

Rational® DOORS Web Access

*Installing and Configuring
DOORS Web Access*

IBM®

Note

Before using this information, be sure to read the general information under “Notices” on page 31

This edition applies to VERSION 1.3.0.1, IBM Rational DOORS Web Access and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Chapter 1. What is IBM Rational DOORS Web Access? 1

- What are the licensing options? 1
- The Rational DOORS Web Access Components 1
- Preparing to install the components 1

Chapter 2. Installing the components on Windows 3

- Installing the Rational DOORS Database Server on Windows 3
- Installing the Interoperation Server on Windows 3
- Installing the Rational DOORS Web Access Server and Broker on Windows 3

Chapter 3. Installing the components on Solaris 5

- Installing the Interoperation Server on Solaris 5
- Installing the Rational DOORS Database Server on Solaris 5
- Installing the Rational DOORS Web Access Server and Broker 6

Chapter 4. Installing the components on Linux 9

- Installing the Interoperation Server on Linux 9
- Installing the Rational DOORS Database Server on Linux. 9
- Installing the Rational DOORS Web Access Server and Broker 10

Chapter 5. Configuring the required components 13

- Identifying the database Universal Resource Name 13
- Setting up the Rational DOORS Web Access Server 13
 - Modifying festival.xml. 13
 - Example of festival.xml 14
- Setting up the Rational DOORS Database Server 15
 - Useful DCN commands 15

Chapter 6. Configuring the optional components 17

- Running multiple Interoperation Servers. 17
- Understanding the Rational DOORS Redirector Service 17
 - Configuring the Redirector Service 18

Chapter 7. Running Rational DOORS Web Access 19

- Starting the system on Windows 19
- Starting the system on Solaris or Linux 19
- Accessing the Web client 20
- Shutting down the system on Windows 20
- Shutting down the system on Solaris or Linux. 21
- Uninstalling Rational DOORS Web Access from Windows 21
- Uninstalling Rational DOORS Web Access from Solaris or Linux 21

Chapter 8. Configuring Rational DOORS Web Access. 23

- Configuring the Rational DOORS Web Access Server port 23
- Configuring the Rational DOORS Web Access Broker port 23
- Configuring HTTPS 24
- Information security 25

Chapter 9. Contacting IBM Rational software support 27

- Prerequisites for contacting IBM Rational Software Support 27
- Submitting problems 27
- Other information about IBM Rational software 29

Notices 31

Index 35

Chapter 1. What is IBM Rational DOORS Web Access?

IBM® Rational® DOORS® Web Access is a member of the IBM® Rational® DOORS product family, which is a package of requirements management tools that enterprises can use to effectively manage projects from the concepts phase through completion.

Rational DOORS Web Access helps promote collaboration and requirements use in your development process. It provides access to view, discuss, edit, and link requirements that are managed in your Rational DOORS database using a zero-footprint web browser application.

What are the licensing options?

You must have either a software or hardware license to run Rational DOORS Web Access.

Licenses are acquired for each user session, but are managed on the server side rather than in the client process. The server acquires licenses from the license server when users connect and releases them when the users log off. Users do not need direct access to the license server through any firewalls that might exist.

For more information about licensing, see the IBM Rational Lifecycle Solutions Licensing Guide. The guide is available from the IBM Rational Lifecycle Solutions DVD, and from the Web site at <http://www.ibm.com/software/awdtools/doors/webaccess/support>.

The Rational DOORS Web Access Components

Installing Rational DOORS Web Access involves the installation of a number of discrete components that are supplied by IBM.

Table 1. Rational DOORS Web Access Components

Component	Description
Rational DOORS Web Access Server	An adaptation of Apache Tomcat. Tomcat is an application server that executes Java® servlets and renders web pages that include Java™ Server Pages code.
Rational DOORS Web Access Broker	An adaptation of Apache ActiveMQ. ActiveMQ is an open source message broker that implements the Java Message Service (JMS)
Rational DOORS Database Server	Stores the data that you will be accessing.
Interoperation Server	A Rational DOORS client that you run from the command-line.

Preparing to install the components

Before you begin your product installation, make sure that the following planning steps are complete:

1. Ensure that you meet the system requirements for installing and running Rational DOORS Web Access. See <http://www.ibm.com/software/awdtools/doors/webaccess/support/> for system requirements.
2. Shut down all other applications.
3. Download the files that you need from the IBM Rational support site at <http://www.ibm.com/software/awdtools/doors/webaccess/support/> to the appropriate machine. For more information about the components, see “The Rational DOORS Web Access Components” on page 1.

