

Rational Integration Tester Platform Pack



Installation Guide

Version 8.0.0



Note

Before using this information and the product it supports, read the information in “Notices” on page 45.

This edition applies to version 8.0.0 of Rational Integration Tester Platform Pack and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

About this Publication.....	v
Intended Audience.....	vi
Scope	vi
Typographical Conventions.....	vi
Contacting IBM Support	vi
 Before Installing the Rational Integration Tester Platform Pack.	 1
Introduction	2
HTTP/TCP Proxy	3
Hardware Requirements	3
Software Requirements.....	3
Installation Planning	4
JDBC Proxy	5
Hardware Requirements	6
Software Requirements.....	7
Installation Planning	9
 Installing the Rational Integration Tester Platform Pack.....	 11
Installing on Windows or Linux/Unix.....	12
Starting the Launchpad.....	12
Starting Installation from the Setup Disk.....	13
Installing the Product Software.....	14
 After Installing the Rational Integration Tester Platform Pack	 19
HTTP/TCP Proxy	20
Setting Up the Proxy for Use	20
Verifying Deployment.....	28

JDBC Proxy	29
Deploying the Proxy	29
Setting Up the Proxy for Use	39
Verifying Deployment.....	43
Glossary	44
Notices	45
Trademarks and service marks	48

About this Publication

Contents

Intended Audience

Scope

Typographical Conventions

Contacting IBM Support

This guide describes how to install and configure components of the IBM® Rational® Tester Platform Pack.

Intended Audience

This document is intended for users who understand how to install commercial software on Microsoft Windows and Linux- and UNIX-based operating systems.

Scope

This document describes how to and configure the IBM Rational Integration Tester Platform Pack.

Typographical Conventions

The following typographical conventions are observed throughout this document:

Type	Usage
Constant Width	Program output, listings of code examples, file names, commands, options, configuration file parameters, and literal programming elements in running text.
<i>Italic</i>	Document title names in statements that refer you to other documents. Also used to highlight concepts when first introduced.
Bold	Menu items in graphical user interface windows (such as Microsoft Windows-based or UNIX X Window applications) from which you select options or execute macros and functions. Submenus and options of a menu item are indicated with a “greater than” sign, such as Menu > Submenu or Menu > Option .

Contacting IBM Support

To contact IBM Support, see: www.ibm.com/contact/us/en/

Before Installing the Rational Integration Tester Platform Pack

Contents

[Introduction](#)

[HTTP/TCP Proxy](#)

[JDBC Proxy](#)

This chapter describes the hardware, software, and installation planning requirements of the components of the Rational Integration Tester Platform Pack.

1.1 Introduction

The Rational Integration Tester Platform Pack contains components that are designed to assist with the testing and virtualization of services based on specific technologies.

Specifically, the components enable the recording of services and virtualization with the minimum of client configuration. They also enable Rational Integration Tester to configure an environment to switch messages automatically between live and stubbed versions of those services.

1.2 HTTP/TCP Proxy

The Rational Integration Tester HTTP/TCP Proxy can proxy/route both HTTP(S) and general TCP traffic.

The following sections outline hardware, software, and installation planning requirements of the HTTP/TCP Proxy.

1.2.1 Hardware Requirements

The HTTP/TCP Proxy does not have any special hardware requirements. However, it must be installed on a computer that can communicate with both client applications and server applications.

For information about Rational Integration Tester hardware requirements, refer to *IBM Rational Integration Tester Installation Guide*. For information about Rational Test Control Panel hardware requirements, refer to *IBM Rational Test Control Panel Installation Guide*.

1.2.2 Software Requirements

The following table outlines IBM Rational software requirements for the HTTP/TCP Proxy.

Requirement	Mandatory/ Optional/ Conditional	Description
Rational Integration Tester	Mandatory	The HTTP/TCP Proxy can be used only with Rational Integration Tester 8.0.0 (or later). For information about Rational Integration Tester software requirements, refer to <i>IBM Rational Integration Tester Installation Guide</i> .
Rational Test Control Panel	Mandatory	The HTTP/TCP Proxy can be used only with Rational Test Control Panel 8.0.0 (or later). For information about Rational Test Control Panel software requirements, refer to <i>IBM Rational Test Control Panel Installation Guide</i> .

Deploying the HTTP/TCP Proxy will necessitate configuring any client applications (or the application servers on which they run) that make HTTP(S) or TCP requests to communicate by means of the proxy. Most HTTP(S)-based applications have configuration settings to configure a proxy. For TCP-proxying, the requirement is to be able to change the server and port with which a client application communicates.

IBM has tested successfully the application servers listed in the following table as clients of the HTTP/TCP Proxy for HTTP traffic. That is, IBM was able to configure the software to route HTTP traffic through the HTTP/TCP Proxy.

Application Server Software	Versions Tested
Apache Tomcat	5.x, 6.x
IBM WebSphere® Application Server	6.1.x, 7.x, 8.x
Oracle WebLogic	10.3
Software AG webMethods Integration Server	8.x
TIBCO BusinessWorks	5.x

1.2.3 Installation Planning

Before deploying the HTTP/TCP Proxy, it is important to consider the following:

- Network segments.
- The proximity of the HTTP/TCP Proxy to client and server applications because all traffic will go from client application(s) to the proxy and then to the server application(s).
- Systems that use HTTPS are sometimes locked-down to accept communications only from a particular source, so this might force the location of the HTTP/TCP Proxy to be the same as the client application(s).

1.3 JDBC Proxy

The Rational Integration Tester JDBC Proxy enables Rational Integration Tester to:

- Record SQL executed against databases from applications that use JDBC.
- Create and edit database stubs.

Database stubs contain subsets of data from a “live” (production) database. The contents of the stubs are built by analyzing an application’s use of SQL against the live database.

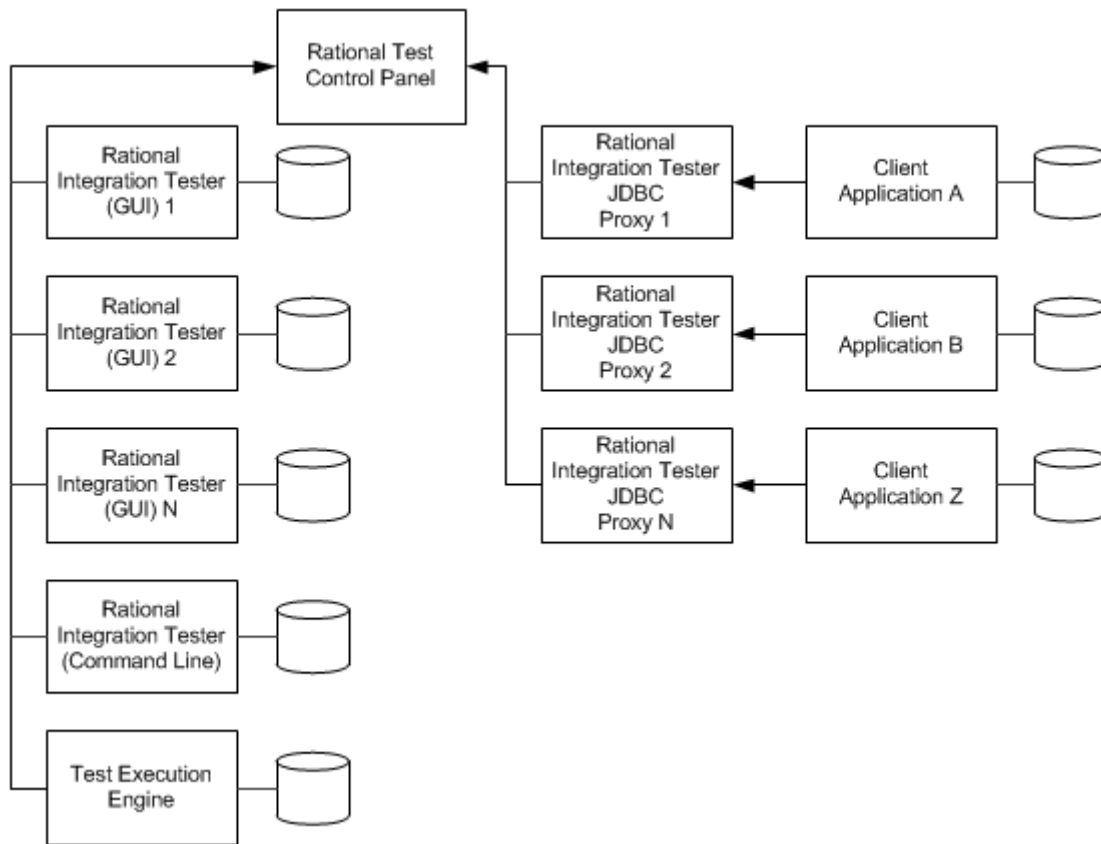
NOTE: Users of Rational Tester Virtualization Server (which is a separately licensed product) can publish database stubs to Rational Test Control Panel and run those stubs on Agents.

