





Note

Before using this information and the product it supports, read the information in “Notices” on page 63.

First Edition (June 2007)

This edition applies to version 7.0. of IBM Rational Asset Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

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Overview

This installation guide provides instructions for installing and uninstalling IBM® Rational® Asset Manager.

You can find the most recent version of this *Installation Guide* online at http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/ram/70/docs/install_instruction/install.html.

Before installing, you should consult the release notes for late-breaking installation issues. The release notes file is available online at: <http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/ram/70/docs/readme/readme.html>,

Note: Refer to <http://www.ibm.com/software/rational/support/documentation/> for updated documentation and troubleshooting information.

Planning your installation

This section discusses the two basic installation configurations for the Rational Asset Manager server and provides some points to consider before beginning the installation process.

Installation configurations

Rational Asset Manager offers two basic installation scenarios for the server. The basic installation scenario which the Installation Manager provides, creates an instance of embedded WebSphere® Application Server V6.1 with the Rational Asset Manager enterprise archive deployed. The second installation scenario involves manually deploying the enterprise archive, which the basic installation scenario provides, onto a WebSphere Application Server or Tomcat server. For either scenario, you can optionally install the Rational Asset Manager Eclipse client to interact with the repository.

Database

Rational Asset Manager requires a database for asset and data storage. To improve performance, the database server typically is on a separate physical machine from the application server and on a dedicated disk.

The user who configures the database tables and schema must have database administrator privileges.

Security and user authentication

When initially installed, the Rational Asset Manager server application uses file-based security for user authentication. If you perform the basic installation scenario, the Installation Manager configures this automatically for you.

If you plan to install Rational Asset Manager onto an existing WebSphere Application Server that is already configured for security (for example, using LDAP), reconfigure the application server for file-based security until the installation and configuration of Rational Asset Manager is complete. After installing and configuring the server application to use a custom user registry, you can restore WebSphere Application Server security configuration. For details, see “Configuring file-based security” on page 30.

Integrations

Optionally, you can integrate with Rational ClearQuest®, Rational ClearCase®, and WebSphere Service Registry and Repository. Client applications must be installed on the same machine as the server and Rational Asset Manager server application. To improve performance, the servers for these application typically will reside on machines other than the application server.

When integrating with Rational ClearCase, the WebSphere Application Server administrator must be the same user who has access to the versioned object base (VOB).

Clusters

When you deploy Rational Asset Manager to a cluster environment, the components must be homogenous with regard to operating system and application server. If you plan to integrate with Rational ClearCase and Rational ClearQuest, client applications must be installed on every component in the cluster, and must have the same installation path on every node in the cluster. Individual nodes cannot be configured independently.

Large numbers of assets

If you expect that the repository will contain a large number of assets (for example, tens or hundreds of thousands), note that several asset management operations, such as indexing, might require several hours. There are data management and hard-disk management techniques that might improve performance under such conditions, such as using a Redundant Array of Independent Disks (RAID) and a technique called disk striping. Disk striping involves dividing data into blocks and storing the data blocks on multiple partitions on multiple hard disk drives. See the documentation for your operating system for instructions about how to set this up for your environment. Also, you might consider placing the repository index, assets and database each on a different disk.

Installation requirements

This section details hardware and software requirements for successfully installing and running your software.

Hardware requirements

Before you can install the product, verify that your system meets the minimum hardware requirements.

Server

Hardware	Requirements
Processor	Minimum: 2 GHz Intel® Pentium® 4, dual CPU (or higher for best results)
Memory	Minimum: 1 GB RAM (with embedded WebSphere Application Server and DB2® Enterprise Server Edition V9.1) or 2 GB (with ClearCase or ClearQuest clients)
Disk space	Minimum: 5 GB (with embedded WebSphere Application Server and DB2 Enterprise Server Edition V9.1); if you plan to add ClearCase or ClearQuest clients, consult their disk space requirements
Display	1024 x 768 display minimum using 256 Colors (or higher for best results)
Other hardware	Microsoft® mouse or compatible pointing device

Client

Hardware	Requirements
Processor	Minimum: 1.4 GHz Intel Pentium 4 (or higher for best results)
Memory	Minimum: 512 MB RAM
Disk space	Minimum: 500 MB
Display	1024 x 768 display minimum using 256 Colors (or higher for best results)
Other hardware	Microsoft mouse or compatible pointing device

Software requirements

Before installing the product, verify that your system meets the software requirements.

Operating system

The following operating systems are supported for this product:

- Intel 32 bit Microsoft Windows® XP Professional with Service Pack 2
- Intel 32 bit Microsoft Windows Server 2003 Standard Edition with R2
- Intel 32 bit Microsoft Windows Server 2003 Enterprise Edition with R2
- Red Hat Linux® Enterprise AS4

- SUSE Linux Enterprise Server (SLES) Version 10 (running in 32-bit mode)
- IBM AIX® 5.3 Power 5 (for the server only)

Application Server (for server)

You can install Rational Asset Manager server that includes an embedded version of WebSphere Application Server V6.1. Or, you can install Rational Asset Manager server on one of the following application servers:

- WebSphere Application Server V6.1 fixpack 5 (or later)
- WebSphere Application Server V6.0.2.15 (or later)
- Apache Tomcat V5.0, or V5.5

Database application (for server)

One of the following database applications is required for the Rational Asset Manager server:

- DB2 Enterprise Server Edition V8.2 or V9.1
- Microsoft SQL Server 2005
- Oracle 9.2.0 (9i) or 10g

Web browser

One of the following supported Web browsers is required to run the Rational Asset Manager Web client, as well as to view the readme files and the installation guide, and to support the Eclipse Standard Widget Toolkit (SWT) browser widget:

- Firefox V1.5x or V2
- Microsoft Internet Explorer V6.0 SP1, V7

Requirements for the Rational Asset Manager Eclipse client

The following software is required for installing the Rational Asset Manager Eclipse client.

- One of the supported Web browsers that are mentioned earlier.
- For Linux: The GNU Image Manipulation Program Toolkit (GTK+), Version 2.2.1 or later and associated libraries (GLib, Pango).

Requirements for installing the Rational Asset Manager Eclipse client into an existing Eclipse IDE

The Rational Asset Manager Eclipse client can be installed into, or extend, the following Eclipse IDE's:

- IBM Rational Software Delivery Platform products, V7
- An Eclipse IDE meeting the following requirements:
 - Eclipse V3.2.2
 - Eclipse Modeling Framework (EMF) 2.2 or higher
 - A JRE from one of the following Java™ development kits:
 - For Windows: IBM 32-bit SDK for Windows, Java 2 Technology Edition, Version 5.0 service release 3; Sun Java 2 Standard Edition 5.0 Update 9 for Microsoft Windows.
 - For Linux: IBM 32-bit SDK for Linux on Intel architecture, Java 2 Technology Edition, Version 5.0 service release 3; Sun Java 2 Standard Edition 5.0 Update 9 for Linux x86 (not supported for SUSE Linux Enterprise Server [SLES] Version 9)

Additional software requirements

- Adobe Acrobat Reader

- To view correctly multimedia user assistance, such as tours, tutorials, and demonstration viewlets, you must install Adobe Flash Player.
 - For Windows: Version 6.0 release 65 or later
 - For Linux: Version 6.0 release 69 or later

Other

You can optionally use Rational Asset Manager in conjunction with any of the following software:

- Source control and defect tracking systems:
 - Rational ClearQuest V7.0.0.0 or later
 - Rational ClearCase V7.0.0.0 or later
 - CVS 1.11.22 or later
- LDAP
 - Microsoft Active Directory Server , 2003 server
- WebSphere Service Registry and Repository V6.0.0.1

User privileges requirements

You must have a user ID that meets the following requirements before you can install Rational Asset Manager.

- Your user ID must not contain double-byte characters.
- For Windows: You must have a user ID that belongs to the Administrators group.
- For Linux and AIX: You must be able to log in as root.

Verifying and extracting electronic images

If you download the installation files from IBM Passport Advantage®, you must extract the electronic image from the compressed files before you can install Rational Asset Manager.

If you select the Download Director option for downloading the installation files, the Download Director applet automatically verifies the completeness of each file that it processes.

Extracting the downloaded files

Extract each compressed file to the same directory. For Linux: Do not include spaces in the directory names, or you won't be able to run the launchpad.sh command to start the launchpad from a command line.

IBM Installation Manager

IBM Installation Manager is a program that helps you install the product packages. It also helps you update, modify, and uninstall this and other packages that you install. A package can be a product, a group of components, or a single component that is designed to be installed by Installation Manager.

In most installation scenarios for Rational Asset Manager, you use Installation Manager .

Preinstallation tasks

Before you install the product, complete these steps:

1. Confirm that your system meets the requirements described in the section “Installation requirements” on page 5.
2. Confirm that your user ID meets the required access privileges for installing the product. See “User privileges requirements” on page 7.
3. Read the topic “Planning your installation” on page 3.

Installing from the launchpad program

The launchpad program provides you with a single location to view release information and start the installation process.

Use the launchpad program to start the installation of Rational Asset Manager in the following cases:

- Installing from the product CDs
- Installing from an electronic image on your local file system
- Installing from an electronic image on a shared drive

By starting the installation process from the launchpad program, IBM Installation Manager is automatically installed if it is not already on your computer, and it starts preconfigured with the location of the repository that contains the Rational Asset Manager package. If you install and start Installation Manager directly, then you must set repository preferences manually.

Starting the launchpad program

If you are installing from a CD and autorun is enabled on your workstation, then the Rational Asset Manager launchpad starts automatically when you insert the first installation disc into your CD drive. If you are installing from an electronic image, or if autorun is not configured on your workstation, then you must start the launchpad program manually.

To start the launchpad program:

1. Insert the IBM Rational Asset Manager CD into your CD drive. For Linux: Ensure that you have mounted the CD drive.
2. If autorun is enabled on your system, the IBM Rational Asset Manager launchpad program automatically opens. If autorun is not enabled on your system:
 - For Windows: Run launchpad.exe located in the root directory of the CD.
 - For Linux: Run launchpad.sh located in the root directory of the CD.

Starting an installation from the launchpad program

1. Start the launchpad program.
2. When you are ready to begin the installation, click **Install IBM Rational Asset Manager**.
3. A message window opens to inform you whether the program IBM Installation Manager is detected on your workstation.
 - If IBM Installation Manager is not detected on your system, then you are informed that you must install it before you can continue.
 - a. Click **OK** to install IBM Installation Manager. The IBM Installation Manager installation wizard starts.
 - b. Follow the on-screen instructions in the wizard to complete the installation of IBM Installation Manager. Refer to “Installing Installation Manager on Windows” on page 59 for more information.
 - c. When the installation of IBM Installation Manager completes successfully, click **Finish** to close the wizard.
 - d. Read the message that opens and click **OK**. Installation Manager starts and automatically opens the Install Packages wizard.

- If IBM Installation Manager is detected on your system, click **OK**. Installation Manager starts and automatically opens the Install Packages wizard.

Installing Rational Asset Manager - overview

This topic describes the high level steps for installing Rational Asset Manager.

The basic installation steps are:

1. Install a supported database application, if not already installed, and then create and configure a database for Rational Asset Manager server.
2. Install Rational Asset Manager server, either along with an embedded WebSphere Application Server V6.1 or on a separate supported application server.
3. Install the Rational Licence server, and perform licensing configuration in Rational Asset Manager server.
4. Configure Rational Asset Manager server, including configuration for accessing the documentation and communicating with the license sever.
5. Optionally, install Rational Asset Manager Eclipse client.

