitedefs_cqclient.link or sitedefs_cqclient.
3. The Rational Setup Wizard runs and guides you through the software installation. In each page, click **Next** to open the next page. Click **Help** for more information.
4. The **License Agreement** page displays the Rational Software license agreement.
   - If you accept the license agreement and click **Next**, the installation continues.
   - If you do not accept it, the installation does not let you proceed further. Click **Cancel** and exit from the installation. You will not see any visible changes to the system. The program returns your system to the state it was in before you launched the Rational Setup Wizard.

     Note: If you do not have the correct version of Windows Installer software on your computer, the Rational Setup Wizard will install it for you. Canceling the installation does not remove the updated version of Windows Installer. In some cases, you may have to restart the computer.
5. The **Destination Folder** page displays the default destination folder for the installation. If you want to select a different destination folder for the installation, click **Change**.
6. Click **I will create my own custom client configuration** on the **Site Default Configuration** page.
   - The Custom Setup page displays product features to select. For more information about features for your product, see *Using the Custom Setup Page* section in this chapter.

     Note: For disk space requirements, see the *System and Software Requirements* table in the *Before You Install* chapter of this guide. Do not use the number displayed in Custom Setup or the **Space** button on that page.
   - When you click **Next,** you may change any of the existing site default values. (Any changes to the site default values apply only to this single installation.) After modifying the values, click **Done**.
7. Click **Install** to begin the installation on your client desktop.

8 A **Restart Windows** page appears if the Rational Setup Wizard needs to restart your computer. If files required for the installation are in use during the Setup Wizard and if the Wizard needs to install shared components on your computer, the Setup Wizard may need to restart your computer.

   Select **Restart** or **Don't Restart**. If you select **Don't Restart**, the Wizard reminds you that the installation cannot complete until Windows restarts.

   After Windows restarts, the second part of the installation process starts automatically after you log on.

9 When the **Setup Complete** page appears, we recommend that you review the current information related to new features and known issues in the **readme** file. In addition, you can view the **Rational Developer Network** Web pages. Click **Finish** to complete the installation.

Setting Up Silent Installations of Rational Products

Silent install is a method of installing Rational products on client computers without intervention from users. It greatly reduces the work of an administrator during a deployment. It also ensures that the correct software configuration is installed on each server and desktop.

This section describes how to set up and perform a silent installation. The basic steps, explained below, are:

1 Create a site defaults file and a release area on the network. Creating a release area is optional.

   a Use the **Enterprise Deployment** option in the Rational Setup Wizard to create a site defaults file and a release area to deploy the product to your users. See *Creating a Release Area and Site Defaults File* on page 99 for the procedure.

   Or use the Site Preparation Wizard by double-clicking siteprep.exe in the CD-ROM image (or run siteprep.exe on the command line) to create a site defaults file without the release area.

   b You can customize site defaults files for different sets of users. For more information, see *Running the Site Preparation Wizard to Create Multiple Sitedef Files* on page 103.

2 Use the **setup.exe /g** command to start the Rational Setup Wizard and test the site defaults file. You should not see any installation screens displayed on your computer during the installation. (See *Performing a Silent Installation* on page 108 for the full command.)

The file directs the Rational Setup Wizard to install program files in a specific directory on your computer. If a restart is required, your computer restarts automatically. After the restart, you must log on manually. The installer then re-launches automatically and finishes. When the installation finishes, you do not see an installation complete screen.

If you did not specify the license server in the site defaults file, you or your users may have to manually configure licensing after the Setup Wizard finishes.

3 Give users the following information so they can perform silent installations on their computers.

- Path to the site defaults file and the setup.exe executable in the release area or the shortcut to the site defaults file. (The shortcut will not have a *.dat* suffix.)
- Silent installation commands.
- Installation directory (where the Rational Setup Wizard will install the files on your desktop).
- License key information, if necessary.
- Ensure that users remove all Rational products from their desktops. Users who install silently do not see the message to remove previous versions of Rational products. The installation does not proceed until all products are removed. The message is saved in the user's installation log file. If the installation fails, direct users to the log file. For more information about this file, see *Rational_Install Log* on page 93.

Note: For information about setup.exe command line parameters, see *Command Line Syntax* on page 112 or type **setup / ?**.

Performing a Silent Installation

After you have created the site defaults file, test it with the following commands:

<*local drive*>:**setup.exe /g** <C:*sitedefs.dat*>

Where <*local drive*>:\ is a mapped drive or path to setup.exe. There is a space between setup.exe and command **/g** and a space between **/g** and the path to the *sitedefs.dat* file which is *C:\:sitedefs.dat*.

Note: You must specify the absolute pathnames to both setup.exe and <*sitedefs.dat*> when you perform a silent installation, unless you have mapped the files to a disk drive on your computer.

By default, the installation log file (rational_install.log) is created in your computer TEMP directory. To find the Temp directory, open a command prompt and type **echo %TEMP%**. The location of the directory depends on the system environment variable set on the computer.

Canceling a Silent Installation

There is no command to cancel a silent installation.

Using the Command Line to Remove a Product

To remove a Rational product in the current releases (2003.06.00), use the following commands. These commands will not remove earlier versions of Rational products.

<*local drive*>:**msiexec.exe /X** <*path to product*>.msi /**qn**

Where <*local drive*>:\ is a mapped drive or path to msiexec.exe. The variable <*path to product*>.msi, such as ClearQuest.msi, is the path to the MSI file in your network-wide release area used by ClearQuest, for example, during installation. In the release area, that MSI file exists in the Setup directory. The command **/x** indicates an uninstall operation and **/qn** indicates no user interfaces are displayed during the uninstall operation.

Note: You must specify the absolute pathnames to both msiexec.exe and <*path to product*>.msi when you perform a silent uninstall, unless you have mapped the files to a disk drive on your computer.

For more information about the **msiexec.exe** command, and associated command line options, see the Microsoft Windows Installer Platform Software Developer's Kit documentation at http://www.microsoft.com/windows/reskits/webresources/default.asp.

Post-Installation Tasks

The following sections apply to all deployment types.

Licensing

If you do not see the License Key Administrator (LKAD) launch at the end of the installation, your product is either licensed or does not require a license. Skip to *Product Installation Checklist* on page 110.

You or your users may see the License Key Administrator (LKAD) launch at the end of a product installation for the following reasons:

Table 25 LKAD Launch

Deployment Type	Reason
Desktop installation from CD image	▪ You did not provide a Rational license server name in the Rational Setup Wizard, or ▪ The product requires a node-locked license key.

Table 25 LKAD Launch (continued)

Deployment Type	Reason
Install from a Release Area (Enterprise Deployment)	▪ You did not provide a Rational license server name when you created the site defaults file, or ▪ The product requires a node-locked license key.
Silent Installation	▪ You did not provide a Rational license server name when you created the site defaults file, or ▪ The product requires a node-locked license key.

If you see the LKAD, you or your users must perform the following tasks to license the product.

Table 26 LKAD Tasks

To Configure	Task	See
Floating License Key	Enter the name of the Rational license server in the LKAD.	▪ *Licensing Your Rational Products* on page 79, or ▪ *Rational Software License Management Guide, or* ▪ LKAD Help
Node-Locked License Key	Import the node-locked license key in the LKAD.	▪ *Licensing Your Rational Products* on page 79, or ▪ *Rational Software License Management Guide, or* ▪ LKAD Help

Product Installation Checklist

Perform the post-installation tasks for the product you have just installed. If you are unsure whether the product requires any configuration, see *Before You Install* on page 25 and look for the product's installation checklist.

Canceling a Product Installation

If you click **Cancel** any time during the installation procedure or before the installation completes, you will not see any visible changes to the system. The program returns your system to the state it was in before you launched the Rational Setup Wizard.

Note: If you do not have the correct version of Windows Installer software on your computer, the Rational Setup Wizard will install it for you. Canceling the installation does not remove the updated version of Windows Installer. In some cases, you may have to restart the computer.

Reinstalling a Product (Modify or Repair)

If you have sucessfully completed a previous installation of a Rational product in version 2003.06.00, you can modify or repair the installation by using **Add or Remove Programs**.

To remove the Rational product, see the chapter *Removing Rational Products.*

1. Log in as a user with Administrator rights on the local computer on which you want to install the product.
2. Click **Start > Settings > Control Panel > Add or Remove Programs**.
3. Highlight the Rational product and click **Change**.
   - **Modify the Existing Installation** – Choosing this option enables you to change which products and product features are installed. The Setup Wizard provides the **Custom Setup** page for you to clear or select features. For example, you included the **ClearQuest Multisite Administration Tools** in your ClearQuest client installation. To reinstall the ClearQuest client, clear this product feature in the **Custom Setup** page and reinstall the ClearQuest client.

     Click **Modify** and then click **Next** to select or clear features in the Custom Setup page. Click **Next** and then click **Install** to begin the installation.
   - **Repair the Existing Installation** – Choosing this option enables you to repair a damaged registry or replace files that you may have inadvertently deleted. This option does not repair incomplete or unsuccessful installations.

     To begin the repair, click **Repair** and then click **Next** and then click **Install**. At the end of the operation, the status of the repair is displayed.

Command Line Syntax

This section provides the syntax for setup.exe.

Table 27 Command Line Syntax

Setup.exe **Command Parameter**	**Description**
setup	Executes the Rational Setup Wizard
<*local drive*>	Specifies path to setup.exe.
/g	Executes the silent install session.
<*path to sitedefs.dat***>**	Specifies the path to the site defaults file.
msiexec.exe /x	Executes the silent uninstall session.
/qn	Indicates no user interfaces are displayed during the operation.
<*path to product***>.msi**	Specifies path to product's MSI file. The MSI file is used by ClearQuest, for example, during installation. The MSI file exists in the Setup directory in the release area.
/l	Specifies the name and location of the install log file. By default, the log of installation activities called Rational_install.log is in the TEMP directory.

For example, to create a site defaults file, enter on the command line:

<*local drive*>:**setup** <*path to sitedefs.dat*

Rational Setup Wizard Warnings or Blocks

If you encounter blocks or warnings during the installation procedure, consult the following table if you do not remember the entire message.

Table 28 Warnings and Blocks

Warning/Block	**Solution**
You are attempting to install on an unsupported operating system.	We recommend that you install on a supported operating system. Your Rational product's Release Notes for a complete list of supported operating systems and service packs.

Table 28 Warnings and Blocks (continued)

Warning/Block	Solution
You are attempting to install on a system with an unsupported browser.	See your Rational product's Release Notes for a complete list of supported browsers before using Rational Unified Process, ProjectConsole, Rose, Web Publisher, and XDE Web Publisher.
You are attempting to install on a system that has an version of Office that is not compatible with SiteCheck.	See your Rational product's Release Notes for a complete list of supported versions.
You are attempting to install on an unsupported version of WebSphere Studio.	It is recommended that you utilize a supported version. Please refer to the Release Notes for the complete list of supported operating systems.
MDAC and ODBC	If the correct MDAC and ODBC drivers are not installed on your computer, the Setup Wizard installs version 2.7 of the Microsoft Data Access Components (MDAC) and Open Database Connectivity (ODBC) drivers. For more information, read Microsoft Knowledge Base Article 216149.

Applying Service Releases

Here are the basic steps for obtaining a Rational service release:

1 Install the Rational Download Manager client software on your computer.

There are two sources from which you can download the Rational Download Manager installer.

- From the Rational Solutions for Windows Disc 2. Locate the Rational Download Manager setup.exe and Readme.html in the Rational Extras folder. The Readme.html contains the installation procedure.
- From the Rational Download Center at www.rational.com/support/downloadcenter/about_dlm.jsp. You must either login or register as a member before you can download the software.

You can either save the file to a local drive on your computer or install Rational Download Manager directly from the Rational Download Center by clicking **Open** in the File Download dialog box.

2. Use your browser to go to: www.rational.com/docs/v2003/readme_v2003.html for service release documentation. The documentation provides service release features, restrictions, and instructions.
3. Use the Rational Download Manager to download the service release mechanism from this web site.
4. Install the Rational service release.

After Install: Configuring ClearCase LT Server and ClearCase Web

4

After the initial installation of the ClearCase LT server, run the Getting Started Wizard, import any existing files that you want to place under ClearCase LT control, and make any necessary adjustments to the operating environment. To configure the ClearCase Web interface, see *Configuring the ClearCase Web Interface* on page 116.

Note: These steps are not required if you are upgrading an existing installation.

Configuring ClearCase LT With The Getting Started Wizard

The Getting Started Wizard configures your ClearCase LT environment with the standard set of site defaults. The Wizard launches automatically after installing the Server directly from the CD or from a release area. Click **Next** or **Back** to navigate through the wizard screens. If you need help completing fields in the wizard, refer to the online Help, on the left side of the wizard window.

Canceling and Rerunning the Getting Started Wizard

You can safely cancel the Getting Started Wizard at any time and rerun it by clicking **Start > ClearCase Administration > ClearCase Administration Console > Getting Started Wizard**.

The wizard will not perform any configuration until you reach the Summary screen.

Additional Configuration Tasks

After the initial installation of a Rational ClearCase LT server, perform these additional tasks.

1. If you have not already done so, we recommend that you review the *Release Notes* for Rational ClearCase LT. They contain the most current information related to ClearCase LT features and known issues.
2. To install ClearCase LT on your client computers, follow the instructions in *Installation Guide* for Rational Desktop Products.
3. ClearCase LT provides support for importing data and metadata from a variety of third-party configuration management and source code control systems. It also provides support for importing ordinary files and directories into ClearCase.

You may want to import files and directories from another configuration management system or directly from the file system and put them under ClearCase control. For more information, see *Administrator's Guide* for Rational ClearCase.

4 After you set up the ClearCase LT server, review the procedures for the administration of VOB and view storage directories described in the *Administrator's Guide* for Rational ClearCase.

5 To configure the ClearCase Web interface, see *Configuring the ClearCase Web Interface* on page 116.

ClearCase LT Documentation

The following documents are available on the *Rational Solutions for Windows Online Documentation* CD:

- *Introduction* to Rational ClearCase LT
- *Administrator's Guide* for Rational ClearCase
- *Release Notes* for Rational ClearCase LT

Configuring the ClearCase Web Interface

For many sites, the ClearCase Web interface requires no special configuration; any host on which RWP is installed can support this interface at the URL

http://*hostname*[:*port*]/ccweb

where *hostname* is the name of the RWP host and *port* is an optional port number if RWP has been configured to use a port other than 80 for HTTP (see *To Change the Default RWP HTTP Port* on page 214).

Note: When RWP runs on a Windows computer, ClearCase Web interface users must be given permission to **Log On Locally** to the RWP server. Windows does not grant this permission by default.

The remainder of this section explains how you can edit the ClearCase Web interface configuration file

ccase-home-dir/config/ccweb/ccweb.conf

if you need to modify the default configuration of the ClearCase Web interface.

Note: Do not confuse this file with the ClearCase Web interface support file for RWP. This support file is installed as C:\Program Files\Rational\common\rwp\ccweb.conf. It should not be modified.

Specifying the ClearCase Primary Group

At sites where ClearCase users on Windows set the CLEARCASE_PRIMARY_GROUP environment variable (read about *Setting the ClearCase Primary Group* in the *ClearCase Administrator's Guide*), you must also specify that primary group for ClearCase Web interface users by modifying this line in the ccweb.conf file:

–primary_group *group-name*

where *group-name* is the name of a domain group that will be used as the CLEARCASE_PRIMARY_GROUP for all users who access the ClearCase Web interface on this host.

Note: When users from multiple domains access the ClearCase Web interface, you must enable domain (described in *Using Proxy Groups and Domain Mapping in Windows NT Domains* in the *ClearCase Administrator's Guide*) on the RWP host and specify an appropriate value for **–primary_group** in ccweb.conf.

Web View Storage

The ClearCase Web interface normally creates Web view directories on the RWP server host. These directories are used for temporary storage of files that are checked out or ready to be created as elements. Therefore, they must be on a disk volume that has enough space for the number of Web views to be supported. We suggest allocating 0.5 MB to 1 MB of disk space for each Web view.

On Windows, these directories are normally created under C:\Program Files\Rational\ClearCase\var\ccweb

If the default Web view storage directory is not appropriate, you can select a different area by modifying ccweb.conf. Add the line

–view_storage *pathname*

where *pathname* is the directory in which you want the Web view directories to be created. This directory must be local to the RWP host.

Note: Although the ClearCase Web interface may create a separate directory for Web view storage, it continues to store executable and administrative files in *ccase-home-dir*/ccweb.

Limiting Upload Size

To better manage Web view storage or reduce the possibility of denial-of-service attacks, you may want to limit the size of files that can be uploaded to the RWP server. To do so, modify the following line in the ccweb.conf file:

–upload_limit *size*

where *size* is the approximate desired size limit in bytes. An attempt to upload a file that is too large results in an error message in the **Client Upload** output window.

Specifying a Session Timeout

You can configure the session timeout interval, which controls how long a user login remains valid. The default value is 14400 seconds (four hours). You can change this default by modifying the line

–session_timeout *seconds*

in ccweb.conf, where *seconds* is an integer number of seconds between 600 (10 minutes) and 2147483647 (about 68 years). Values less than 600 are interpreted as 600.

Specifying a Directory for Temporary Storage

You can designate a directory where the ClearCase Web interface stores temporary files by adding a line of the form

–tmpdir *directory-name*

to ccweb.conf, where *directory-name* is a directory on the RWP host in which the ClearCase Web interface has permission to create and delete files. If this line is not present in ccweb.conf, the ClearCase Web interface uses the value of the TMP or TEMP environment variables, if they exist.

Permission to Download Applets on Windows

Internet Explorer typically requires a user to have local administrator privileges to download applets, including those used by the ClearCase Web interface. After these applets have been downloaded (the first time the Web interface is used), they do not have to be downloaded again unless a ClearCase patch or new ClearCase release changes them.

After Install: Configuring Databases and Administrative Tasks for ClearQuest

5

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

ClearQuest, ClearQuest Web, and ClearQuest MultiSite require at least two databases:

- A schema repository: This is the master database where ClearQuest and ClearQuest MultiSite store the schemas.
- 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 describes the following configuration tasks:

- Database Case Sensitivity
- Supported Character Sets
- Configuring empty vendor databases (Microsoft Access, Sybase SQL Anywhere, Microsoft SQL Server, Oracle Server and IBM DB2)
- Creating ClearQuest databases (you will be replicating these databases for ClearQuest MultiSite)
- Connecting to ClearQuest databases
- Enabling e-mail notification
- Subscribing to the ClearQuest User Group
- Replicating ClearQuest databases for ClearQuest MultiSite
- Configuring the MultiSite Control Panel (Shipping Server only)

The optional post-installation configuration steps for ClearQuest MultiSite are:

- Setting up mastership for records
- Configuring the MultiSite Control Panel
- Automating synchronization

Prerequisites

The following sections assume you have:

- Installed the vendor database software on the database server.
- Installed the client software (if applicable) on client desktops, the Web server, the administration tools computer. Client aliases need to be created on these computers, see:
  - *Installing an Oracle Client* on page 130 or *Installing a DB2 Client* on page 138
  - *Creating an Oracle Database Alias* on page 133 or *Creating a DB2 Database Alias* on page 138.

  Note: These instructions are also in the *Installation Guide* for Rational Desktop Products.
- Installed the ClearQuest Administration Tools and the ClearQuest MultiSite Administration Tools on the database server or a separate computer. See *ClearQuest Administration Tools* on page 58 and *ClearQuest MultiSite Administration Tools* on page 59.
- Configured user accounts. If you have not, see the *Administrator's Guide* for Rational ClearQuest.

Database Case Sensitivity

In two scenarios 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 using multiple synchronized databases created from different vendor databases.

The following table summarizes the case-sensitivity properties of the supported vendor databases.

Database Vendor	Default Setting	Possible Settings	Comments
Microsoft Access	Case-insensitive	Case-insensitive	Microsoft 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.

Database Vendor	Default Setting	Possible Settings	Comments
DB2	Case-sensitive	Case-sensitive	Case sensitivity is applicable to data only and not database object names.
SQL Server	Case-insensitive, Case-sensitive	Case-insensitive, Case-sensitive	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.

Supported Character Sets

The ClearQuest databases support the following character sets for a ClearQuest Windows environment:

- 1252 - Wester European/English
- 932 - Japanese
- 936 - Simplified Chinese
- 20127 - ASCII

For more information, see the *Administrator's Guide* for Rational ClearQuest.

Configuring Databases for ClearQuest MultiSite

If you are installing ClearQuest MultiSite, do not create ClearQuest databases at the replica site. When you replicate an existing ClearQuest database set, you must create empty vendor databases at the new site. If you create ClearQuest databases at the new site, import of the replica-creation packets will fail.

Configuring Microsoft Access for ClearQuest

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

To use ClearQuest with Microsoft Access:

1. Create one shared directory on the computer 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 path and provide a file name for the schema repository. ClearQuest then creates and initializes the appropriate Access databases in this directory.