The following table lists the files that you need to download for each platform:

Platform	File	Description
Windows®	IBM_Rational_DOORS_Web_Access.exe	Contains: <ul style="list-style-type: none"> • Rational DOORS Web Access Server. • Rational DOORS Web Access Broker. • IBM JRE for use with Rational DOORS Web Access. No other external JDK/JRE is required.
	Rational_DOORS_9_2.msi	A Rational DOORS client, which acts as the Interoperation Server for Rational DOORS Web Access. Note: The Rational DOORS client is referenced on the Rational DOORS Web Access download page but is only available to download from the Rational DOORS download area.
Solaris®	IBM_Rational_DOORS_Web_Access.bin	Contains: <ul style="list-style-type: none"> • Rational DOORS Web Access Server. • Rational DOORS Web Access Broker. • IBM JRE for use with Rational DOORS Web Access. No other external JDK/JRE is required.
	solaris.zip	Contains an Interoperation Server installer and a Rational DOORS Database Server installer.
Linux®	IBM_Rational_DOORS_Web_Access.bin	Contains: <ul style="list-style-type: none"> • Rational DOORS Web Access Server. • Rational DOORS Web Access Broker. • IBM JRE for use with Rational DOORS Web Access. No other external JDK/JRE is required.
	linux.zip	Contains the Interoperation Server installer.
	linux_server.zip	Contains a Rational DOORS Database Server installer.

4. Ensure that you have a valid license for Rational DOORS Web Access. For more information about licensing and the IBM Rational License Server TL, see the *IBM Rational Lifecycle Solutions Licensing Guide*. The guide is available from the *IBM Rational Lifecycle Solutions DVD*, and from our Web site at <http://www.ibm.com/software/rational/support/>.
5. On Windows, if you are upgrading from a previous version, follow the instructions that were provided with that version. to shut down the components before you continue.

Chapter 2. Installing the components on Windows

To run Rational DOORS Web Access on Windows, you must install the database server, interoperation server, Web access broker and Web access server.

Installing the Rational DOORS Database Server on Windows

The Web client accesses a Rational DOORS database server. If you have already installed a database server, you need the port number and the name of the server machine for use later in the procedure.

About this task

If you do not have a database server installed, you must install one. To install the database server:

1. Choose the machine you want to run the database server on.
2. Run the Rational DOORS Database Server installer as normal. For information about installing the database server, see the *IBM Rational DOORS Installation Guide*.
3. Install the software. The default port is 36677. Take a note of the port number you choose and the name of the server for use later in the procedure.

Installing the Interoperation Server on Windows

To install the Interoperation Server:

1. Choose the machine you want to run the Interoperation Server on.
2. Install the Interoperation Server by running the Rational_DOORS_9_2.msi file. Make sure that you enter the details for the Rational DOORS Database Server that you want the Web client to access. For more information about installing the Interoperation Server, follow the instructions for installing a Rational DOORS Client in the *IBM Rational DOORS Installation Guide*.

Installing the Rational DOORS Web Access Server and Broker on Windows

Before you begin

Copy the IBM_Rational_DOORS_Web_Access.exe file to the machine or machines that you want to install the Web access server and broker on. If you want to install the server and broker on different machines, repeat the following instructions on each machine.

To install the Web access server and broker:

1. Choose the machine where you want to install the files.
2. Double-click IBM_Rational_DOORS_Web_Access.exe, and then follow the instructions to install the files.

Note: You can also run IBM_Rational_DOORS_Web_Access.exe from the command-line.

What to do next

Follow the instructions in Chapter 5, “Configuring the required components,” on page 13.

Chapter 3. Installing the components on Solaris

To install Rational DOORS Web Access on Solaris operating systems, you must install the Interoperation Server, database server, Web access broker, and Web access server. It is possible to install the database server as part of your Interoperation Server installation.

Installing the Interoperation Server on Solaris

Before you begin

Copy `solaris.zip` to the machine that you want to run the Interoperation Server on and log in as root.

To install the Interoperation Server:

1. Create a home directory for the installation.
2. Create a non-privileged user account to own the Interoperation Server files. For example, you can name the account `doors`.
3. Navigate to the directory that contains `solaris.zip` and extract it: `unzip solaris.zip`
4. Navigate to the directory that contains the installers: `cd unix/bin`
5. Run the installers `./instdoor.sh` You can use this file to install both the Interoperation Server and the Rational DOORS Database Server.

Note: If you are installing the Interoperation Server and the database server on the same machine, you can install them at the same time. At Step 6 b, accept the installation of the Interoperation Server and the Database Server.

6. Answer the prompts on the screen:
 - a. Enter path to CD-ROM device or DOORS distribution.
 - b. Accept the installation of the Interoperation Server.
 - c. Enter the path to the DOORS home directory that you created in Step 1.
 - d. Confirm that you do not want to install the interface services.
 - e. Enter the name of the user that you created in Step 2.
 - f. Confirm the type of installation. Select both the **Common** installation and the **Solaris** installation.
7. The installation script then confirms all the installation options and installs the files.
8. When the installation is complete, press **ENTER**. All updates that are required for the account profile that you created to own the Interoperation Server files are displayed in the output.

If you have installed the database server, you can skip the *Installing the Rational DOORS Database Server* task.