- Start a database stub.

Starting a stub loads the stub data into a simulation database and transparently redirects the application to that simulation database.

Therefore, users can test JDBC applications in a more deterministic manner.

Each configured JDBC Proxy must be registered with Rational Test Control Panel. The following diagram shows an example network configuration.



The following sections outline hardware, software, and installation planning requirements of the JDBC Proxy.

1.3.1 Hardware Requirements

The JDBC Proxy does not have any special hardware requirements.

For information about Rational Integration Tester hardware requirements for Rational Integration Tester, refer to *IBM Rational Integration Tester Installation Guide*. For information about Rational Test Control Panel hardware requirements, refer to *IBM Rational Test Control Panel Installation Guide*.

1.3.2 Software Requirements

The following table outlines IBM Rational software requirements for the JDBC Proxy.

Requirement	Mandatory/ Optional/ Conditional	Description
Rational Integration Tester	Mandatory	For information about Rational Integration Tester software requirements, refer to <i>IBM Rational Integration Tester Installation Guide</i> .
Rational Test Control Panel	Mandatory	A correctly installed and configured Rational Test Control Panel is required for recording SQL and for stubbing databases. For information about Rational Test Control Panel software requirements, refer to <i>IBM Rational Test Control Panel Installation Guide</i> .
Rational Test Virtualization Server	Conditional	Rational Test Virtualization Server is required if database stubs are to be published for use outside Rational Integration Tester.

The following table lists application server software versions tested against the JDBC Proxy. Other versions not listed may also work with the driver.

Application Server Software	Versions Tested
Apache Tomcat	5.x, 6.x
IBM WebSphere Application Server	6.1.x, 7.x, 8.x
Oracle WebLogic	10.3
Software AG webMethods Integration Server	8.x
	NOTE: Although the JDBC Proxy can work with the standard JDBC drivers supplied with webMethods Integration Server (WMIS), it cannot work with the Progress DataDirect Connect JDBC driver that is supplied with WMIS. However, the JDBC Proxy can work with Progress DataDirect Connect JDBC drivers that are not supplied with WMIS.
TIBCO BusinessWorks	5.x

Application Server Software	Versions Tested
Java Runtime Environment (JRE)	Irrespective of the application server software used, it is recommended that JRE 1.6 (or later) is used on any clients or servers that are connected to a JDBC Proxy.
	NOTE: At a minimum, JRE 1.5 must be used.

The following table lists the database management system (DBMS) software versions tested against the JDBC Proxy. Other versions not listed may also work with the driver. It is also possible that other DBMS software not listed in the table may work with the JDBC Proxy.

DBMS Software	Versions Tested
IBM DB2®	9.x
Microsoft SQL Server	SQL Server 2008
MySQL	5.x
Oracle	10g, 11g, Express Edition

For information about Rational Integration Tester software requirements in general, refer to *IBM Rational Integration Tester Installation Guide*.

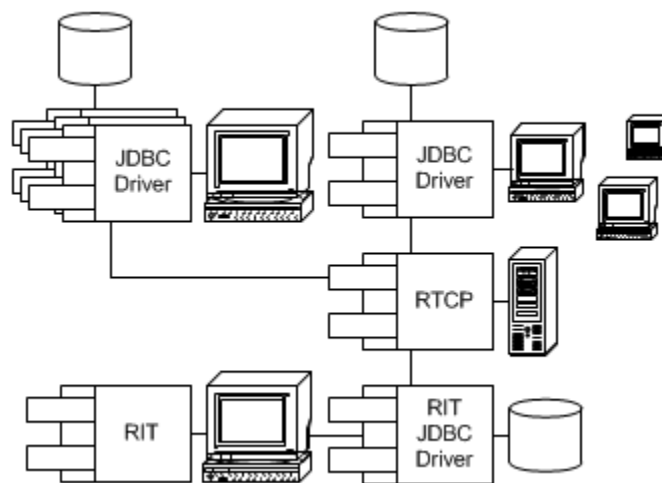
1.3.3 Installation Planning

Before installing and configuring the JDBC Proxy, it is important to determine which live databases are to be stubbed and whether there are any database schema or data source requirements.

The following sections describe these tasks.

1.3.3.1 Determining Live Databases for Stubbing

You must identify in advance the live databases that you want to stub. Consider the deployment scenario illustrated in the following diagram.



For each live database that is to be stubbed, you must determine which standalone and hosted applications use JDBC to access that database. If an application that uses JDBC to access the database is a standalone application, the JDBC Proxy will need to be installed in each application. However, if an application that uses JDBC to access the database is a hosted application, the JDBC Proxy will need to be installed only on the application servers that host them, not in the applications.

Rational Integration Tester does not have to be connected to any of the other applications that use JDBC to access the live database. Instead, as each driver starts up, it registers with the Rational Test Control Panel. Rational Integration Tester and the Rational Test Control Panel dashboard are then used to control recording and stubbing.

1.3.3.2 Determining Database Schema Requirements

To stub a database, you must have a second schema (a “simulation schema”) in the **same version** of the DBMS software as the live database. This simulation schema can be another schema on the same database server or on a different server but the software version numbers **must** match.

NOTE: This second schema is not required if you are planning to use the driver only to record SQL.

A database administrator (DBA) must use tools supplied with the DBMS to create the any required simulation schemas and must provide the login details to any Rational Integration Tester/Rational Test Virtualization Server users who will use the JDBC Proxy.

NOTE: The login details must be for a user with sufficient privileges to administer the database, in particular the rights to create new tables.

1.3.3.3 Determining Data Source Requirements

If you are using IBM WebSphere Application Server or Oracle WebLogic, before you can create and configure a data source for SQL recording and/or database stubbing, you must do the following:

1. Set up a data source for each logical database configured in Rational Integration Tester because a data source is needed for each simulation database.
2. Ensure that each data source remains synchronized with the simulation database settings for the physical database resource.