Installing IBM DB2 Enterprise Server Edition, version 9.1

If you do not already have one of the supported database applications installed, then you can install IBM DB2 Enterprise Server Edition, version 9.1 which is included with the Rational Asset Manager installation media.

Installation instructions and release notes, as well as information about working with DB2 are available in the *IBM DB2 Database for Linux, UNIX[®], and Windows Information Center*. See <http://publib.boulder.ibm.com/infocenter/db2luw/v9/index.jsp>:

- For installation instructions, click **Installing** → **Database systems** → **DB2 Database for Linux, UNIX, and Windows** → **DB2 servers** and click the appropriate installation topics.
- For release notes, click **Product overviews** → **Release notes**.

To start an installation of DB2 Enterprise Server Edition, version 9.1:

1. Start the DB2 Setup Launchpad program. From the Rational Asset Manager launchpad program, click **Install IBM DB2 Enterprise Server Edition, Version 9.1**. If you are installing from CD media, you might be prompted to insert the first DB2 installation CD. The DB2 Setup Launchpad starts.
2. Read the release information available in the DB2 Setup Launchpad or in the information center if you have not done so.
3. In the left menu, click **Install a product**, and then in the page that opens, under **DB2 Enterprise Server Edition**, click **Install new**. The DB2 Setup Wizard opens.
4. Follow the instructions in the wizard to complete the installation. For more information, see the installation instructions in the *IBM DB2 Database for Linux, UNIX, and Windows Information Center* or click **Help** in the DB2 Setup Wizard.

Creating and configuring a database for Rational Asset Manager

This section presents information about how to create and configure a database for Rational Asset Manager and populate it with the required tables.

Configuring and creating tables in DB2 (Windows and Linux only)

These are the instructions for Windows and Linux only for creating and populating tables in DB2 for Rational Asset Manager.

DB2 must already be installed and running. Also, make sure that you know the location of the SQL scripts (typically, *path to installation media*\db_scripts\DB2). Finally, ensure that you also know the installation directory for DB2 (typically C:\Program Files\IBM\SQLLIB for Windows and /opt/IBM/DB2/V9.1 for Linux).

If you are using DB2 as your database application for Rational Asset Manager, then you can create the database and tables automatically by running batch files that are included with the Rational Asset Manager installation media.

Note: This method is not supported for AIX. Instead, follow the instructions described in the topic “Configuring and creating tables in DB2 (Windows and Linux only).”

1. If you are installing from the CD, then copy the SQL scripts to your local file system.
2. For Linux: check that you have write permission for the directory containing the SQL scripts.
3. In a command line, change to the directory containing the SQL scripts for DB2 (*path to installation media*\db_scripts\DB).
4. Run db2create_populate.bat (for Windows) or db2create_populate.sh (for Linux).
5. When prompted, enter the name of the database or press the Enter key to accept the default database name (RAMDB).
6. At the next prompt, enter the installation directory path for DB2, or press the Enter key to accept the default value (C:\Program Files\IBM\SQLLIB for Windows, and /opt/IBM/DB2/V9.1 for Linux).
7. The batch file runs. The script performs the following actions:
 - A database with the name that you entered is created.
 - Tablespace is configured for the database.
 - Tables and schema for RAM are created in the database.
8. Verify that the tables were created. For example, start the DB2 Control Center and browse for the RAMDB table.

Manually configuring and creating tables in DB2

These are the instructions for AIX for manually configuring DB2 and creating and populating tables for Rational Asset Manager in DB2. Follow these instructions if you cannot run the batch files used in the preceding instructions. (For example, if you are running AIX.)

DB2 must already be installed and running. Also, make sure that you know the location of the SQL scripts (typically, *path to installation media*\db_scripts\DB2). Finally, ensure that you also know the installation directory for DB2 (typically C:\Program Files\IBM\SQLLIB for Windows and /opt/IBM/DB2/V9.1 for Linux).

To configure DB2 and create the database tables:

1. Start the **DB2 Control Center**
2. Create a standard database named RAMDB in any path you choose. Do not launch the **Configuration Advisor** if prompted.
3. Connect to the database (right-click on the database, click **Connect**).
4. Modify the table space.
 - a. In the navigation pane, expand the tree below the RAMDB database.
 - b. Click **Table Spaces**.
 - c. In the list of Table Spaces, double-click TEMPSPACE1 to launch the **Alter Table Space** wizard.
 - d. Click **Containers**.
 - e. Expand the first column so that the entire container name is visible. Make a note of the path in that column (for example, C:\DB2\NODE0000\).
 - f. Click **Cancel**.
 - g. Click **Create New Tablespace**.
 - h. On the page titled **Specify a name for your new table space**, type TEMPSPACE16K in the **Table space** field.
 - i. If prompted, select **I want to manage my storage manually**.
 - j. Click **Next**.
 - k. On the page titled **Specify the type of table space you want to create**, select **System temporary**.
 - l. Click **Next**.
 - m. Click **Create**.
 - n. In the **Create Buffer Pool** window, type DEFAULTBP16K in the **Buffer pool name** field. In the **Page size** drop-down list, select 16.
 - o. Click **OK**.
 - p. Click **Next**.
 - q. On the page titled **Define containers for this table space**, click **Add**.
 - r. In the **Define Container** window, navigate to the folder noted in the earlier step. That path should appear in the **Directory name** field.
 - s. In the **Directory name** field, append the text \TEMPDB\TEMPSPACE16K. The full path should be something like C:\DB2\NODE0000\TEMPDB\TEMPSPACE16K.
 - t. Click **OK**.
 - u. Click **Next**.
 - v. On the page titled **Specify the extent and prefetch sizes for this table space**, select **Less than 100 MB**.
 - w. Click **Next**.
 - x. On the page titled **Describe hard drive specifications**, select **Server (SCSI)**.
 - y. Click **Next**.
 - z. Click **Finish**.
5. Execute the scripts that will populate the database.
 - a. Select the RAMDB database in the navigation pane.
 - b. Click **Query**. The **Command Editor** will open.
 - c. Click **Open** and navigate to the RAMSCHEMA.sql file (typically, in the C:\Program Files\IBM\SDP70\RAM\sqlscripts\db2 folder).
 - d. Click **OK** to open RAMSCHEMA.sql in the **Command Editor**.
 - e. Click **Execute**.
 - f. Repeat these steps for the RAMSCHEMA_AFTER.sql file.
6. Verify that the tables were created.

- a. Click **Object View** and open the RAMDB instance.
- b. Click **Tables** to verify that the tables contain data.

Creating and configuring a database in Oracle 10g or 9i

These are the instructions for manually creating and populating tables for Rational Asset Manager in Oracle 10g or 9i.

Oracle must already be installed and running. Also, make sure that you know the location of the SQL scripts (typically, *path to installation media \db_scripts\Oracle*).

To create the database tables:

1. Using the Oracle Database Configuration Assistant, follow the steps in the wizard to create a new database.
 - a. Use global database name `ramdb_<your domain>`, and a system identifier (SID) `ramdb`.
 - b. On the **Custom Scripts** tab, do **not** run the SQL scripts that are mentioned in the later steps. You must create a user first.
 - c. On the Character Sets page, select **Use Unicode**, and for National Character Set, select **UTF-8**.
 - d. Complete the other pages in the wizard, accepting the default values.
2. Create a database user.
 - a. Open Database Control.
 - b. Click **Administration**.
 - c. Click **Users**.
 - d. Create a user called RAMSCHEMA. Set this user's default tablespace as Temp, set User's quota to Unlimited, and set the quota value to -1 MBytes.
3. Execute the scripts that will populate the database.
 - a. Click **SQL+** to open it.
 - b. Open the RAMSCHEMA_Oracle.sql file in the sqlscripts/oracle folder. Highlight the entire contents of the file, copy them (right-click, and then **Copy**), and then paste them into the top of the **SQL+**.
 - c. Click **Execute**. When the process finishes, delete the commands from the top window.
 - d. Repeat these steps for the bootstrap_Oracle.sql file.
4. Verify that the tables were created.

Creating and configuring a database in Microsoft SQL Server 2005

These are the instructions for manually creating and populating tables for Rational Asset Manager in Microsoft SQL Server 2005.

SQL Server 2005 must already be installed and running. Also, make sure that you know the location of the SQL scripts (typically, *path to installation media \db_scripts\SQLServer*).

To create the database tables:

1. Ensure that your ID has permission to execute CREATE SCHEMA statements. (Typically, the database owner has this permission.)
2. Create a new database with database name RAMDB.
3. Execute the scripts that will populate the database.
 - a. Open a command prompt.
 - b. Type `sqlcmd -i path to SQL scripts\RAMSCHEMA_SQLServer.sql`, and press Enter.
 - c. Type `sqlcmd -i path to SQL scripts\bootstrap_SQLServer.sql`, and press Enter.

4. Verify that the tables were created.

Installing Rational Asset Manager server

This section describes how to install the Rational Asset Manager server.

There are two primary ways to install the server:

1. Install Rational Asset Manager server that includes an embedded WebSphere Application Server, V6.1.
2. Install Rational Asset Manager server code on an existing WebSphere Application Server or Apache Tomcat application server.

Installing Rational Asset Manager server with embedded WebSphere Application Server

You can install Rational Asset Manager server that includes an embedded version of WebSphere Application Server, Version 6.1. This is the easiest method for installing the Rational Asset Manager Server.

The database application (DB2 or Oracle) must be installed and running.

If you start your installation from the launchpad, then Installation Manager is installed (if it is not installed already) and then the Install Packages wizard starts automatically. Note that you cannot install the Rational Asset Manager server with embedded WebSphere Application Server if you are using Microsoft SQL Server 2005 as your database.

1. Start the Rational Asset Manager launchpad program (see “Installing from the launchpad program” on page 15) and then select **IBM Rational Asset Manager**. If Installation Manager is not already installed, follow the steps in the installation wizard to complete the installation. The Install Packages wizard opens.
2. The Install page of Install Packages wizard lists all the packages that are found in the repositories that Installation Manager searches. If two versions of a package are discovered, only the latest version of the package is displayed.
3. To search for updates to the IBM Rational Asset Manager server package, click **Check for Other Versions and Extensions**.

Note: For Installation Manager to search the predefined IBM update repository locations for the installed packages, the preference **Search service repositories during installation and updates** on the Repositories preference page must be selected. This preference is selected by default. Internet access is also required.

Installation Manager searches for updates at the predefined service repository for the product package. It also searches any repository locations that you have set. A progress indicator shows that the search is taking place. You can install updates at the same time that you install the base product package.

4. If updates for the IBM Rational Asset Manager server package are found, then they are displayed in the **Installation Packages** list on the Install Packages page following their corresponding product. Only the latest updates are displayed by default.
5. Select the **Rational Asset Manager server** and any updates to the package that you want to install. Updates that have dependencies are automatically selected and cleared together.

Note: If you install multiple packages at the same time, then all the packages will be installed into the same package group.

6. Click **Next** to continue.

7. On the Licenses page, read the license agreement for the selected package. If you selected more than one package to install, there might be a license agreement for each package. On the left side of the **License** page, click each package version to display its license agreement. The package versions that you selected to install (for example, the base package and an update) are listed under the package name.
 - a. If you agree to the terms of all the license agreements, click **I accept the terms of the license agreements**.
 - b. Click **Next** to continue.
8. On the Location page, type the path for the *shared resources directory* in the **Shared Resources Directory** field; or accept the default path. The shared resources directory contains resources that can be shared by one or more package groups. Click **Next** to continue.