Installing the Rational DOORS Database Server on Solaris

To run Rational DOORS Web Access on a Solaris system you must install a Rational DOORS Database Server.

Before you begin

Copy `solaris.zip` to the machine you want to run the Rational DOORS Database Server on and log in as root.

Note: You do not need to perform this task if you installed the database server as part of your Interoperation Server installation.

About this task

To install the database server:

1. Create a home directory for the installation.
2. Navigate to the directory that contains `solaris.zip` and extract it: `unzip solaris.zip`
3. Navigate to the directory that contains the installers: `cd unix/bin`
4. Run the installers `./instdoor.sh` You use this file to install both the Interoperation Server and the DOORS Database Server.
5. Answer the prompts on the screen:
 - a. Enter path to CD-ROM device or Rational DOORS distribution.
 - b. Decline the installation of the Interoperation Server, then accept the installation of the database server.
 - c. Enter the path to the home directory that you created in Step 1.
 - d. Confirm that you do not want to install the interface services.
 - e. Enter the name of the owner that you created in Step 2 in the Interoperation Server installation procedure.
 - f. Confirm the type of installation. Select the Solaris installation.
6. The installation script then confirms all the installation options and installs the files.
7. When the installation is complete, press **ENTER**. Updates that are required for the account profile that you created to own the Interoperation Server files are displayed in the output.

Note: If the installation directory for the database server and the Interoperation Server are different, then the required profile updates will be in conflict. You can use shell scripts to start the processes instead.

Installing the Rational DOORS Web Access Server and Broker

Before you begin

Copy the `IBM_Rational_DOORS_Web_Access.bin` file to the machine or machines that you want to install the Web access server and broker on. If you want to install the server and broker on different machines, repeat the following instructions on each machine.

To install the Web access server and broker:

1. Make the `IBM_Rational_DOORS_Web_Access.bin` file an executable file by running the following command:

```
chmod u+x IBM_Rational_DOORS_Web_Access.bin
```
2. Choose the directory where you want to install the files, and run `IBM_Rational_DOORS_Web_Access.bin`. Follow the instructions to install the files.

3. Set the appropriate permissions on the files in the directory structure and install the JRE by running the `configure-festival.sh` script.
 - a. Navigate to the `dwa` directory
 - b. Run the script: `bash configure-festival.sh`

Note: The script reports that it is installing JRE. The installation is local to the current directory and does not affect any other Java installations on the system.

What to do next

Follow the instructions in Chapter 5, “Configuring the required components,” on page 13.

Chapter 4. Installing the components on Linux

To install Rational DOORS Web Access on Linux operating systems, you must install the Interoperation Server, database server, Web access broker, and Web access server. It is possible to install the database server as part of your Interoperation Server installation.

Installing the Interoperation Server on Linux

Before you begin

Copy `linux.zip` to the machine that you want to run the Interoperation Server on and log in as `root`.

To install the Interoperation Server:

1. Create a home directory for the installation.
2. Create a non-privileged user account to own the Interoperation Server files. You could call this user account `doors`.
3. Navigate to the directory that contains `linux.zip` and extract it: `unzip linux.zip`
4. Navigate to the directory that contains the installers: `cd unix/bin`
5. Run the installer `./instdoor.sh`
6. Answer the prompts on the screen:
 - a. Enter path to CD-ROM device or Rational DOORS distribution.
 - b. Accept the installation of the Interoperation Server.
 - c. Enter the path to the home directory that you created in Step 1.
 - d. Confirm that you do not want to install the interface services.
 - e. Enter the name of the user that you created in Step 2.
 - f. Confirm the type of installation. Select both the **Common** installation and the **Linux** installation.
7. The installation script then confirms all the installation options and installs the files.
8. When the installation is complete, press **ENTER**. All updates that are required for the account profile that you created to own the Interoperation Server files are displayed in the output.

Installing the Rational DOORS Database Server on Linux

To run Rational DOORS Web Access on a Linux system you must install a Rational DOORS Database Server.

Before you begin

Copy `linux_server.zip` to the machine you want to run the Rational DOORS Database Server on and log in as `root`.

About this task

To install the database server:

1. Create a home directory for the installation.
2. Navigate to the directory that contains `linux_server.zip` and extract it: `unzip linux_server.zip`
3. Navigate to the directory that contains the installers: `cd unix/bin`
4. Run the installer `./instdoor.sh`
5. Answer the prompts on the screen:
 - a. Enter path to CD-ROM device or Rational DOORS distribution.
 - b. Accept the installation of the database server.
 - c. Enter the path to the home directory that you created in Step 1.
 - d. Confirm that you do not want to install the interface services.
 - e. Enter the name of the user that you created in Step 2 in the Interoperation Server installation procedure.
 - f. Confirm the type of installation. Select the **Linux** installation.
6. The installation script then confirms all the installation options and installs the files.
7. When the installation is complete, press **ENTER**. Updates that are required for the account profile that you created to own the Interoperation Server files are displayed in the output.