For information about using Rational Integration Tester to create and configure DB2 data sources and other data sources for SQL recording and/or database stubbing, refer to [Creating and Configuring Data Sources \(WAS Installations Only\)](#).

Installing the Rational Integration Tester Platform Pack

Contents

[Installing on Windows or Linux/Unix](#)

This chapter describes how to install the Rational Integration Tester Platform Pack components on Microsoft Windows and Linux/Unix systems.

2.1 Installing on Windows or Linux/Unix

You can install Rational Integration Tester Platform Pack components as part of either of the following offerings:

- IBM Rational Test Workbench
- IBM Rational Test Virtualization Server

For information about installing these offerings, refer to the Rational Test Workbench or Rational Test Virtualization Server installation guide in the launchpad documentation folder on the Setup disk.

The Setup disk includes the launchpad program, which provides you with a single location to start the installation process.

Use the launchpad program to start the installation of software in these cases:

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

2.1.1 Starting the Launchpad

To install the product, start the launchpad program.

Depending on the source of the product installation, follow one of these procedures to start the launchpad program.

If you are installing from the CDs, complete these steps:

1. Insert the Setup CD into your CD drive.
2. On Linux/Unix, mount the CD drive
3. If autorun is enabled on your computer, the launchpad program starts automatically. If the launchpad does not start automatically, complete one of these steps:
 - On Windows, run the `launchpad.exe` command, which is located in the root directory of the CD.
 - On Linux/Unix, run the `launchpad.sh` file, which is located in the root directory of the CD.

If you are installing from electronic disks that you downloaded from IBM Passport Advantage®, open a command line, and change to the directory where you extracted the disk images; and then at the command prompt, complete one of these steps:

For the Rational Test Workbench offering:

- On Windows, enter **RTW_SETUP\launchpad.exe**.
- On Linux/Unix, enter **RTW_SETUP/launchpad.sh**.

For the Rational Test Virtualization Server offering:

- On Windows, enter **RTVS_SETUP\launchpad.exe**.
- On Linux/Unix, enter **RTVS_SETUP/launchpad.sh**.

The launchpad program starts.

2.1.2 Starting Installation from the Setup Disk

To install Rational Integration Tester Platform Pack as a non-administrator, you must manually run the userinst program from the Setup disk instead of running the launchpad program. Running the userinst program provides the same functions as starting the product installation from the launchpad.

Depending on the source of your product installation, complete one of these procedures to install the product.

If you are installing from the CDs, follow these steps:

1. Insert the Setup CD into your CD drive.
2. On Linux/Unix, mount the CD drive.
3. If autorun is enabled on your computer, the launchpad program starts automatically. Stop the launchpad program.
4. In a command line, change to the root of the Setup disk, and complete one of these steps:
 - On Windows, as an administrator, enter **InstallerImage_win32\install.exe**.
 - On Windows, as a non-administrator enter **InstallerImage_win32\userinst.exe**.
 - On Linux/Unix, as a non administrator, enter **InstallerImage_linux/install**.
 - On Linux/Unix, as an administrator, enter **InstallerImage_linux/userinst**.

If you are installing from electronic disks that you downloaded from Passport Advantage, open a command line, and change to the directory where you extracted the disk images; then complete one of these steps:

For the Rational Test Workbench offering:

-
- On Windows, as an administrator, enter **RTW_SETUP\InstallerImage_win32\install.exe**.
 - On Windows, as a non-administrator, enter **RTW_SETUP\InstallerImage_win32\userinst.exe**.
 - On Linux/Unix, as an administrator, enter **RTW_SETUP/InstallerImage_linux/install**.
 - On Linux/Unix, as a non administrator, enter **RTW_SETUP/InstallerImage_linux/userinst**.

For the Rational Test Virtualization Server offering:

- On Windows, as an administrator, enter **RTVS_SETUP\InstallerImage_win32\install.exe**.
- On Windows, as a non-administrator, enter **RTVS_SETUP\InstallerImage_win32\userinst.exe**.
- On Linux/Unix, as an administrator, enter **RTVS_SETUP/InstallerImage_linux/install**.
- On Linux/Unix, as a non administrator, enter **RTVS_SETUP/InstallerImage_linux/userinst**.

When the userinst or install program starts, Installation Manager is installed if it is not already on your computer. Furthermore, Installation Manager is configured with the location of the repository (installation files) for Rational Integration Tester Platform Pack.

2.1.3 Installing the Product Software

By starting the installation process from the launchpad program, 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 product package. If you install and start Installation Manager directly, then you must set repository preferences manually.

To learn how to install the product from a command prompt in silent mode, see the Installing Silently section of the IBM Installation Manager Information Center.

To install the product from the launchpad:

1. If you are installing from compressed files, such as .zip or ISO files, extract the files into a common directory. Extract the disk images to directories that are named **/disk1**, **/disk2**, and so on.

For the Rational Test Workbench offering:

- Extract the Setup disk image to a directory that is named **RTW_SETUP**. The Setup disk contains the launchpad program.

For the Rational Test Virtualization Server offering:

- Extract the Setup disk image to a directory that is named **RTVS_SETUP**. The Setup disk contains the launchpad program.

2. If you are installing from a CD, insert the first product disk into your CD drive. If autorun is enabled on your workstation, then the launchpad starts automatically. Otherwise, start the launchpad program manually.
 - On Windows, run the `launchpad.exe` command, which is located in the root directory of the Setup disk installation image.
 - On Linux/Unix, run the `launchpad.sh` command, which is located in the root directory of the Setup disk installation image.
3. **Optional:** Select a language in which to run the launchpad and Installation Manager.
4. Select the product to install from the launchpad menu. The Install Packages window opens.
5. Click a product package to highlight it. The description of the package is displayed in the Details pane at the bottom of the screen.
6. To search for updates to the product packages, click **Check for Other Versions, Fixes, and Extensions**. If updates for a product package are found, then they are displayed in the Installation Packages list on the Install Packages page below their corresponding products. Only recommended updates are displayed by default.

NOTE: To ensure the best performance of the installation, and the products after they are installed, install the product updates.

- To view all updates that are found for the available packages, click **Show all versions**.
- To display a package description in the Details pane, click the package name. If additional information about the package is available, such as a readme file or release notes, a More info link is included at the end of the description text. Click the link to display the additional information in a browser. To fully understand the package that you are installing, review all information.

NOTE: For Installation Manager to search the predefined IBM update repository locations for the installed packages, the Search the linked

repositories during installation and updates preference on the Repositories preference page must be selected. This preference is selected by default. Internet access is also required. 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.

7. Select the product package and any updates to the package to install.
 - Updates that have dependencies are automatically selected and cleared together.
 - Click **Next** to continue.

NOTE: You might see the error, “Packages IBM Rational *product name and version* and IBM Rational *product name and version* cannot coexist in the same package group.” To resolve this error, search for updates to the product packages by clicking **Check for Other Versions, Fixes, and Extensions** and install them. If updates for a product package are found, they are displayed in the Installation Packages list on the Install Packages page below their corresponding products. Only recommended updates are displayed by default. If you install multiple packages at the same time, then all the packages are installed into the same package group.

8. 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.
 - If you agree to the terms of all of the license agreements, click **I accept the terms in the license agreements**.
 - Click **Next** to continue.
9. On the Location page:
 - Create a new package group into which the product package will be installed. Alternatively, if you are installing an update, use the existing package group. A package group represents a directory in which packages share resources with other packages in the same group.
 - **Optional:** If you are installing the package on a computer that is running a 64-bit operating system, you can install the 32-bit version or the 64-bit (default) version of the package.