Configuring SQL Anywhere for ClearQuest

Note: ClearQuest MultiSite does not support SQL Anywhere databases.

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

- Install the Sybase SQL Anywhere Server software.

  Note: SQL Anywhere 8.0.1 is available on the *Rational Solutions for Windows* Disc 1 CD 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. For more information, see *Defining User Privileges* on page 123.
- Create an SQL Anywhere database server. See *Creating a SQL Anywhere Database Server* on page 124.

  Note: SQL Anywhere databases are created as case-insensitive databases. To migrate to a different database vendor, evaluate your database case sensitivity settings. For more information, see *Database Case Sensitivity* on page 120.

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 to create a user account:

Windows Software	Action
Windows NT Workstation	Click **Start > Programs > Administrative Tools (Common) > User Manager**.
Windows NT Server	Click **Start > Programs > Administrative Tools (Common) > User Manager for Domains.** Click **User > Select Domain**, type the local machine name in the Domain box, and click **OK.** If the user does not already exist, click **User > New User** to create the user.
Windows 2000 Workstation	Click **Start > Settings > Control Panel > Users and Passwords**.
Windows 2000 Server	Click **Start > Settings > Control Panel > Computer Management > Local Users and Groups**. Click **User > Action > New User**, type the user name and password and click **Create.**
Windows XP Professional	Click **Start > Settings > Control Panel > User Accounts**. Click **Add** to complete the Add New User Wizard.

For Windows NT Workstation or Server:

1 From the User Manager window, click **Policies > User Rights**.

2 Select **Show Advanced User Rights** option.

3 In the right list box of the User Rights Policy dialog, select **Access this computer from network**.

4 Click **Add**.

5 From **List Names From** list, select the domain of the account running the SQL Anywhere database server.

6 Click **Show Users**.

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

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

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

10 Repeat Step 4 through Step 8.

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

12 Repeat Step 4 through Step 8.

13 Click **OK**.

14 Click **User** > **Exit**.

For Windows 2000 Workstation or Server and XP Professional:

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

2 Expand the **Security Settings** folder, expand the **Local Policies** and then click the **User Rights Assignment** folder.

3 In the right pane, select **Access this computer from network** and right-click to select **Security**.

4 Click **Add** and from the **Look in** list, select the domain of the account running the SQL Anywhere database server.

5 In the **Names** list, select the account running the SQL Anywhere database server. Click **Add**, and then click **OK**.

6 In the right list box of the Local Security Settings dialog box, select **Log on as a service**.

7 Repeat Step 4 through Step 5.

8 In the right list box of the Local Security Settings dialog box, select **Log on locally**.

9 Repeat Step 4 through Step 5.

10 Click **OK**. Then exit the Local Security Settings dialog box.

Creating a 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 datastores.

To create a SQL Anywhere database server:

1 Click **Start > Programs > Rational Software > SQL Anywhere 8.0 > Sybase Central**.

2 In the left pane, click **Services** under **Adaptive Server Anywhere 8**.

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

4 In the Choose Name dialog box enter the name of the service and click **Next**.

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

6 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 (dbsrv8.exe) that exists in the SqlAnywhere8\WIN32 subdirectory within the Rational install directory. This should be set by default.

7 In the Specify Parameters dialog, enter the following options:

-n *name* **-gd** *level*

Option	Description
–n	The database service name. The name you enter here is required when creating a ClearQuest database or Rational test datastore.
–gd	Database starting permission. The level can be `dba`, `all` or `none`. You must specify **all** to allow all users to start new databases

8 In the Choose Account dialog box, click **Other**, select **Administrator** or **Guest**, 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 effect. Click **Yes** to grant the privilege when the service is installed.

9 In the Choose Startup Type dialog box, select the manner in which the service will be started (we recommend **Automatic**) and click **Next**.

10 In the last dialog box, we recommend that you select **Start the service now**. Then click **Finish** to create the service.

Backing Up and Restoring SQL Anywhere Databases

To obtain information on backing up and restoring SQL Anywhere databases:

1 Click **Start > Programs > Rational Software > SQL Anywhere 8.0 > Sybase Central**.

2 Click **Help > Adaptive Server Anywhere 8 Plug-in > Help Topics**.

3 Click the **Adaptive Server Anywhere Data Administration Guide** and then click to open the **Backup and Data Recover** chapter.

Configuring Microsoft SQL Server for ClearQuest

Install SQL Server 7 or 2000 on a supported platform (see *Server System and Software Requirements* on page 30.) For instructions, see the product documentation.

When installing SQL Server, follow these guidelines:

- Your SQL Server databases must be in the same network domain as both your ClearQuest Web server and any ClearQuest clients or tools that must connect to the database. If they are not in the same domain, you will get errors. For more information:
  - See the Microsoft KnowledgeBase Article Q152828 at http://www.microsoft.com/. To locate the article, click the **Search** at the top of the page, and enter the article number.
  - See the Rational Customer Support TechNote 8184, "How do I access an SQL Server database in another domain?" at http://www.rational.com/sitewide/support/technotes/.
- 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: Changing the sort orders affects the case-sensitivity of ClearQuest queries. If you want ClearQuest queries to be case-insensitive, set the order here. For more information, see *Database Case Sensitivity* on page 120.
- You must set up an empty SQL Server database for the ClearQuest schema repository and an empty SQL Server database for each ClearQuest user database. To create the databases:

  a Verify server registration.

  b Create an empty database.

  c Set up a backup procedure for the database.

- Create an SQL Server login with the **db_owner** role to be used for the ClearQuest database logins. ClearQuest uses the same login for all connections.

  Note: Do not use the SA (system administrator) login. During an upgrade or move, ClearQuest requires empty databases. If you use the SA login, ClearQuest can see the system tables; it assumes the database is not empty and does not let the process continue.

  When installing SQL Server 2000, select the default registration name for your database server, which makes the registration name the same as your server's host name.

Registering the SQL Server Computer

You must first determine whether the computer is registered. To do so, click **Programs > Microsoft SQL Server 7.0 > Enterprise Manager** or **Programs > Microsoft SQL Server > Enterprise Manager**.

For SQL Server 2000, click **Programs > Microsoft SQL Server > Enterprise Manager** or **Programs > Microsoft SQL Server > Enterprise Manager**. Select your Windows server in the **SQL Server Group**.

If your server is registered, go to *Creating a SQL Server Database* on page 128. If your server is not shown, register it now. To register your server:

1. Right-click the **SQL Server Group** and select **New SQL Server Registration**. The Register SQL Server Wizard appears. Click **Next.**

   When installing SQL Server 2000, accept the default registration name for your database server. Doing so makes the registration name the same as your server's host name.

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

   Record the server name; you will use it during the ClearQuest installation.

3. On the **Select an Authentication Mode** page, select **SQL Server Authentication**, and then click **Next**.

4. Select **Login automatically using my SQL Server account information**. Type **SA** in the **Login name** box, and type your SA password in the **Password** box. Then click **Next**. (The SA user has the privilege to create logins and databases.)

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

6. Click **Finish**. The server appears in the list of servers.

7. In the status window, verify that registration has been completed successfully and then click **Close**.

Creating a SQL Server Database

To create an empty database for the schema repository and the user database:

1. On the **Start** menu, click **Programs > Microsoft SQL Server 7.0 > Enterprise Manager** or **Programs > Microsoft SQL Server > Enterprise Manager.**
2. For SQL Server 7, double-click the server name in the **SQL Server Group** to open the Getting Started Taskpad in the right pane. Click **administer SQL Server > create a database** to start the Create Database Wizard.

   For SQL Server 2000, double-click the server name in the **SQL Server Group** and then click the **Wizards** tab in the right pane. Click **Setup a Database > Create a database** to start the Create Database Wizard. Click **Next**.
3. In the **Database name** box, type the database name and specify a file system location for the database and the log. Click **Next.**

   Note: Do not use spaces or nonalphanumeric characters in the database name. (Underscores are acceptable.)
4. Accept the default name for the database files and click **Next**. Define the database file growth parameters. Click **Next**.

   Note: Allocate at least 50 MB for the schema repository and at least 15 MB for every 1,000 records that you expect each user database to store.
5. Define the transaction log file growth parameters. Click **Next**.
6. Click **Finish**.
7. Create a database maintenance plan.

   You are prompted to create a **Database Maintenance Plan**. The Database Maintenance Plan Wizard helps you set up a database backup routine. We strongly recommend that you set up automated nightly backups for all ClearQuest databases.

For SQL Server 7:

To set the properties for the new database:

a. Select the new database in the server's databases folder.

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

c. On the **Options** tab, select the following settings, which keep the log file from growing too large:

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

d. Click **Apply**.

For SQL Server 2000:

To control the log file size in SQL 2000, be sure to create a maintenance plan that performs a daily backup of both the database and log file. The log file is then truncated each day after the daily backup.

8 Repeat Step 1 through Step 6 for each empty user database that you want to create.

Creating SQL Server Logins

You must create a **db_owner** login for each ClearQuest database (schema repository and each user database). To do so, select the **db_owner** role for each login that you create.

Note: Do not use the SA (system administrator) as the owner login of a ClearQuest database. During an upgrade or move, ClearQuest requires empty databases. If the SA login is used, ClearQuest can see the system tables; it assumes the database is not empty and does not let the process continue.

To create a **db_owner** login for the empty databases for the schema repository and user databases:

1 On the **Start** menu, click **Programs > Microsoft SQL Server 7.0 > Enterprise Manager** or **Programs > Microsoft SQL Server > Enterprise Manager**.

2 In the left pane of the Enterprise Manager, expand the **Security** folder. Right-click **Logins** and click **New Login** to create a new user for the schema repository database. The SQL Server Login Properties - New Login dialog box opens.

3 On the **General** tab, select **SQL Server Authentication**.

Note: ClearQuest requires a SQL Server login for each database and does not support Windows NT authentication. You must configure the SQL Server to operate in mixed mode (that is, **Windows NT Authentication** and **SQL Server Authentication**). To set this property by using Enterprise Manager, right-click the server and select **Properties**. In the Properties dialog box, on the **Security** tab, click **Windows NT Authentication and SQL Server Authentication.**

4 On the **General** tab, type a user name and password in the **Name** and **Password** boxes.

In the **Defaults** area, select your database and leave the **Language** set to **<Default>**.

5 On the **Server Roles** tab, verify that no server roles are granted on the **Server Role** list.

6 On the **Database Access** tab, select the new database from the **Permit list** to grant the login permission. Under **Permit in database role**, select **db_owner** and **public**. Do not grant the user any other privileges.

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

8 Repeat Step 1 to Step 7 for each ClearQuest user database that you have created. When repeating Step 2, double-click on the user name that you created for the schema repository in the right pane of the Enterprise Manager. On the **General** tab, the information for the **Name** and **Password** boxes will be completed.

Ensuring SQL Server Client Connectivity

To ensure connectivity to ClearQuest database, ClearQuest clients require Microsoft Data Access Components (MDAC) 2.7. If MDAC 2.7 is not present on the host when ClearQuest is installed, it is installed.

Configuring the Oracle Server for ClearQuest

If you are using an Oracle database, see the Oracle documentation to install and create the databases. To use interMediaText support for multiline searches, select interMediaText during the initial installation. If you are using Oracle 8.1.7, you must also upgrade to Oracle release 8.1.7.3 for Solaris and NT or Oracle release 8.1.7.4 for HP-UX.

When you set up your Oracle databases, follow these guidelines:

- Create an Oracle database instance or identify one to use for ClearQuest data.
- Create two or more database user accounts (each with its login):
  - The user login for the ClearQuest schema repository.
  - 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 database user with a unique default tablespace. In the Oracle database, users can share the **temporary** tablespaces, but these must be separate from the Oracle system tablespace.

  Oracle is a case-sensitive database. If you are using ClearQuest MultiSite or want to migrate to a different vendor, you should evaluate your database case sensitivity settings. For more information, see *Database Case Sensitivity* on page 120.

Installing an Oracle Client

A ClearQuest native client running on Windows cannot access the ClearQuest database unless the Oracle Client software is installed on it. To install Oracle Client software, see the Oracle product documentation. After the installation is complete, the Net8 Assistant starts, which lets you create a database alias. See *Creating an Oracle Database Alias* on page 133.

Enhancing Oracle Search Capabilities

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

To enable Multiline search, the interMediaText packages must be installed on the Oracle server. When installed, multiline text fields become available for queries in ClearQuest.

Enabling Oracle Multiline Search

Note: Before you can configure interMediaText for multiline searches for Oracle 8.1.7, upgrade to release 8.1.7.3 for Solaris or NT and release 8.1.7.4 for HP-UX. After you complete the upgrade, follow the postinstallation instructions in the *Oracle 8i Data Server Patch Set for NT/Patch Set Notes*, *Oracle 8i Data Server Patch Set for Sun SPARC Solaris (32 bit database)/Patch Set Notes*, and *Oracle 8i Data Server Patch Set for HP-UX 64/Patch Set Notes* before you configure interMediaText.

To enable Oracle multiline text search for Oracle 8.1.6, 8.1.7.3 running on NT or Solaris, and 8.1.7.4 running on HP-UX:

1. Verify that interMediaText is installed. Generally, it is installed when the Oracle server is installed. Verify that the installation has created an Oracle user login for the **ctxsys** user before running the scripts to configure interMediaText.
2. If you have not created the ClearQuest schema repository and user database, run the ClearQuest Maintenance Tool from the ClearQuest administrator computer to create the schema repository and user database. For more information, see *Creating the ClearQuest Databases* on page 140.
3. For an Oracle database server on Windows, create the directory *Oracle-install-dir*\ctx\log on the Oracle server computer.

   For an Oracle database server on UNIX, create the directory $ORACLE_HOME/ctx/log on the Oracle server computer.
4. Start the `ctxsrv` Oracle client application on the Oracle database computer. Note, the `-personality` parameter is optional.

   For example, run the following command from the Oracle database server on UNIX:

   % ctxsrv -user ctxsys/ctxsys@*`database-alias-name`* -personality M -log $ORACLE_HOME/ctx/log/ctx.log &

For example, run the following command from the Oracle database server on Windows:

% ctxsrv -user ctxsys/ctxsys@*database-alias-name* **-personality M -log** *Oracle-install-dir***\ctx\log\ctx.log**

`ctxsys/ctxsys` is the default user name and password and *database-alias-name* is the Oracle database alias.

Note: Run `ctxsrv` in the background. Oracle does not provide a means to start this server at boot time; you must either run these processes manually or develop a shell script for that purpose.

5 To give the necessary privileges to the ClearQuest user, run the SQL setup_cq_ora_user.sql script. To do so, use the Oracle SQL*Plus utility as the Oracle `ctxsys` user.

The SQL script (setup_cq_ora_user.sql) is available in the ClearQuest Windows installation directory (*drive*:\Program Files\Rational\ClearQuest) on the ClearQuest administrator computer. Run the following command from the ClearQuest administrator computer on which an Oracle client is installed and configured for the Oracle database alias:

cd *drive***:\Program Files\Rational\ClearQuest**
sqlplus ctxsys/ctxsys@*database-alias-name* **@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 for multiline searches, run the SQL script setup_cq_intermedia.sql, which is available in the ClearQuest installation directory on the ClearQuest administrator host. For example:

cd *drive***:\Program Files\Rational\ClearQuest**
sqlplus *cquser/password@database-alias-name* **@setup_cq_intermedia.sql**

where *cquser* is the name of the Oracle login used to create the ClearQuest database.

Warning: This script must be run for each user database. But do not run it until the database has been created (either in ClearQuest Maintenance Tool or ClearQuest Designer). If the database does not exist, the script cannot find the necessary ClearQuest tables.

Enabling Oracle CLOB Data Type Support

This release of ClearQuest supports a new Oracle data type called CLOB. See the *Release Notes* for guidelines when specifying either **LONG** or **CLOB** as the data type for new Oracle databases. You will use this data type when you create a ClearQuest schema repository. For more information, see *Creating a Schema Repository* on page 141.

Creating an Oracle Database Alias

To configure a ClearQuest client running on Windows for access to a ClearQuest Oracle database, you must use the Net8 Assistant program to create a database alias for each physical ClearQuest database you will use. Contact your administrator for the specific Oracle alias name to use when creating the Oracle database alias.

1 Click **Start > Oracle - OraHome81 > Network Administration > Net8 Assistant**.

2 In the navigation pane, expand **Net8 Configuration**, click **Local,** and then select **Service Naming**.

3 Click **Edit > Create** and complete the New Name Service Wizard:

   a Type the name of the alias in the **Net Service Name** box. Click **Next**.

   b Click **TCP/IP** to select the network protocol to use to communicate with the database. Click **Next**.

   c Type the name of database server host in the **Host Name** box and type the port number in the **Port Number** box.

   d Type the service name in the **Service Name** box and select the **Oracle8i Connection Type**. Click **Next** and then click **Test**. If the test of the connection succeeds, click **Finish**.

When a ClearQuest client uses the ClearQuest Maintenance Tool to configure a schema repository or a connection to the Oracle database server, the **Net Service Name**, which is created using the Oracle client, is entered in the **SQL*Net Alias** box on the Maintenance Tool.

Configuring IBM DB2 for ClearQuest

To use ClearQuest with IBM DB2 databases, you must install a supported release of DB2 on your database server. DB2 is a case-sensitive database. If you are using ClearQuest MultiSite or want to migrate to a different database vendor, you should evaluate your database case sensitivity settings. For more information, see *Database Case Sensitivity* on page 120.

Creating a DB2 Database

You must set up an empty DB2 database for the ClearQuest schema repository and for each ClearQuest user database.

For DB2 7.x

To create a DB2 database:

1. Click **Start > Programs > IBM DB2 > Control Center**.
2. Enter the login name and password for the DB2 administrator account and click **OK**.
3. In the DB2 Control Center, expand the host name that corresponds to the database server name.
4. Ensure that all DB2 services are running on the DB2 server computer. Right-click the **Databases** folder and click **Create > Database using Wizard**.

   Note: If the database creation is not successful, run the following command:

   ```
   db2>
   db2> connect to database-name
   db2> bind db2schema.bnd blocking all grant public
   db2> disconnect all
   ```

5. In the **Database name** box, type the name of the database.

   Note: DB2 supports database names of up to eight characters.

6. Select a default drive and type an alias name in the **Alias** box. Optionally, provide a comment in the **Comment** box. Click **Finish**.
7. Expand the **Database name** folder for the database you have created.
8. Right-click the **Buffer Pools** folder and then click **Create.** In the Create Buffer Pool dialog box:
   a. Type a **Buffer pool** name (such as **BFP16K**) and select **Page size = 16.**
   b. Accept the default for **Size in 16 KB pages.**
   c. Clear the **Use extended storage** and **Use default bufferpool size** check boxes if selected.
   d. Click **OK**.
9. Right-click the **DB2** folder, and click **Stop**. Select the **Disconnect all applications** check box in the Confirm Stop dialog box. Then, from the **DB2** folder, click **Start** to restart the database with buffer pool activated.
10. Under the *database-name* folder for the database you have created, right-click the **Table Spaces** folder and click **Create > Table space**. In the Create Table Space dialog box:
    a. Type a name in the **Table space name** box (for example: **TSPRGR16K**), set the **Type of table space** to **Regular** and set **Space management** to **System**.
    b. In the **Container name** section, click **Add**. In the Add Container dialog box, type a name in the **Container** box (for example; **cntr1a_16K**) and click **OK**. The container name then appears in the Create Table Space dialog box.

11 Click **Advanced** to open the Advanced dialog box:

   a Set **Page size** to **16**, then select the buffer pool name created in Step 8 and click **OK.**

   b Click **OK** to close the Create Table Space dialog box.

   c In the right pane of the Control Center, right-click the new tablespace name you have created and select **Privileges**.

   d On the **Group** tab, click **Add**, select the **Public** group, and click **OK**. Set the **Privileges: Use** area to **Yes** and click **OK**.

12 Under the *database-name* folder for the database you have created, right-click the **Table Spaces** folder and click **Create > Table space**. In the Create Table Space dialog box:

   a Type a name in the **Table space name** box (for example: **TSPTMP16K**), set **Type of table space** to **System Temporary** and set **Space management** to **System**.

   b In the **Container name** section, click **Add**. In the Add Container dialog box, type a name in the **Container** box (for example; **cntr1b_16K**) and click **OK**. The container name then appears in the Create Table Space dialog box.

13 Click **Advanced** in the Advanced dialog box:

   a Set **Page size** to **16**, then select the buffer pool name created in Step 8 and click **OK**.

   b Click **OK** to close the Create Table Space dialog box.

14 Right-click the instance name folder, and click **Stop**. (Remember to select the **Disconnect all applications** check box in the Confirm Stop dialog box.), Then, from the Instance folder name, click **Start** to restart the database using the larger page size.