Note: If the installation directory for the database server and the Interoperation Server are different, then the required profile updates will be in conflict. You can use shell scripts to start the processes instead.

Installing the Rational DOORS Web Access Server and Broker

Before you begin

Copy the `IBM_Rational_DOORS_Web_Access.bin` file to the machine or machines that you want to install the Web access server and broker on. If you want to install the server and broker on different machines, repeat the following instructions on each machine.

To install the Web access server and broker:

1. Make the `IBM_Rational_DOORS_Web_Access.bin` file an executable file by running the following command:

```
chmod u+x IBM_Rational_DOORS_Web_Access.bin
```
2. Choose the directory where you want to install the files, and run `IBM_Rational_DOORS_Web_Access.bin`. Follow the instructions to install the files.
3. Set the appropriate permissions on the files in the directory structure and install the JRE by running the `configure-festival.sh` script.
 - a. Navigate to the `dwa` directory
 - b. Run the script: `bash configure-festival.sh`

Note: The script reports that it is installing JRE. The installation is local to the current directory and does not affect any other Java installations on the system.

What to do next

Follow the instructions in Chapter 5, “Configuring the required components,” on page 13.

Chapter 5. Configuring the required components

After you have installed the components for your operating system, you must configure them to communicate with each other.

Identifying the database Universal Resource Name

The database Universal Resource Name (URN) is used once you start up Rational DOORS Web Access. You need to locate it now, and make a note of it for later use.

1. If the Rational DOORS Database Server is not already running, then start it.
2. Start the Rational DOORS client and log in to the database.
3. In either the Rational DOORS Explorer or a module window, click **Tools > Edit DXL**
4. Type the following DXL script into the DXL input pane:

```
print getDatabaseIdentifier()
```

5. Click **Run** to run the program. A 16 digit hexadecimal number is output, for example 38f5c98719f27b6d. This forms part of the database URN. In this example, the database URN is: urn:telelogic:ers-38f5c98719f27b6d:
6. Make a note of the database URN.

Setting up the Rational DOORS Web Access Server

You need to set up the Rational DOORS Web Access Server to communicate with the broker, the license server and the appropriate Rational DOORS database repository.

The Rational DOORS Web Access Server is configured using the server\festival directory. The festival directory contains two subdirectories:

- config

This directory contains festival.xml, the core configuration file within Rational DOORS Web Access. The festival.xml file:

- Can be configured so that the Rational DOORS Web Access Server communicates with the broker and the license server
- Contains the URN of the Repository, which must match the URN you identified in “Identifying the database Universal Resource Name” or the TDS Repository ID

Note: The config directory contains other files that you must not modify unless you receive the guidance of IBM Rational support.

- custom

This directory contains a subdirectory containing a file called readme.htm, which you can use to configure the Welcome screen.

Modifying festival.xml

The festival.xml file is the core configuration file within Rational DOORS Web Access. You need to modify the entries for f:broker, f:repository-mapping and f:properties.

1. In the example, there are three `f:broker` entries that describe where the broker is. Edit these entries to point to the url of the machine where you installed the broker with the default port (61616). If the broker is on the same machine as the Rational DOORS Web Access Server, you do not have to edit these entries.
2. The `f:repository-mapping` entry defines the URN of the repository.
 - a. The name attribute is the name displayed on the Rational DOORS Web Access log on page. You can change this attribute. The default is DOORS ERS Repository.
 - b. The `repositoryUrn` attribute needs to match the URN of the Rational DOORS Database Server you identified in "Identifying the database Universal Resource Name" on page 13. You must change this attribute.
3. The `f:properties` entry defines the location of the license server. The property name attribute is `licence.server.location` with the value `19353@localhost`, which is the port number and machine name of the license server. Edit the value to point to the location of your license server. This location is added to the list of license locations held on your system.

Example of festival.xml

The festival.xml file is the core configuration file for Rational DOORS Web Access.

```

<!--Brokers we know about -->
  <f:endpoints>
    <f:broker
      name="GENERALSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="DCSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="RMSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />
  </f:endpoints>

  <!-- Mapping from Repository IDs to the broker we use to reach the repository -->
  <f:mappings>
    <f:repository-mapping
      enabled="true"
      endpoint="RMSERVICES"
      name="DOORS ERS Repository"
      repositoryUrn="urn:telelogic:ers-46dd5d7806b96973:" />
  </f:mappings>

  <!-- Configurable system properties -->
  <f:properties>
    <f:property name="licence.server.location" value="19353@localhost" />
  </f:properties>

</f:lsc>
</f:configuration>

```

Setting up the Rational DOORS Database Server

You must configure the Rational DOORS Database Server to communicate with the broker by adding Data Change Notifications (DCN) parameters to the command line. DCNs are messages that contain information about changes made to Rational DOORS data.