-
- **Optional:** Click **Browse** to change the location of the installation if desired. The default location displayed depends on whether you are using a 32-bit or 64-bit operating system and whether you have chosen to install the 32-bit or the 64-bit version of the package.
 - Click **Next** to continue.
10. On the Features page, select the package features to install.
- **Optional:** If you are installing the HTTP/TCP Proxy on Windows, you can choose whether a Windows service called **IBM HTTP Proxy** is installed and whether you want this service to run automatically when Windows is started. The service is run under the Local System account, which is a predefined local account used by the Windows Service Control Manager that provides a Windows service with complete unrestricted access to local resources. If you want the **IBM HTTP Proxy** Windows service to run under a different account (for example, a Domain User Account), use Windows Control Panel to make any necessary changes.
 - **Optional:** To see the dependency relationships between features, select **Show dependencies**. Installation Manager automatically enforces any dependencies with other features and displays updated download sizes and disk space requirements for the installation.
 - **Optional:** Click a feature to view its brief description under **Details**.
 - Click **Next** to continue.
11. On the Common Configurations page:
- **Optional:** If you want to use Rational Integration Tester Platform Pack with Rational Test Control Panel, click **Register with Rational Test Control Panel** and enter Rational Test Control Panel's URL in the **RTCP URL** field.
 - Click **Next** to continue.
12. On the Summary page, review your choices before installing the product package.
- 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 that is completed.
13. When the installation process is complete, a message confirms the completion of the process.
- 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.
-

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- Click **Finish** to start the selected package. The Install Package wizard closes and you are returned to the launchpad program.
14. To complete the installation of the HTTP/TCP Proxy and/or the JDBC Proxy, refer to [After Installing the Rational Integration Tester Platform Pack](#).

After Installing the Rational Integration Tester Platform Pack

Contents

[HTTP/TCP Proxy](#)

[JDBC Proxy](#)

This chapter describes how to configure Rational Integration Tester Platform Pack components after they have been installed.

3.1 HTTP/TCP Proxy

After installing the HTTP/TCP Proxy, you must set up the proxy for use and verify that it has been deployed successfully.

The following sections describe these tasks.

3.1.1 Setting Up the Proxy for Use

To set up the HTTP/TCP Proxy for use:

1. Edit the proxy's configuration settings.
2. Configure any client and server applications that will be communicating with the proxy.

The following sections describe these tasks.

3.1.1.1 Modifying Proxy Configuration Settings

The HTTP/TCP Proxy is installed with default port settings for HTTP and TCP proxying.

However, if you want to use different port settings or if you want to proxy HTTPS traffic instead of HTTP traffic, you will have to modify the HTTP/TCP Proxy's configuration settings.

To modify the HTTP/TCP Proxy's configuration settings:

1. Navigate to the following folder:


```
<IBM Rational Integration Tester Platform Pack Installation  
Directory>\httptcp
```
2. Use a text a text editor program to open the `registration.xml` file, which is the proxy's configuration file.
3. Edit the configuration settings as described in the following sections.
4. Save and close the `registration.xml` file.
5. If you selected the **Install Service** and **Start on Boot** options while installing the HTTP/TCP Proxy, restart the proxy.

For example, if using Windows, restart the **IBM RIT HTTP Proxy** Windows service.

HTTP Settings

If setting up the HTTP/TCP Proxy to provide support for HTTP, edit the configuration settings as shown in the following table.

Configurable Setting	Description
<code>server base-url="http://<Host name or IP address selected during installation>:7819/RTCP/"</code>	<p>By default, a Rational Test Control Panel installation will listen for proxy registration on port 7819.</p> <p>If your Rational Test Control Panel installation is using a different port number, enter the number in this field. (This port number can also be configured when using the Installation Manager to install Rational Integration Tester Platform Pack.)</p>
<code>logger level</code>	<p>The initial log level used to determine the minimum level of severity a log level has to be before it is logged to Rational Test Control Panel.</p> <p>Options are as follows:</p> <ul style="list-style-type: none">• debug• error• info• warning
<code>http-proxy port</code>	<p>3128 is the default port number where the HTTP/TCP Proxy will listen for HTTP traffic and any client applications that will be communicating with the proxy will also need to be set to the same port.</p> <p>If this port number is already in use on the computer where the proxy is being installed, you must enter a different port number.</p> <p>Otherwise, changing the default port number is optional.</p>
<code>bind-address</code>	<p>This is an optional setting for multihomed computers with more than IP address.</p> <p>Default setting: Blank (meaning "all").</p>

Configurable Setting	Description
domains	<p>Ordinarily, there is no need to edit the domain and environment tags.</p> <p>However, if Rational Test Control Panel has been used to set up specific business domains and environments:</p> <ul style="list-style-type: none">• Set the name attribute of the domain tag to the domain name in the Rational Integration Tester project being used to record HTTP traffic.• Set the name attribute of the environment tag to the name of the environment selected in the Rational Integration Tester project for recording HTTP traffic.

HTTPS Settings

If setting up the HTTP/TCP Proxy to provide support for HTTPS, edit the configuration settings as shown in the following table.

NOTE: From Rational Integration Tester Platform Pack 8.0.0.2 onwards, the HTTP/TCP Proxy's HTTPS functionality supports mutual authentication of any connections between the proxy and any intended target servers. That is, if a server has been configured to authenticate any clients connecting to it, the server will require HTTP/TCP Proxy to present a client certificate to the server for authentication. The keystore containing this certificate is specified in `outboundKeyStoreFile` (for more information about this, refer to the table below).

NOTE: From Rational Integration Tester Platform Pack 8.0.0.2 onwards, the HTTP/TCP Proxy also supports inbound plain text communications from clients and secure onward connections. Although this is an unusual configuration, it enables the HTTP/TCP Proxy to be used to convert between a client that can use only plaintext (HTTP) communication and a server that will accept only secured (HTTPS) communication. If this functionality is required, the client must be set to use the `plainCommsPort` port on the HTTP/TCP Proxy, which is

configurable (for more information about this, refer to the table below).

Configurable Setting	Description
<code>http://<Host name or IP address selected during installation>:7819/RTCP/</code>	(Refer to previous table.)
<code>logger level</code>	(Refer to previous table.)
<code>https-proxy port</code>	<p>3129 is the default port number where the HTTP/TCP Proxy will listen for HTTPS traffic and any client applications that will be communicating with the proxy will also need to be set to the same port.</p> <p>If this port number is already in use on the computer where the proxy is being installed, you must enter a different port number.</p> <p>Otherwise, changing the default port number is optional.</p>
<code>bind-address</code>	(Refer to previous table.)
<code>keyStoreFile</code>	<p>The value of the <code>keyStoreFile</code> attribute is set to <code>greenhat.jks</code>, which is included with the HTTP/TCP Proxy.</p> <p>Ordinarily, it should not be necessary to specify and use a different Java KeyStore (JKS).</p> <p>However, it may be necessary to specify and use a different JKS if you wish to use your own generated certificate that may already be trusted by the client applications or if a specific certificate in the specified JKS has been created incorrectly.</p>
<code>keyStoreType</code>	<p>It may be necessary to specify and use a different keystore file-type if you wish to use a key store file other than <code>greenhat.jks</code>.</p> <p>Default value: <code>jks</code>.</p>