15 In the left pane of the Control Center, for each database created, right-click the *database-name* folder and select **Configure** to open the Configure Database dialog box.

   a On the **Performance** tab, set the values for **Application heap size**, **Application control heap size,** and **Sort heap size** of **1024**.

   b On the **Log** tab, set the value for these parameters: **Log File size** to **1000**, **Number of Primary Log Files** to **15**, and **Number of Secondary Log Files** to **10**.

   c Click **OK**.

16 Right-click the **DB2** folder and click **Stop**. Then click **Start** to restart the database with the configuration parameters.

For DB2 8.1

To create a DB2 database:

1. Click **Start > Programs > IBM DB2 > General Administration Tools > Control Center**.
2. Enter the login name and password for the DB2 administrator account and click **OK**.
3. In the DB2 Control Center, expand the host name that corresponds to the database server name.
4. Ensure that all DB2 services are running on the DB2 server host. Right-click the **Databases** folder and click **Create > Database using Wizard**.

   Note: If the database creation is not successful, run the following command:

   ```
   db2>
   db2> connect to database-name
   db2> bind db2schema.bnd blocking all grant public
   db2> disconnect all
   ```

5. In the **Database name** box, type the name of the database.

   Note: DB2 supports database names of up to eight characters.

6. Select a default drive and type an alias name in the **Alias** box. Optionally, provide a comment in the **Comment** box. Click **Finish** and then click **No** when prompted to start the Configuration Advisor.
7. Expand the **Database name** folder for the database you have created.
8. Right-click the **Buffer Pools** folder and then click **Create**. In the Create Buffer Pool dialog box:
   a. Type a **Buffer pool name** (such as **BFP16K**) and set **Page size** to **16**.
   b. Accept the default for **Size in 16 KB pages**.
   c. Clear the **Use extended storage** and **Use default bufferpool size** check boxes if selected.
   d. Click **OK**.
9. Right-click the **DB2** folder, and click **Stop**. Select the **Disconnect all applications** check box in the Confirm Stop dialog box. Then, from the **DB2** folder, click **Start** to restart the database with buffer pool activated.

10 Under the *database-name* folder for the database you have created, right-click the **Table Spaces** folder and click **Create > Table space**. In the Create Table Space Wizard:

   a Type a name in the **Table space name** box (for example: **TSPRGR16K**) and then click **Next**.

   b Set the type of table space to **Regular** and then click **Next**.

   c Select the buffer pool that you created in Step 8 and then click **Next**.

   d Set space management to **System-managed space** and then click **Next**.

   e On the **Define containers for this table space** page, click **Add**. In the Define Container dialog box, type a name in the **Container** box (for example; **cntr1a_16K**) and click **OK**. The container name then appears on the **Define containers for this table space** page. Click to select this container name and then click **Next**.

   f **On the Specify the extent and prefetch sizes for this table space** page, click to select the average size of a table in this table space. Click **Next**.

   g On the **Describe hard drive specification** page, define the specifications for the hard drive where the DB2 database resides. Click **Next**.

   h On the **Specify the dropped table recovery option for your new table space** page, if you want to recover the table space, click the **Enable dropped table recovery** option. Click **Next** and then click **Finish**.

11 In the right pane of the Control Center, right-click the new tablespace name you have created and select **Privileges**. On the **Group** tab, click **Add**, select the **Public** group, and click **OK**. Set the **Privileges: Use** area to **Yes** and click **OK**.

12 Under the *database-name* folder for the database you have created, right-click the **Table Spaces** folder and click **Create > Table space**. In the Create Table Space Wizard:

   a Type a name in the **Table space name** box (for example: **TSPTMP16K**) and then click **Next**.

   b Set the type of table space to **System temporary** and then click **Next**.

   c Select the buffer pool that you created in Step 8 and then click **Next**.

   d Set space management to **System-managed space** and then click **Next**.

   e On the **Define containers for this table space** page, click **Add**. In the Define Container dialog box, type a name in the **Container** box (for example; **cntr1b_16K**) and click **OK**. The container name then appears on the **Define containers for this table space** page. Click to select this container name and then click **Next**.

f On the **Specify the extent and prefetch sizes for this table space** page, click to select the average size of a table in this table space. Click **Next**.

g On the **Describe hard drive specification** page, define the specifications for the hard drive where the DB2 database resides. Click **Next**.

h On the **Specify the dropped table recovery option for your new table space** page, if you want to recover the table space, click the **Enable dropped table recovery** option. Click **Next** and then click **Finish**.

13 Right-click the **DB2** folder, and click **Stop**. Select the **Disconnect all applications** check box in the Confirm Stop dialog box. Then, from the **DB2** folder name, click **Start** to restart the database using the larger page size.

14 In the left pane of the Control Center, for each database created, right-click the *database-name* folder and select **Configure Parameters** to open the Database Configuration dialog box.

a Under the **Performance** section, set the values for **APP_CTL_HEAP_SZ**, **APPLHEAPSZ**, and **SORT_HEAP** to **1024**.

b Under **Logs** section, set the values for **LOGFIL_SIZ** to **1000**, **LOGPRIMARY** to **15**, and **LOGSECOND** to **10**.

c Click **OK**.

15 Right-click the **DB2** folder and click **Stop**. Then click **Start** to restart the database with the configuration parameters.

Installing a DB2 Client

To use the DB2 database, all ClearQuest client hosts on Windows must install DB2 client software on their local computers. To install DB2 client software, see the IBM documentation.

Note: The DB2 Administration Client must be installed on all hosts.

After the installation is complete, see *Creating a DB2 Database Alias* on page 138.

Creating a DB2 Database Alias

Before using a ClearQuest Windows client to access a ClearQuest DB2 database, you must use the Client Configuration Assistant to create a database alias for each physical ClearQuest database you will use. The administrator will assign a specific DB2 alias name to use when creating the DB2 database alias.

1 For DB2 7.*x*, click **Start > IBM DB2 > Client Configuration Assistant**. For DB2 8.1, click **Start > IBM DB2 > Set-up Tools > Configuration Assistant**.

2 For DB2 7.*x*, in the Welcome dialog box, click **Add database**. For DB2 8.1, in the DB2 Message dialog box, click **Yes**. Then, click **Search the network** and click **Next**.

3 Expand the **Known Systems** folder. If you see the DB2 database server host on which the ClearQuest database resides, expand it and select the database name for which you want to create an alias. Click **Next**.

Note: If you do not see the DB2 server host you need, expand the **Other Systems** folder. If you still do not see the host, talk to your ClearQuest database administrator. There may be a network problem.

4 Type an alias name in the **Database alias** box. Type an optional comment in the **Comment** box and click **Next**.

5 Clear the **Register this database for ODBC** option if it is selected. Click **Finish**.

6 A confirmation dialog box opens. To test access to the DB2 database, click **Test Connection** and type the user name in the **User ID** box and password in the **Password** box.

If the connection fails, attempt to connect by using the following command:

```
db2
db2> catalog TCPIP node node-name remote host-name server port-number
db2> catalog database database-alias at node node-name
db2> terminate
```

When a ClearQuest client uses the ClearQuest Maintenance Tool to create a schema repository or to configure the connection to the DB2 database server, the **Database alias**, created when using the DB2 client, is entered in the **Database Alias** box on the Maintenance Tool.

Other ClearQuest and ClearQuest MultiSite Post-Installation Tasks

There are several post-installation configuration steps that are required to complete the ClearQuest installation process. Other post-installation configuration steps are optional, depending on what installation options you have selected.

The required post-installation configuration steps for ClearQuest are:

- Creating ClearQuest databases (schema repository and user database)
- Connecting to ClearQuest Databases
- Enabling e-mail Notification for the Windows User

There are several post-installation configuration steps that are required to complete the ClearQuest MultiSite installation process. Other ClearQuest MultiSite post-installation configuration steps are optional, depending on what installation options you have selected.

The required post-installation configuration steps for ClearQuest MultiSite are:

- Creating ClearQuest databases
- Replicating ClearQuest databases
- Configuring the MultiSite Control Panel (Shipping Server only)

The optional post-installation configuration steps for ClearQuest MultiSite are:

- Setting up mastership for records
- Configuring the MultiSite Control Panel
- Automating synchronization

Subscribing to the ClearQuest User Group

In addition, after installing ClearQuest you may join the ClearQuest User Group. The ClearQuest User Group is an e-mail forum where you can share your experiences, pose questions, or obtain useful information from other ClearQuest users. To subscribe to the group, visit the Rational web site at:
http://www.rational.com/support/usergroups/

Your e-mail address will not be given out to anyone.

Required Configuration Steps for ClearQuest

The required configuration steps for ClearQuest are:

- Create ClearQuest databases
- Connect to ClearQuest databases
- Enable e-mail notification

Creating the ClearQuest Databases

After you install ClearQuest and create the necessary empty vendor databases, you must create the ClearQuest databases (schema repository and user databases). Initially, you can create a sample user database to learn more about the product. You can create your user databases later. For more information about configuring an evaluation database, see *Appendix* on page 227.

Creating a Schema Repository

To create a new schema repository:

1. Click **Programs > Rational Software > Rational ClearQuest > ClearQuest Maintenance Tool**.
2. Click **Schema Repository > Create**.
3. In the **Existing Connections** area, type a name for the schema repository connection, and press ENTER.
4. In the **Schema Repository Properties** area, select a vendor database from the **Vendor** list.

   Then enter the required information for your vendor database.

For Access

- In the **Physical Database Name** box, type 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.

For SQL Anywhere

a. In the **Physical Database Name** box, type the path to the schema repository using a UNC style path. For example:

   \\DevServer\Project\CQ_DBS\schema_repo.db

   You can browse to the directory containing the database by using **Network Neighborhood**, which preserves the UNC style path name. To do so:

b. Type the name of the database server.

c. Select the protocols used to communicate with the SQL Anywhere server.

d. Type the database host name.

e. Set the **Connect Options**.

For SQL_SERVER

a. In the **Physical Database Name** box, type the database name for SQL Server schema repository.

b. Type the name of the database server in the **Database Server Name** box.

   Note: Each ClearQuest native client must be able to access this server host by using the name exactly as it appears in this entry.

c Type the database owner (DBO or Administrator) user name in the **Administrator Name** box.

d Type the password for the database owner (DBO or Administrator) in the **Administrator Password** box.

e Type the general purpose or read/write user name in the **Read/Write User Name** box.

f Type the password for the general purpose or read/write user name in the **Read/Write User Password** box.

g Type the schema repository or read-only user name in the **Read-Only User Name** box.

h Type the password for the schema repository or read-only user name in the **Read-Only User Password** box.

For ORACLE

a Type the TNS name (SQL*Net Alias pointing to the Oracle instance) in the **SQL*Net Alias** box.

b Type the user name you created for the schema repository in the **User Name** box.

c Type the password for the user name in the **Password** box.

d Specify the following options in the **Connect Options** box, separated by semicolons. For example:

```
Host=name; SID=name; Server_ver=8.1; Client_ver=8.1;
Lob_type=LONG or CLOB
```

Option	Definition
Host	The name of the database server computer. If your ClearQuest environment includes UNIX and Windows clients, this name is mandatory.
SID	The name of the database instance. If your ClearQuest environment includes UNIX and Windows clients, this name is mandatory. On UNIX, the SID is case-sensitive.
SERVER_VER	The version of the Oracle server you are using. (For Oracle 8i, use 8.1.)
CLIENT_VER	The version of the Oracle client software you are using. (For Oracle 8i, use 8.1.) If ClearQuest users want to use a different Oracle client version than what is entered here by, they must override the set options manually. The default setting is 8.1.
LOB_TYPE	The type of data you are using. The valid data type is **LONG** or **CLOB**.

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

For DB2

a Type the database alias name (alias pointing to the DB2 database) in the **Database Alias** box.

b Type the user name created for the schema repository in the **User Name** box.

c Type the password for the user name in the **Password** box.

5 Click **Next.**

6 In the schema definition area:

a (Optional) Select the **Create sample database** option.

b In the **Schema to use** list, select the schema to use. For information about the schema options, see the *Administrator's Guide* for Rational ClearQuest.

c In the **Database Name** box, type the database name for the schema repository.

d In the **Description** box, type a description.

7 (Optional) If the **Create sample database** option was selected, in the **Sample User Database** area, enter the properties of the database designated for the sample database.

8 Click **Finish**. In the **Status** dialog box, verify the successful creation of the schema repository.

Creating a User Database

After you create a schema repository, you can create ClearQuest user databases with the ClearQuest Designer.

1 Click **Start > Programs > Rational Software > Rational ClearQuest > ClearQuest Designer**.

2 In the Schema Repository dialog box, select the schema repository to use for creating a user database.

3 In the ClearQuest Designer Login dialog box, log on 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 can change this password and create a new login at your earliest convenience. Click **OK.**

4 When the Open Schema dialog box opens, click **Cancel**.

5 Click **Database > New Database**.

6 Type a logical database name in the **Logical Database Name** box for the user database you want to create. This name can be up to five characters. Click **Next**.

7 Select the vendor database you plan to use and type the properties appropriate for that vendor. (For more information, see *Creating a Schema Repository* on page 141.) Then, click **Production Database** or **Test Database**. Click **Next**.

8 Click **Next** to accept the default **Timeout** and **Poll Interval** polling parameters.

9 Select a schema with which to associate your user database.

10 Click **Finish**.

Connecting to ClearQuest Databases

After installing ClearQuest, client users will need to connect to an existing schema repository. As the ClearQuest administrator, you have two methods of providing ClearQuest Windows client users with the database properties information:

- You can provide ClearQuest client users with the database properties for the schema repository and the client users can create a new connection (see *Creating a New Connection* on page 145).

- You can create a connection profile for client users to connect to the schema repository (see *Using Connection Profiles* on page 146).

Note: If you are using Oracle or DB2 as your ClearQuest database, your users will need to install the respective client software before connecting to ClearQuest. For more information, direct your users to *Before You Install* and *After You Install* chapters in the *Installation Guide* for Rational Desktop Products.

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

Creating a New Connection

To create a new connection:

1. Click **Programs** > **Rational Software > Rational ClearQuest** > **ClearQuest Maintenance Tool**.
2. Click **Connection > New**.
3. In the **Existing Connections** area, name the alias by typing a name in the highlighted item.
4. In the **Schema Repository Properties** group box, specify the properties of the vendor database designated for the schema repository. Select a vendor database from the drop-down list and type the required vendor database properties.

Database	Properties
MS_ACCESS	Type 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	▪ Type 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: ▪ Type the name of the database server. ▪ Type the protocols used to communicate with the SQL Anywhere server. ▪ Type the database host name. ▪ Set the **Connect Options**.

Database	Properties
SQL_SERVER	▪ Type the SQL Server database name for the database containing the schema repository. ▪ Type the name of the database server. ▪ Type the schema repository or read-only user login. ▪ Type the password for the schema repository or read-only login.
ORACLE	▪ Type the **SQL*Net Alias** (alias pointing to the Oracle instance). ▪ Type the Oracle login created for the schema respository. ▪ Type the password for the login. ▪ Type the connect options for **HOST**, **SID**, **SERVER_VER**, **CLIENT_VER**, and **LOB_TYPE**.
DB2	▪ Type the **Database Alias** name (**Database Alias** pointing to the DB2 database). ▪ Type the DB2 login created for the schema repository. ▪ Type the password for the login.

5 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.

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.

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

Creating a Connection Profile

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

1 From the **Start** menu, click **Programs > Rational Software > Rational ClearQuest > ClearQuest Maintenance Tool**.

2 Click **File > Export Profile**.

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

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

Optionally, you can click **Browse** to select a location to save the profile.

5 Make the profile available to ClearQuest Windows client users to import the connection information for the ClearQuest database.

Importing a Connection Profile

To use a previously created connection profile, import the connection profile.

1 From the **Start** menu, click **Programs > Rational Software > Rational ClearQuest > ClearQuest Maintenance Tool**.

2 Click **File > Import Profile**.

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

Note: After completing a ClearQuest client installation from a release area, when the Import page displays, the default location of the profile (that was defined using the Site Preparation Wizard) is pre-populated in the **Import Profile Information** area.

4 Click **Next**.

5 Click to select the connections to import and verify the **Schema Repository Properties** information, then click **Finish**.

Logging In to ClearQuest

After you create a new connection to a schema repository using the ClearQuest Maintenance Tool, you and your users can login to the schema repository and select the user database you want to access. To login:

1 Click **Start > Programs > Rational Software > Rational ClearQuest > ClearQuest**.

2 If you have created connections to more than one schema repository, select a schema repository from the Rational ClearQuest Schema Repository dialog and then click **Next**.

3 Type your user name and password and then select a user database and then click **OK**. The ClearQuest client opens and you can begin to use ClearQuest.

Note: If you open a Warning - Invalid Login dialog box, click the **Details** option in this dialog for further information.

Configuring Your ClearQuest Client To Receive E-Mail Notification

To configure ClearQuest clients running on Windows to receive e-mail notification, see the *Rational ClearQuest – After Install* section in the *Installation Guide* for Rational Desktop Products

Configuring the ClearQuest Client To Send E-Mail Notification

If you configure a site default e-mail address when creating the release area, this e-mail address is configured by default when users install the ClearQuest for Windows client software.

After installing ClearQuest for Windows, your users can enable e-mail notification if a site default e-mail address is not defined, or they can change their default e-mail address. For instructions, see the *Rational ClearQuest – After Install* section in the *Installation Guide* for Rational Desktop Products.

Required Configuration Steps for ClearQuest MultiSite

The required post-installation configuration steps for ClearQuest MultiSite are:

- Creating ClearQuest databases
- Replicating ClearQuest databases

Creating ClearQuest Databases

For instructions on how to create ClearQuest databases, see *Creating the ClearQuest Databases* on page 140.

Replicating ClearQuest Databases

To begin using ClearQuest MultiSite, replicate your ClearQuest databases. For instructions, see the *Administrator's Guide* for ClearQuest MultiSite.

If you plan to use the Rational Shipping Server to send replica creation packets, you must first configure the MultiSite Control Panel. For instructions, see *Configuring the MultiSite Control Panel* on page 149.

Optional Configuration Steps for ClearQuest MultiSite

The optional post-installation configuration steps for ClearQuest MultiSite are:

- Setting up mastership for records
- Configuring the MultiSite Control Panel
- Automating synchronization

Setting Up Mastership for Records

At the working schema repository site, 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 on the record form, any ClearQuest user can change the mastership of any record, if they are at the master replica of the record and have the correct permissions.

For more information about mastership, see the *Administrator's Guide* for ClearQuest MultiSite.

Configuring the MultiSite Control Panel

The MultiSite Control Panel controls the operation of the store-and-forward facility on the synchronization server computer. It manages the locations of the storage bays that store and receive update packets sent to and from other replicas. If you want to use the Rational Shipping Server to send replica creation packets, configure the MultiSite store-and-forward facility before attempting to replicate your databases.

To open the MultiSite Control Panel:

1. Click **Start** > **Settings** > **Control Panel**.
2. Double-click the **MultiSite** icon.

For information about the MultiSite Control Panel settings, see the **MultiSite Control Panel** reference page in the *Administrator's Guide* for ClearQuest MultiSite.

Automating Synchronization

You can use MultiSite scripts and utilities to automate all phases of replica synchronization. For information about how to automate your synchronization process, see the *Administrator's Guide* for ClearQuest MultiSite.

After Install: Configuring ClearQuest Web

6

This chapter describes the following configuration tasks for ClearQuest Web, an optional feature of your ClearQuest or ClearQuest MultiSite configuration:

- Setting up IIS for ClearQuest Web
- Performing ClearQuest Web administration tasks

Prerequisites

The following sections assume you have:

- Installed and configured the vendor database (as well as the database client software if applicable).
- Configured the ClearQuest schema repository and user database.
- Installed Microsoft IIS software on the Web server.
- Installed ClearQuest Web software on the Web server.
- Configured user accounts. If you have not, see the *Administrator's Guide* for Rational ClearQuest.

Configuring IIS for ClearQuest Web

ClearQuest Web supports IIS 4 and IIS 5. In general, you must configure the following for IIS (the IIS interface details may change depending on the version of IIS):

- Set up an anonymous user account
- Set up registry key access privileges
- Set up read access permission for the anonymous user account
- Create a cache directory
- Create a virtual directory
- Edit the properties of the virtual directory
- Edit the properties of the cache directory
- Edit the properties of the images directory

- Change script time-out limit
- Restart the Web server host
- Verify the ClearQuest Web configuration

Setting up an Anonymous User Account

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.

For IIS 4:

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 5.)
3. Run the User Manager. Click **Start > Programs > Administrative Tools (Common) > User Manager for Domains**.
4. Select the Administrator from the User Manager window and click **Policies > User Rights**, select the **Show Advanced Rights** check box, and then 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 8.
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*>).
6. Run the User Manager.

   Start > Programs > Administrative Tools (Common) > User Manager for Domains.

7 Select the **IUSR**_<*machine_name*> from the User Manager window and click **Policies > User Rights**, select the **Show Advanced Rights** option, and then 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(**IUSR**_<*machine_name*>) 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 123 for details.