To set up the database server:

1. Locate dbadmin.
 - On Windows systems, dbadmin is located in the DOORS_9_2\bin directory on the Rational DOORS client machine
 - On Solaris and Linux systems, dbadmin is located in the \$DOORSHOME/bin directory
2. Run dbadmin, in a command line in the following format:

```
dbadmin -data port@myserver -dcnEnable -dcnBrokerUri  
"tcp://myBroker:61616" -dcnChannelName "dcn"
```

Table 2. Parameters used for the Rational DOORS Database Server command-line setup

Parameter	Description
-data port@myserver	Identifies the Rational DOORS Database Server, where <i>port</i> is the port number the database server is using and <i>myserver</i> is the name of the machine where the database server is installed.
-dcnEnable	Enables the DCNs
-dcnBrokerUri "tcp://myBroker:61616"	Locates the broker, where <i>myBroker</i> is the machine hosting the broker and <i>61616</i> is the default port that the broker uses.
-dcnChannelName "dcn"	Sets up the DCN channel. The channel name is always dcn.

3. Restart the Rational DOORS Database Server for the new settings to take effect.

Useful DCN commands

Use these commands to check the DCN service status and turn the service off and on.

- You can use the -dcnInfo parameter to check the DCN service status:

```
dbadmin -data 36677@myserver -dcnInfo
```
- You can use -dcnDisable and -dcnEnable turn the DCN service off and on:

```
dbadmin -data 36677@myserver -dcnDisable  
dbadmin -data 36677@myserver -dcnEnable
```

You need to restart the Rational DOORS Database Server for the new settings to take effect.

Chapter 6. Configuring the optional components

You can optionally configure the following components.

Running multiple Interoperation Servers

Setting up your system to run multiple Interoperation Servers can improve performance and increase the availability of the system.

Performance is improved because more modules can be cached, allowing quicker access to your data. Rational DOORS Web Access has routing logic to perform basic load balancing across the Interoperation Servers.

Availability is improved because the system can continue to work if one of the Interoperation Servers fails. While one Interoperation Server is down, users can continue to access the database using the others.

To run multiple Interoperation Servers, start up multiple instances of the Interoperation Server.

All the Interoperation Servers must:

- Connect to the same Rational DOORS Web Access Broker
- Use the same Rational DOORS Database Server

The Interoperation Servers can be on different machines. For information, see step 3 in “Starting the system”.

Understanding the Rational DOORS Redirector Service

The Rational DOORS Redirector Service is an optional service. It allows users to choose whether to open DOORS URLs in a standard Rational DOORS client or in a Web client. If the Redirector Service is not configured, DOORS URLs are opened in a standard client.

The Rational DOORS database, and each project, folder, module, module baseline, and object in the database has a unique identifier, which is expressed as a URL. The URL begins doors://. DOORS URLs can be inserted into a web page, stored as favorites or bookmarks in your browser, included in e-mails, or pasted into other applications.

If you want Rational DOORS Web Access users to be able to use DOORS URLs in the same way as Rational DOORS users, configure the Redirector Service and the Rational DOORS Database Server. Users can then specify whether to open DOORS URLs in a standard client or in the Web client. The Redirector Service automatically opens the URL in the chosen tool.

The Redirector Service is installed with the Rational DOORS Web Access Server. The Redirector Service shares a web server and port with Rational DOORS Web Access, but is configured separately from Rational DOORS Web Access.

Configuring the Redirector Service

You have to configure the Rational DOORS Redirector Service, the Rational DOORS Web Access Server and the Rational DOORS Database Server.

1. Navigate to the directory where you extracted `dwa.zip`.
2. Open `server\festival\config\doorsRedirector.properties` in a text editor.
3. Set the `doors.url.prefix` value to match the database server that is serving Rational DOORS Web Access in the form `doors://host:port/`, where *host* is the name of the Rational DOORS Database Server machine and *port* is the port number it uses (typically 36677).

Important: Do not delete the `/` at the end of this value.

4. Set the `dwa.url.prefix` value to match the Rational DOORS Web Access Server, in the form `http://host:port/dwa/`, where *host* is the name of the Rational DOORS Web Access Server machine, and *port* is the port number it uses (typically 8080).

Important: Do not delete the `/` at the end of this value.

5. Optionally:
 - Disable forwarding from the redirector service to Rational DOORS Web Access by setting `<entry key="dwa.enable">false</entry>`
 - Disable forwarding from the redirector service to Rational DOORS by setting `<entry key="doors.enable">false</entry>`
6. Save and close the file.
7. Open `server\festival\config\festival.xml` in a text editor.
8. Find the line beginning `<f:property name="published.url.prefix"`.
9. Change `MYHOSTNAME` to the name of the machine where the Redirector Service is installed.

Important: Do not delete the `/` at the end of this value.