The default path is:

- For Windows: C:\Program Files\IBM\SDP70Shared
- For Linux: /opt/IBM/SDP70Shared

Important: You can specify the shared resources directory only the first time that you install a package. Use your largest disk for this directory to help ensure that adequate space is available for the shared resources of future packages. You cannot change the directory location unless you uninstall all packages.

9. On the Location page, either choose an existing *package group* to install the IBM Rational Asset Manager server package into, or create a new one. A package group represents a directory in which packages share resources with other packages in the same group. To create a new package group:
 - a. Click **Create a new package group**.
 - b. Type the path for the installation directory for the package group. The name for the package group is created automatically.

The default path is:

 - For Windows: C:\Program Files\IBM\SDP70
 - For Linux: /opt/IBM/SDP70
 - c. Click **Next** to continue.
10. On the Features page under **Languages**, select the languages for the package group. The corresponding national language translations for the user interface and documentation for the IBM Rational Asset Manager server package will be installed. Note that your choices apply to all packages installed under this package group.
11. On the next Features page, select **Embedded version of the IBM WebSphere Application Server v6.1**.
12. On the next Features page, provide your database and JDBC driver details.
 - a. **Database type::** Select either DB2 or Oracle.
 - b. **Database server name:** Type the database name. (The default is localhost.)
 - c. **Port number:** Type the port number. (The default is 50000 for DB2 and 1521 for Oracle.)
 - d. **JDBC driver location:** Type or browse to the directory that contains the JDBC driver for your database (for example, C:\Program Files\IBM\SQLLIB\java).
 - e. **Database name:** Leave the default name RAMDB unless you used a different name when you created your database.
 - f. **Database administrator account:** Type your account name.
 - g. **Database administrator password:** Type your password.
13. Click **Test connection**. You must successfully establish a connection before you can continue with the installation. Click **Next** to continue.
14. On the next Features page, specify the embedded WebSphere Application Server ports, or leave the default port assignments.

Table 1. Port definitions for embedded WebSphere Application Server V6.1

Port name	Default value
HTTP_Transport Port (WC_defaulthost)	13080
Administrative Console Port (WC_adminhost)	13060
HTTPS Transport Port (WC_defaulthost_secure)	13443
Administrative Console Secure Port (WC_adminhost_secure)	13043
Bootstrap Port (BOOTSTRAP_ADDRESS)	13809
SOAP Connector Port (SOAP_CONNECTOR_ADDRESS)	13880
SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	9401
CSIV2 Server Authentication Listener Port (CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS)	13403
CSIV2 Client Authentication Listener Port (CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS)	13402
ORB Listener Port (ORB_LISTENER_ADDRESS)	13406
High Availability Manager Communication Port (DCS_UNICAST_ADDRESS)	9353
Service Integration Port (SIB_ENDPOINT_ADDRESS)	7276
Service Integration Port Secure (SIB_ENDPOINT_SECURE_ADDRESS)	7286
MQ Transport (SIB_MQ_ENDPOINT_ADDRESS)	5558
MQ Transport secure (SIB_MQ_ENDPOINT_SECURE_ADDRESS)	5578
SIP Container Port (SIP_DEFAULTHOST)	5060
SIP Container Secure Port (SIP_DEFAULTHOST_SECURE)	5061

15. On the Summary page, review your choices before installing the package. If you want to change the choices or configuration details that you made on previous pages, click **Back**, and make your changes.
16. When you are satisfied with your installation choices, click **Install** to install the package. A progress indicator shows the percentage of the installation completed.
17. When the installation process is complete, a message confirms the success of the process.
 - a. Click **View log file** to open the installation log file for the current session in a new window. You must close the Installation Log window to continue.
 - b. In the Install Package wizard, select whether you want IBM Rational Asset Manager to start when you exit.
 - c. Click **Finish** to start the selected package. The Install Package wizard closes and you are returned to the Start page of Installation Manager.

Installing Rational Asset Manager on an existing application server

If you do not want to use the Rational Asset Manager packaged with embedded WebSphere Application Server, then you can install and configure Rational Asset Manager manually.

The general steps you must take are as follows (in this order):

1. Create the database tables in an existing database (DB2, Oracle or SQL Server 2005).

2. Retrieve the Rational Asset Manager server artifacts from the installation media using IBM Installation Manager.
3. Configure a datasource for your application server (WebSphere Application Server or Tomcat).
4. Configure security on the application server.
5. Deploy the Rational Asset Manager server artifacts to the application server.

Retrieving the Rational Asset Manager server application for Windows and Linux from the installation media

To install IBM Rational Asset Manager server on an existing application server, you must first obtain the EAR or WAR files for the server application from the installation media.

To obtain the EAR or WAR files for the server application:

1. Start the Rational Asset Manager launchpad program (see “Installing from the launchpad program” on page 15) and then select **IBM Rational Asset Manager**. If Installation Manager is not already installed, follow the steps in the installation wizard to complete the installation. The Install Packages wizard opens. Installation Manager is required for this procedure.
2. The Install page of Install Packages wizard lists all the packages that are found in the repositories that Installation Manager searches. If two versions of a package are discovered, only the most appropriate version of the package is displayed.
3. To search for updates to the IBM Rational Asset Manager server package, click **Check for Other Versions and Extensions**.

Note: For Installation Manager to search the predefined IBM update repository locations for the installed packages, the preference **Search service repositories during installation and updates** on the Repositories preference page must be selected. This preference is selected by default. Internet access is also required.

Installation Manager searches for updates at the predefined service repository for the product package. It also searches any repository locations that you have set. A progress indicator shows the search is taking place. You can install updates at the same time that you install the base product package.

4. If updates for the IBM Rational Asset Manager server package are found, then they will be displayed in the **Installation Packages** list on the Install Packages page following their corresponding product. Only the most appropriate updates are displayed by default.
5. Select **Rational Asset Manager server** and any updates to the package that you want to install. Updates that have dependencies are automatically selected and cleared together.
6. Click **Next** to continue.

Note: If you install multiple packages at the same time, then all the packages will be installed into the same package group.

7. On the Licenses page, read the license agreement for the selected package. If you selected more than one package to install, there might be a license agreement for each package. On the left side of the **License** page, click each package version to display its license agreement. The package versions that you selected to install (for example, the base package and an update) are listed under the package name.
 - a. If you agree to the terms of all of the license agreements, click **I accept the terms of the license agreements**.
 - b. Click **Next** to continue.
8. If you are installing the first package on this computer, then on the Location page, type the path for the *shared resources directory* in the **Shared Resources Directory** field; or accept the default path. The shared resources directory contains resources that can be shared by one or more package groups. Click **Next** to continue.

The default path is:

- For Windows: C:\Program Files\IBM\SDP70Shared
- For Linux: /opt/IBM/SDP70Shared

Important: You can specify the shared resources directory only the first time that you install a package. Use your largest disk for this to help ensure adequate space for the shared resources of future packages. You cannot change the directory location unless you uninstall all packages.

- On the Location page, either choose an existing *package group* to install the IBM Rational Asset Manager server package into, or create a new one. A package group represents a directory in which packages share resources with other packages in the same group. To create a new package group:
 - Click **Create a new package group**.
 - Type the path for the installation directory for the package group. This is the directory where the Rational Asset Manager application files for manual installation will be created. The name for the package group is created automatically.
The default path is:
 - For Windows: C:\Program Files\IBM\SDP70
 - For Linux: /opt/IBM/SDP70
 - Click **Next** to continue.
- On the Features page under **Languages**, select the languages for the package group. The corresponding national language translations for the user interface and documentation for the IBM Rational Asset Manager server package will be installed. Note that your choices apply to all packages installed under this package group.
- On the next Features page, select **Rational Asset Manager manual installation options** and clear **Embedded version of the IBM WebSphere Application Server v6.1**. Ensure that you select the archive that matches your application server.

Note: For best results, select **Rational Asset Manager Help and Documentation Web archive** since you need to access to the help files for some configuration instructions.

- On the Summary page, review your choices before installing the package. If you want to change the choices or configuration details that you made on previous pages, click **Back** and make your changes.
- When you are satisfied with your installation choices, click **Install** to install the package. A progress indicator shows the percentage of the installation completed.
- When the installation process is complete, a message confirms the success of the process.

The EAR and WAR files for installing the IBM Rational Asset Manager server application on an existing WebSphere Application Server are now available in the directory *installation directory\ram\apps*.

Table 2. Locations of downloaded files

Path	File names	Description
<i>installation directory\ram\apps\was</i>	com.ibm.ram.repository.web_runtime.ear	Rational Asset Manager Enterprise Archive for WebSphere Application
<i>installation directory\ram\apps\tomcat</i>	<ul style="list-style-type: none"> • com.ibm.ram.repository.web.tomcat_runtime.war • com.ibm.ram.repository.web.ws.tomcat_runtime.war 	Rational Asset Manager Web Archive for Tomcat
<i>installation directory\ram\apps\WAR</i>	rmcabdgovernprocess.war	Asset-based Development and Governance process

Table 2. Locations of downloaded files (continued)

Path	File names	Description
<i>installation directory</i> \ram\apps	iehs.war	Rational Asset Manager Help and Documentation web archive

Retrieving the Rational Asset Manager server application for AIX from the installation media

To install the version of IBM Rational Asset Manager server for the AIX operating system on an existing application server, you must first obtain the EAR or WAR files for the server application from the installation media.

For AIX, the EAR or WAR files for the AIX server application must be manually copied from the AIX CD or disk image of Rational Asset Manager to a local disk image. The Rational Asset Manager files are in the following locations:

Table 3. Locations of installation files for Rational Asset Manager server for Aix

Path	File names	Description
<i>disk root</i> \apps\was	com.ibm.ram.repository.web_runtime.ear	Rational Asset Manager Enterprise Archive for WebSphere Application
<i>disk root</i> \apps\tomcat	<ul style="list-style-type: none"> com.ibm.ram.repository.web.tomcat_runtime.war com.ibm.ram.repository.web.ws.tomcat_runtime.war 	Rational Asset Manager Web Archive for Tomcat
<i>disk root</i> \apps\WAR	rmcabdgovernprocess.war	Asset-based Development and Governance process
<i>disk root</i> \apps	iehs.war	Rational Asset Manager Help and Documentation web archive

Installing Rational Asset Manager server manually on WebSphere Application Server

This section describes manually installing Rational Asset Manager server on WebSphere Application Server.

Configuring file-based security

When initially installed, the Rational Asset Manager server application uses file-based security for user authentication. If you perform the installation scenario where you install the Rational Asset Manager server with an embedded WebSphere Application Server, the Installation Manager will automatically configure this for you.

If you install Rational Asset Manager onto an existing WebSphere Application Server, then you must configure file-based security yourself.

Important: If you install Rational Asset Manager onto an existing WebSphere Application Server that is already configured for security (for example, using LDAP), then you must reconfigure the application server for file-based security until the installation and configuration of Rational Asset Manager is

complete. After installing and configuring the server application to use a custom user registry, you can restore WebSphere Application Server security configuration.

Configuring file-based security on WebSphere Application Server V6.1:

You can authenticate users for Rational Asset Manager using file-based security on your local operating system. These instructions are for configuring file-based security on WebSphere Application Server V6.1.

Before starting, note the location of the files named `users.props` and `groups.props`. The install process places these in *WebSphere Application Server install root/ram/conf/security*.