For IIS 5:

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** to open the Local Security Settings window. Expand the **Local Policies** and the **User Rights Assignment** folders. For each of the following double-click to view the **Local Security Policy Setting** dialog box, then click **Add** 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** to open the Local Security Settings window. Expand the **Local Policies** and the **User Rights Assignment** folders. Click **Start > Settings > Control Panel > Administrative Tools > Local Security Policy**.

5 For each of the following double-click to view the **Local Security Policy Setting** dialog box, then click **Add** 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.

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 123 for details).

Set up Registry Key Access Privileges

For IIS 4 and II5, 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** window, select **Security > Permissions**.

4 In the Registry Key Permissions dialog box, click **Add** to add the anonymous user account. You must ensure that IIS is configured correctly to work with the anonymous user ID (typically, **IUSR**_<*machinename*>).

5 In the **Select Users, Computers, or Groups** dialog box, do one of the following:

- If you are using 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 newly added account.

For IIS 4, for the **Type of Access**, select **Full Control** and then select the **Replace Permission on Existing Subkeys** check box. Click **OK**.

For IIS 5, in the **Permissions** area, select the **Allow for Full Control** check box. Click **Advanced** and select the **Allow inheritable permissions to propagate to the object** and **Reset permissions on all child objects and enable propagation of inheritable permissions** check boxes. Click **Apply** and then click **OK**.

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

9 Repeat Step 3 through Step 7 for the HKEY_USERS.

10 Close the **REGEDT32** program.

Setting up Read Access Permission for the Anonymous User Account

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).

For IIS 4:

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 are using the default local anonymous user name, 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.

For IIS 5:

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 from parent to propagate to this object**.

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

4 Select the anonymous user account:

- If you are using the default local anonymous username, 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, ensure that only the **Read** check box is selected, then click **OK**.

Create 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.

For IIS 5:

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 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.

Note: If you installed ClearQuest onto a FAT partition instead of an NTFS partition, you will not see a **Security** tab and can skip steps 4–6.

4. Select the anonymous user account:
   - If you are using a default local anonymous username, 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 **Full Control** check box, then click **OK**.

Create a Virtual Directory

The first step in setting up IIS is to create a virtual directory for the Web.

For IIS 4:

Create a virtual directory for the Web as follows:

1. Start the Internet Service Manager. Click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager**.
2. In the Navigator window, expand the **Internet Information Server** and the *machine-name* folders, then right-click **Default Web Site**, then click **New > Virtual Directory** from the shortcut menu.
3. In the New Virtual Directory Wizard, type an alias name, such as **CqWeb**. Do not use a **/** character in the alias name. 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
5. Click **Next** and select the default permissions for the virtual directory. Click **Allow Execute Access (includes Script Access)**. Click **Finish**.

For IIS 5:

Create a virtual directory for the Web as follows:

1. To start the Internet Services Manager, click **Start > Settings > Control Panel > Administrative Tools > Internet Services Manager**.
2. In the Navigator window, expand the **Internet Information Server** and the *machine-name* folders, then right-click **Default Web Site**.
3. On the shortcut menu, click **New > Virtual Directory** and click **Next**.
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

   Click **Next**.

6 Using the Access Permissions screen, clear the **Read** and **Run scripts** check boxes and then select the **Execute (such as ISAPI applications or CGI)** check box. Click **Next**.

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

Edit the Properties of the Virtual Directory

For IIS 4:

To edit the properties of the (IIS 4) virtual directory as follows:

1 In the left pane of the Internet Service Manager, navigate to the virtual directory you created in *Create a Virtual Directory* on page 156.

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

3 In the Properties dialog box, click the **Virtual Directory** tab. Clear all of the check boxes for **Access Permissions** and verify that **Run in separate memory space** is not selected and then under **Permission** select the **Execute (including script)** option.

Warning: You should not run ClearQuest Web in a separate memory space (as an isolated process). If you do not do so, e-mail rules will not work.

4 In the same Properties dialog box, click **Configuration**. In the Application Configuration dialog box, click the **App Mappings** tab. Verify that **Cache ISAPI applications** check box is selected and that .asa and .asp are mapped to asp.dll.

5 In the same Application Configuration dialog box, click the **App Options** tab. Select the **Enable session state** check box and set the time-out value. Then, select the **Enable parent paths** check box.

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.

8 In the same Properties dialog box, click the **Directory Security** tab. Click **Edit** that is associated with **Anonymous Access and Authentication Control** area to open the Authentication Methods dialog box. Verify that **NT Challenge/Response** is not selected; if this check box is selected, clear it. On the Authentication Methods dialog box, click the **Allow Anonymous Access** check box and then click **Edit** to open the Anonymous User Account dialog box.

9 Using the Anonymous User Account dialog box, define the anonymous user account using the account name created in *Setting up an Anonymous User Account* on page 150. Then clear the **Enable Automatic Password Synchronization** check box and type the password.

Note: If the **Enable Automatic Password Synchronization** check box is not cleared, ClearQuest Web will not function properly.

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.

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 in *Create a Virtual Directory* on page 156.

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 for **Execute Permissions** that **Scripts and Executes** is selected and for **Application Protection** that **Low (IIS Process)** is selected.

Warning: You must run ClearQuest Web as **Low (IIS Process)**. If you do not do so, e-mail rules will not work.

4 In the same **Virtual Directory** tab, click **Configuration**. In the Application Configuration dialog box, click the **App Mappings** tab. Verify that the **Cache ISAPI applications** check box is selected and that .asa and .asp are mapped to asp.dll.

5 In the same Application Configuration dialog box, click the **App Options** tab. Select the **Enable session state** check box and set the time-out interval. Then select the **Enable parent paths** check box. Click **OK**.

6 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.

7 In the same Properties dialog box, click the **Directory Security** tab. Next to the **Anonymous access and authentication control** area, click **Edit** to open the Authentication Methods dialog box. Verify that the **Integrated Windows authentication** check box is not selected; if this option is selected, clear it. Select the **Anonymous access** check box and then, click **Edit** for **Account used for anonymous access** to open the Anonymous User Account dialog box.

8 Define the anonymous user account using the account name created in *Setting up an Anonymous User Account* on page 150. Then clear the **Allow IIS to control password** check box and type the password.

Note: If the **Allow IIS to control password** check box is not cleared, ClearQuest Web will not function properly.

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.

Edit the Properties of the Cache Directory

For IIS 4:

To edit the properties of the cache subdirectory:

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 the **Read** check box. Verify that no check boxes for **Content Control** are selected.

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

7 Click **OK**.

For IIS 5:

To edit the properties of the cache subdirectory:

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 check boxes are selected.

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

7 Click **OK**.

Note: If you have not set proper permissions in the cache directory, you cannot log on and you will see the following error:

Logon Error 80020009

Could not create directory

occurred in ClearQuest.FileCache.1

Edit the Properties of the Images Directory

For IIS 4:

To edit the properties of the images subdirectory:

1 In the Navigator window of the Internet Service Manager, 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 the **Read** check box. Verify that no check boxes for **Content Control** are selected.

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

7 Click **OK**.

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 check boxes are selected.

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

7 Click **OK**.

Change Script Timeout Limit

Occasionally your script may time out. If this happens, you see a message like this one:

error 'ASP 0113'

Script timed out

The maximum amount of time for a script to execute was exceeded. To change this limit, specify a new value using the Internet Service Manager, as follows:

1 For IIS 4 or IIS 5, start Internet Service Manager.

2 Right-click the virtual directory for ClearQuest Web and click **Properties**.

3 Click the **Virtual Directory** tab and click **Configuration**.

4 Click the **App Options** tab and enter the new value in seconds in the **ASP Script timeout** box.

Restart the Web Server

For IIS 4:

Close the Internet Service Manager, saving your console settings, then restart the Web server host.

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 ClearQuest Databases* on page 144.

IIS 5:

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

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 ClearQuest Databases* on page 144.

Warning: The IIS Server (**inetinfo.exe**) may crash when you stop the service from the Microsoft Internet Service Manager application. If this happens, stop and restart the Internet Service Manager before you restart the **World Wide Web Publishing Service**. If this machine provides FTP or Gopher services, you must restart them, too.

Verify the ClearQuest Web Configuration

After running the ClearQuest Maintenance Tool on your Web server computer to create the database connections (see *Connecting to ClearQuest Databases* on page 144), verify that the ClearQuest Web is operational. To do so:

1. From any Windows client, run a supported Web browser that has been configured for ClearQuest Web. (See *Configuring Web Browsers* on page 163.)
2. Enter the URL: **http://***<host>***/***<alias>*

   where:

   - *<host>* is the host name of the ClearQuest Web server machine
   - *<alias>* is the IIS virtual directory containing the ClearQuest Web files
3. The **ClearQuest Web Logon** page should display in your browser.

   If this page does not correctly display, check the network connectivity of the client host to the Web server host with a `ping` command. If the client host has connectivity to the Web server, verify that the **World Wide Web Publishing Service** is started.
4. Type a **User Name** and **Password** and select a **Database**. Click Logon. The ClearQuest Web interface should display in your browser.
5. Click **Submit** to create a test record and after completing the required fields, click **OK** to place the record in the database.
6. Use the ClearQuest Web interface to query the database to locate the test record that you have added.

Performing ClearQuest Web Administration Tasks

After IIS is properly configured, the ClearQuest administrator can perform the following tasks:

- Configure the browser for ClearQuest Web
- Enable e-mail notification for ClearQuest Web users
- Edit login timeout settings
- Provide instructions for users to access ClearQuest Web
- Accessing the Advanced Query Editor with ClearQuest Web
- Setting IIS parameters based on ClearQuest Web performance guidelines

Configuring Web Browsers

To provide full ClearQuest Web functionality to your Web users, ensure that your users have configured specific options on their Web browsers. Your users can follow the procedures in the *Preparing to Install Rational ClearQuest* section in the *Installation Guide* for Rational Desktop Products.

Enabling E-mail Notification for Web Users

After installing ClearQuest Web, you can enable your ClearQuest Web clients to have e-mail notification according to the business rules of your schema.

Note: The values for e-mail notification entered in the Rational Setup Wizard or Site Preparation Wizard do not apply to configuring e-mail notification for ClearQuest Web clients.

The ClearQuest administrator can setup a universal e-mail notification address for all ClearQuest Web client users based on a mail account dedicated to ClearQuest.

1. From the ClearQuest Web server, log in to your ClearQuest Web client with administrator privileges.
2. In the tool bar, select **Operations** and then click **Edit Web Settings**.
3. Scroll down to the **Enable E-Mail Notification** section.

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.
MS Exchange 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 Name	Enter your Web server machine name. If you enter a Web server name, e-mail messages will display the server name in the **From** field. If you do not want the server name to display in all e-mail messages, do not enter anything here.
Reply To	Enter a generic, reply-to address for this Web server. This address will automatically display in the **Reply To** field of each e-mail message. If you leave it blank, no address will display.

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 the *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 on a ClearQuest Web server, perform the steps in *Installing Collaboration Data Objects for MAPI Notification* on page 164.

Installing Collaboration Data Objects for MAPI Notification

Collaboration Data Objects must be installed in Microsoft Outlook 2000 on the ClearQuest Web server 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 **Change**.

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

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

5 Click **Update Now**.

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

Configuring ClearQuest Web Clients To Receive E-Mail Notification

The procedure for configuring Web clients to receive e-mail notification is in the *Rational ClearQuest – After Install* chapter of the *Installation Guide* for Rational Desktop Products.

Editing Login Timeout Settings

The **Login Timeout** value specifies the amount of time in milliseconds it to wait on a global lock before giving up. The default value is `15000` (or 15 seconds).

To change the **Login Timeout** value:

1 Log in to ClearQuest Web with administrator privileges.

2 Click **Operations > Edit Web Settings > Login Timeout**.

3 Set the value based on the following considerations:

- If the **Login Timeout** value is **0**, the default IIS setting is in effect.
- All values must be converted from minutes to milliseconds and entered as the **Login Timeout** value.

Note: The new value is not in effect until the next logon.

Provide Instructions to Users for 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 IIS virtual directory containing the ClearQuest Web files.

Using the Advanced Query Editor

The advanced query editor feature for ClearQuest Web requires a Java Runtime (JRE) plug-in on the Web user's machine. When initially accessing ClearQuest Web, if you do not have Java plug-ins enabled for your browser, ClearQuest Web displays a message and provides a prompt to download the Java plug-in.

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

Web Performance and Recommended Configurations

Rational has performed extensive performance and stability testing on various Web server configurations. As a result, we have developed a set of recommended database and Web server configurations.

ClearQuest Web has been load tested extensively with hooks written in both `Perl` and `VBScript`. To ensure Web stability under high loads, Rational's load testing involved 50 simultaneous users performing normal operations such as submitting records, modifying records, and executing queries. Based on this load testing, we recommend the following configurations for best performance and stability under high loads:

- Windows 2000 SP3, IIS 5.0, SQL Server 2000 SP2
- Windows 2000 SP3, IIS 5.0, Oracle 8.1.7 Server, Oracle 8 Client
- Windows NT 4.0 SP6a SRP, IIS 4.0, SQL Server 2000 SP2

To ensure top performance in a multiuser environment, complete the following IIS tuning:

- On the **Internet Service Manager > host_name > Properties > Internet Information Server** tab, select the **Enable Bandwidth Throttling** check box and use the default of 1024 KB/S for maximum network use.
- On the **Internet Service Manager > host_name > Default Web Site > Properties > Web Site** tab, clear the **Enable Logging** check box.
- On the **Internet Service Manager > host_name > Default Web Site > Properties > Performance** tab, set the performance tuning scale to the maximum (**More than 100,000**).
- On the **Internet Service Manager > host_name > Default Web Site > Properties > Performance** tab, clear the **Enable Bandwidth Throttling** check box.
- On the **Internet Service Manager > host_name > Default Web Site > Properties > Performance** tab, clear the **HTTP Keep-Alives Enabled** check box. (This check box is on the **Web site** tab for IIS 5.)

After Install: Configuring ProjectConsole Software

7

This chapter explains how to configure the ProjectConsole software after installation. It describes how to set up Rational ProjectConsole on the ProjectConsole Web server (includes report server and collection agent software), repository, and, optionally, on separate report server and collection agent computer(s).

Prerequisites

The following sections assume you have:

- Set up the data warehouse using the procedures in the ClearQuest sections of this manual.
- Installed the ProjectConsole server and report server and data collection agent on the server computer.

Viewing Microsoft Access Sample Data

During the ProjectConsole server components installation, the Rational Setup Wizard automatically creates the following:

- Two Microsoft Access ProjectConsole sample database files, which are part of the ProjectConsole repository:
  - *InstallDir*\sample_db_files\InitialPjCMaster.mdb
    (the schema repository database)
  - *InstallDir*\sample_db_files\InitialPjCWarehouse.mdb
    (the data warehouse)

After you install ProjectConsole components on the server, restart the ProjectConsole server. For instructions, see *To Stop and Restart RWP* on page 218. (See *Viewing ProjectConsole Server Startup Error Information* on page 174 if it does not start.)

You can log in to the ProjectConsole Web site from a ProjectConsole client and start browsing the sample repository data. For information about how to log in to the ProjectConsole Web site from a client, see *Logging In to the ProjectConsole Web Site* in the *Installation Guide* for Rational Desktop Products.

Setting Up Users and Groups

After you install and set up the ProjectConsole server, anyone can log in to the ProjectConsole Web site by typing **admin** in the **User ID** box and **changeit** in the **Password** box. To ensure ProjectConsole Web site security, we recommend that you set up users (with user IDs and passwords) and groups for your development team immediately after you set up the ProjectConsole server.

For information about setting up users and groups and managing site security, see the ProjectConsole **Help**.

Configuring the ProjectConsole Services

This section describes how to use the ProjectConsole Maintenance Tool to configure ProjectConsole software on the ProjectConsole server and on any separate computers on which you have installed the report server and collection agents.

- For more information about the Rational Web Platform (RWP), the ProjectConsole Web server components, see *Customizing the Rational Web Platform* on page 213.
- For detailed information about the options available in the ProjectConsole Maintenance Tool, see Rational ProjectConsole Maintenance Tool Help.
- After you install ProjectConsole components on the server, restart the ProjectConsole server (See *Viewing ProjectConsole Server Startup Error Information* on page 174 if it does not start.)

Configuring the ProjectConsole Server and Additional Report Server and Collection Agent

To configure the ProjectConsole services on the server or on an additional report server and collection agent:

1. Click **Start** > **Programs** > **Rational Software** > **Rational ProjectConsole** > **Rational ProjectConsole Maintenance Tool**.
2. Leave **Configure the ProjectConsole services** selected**,** and then click **Next**.
3. In the **Web server name** box, type the name of the ProjectConsole server.
4. In the **Web server port** box, if the ProjectConsole Web server uses a port other than the default port (80 for http and 443 for https), clear the default port number, and then type the correct number.

5 To ensure secure data transactions, next to **Web server protocol**, click **https**.

Note: After you click **https**, the value displayed in the **Web server port** box changes from "80" to "443."

6 If the ProjectConsole server is running behind a firewall, and the name of this server computer is not visible outside the firewall, perform the following steps. Otherwise, skip to step 7.

a In the **RMI server name** box, type the ProjectConsole server hostname or IP address for the RMI server to send in RMI connection reply messages.

b In the **RMI server port** box, type the port number on the ProjectConsole server that the RMI server should use instead of a dynamic client connection port.

Note: These values are set in the server.ini file.

c Click **Start** > **Rational Software** > **Rational ProjectConsole** > **Start Rational ProjectConsole Servers**.

d Configure the firewall to route requests on both the static ProjectConsole RMI server port and the dynamic RMI server port to the ProjectConsole server computer.

e Configure the firewall to route requests on the http (or https) listening port to the ProjectConsole server.

After you complete this procedure, http requests are routed to the Rational Web Platform server components on the ProjectConsole server, and RMI connections to the Dashboard and Designer are correctly routed to the ProjectConsole server.

7 In the **Connection retry interval** box, type the number of minutes for the report server and collection agents to wait after failing to connect to the Web server before trying to connect again.

8 To control the debug information that the Web server (and any report servers and collection agents) generate and save to the log files, in the **Trace level** list, select one of the following trace level values:

- **Tracing is disabled**: Logged information excludes errors and diagnostic messages.
- **Trace errors only**: Logged information includes errors, but excludes messages.
- **Trace errors and warnings**: Logged information includes both errors and messages.
- **Trace all messages**: Logged information includes all diagnostic messages.
- **Trace all messages (with call stack)**: Logged information includes all diagnostic messages and a call stack to help trace the sources of errors.

9 In the **Log file directory** box, leave the default directory path for generated log files (C:\Programs\Rational\ProjectConsole\logs), or enter a different directory for log files.

10 In the **Text template directory** box, leave the default value (C:\Programs\Rational\ProjectConsole\templates\Designer), or enter a different directory for text templates.

11 In the **Artifact repository** box, leave the default value (C:\Classics\Projects\Webshop), or enter a different directory for storing development artifacts.

12 After you provide the required information, click **Finish**.

Creating a ProjectConsole Repository

The following section contains information about how to create a ProjectConsole repository based on Microsoft Access, SQL Anywhere, SQL Server, Oracle, and DB2 database types.

The ProjectConsole Maintenance Tool helps you create a repository for each supported database type.

To create a ProjectConsole repository:

1 Click **Start** > **Programs** > **Rational Software** > **Rational ProjectConsole** > **Rational ProjectConsole Maintenance Tool**.

The ProjectConsole Maintenance Tool starts.

2 Click **Create or copy a ProjectConsole repository**, and then click **Next**.

3 Under **ProjectConsole repository information**, in the **Copy from repository** list, select one of the following repositories to initialize your new repository:

- **PjC Sample Site** - This repository contains all of the elements of the ClassicsCD.com sample ProjectConsole Web site. This includes sample users and groups, a Web site navigation tree, as well as source templates, mappings, target tables, scheduled tasks, metric panels, and collected sample measurement data.

  Note: If you use the PjC Sample Site to initiate a new repository, you can modify it for use with your own data later.

- **PjC Empty Site** - This repository contains an empty ProjectConsole site with an empty Web site navigation tree, minimal users and groups, and an empty data warehouse.

  Note: You can use the PjC Empty Site as a starting point for building a ProjectConsole Web site from scratch.

- **PjC Demo** - The PjC Demo is the ProjectConsole Sample Site. Once the installation is complete, this is the site to which ProjectConsole is connected.

Note: The three out-of-the-box repositories in the **Copy from repository** list are read-only and can only be used as starting points for a new repository.

For information about dimension tables and measure tables, see Rational ProjectConsole Designer Help. For information about metrics displays, see Rational ProjectConsole Dashboard Help.

4 In the **New repository name** box, type a name for the new repository.

5 Under **Data warehouse information**, in the **Database type** list, select the vendor for the databases in your new ProjectConsole repository.

6 The remaining information you must enter next under **Data warehouse information** depends on the database type you selected.