Configurable Setting	Description
keyStoreAlias	<p>Each certificate in a JKS is associated with a unique alias.</p> <p>If the JKS <code>greenhat.jks</code> is used, the default value of the <code>keyStoreAlias</code> attribute is <code>mykey</code>.</p> <p>However, if a different JKS needs to be used, a different alias will need to be specified.</p>
keyStorePassword	<p>A JKS protects private keys with a password.</p> <p>The default keystore password for Trusted Client Certificates is <code>passphrase</code>.</p>
signingAlgorithm	<p>The algorithm that is used when signing certificates.</p> <p>Default value: <code>SHA1withRSA</code>.</p>
serverProtocol	<p>The protocol that the secure server socket will use.</p> <p>Default value: <code>TLS</code>.</p>
plainCommsPort	<p>The port used to handle plain text to SSL communications.</p> <p>Default value: <code>3130</code>.</p>
outboundKeyStoreFile	<p>The file containing public and private keys that will be used by the proxy to identify itself during mutual authentication.</p> <p>Default value: <code>greenhat.jks</code>.</p>
outboundKeyStorePassword	<p>The password required to access the keystore that will be used during mutual authentication.</p> <p>The default keystore password for Trusted Client Certificates is <code>passphrase</code>.</p>
domains	(Refer to previous table.)

TCP Settings

If setting up the HTTP/TCP Proxy to provide support for TCP, edit the configuration settings as shown in the following table.

Configurable Setting	Description
<code>http://<Host name or IP address selected during installation>:7819/RTCP/</code>	(Refer to previous table.)
<code>logger level</code>	(Refer to previous table.)
<code>forward bind</code>	<p>Each base/default route is specified in a forward element and you may configure as many of these as you need.</p> <p><code>bind</code> refers to the HTTP/TCP Proxy's listening port forwarder and optional bind address.</p> <p>Port numbers 2000 and 2001 are example port numbers where a HTTP/TCP Proxy listens for TCP traffic. If 2000 or 2001 is already in use, you must enter a different port number.</p> <p>A port number for a bind address can be any number in the range 0-65535.</p> <p>NOTE: If using Linux/Unix, you may need to be logged in as user <code>root</code> to bind to port numbers less than 1024.</p>
<code>destination</code>	<p><code>destination</code> refers to the base destination address, that is, the intended destination of TCP traffic from a source if there are no routing rules.</p> <p>Port numbers 3000 and 3001 are example TCP port numbers where the target application is listening for TCP traffic from a client application.</p> <p>A port number for a destination address can be any number in the range 0-65535.</p> <p>NOTE: If using Linux/Unix, you may need to be logged in as user <code>root</code> to bind to port numbers less than 1024.</p>

Configurable Setting	Description
type	<p>The optional <code>type</code> attribute can be used to enable additional protocol-specific features, such as content-based routing.</p> <p>The only supported value for <code>type</code> is <code>fix</code>. Any other value will be ignored, causing all TCP traffic to be forwarded as raw TCP data.</p>
domains	(Refer to previous table.)

3.1.1.2 HTTP(S) Proxying: Configuring Client & Server Applications to Communicate With the Proxy

The following sections summarize the configuration changes that must be made to each standalone application and hosted application that will be communicating with a HTTP/TCP Proxy using HTTP(S) traffic.

For detailed information about your applications and/or application servers, refer to the relevant third party documentation.

Standalone Java Applications

To configure a standalone Java application to use the HTTP/TCP Proxy:

1. Edit the invocation command line or the system properties within the Java application to modify the HTTP proxy properties as follows:

```
-Dhttp.proxyHost=<Host name or IP address of HTTP/TCP Proxy> -
Dhttp.proxyPort=<Port number specified during installation of
Rational Integration Tester Platform Pack and/or editing
registration.xml file, for example, 3128>
```

2. Restart the application.

NOTE: If setting up a HTTP/TCP Proxy to provide support for HTTPS, the properties are `https.proxyHost` and `https.proxyPort`.

Apache Tomcat

To configure Apache Tomcat to use the HTTP/TCP proxy:

1. Configure the Tomcat startup script (`%CATALINA_HOME%\bin\catalina.bat`, if using Windows; or `$CATALINA_HOME/bin/catalina.sh`, if using Linux/Unix) by using the `JAVA_OPTS` variable to set HTTP/TCP Proxy properties as follows:

```
SET JAVA_OPTS=%JAVA_OPTS% -Dhttp.proxyHost=<Host name or IP
address of HTTP/TCP Proxy> -Dhttp.proxyPort=<Port number
specified during installation of Rational Integration Tester
```

Platform Pack and/or editing registration.xml file, for example, 3128>

2. Save and close the file.
3. Restart Tomcat.

NOTE: If setting up a HTTP/TCP Proxy to provide support for HTTPS, the properties are `https.proxyHost` and `https.proxyPort`.

IBM WebSphere Application Server

For information about configuring WebSphere Application Server to use a proxy, refer to WebSphere Application Server documentation or go to IBM.com®.

Oracle WebLogic Server

For information about configuring WebLogic Server to use a proxy, refer to WebLogic Server documentation or go to the Oracle website.

Software AG webMethods Integration Server

To configure webMethods Integration Server (WMIS) to use the proxy:

1. Configure the server startup script (`<Software AG Installation Directory>\IntegrationServer\bin\server.bat`) as follows:
2. If running WMIS 7.x/8.0, edit

```
%JAVA_RUN% -DWM_HOME=
```

to

```
%JAVA_RUN% -Dhttp.proxyHost=<Host name or IP address of HTTP/  
TCP Proxy> -Dhttp.proxyPort=<Port number specified during  
installation of Rational Integration Tester Platform Pack and/  
or editing registration.xml file, for example, 3128> -DWM_HOME=
```

Alternatively, if running WMIS 8.2 (or later), edit

```
SET JAVA_OPTS=-Dsun.lang.classLoader
```

to

```
SET JAVA_OPTS=-Dhttp.proxyHost=<Host name or IP address of  
HTTP/TCP Proxy> -Dhttp.proxyPort=<Port number specified during  
installation of Rational Integration Tester Platform Pack and/  
or editing registration.xml file, for example, 3128> -  
Dsun.lang.classLoader
```

3. Save and close the file.

-
4. Restart WMIS.

NOTE: If setting up a HTTP/TCP Proxy to provide support for HTTPS, the properties are `https.proxyHost` and `https.proxyPort`.

TIBCO BusinessWorks

To configure BusinessWorks (BW) to use the proxy:

1. Configure relevant TRA file (for example, for TIBCO Designer 5.6, the location of the file might be *<TIBCO Installation Directory>\designer\5.6\bin\designer.tra*) by adding the following text:

```
java.property.http.proxyHost <Host name or IP address of HTTP/  
TCP Proxy>  
  
java.property.http.proxyPort <Port number specified during  
installation of Rational Integration Tester Platform Pack and/  
or editing registration.xml file, for example, 3128>
```

NOTE: If setting up a HTTP/TCP Proxy to provide support for HTTPS, the properties are `https.proxyHost` and `https.proxyPort`.

2. Save and close the file.

Restart BW.

3.1.1.3 TCP Proxying: Configuring Client & Server Applications to Communicate With the Proxy

To complete setting up the HTTP/TCP Proxy for proxying TCP traffic, you must reconfigure each client application (that will interact with the proxy) to connect to the host name and port number of the HTTP/TCP Proxy forwarding rule instead of the original destination.