1. Start the server and open the administrative console.
 - a. Open a command window and change to `WAS_PROFILE/bin` directory.
 - b. Type `startServer.bat server1`.
 - c. When the server has started, open a web browser and go to `http://localhost:13060/ibm/console`. (This port number might be different than 13060; to check, look in `WAS_PROFILE/properties/portdef.props` for the value of the `WC_adminhost` property and use it instead) If security is enabled, use `https://localhost:13043/ibm/console`. (This port number might be different than 9043; to check, look in `WAS_PROFILE/properties/portdef.props` for the value of the `WC_adminhost_secure` property and use it instead.)
2. Click **Security**.
3. Click **Secure administration, applications, and infrastructure**.
4. Under **Available realm definitions**, select **Standalone custom registry** and click **Configure**.
5. Click **Custom Properties**.
6. Click **New**.
7. In the **Name** field, type `groupsFile`.
8. In the **Value** field, type the path to the `groups.props` file.
9. Click **Apply**.
10. Click **OK**.
11. Click **New**.
12. In the **Name** field, type `usersFile`.
13. In the **Value** field, type the location of the `users.props` file.
14. Click **Apply**.
15. Click **Standalone custom registry** at the top of the page.
16. Click **Save**.
17. In the **Primary administrative user name**, **Server user ID** and **Password** fields, type `admin`.
18. Click **OK**.
19. On the **Configuration** page, select **Enable administrative security** and disable **Use Java 2 security...**
20. Ensure **Enable application security** remains checked.
21. Ensure the "Available realm definitions is set to **Standalone custom registry**.
22. Click **Set as current**.
23. Click **Apply**.
24. Click **Save**.
25. Log out of the administrative console.
26. Restart the server or restart the computer. If you are using a clustered environment, restart the server or restart the computer where the Domain Manager (DM) is located.

Configuring file-based security on WebSphere Application Server V6.0.2:

You can authenticate users for Rational Asset Manager using file-based security on your local operating system. These instructions are for configuring file-based security on WebSphere Application Server V6.0.2.

If you are using a clustered environment, use the **WebSphere Administrative Console** on the Domain Manager (DM).

1. For best results, create a backup of the WebSphere Application Server profile before proceeding. To create a backup, in the WebSphere\AppServer\bin directory, run backupConfig.bat.
2. Copy the files named users.props and groups.props into the directory *WebSphere Application Server install root/ram/conf/security*. If using a clustered environment, these files will need to be copied to a similar location on the Domain Manager (DM) and any other WebSphere Application Server servers in the cluster.
3. Start the **WebSphere Administrative Console**.
4. Click **Security**.
5. Click **Global Security**.
6. Under **User Registries**, click **Custom**.
7. In the **Server UserID** and **Server User Password** fields, type admin. (The user ID and password must be in the users.props file, or WAS will not permit that user to log into the console.)
8. Click **Apply**.
9. Click **Custom Properties**.
10. Click **New**.
11. In the **Name** field, type groupsFile.
12. In the **Value** field, type the path to the groups.props file; for example, C:\IBM\WebSphere\AppServer\profiles\<profile>\properties\security\groups.props.
13. Click **Apply**.
14. Click **OK**.
15. Click **New**.
16. In the **Name** field, type usersFile.
17. In the **Value** field, type the location of the users.props file (for example, C:\IBM\WebSphere\AppServer\profiles\<profile>\properties\security\users.props).
18. Click **Apply**.
19. Click **OK**.
20. Your **Custom Properties** page should now show entries for groupsFile and usersFile.
21. Click **Global Security**.
22. Enable WebSphere Application Server security.
 - a. Click **Enable global security**.
 - b. Clear **Enforce Java 2 security**.
 - c. In the **Active user registry** drop-down list, select **Custom user registry**.
 - d. Click **Apply**.
 - e. Click **OK**.
 - f. The **Global Security** page should now display several information messages at the top. Click **Save**, and when prompted, click **Save** again to apply the changes.
23. Log out of the administrative console.
24. Restart the server or restart the machine. If using a clustered environment, restart the server or restart the machine where the Domain Manager (DM) is located.

Configuring database connections

This section describes creating a connection between the database and WebSphere Application Server.

Configuring a database connection between WebSphere Application Server V6.1 and DB2:

These are the instructions for manually creating a database connection between WebSphere Application Server V6.1 and the database tables created for Rational Asset Manager in DB2.

If the environment is clustered, use the WebSphere Administrative Console on the Domain Manager (DM) for all WebSphere Application Server Console steps.

1. Start the **WebSphere Administrative Console**.
2. Log in using the user ID **admin** and the password **admin** (defined in the section "Configuring security," above).
3. If DB2 and WebSphere Application Server are not installed on the same server, make sure that DB2 Agent Installer is installed with WebSphere Application Server in order to communicate with a remote installation of DB2.
4. Create a database connection
 - a. Click **Resources** in the navigation pane.
 - b. Click **JDBC**.
 - c. Click **JDBC Providers**.
5. Create a JDBC Provider.
 - a. Click **New**.
 - b. For the database type, select **DB2**
 - c. For the provider type, select **DB2 Universal JDBC Driver**.
 - d. For the implementation type, select **Connection pool data source**.
 - e. Click **Next**.
 - f. On the **Enter database class path information** page, type the path to the DB2 java directory in the **Directory location** field.
 - g. Click **Next**.
 - h. Click **Finish**.
 - i. On the **JDBC Providers** page, click **Save**.
6. Bind the database to a JNDI name.
 - a. Click the **DB2 Universal JDBC Driver Provider** link.
 - b. Under **Additional Properties**, click **Data sources**.
 - c. Click **New**.
 - d. In the **JNDI name** field, type **jdbc/RAM_Con**.
 - e. Click **Next**.
 - f. In the **Database name** field, type the name of the database.
 - g. In the **Server name** field, type the name of the server.
 - h. Click **Next**.
 - i. Click **Finish**.
7. Set up J2C authentication.
 - a. On the **JAAS-J2C authentication data** page, enter the **Alias**, **User ID** and **Password** for authentication to the DB2 database.
 - b. Click **DB2 Universal JDBC Driver Provider**.
 - c. Select **etkNode/db2admin** (or the name that you created for your JAAS-J2C authentication alias). In normal circumstances, the node name is prefixed with the node names.
 - d. Click **OK**.
 - e. Click **Save**.
8. Log out of the console.
9. Restart the server.
10. In a clustered environment, the Domain Manager (DM) must be restarted.

Configuring a database connection between WebSphere Application Server V6.0.2 and DB2:

These are the instructions for manually creating a database connection between WebSphere Application Server V6.0.2 and the database tables created for Rational Asset Manager in DB2 V9.1 or V8.2.

If you work in a clustered environment, then use the WebSphere Administrative Console on the Domain Manager (DM) for all WebSphere Application Server Console steps.

1. Start the **WebSphere Administrative Console**.
2. Log in using the user ID **admin** and the password **admin** (defined in the earlier section "Configuring security," above).
3. If DB2 and WebSphere Application Server are not installed on the same server, make sure that DB2 Agent Installer is installed with WebSphere Application Server in order to communicate with a remote installation of DB2.
4. Set up the DB2 JDBC driver path.
 - a. Click **Environment** in the navigation pane.
 - b. Click **WebSphere Variables**.
 - c. Click **New**.
 - d. In the **Name** field, type **DB2UNIVERSAL_JDBC_DRIVER_PATH**
 - e. In the **Value** field, type the path to the SQLLib (for example, **D:\Program Files\IBM\SQLLIB\java**)
 - f. Click **Apply**.
 - g. Click **OK**.
5. Set up J2C authentication.
 - a. Click **Security**.
 - b. Click **Global Security**.
 - c. In the **Authentication** section of the **Global Security** window, click **JAAS Configuration**.
 - d. Click **J2C Authentication Data**.
 - e. Click **New**.
 - f. In the **Alias Entry** field, type **RAM_Con**.
 - g. In the **User ID** field, type a DB2 user ID with administration privileges (for example, **db2admin**).
 - h. In the **Password** field, type the password for the user ID (for example, **db2admin**).
 - i. Click **Apply**.
 - j. Click **OK**.
6. Create a database connection
 - a. Click **Resources** in the navigation pane.
 - b. Click **JDBC Providers**.
 - c. If using a remote installation of DB2, make sure the **Node** and **Server** entries are cleared and click **Apply**.
 - d. If you work in a clustered environment, type the name of the cluster in the **Cluster** field and click **Apply**.
7. If any other JDBC drivers have been defined for Rational Asset Manager (for example, **JNDI Name = jdbc/RAM_Con**), delete those drivers before completing the following steps.
8. Create a JDBC Provider.
 - a. Click **New**.
 - b. For the database type, select **DB2**.
 - c. For the provider type, select **DB2 Universal JDBC Driver**.
 - d. For the implementation type, select **Connection pool data source**.
 - e. Click **Next**.

- f. Click **Apply**.
- g. Click **Data sources**.
- h. Click **New**.
9. Bind the database to a JNDI name.
 - a. For the **JNDI name**, select jdbc/RAM_Con.
 - b. For the **Component-managed authentication alias** field, select the J2C authentication that you created earlier.
 - c. For the **Database name** field, type the name of the Rational Asset Manager database that you created in DB2 (for example, RAMDB).
 - d. For the **Driver type**, type 4.
 - e. For the **Server name**, select the name of the machine where DB2 is installed.
 - f. Click **Apply**.
 - g. Click **OK**.
 - h. Click **Test Connection**.
10. Save the WebSphere Application Server configuration.
 - a. Click **Save** at the top of the window.
 - b. In the next window, click **Save**.
11. Log out of the console.
12. Restart the server.
13. In a clustered environment, the Domain Manager (DM) must be restarted.

Configuring a database connection between WebSphere Application Server and Oracle:

These are the instructions for manually creating a database connection between WebSphere Application Server V6.1 or V6.0.2 and the database tables created for Rational Asset Manager in Oracle 10g or 9i.

If you work the environment is clustered, use the WebSphere Administrative Console on the Domain Manager (DM) for all WebSphere Administrative Console steps.

1. Ensure that the ojdbc14.jar file is from Oracle 10g (10.2) or later. Older versions of this file will not work. If necessary, copy the needed version of the file to a folder on the WebSphere Application Server server (for example, D:\Oracle).
2. Start the **WebSphere Administrative Console**.
3. Log in using the user ID admin and the password admin (defined in the earlier section "Configuring security," above).
4. Set up the Oracle driver path.
 - a. Click **Environment** in the navigation pane.
 - b. Click **WebSphere Variables**.
 - c. Click **New**.
 - d. In the **Name** field, select **Oracle_JDBC_DRIVER_PATH**
 - e. In the **Value** field, select the path to the Oracle library with the required version of the ojdbc14.jar file (for example, D:\Oracle
 - f. Click **Apply**.
 - g. Click **OK**.
5. Set up J2C authentication.
 - a. Click **Security**.
 - b. Click **Global Security**.
 - c. In the **Authentication** section of the **Global Security** window, click **JAAS Configuration**.
 - d. Click **J2C Authentication Data**.