For Microsoft Access databases:

a In the **Schema repository** box, type the full shared Universal Naming Convention (UNC) name for the schema repository you created, using the following syntax:

\\servername\sharename\directory\databasename

Example:

\\server1\share1\directory1\PjCschemarepository.mdb

Note: If you do not specify a schema repository database, the Maintenance Tool uses the following default value:

ProjectConsole install directory\DataRepository\<new repository name>\SchemaRepository.mdb

b In the **Data warehouse** box, type the full shared UNC name for the data warehouse you created, using the following syntax:

\\servername\sharename\directory\databasename

Example:

\\server1\share1\directory1\PjCdatawarehouse.mdb

Note: If you do not specify a data warehouse database, the Maintenance Tool uses the following default value:

ProjectConsole install directory\DataRepository\<new repository name>\SchemaRepository.mdb

ProjectConsole install directory\DataRepository\<new repository name>\DataRepository.mdb

Note: If ProjectConsole was installed in a location other than the default directory, the Maintenance Tool uses the correct directory.

For DB2 databases:

a Under **Schema repository information**:

i In the **Schema repository** box, type the name of the DB2 schema repository you created.

ii In the **Username** box, type the username required to log in to the schema repository.

iii In the **Password** box, type the password required to log in to your schema repository.

b Under **Data warehouse information**:

i In the **Data warehouse** box, type the name of the DB2 data warehouse you created.

ii In the **Username** box, type the username required to log in to the data warehouse.

iii In the **Password** box, type the password required to log in to the data warehouse.

For Oracle databases:

a Under **Schema repository information**:

i In the **Schema repository** box, type the SQLNet Alias that points to the Oracle schema repository you created.

ii In the **Username** box, type the Oracle login you created for the schema repository.

iii In the **Password** box, type the password for the Oracle login you created.

b Under **Data warehouse information**:

i In the **Data warehouse** box, type the SQLNet alias that points to the Oracle data warehouse you created.

ii In the **Username** box, type the Oracle login you created for the data warehouse.

iii In the **Password** box, type the password for the Oracle login you created.

c In the **Connect options** box, type the Oracle versions installed on the database server and on the client machine using the following format:

SERVER_VER=8.X

CLIENT_VER=8.X

If the database server is a machine other than the ProjectConsole server, then the ProjectConsole server is the client.

Note: ProjectConsole supports Oracle versions 8.0 and 8.1.

For SQL Anywhere databases:

a In the **Schema repository** box, type the full shared Universal Naming Convention (UNC) name for the schema repository you created, using the following syntax:

\\servername\sharename\directory\filename

Example:

\\server1\share1\directory1\PjCschemarepository

Note: If you do not specify a schema repository database, the Maintenance Tool uses the following default value:

ProjectConsole install directory\DataRepository\<new repository name>\SchemaRepository.db

b In the **Data warehouse** box, type the full shared UNC name for the warehouse database you created, using the following syntax:

\\servername\sharename\directory\filename

Example:

\\server1\share1\directory1\PjCdatawarehouse

Note: If you do not specify a data warehouse database, the Maintenance Tool uses the following default value:

ProjectConsole install directory\DataRepository\<new repository name>\DataRepository.db

c In the **Database server** box, type the name of the SQL Anywhere database server.

d Next to **Protocol(s)**, select the check boxes for the protocols to use to communicate with the SQL Anywhere server.

e In the **Hostname(s) (n1, n2,…)** box, type the name or names of the database server or servers. Separate multiple database server names with commas.

f In the **Connect options** box, specify the version of SQL Anywhere installed on your database server machine using the following format:

SERVER_VER=8.X

For SQL Server databases:

a In the **Database server** box, type the name of the SQL Server database server.

b Under **Schema repository information**:

i. In the **Schema repository** box, type the name of the SQL SERVER database you created for the schema repository.

ii. In the **Username** box, type the database owner (DBO or Administrator) login you created for the schema repository.

iii. In the **Password** box, type the password for the database owner login.

c. Under **Data warehouse information**:

i. In the **Data warehouse** box, type the name of the SQL Server data warehouse you created

ii. In the **Username** box, type the SQL Server user name that you set up to log in to the data warehouse as db_owner.

iii. In the **Password** box, type the password that you set up to log in to the data warehouse as db_owner.

7. Click **Finish**.

   After ProjectConsole creates the repository, it displays the text "Operation complete." (This can take some time, depending on whether you are creating an empty repository or one that contains data.)

8. To quit the Maintenance Tool, click **Exit**. To return to the first screen, click **Done**.

Viewing ProjectConsole Server Startup Error Information

If an error message is displayed during ProjectConsole server startup, use the error log file to determine the cause.

If an error occurs during server startup, do the following:

1. On your desktop, right-click **My Computer**, and then click **Manage** on the shortcut menu.

   The Computer Management window is displayed.

2. On the **Tree** tab in the left pane, expand **Services and Applications**, and then click **Services**.

3. In the right pane, right-click **Rational Web Platform, Tomcat ReqWeb server**, and then click **Stop** on the shortcut menu.

4 Close the Services Window.

5 Open the error log file, which is located in the following directory:

InstallDir\logs\server.log

6 Examine the log file contents to see the source of the error.

After Install: Configuring RequisitePro Database and Web Server

8

This chapter describes how to configure Oracle® and Microsoft® SQL Server databases for RequisitePro projects, configure the Rational E-Mail Reader, and set up RequisiteWeb.

Note: The project database must be set up before you can configure RequisiteWeb.

Prerequisites

This chapter assumes you have:

- Installed Oracle or Microsoft SQL Server on the database server. Refer to Oracle, or Microsoft documentation for information on installing Oracle, or Microsoft SQL Server.
- Installed Oracle client software on client desktops and the RequisiteWeb server (if Oracle is the vendor database that you have selected). Refer to the Oracle documentation for all questions regarding that product. To access RequisitePro projects that are stored in an Oracle database, you must configure Oracle client software on the Web server.
- Installed the Oracle or SQL Server database configuration scripts on the database server (*Preparing to Install RequisitePro* on page 72 and *Installing Rational Products* on page 91)

Configuring Oracle for RequisitePro

To create and access RequisitePro projects in the Oracle database, follow the instructions in this section for enabling Oracle database compatibility. RequisitePro supports multiple projects within a single Oracle schema. The following procedures include:

- Database management information for setting up an Oracle schema to accommodate Requisite projects,
- Instructions for accessing an Oracle host from the client PC using Oracle's SQL*Net or Net8 Easy Configuration tool, and
- A procedure for creating a RequisitePro project in the Oracle database.

For the most current information related to Oracle database configuration, refer to the *Oracle Database Configuration for RequisitePro* document at the following location on your computer after installation:
C:\Program Files\Rational\RequisitePro\help\OracleSetup.html

Oracle Database Administration

Be sure to set the initialization parameter, OPEN_CURSORS, to at least 110.

To configure access to Oracle for RequisitePro projects, establish the following:

- Oracle database server name (TCP/IP Host Name)
- Oracle database alias or service name
- Oracle schema name for storing RequisitePro projects (see procedure below)
- your user ID for logging on to the Oracle database
- your user password for logging on to the Oracle database

The following sections provide instructions for configuring the last three of these items.

Creating an Oracle Schema for RequisitePro

Oracle database administration enables you to create multiple schemas within your Oracle database instance. **Use the scripts listed below to create a RequisitePro user and schema** within Oracle for storing your projects. The RequisitePro scripts are designed to initially allocate disk space for the various database tables and indexes that are used by RequisitePro, based on the following approximations:

- 25 projects
- 250 documents (10 per project)
- 125 document types (5 per project)
- 125 requirement types (5 per project)
- 1,250 user defined attributes (10 per requirement type)
- 125 user groups (5 per project)
- 100 users
- 12,500 requirements (500 per project)
- 12,500 discussions (500 per project)

The scripts provide an initial size for the RequisitePro schema. They do not place constraints on size or number of projects.

Extents are set to the same size as the initial allocations. They define additional table space that Oracle will allocate if the original allocation becomes insufficient. You can customize the scripts to adjust the table space allocations for tables and indexes to accommodate your organization's intended use of RequisitePro. See the section *Copying the RequisitePro Scripts* on page 179.

Schema Creation Scripts

The following scripts are used for creating a RequisitePro schema within your Oracle database. They can be run automatically by executing the main script, CREATE_REQPRO, as described in the procedure *Creating a Schema* on page 182, or you can run them individually as needed.

CREATE_REQPRO. Establishes a log that can be used to review the results of running the script and runs the other scripts, listed below.

TABLESPACE. Creates table spaces for data and indexes. Creates disk files to support these table spaces.

CREATE_USER. Creates the default RequisitePro user (REQPRO) and password (REQPRO) and connects to the database with that user ID.

TABLES. Creates tables for the RequisitePro database.

PRIMARY. Creates primary keys for each table in RequisitePro.

INDEXES. Creates indexes for the RequisitePro database.

FOREIGN. Creates foreign key relationships between tables.

FUNCTIONS. Creates customer-defined functions for use within RequisitePro.

SEQUENCE. Creates sequences and triggers for auto-sequencing primary keys.

PROCEDURES. Creates stored procedures for use within RequisitePro.

DATA. Inserts data into the RqKeys and RqRequisite tables.

GRANT_ROLE. Creates a user role with access to the RequisitePro schema objects.

Copying the RequisitePro Scripts

If you chose the default installation when installing RequisitePro, the database creation scripts are, by default, located in C:\Program Files\Rational\RequisitePro\database\Oracle. Copy the scripts to a subdirectory on your Oracle database server. We suggest that you create an "Oracle" directory below the home directory on the server.

Note: If your database server is running on an international operating system, be sure that the path to these scripts does not include folders with double-byte character names.

Editing Scripts

Changing the name of your schema (Optional)

To change the name of your schema to a different entry other than the default, modify the following entries in the Create_ReqPro script:

```
#DEFINE ReqPro_Data= schemaName_DATA
#DEFINE ReqPro_Index=schemaName_INDEX
```

Modifying the User Name and Password (Optional)

To create the schema with a different entry than the default user name and password values of "ReqPro", modify the following entries:

```
DEFINE USR=reqpro
DEFINE PWD=reqpro
```

Note: Do not use non-ASCII characters when entering the password for the schema.

Specifying the Path for the Schema Scripts

Edit the `DEFINE PATH` entry to indicate the full path where the RequisitePro Oracle scripts are located. The suggested path (from *Copying the RequisitePro Scripts* on page 186) is:

```
DEFINE PATH="$HOME/sql/"
```

Note: If your environment limits your path to a maximum 8-character name for directories, reflect this format in your entry.

Indicating Data and Index Files Directory

Edit the `DEFINE ORACLE_DATA` entry to indicate the path and directory where the data file for the data table space will be created:

```
DEFINE ORACLE_DATA=<full path>/ORACLE_DATA/
```

Edit the `DEFINE ORACLE_INDEX` entry to indicate the path and directory where the data file for the index table space will be created:

```
DEFINE ORACLE_INDEX=<full path>/ORACLE_INDEX/
```

Note: You must create both the `ORACLE_DATA` and the `ORACLE_INDEX` subdirectories in your path before running the script.

Specifying a Temporary Tablespace

Edit the `DEFINE TEMP` entry in the CREATE_REQPRO script to assign temporary tablespace for storing temporary objects for the user's operations.

```
DEFINE TEMP=TEMP
```

Make sure that the value for this entry is a valid, existing tablespace in your Oracle database. Some versions of Oracle use "TEMPORARY_DATA" rather than "TEMP." Your installation of Oracle may contain a custom name for the temporary tablespace.

Customizing Disk Space Allocation for Database Objects

The schema creation scripts are designed to allocate disk space for the various database tables and indexes that are used by an average set of RequisitePro projects, as described in *Creating an Oracle Schema for RequisitePro* on page 178.

If you anticipate a much larger or smaller requirement for your organization's use of RequisitePro, you can customize the disk space allocation specified in the CREATE_REQPRO script to accommodate your projected capacity.

Edit the following sizing variables:

```
SMALL    = 10K
MEDIUM   = 100K
LARGE    = 1000K
REQS     = 6000K
REQHIST  = 75000K
```

Note: The last two variables, `REQS` and `REQHIST`, are used for the requirements (RqRequirements) and requirement history (RqRequirementHistory) tables, respectively.

Edit the `DEFINE DATA_SIZE` and `DEFINE INDEX_SIZE` entries to reflect the change in the total size of the database caused by your edits to the sizing variables.

Modifying the Limits of the VARCHAR2 Data Type

RequisitePro uses the VARCHAR2 data type to store searchable text for requirement text, revision history reasons, and textual attribute values.

The RequisitePro Oracle scripts set the limit on this data type to 2000 characters. Current versions of Oracle support up to 4,000, allowing you to expand the constraints on the size of the searchable text. To modify this limit, increase the MAX_VARCHAR value in the CREATE_REQPRO script from 2000 to a maximum of 4000.

Creating a Schema

Perform the following procedure to create a RequisitePro schema in Oracle:

1. Edit the CREATE_REQPRO script, as described above in the section *Editing Scripts* on page 180.
2. On the Oracle database server, log on to SQL*Plus with system administrator permissions.

   Note: If you run SQL*Plus from a remote client, you need to edit the RequisitePro CREATE_USER script. Change the entry `connect &3/&4` to the following:
   `connect &3/&4@<target Oracle database server alias>`
3. Run the CREATE_REQPRO script using the command:
   `@<setup directory>\CREATE_REQPRO`

This script runs the schema creation scripts. A message appears upon successful completion of the schema creation. If errors occur or the completion message does not appear, review the log CREATE_REQPRO.LOG.

User ID for Accessing Oracle Database

All RequisitePro projects should access the Oracle database using the same user ID, which was created during the schema creation process, described above. The initial user name and password created by the script are "reqpro" and "reqpro", unless you modified the CREATE_REQPRO script, as described in *Editing Scripts* on page 180. You can also change the password using your Oracle database utilities.

Each user does not need a separate Oracle account because RequisitePro uses its own user and user group tables to control access to a project.

Using Multiple Projects within an Oracle Database

RequisitePro supports multiple projects within a single Oracle schema. Refer to the section *Creating a Project in Oracle* in the *Installation Guide* for Rational Desktop Products for instructions on adding an Oracle database project within RequisitePro. Use the same schema name for each of your RequisitePro projects.

Connecting Projects Across Databases

Perform the following steps to enable cross-project traceability between projects in distributed Oracle databases. Refer to the following sections for details.

- Creating a reference to the remote database instance
- Creating a database link to the remote database
- Defining database aliases on each RequisitePro client

Creating a Reference to the Remote Database Instance

To run traceability queries between projects in distributed Oracle databases, define a reference in each database instance that refers to the remote database instances. Edit the tnsnames.ora file, located on the Oracle server, to define the name, host, port, and protocol of the remote service.

The following example shows the syntax for defining the database instance "server02" as a remote database server to "server01" in the `tnsnames.ora` file:

```
Server02.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
          (COMMUNITY = tcp.world)
          (PROTOCOL = TCP)
          (Host = server02)
          (Port = 1521)))
    (CONNECT_DATA = (SID = ORCL)))
```

In similar fashion, the "server02" database instance needs an entry to define the remote "server01" database instance:

```
Server01.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
          (COMMUNITY = tcp.world)
          (PROTOCOL = TCP)
          (Host = server01)
          (Port = 1521)))
    (CONNECT_DATA = (SID = ORCL)))
```

Note: This feature was tested using TNSNAMES for service name resolution. Use of Oracle Names Server or any other name server mechanism requires a different setup.

Creating a Database Link to the Remote Database

Next, create a database link to each remote database in each database instance using a SQL utility. The link should be defined under the user account that owns the RequisitePro schema. The following example shows the required syntax for linking to "server02" from "server01":

```
CREATE DATABASE LINK server02.world
CONNECT TO reqpro IDENTIFIED BY reqpro
USING 'server02.world';
```

A similar statement should be executed on the server02 database instance in order to define a link to server01.

If the `db_name.db_domain` does not result in a unique name for each database for which a link is required, use the `@connection_qualifier` syntax to create a unique name.

This naming convention will work regardless of the setting of the `global_names` parameter in the `initorcl.ora` file.

Defining Database Aliases on Each RequisitePro Client

Define SQL*Net database aliases or Net8 service names (resulting in local tnsnames.ora file entries) on each RequisitePro client (or shared centrally on a network) for each database instance. The database alias or service name on the client MUST match the database link you defined in the *Creating a Reference to the Remote Database Instance* on page 183 and *Creating a Database Link to the Remote Database* on page 183 for RequisitePro cross-project traceability to function correctly.

Setting Up Desktops for Oracle Access

Direct users to use the Oracle SQL*Net or Net8 Easy Configuration tool to configure access from their clients to the Oracle database server. If they plan to share projects with other users, they must use a consistent database alias or service name.

Creating a Project in Oracle

For information on creating a RequisitePro project in Oracle, see *Creating a Project in Oracle* in the *After Install* chapter of the *Installation Guide* for Rational Desktop Products. Use the same schema name for each of your RequisitePro projects.

Configuring SQL Server for RequisitePro

To create and access RequisitePro projects in a SQL Server database, follow the instructions in this section for enabling SQL Server database compatibility. RequisitePro supports multiple projects within a single SQL Server schema. This section includes:

- database management information for setting up a SQL Server schema to accommodate RequisitePro projects, and
- a procedure for creating a RequisitePro project in the SQL Server database.

For the most current information related to SQL Server database configuration, refer to the document *SQL Server Database Configuration for RequisitePro* that is, by default, at the following location on your system after installation:
C:\Program Files\Rational\RequisitePro\help\SQLsetup.html

Note: If you have an existing RequisitePro database in SQL Server, and your SQL Server software has been upgraded to version 7.0 from a previous version, then you must run the following stored procedure in SQL Server to set the database compatibility level to SQL Server 7.0:

```
sp_dbcmptlevel <database name>, 70
```

for example:

```
sp_dbcmptlevel RequisitePro, 70
```

The above procedure is required to prevent SQL Server Syntax Errors in RequisitePro.

The following installation and configuration tasks need to be accomplished prior to performing the RequisitePro/SQL Server integration outlined in this document.

SQL Server Database Administration

Before you configure access to SQL Server from RequisitePro, establish the following:

- SQL Server machine name (TCP/IP Host Name)
- SQL Server default database for RequisitePro projects, such as "RequisitePro"
- a user ID for logging on to the SQL Server database, such as "ReqPro"
- a user password for logging on to the SQL Server database, such as "reqpro"

Note: Database names that contain spaces are not supported for use with RequisitePro projects.

The following sections provide instructions for configuring the last three of these items.

Creating a SQL Server Schema for RequisitePro

Use the following instructions to create a SQL Server database and schema for RequisitePro projects. The initial database size is based on the following approximations for your use of RequisitePro:

- 25 projects
- 250 documents (10 per project)
- 125 document types (5 per project)
- 125 requirement types (5 per project)
- 1,250 user-defined attributes (10 per requirement type)

- 125 user groups (5 per project)
- 100 users
- 12,500 requirements (500 per project)
- 12,500 discussions (500 per project)

To create a database in **SQL Server 7.0**, do the following:

1. Enter a name for the RequisitePro database. The database has an .MDF extension. The recommended database name is “RequisitePro.”

   Note: If you use a different database name, you will need to modify the database configuration scripts to reflect the actual name.

2. Set the initial size of the database to 150 MB.
3. Set the initial size of the transaction log file (.LDF) to one third the size of the database (in this case, 50 MB).

Schema Creation Scripts

The scripts listed below are used for creating a RequisitePro schema within your SQL Server database.

- **Login and User**. Creates a default RequisitePro login and user. For more information refer to the section below, “Default Login and User.”
- **Tables and Indexes**. Creates the tables and indexes required by RequisitePro.
- **Triggers.** Creates triggers that enforce cascading deletes.
- **Initial Data**. Inserts data required by RequisitePro when it first runs.

Copying the RequisitePro Scripts

If you choose the default installation when installing RequisitePro, the database creation scripts are, by default, located in C:\Program Files\Rational\RequisitePro\database\sqlserver. Copy the scripts to a subdirectory on your SQL Server database server. We suggest that you create a "sql" directory below the home directory on the server.

Running Schema Creation Scripts

The scripts listed below are used for creating a RequisitePro schema within your SQL Server database. Run the scripts in the sequence presented below. Run the scripts individually using the **SQL Server Query Analyzer**. Select the RequisitePro database in the DB drop-down list when running the scripts.

1. login and user.sql
2. tables and indexes.sql
3. triggers.sql
4. initial data.sql

Default Login and User

The schema creation scripts, described above, create default user information for accessing and creating projects in SQL Server. The user name also establishes the ownership and name of the schema (by default, "reqpro"). The default user permissions are required for use with RequisitePro.

Note: If you modify the **login and user.sql** script to use a different login and user name, you will need to modify subsequent scripts.

Note: Do not use non-ASCII characters when entering the password for the schema.