Depending on the application software involved and the configuration of the network, it may be necessary to make other configuration changes to each client application.

3.1.2 Verifying Deployment

To verify that a specific HTTP/TCP Proxy has been deployed successfully:

1. Log into Rational Test Control Panel (if installed) as “administrator”.
2. Click the **Proxies** icon on the Rational Test Control Panel dashboard.

The proxy should be displayed on the **Agents** page.

3.2 JDBC Proxy

After installing the JDBC Proxy, you must deploy the proxy into the Java Virtual Machine (JVM) of the relevant application(s), set up the proxy for use, and verify that it has been deployed successfully.

The following sections describe these tasks.

3.2.1 Deploying the Proxy

The following sections summarize the configuration changes that must be made to each standalone application and hosted application that will be communicating with a Rational Integration Tester JDBC Proxy.

3.2.1.1 Standalone Java Applications

To enable the JDBC Proxy to capture SQL being used by an application, the driver must be loaded into the application's JVM.

To do this, modify the startup parameters of the Java application as follows:

1. The JDBC Proxy requires a number of supporting files to run. Copy the files listed in the following table from *<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc* to the Java application's CLASSPATH.

Alternatively, modify the application's CLASSPATH to point to the files.

File Name	Description
greenhat.jdbcdriver.jar	The JDBC Proxy.
jsqlparser15.jar	Supporting library.
registration.xml	JDBC Proxy configuration file.

2. Edit the invocation command line or the system properties within the Java application to modify the `jdbc.drivers` property as follows:

```
-Djdbc.drivers=com.greenhat.jdbc.Driver
```

NOTE: If there is already a `-D` entry specifying `drivers`, ensure that `com.greenhat.jdbc.Driver` is listed **first** and that the other entries appended after it are in a colon-separated list.

3. Edit the `server` tag in the `registration.xml` file to the URL of the Rational Test Control Panel installation being used.

For information about modifying this file, refer to [Modifying the registration.xml File](#).

4. **Optional:** Edit the domain and environment tags in the `registration.xml` file.

If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.

5. Run the Java application.
6. Use Rational Integration Tester and Rational Test Control Panel to control JDBC recording and stubbing. For information about this, refer to *IBM Rational Integration Tester Reference Guide* and *IBM Rational Test Virtualization Server Reference Guide*.

Modifying the registration.xml File

The `registration.xml` file in `<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc` contains configuration settings for the JDBC Proxy.

To modify the `registration.xml` file:

1. Use a text editor program to open the file.
2. Edit the configuration settings as shown in the following table.

Configurable Setting	Description
<code>server base-url="http://<Host name or IP address selected during installation>:7819/RTCP"/</code>	<p>By default, a Rational Test Control Panel installation will listen for proxy registration on port 7819.</p> <p>If your Rational Test Control Panel installation is using a different port number, enter the number in this field. (This port number can also be configured when using the Installation Manager to install Rational Integration Tester Platform Pack.)</p>
<code>logger level="warn"</code>	<p>The initial log level used to determine the minimum level of severity a log level has to be before it is logged to Rational Test Control Panel.</p> <p>Options are as follows:</p> <ul style="list-style-type: none">• debug• error• info• warning

Configurable Setting	Description
domains	<p>Ordinarily, there is no need to edit the <code>domain</code> and <code>environment</code> tags.</p> <p>However, if Rational Test Control Panel has been used to set up specific business domains and environments:</p> <ul style="list-style-type: none">• Set the <code>name</code> attribute of the <code>domain</code> tag to the domain name in the Rational Integration Tester project being used to record SQL events.• Set the <code>name</code> attribute of the <code>environment</code> tag to the name of the environment selected in the Rational Integration Tester project for recording SQL events. <p>NOTE: If the <code>domain</code> and <code>environment</code> tags are not modified, the driver will be available for recording/stubbing in all Rational Integration Tester projects referencing the Rational Test Control Panel installation with which the driver is registered.</p>

3. Save and close the file.

3.2.1.2 Apache Tomcat

To deploy the JDBC Proxy into Apache Tomcat:

1. Copy the files listed in [Standalone Java Applications](#) from *<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc* to *<Tomcat Installation Directory>\common\lib* or to whichever Tomcat library folder contains JDBC drivers.
2. Configure the Tomcat startup script (`%CATALINA_HOME%\bin\catalina.bat`, if using Windows; or `$CATALINA_HOME/bin/catalina.sh`, if using Linux/Unix) by using the `JAVA_OPTS` variable to set the `jdbc.drivers` property as follows:

```
SET JAVA_OPTS=%JAVA_OPTS% -  
Djdbc.drivers=com.greenhat.jdbc.Driver
```

NOTE: If there is already a `-D` entry specifying drivers, ensure that `com.greenhat.jdbc.Driver` is listed **first** and that the other entries appended after it are in a colon-separated list.

3. Save and close the file.
4. If necessary, edit the `server` tag in the `registration.xml` file to the URL of the Rational Test Control Panel installation being used.

For information about modifying this file, refer to [Modifying the registration.xml File](#).

5. **Optional:** Edit the domain and environment tags in the `registration.xml` file.
If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.
6. Use Rational Integration Tester and Rational Test Control Panel to control JDBC recording and stubbing. For information about this, refer to *IBM Rational Integration Tester Reference Guide* and *IBM Rational Test Virtualization Server Reference Guide*.

3.2.1.3 IBM WebSphere Application Server

The JDBC Proxy needs to be installed only once on any server running WebSphere Application Server (WAS). This enables each application hosted on the server that accesses the live database (that is to be recorded and/or stubbed) by means of JDBC to use the JDBC Proxy.

NOTE: Before installing the JDBC Proxy on a server running WAS, you must **disable administrative security** in WAS. Otherwise, there will be problems with WAS physical resource data sources being displayed in Rational Integration Tester. For information about disabling administrative security in WAS, refer to WAS documentation or go to IBM.com.

To deploy the JDBC Proxy on a server running WAS:

1. Copy the files listed in [Standalone Java Applications](#) and the file listed in the following table from *<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc\WebSphere* to the file system of the server running WAS and make a note of the location of the files on the server (“*<Server JDBC Driver Installation Location>*”).

NOTE: Rational Integration Tester does not have to be installed on the server running WAS.

File Name	Description
setupJDBCProvider.py	JDBC driver provider installation script.

2. If necessary, edit the `server` tag in the `registration.xml` file to the URL of the Rational Test Control Panel installation being used.
For information about modifying this file, refer to [Modifying the registration.xml File](#).
3. **Optional:** Edit the `domain` and `environment` tags in the `registration.xml` file.
If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.
4. Open a command prompt and navigate to the following directory:

`<WAS Installation Directory>\AppServer\profiles\<Profile Name>\bin`

NOTE: For Linux/Unix installations, forward slashes (“/”) are instead of backward slashes (“\”).

5. Install the JDBC Proxy by running a command of the following format:

```
wsadmin.bat -f <Server JDBC Driver Installation Location>/  
setupJDBCProvider.py <Server JDBC Installation Location>
```

NOTE: For Windows and Linux/Unix installations, use forward slashes (“/”) instead of backward slashes (“\”) for this command. In addition, for Linux/Unix installations, use `wsadmin.sh` instead of `wsadmin.bat`.