10. To display URLs in Rational DOORS Web Access, edit the line `<f:property name="display.redirector.urls" value="false"/>`. Change `value="false"` to `value="true"`, and then save and close the file.
11. Start `doorsd` then configure the Rational DOORS Database Server so that generated URLs refer to the Redirector Service. In the `bin` directory of the database server installation, run the command:

```
dbadmin -data port@host -urlPrefix http://yourdwaserver:port/doors/redirector
```

where *yourdwaserver* is the name of the Rational DOORS Web Access server machine, and *port* is the port number it uses (typically 8080).

12. Restart the Rational DOORS Web Access components.

Chapter 7. Running Rational DOORS Web Access

When you are ready to use Rational DOORS Web Access, there is a specific order of procedures to follow for starting, accessing, and stopping the Web client.

Starting the system on Windows

1. Start the broker by running `broker.start.bat`. This file is in the directory where you installed the broker.
2. Start the Rational DOORS Database Server as a service on the machine hosting the database.
3. Run the Interoperation Server on the machine hosting it with its command-line attributes in the following format:

```
doors.exe -interop -data port@myserver -brokerHost myBroker -brokerPort brokerport
```

where:
 - *port* is the port number the Rational DOORS Database Server is using and *myserver* is the name of the machine where the Rational DOORS Database Server is installed
 - *myBroker* is the name of the machine hosting the broker
 - *brokerport* is the port that the broker is using, by default 61616.
4. Start the Rational DOORS Web Access Server by running `server.start.bat`. The file is in the directory where you installed the server. It can be slow to start the first time it is run because it has to unpack some files.

Results

When you run 1, 3 and 4, a command-prompt window opens for each process. Do not close these windows.

Starting the system on Solaris or Linux

1. Log in as the user that you created when you installed the Interoperation Server.
2. Start the broker by running `broker.start.sh`, which is in the `dwa` directory on the machine hosting the broker.
3. Set the following environment variables on the machine hosting the Rational DOORS Database Server.

```
DOORSHOME=doors-home-path
SERVERDATA=path_to_data_directory
PATH=$DOORSHOME/bin:$PATH
PORTNUMBER=database-server-port-number
export DOORSHOME SERVERDATA PATH PORTNUMBER DOORSDATA
```

Note: This `DOORSHOME` variable relates to where the Rational DOORS Database Server is installed.
4. Start the Rational DOORS Database Server:
 - a. Log in as the user that you created when you installed the Interoperation Server.
 - b. Change your working directory to `$DOORSHOME/bin`.
 - c. Enter the following command: `./doorsd &`

5. Set the following environment variables on the machine hosting the Interoperation Server:

```
DOORSHOME=doors-home-path
DOORSDATA=36677@myserver
PATH=$DOORSHOME/bin:$PATH
export DOORSHOME PATH DOORSDATA
```

Note: If the installation directory for the database server and the Interoperation Server are different, then the required profile updates are conflicting. This DOORSHOME variable relates to where the Interoperation Server is installed, and can be different from the DOORSHOME variable used in step 3.

6. Navigate to \$DOORSHOME/bin and run the Interoperation Server with its command-line attributes in the following format:

```
./doors9 -interop -data port@myserver -brokerHost
myBroker -brokerPort brokerport &
```

where:

- *port* is the port number the Rational DOORS database server is using and *myserver* is the name of the machine where the Rational DOORS Database Server is installed
 - *myBroker* is the name of the machine hosting the broker
 - *brokerport* is the port that the broker is using, by default 61616.
7. Start the Rational DOORS Web Access Server by running `server.start.sh`, which is in the `dwa` directory on the machine hosting the server.

Accessing the Web client

Once you have started the system you can use your Web browser to access data in your Rational DOORS database.

1. Follow the instructions for starting the system, making sure that the Rational DOORS Web Access Server has started without error
2. In your browser, enter the URL that points to the Rational DOORS Web Access Server. For example, `http://servername:8080/dwa`. The Web client opens and the Welcome screen is displayed.
3. Enter your **User name** and **Password**, and then click **Login**. You are connected to the Rational DOORS database.
4. When you are finished, click **Logout**. The Welcome screen is displayed.

Shutting down the system on Windows

To shut down the system you must stop the following processes.

1. Stop the Rational DOORS Web Access Server by running `server.shutdown.bat`. This file is in the directory where you installed the server. The process can take some time to end (15-30 seconds), and might report a number of socket warnings while shutting down.
2. Stop the Interoperation Server using the “close window” option in Windows.
3. Stop the Rational DOORS Database Server service using the Windows Control Panel.
4. Stop the broker by running `broker.shutdown.bat`. This file is in the directory where you installed the broker. The process can take some time to end (15-30 seconds), and might report a number of socket warnings while shutting down.

Shutting down the system on Solaris or Linux

To shut down the system you must stop the following processes.