The scripts create the following default user information:

User	Login	Password
ReqPro	ReqPro	reqpro

The ReqPro user is assigned the following statement permissions in SQL Server:

User	Statement Permissions
ReqPro	Create Default, Create Procedure, Create Rule, Create Table, Create View

As the owner of the RequisitePro database objects, the ReqPro user is automatically assigned the following database permissions in SQL Server:

User	Database Permissions
ReqPro	Select, Insert, Update, Delete, DRI on all Tables and Views

Creating a Project in SQL Server

For information on creating a RequisitePro project in SQL Server, see *Creating a Project in SQL Server* in the *After Install* chapter of the *Installation Guide* for Rational Desktop Products. Use the same schema name for each of your RequisitePro projects.

Configuring the Rational E-Mail Reader

Use the Rational E-mail Reader application to configure e-mail for all discussion participants with a valid e-mail address in their RequisitePro user information. The Rational E-mail Reader application is included with your Rational Software installation at the following default location:
c:\Program Files\Rational\common\mailreader.exe

Discussion E-mail Configuration Requirements

- You must configure a unique e-mail address for each RequisitePro project
- **For RequisitePro and RequisiteWeb:** To enable e-mail for RequisiteWeb discussions, configure discussion e-mail using the **SMTP** protocol option in the Rational E-mail Reader. The MAPI protocol option is not supported for RequisitePro and RequisiteWeb.
- To complete the Rational E-mail Reader setup for SMTP protocol, you need the following information from your e-mail administrator:
  - SMTP Server name
  - POP3 Server name
  - E-mail address; one for each RequisitePro project
  - POP3 server login and password for the e-mail address
- Be sure to specify a **Log File Path** on the **Reader Information and Options** tab in the Rational E-mail Reader.
- When configuring email with the Rational ClearQuest Mail service, stop the service before configuring and restart the service when done.
- For networked-based projects, configure the properties of the Rational ClearQuest Mail service on the **Log On** tab. Select **This account** and enter your domain username and password. When browsing for an account name see the "examples" link in the **Select User** dialogue box.

Note: Refer to the online Help in the Rational E-mail Reader for more information.

Setting Up RequisiteWeb

To operate RequisiteWeb, see the following sections:

- Configuring the RequisiteWeb server on the Rational Web Platform (RWP)
- Testing RequisiteWeb
- Managing RequisitePro Projects for RequisiteWeb

For more information about the Rational Web Platform, see *Customizing the Rational Web Platform* on page 213.

For the most current information on RequisiteWeb, including installation, configuration, and known issues, refer to the *Installing and Configuring Rational RequisiteWeb* document that is on the *Rational Solutions for Windows* CD at:
\Doc\RequisiteWebInstall.html
It is also located, by default, in your RequisiteWeb installation at:
C:\Program Files\Rational\Doc\RequisiteWebInstall.html

The *Installing and Configuring Rational RequisiteWeb* document is also available from the online *Release Notes* in RequisitePro.

Prerequisites

The following instructions assume you have:

- Configured the RequisitePro project database.
- Installed and configured the Oracle client software on the RequisiteWeb server if you have chosen the Oracle database to store your RequisitePro projects.
- Installed the RequisiteWeb components. If you have not installed these components, see the *Before You Install* chapter and *Installing Rational Products* on page 91.
- To access RequisiteWeb from clients, users should install one of the supported Web browsers listed in the *Installation Guide* for Rational Desktop Products on their desktops. No additional client installation is required.
- For proper RequisiteWeb operation, client users should set their browsers to allow cookies.

Configuring the RequisiteWeb Server

This section describes how to configure the RequisiteWeb components on your Rational Web Server and describes how to perform the following tasks:

- Create the ReqWebUser

- Add the ReqWebUser to the Local Administrator group.
- Grant ReqWebUser access to network projects.
- Assign DCOM permissions to the Local Administrators group.
- Edit the RequisiteWeb configuration file (optional)
- Enable the Secure Socket Layer (SSL).

Creating the ReqWebUser

RequisiteWeb requires that you create a RequisiteWeb user. The RequisiteWeb user can be given any name. For the purposes of this guide, the user will be called ReqWebUser. This user will be granted the necessary permissions for RequisiteWeb to operate properly. If all RequisitePro projects that will be accessible via ReqWeb will be located on drives local to the RequisiteWeb server, create ReqWebUser as a local user on the RequisiteWeb server. Otherwise (if any of the projects assessable via ReqWeb are located on network file shares within your domain), create ReqWebUser as a domain user on your primary domain controller server.

Note: If you create the ReqWebUser user on the Windows domain server, be sure to log in to your Windows domain server as an administrator.

Table 29 on page 191 describes how to create the ReqWeb user.

Table 29 Creating the RequisiteWeb User

Step	NT 4.0	Windows 2000 Server/.NET RC2
1	On the domain server, click **Start > Programs > Administrative Tools (Common) > User Manager for Domains**.	On the domain server, click **Start > Programs > Administrative Tools > Computer Management**.
2	Click **User > New User**.	Expand **Domain Users and Groups**. Right-click **Users**; select **New User**.
3	In the **Username** field, type `ReqWebUser` and type a password of your choice.	In the **Username** field, type `ReqWebUser` and type a password of your choice.
4	Clear the check box **User must change password at next login,** and select the check box **Password never expires**. Click **Add**; click **Close**.	Clear the check box **User must change password at next login,** and select the check box **Password never expires**. Click **Create**; click **Close**.
5	Close the User Manager application.	Close the Computer Management application.

Adding the ReqWebUser to the Local Administrator Group

Table 30 shows how to add the ReqWebUser to the local administrator group.

Note: Be sure to log in to your RequisiteWeb server as an administrator for the following procedure.

Table 30 Adding the ReqWebUser to the Local Administrator Group

Step	NT 4.0	Windows 2000 Server/.NET RC2
1	On the Windows server, click **Start > Programs > Administrative Tools (Common) > User Manager for Domains**.	On the Windows server, click **Start > Programs > Administrative Tools > Computer Management**.
2	Click **User > Select Domain**, select your domain server, and type your machine name. Click **OK**.	Expand **Local Users and Groups**. Select **Groups**. Right-click Administrators and select **Add to Group**. In the Administrators Properties dialog box, click **Add**.
3	Under the **Groups** column, double-click **Administrators**.	The **Select Users or Groups** dialog box appears. At the **Look in** field, select the domain where you created the ReqWebUser.

Table 30 Adding the ReqWebUser to the Local Administrator Group

Step	NT 4.0	Windows 2000 Server/.NET RC2
4	In the Local Group Properties dialog box, click **Add**. Select your Domain Server in the **List Names From** list. Select ReqWebUser in the **Names** list and click **Add**. Click **OK**.	Select the ReqWebUser and click **Add**.
5	Click **OK** in the Local Group Properties dialog box to close it.	Click **OK** to close the **Select Users or Groups** dialog box. Click **OK** to finish.
6	Close the User Manager application.	Close the Computer Management application.

Assigning DCOM Permissions to the Local Administrators Group

RequisiteWeb uses DCOM to launch Microsoft Word. To achieve this, the ReqWebUser should be a member of the Administrators group on the RequisiteWeb server.

Note: If you have not already installed Microsoft Word on your RequisiteWeb server, you must do so now.

To Assign Access Permissions to the Local Administrators Group:

1. On the **Start** menu, click **Run**, and type `dcomcnfg`

   Note: At this point you may see the **DCOM Configuration Warning** dialog box. Close the warning and proceed to the next step.

2. Select the **Default Security** tab. Under **Default Access Permissions**, click the **Edit Default** button.
3. In the Registry Value Permissions dialog box, click **Add**.
4. At the **Add Users and Groups** dialog box, select your local machine from the **List Names From** drop-down list box.
5. Select the **Administrators** group in the **Names** list and click **Add**.
6. At the **Type of Access** field, select **Allow Access**. Click **OK** twice to return to the **Distributed COM Configuration Properties** dialog box.

To Assign Launch Permissions to the Local Administrators Group:

1. Select the **Default Security** tab. Under **Default Launch Permissions,** click the **Edit Default** button.
2. In the Registry Value Permissions dialog box, click **Add**.

3 At the **Add Users and Groups** dialog box, select your local machine from the **List Names From** drop-down list box.

4 Select the Administrators group in the **Names** list and click **Add**.

5 At the **Type of Access** field, select **Allow Launch**. Click **OK** twice to return to the **Distributed COM Configuration Properties** dialog box.

6 Close DCOM and restart your system.

RequisiteWeb and IIS

RequisiteWeb uses Rational Web Platform (RWP) as its Web service. Because RWP and IIS can conflict with one another you must choose one of the following options to run RequisiteWeb on a server with IIS running:

- Disable IIS
- Change and redirect the default RWP HTTP port

Disable IIS

If you choose to disable IIS, any programs using IIS will no longer work. Table 31 shows how to disable IIS.

Table 31 Disable IIS

Step	Windows NT 4.0	Windows 2000 Server/.NET RC2
1	Go to **Start > Settings > Control Panel > Services**.	Go to **Start > Settings > Control Panel > Administrative Tools > Services**.
2	Locate and select the **World Wide Web Publishing** service.	Locate the **World Wide Web Publishing** service and double-click the icon to display the **Properties** dialog box.
3	In the **Services** window, click the **Stop** button and change the **Startup type** to **Disabled**.	On the **General** tab under **Server status**, click the **Stop** button and change the **Startup type** to **Disabled**. Click **OK** and close the **Services** window.
4	Click **Close** to finish.	Click **OK** to close the dialog box. Close the Internet Services Manager.

Change and redirect the default RWP HTTP port

This option will allow the coexistence of RequisiteWeb and IIS. To change and redirect the default RWP HTTP port:

1. Change the default RWP HTTP port (80) in your rwp.conf file. Follow the instructions in *To Change the Default RWP HTTP Port* on page 214.
2. Create a virtual directory for RequisiteWeb on your RequisiteWeb server:
   a. Launch the Internet Services Manager by doing one of the following:
      - In Windows NT 4.0, click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager.**
      - In Windows 2000 Server, click **Start > Programs > Administrative Tools/Internet Services Manager**.
   b. Right-click the Default Web Site and select **New Virtual Directory**.
   c. In the Virtual Directory Creation Wizard, click **Next** and type an **Alias**: ReqWeb.
   d. Click **Next** and browse to and select C:\Program Files\Rational\common\RWP\webapps2\ReqWeb and click **Next**.
   e. Click **Next** and **Finish** to complete the wizard.
3. In the properties of your newly created Virtual Directory, select **A redirection to a URL** and redirect to: http://*<server name>*:*<new port>*/reqweb.
4. Close the Internet Services Manager and restart the Rational Web Platform. Follow the instructions *To Stop and Restart RWP* on page 218.

Editing the RequisiteWeb Configuration File (optional)

Edit the RequisiteWeb configuration file to:

- Customize your document location
- Customize web access to document locations
- Relocate your catalog.txt
- Enable SSL

To use customized RequisiteWeb settings, in a text editor, open
`C:\Program Files\Rational\common\rwp\webapps2\ReqWeb\WEB-INF\classes\config.txt`

This procedure assumes that you have installed the RequisiteWeb application on your C:\ drive. Substitute the appropriate drive, if necessary, when performing this step.

Considerations:

- We recommend that you back up your config.txt file before making changes.
- Rational Web Platform must be restarted for configuration changes to take effect; see *To Stop and Restart RWP* on page 218.
- We *do not* recommend changing any config.txt settings not listed in this table without guidance from RequisiteWeb technical support.

Setting	Description	Default
RPXDocPath	The path to the directory where RequisiteWeb temporarily stores Word documents (aka the "GenDoc" directory). From the GenDoc directory, client web browsers download documents (Word format) or read them for display (HTML format). For example: `RPXDocPath=C:\Program Files\Rational\common\rwp\webapps2\ReqWeb\GenDoc` **Note:** If you change the RPXDocPath directory, you must make a corresponding change to the RPXHTTP variable below. The converse also applies.	<blank>
RPXHTTP	The URL that client web browsers use to access the RPXDocPath directory. If you enter a relative URL, it will be relative to "http://<*servername*>/ReqWeb". For example: `RPXHTTP=GenDoc/` -or- `RPXHTTP=`http://<*anotherserver*>/GenDoc/ **Note:** This setting is case-sensitive.	GenDoc/
RPXCatalog	The path to the project catalog file that is used to locate RequisitePro projects. For example: `RPXCatalog=C:\Program Files\Rational\RequisitePro\ReqWeb\Projects\catalog.txt`	<blank>
SSL	Set SSL to true if SSL is enabled. This setting affects whether hyperlinks in HTML-format documents use HTTP or HTTPS. For example: `SSL=true`	false

Enabling SSL (Secure Socket Layer)

RequisiteWeb supports SSL, an encryption system that ensures the confidentiality of data exchanged between RequisiteWeb and a client web browser. To use SSL with RequisiteWeb:

1. Stop the Rational Web Platform, see *To Stop and Restart RWP* on page 218.
2. Set SSL to true in the RequisiteWeb configuration file (see above table).
3. Remove all files and directories in the GenDoc directory. By default, this is `C:\Program Files\Rational\common\rwp\webapps2\ReqWeb\GenDoc`
4. Follow the instructions for configuring the Rational Web Platform to enable SSL in *Configuring RWP To Use Secure Sockets* on page 221.

Granting ReqWebUser Access to Network Projects

Table 32 Granting ReqWebUser Access to Network Projects

Step	Windows NT 4.0	Windows 2000 Server/.NET RC2
1	Go to **Start > Settings > Control Panel > Services**.	Go to **Start > Settings > Control Panel > Administrative Tools > Services**.
2	Locate and double-click the **Rational Web Platform, ReqWeb servlet engine** service to display the **Service** dialog box.	Locate the **Rational Web Platform, ReqWeb servlet engine** service and double-click the icon to display the **Properties** dialog box.
3	In the **Service** window under **Log On As**, click **This Account** and enter the ReqWebUser and password that you created. Click **OK** to close the **Service** window.	Select the **Log On** tab and click **This account**. Enter the ReqWebUser and password that you created and click **Apply**. Click **OK** and close the **Rational Web Platform** window.
4	Stop and start the **Rational Web Platform, ReqWeb servlet engine** service and start the **Rational Web Platform, HTTP server** service to finish.	Start or restart the **Rational Web Platform, ReqWeb servlet engine** service to finish.

Reboot Required

At this point you must restart your system. After rebooting, log in as the **same** user to complete the installation procedure.

Testing RequisiteWeb

To test a RequisitePro project in RequisiteWeb:

1. Open a web browser.
2. Set the URL address to http://*<server name>*/reqweb on your RequisiteWeb server and press enter.
3. Select a RequisitePro project that contains documents from the **Project** list. If your project does not appear on the list, refer to the procedure *Managing RequisitePro Projects for RequisiteWeb* on page 197.
4. Type your RequisitePro **User** name and **Password** and click **Log in.**
5. Select a document in the Explorer and open it. If the document opens correctly, the test has succeeded; RequisiteWeb has been properly installed.

   Note: If the Microsoft Word installer appears, you must allow it to complete.

Stopping and Starting RequisiteWeb

The Rational Web Platform (RWP) should start automatically, but if you need to stop and restart RWP, see *To Stop and Restart RWP* on page 218.

Managing RequisitePro Projects for RequisiteWeb

Although RequisiteWeb provides features for accessing and editing requirements and documents in projects, you must use the full RequisitePro PC client application to create projects and documents. RequisitePro offers project templates and other management tools for creating and modifying project structure and security. For more information, refer to the *Rational RequisitePro User's Guide* or the RequisitePro online help.

Using the RequisiteWeb Project Catalog

RequisiteWeb uses a catalog text file to provide access to RequisitePro projects. By default, the file contains entries for the RequisitePro Learning Project and another sample project. The projects that are listed in your catalog file appear in the **Projects** drop-down list box on the RequisiteWeb logon page.

To add your own projects to the catalog, you must type the full path for the project file, which has a .rqs extension. For instructions on modifying the catalog, see *Editing the RequisitePro Projects Catalog*.

Editing the RequisitePro Projects Catalog

To edit the catalog, perform the following procedure on the RequisiteWeb server:

1. Navigate to the directory:
   C:\Program Files\Rational\RequisitePro\ReqWeb\Projects

   Note: If your projects are installed in a directory other than C:\ you must edit the catalog.txt file to reflect the correct installation directory.

2. Using a text editor, open the catalog.txt file.

3. Create an entry on each line with the full path to the RequisitePro project file. Copy the format of the default project entries.

   Note: Use a full path for local projects on the RequisiteWeb server. To access projects on another server, you must specify a Universal Naming Convention (UNC) path to the shared folder containing the RequisitePro .rqs file. For example, \\server_name\full_path\my_project.rqs.

4. Save and close the catalog.txt file.

Note: To view updates to the catalog.txt file, you must log off RequisiteWeb and then select a project at the RequisiteWeb project "log in" page.

Database Projects

RequisiteWeb can open SQL Server- and Oracle-based projects that are not physically located on the RequisiteWeb server; however, the ReqWebUser domain user must have Change or Modify permission for the directory containing the RequisitePro (.rqs) project file on the remote project server.

Note: In order to execute the provided SQL Server database scripts you must be logged in as 'sa' or as a user with "System Administrator" and "Security Administrator" privileges.

After Install: Configuring Test Datastores and Test Web Server

9

To complete the setup of your testing environment, configure test datastores and the Web server for Rational ManualTest Web Execution. The first section of this chapter explains how to configure test datastores using the Rational Administrator. The second part describes how to install and configure the Web server for ManualTest Web Execution, a component of Rational Test Manager.

Configuring Test Datastores

Follow the instructions in the next sections for creating a Microsoft Access or Sybase SQL Anywhere test datastore or converting a Microsoft Access test datastore to a SQL Anywhere test datastore.

Prerequisites

Creating New Test Datastores

The following sections assume that you have:

- Installed Sybase SQL Anywhere on the database server (if you have selected this database for your test datastore).
- Installed a product that includes the Rational Administrator. The Rational Administrator is installed with RequisitePro, Robot, SQL Anywhere, TestFactory, TestManager, and Rational Suite editions. You need the Rational Administrator to set up your test datastore. For more information about the Rational Administrator, see the *Rational Suite Administrator's Guide*.

Converting a Microsoft Access Test Datastore

Converting a Test Datastore from Microsoft Access to SQL Anywhere on page 204 assumes that you have:

- Installed the Sybase SQL Anywhere software.
- Backed up your test datastore before starting the conversion.

Creating a Microsoft Access Test Datastore

To create a Microsoft Access test datastore:

1. Click **Start > Programs > Rational Product > Rational Administrator**.
2. In the left pane, right-click a project to configure and select **Configure Project**.
3. Under **Test Assets**, click **Create**. The Rational Administrator launches the Create Test Datastore wizard.
4. Click Microsoft Access, then click **Next**.
5. Type the path of the new test datastore or click **Browse**, then click **Next.**
6. Specify the name of the Microsoft Access database.
   - Select the protocols that the client computers running Rational Test use to communicate with the database. You may need to confer with your IT department or appropriate network specialist.
   - Optionally, specify a comma-separated list of computer names or computer IP Addresses — running Microsoft Access— that can be quickly searched. This is particularly important when the computer(s) running Microsoft Access is not in the immediate network segment (or subnetwork).
7. Click **Finish**.

Setting Up SQL Anywhere

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

- Choose or create a user account to run the SQL Anywhere database server and set user privileges for that account. See *Defining User Privileges on Windows NT* on page 201 or *Defining User Privileges on Windows 2000 and Windows XP* on page 202.
- Create a SQL Anywhere database server. (See procedure on page 202.)

  Note: We recommend that you run the SQL Anywhere Server process on the same file server the datastore resides on.

Defining User Privileges on Windows NT

To define privileges for a user account running a 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 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; then click **OK**.

      Note: If the user does not already exist, create the user (**User > New User**).
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. In **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 click **OK**.
11. In the **Right** list box of the User Rights Policy dialog box, select **Log on as a service**.
12. Repeat Steps 7 through 10.
13. In the **Right** list box of the User Rights Policy dialog box, select **Log on locally**.
14. Repeat Steps 7 through 10.
15. Click **OK**.
16. Click **User > Exit**.

Defining User Privileges on Windows 2000 and Windows XP

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

1. Make sure you have installed the Sybase SQL Anywhere Server software.
2. Do one of the following:
   a. If you are running on a Windows 2000 Server, click **Start > Programs > Administrative Tools > Local Security Policy.**
   b. If you are running Windows 2000 Professional:
      i. Click **Start > Settings > Control Panel**.
      ii. Select **Administrative Tools**.
      iii. Select **Local Security Policy**.
3. Select **Local Policies > User Rights Assignments**.
4. In the right pane of the Local Security Settings dialog box, double-click **Log on as a service** and click **Add**.
5. In the **Look In** field (on Windows 2000) or **From this Location** field (on Windows XP) of the Select Users or Groups dialog box, select the domain of the account running the SQL Anywhere domain server.
6. In the **Name** list, select the account running the SQL Anywhere database server and click **Add**.
7. Click **OK** twice to return to the Local Security Settings dialog box.
8. Close the Local Security Settings dialog box.