- e. Click **New**.
 - f. In the **Alias Entry** field, type `RAM_Con`.
 - g. In the **User ID** field, type a Oracle user ID with administration privileges. For Oracle, the user ID define here must be the name given to the schema (for example, `ramschema`).
 - h. In the **Password** field, type the password for the user ID.
 - i. Click **Apply**.
 - j. Click **OK**.
6. Create a database connection
 - a. Click **Resources** in the navigation pane.
 - b. Click **JDBC Providers**.
 - c. If you use a remote installation of DB2, make sure the **Node** and **Server** entries are cleared and click **Apply**.
 - d. If you work in a clustered environment, type the name of the cluster in the **Cluster** field and click **Apply**.
 7. If any other JDBC drivers have been defined for Rational Asset Manager (for example, JNDI Name = `jdbc/RAM_Con`), delete those drivers before completing the following steps.
 8. Create a JDBC Provider.
 - a. Click **New**.
 - b. For the database type, select **Oracle**.
 - c. For the provider type, select **Oracle JDBC Driver**.
 - d. For the implementation type, select **Connection pool data source**.
 - e. Click **Next**.
 - f. Click **Apply**.
 - g. Click **Data sources**.
 - h. Click **New**.
 9. Bind the database to a JNDI name.
 - a. For the **JNDI name**, select `jdbc/RAM_Con`.
 - b. For the **Data store helper class name**, select the level of Oracle installed (for example, Oracle 9i and prior data store helper).
 - c. For the **Component-managed authentication alias** field, select the J2C authentication that you created earlier.
 - d. For the **URL** field, type the path that the Oracle administrator provides. It will have the following form:
`jdbc:oracle:thin:@fully_qualified_machine_name:oracle_port_number:database_name`.
 - e. Click **Apply**.
 - f. Click **OK**.
 - g. Click **Test Connection**.
 10. Save the WebSphere Application Server configuration.
 - a. Click **Save** at the top of the window.
 - b. In the next window, click **Save**.
 11. Log out of the console.
 12. Restart the server.
 13. In a clustered environment, the Domain Manager (DM) must be restarted.

Configuring a database connection between WebSphere Application Server V6.0.2 and Microsoft SQL Server 2005:

These are the instructions for manually creating a database connection between WebSphere Application Server V6.0.2 and the database tables that are created for Microsoft SQL Server 2005.

If you work in a clustered environment, use the WebSphere Administrative Console on the Domain Manager (DM) for all WebSphere Application Server Console steps.

1. Start the **WebSphere Administrative Console**.
2. Log in using the user ID **admin** and the password **admin** (defined earlier in the section "Configuring security").
3. Click **Environment** → **WebSphere Variables**. The WebSphere Variables page opens.
4. Click **MSSQLSERVER_JDBC_DRIVER_PATH** and. The **MSSQLSERVER_JDBC_DRIVER_PATH** page opens.
5. In the **Value** field, type the path to the directory that contains the Microsoft JDBC driver for MSSQLServer 2005(sqljdbc.jar), and then click **OK**.
6. Click **Resources** → **JDBC Providers**, and then, in the JDBC Providers page that opens, click **New**.
7. Create a JDBC provider.
 - a. In the JDBC providers page, click **New**.
 - b. For the database type, select **User-defined**, and then click **Next**.
 - c. For the provider type, select **User-defined JDBC provider**.
 - d. For the implementation type, select **User-defined**.
 - e. Click **Next**.
 - f. For **Name**, typeMicrosoft SQL Server 2005 JDBC provider.
 - g. For **Class path**, type\$MSSQLSERVER_JDBC_DRIVER_PATH}/sqljdbc.jar.
 - h. For **Implementation class name** , typecom.microsoft.sqlserver.jdbc.SQLServerXADataSource.
 - i. Click **Apply**. The Data sources link is activated.
8. Bind the database to a JNDI name.
 - a. Under **Additional Properties**, click **Data sources**.
 - b. Click **New**.
 - c. In the **Name** field, type Microsoft SQLServer 2005 JDBC RAM.
 - d. In the **JNDI name** field, type jdbc/RAM_Con.
 - e. Under **Data store helper class name**, select **Specify a user-defined data store helper** and then in the **Enter a package-qualified data store helper class name** type com.ibm.websphere.rsadapter.ConnectJDBCDataStoreHelper.
 - f. Click **Apply**. The **Custom Properties** link becomes available.
 - g. Click **Custom Properties** and then on the Custom properties page click **New**.
 - h. In the **Name** field, type databaseName, and in the **Value** field type RAMDB or the name that you used for the database.
 - i. Click **OK**. You return to the Custom properties page.
 - j. Add another custom property for the server name. Click **New**. In the **Name** field, type serverName, and in the **Value** field type*your server name* (for example, myserver.com), and then click **OK**.
 - k. Add another custom property for the port number. Click **New**. In the **Name** field, type portNumber , and in the **Value** field type *your port number* (the default is usually 1443), and then click **OK**.
 - l. Click **OK**. You return to the Customer properties page.
9. Set up J2C authentication.
 - a. Click the link**Microsoft SQLServer 2005 JDBC RAM** near the top of the page.
 - b. Click **J2EE Connector Architecture (J2C) authentication data entries**.
 - c. Click **New**.

- d. On the **JAAS-J2C authentication data** page, type the **Alias**, **User ID** and **Password** for authentication to the Microsoft SQL Server 2005 database.
 - e. Click **OK**.
 - f. Click the link **Microsoft SQLServer 2005 JDBC RAM** near the top of the page.
 - g. Under **Container-managed authentication**, select the entry that is the name that you created for your JAAS-J2C authentication alias. The node name is normally prefixed to the name of the authentication alias.
 - h. Click **OK**.
 - i. Click **Save**.
10. Log out of the console.
 11. Restart the server.
 12. In a clustered environment, the Domain Manager (DM) must be restarted.

Configuring a database connection between WebSphere Application Server V6.1 and Microsoft SQL Server 2005:

These are the instructions for manually creating a database connection between WebSphere Application Server V6.1 and the database tables that are created for Microsoft SQL Server 2005.

If you work in a clustered environment, use the WebSphere Administrative Console on the Domain Manager (DM) for all WebSphere Application Server Console steps.

1. Start the **WebSphere Administrative Console**.
2. Log in using the user ID **admin** and the password **admin** (defined in the earlier section "Configuring security").
3. Click **Environment** → **WebSphere Variables**. The WebSphere Variables page opens.
4. Click **MSSQLSERVER_JDBC_DRIVER_PATH**. The **MSSQLSERVER_JDBC_DRIVER_PATH** page opens.
5. In the **Value** field, type the path to the directory that contains the Microsoft JDBC driver for MSSQLServer 2005 (sqljdbc.jar), and then click **OK**.
6. Click **Resources** → **JDBC Providers**, and then, in the JDBC Providers page that opens, click **New**.
7. Create a JDBC provider.
 - a. In the JDBC providers page, click **New**.
 - b. For the database type, select **User-defined**.
 - c. For **Implementation class name**, type `com.microsoft.sqlserver.jdbc.SQLServerXADataSource`.
 - d. For **Name**, type **Microsoft SQL Server 2005 JDBC provider**.
 - e. Click **Next**.
 - f. For **Class path**, type `$MSSQLSERVER_JDBC_DRIVER_PATH}/sqljdbc.jar`.
 - g. Click **Finish**.
8. Bind the database to a JNDI name.
 - a. On the JDBC providers page, click **Microsoft SQL Server 2005 JDBC provider** (the link for the JDBC provider that you created in the previous step).
 - b. Under **Additional Properties**, click **Data sources**.
 - c. Click **New**.
 - d. In the **Data source name** field, type **Microsoft SQLServer 2005 JDBC RAM**.
 - e. In the **JNDI name** field, type `jdbc/RAM_Con`.
 - f. Click **Next**.
 - g. For **Data store helper class name**, type `com.ibm.websphere.rsadapter.ConnectJDBCDataStoreHelper`.

- h. Click **Next** and then click **Finish**.
 - i. On the Microsoft SQLServer 2005 JDBC RAM data source page, under **Additional Properties**, click **Custom Properties**.
 - j. On the Custom properties page, click **New**.
 - k. In the **Name** field, type `databaseName`, and in the **Value** field type `RAMDB` or the name that you used for the database.
 - l. Click **OK**. You return to the Custom properties page.
 - m. Add another custom property for the server name. Click **New**. In the **Name** field, type `serverName`, and in the **Value** field type *your server name* (for example, `myserver.com`), and then click **OK**.
 - n. Add another custom property for the port number. Click **New**. In the **Name** field, type `portNumber`, and in the **Value** field type *your port number* (the default is usually 1443), and then click **OK**.
 - o. Click **OK**. You return to the Custom properties page.
9. Set up J2C authentication.
 - a. Click the link **Microsoft SQLServer 2005 JDBC RAM** near the top of the page.
 - b. Under **Related items**, click **JAAS-J2C authentication data**.
 - c. Click **New**.
 - d. Enter the **Alias**, **User ID** and **Password** for authentication to the Microsoft SQL Server 2005 database.
 - e. Click **OK**.
 - f. Click the link **Microsoft SQLServer 2005 JDBC RAM** near the top of the page.
 - g. Under **Container-managed authentication**, select the entry that is the name that you created for your JAAS-J2C authentication alias. The node name is usually prefixed to the name of the authentication alias.
 - h. Click **OK**.
 - i. Click **Save**.
 10. Log out of the console.
 11. Restart the server.
 12. In a clustered environment, the Domain Manager (DM) must be restarted.

Deploying Rational Asset Manager server on WebSphere Application Server

This section describes deploying the Rational Asset Manager server application on WebSphere Application Server.

Deploying Rational Asset Manager on WebSphere Application Server V6.1:

Rational Asset Manager can be installed manually on an existing installation of WebSphere Application Server. These instructions are for deploying Rational Asset Manager on WebSphere Application Server V6.1.

If installing the product into a clustered environment, use the WebSphere Administrative Console on the Domain Manager (DM) for all administrative console steps.

1. Locate the Rational Asset Manager Server EAR file. The installer places this file in the directory *Rational Asset Manager install root/was*.
2. Launch the **WebSphere Administrative Console**.
3. Click **Applications**.
4. Click **Enterprise Applications**.
5. Click **Install**.
6. Type the path and file name of the Rational Asset Manager Server EAR file.

7. Click **Show me all installation options and parameters**.
8. Click **Next** until you reach **Step 6. Map Resource references to Resource**, or select this step in the navigation pane.
9. On the page titled Step 6: Map Resource References to Resources, perform the following steps:
 - a. Under **JNDI names**, select **jdbc/RAM_Con** and click **Apply**.
 - b. Under **Specify Authentication Data Entry**, select **Use Default Method** and select **<node_name>/RAM_Con** from the menu.
 - c. Click **Apply**.
 - d. Select both modules.
 - e. Click **Next**.
10. Click **Next** on the next three pages, or click **Step 10** in the navigation pane.
11. On the page titled Step 10: Summary, click **Finish**.
12. When the installation of the EAR file finishes, click **Save to Master Configuration**.
13. Click **Save**.
14. Start the application.
 - a. In the navigation pane, click **Applications**.
 - b. Click **Enterprise Applications**.
 - c. Select the newly installed Rational Asset Manager application and click **Start**.
15. If Rational Asset Manager is accessed through the IIS or Apache server, perform the following steps; if Rational Asset Manager is accessed without a Web server front end, skip this step.
 - a. In the navigation pane, click **Servers**.
 - b. Click **Web Servers**.
 - c. Select the Web server name and click **Generate Plug-in**. (If the Web server plug-in has never been created, refer to Installing Web server plug-ins.)
 - d. Check the Web server name again and click **Propagate Plug-in**. This sends the plug-in to the Web server so that the Rational Asset Manager Server application can be referenced through the installed Web server.
16. Restart WebSphere Application Server and Web servers.
17. Use the following URLs to access Rational Asset Manager.
 - a. If you use a Web server, type `http://machine_name/com.ibm.ram.repository.web/home.faces`.
 - b. If you do not use a Web server, type `http://machine_name:13080/com.ibm.ram.repository.web/home.faces`. (If this URL does not work, use the port number for the Default Host that is defined in Virtual Hosts under Environment in the navigation pane.)
18. Configure the Rational Asset Manager server application. Refer to “Configuring the Rational Asset Manager server application” on page 48.