1. Stop the Rational DOORS Web Access Server by running `server.shutdown.sh` script. This script is in the `dwa` directory. The process can take some time to end (15-30 seconds), and might report a number of socket warnings while shutting down.
2. Stop the Interoperation Server by killing the process.
3. Stop the Rational DOORS Database Server using the following command from `$DOORSHOME/bin`:

```
dbadmin -data port@computer -killserver [-password password]
```
4. Stop the broker by running the `broker.shutdown.sh` script in the `dwa` directory. The process can take some time to end (15-30 seconds), and might report a number of socket warnings while shutting down.

Uninstalling Rational DOORS Web Access from Windows

Follow these instructions to uninstall Rational DOORS Web Access from your system.

- Uninstall the Rational DOORS Web Access Server by deleting the `dwa` directory
- Uninstall the broker by deleting the `dwa` directory
- Uninstall the Interoperation Server and the Rational DOORS Database Server using Add/Remove Programs.

Note: Currently, the Interoperation Server program is called IBM Rational DOORS 9.2.

Uninstalling Rational DOORS Web Access from Solaris or Linux

Follow these instructions to uninstall Rational DOORS Web Access from your system.

- Uninstall the Rational DOORS Web Access Server and broker by deleting the `dwa` directory
- Uninstall the Interoperation Server and the Rational DOORS Database Server by deleting `$DOORSHOME`

Chapter 8. Configuring Rational DOORS Web Access

You can configure the Rational DOORS Web Access Server ports, the Rational DOORS Web Access Broker ports, and HTTPS.

Configuring the Rational DOORS Web Access Server port

You can configure the server by editing the `server.xml` file in the `conf` subdirectory.

1. Open the `server.xml` file.
2. Navigate to the following line:
`<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->`
3. Change the port number in the line `<Connector port="8080"`. This is the port that the server listens on for HTTP requests. Save the file, and then restart the server.

Note: Take care when changing the `server.xml` file, as incorrect edits can lead to a complete loss of system functionality. Make a backup of the file before you edit it.

Configuring the Rational DOORS Web Access Broker port

Edit the `activemq.xml` file in the `conf` subdirectory of the machine hosting the broker. Edit the `festival.xml` file on the machine hosting the Rational DOORS Web Access Server.

In the `activemq.xml` file there are entries for `<transportConnectors>` followed by multiple `<transportConnect..` elements. Each defines a protocol and port that the broker listens on.

Open `activemq.xml` and change the URI attribute in the `openwire` element, which defaults to port 61616:

```
<transportConnector name="openwire" uri="tcp://localhost:61616"/>
```

Save the `activemq.xml` file.

Finally, on the machine hosting the Rational DOORS Web Access Server, open the `festival.xml` file and modify the three broker ports (in bold in the following example):

```
<!-- Brokers we know about -->
  <f:endpoints>
    <f:broker
      name="GENERSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="DCSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
```

```

        name="RMSERVICES"
        url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
        username=""
        password="" />
    </f:endpoints>

```

Save the festival.xml file, and restart all the components.

Note: Take care when changing the activemq.xml file and the festival.xml file, as incorrect edits can lead to a complete loss of system functionality. Back up the files before you edit them.

Configuring HTTPS

Rational DOORS Web Access supports the use of HTTPS communication between the web browser and the Rational DOORS Web Access Server.

To configure HTTPS you need a certificate. You can make one manually for testing purposes or you can purchase one from a trusted certificate authority.

You also need to have a keystore containing the server certificate. You can create and manage a keystore using the standard Java key tool facilities as documented on the Sun Web site.

You need to define a new connector in the Connector element in the server.xml file to allow HTTPS. The server.xml file is in the conf subdirectory on the server machine.

Open the file and make the changes in **bold**:

```

<!-- Delete this line from the file
<Connector port="8443" maxHttpHeaderSize="8192"
maxThreads="150" inSpareThreads="25"
MaxSpareThreads="75" enableLookups="false"
disableUploadTimeout="true" acceptCount="100"
scheme="https" secure="true" clientAuth="false" sslProtocol="TLS"
keystoreFile="c:\dwaServer\keystore.ks"
keystorePass="password" algorithm="IbmX509"
/>
--> Delete this line from the file

```

By default, this Connector element is commented out. Deleting the line immediately preceding it and immediately after it makes the element active.

The changes to the file:

- Set the server to use HTTPS on port 8443
- Use the keystore entries to identify the keystore that contains the server certificate.

Save the file, and then restart the server.

Note: Take care when changing the server.xml file, as incorrect edits can lead to a complete loss of system functionality. Make a backup of the file before you edit it.

For more information about configuring HTTPS and for other methods of configuration, see the user documentation for Tomcat.

Information security

The default deployment of Rational DOORS Web Access uses insecure communication between each server component.

The system supports the use of HTTPS to protect communications between the browser and the Rational DOORS Web Access Server. There is currently no support for secure communication between different server-side components.

You can protect communications using recognized security strategies, such as firewalls. Users of the Web client typically only need to have direct access to the Rational DOORS Web Access Server port.

Chapter 9. Contacting IBM Rational software support

If the self-help resources have not provided a resolution to your problem, you can contact IBM Rational Software Support for assistance in resolving product issues.