Creating a SQL Anywhere Database Server

A SQL Anywhere database server is a process that runs on the database server computer. 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 a SQL Anywhere database server:

1. From the Start menu, click **Program Files > Rational Software > SQL Anywhere 8.0.1 > Sybase Central**.
2. In the left pane, click **Services** under Sybase SQL Anywhere.
3. In the right pane, double-click **Add Service** to launch the Create a New Service Wizard.

4 Enter the name of the new service, then click **Next**.

Do not use spaces or non-alphanumeric characters in the server name. Underscores are acceptable.

5 Select **Network Database Server** as the type of service to create, then click **Next.**

6 The next window displays the default path for the executable file for the new service. To accept the path, click **Next**.

This path is set by default. The SQL Anywhere database server executable file (DBSRV8.EXE) resides in the SQLANYWHERE8\WIN32 directory within the Rational installation directory.

7 Specify the database parameters **-n** and **-gd** to indicate the database server name and that all users can change the database. For example:

-n MyDBServer -gd all

Note: The name you enter here is required when creating a ClearQuest database for a Rational Test datastore

8 Specify the user account for the database. Click **Other**, select **Administrator**, specify a password twice, then click **Next**.

Note: The specified account must have administrator privileges on the system on which the server resides and at least read and write privileges on the system where any associated test datastore resides.

Also, the account you specify must have **Log on as a Service** privilege. If the account does not have this privilege, Sybase may display a message to indicate this. Click **Yes** to grant the privilege when the service is installed.

9 Choose the manner in which the service starts, and click **Next**. Rational recommends **Automatic**.

10 Select **Start** service when created, and click **Finish**.

Creating a SQL Anywhere Test Datastore

You must install the Sybase SQL Anywhere software and create a SQL Anywhere database server before you create a SQL Anywhere test datastore.

To create a SQL Anywhere test datastore:

1 Click **Start > Programs > Rational Product > Rational Administrator**.

2 In the left pane, right-click a project to configure and select **Configure Project**.

3 Under **Test Assets**, click **Create**. The Rational Administrator launches the Create Test Datastore Wizard

4 Click **Next**.

5 Enter the path of the new test datastore or click Browse and enter \testdatastore.

6 Specify the name of the SQL Anywhere database server. This should be the same name you specified when creating the SQL Anywhere database server in Step 7 in *Creating a SQL Anywhere Database Server* on page 202.

   - Select the protocols that the client computers running Rational Test use to communicate with the SQL Anywhere database server. You may need to confer with your IT department or network specialist.
   - Optionally, specify a comma-separated list of computer names or computer IP Addresses — running SQL Anywhere database servers — that can be quickly searched. This is particularly important when the computer(s), running the SQL Anywhere servers, is not in the immediate network segment (or subnetwork).

7 Click **Next**. Specify a project or datastore to initialize from.

8 Click **Next**.

9 Click **Finish**.

Converting a Test Datastore from Microsoft Access to SQL Anywhere

Use the Test Datastore Properties dialog to convert an existing Microsoft Access test datastore to SQL Anywhere test datastore.

Before you start the conversion:

- Create a SQL Anywhere database server before you change an existing Microsoft Access test datastore to a SQL Anywhere test datastore. For more information, see *Setting Up SQL Anywhere* on page 200.
- Make sure all test datastore users log off a Rational project before changing the database engine of a Rational Test datastore.

To convert an existing Microsoft Access test datastore to a SQL Anywhere test datastore:

1 Select the project to which you want to connect. Click **File > Connect**.

2 Select a Test datastore in the project hierarchy of the left (project) pane.

3 Click **Edit > Properties**.

4 Click **Advanced Database Setup**.

5 In the Advanced Database Setup dialog:

   a Click **Use Sybase SQL Anywhere for database engine**.

   b Specify the name of the SQL Anywhere database server. This should be the same name you specified when creating the SQL Anywhere database server in Step 7 in *Creating a SQL Anywhere Database Server* on page 202.

   c Select the protocols that the client computers running Rational Test use to communicate with the SQL Anywhere database server. You may need to confer with your IT department or appropriate network specialist.

   d Optionally, specify a comma-separated list of computer names or computer IP Addresses — running SQL Anywhere database servers — that can be quickly searched. This is especially important when the computer(s) running the SQL Anywhere servers is not in the immediate network segment (or subnetwork).

6 Click **OK** to convert the test datastore to SQL Anywhere. If the operation fails to complete successfully, the original configuration is reset, leaving Microsoft Access as the database engine in use.

7 Click **OK** to close the Test Datastore Properties dialog.

Managing a SQL Anywhere Database Server

See the Sybase online Help for more information about managing a SQL Anywhere Database Server.

Configuring Rational ManualTest Web Execution

Follow the instructions in the next sections to install and configure the ManualTest Web server.

Prerequisite

The following sections assume that you have installed the ManualTest Web Execution software on the server.

Installing a Web Server

To install a Web server:

1. Install Microsoft Windows NT 4.0 Option Pack or Microsoft Internet Information Services 5.0 on the Web server by doing one of the following:
   - For a Web server running Windows XP or Windows 2000, install the Microsoft Internet Information Services 5.0 from the Windows CD.
   - For a Web server running Windows NT 4.0 Server, install the Microsoft Internet Information Server (IIS) from the Windows NT 4.0 Option Pack.
   - For a Web server running Windows 98 or Windows NT 4.0 Workstation, install the Microsoft Personal Web Server (PWS) from the Windows NT 4.0 Option Pack.
2. Install Microsoft Internet Explorer 5.0 or later on the Web server.

   Note: Although a client can use Microsoft Internet Explorer 4.0, install Microsoft Internet Explorer 5.0 or later on the Web server.
3. Configure the Microsoft Access Driver by doing the following:
   a. Click **Start > Settings > Control Panel**.
   b. Do one of the following:

      For Windows 2000, double-click **Administrative Tools**, and then double-click **Data Sources (ODBC)**.

      For Windows 98 and NT 4.0 Workstation and Server, double-click **ODBC Data Sources**.
   c. Click the **Connection Pooling** tab.
   d. Under **ODBC Drivers**, double-click **Microsoft Access Driver (*.mdb)**.
   e. Select **Don't pool connections to this driver** and click **OK**.
   f. Click **OK**.
   g. Restart the system.
4. Configure the Web server to run a test case from a Web browser by doing one of the following:
   - For a Web server running Windows 2000 Professional, Windows 98, or a Windows NT 4.0 Workstation, see *Configuring a Microsoft Personal Web Server* on page 209.
   - For a Web server running Windows NT 4.0 Server, Windows XP Professional, Windows 2000 Server, or Windows 2000 Advanced Server, see the next section, *Configuring a Microsoft Internet Information Server* on page 207.

Configuring a Microsoft Internet Information Server

To configure the Microsoft Internet Information Server (IIS) on all versions of Windows XP, Windows 2000, or a Windows NT 4.0 Server:

1. Do one of the following:
   - For all Windows XP systems, click **Start > Control Panel** Double-click **Administrative Tools**. Double-click **Internet Services Manager**.
   - For all Windows 2000 systems, click **Start > Settings > Control Panel**. Double-click **Administrative Tools**. Double-click **Internet Services Manager**.
   - For Windows NT 4.0, click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager**.
2. Optionally, double-click **Internet Information Server** to display all machines.
3. Do one of the following:
   - For all Windows XP systems, double-click *computername*

     where *computername* is the network name of the Web server.
   - For all Windows 2000 and Windows NT 4.0 systems, double-click *computername*

     where *computername* is the network name of the Web server.
4. Click **Default Web Site**.
5. Right-click and click **New > Virtual Directory**.
6. Do one of the following:
   - For Windows XP and Windows 2000, click **Next**, and then go to the next step.
   - For Windows NT 4.0, go to the next step.
7. Type an alias for the directory where you installed your Rational software on the Web server.

   For example: *TM*

   Note: Write down this alias. You must use this alias to run a test case from a Web browser.
8. Click **Next**.
9. Type the drive and path of the location where you installed your Rational software, or click **Browse** to select the drive and path.

   For example, the default location is:

   C:\Program Files\Rational\Rational Test\www\manual script
10. Click Next.

11 Do one of the following:

- For Windows XP and Windows2000, select the following options to allow privileges to the Rational project:
  - **Read**
  - **Run scripts (such as ASP)**
- For Windows NT 4.0 Server, select the following options to allow privileges to the Rational project:
  - **Allow Read Access**
  - **Allow Script Access**
  - **Allow Execute Access**

12 Do one of the following:

- For Windows XP and Windows 2000, click **Next**, and then click **Finish**.
- For Windows NT, click **Finish**.

13 Right-click the new alias and click **Properties**.

14 Click the **Documents** tab.

Ensure that the following files appear under the **Enable Default Document** box:

- **Default.asp**
- **Default.htm**

If these files do not appear, do the following:

a Click **Add**.

b Type **DEFAULT.ASP** and click **OK**.

15 Click the **Directory Security** tab.

16 Under **Anonymous and Authentication Control**, click **Edit**.

17 Make sure that you select the **Allow Anonymous Access** check box, and then click Edit.

18 Do one of the following:

- For Windows XP and Windows 2000, clear the **Allow IIS to control password** check box, and then go to the next step.
- For Windows NT 4.0, clear the **Enable Automatic Password Synchronization** check box, and then go to the next step.

19 Type the **Username and Password** for the user account either on this Web server (if the project is on the Web server) or on the domain (to access shared projects on other computers in the domain).

Note: Windows XP does not support the assignment of the Administrator user as the access user of a Web client.

All Web clients use this user account to access a Rational project either on a Web server or on the domain (to access shared projects on other systems in the domain). This user account must have administrator privileges to read and write into a Rational project. If you want Web clients to have access to a Rational project, you must log onto this account when you create a new Rational project or register an existing Rational project using the Administrator.

Note: By configuring the privileges to this account, you can restrict access to certain shared projects. For more information about setting privileges, see your Microsoft Windows 2000 or Windows NT 4.0 documentation.

20 Click **OK** to close all windows.

Configuring a Microsoft Personal Web Server

Note: If you use Windows NT 4.0 Workstation or Windows 2000 Professional with the Personal Web Server, you can access only local projects. To access shared projects with Windows 2000 Professional or Windows 98, you must run PWS under a domain user account.

To configure the Microsoft Personal Web Server (PWS) on a Windows 98 or Windows NT 4.0 Workstation server:

1 For Windows 98 or Windows NT 4.0 Workstation, be sure to install the Microsoft Personal Web Server (PWS) from the Windows NT 4.0 Option Pack (available from Microsoft, www.microsoft.com).

2 Do one of the following:

- For Windows 98, click **Start > Programs > Microsoft Personal Web Server > Personal Web Manager**.
- For Windows NT 4.0 Workstation, click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Personal Web Server > Personal Web Manager**.

3 Click **Advanced**.

4 Select **<Home>**.

5 Click **Add**.

6 Under **Directory**, type the drive and path of the location where you installed your Rational software, or click **Browse** to select the drive and path.

   For example, the default location is:

   C:\Program Files\Rational\Rational Test\www\manual script

7 Under **Alias**, type the alias for the directory where you installed your Rational software on the Web server.

   For example: *TM*

Note: Write down this alias. You must use this alias to run manual test scripts on this Web server through a Web browser.

8 For Windows 98 or Windows NT 4.0 Workstation, under Access, click all of the following: **Read**, **Execute**, and **Scripts**.

9 Click **OK**.

10 Click **Properties > Exit**.

11 Complete the steps for either Windows 98 or Windows NT 4.0 Workstation.

   If you have Windows 98, you are finished with the configuration. If you have a Windows NT 4.0 Workstation,

   a Click **Start > Programs > Administrative Tools (Common) > User Manager**.

   b Under the **User Name** column, select:

   IUSR_*computername*

   where *computername* is the name of the Web server.

   c Click **User > Properties**.

   d Click **Groups**.

   e Under **Not members of**, select **Administrators**, and then click **Add**.

   f Click **OK**. Click **OK** again.

   g Click **User > Exit**.

12 Click **OK**. Click **OK** again.

Troubleshooting Your Web Server

If you have problems with your Web server, ensure that your Web server meets the software requirements.

Problem – You cannot connect from a Web browser to a Web server running the Microsoft Personal Web Server (PWS).
Error message – None.
Solution – If you restart a Web server running PWS, PWS may not start automatically when the server restarts. This is an intermittent problem. To fix the problem, restart PWS.

To restart PWS:

1. Click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Personal Web Server > Personal Web Manager**.
2. Under **Publishing**, click **Start**.
3. Click **Properties > Exit**.

Customizing the Rational Web Platform

10

The Rational Web Platform (RWP) provides server side support for Web interfaces to the Rational products, Rational ClearCase, Rational ProjectConsole, and Rational RequisiteWeb. RWP is installed with a default configuration, which is suitable for most sites. Some sites may need to modify the RWP configuration after installation to accommodate various host- or site-specific requirements. For example:

- To make RWP use a different HTTP port number
- To change RWP logging defaults
- To configure access to RWP from another Web server acting as a proxy
- To configure RWP to use secure sockets

This section explains how to edit the RWP configuration files to make some of the more common changes in the default configuration.

The Rational Web Platform includes a Web server based on the Apache HTTP Server version 2.*x* and a servlet engine based on the Tomcat servlet container version 4.*x*. Additional information about the Apache HTTP Server is available at www.apache.org. Additional information about the Tomcat servlet container is available at jakarta.apache.org.

On Windows, RWP creates a second instance of the servlet engine for use if needed.

Note: The Rational Web Platform supports only the Web interfaces to Rational products. Using it to serve other Web applications or content is not supported.

RWP Installation Directory

RWP is normally installed in the following directory:

- On Windows, C:\Program Files\Rational\common\rwp

The default RWP installation directory can be changed at installation time by supplying a different path when prompted by the install program.

RWP Configuration Files

RWP configuration is specified in several files. The following files are normally installed in the conf subdirectory of the RWP installation directory:

- rwp.conf specifies configuration parameters for the RWP server.

- ssl.conf specifies configuration parameters for secure sockets if they are used by the RWP server.
- server.xml specifies configuration parameters for the RWP servlet engine.
- On Windows, server2.xml specifies configuration parameters for the RWP ReqWeb servlet engine.
- workers.properties specifies configuration parameters for the connections between RWP and RWP servlet engine(s).

On Windows, the following files are normally installed in the bin subdirectory of the RWP installation directory:

- jk_service.properties controls how the RWP servlet engine runs as a Windows service.
- jk_service2.properties controls how the RWP ReqWeb servlet engine runs as a Windows service.

You can edit these files with any text editor. They include explanations of all configuration parameters. This section describes a few of the parameters that you may need to change.

Note: After changing any configuration parameter in any of these files, you must stop and restart RWP before the change takes effect. See *To Stop and Restart RWP* on page 218.

Configuration File Reference Versions

The RWP installation directory includes reference versions of all configuration files.

- rwp.in.conf
- server.in.xml
- server2.in.xml

The install program uses these reference versions to determine whether configuration files have been customized. Do not make any changes to them.

To Change the Default RWP HTTP Port

The port on which RWP listens for HTTP requests is defined by the **Listen** parameter in rwp.conf. For example,

```
Listen 80
```

tells RWP to listen on port 80 (the default for HTTP). You may change this to specify any available port number. For example:

```
Listen 8000
```

tells RWP to listen on port 8000.

Note: If you change the RWP HTTP port number to anything other than 80, all URLs that reference RWP must include the port number. For example:

```
http://RWP_host.domain:8000/ccweb
```

To Change the Default RWP Servlet Engine Ports

The ports on which the RWP servlet engine communicates with RWP are defined in the server.xml and server2.xml files as well as the workers.properties file. Table 33 lists default port numbers, port uses, and the files in which the port numbers are defined.

Table 33 Default RWP Servlet Engine Ports

Port Number	Description	Location
8009 (8010 on HP-UX)	Used for communication between RWP and the RWP servlet engine	server.xml, workers.properties
8010	Used for communication between RWP and the RWP ReqWeb servlet engine (Windows only)	server2.xml, workers.properties
8005 (8006 on HP-UX)	RWP servlet engine shutdown port	server.xml

If any of these ports is used by another application on the RWP host, we recommend that you reconfigure that application to use different ports. If you cannot, you must change the ports RWP uses.

The following example, from server.xml, defines port 8009 as the port used for internal communication between RWP and the RWP servlet engine:

```
<Connector className="org.apache.ajp.tomcat4.Ajp13Connector"
   port="8009" minProcessors="5" maxProcessors="75"
   acceptCount="10" debug="0"/>
```

To change either port, change the value of the **port** attribute of the appropriate **Connector** element. For example, the **port="8088"** attribute in the line

```
<Connector className="org.apache.ajp.tomcat4.Ajp13Connector"
   port="8088" minProcessors="5" maxProcessors="75"
   acceptCount="10" debug="0"/>
```

causes internal communication between RWP and the servlet engine to use port 8088.

Note: If you change the port attribute of the **Ajp13Connector** element in server.xml, you must also change the port in this line of the workers.properties file:

```
worker.ajp13.port=8009
```

If you change the port attribute of the **Ajp13Connector** element in server2.xml, you must also change the port in the **worker.ajp13_2.port** line of workers.properties. These files exist only on Windows hosts where RWP supports a second instance of the RWP servlet engine.

To Configure RWP Logging

A number of configuration parameters related to access, error, and event logging in rwp.conf are grouped under the heading **Logging-related directives**. You may want to change any of the following:

- **ErrorLog** specifies the name of the file where errors are logged. For example,

  ```
  ErrorLog logs/error.log
  ```

  specifies that errors will be logged in the file logs/error.log under the RWP installation directory.

  Note: Any RWP log file may be piped to the **rotatelogs** command, as described in *Log Rotation and Log Cleanup* on page 217.

- **LogLevel** specifies the type and severity of errors to be logged. For example,

  ```
  LogLevel warn
  ```

  specifies that errors up to and including warnings will be logged. Table 34 lists the various log levels in order of decreasing severity. Specifying any of these values for **LogLevel** logs events of that severity and all lower severities.

Table 34 RWP Log Levels

LogLevel	Messages logged
emerg	Emergency messages about events that may render the server inoperable (Highest severity)
alert	Conditions that should be corrected immediately
crit	Critical conditions such as hardware or system errors
error	All other errors
warn	Warning messages
notice	Conditions that may require special handling
info	Informational messages (lowest severity)
debug	Debugging RWP

- **LogFormat** specifies the format in which events are logged. You can choose one of the predefined formats (for example, **common**), or you can define your own format. For more information about format tokens and the rules for constructing log file strings, see the documentation for **mod_log_config** at www.apache.org.
- **CustomLog** specifies the name of the file in which RWP access requests are logged. For example,

  ```
  CustomLog logs/access.log common
  ```

  specifies that access requests will be logged in the file logs/access.log under the RWP installation directory in the **common** log file format.

Log Rotation and Log Cleanup

On RWP hosts where ClearCase is installed, the scheduled Weekly Log Scrubbing job removes all RWP log files that are more than 30 days old. You can modify this job as described in the ClearCase *Administrator's Guide* to change the frequency with which the job runs, the age of the log files it removes, or any other aspect of its operation.

Note: If you change any of the default RWP log locations on a host where ClearCase is installed, you must also modify the cleanuplogs script so that it looks for these logs in their new location.

On RWP hosts that do not have ClearCase installed, you must periodically run the following program to remove old log files:

- the perl script cleanuplogs.pl, located in the RWP bin directory.

Use a scheduled-execution program supplied by the operating system (**at** on Windows) to run these scripts, or run them manually.

To Change the User Account Used by RWP

On installation, RWP is configured to run with the identity of a built-in user account. You can change this account if necessary by using one of the procedures described in this section.

To Change the RWP User Account on Windows

On Windows computers, RWP is started at boot time by the Windows Service Control Manager and runs with the identity of the built-in **LocalSystem** account (**NT AUTHORITY\SYSTEM**).

To change the identity under which RWP runs on Windows:

1. Run the Services application (in **Control Panel > Services** or **Control Panel > Administrative Tools > Services**). RWP includes the following services:
   - Rational Web Platform, HTTP Server

- Rational Web Platform, servlet engine
- Rational Web Platform, ReqWeb servlet engine

Caution: The HTTP Server and servlet engine must run as **LocalSystem** on a Windows RWP host that is supporting the ClearCase Web interface. If these services run as any other user, the ClearCase Web interface will fail. The ReqWeb servlet engine can run as another account if necessary.