Deploying Rational Asset Manager on WebSphere Application Server V6.0.2:

Rational Asset Manager can be installed manually on an existing installation of WebSphere Application Server. These instructions are for deploying Rational Asset Manager on WebSphere Application Server V6.0.2.

If you are installing into a clustered environment, use the WebSphere Administrative Console on the Domain Manager (DM) for all administrative console steps.

1. Locate the Rational Asset Manager Server EAR file. The installer places this file in *Rational Asset Manager install root/was*.
2. Launch the **WebSphere Administrative Console**.
3. Click **Applications**.
4. Click **Enterprise Applications**.

5. Click **Install**.
6. Type the path and file name of the Rational Asset Manager Server EAR file.
7. Click **Next** until you reach "Step 3. Map Resource References to Resources," or select this page from the navigation pane.
8. On the page titled "Step 3: Map Resource References to Resources," perform the following steps:
 - a. Under **JNDI names**, select **jdbc/RAM_Con** and click **Apply**.
 - b. Under **Specify Authentication Data Entry**, select **Use Default Method** and select **node_name/RAM_Con** from the pull down menu.
 - c. Click **Apply**.
 - d. Select both modules.
 - e. Click **Next**.
9. Click **Next** until you reach **Step 6. Summary**, or select this page from the navigation pane.
10. On the page titled "Step 6. Summary", click **Finish**.
11. When the installation of the EAR file finishes, click **Save to Master Configuration**.
12. Click **Save**.
13. Start the application.
 - a. In the navigation pane, click **Applications**.
 - b. Click **Enterprise Applications**.
 - c. Select the newly installed Rational Asset Manager application and click **Start**.
14. If Rational Asset Manager is accessed through the IIS or Apache server, perform the following steps; if Rational Asset Manager is accessed without a Web server front end, skip this step.
 - a. In the navigation pane, click **Servers**.
 - b. Click **Web Servers**.
 - c. Select the Web server name and click **Generate Plug-in**. (If the Web server plug-in has never been created, refer to Installing Web server plug-ins.)
 - d. Check the Web server name again and click **Propagate Plug-in**. This sends the plug-in to the Web server so that the Rational Asset Manager Server application can be referenced through the installed Web server.
15. Restart WebSphere Application Server and Web servers.
16. Use the following URLs to access Rational Asset Manager.
 - a. If you use a Web server, type `http://<machine_name>/com.ibm.ram.repository.web/home.faces`.
 - b. If you do not use a Web server, type `http://<machine_name>:13080/com.ibm.ram.repository.web/home.faces`. (If this URL does not work, use the port number for the Default Host defined in Virtual Hosts under Environment in the navigation pane.)
17. Configure the Rational Asset Manager server application. Refer to "Configuring the Rational Asset Manager server application" on page 48.

Installing Rational Asset Manager server on Tomcat

This section describes installing the Rational Asset Manager server application on an Apache Tomcat application server.

Deploying Rational Asset Manager on Apache Tomcat V5.1.5 or V5.5.17 connected to DB2

Rational Asset Manager can be installed manually on an existing installation of Apache Tomcat. These instructions are for deploying Rational Asset Manager on Tomcat V5.1.5 or V5.5.17.

Tomcat server must be installed and running.

1. Locate the Rational Asset Manager server WAR files. The installer places these files in *Rational Asset Manager install root/tomcat*

2. Start the Tomcat Manager: open <http://localhost:8080/manager/html..>
3. Configure Tomcat to access DB2.
 - a. Edit the `TOMCAT_INSTALL_PATH\conf\server.xml` file.
 - b. For the line in `server.xml` beginning `<Connector acceptCount="100"`, change the start of this line to `<Connector URIEncoding="UTF-8" acceptCount="100"`
 - c. Type the code below for the appropriate Tomcat level before the line `</GlobalNamingResources>` in the `server.xml` file.

Note: For the values *your_username* and *your_password*, use a userid and password that has access to the database. The values shown for "maxWait," "maxActive" and "maxIdle" are sample values and can be adjusted according to your performance needs.

For Tomcat V5.5.17, type:

```
<Resource name="jdbc/RAM_Con"
type="javax.sql.DataSource"
driverClassName="com.ibm.db2.jcc.DB2Driver"
username="your_username"
password="your_password"
url=" jdbc:db2://fully_qualified_server_name:db2_port_number/database_name "
poolPreparedStatements="true"
maxWait="5000"
maxActive="4"
maxIdle="2"/>
```

For Tomcat V5.0.28, type:

```
<Resource name="jdbc/RAM_Con" type="javax.sql.DataSource"/>
<ResourceParams name="jdbc/RAM_Con">
<parameter>
<name>driverClassName</name>
<value>com.ibm.db2.jcc.DB2Driver</value>
</parameter>

<parameter>
<name>username</name>
<value>your_username</value>
</parameter>
<parameter>
<name>password</name>
<value>your_password</value>
</parameter>

<parameter>
<name>url</name>
<value>jdbc:db2://fully_qualified_server_name:db2_port_number/database_name</value>
</parameter>

<parameter>
<name>poolPreparedStatements</name>
<value>true</value>
</parameter>

<parameter>
<name>maxWait</name>
<value>5000</value>
</parameter>
<parameter>
<name>maxActive</name>
<value>4</value>
</parameter>
<parameter>
```



```
<name>maxIdle</name>
<value>2</value>
</parameter>
</ResourceParams>
```

4. Configure Tomcat server for security.
 - a. Edit the file *Tomcat_install_path\conf\tomcat-users.xml*.
 - b. Add user IDs that are required for authentication.
5. Add the following JAR files to the *Tomcat_install_path\common\lib* folder:
 - bootstrap.jar
 - commons-beanutils.jar
 - commons-collections.jar
 - commons-digester.jar
 - commons-logging.jar
 - db2jcc_license_cu.jar
 - db2jcc.jar
 - emf.jar
 - jdbcmediator.jar
 - jsf-api.jar
 - jsf-impl.jar
 - jstl.jar
 - ras.jar
 - standard.jar
 - wccm_base.jar
 - wsexception.jar
6. Restart Tomcat server.
7. Install the Rational Asset Manager WAR files on Tomcat server:
 - a. Open Tomcat Manager (<http://localhost:8080/manager/html>) and log with the correct userID and password for administrator..
 - b. In the **WAR file to deploy** section at the bottom, browse to the downloaded WAR file.
 - c. Click **Deploy**.
 - d. Repeat the previous steps to deploy the second WAR file.
 - e. The WAR files are displayed in the list of applications
 - f. Open Rational Asset Manager using Tomcat (<http://localhost:8080/com.ibm.ram.repository.web/home.faces>) or through a Web server (http://Webserver_Name/com.ibm.ram.repository.web/home.faces).

Deploying Rational Asset Manager on Apache Tomcat v5.1.5 or v5.5.17 connected to Oracle

Rational Asset Manager can be installed manually on an existing installation of Apache Tomcat. These instructions are for deploying Rational Asset Manager on Tomcat V5.1.5 or V5.5.17.

Tomcat must be installed and running.

1. Locate the Rational Asset Manager Server WAR files. The installer places these files in *<Rational Asset Manager install root>/tomcat*.
2. Launch the Tomcat Manager: open <http://localhost:8080/manager/html>.
3. Configure Tomcat server to access Oracle.
 - a. Edit *TOMCAT_INSTALL_PATH\conf\server.xml* file.

- b. Copy the code below for the appropriate Tomcat level before `</GlobalNamingResources>` in the `server.xml` file.

Note: For the values *your_username* and *your_password*, use a userid and password that has access to the database. The values shown for "maxWait," "maxActive" and "maxIdle" are sample values and can be adjusted according to your performance needs.

For Tomcat server V5.5.17, type:

```
<Resource name="jdbc/RAM_Con"
type="javax.sql.DataSource"
driverClassName="oracle.jdbc.driver.OracleDriver"
username="your_username"
password="your_password"
url="jdbc:oracle:thin:@fully_qualified_machine_name:oracle_port_number:database_name"
poolPreparedStatements="true"
maxWait="5000"
maxActive="4"
maxIdle="2"/>
```

For Tomcat server V5.0.28, type:

```
<Resource name="jdbc/RAM_Con" type="javax.sql.DataSource"/>
<ResourceParams name="jdbc/RAM_Con">
<parameter>
<name>driverClassName</name>
<value>oracle.jdbc.driver.OracleDriver</value>
</parameter>

<parameter>
<name>username</name>
<name>username</name>
<value>your_username</value>
</parameter>
<parameter>
<name>password</name>
<value>your_password</value>
</parameter>

<parameter>
<name>url</name>
<value>jdbc:oracle:thin:@fully_qualified_machine_name:oracle_port_number:database_name</value>
</parameter>

<parameter>
<name>poolPreparedStatements</name>
<value>true</value>
</parameter>

<parameter>
<name>maxWait</name>
<value>5000</value>
</parameter>
<parameter>
<name>maxActive</name>
<value>4</value>
</parameter>
<parameter>
<name>maxIdle</name>
<value>2</value>
</parameter>
</ResourceParams>
```

4. Configure Tomcat server for security.
 - a. Edit *Tomcat_install_path*\conf\tomcat-users.xml.
 - b. Add user IDs that are required for authentication.

5. Add the following JAR file to the *Tomcat_install_path\common\lib* folder:
 - ojdbc14.jar
 - bootstrap.jar
 - commons-beanutils.jar
 - commons-collections.jar
 - commons-digester.jar
 - commons-logging.jar
 - emf.jar
 - jdbcmediator.jar
 - jsf-api.jar
 - jsf-impl.jar
 - jstl.jar
 - ras.jar
 - standard.jar
 - wccm_base.jar
 - wsexception.jar
6. Restart Tomcat.
7. Installing Rational Asset Manager WAR files on Tomcat
 - a. Open Tomcat Manager <http://localhost:8080/manager/html> with the correct userID and password for the administrator.
 - b. In the **WAR file to deploy** section at the bottom, browse to the downloaded WAR file.
 - c. Click **Deploy**.
 - d. Repeat the previous steps to deploy the second WAR file.
 - e. The WAR files appear on the list of applications.
 - f. Open a Rational Asset Manager Web client from Tomcat (<http://localhost:8080/com.ibm.ram.repository.web/home.faces>) or from a Web server (http://<Webserver_Name>/com.ibm.ram.repository.web/home.faces).

Deploying Rational Asset Manager on Apache Tomcat V5.1.5 or V5.5.17 connected to SQL Server 2005

Rational Asset Manager can be installed manually on an existing installation of Apache Tomcat. These instructions are for deploying Rational Asset Manager on Tomcat V5.1.5 or V5.5.17.

Tomcat server must be installed and running.

1. Locate the Rational Asset Manager Server WAR files. The installer places these files in *Rational Asset Manager install root/tomcat*.
2. Start the Tomcat Manager: open <http://localhost:8080/manager/html>.
3. Configure Tomcat server to access SQL Server.
 - a. Edit *TOMCAT_INSTALL_PATH\conf\server.xml* file.
 - b. Copy the code below for the appropriate Tomcat level before the line `</GlobalNamingResources>` in the *server.xml* file.

Note: For the values *your_username* and *your_password*, use a userid and password that has access to the database. The values shown for "maxWait," "maxActive" and "maxIdle" are sample values and can be adjusted according to your performance needs.