6. **Optional:** After running `wsadmin.bat` (or `wsadmin.sh`) with no error messages displayed, verify that the JDBC Proxy has been installed correctly by logging into the WebSphere Integrated Solutions Console using the relevant profile, and clicking **Resources > JDBC > JDBC providers**.

The JDBC providers screen should display the following data source:

Green Hat JDBC Provider

After the JDBC Proxy has been installed on the server running WAS, you must:

- Create and configure data sources for SQL recording and/or database stubbing. For information about this, refer to [Creating and Configuring Data Sources \(WAS Installations Only\)](#).
- Use Rational Integration Tester for SQL recording and/or database stubbing.

3.2.1.4 Oracle WebLogic Server

The JDBC Proxy needs to be installed only once on any server running WebLogic Server. This enables each application hosted on the server that accesses the live database by means of JDBC to use the JDBC Proxy.

To deploy the JDBC Proxy into WebLogic Server:

1. Copy the files listed in [Standalone Java Applications](#) from *<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc* to *<Oracle Installation Directory>\Middleware\wlserver<Version Number>\server\lib* or to whichever WebLogic Server folder contains JDBC drivers.
2. Update WebLogic Server's CLASSPATH with the path to the driver files by modifying the CLASSPATH in the `commEnv.cmd` file in *<Oracle Installation Directory>\Middleware\wlserver<Version Number>\common\bin* as follows:

```
set
WEBLOGIC_CLASSPATH=%WL_HOME%\server\lib\greenhat.jdbcdriver.jar
;%WL_HOME%\server\lib\jsp15.jar;%WL_HOME%\server\lib\reg
istration.xml;...
```

Alternatively, if running WebLogic Server on Linux/Unix, edit the `commEnv.sh` file in *<Oracle Installation Directory>\Middleware\wlserver<Version Number>\common\bin* as follows:

```
WEBLOGIC_CLASSPATH="${WL_HOME}\server\lib\greenhat.jdbcdriver.j
ar${CLASSPATHSEP}${WL_HOME}\server\lib\jsp15.jar${CLASSP
ATHSEP}${WL_HOME}\server\lib\registration.xml${CLASSPATHSEP}...
"
```

NOTE: If the JDBC Proxy files are in a location other than *<Oracle Installation Directory>\Middleware\wlserver<Version Number>\server\lib*, the correct location must be mentioned in the CLASSPATH.

3. Save and close the `commEnv.cmd` (or `commEnv.sh`) file.
4. Restart WebLogic.
5. Log into WebLogic Server Administration Console.
6. On the **Domain Structure** tree, expand **Services**.
7. Expand **JDBC**.
8. Click **Data Sources**.

The Summary of Data Sources page is displayed.

-
9. Click **New**.

The Create a New JDBC Data Source page is displayed.

10. In the **Name** and **JNDI Name** fields, enter a name and a JNDI name for the Green Hat data source.
11. In the **Database Type** list, click **Other**.

The selected driver in the **Database Driver** list changes to **Other**.

NOTE: If the selected driver does not change, click **Other**.

12. Click **Next**.
13. Select the **Supports Global Transactions** check box.
14. Click **Next**.
15. In the **Database Name**, **Host Name**, **Port**, **Database User Name**, **Password**, and **Confirm Password** fields, enter details about the physical database resource in Rational Integration Tester.
16. Click **Next**.
17. In the **Driver Class Name** field, enter `com.greenhat.jdbc.Driver`.
18. In the **URL** field, enter the real URL of the database.

The **Database User Name**, **Password**, and **Confirm Password** fields are populated from the previous page.

19. **Optional:** Click **Test Configuration** to verify that WebLogic Server can connect to the specified database.
20. Click **Next**.
21. Select the check box of each deployment target for the new JDBC data source.
22. Click **Finish**.

23. Edit the server tag in the `registration.xml` file to the URL of the Rational Test Control Panel installation being used.

For information about modifying this file, refer to [Modifying the registration.xml File](#).

24. **Optional:** Edit the domain and environment tags in the `registration.xml` file.

If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.

-
25. Use Rational Integration Tester and Rational Test Control Panel to control JDBC recording and stubbing. For information about this, refer to *IBM Rational Integration Tester Reference Guide* and *IBM Rational Test Virtualization Server Reference Guide*.

3.2.1.5 Software AG webMethods Integration Server

The JDBC Proxy needs to be installed only once on any server running webMethods Integration Server (WMIS). This enables each application hosted on the server that accesses the live database by means of JDBC to use the JDBC Proxy.

NOTE: Differences between WMIS 7.x/8.0 and WMIS 8.2 (or later) are indicated where relevant.

To deploy the JDBC Proxy into WMIS:

1. Copy the files listed in [Standalone Java Applications](#) from *<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc* to *<Software AG Installation Directory>\IntegrationServer\lib\jars* or to whichever WMIS folder contains JDBC drivers.
2. Configure the server startup script (*<Software AG Installation Directory>\IntegrationServer\bin\server.bat*) as follows:

WMIS 7.x/8.0	WMIS 8.2 (or Later)
Edit %JAVA_RUN% -DWM_HOME= to %JAVA_RUN% - Djbdc.drivers=com.greenhat.jdb c.Driver -DWM_HOME=	Edit SET JAVA_OPTS=- Dsun.lang.classLoader to SET JAVA_OPTS=- Djbdc.drivers=com.greenhat.jdb c.Driver -Dsun.lang.classLoader

NOTE: For Linux/Unix installations, use *server.sh*, forward slashes (“/”) instead of backward slashes (“\”), and the appropriate Linux/Unix directory names.

3. Save and close the file.
4. If necessary, edit the *server* tag in the *registration.xml* file to the URL of the Rational Test Control Panel installation being used.

For information about modifying this file, refer to [Modifying the registration.xml File](#).

5. **Optional:** Edit the domain and environment tags in the *registration.xml* file.

If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.

-
6. Use Rational Integration Tester and Rational Test Control Panel to control JDBC recording and stubbing. For information about this, refer to *IBM Rational Integration Tester Reference Guide* and *IBM Rational Test Virtualization Server Reference Guide*.

3.2.1.6 TIBCO BusinessWorks

The JDBC Proxy needs to be installed only once on any server running TIBCO BusinessWorks (BW). This enables each application hosted on the server that accesses the live database by means of JDBC to use the JDBC Proxy.

In BW, the set of applications that can be used are hosted within the TIBCO Runtime Agent. These applications are configured through individual TRA files, which are used to specify the application configuration.

To deploy the JDBC Proxy into BW:

1. Copy the files listed in [Standalone Java Applications](#) from `<IBM Rational Integration Tester Platform Pack Installation Directory>\jdbc` to, `<TIBCO Installation Directory>\tpcl\<Version Number>\jdbc` or to whichever BW folder contains JDBC drivers.

NOTE: If you copy the files listed in [Standalone Java Applications](#) to `<TIBCO Installation Directory>\tpcl\<Version Number>\lib` in addition to, or instead of, copying them to `<TIBCO Installation Directory>\tpcl\<Version Number>\jdbc`, TIBCO Designer and/or the JDBC Proxy may not work properly.

2. Configure the relevant TRA file (for example, for TIBCO Designer 5.6, the location of the file might be `<TIBCO Installation Directory>\designer\5.6\bin\designer.tra`) by adding the following text:

```
java.property.jdbc.drivers com.greenhat.jdbc.Driver
```

3. Save and close the TRA file.
4. If necessary, edit the `server` tag in the `registration.xml` file to the URL of the Rational Test Control Panel installation being used.