2 Edit each service's **Log On** properties to specify either a local or domain account.

3 Run **rwp_restart** to stop and restart RWP (see *To Stop and Restart RWP* on page 218).

To Stop and Restart RWP

RWP is normally started at boot time. If you need to stop or restart RWP (for example, to force it to re-read a changed configuration file), use one of the following commands, which are normally installed in the RWP bin directory:

- **rwp_startup** starts RWP if it is not already running.
- **rwp_shutdown** stops RWP and any associated servlet engine processes.
- **rwp_restart** runs the **rwp_shutdown** and **rwp_startup** commands, in that order, to restart RWP.

Note: Commands that stop and start ClearCase do not affect RWP.

To Configure Access to RWP from Another Web Server

Some sites may need to access RWP by proxy or redirection from another Web server. In this configuration, the other Web server redirects specific URLs to an RWP process running on the same server but using a different port, or running on a separate server. Two common use cases require this type of configuration.

- **RWP and another Web server must run on the same host.** We recommend that you install RWP on a host that does not have to run any other Web servers. If this is impossible, we recommend that you configure the other Web server to use ports that are not being used by RWP. If you cannot do this, you must configure RWP to use ports not used by the other Web server (see *To Change the Default RWP HTTP Port* on page 214) and optionally configure the other Web server to redirect URLs for Rational Web clients to RWP.
- **RWP must run behind a firewall.** To restrict access to RWP, a Web server running on the public side of a firewall can be configured to pass specific URLs to an RWP instance running on the other side of the firewall.

Follow the instructions in this section to enable a proxied or redirected configuration that provides access to RWP from either of the following Web servers:

- Apache HTTP Server

- Microsoft Internet Information Server (IIS)

Note: Instructions for configuring proxied or redirected access to a Rational Web application are specific to the application and the Web server acting as the proxy. Only the Web servers and Rational Software products that are specifically cited in this section can be supported in a proxied or redirected configuration.

Configuring mod_proxy Support for Apache

To configure an instance of Apache HTTP Server to support proxy access to RWP, you must configure the Apache HTTP Server with proxy support supplied by the Apache **mod_proxy** module. Detailed information about how to do this is available at www.apache.org. The following is a summary of the steps you will probably need to take:

1 Configure the Apache HTTP Server to load the mod_proxy module and the other modules on which it depends. This typically requires you to uncomment various **LoadModule** directives related to mod_proxy support in the Apache httpd.conf file. For example

```
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_connect_module modules/mod_proxy_connect.so
LoadModule proxy_http_module modules/mod_proxy_http.so
```

You also need to uncomment the `ProxyRequests On` directive in the **<IfModule mod_Proxy.c>** block in httpd.conf:

```
<IfModule mod_Proxy.c>
ProxyRequests On
</IfModule>
```

2 Add the appropriate **ProxyPass** and **ProxyPassReverse** directives within the **<IfModule mod_proxy.c>** block in httpd.conf. **ProxyPass** and **ProxyPassReverse** directives are application specific:

For the ClearCase Web interface, add these **ProxyPass** and **ProxyPassReverse** directives:

ProxyPass /ccweb http://*hostname***[:***port***]/ccweb**
ProxyPassReverse /ccweb http://*hostname***[:***port***]/ccweb**
ProxyPass /Java_Plugins http://*hostname***[:***port***]/Java_Plugins**
ProxyPassReverse /Java_Plugins http://*hostname***[:***port***]/Java_Plugins**

Where *hostname* is the name of the RWP server host and *port* is an optional port number, which you must specify if you have changed the default port on which RWP listens for HTTP requests (see *To Change the Default RWP HTTP Port* on page 214). For example, the following directives would configure the proxy server to support access by the ClearCase Web interface to an RWP process listening on port 81 of a host named **RWP_host**.

```
ProxyPass        /ccweb http://RWP_host:81/ccweb
ProxyPassReverse /ccweb http://RWP_host:81/ccweb
ProxyPass        /Java_Plugins http://RWP_host:81/Java_Plugins
ProxyPassReverse /Java_Plugins http://RWP_host:81/Java_Plugins
```

Note: The URLs specified in this example must be written in the httpd.conf file exactly as specified here, with the exception of the host name and optional port number.

Configuring URL Redirection for Internet Information Server

If RWP must co-exist on a server with an instance of Microsoft Internet Information Server (IIS) that listens for HTTP requests on port 80, you must reconfigure RWP to listen for HTTP requests on a different port (see *To Change the Default RWP HTTP Port* on page 214) and then do one of the following:

- Include a port specifier (for example http://*hostname*:81/ccweb/) in the URLs used by Rational Web interfaces served by this instance of RWP.
- Use the IIS redirection facility to force Rational Web interface URLs directed to port 80 (and received by IIS) to be redirected to RWP.

To configure IIS to use redirection:

1. Run the IIS configuration utility (Internet Services Manager).
2. Create a new virtual directory in the IIS Default Web Site folder:
   - For the **Virtual Directory Alias**, pick a name that reflects the name of the Web client that will use the virtual folder (for example, **ccweb**).
   - For the **Web Site Content Directory**, you must specify a physical directory on the Web server host. Although this directory must exist on the host, it will not be used to hold any Web site content after you configure redirection in Step 4. We recommend that you create a new directory for this purpose and apply protections to it that reduce the chances of its being accidentally deleted.

   Note: If you create this directory as a subdirectory of the RWP installation directory, it will be deleted if RWP is reinstalled on the host.

   - For **Access Permissions**, specify **Read** and **Run scripts**.
3. Right-click the virtual directory you created in Step 2 and open its **Properties** dialog box.
4. In the **When connecting to this resource, the content should come from** section of the **Virtual Directory** tab, select **A redirection to a URL**.
5. In the **Redirect to:** box, type the URL used by the Rational Web interface that you are redirecting to RWP. For example, to redirect the ClearCase Web interface (**ccweb**) to use an instance of RWP listening on port 81, type

http://*hostname***:81/ccweb/**

where *hostname* is the name of the host running RWP and IIS.

6 In the **The client will be sent to** section, select **The exact URL entered above**.

7 Verify that browsing to the URL http://*hostname*/ccweb redirects you to the ClearCase Web interface at the URL specified in Step 5.

Configuring RWP To Use Secure Sockets

To provide secure communications between Rational Web clients and RWP, you can configure RWP to support the Secure Sockets Layer (SSL) protocol. To do this, you need to take the following steps:

1 Edit the RWP configuration files to enable SSL support.

2 Modify client URLs as needed to specify the HTTPS protocol.

3 Stop and restart RWP.

Procedures for configuring RWP to support SSL are the same as those for configuring any Apache HTTPD that uses the **mod_ssl** module. These procedures are fully documented at the mod_ssl.org Web site; a summary of the configuration steps is presented here.

The first step in using SSL is to obtain a certificate from a certification authority (CA). RWP includes the **openssl** program (installed in the RWP bin directory), which you can use to generate a self-signed certificate for testing purposes and also obtain a certificate and key from a CA. For more information on **openssl**, see the openssl.org Web site.

You can run **openssl** in the RWP bin directory to generate a self-signed certificate and a matching private key and then install them in the locations specified in Step 2 and Step 3 of the following procedure.

- On Windows, use this **openssl** command line:

```
OpenSSL> req –new –x509 –nodes –keyout ../conf/server.key –out ../conf/server.crt
```

Note: If you do not have the right to create files in the specified **–out** directory, this command will fail.

To configure RWP to accept SSL connections:

1 Configure RWP to include the ssl.conf configuration file. Uncomment this directive in rwp.conf:

```
Include conf/ssl.conf
```

Note: The ssl.conf file includes a **Listen** directive that specifies the port on which RWP will listen for HTTPS requests. The default is port 443. You can change this in the same way that you change the default HTTP port. If you want RWP to listen only for HTTPS requests, comment out the **Listen** directive in the rwp.conf file.

2 Install the certificate. The default location of the certificate file is specified in this directive in the ssl.conf file:

```
SSLCertificateFile rwp-root-dir/conf/server.crt
```

where *rwp-root-dir* represents the directory in which RWP is installed on the host. If you install the certificate file in a different location, make sure that this line in ssl.conf references that location.

3 Install the key. The default location of the key file is specified in this directive in the ssl.conf file:

```
SSLCertificateKeyFile rwp-root-dir/conf/server.key
```

If you install the key file in a different location, verify that this directive references that location.

4 Stop and restart RWP.

Note: To configure a Web application to use SSL, specify the **https** protocol in the application URL. For example:

```
https://RWP_host.domain/ccweb
```

Configuring Secure Access to RWP

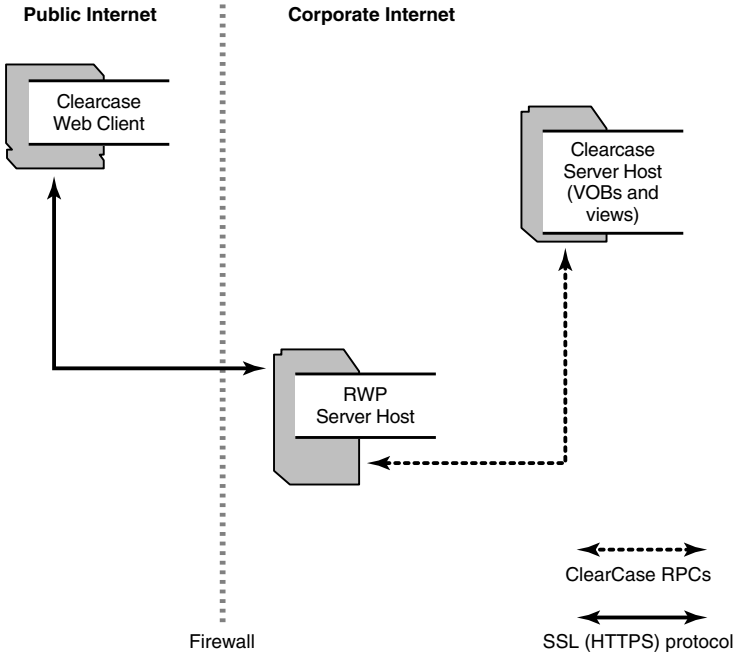
There are a number of ways to configure RWP to use SSL to provide secure communications with Rational Web clients such as **ccweb**. Figure 1 shows a typical configuration that allows **ccweb** clients on the public Internet to access RWP through a firewall. Communications between client Web browsers and the RWP host supporting **ccweb** use the HTTPS protocol and are secured by SSL. Communications between RWP and the ClearCase servers on the corporate intranet use ordinary ClearCase remote procedure calls (RPCs) and are not secure. ClearCase RPCs cannot communicate through a firewall, so you cannot place a firewall between RWP and the ClearCase servers used by **ccweb**.

In a configuration like that shown in Figure 1, the **ccweb** URL would be:

https://*hostname*/ccweb

where *hostname* is the name of the RWP server host. HTTPS communications between the ClearCase Web client and RWP would use port 443, the default for HTTPS.

Figure 1 Secure Communications Between ccweb and RWP



Other Modifications to RWP

We do not recommend that you modify any RWP configuration files other than those described in this section. Some of the configuration options cannot be changed without adversely affecting the operation of RWP. Any configuration change not recommended in this section should be carefully evaluated before introducing them into a production environment.

Removing Rational Products

11

This chapter describes how to remove Rational products from your servers. For information about removing desktop or client products, see the *Installation Guide* for Rational Desktop Products.

Before You Remove Rational Software

This section provides general requirements for removing Rational server products. It also describes which components the Rational Setup Wizard does or does not remove from the computer.

- If you plan to move the application to another system, first return the license key file to your Rational Software account. To return a node-locked or floating license key, use Rational AccountLink (www.rational.com/accountlink), the online license management tool. For more information about moving licenses or returning licenses, see the *Rational Software License Management Guide.*
- Removing a Rational product does not delete the license key file, project databases, and other files that you created while using the product. If you plan to install an upgrade of the Rational product to a different drive or use a new installation path, back up these files and manually remove them. If you do not remove them, the Rational Setup Wizard may find these files and install the application in the old location instead of the new location.
- Before removing the Rational products (including the Rational license server) from clients, record the specified license serve hostname(s) in the Rational License Key Administrator (LKAD).
  - **a** Launch the LKAD from **Start > Programs > Rational Software > Rational License Key Administrator**.
  - **b** Find the hostname(s) in **Settings > Client/Server Configuration**.
  - **c** After you install the new Rational products, reset the license server name in the (LKAD). The LKAD Wizard should launch after the installation. If the Wizard does not launch, use **Start > Programs > Rational Software > Rational License Key Administrator.**

- Removing ClearCase LT does not remove ClearCase LT data from the computer. If you reinstall ClearCase LT on the same computer, you must install ClearCase LT to the same directory to see the old data.
- To remove Rational Software products from a Windows NT, 2000, or XP computer, you must have Windows administrator privileges on the local system.
- Make sure that no one is using the application or any associated files. You cannot remove files that are in use.

Before You Remove ClearCase Data from the ClearCase LT Server

You should never remove ClearCase data from a computer unless that data was used for purposes of evaluation only and you have no intention of saving it or using it in a production capacity.

To completely remove ClearCase data from the ClearCase LT server, take the following steps *before* you remove ClearCase LT:

1. Use the ClearCase Administration Console or the **cleartool lsvob** command to locate all VOBs on the ClearCase LT server. Then use the ClearCase Administration Console or the **cleartool rmvob** command to remove the VOBs.
2. Use the ClearCase Administration Console or the **cleartool lsview** command to locate all views. Then use the ClearCase Administration Console or the **cleartool rmview** command to remove the views.
3. Use the ClearCase Administration Console or the **cleartool lsstgloc** command to locate all server storage locations on the ClearCase LT server. Then use the ClearCase Administration Console or the **cleartool rmstgloc** command to remove the storage locations.
4. To remove registry values, use **regedit** to remove these lines:

   HKLM\Software\Atria\ClearCase\CurrentVersion\ServerSetupComplete

   HKLM\Software\Atria\ClearCase\CurrentVersion\CredmapAllowedDomainList
5. Delete the ClearCase/var directory from the installation directory.

Before You Remove Rational RequisiteWeb

RequisiteWeb installs a new project catalog containing paths to new sample projects. Be sure to make a copy of your existing catalog.txt file before removing RequisiteWeb. If you are upgrading from an earlier release of RequisiteWeb, the catalog.txt file should be located in the following default directory: C:\Program Files\Rational\RequisitePro\ReqWeb\Projects

Add your previous catalog.txt entries to the new catalog file that is installed with the new version of RequisiteWeb in the default directory:
C:\Program Files\Rational\RequisitePro\ReqWeb\Projects

Note: Your existing webapps2 directory will be deleted when you remove RequisiteWeb. To preserve your configuration files or any other files in your webapps2 directory, you must relocate those files before removing RequisiteWeb.

For more information, see *Managing RequisitePro Projects for RequisiteWeb* on page 197.

Removing Rational Software

Use the Windows **Add or Remove Programs** control panel to select and remove the Rational product. Click **Start > Settings > Control Panel > Add or Remove Programs**. Highlight the product and click **Remove**.

To remove data and additional software for RequisiteWeb, see

- *Removing RequisiteWeb 2003.06.00* on page 227.
- *Removing RequisiteWeb 2002.05.X* on page 227.
- *Removing RequisiteWeb 2001A* on page 230.

Removing RequisiteWeb 2003.06.00

1. Use the **Add/Remove Programs** function in the Windows Control Panel to select and remove RequisiteWeb.
2. Using dcomcnfg, remove the Local Administrators Group from "Default launch permissions" and "Default access permissions".
3. If ReqWebUser is no longer in use, remove this user.
4. RequisitePro project data, backup files, and log files may still exist on the server. The log files will be located at C:\Program Files\Rational\common\rwp\logs\.

Removing RequisiteWeb 2002.05.X

To remove RequisiteWeb from a Windows NT or Windows 2000 server, you must have Windows administrator privileges on that computer. Use the following instructions to:

- Delete the ReqWeb and Jakarta virtual directories
- Remove the Jakarta ISAPI Filter
- Restart the IIS Admin Service

- Remove the RequisiteWeb program files

Note: To remove RequisiteWeb 2001A, see *Removing RequisiteWeb 2001A* on page 230.

Deleting the ReqWeb and Jakarta Virtual Directories

1. Launch the Internet Services Manager by doing one of the following:
   - Click **Start** > **Run**, and type **inetmgr**. Click **OK**.
   - In Windows NT 4.0, click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager**.
   - In Windows 2000 Server, click **Start > Programs > Administrative Tools/Internet Services Manager**.
2. Select the Default Web Site and click the **Stop** button on the toolbar.
3. Right-click the ReqWeb virtual directory and select **Delete**.
4. Right-click the Jakarta virtual directory and select **Delete**. Leave the Internet Services Manager open.

Removing the Jakarta ISAPI Filter

1. Right-click the Default Web Site and select **Properties**. The Default Web Site Properties dialog box appears. Click the **ISAPI Filters** tab and select the **jakarta** filter.
2. Click **Remove** and then click **OK** to close the dialog box.

Restarting the IIS Admin Service

Perform the tasks in the following table. Refer to the column that corresponds to your operating system.

Step	Windows NT 4.0	Windows 2000
1	Close the Internet Service Manager.	In the Internet Services Manager, right-click the server name.
2	At the Start/Run command line, type `cmd`.	Select **Restart IIS**.

3	In the MS-DOS window, type the following:
	`net stop w3svc`
	`net start w3svc`
		At the Stop/Start/Reboot dialog box, select **Restart Internet Services on <server name>**.

4	Type `exit` to close the MS-DOS window.	Click **OK** to close the dialog box. Close the Internet Services Manager.

Removing the RequisiteWeb Program

After using **Add/Remove Programs** in the Windows Control Panel to remove RequisitePro and the uninstall process is complete (including restarting the server), check to see if the C:\Program Files\Rational\RequisitePro\ReqWeb directory is still present on the server. If so, delete the ReqWeb directory and its subdirectories. You must also perform the following steps to edit your System Variables:

1. On the start menu, click **Settings > Control Panel**. In the Control Panel, double-click the **System** icon. The System Properties dialog box appears.
2. Do one of the following:
   - In Windows 2000, at the **Advanced** tab, click **Environment Variables**.
   - In Windows NT, click the **Environment** tab.

   Locate the `PATH` system variable and remove the following from your PATH directory:

   C:\Program Files\Rational\common\java\jre\bin

Removing RequisiteWeb 2001A

To remove RequisiteWeb from a Windows NT or Windows 2000 server, you must have Windows administrator privileges on that machine. Use the following instructions to:

- Stop and remove the RqTomcat Service
- Remove the ReqWeb and Jakarta virtual directories
- Remove RequisiteWeb 2001A
- Remove the Tomcat_Home and Java_Home system variables

Stop and Remove the RqTomcat Service

Step	Windows NT 4.0	Windows 2000
1	Go to **Start** > **Settings** > **Control Panel** > **Services**.	Go to **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Services**.
2	Locate and select the **RqTomcat** service.	Locate the **RqTomcat** service and double-click the icon to display the **Properties** dialog box.
3	In the **Services** window, click the **Stop** button.	On the **General** tab under **Service status**, click the **Stop** button. Click **OK** and close the **Services** window.
4	Click **Close** to finish.	Click **OK** to close the dialog box. Close the Internet Services Manager.

After you stop the RqTomcat service you must perform the following steps to remove the service from your system:

1. Open an MS-DOS shell and navigate to the following directory:

   C:\ProgramFiles\Rational\jakarta-tomcat\bin

2. Type the following at the MS-DOS prompt:

   ```
   jk_nt_service -R RqTomcat
   ```

3. Close the MS-DOS shell

Remove the ReqWeb and Jakarta Virtual Directories

1. Launch the Internet Services Manager by doing one of the following:
   - In Windows NT 4.0, click **Start > Programs > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager**.
   - In Windows 2000 Server, click **Start > Programs > Administrative Tools > Internet Services Manager**.
2. Under the **Default Web Site**, locate the **ReqWeb** and **Jakarta** virtual directories. Right-click each of the directories and select **delete**.
3. Right-click the **Default Web Site** and select **Properties**.
4. At the **ISAPI Filters** tab, locate the **jakarta** filter. Right-click the **jakarta** filter and select **delete**.
5. Click **OK** and close the Internet Services Manager.

Remove RequisiteWeb 2001A

After using **Add/Remove Programs** in the Windows Control Panel to remove RequisitePro and the uninstall process is complete (including restart the server), check to see if the following directories are still present on the server:

C:\Program Files\Rational\RequisitePro

C:\Program Files\Rational\jakarta-tomcat

If so, delete both directories and their subdirectories.

Remove the Tomcat_Home and Java_Home System Variables

1. On the start menu, click **Settings** > **Control Panel**. In the Control Panel, double-click the **System** icon. The System Properties dialog box appears.
2. Do one of the following:
   - In Windows 2000, at the **Advanced** tab, click **Environment Variables**.
   - In Windows NT, click the **Environment** tab.
3. Locate the `TOMCAT_HOME and JAVA_HOME` system variables and delete them from your system.

Note: Restore back up projects and your `catalog.txt` file to their original locations.

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