Type the following text for Tomcat server V5.5.17:

```
<Resource name="jdbc/RAM_Con"
type="javax.sql.DataSource"
driverClassName="com.microsoft.jdbc.sqlserver.SQLServerDriver"
```

```

username="your_username"
password="your_password"
url="jdbc:microsoft:sqlserver://fully_qualified_server_name:SQLServer_port_number:db_name"
poolPreparedStatements="true"
maxWait="5000"
maxActive="4"
maxIdle="2"/>

```

Type the following text for Tomcat server V5.0.28

```

<Resource name="jdbc/RAM_Con" type="javax.sql.DataSource"/>
<ResourceParams name="jdbc/RAM_Con">
<parameter>
<name>driverClassName</name>
<value>com.microsoft.jdbc.sqlserver.SQLServerDriver</value>
</parameter>

<parameter>
<name>username</name>
<value>your_username</value>
</parameter>
<parameter>
<name>password</name>
<value>your_password</value>
</parameter>

<parameter>
<name>url</name>
<value>jdbc:microsoft:sqlserver://fully_qualified_server_Name:SQLServer_port_number:
db_name</value>
</parameter>

<parameter>
<name>poolPreparedStatements</name>
<value>true</value>
</parameter>

<parameter>
<name>maxWait</name>
<value>5000</value>
</parameter>
<parameter>
<name>maxActive</name>
<value>4</value>
</parameter>
<parameter>
<name>maxIdle</name>
<value>2</value>
</parameter>
</ResourceParams>

```

4. Configure Tomcat server for security.
 - a. Edit *Tomcat_install_path*\conf\tomcat-users.xml.
 - b. Add user userIDs that are required for authentication.
5. Add the following JAR files to the *Tomcat_install_path*\common\lib folder:
 - sqljdbc.jar
 - bootstrap.jar
 - commons-beanutils.jar
 - commons-collections.jar

- commons-digester.jar
 - commons-logging.jar
 - emf.jar
 - jdbcmediator.jar
 - jsf-api.jar
 - jsf-impl.jar
 - jstl.jar
 - ras.jar
 - standard.jar
 - wccm_base.jar
 - wsexception.jar
6. Restart Tomcat.
 7. Install Rational Asset Manager WAR files on Tomcat.
 - a. Open TomCat Manager (<http://localhost:8080/manager/html>) with the correct userID and password for administrator.
 - b. In the **WAR file to deploy** section at the bottom, browse to the downloaded WAR file.
 - c. Click **Deploy**.
 - d. Repeat for deploying the second WAR file.
 - e. WAR files will appear on the list of applications
 - f. Open Rational Asset Manager using TomCat at <http://localhost:8080/com.ibm.ram.repository.web/home.faces>, or using a Web server http://Webserver_Name/com.ibm.ram.repository.web/home.faces.

Enabling artifact content indexing for Linux and AIX

To enable artifact content indexing on Linux and AIX, you must add the Stellent files to your library path environment variable LD_LIBRARY_PATH (for Linux) or LIBPATH (for AIX)..

The Stellent files are located in the following directories, depending on which application you used for installing Rational Asset Manager server:

- Embedded WebSphere Application Server V6.1: *RAM_install_directory/ram/ewas/profiles/appServerName/installedApps/node/RAM1WebApplication.ear/com.ibm.ram.repository.web.ws.was.war/WEB-INF/classes/oiexport/*
- WebSphere Application Server: *appServer_install_directory/profiles/appServerName/installedApps/node/RAM1WebApplication.ear/com.ibm.ram.repository.web.ws.was.war/WEB-INF/classes/oiexport/*
- Apache Tomcat: *appServer_install_directory/com.ibm.ram.repository.web.ws.tomcat_runtime.war/WEB-INF/classes/oiexport/*

If you do not modify your library path variable to enable content in, you typically see an error on the Rational Asset Manager status page indicating that artifact indexing has been turned off.

To add update your library variable:

1. Consult your shell's man page for specific details on how to set environment variables. For example, in the Bash shell, enter the command `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:path for WebSphere Application Server or Tomcat path shown above`.
2. After you update the environment variable, restart the Rational Asset Manager server.

Enabling content indexing to run for non-root users (Linux and AIX)

If you must run WebSphere Application Server or Apache Tomcat as a non-root user, then set the appropriate exporter permission on the directory that contains the files for Stellent content indexing.

To set exporter permission:

1. Log in as root.
2. In a command line, change to the directory of the Stellent content indexing files described in “Enabling artifact content indexing for Linux and AIX” on page 47.
3. Type the following command: `chmod 755 exporter`.

Installing Rational License Server

Rational Asset Manager server requires the Rational License Server to distribute license keys to clients.

IBM Rational License Server is included with the Rational Asset Manager installation media.

- For Windows: Use Rational License Server for Windows 7.0.1.
- For AIX and Linux: Use Rational License Server for UNIX and Linux 7.0.0.1.

If you are using Rational License Server 7.0 or prior on any platform, you will need to upgrade to the Rational License Server for Windows 7.0.1 or the Rational License Server for UNIX and Linux 7.0.0.1. Rational License Server 7.0.1 and 7.0.0.1 are fully compatible with your previously installed license keys and will continue to service your existing client machines.

IBM has made the Rational License Server for Windows 7.0.1 available to you in your media pack and in your Passport Advantage account for electronic download. The Rational License Server for UNIX and Linux 7.0.0.1 is available in your Passport Advantage account for electronic download.

For details about installing Rational License Server V7.0.1, see the *IBM Rational License Management Guide* at http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/rcl/701/docs/install_instruction/install.html. To get the latest release notes for the License Server v7.0.1, see <http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/rcl/701/docs/readme/readme.html>.

For details about installing Rational License Server V7.0.0.1, see the *IBM Rational License Management Guide* at http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/rcl/7001/docs/install_instruction/license_admin.pdf. To get the latest release notes for the License Server v7.0.0.1, see <http://download.boulder.ibm.com/ibmdl/pub/software/rationalsdp/v7/rcl/701/docs/readme/readme.html>.

For instructions on configuring Rational Asset Manager server to communicate with the license server, see the topic “Specifying the license server path” on page 49.

For more information on Rational licensing and to get your Rational Asset Manager license keys, see the Rational licensing support page at <http://www-306.ibm.com/software/rational/support/licensing/>.

Configuring the Rational Asset Manager server application

To finalize configuration of the Rational Asset Manager server application, perform the following steps:

1. Use the following URL to access the Rational Asset Manager server application: `http://machine_name:9080/com.ibm.ram.repository.web/home.faces`. (If this URL does not work, use the port number for the Default Host defined in Virtual Hosts under Environment in the navigation pane.)
2. Log in using the word **admin** for both the **User ID** and **Password**.
3. Follow the steps in the topic “Specifying the documentation path” on page 49.

4. Follow the steps in the topic "Specifying the license server path."
5. Click on the **Help** link. (If the help system does not open, check that you included the documentation when you installed Rational Asset Manager server.)
6. In the navigation pane, expand the section "Administering the repository," then "Configuring repository settings."
7. Complete the remaining topics in the section entitled "Post-installation configuration." Additional steps that may be needed, depending on your configuration, are included in the section entitled "Optional configuration."

Specifying the documentation path

Specify the location of the help and documentation Web application. If this setting is not correct, context-sensitive help and online documentation will not be available for the Rational Asset Manager Web application.

1. In the Rational Asset Manager Web client, Locate the Documentation Path section on the Configuration page.
2. If the help and documentation Web application is on the same server as the server application, check **Use default**. Otherwise, clear the **Use default** check box and type the URL to the server where the help Web application is installed; for example, `http://www.example.com:8080/help`.
3. Click **Save**.

Specifying the license server path

You must configure the path to the license server. The Rational Asset Manager server needs to know the name of the license server and the TCP/IP port to use to communicate with it.

The number of licenses available dictates the number of users that can be simultaneously logged in to the Web application.

1. Type the port number, then the full name of the license server, separated by '@'. For example, `8010@license_server_path`. If you have multiple license servers, separate multiple entries with commas. For example, `27000@license_server_path_a.example.com, 27000@license_server_path_b.example.com, 27777@license_server_path_c.example.com`.
2. Click **Save**.

Configuring for performance

.An important administrator's responsibility is to ensure the best possible performance for users, regardless of the number of concurrent users or the number of assets in the repository. This section presents some of the settings that can be changed for the application server, Web server, and databases that might help improve response times. Only general guidance can be provided, and administrators must take care to understand the ramifications of altering any particular setting prior to implementing a change.

WebSphere Application Server

Table 4. Settings in WebSphere Application Server Administrative Console

Setting	Guidance
Minimum and Maximum JVM Heap Size	Increasing these values from the default to closer to the maximum allowable values for your operating system and hardware configuration might improve performance.
Performance Monitoring Infrastructure (PMI)	Disabling PMI in WebSphere Application Server may improve performance.
Thread Pools	Increasing the Default and WebContainer minimum and maximum thread pool counts from the default might improve performance.
Maximum Connection Pools	Increasing the maximum number of connection pools from the default might improve performance.

DB2

The settings that are listed in this table are set in the DB2 Control Center, where you configure parameters for a particular database. In general, setting DB2 to manage these parameters (by setting them to "Set Automatically by DB2") as needed according to user load might improve performance.

Table 5. Settings in DB2 Control Center

Setting
MAXAPPLS
MAXLOCKS
APP_CTLHEAP_SZ
DATABASE_MEMORY
DFT_PREFETCH_SZ
LOGFILSIZ
LOCKLIST
NUM_IOCLEANERS
NUM_IOSERVERS
SHEAPTHRES_SHR
SORTHEAP

Also, increasing the following global settings from their default values might improve performance.

Table 6.

Setting
MAXAGENTS
MAXCAGENTS
MAX_CONNECTIONS
MAX_COORDAGENTS
MAX_QUERYDEGREE

Web Server

The settings listed in this table are set in the httpd.conf file for the HTTP server. Increasing them from the default values may improve performance.

Table 7.

Setting
ThreadLimit
ThreadsPerChild

Also, change the CustomLog setting so that the logs are rotated; for example, CustomLog "|D:/Program\ Files/IBM/HTTPServer/bin/rotatelog.exe D:/Program\ Files/IBM/HTTPServer/logs/access.log 5M" common

For more information on configuring performance in Rational Asset Manager server, see the online help.

Installing the Rational Asset Manager Eclipse Client

This section describes how to install the Rational Asset Manager Eclipse client application.

You can install the Rational Asset Manager Eclipse Client by the following methods:

- If you have an existing Eclipse integrated development environment (IDE) installed on your computer, then you can use Eclipse update manager to find and install the Rational Asset Manager Eclipse client plug-ins from a Rational Asset Manager server.
- If you do not have an existing Eclipse IDE, then you can install the Eclipse client from the Rational Asset Manager installation media. Note that you can also install the Eclipse client into an existing Eclipse IDE by this method.

Installing Rational Asset Manager Eclipse client using Eclipse update manager

This topic presents how to install the Rational Asset Manager Eclipse client into an existing version of Eclipse using Eclipse update manager.

Your Eclipse IDE must meet the software requirements before you can install the Rational Asset Manager Eclipse client into it. See “Software requirements” on page 5 for detailed requirements. You must also know the URL for accessing the Rational Asset Manager server using the Web client.

1. Start Eclipse.
2. Click **Help** → **Software Updates** → **Find and Install**.
3. In the Install/Update pane, select **Search for new features to install**.
4. Click **New Remote Site**.
5. Provide the Update site details:
 - a. Type a name for the new entry; for example, type Rational Asset Manager.
 - b. Open the Rational Asset Manager Web client and click **Extensions** in the header or footer of the application.
 - c. On the Extensions page in the **Eclipse Client Plug-in** section, copy the URL listed next to **Update site** and paste it into the **URL** field.
6. Click **OK**.
7. Select the new Rational Asset Manager site.
8. Accept the license agreement and click **Next**.
9. Click **Finish**.
10. Click **Install All**.