For information about modifying this file, refer to [Modifying the registration.xml File](#).

5. **Optional:** Edit the `domain` and `environment` tags in the `registration.xml` file.

If these tags are modified, the JDBC Proxy will be used only when recording/stubbing within the specified domain and environment.

-
6. Use Rational Integration Tester and Rational Test Control Panel to control JDBC recording and stubbing. For information about this, refer to *IBM Rational Integration Tester Reference Guide* and *IBM Rational Test Virtualization Server Reference Guide*.

3.2.2 Setting Up the Proxy for Use

To set up the JDBC Proxy for use:

1. Create and configure data sources (WAS installations only).
2. Set up a logical/physical database for your Rational Integration Tester project.

The following sections describe these steps.

3.2.2.1 Creating and Configuring Data Sources (WAS Installations Only)

If you have deployed the JDBC Proxy on IBM WebSphere Applications Server (WAS), the following sections describe how to create and configure data sources for IBM DB2 data sources and for other data sources.

IBM DB2 Data Sources

NOTE: If you have already set up a DB2 data source in Rational Integration Tester, only the instructions for selecting a data source and enabling/disabling it are relevant.

To create and configure a DB2 data source for SQL recording and/or database stubbing:

1. Run Rational Integration Tester and create a new project or open an existing project.
2. In Architecture School's Physical View, click **IBM** on the Physical View toolbar.
3. On the **IBM** menu, click **IBM WebSphere Application Server**.

The New IBM WebSphere Application Server dialog box is displayed.

4. Click the **Data Sources** tab.

The data sources configured on WAS are displayed. To facilitate enabling SQL recording and/or database stubbing, Rational Integration Tester has defined two new data sources and has renamed the original data source in JNDI.

5. Select the DB2 data source for which you want to enable SQL recording and/or database stubbing and click **Enable database stubbing**. Alternatively, to stop SQL recording and/or database stubbing for the selected data source, click **Disable database stubbing**.

The **Status** column on **Data Sources** tab is refreshed to confirm that the selected data source is now enabled (or disabled) for database stubbing.

To facilitate enabling SQL recording and/or database stubbing, Rational Integration Tester has defined two new data sources and has renamed the original data source in JNDI.

Each application that is hosted on the server running WAS that uses the specified data source will now receive a Green Hat stub data source when it looks up the specified data source in JNDI. The stub data source will look up connections to the live and simulation databases as needed.

Other Data Sources

To create and configure a non-DB2 data source for SQL recording and/or database stubbing:

1. Using the relevant profile, log into WebSphere Integrated Solutions Console.
2. Click **Resources > JDBC > Data sources**.
3. In the **Scope** list, click the relevant scope.
4. Click **New** to open the Create a data source wizard.

The first screen of the Create a data source wizard is displayed.

5. In the **Data source name** field, enter the name a data source that will be used to the simulation database.
6. In the **JNDI name** field, enter the JNDI name for the new data source.

For information about the other screens in this wizard, refer to IBM WebSphere documentation or go to ibm.com.

NOTE: The database connection string, default schema, user name and password must match the simulation settings within Rational Integration Tester.

7. Save the changes in the Integrated Solutions Console.
8. **Optional:** Test the connection to the new data source.
9. Run Rational Integration Tester and create a new project or open an existing project.
10. In Architecture School's Physical View, click **IBM** on the Physical View toolbar.
11. On the **IBM** menu, click **IBM WebSphere Application Server**.

The New IBM WebSphere Application Server dialog box is displayed.

-
12. Click the **Data Sources** tab.

The data sources configured on WAS are displayed.

13. Select the data source for which you want to enable SQL recording and/or database stubbing and click **Enable database stubbing**. Alternatively, to stop SQL recording and/or database stubbing for the selected data source, click **Disable database stubbing**.

A confirmation prompt is displayed.

Select the data source that you configured to connect to the simulation database.

14. Click **OK**.

If the Rational Integration Tester project contains more than one database, a confirmation prompt is displayed.

15. Select the database that you want to enable for SQL recording and/or database stubbing.

16. Select the connection string that matches the data source that you want to enable for database recording.

The **Status** column on **Data Sources** tab is refreshed to confirm that the selected data source is now enabled (or disabled) for database stubbing. To facilitate stubbing, Rational Integration Tester has defined one new data source and has renamed the original data source in JNDI.

Each application that is hosted on the server running WAS that uses the specified data source will now receive a Green Hat stub data source when it looks up the specified data source in JNDI. The stub data source will look up connections to the live and simulation databases as needed.

3.2.2.2 Setting Up a Logical/Physical Database

To set up a logical/physical database in Rational Integration Tester:

1. Using Architecture School's Logical View, click **General**.
2. On the **General** menu, click **Database Server**.

The Create a Database Server dialog box is displayed.

3. In the **Name** field, enter a name for the logical database resource that will represent the database against which you are going to record activity against or that you wish to stub.
 4. Click **OK**.
-

-
5. Click the **Physical View** tab.
 6. On the **Physical View** tab, click **General**.
 7. On the **General** menu, click **Database**.

The Database (Properties) dialog box is displayed.

8. **Optional:** In the **Name** field, enter a name for the physical database.
9. In the **Maximum Number of Connections** field, enter the maximum number of connections allowed to the database.
10. In the **Driver** list, click the relevant driver.
11. In the **Database URL** field, enter the connection string that will be used by the application that will be making JDBC calls to the database.

NOTE: The connection string must match the connection string used by the application that will be making JDBC calls to the database. This is because the JDBC Proxy uses the connection string entered in Rational Integration Tester's physical resource to match connections to databases made by applications.

12. In the **User Name** field, enter the name of the relevant database user.
13. In the **Password** field, enter the database user's password.

NOTE: The user name and password should be provided by a database administrator (DBA).

14. Click **Test Connection** to verify that Rational Integration Tester can connect to the specified database.
15. If you will be stubbing the specified database, click the **Stub Settings** tab.

NOTE: If you will be recording SQL from the specified database but not stubbing it, there is no need to enter any data on the **Stub Settings** tab.

16. In the **User Name** field, enter the name of the relevant database user.
17. In the **Password** field, enter the database user's password.
18. In the **Database Schema** field, enter the name of the simulation schema. For information about this, refer to [Determining Database Schema Requirements](#).

-
19. Click **Test Stub Connection** to verify that Rational Integration Tester can connect to the specified database.
 20. Click **OK**.
 21. Click the **Logical View** tab.
 22. On the **Logical View** tab, right-click the logical database resource (that represents the database against which you are going to record activity against or that you wish to stub) and click **Set Binding in** and the relevant environment and physical database on the shortcut menus

Alternatively, on the **Logical View** tab, double-click the logical database resource to open the Database Server dialog box, click the **Bindings** tab, click the relevant environment, and click the relevant physical database in the **Binding** list for that environment.

3.2.3 Verifying Deployment

To verify that a specific JDBC Proxy has been deployed successfully:

1. Log into Rational Test Control Panel (if installed) as “administrator”.
2. Click the **Proxies** icon on the Rational Test Control Panel dashboard.

The proxy should be displayed on the **Agents** page.

Glossary

The following table below lists some of the key terms used in this document, and provides a description of each.

Term	Description
Proxy	A proxy server is a server (a computer system or an application) that acts as an intermediary for requests from clients seeking resources from other servers.
Server	A host computer on a network shared by more than one user.

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