To verify that the installation was successful, open the Asset Management perspective; click **Window** → **Open Perspective** → **Other** and then select **Asset Management** from the list. Click **OK**.

Installing IBM Rational Asset Manager Eclipse client using the IBM Installation Manager graphical interface

The following steps describe how to install the IBM Rational Asset Manager Eclipse client package with the Installation Manager GUI.

Depending on the installation scenario that you are following, the Installation Manager Install Packages wizard might start automatically. (For example, if you are installing from CDs). In other scenarios, you will need to start the wizard.

1. Start the Rational Asset Manager launchpad program (see “Installing from the launchpad program” on page 15) and then select **IBM Rational Asset Manager**. If Installation Manager is not already installed, follow the steps in the installation wizard to complete the installation. The Install Packages wizard opens.
2. The Install page of Install Packages wizard lists all the packages found in the repositories that Installation Manager searched.
3. To search for updates to the IBM Rational Asset Manager package, click **Check for updates**.
4. Select the **Rational Asset Manager client** and any updates to the package that you want to install. Updates that have dependencies are automatically selected and cleared together. Click **Next** to continue.

Note: If you install multiple packages at the same time, then all the packages will be installed into the same package group.

5. On the Licenses page, read the license agreement for the selected package. If you selected more than one package to install, there might be a license agreement for each package. On the left side of the **License** page, click each package version to display its license agreement. The package versions that you selected to install (for example, the base package and an update) are listed under the package name.
 - a. If you agree to the terms of all of the license agreements, click **I accept the terms of the license agreements**.
 - b. Click **Next** to continue.
6. If you are installing the first package on this computer, then on the Location page, type the path for the *shared resources directory* in the **Shared Resources Directory** field; or accept the default path. The shared resources directory contains resources that can be shared by one or more package groups. Click **Next** to continue.

The default path is:

- For Windows: C:\Program Files\IBM\SDP70Shared
- For Linux: /opt/IBM/SDP70Shared

Important: You can specify the shared resources directory only the first time that you install a package. Use your largest disk for this to help ensure adequate space for the shared resources of future packages. You cannot change the directory location unless you uninstall all packages.

7. On the Location page, either choose an existing *package group* to install the IBM Rational Asset Manager Eclipse client package into, or create a new one. A package group represents a directory in which packages share resources with other packages in the same group. To create a new package group:
 - a. Click **Create a new package group**.
 - b. Type the path for the installation directory for the package group. The name for the package group is created automatically.

The default path is:

 - For Windows: C:\Program Files\IBM\SDP70
 - For Linux: /opt/IBM/SDP70
 - c. Click **Next** to continue.
8. On the next Location page, you can choose to extend an existing Eclipse IDE already installed on your system, adding the functionality in the packages that you are installing.
 - If you do not want to extend an existing Eclipse IDE, click **Next** to continue.
 - To extend an existing Eclipse IDE:

- a. Select **Extend an existing Eclipse**.
 - b. In the **Eclipse IDE** field, type or navigate to the location of the folder containing the eclipse executable file (eclipse.exe or eclipse.bin). Installation Manager will check if the Eclipse IDE version is valid for the package that you are installing. The **Eclipse IDE JVM** field displays the Java Virtual Machine (JVM) for the IDE that you specified.
 - c. Click **Next** to continue.
9. On the Features page under **Languages**, select the languages for the package group. The corresponding national language translations for the user interface and documentation for the IBM Rational Asset Manager package will be installed. Note that your choices apply to all packages installed under this package group.
10. On the next Features page, click **Next**. Note that the one feature for IBM Rational Asset Manager cannot be cleared.
11. On the Summary page, review your choices before installing the IBM Rational Asset Manager package. If you want to change the choices that you made on previous pages, click **Back** and make your changes. When you are satisfied with your installation choices, click **Install** to install the package. A progress indicator shows the percentage of the installation completed.
12. When the installation process is complete, a message confirms the success of the process.
 - a. Click **View log file** to open the installation log file for the current session in a new window. You must close the Installation Log window to continue.
 - b. In the Install Package wizard, select whether you want IBM Rational Asset Manager client to start when you exit.
 - c. Click **Finish** to launch the selected package. The Install Package wizard closes and you are returned to the Start page of Installation Manager.

Installing silently

You can install a product package by running Installation Manager in silent installation mode. When you run Installation Manager in silent mode, the user interface is not available; instead, Installation Manager uses a response file to input the commands that are required to install the product package.

Running Installation Manager in silent mode is helpful because it enables you to use a batch process to install, update, modify and uninstall product packages through scripts.

Note: For Rational Asset Manager, only the Eclipse client can be installed silently.

Note that you must install Installation Manager before you can silently install a package.

There are two main tasks required for silent installation:

1. Create the response file.
2. Run Installation Manager in silent installation mode.

For details on creating a response file and running Installation Manager in silent mode, see the Installation Manager online help.

Uninstalling Rational Asset Manager

The Uninstall Packages option in the Installation Manager enables you to uninstall packages from a single installation location. You can also uninstall all the installed packages from every installation location.

To uninstall the packages, you must log in to the system using the same user account that you used to install the product packages.

Note: If you are uninstalling Rational Asset Manager server, Installation Manager will only remove the files that it installed. If you installed the Rational Asset Manager server manually on an application server, then you must uninstall it manually.

To uninstall the packages:

1. Close the programs that you installed using Installation Manager.
2. If you are uninstalling Rational Asset Manager server on embedded WebSphere Application server, then stop the server. For example, run the `stopServer.bat server1` from a command prompt in the `WAS_PROFILE/bin` folder.
3. On the Start page click **Uninstall Packages**.
4. In the Uninstall Packages page, select the Rational Asset Manager product package that you want to uninstall. Click **Next**.
5. In the Summary page, review the list of packages that will be uninstalled and then click **Uninstall**. The Complete page is displayed after the uninstallation finishes.
6. Click **Finish** to exit the wizard.

Working with IBM Installation Manager

This section deals with some common tasks relating to IBM Installation Manager. For more information, see the Installation Manager online help.

Installing Installation Manager on Windows

If you start the installation of your product from the launchpad program, then the installation of IBM Installation Manager is started automatically if it is not already installed on your workstation. (For more information on this process, refer to “Installing from the launchpad program” on page 15.) In other cases, you must manually start the installation of Installation Manager.

To start the installation of Installation Manager manually:

1. Run `setup.exe` from the `InstallerImager_win32` folder on the first installation disk.
2. Click **Next** on the Welcome screen.
3. Review the license agreement on the License Agreement page and select **I accept the terms in the license agreement** to accept. Click **Next**.
4. Click the **Change** button on the Destination Folder page to change the installation location if required. Click **Next**.
5. Click **Next** on the Setup Type page.
6. Click **Install** on the Ready to Install Program page. The Completed page opens after the installation is complete.
7. Click **Finish**.

Installing Installation Manager on Linux

IBM Installation Manager is installed by the launchpad. For more information on this process, refer to “Installing from the launchpad program” on page 15.

To install Installation Manager manually:

1. Open a terminal window with root user privileges.
2. Run `setupLinux.bin` from the `InstallerImager_linux` folder on the first installation disk.
3. Click **Next** on the Welcome screen.
4. Review the license agreement on the License Agreement page and select **I accept the terms in the license agreement** to accept. Click **Next**.
5. If necessary, edit the installation directory location. Click **Next**.
6. Click **Install** on the information summary page.
7. Click **Finish** on the InstallShield Wizard Completed page.

Starting Installation Manager on Windows

IBM Installation Manager should be started from the launchpad program. Doing so starts Installation Manager with a configured repository preference and selected Rational Asset Manager packages. If you start Installation Manager directly, then you must set a repository preference and choose product packages manually.

To start Installation Manager manually:

1. Open the **Start** menu from the **Taskbar**.
2. Select **All Programs** → **IBM Installation Manager** → **IBM Installation Manager**.

Starting Installation Manager on Linux

IBM Installation Manager should be started from the launchpad program. Doing so starts the Installation Manager with a configured repository preference and selected Rational Asset Manager packages. If you start Installation Manager directly, then you must set repository preference and choose product packages manually.

To start Installation Manager manually:

1. Open a terminal window with root user privileges.
2. Run `/opt/IBM/InstallationManager/launcher_shortcut`.

Uninstalling Installation Manager on Windows

To uninstall Installation Manager manually:

1. Run `setup.exe` from the `InstallerImager_win32` folder on the first installation disk.
2. Click **Next** on the Welcome screen.
3. Select the **Remove** button on the Program Maintenance page. Click **Next**.
4. Click **Next** on the Setup Type page.
5. Click **Remove** on the Remove the Program page.
6. Click **Finish** on the InstallShield Wizard Completed page.

Note: You can also uninstall Installation Manager by using the Control Panel. Click **Start** → **Settings** → **Control Panel**, and then double-click **Add or Remove Programs**. Select the entry for IBM Installation Manager and click **Remove**.

Uninstalling Installation Manager on Linux

IBM Installation Manager must be uninstalled using the package management tool that is included with your Linux version.

To uninstall Installation Manager manually on Linux:

1. Open a terminal window with root user privileges.
2. Change directory to the installation directory of Installation Manager (by default, `/opt/IBM/InstallationManager`) and then change to `_uninst`.
3. Run `.uninstaller.bin`.

IBM Packaging Utility

Use IBM Packaging Utility software to copy product packages to a repository that can be placed on a Web server available over HTTP or HTTPS.

Packaging Utility software is located on the Auxiliary CD for each platform (Windows and Linux) that is included with Rational Asset Manager. If you want to place a repository that contains a Rational Asset Manager package on a Web server that will be available over HTTP or HTTPS, you must use Packaging Utility to copy the product package of Rational Asset Manager into the repository.

Use this utility to perform the following tasks:

- Generate a new repository for product packages.
- Copy product packages to a new repository. You can copy multiple product packages into a single repository, thereby creating a common location for your organization from which product packages can be installed using IBM Installation Manager.
- Delete product packages from a repository.

Refer to the online help for Packaging Utility for full instructions using the tool.

Installing Packaging Utility

IBM Packaging Utility must be installed from the Auxiliary CD before it can be used to copy the Rational Asset Manager product package.

Use the following steps to install IBM Packaging Utility software from the Auxiliary CD:

1. Navigate to the Auxiliary CD for the appropriate platform.
2. Extract the Packaging utility installation files from the compressed file (pu.disk_*platform*.zip) in the PackagingUtility directory.
3. Locate the Packaging Utility installation files.
 - For Windows: Change to the PackagingUtility directory on the Auxiliary CD for Windows. (If you downloaded an electronic image, change to the AuxCD-Windows\PackagingUtility directory.)
 - For Linux: Change to the PackagingUtility directory on the Auxiliary CD for Linux. (If you downloaded an electronic image, change to the AuxCD-Linux/PackagingUtility directory.)
4. Extract the Packaging Utility installation files into a single directory. Ensure that you preserve the directory structure of the compressed files.
 - For Windows: Extract the contents of the pu.disk_win32.zip file.
 - For Linux: Extract the contents of the pu.disk_linux.zip file.
5. Change to the directory where you extracted the Packaging Utility installation files and start the installation program.
 - For Windows: Run install_win32.exe.
 - For Linux: Run install_linux.bin.
6. If IBM Installation Manager is not detected on your workstation, you are prompted to install it and then the installation wizard starts. Follow the on-screen instructions in the wizard to complete the installation of Installation Manager.
7. When the installation of Installation Manager completes, or if it is already on your computer, Installation Manager starts and automatically begins the Install Packages wizard.
8. Follow the on-screen instructions in the Install Packages wizard to complete the installation.

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