Note: If you are a heritage Telelogic customer, you can go to <http://support.telelogic.com/toolbar> and download the IBM Rational Telelogic Software Support browser toolbar. This toolbar helps simplify the transition to the IBM Rational Telelogic product online resources. Also, a single reference site for all IBM Rational Telelogic support resources is located at <http://www.ibm.com/software/rational/support/telelogic/>

Prerequisites for contacting IBM Rational Software Support

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage[®] software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering.

You can enroll online in Passport Advantage from <http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html>.

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.
- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to <http://www.ibm.com/software/support/>.
- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting. Use the following table to determine the severity level

Table 3. Determining the severity level of your problem

Severity	Description
1	The problem has a critical business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a significant business impact: The program is usable, but it is severely limited.
3	The problem has some business impact: The program is usable, but less significant features (not critical to operations) are unavailable.

Table 3. Determining the severity level of your problem (continued)

Severity	Description
4	The problem has minimal business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information. When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:
 - What software versions were you running when the problem occurred?
To determine the exact product name and version, use the option applicable to you:
 - Start the IBM Installation Manager and select **File > View Installed Packages**. Expand a package group and select a package to see the package name and version number.
 - Start your product, and click **Help > About** to see the offering name and version number.
 - What is your operating system and version number (including any service packs or patches)?
 - Do you have logs, traces, and messages that are related to the problem symptoms?
 - Can you recreate the problem? If so, what steps do you perform to recreate the problem?
 - Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?
 - Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.
3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:
 - Online:

Go to the IBM Rational Software Support Web site at <https://www.ibm.com/software/rational/support/> and in the Rational support task navigator, click Open Service Request. Select the electronic problem reporting tool, and open a Problem Management Record (PMR), describing the problem accurately in your own words.

For more information about opening a service request, go to <http://www.ibm.com/software/support/help.html>

You can also open an online service request using the IBM Support Assistant. For more information, go to <http://www.ibm.com/software/support/isa/faq.html>.
 - By phone:

For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at <http://www.ibm.com/planetwide/> and click the name of your country or geographic region.
 - Through your IBM Representative:

If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at <http://www.ibm.com/planetwide/>.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Rational Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Rational Software Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Rational Software Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.

Other information about IBM Rational software

For Rational software product news, events, and other information, visit the IBM Rational Software Web site.

The website can be accessed at <http://www.ibm.com/software/rational/>.

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Index

A

ActiveMQ 1
activemq.xml 23

B

broker
 about 1
 activemq.xml 23
 configuring the port 23
 installing on Solaris 6, 10
 installing on Windows 3
 starting on Linux 19
 starting on Solaris 19
 starting on Windows 19
 stopping on Linux 21
 stopping on Solaris 21
 stopping on Windows 20
 uninstalling on Linux 21
 uninstalling on Solaris 21
 uninstalling on Windows 21

C

component communication
 configuring optional 17
 configuring required 13
Connector element 24

D

DCN
 commands 15

F

festival-log4j.xml 13
festival.xml
 about 13
 configuring the broker port 23
 example 14
 modifying 14

I

IBM Customer Support 27
installing
 on Linux 9
 on Solaris 5
 on Windows 3
 preparing 2
installing on Linux 6, 10
installing on Solaris 6, 10
Interoperation Server
 installing on Linux 9
 installing on Solaris 5
 installing on Windows 3
 running multiple 17

Interoperation Server (*continued*)

 running on Linux 19
 running on Solaris 19
 running on Windows 19
 stopping on Linux 21
 stopping on Solaris 21
 stopping on Windows 20
 uninstalling on Linux 21
 uninstalling on Solaris 21
 uninstalling on Windows 21

K

keystore 24

L

licensing options 1
logging off 20
logging on 20

P

preparing to install 2

R

Rational DOORS Database Server
 about 1
 installing on Linux 6, 9
 installing on Windows 3
 starting on Linux 19
 starting on Solaris 19
 starting on Windows 19
 stopping on Linux 21
 stopping on Solaris 21
 stopping on Windows 20
 uninstalling on Linux 21
 uninstalling on Solaris 21
 uninstalling on Windows 21
Rational DOORS Web Access
 components 1
 configuring optional components 17
 configuring required component
 communication 13
 introduction 1
Rational DOORS Web Access Server
 about 1
 configuring HTTPS 24
 configuring the port 23
 installing on Linux 6, 10
 installing on Solaris 6, 10
 installing on Windows 3
 server.xml 23, 24
 setting up 13
 starting on Linux 19
 starting on Solaris 19
 starting on Windows 19
 stopping on Linux 21

Rational DOORS Web Access Server
(*continued*)

 stopping on Solaris 21
 stopping on Windows 20
 uninstalling on Linux 21
 uninstalling on Solaris 21
 uninstalling on Windows 21
Redirector Service
 configuring 18
 introducing 17

S

server.xml
 configuring HTTPS 24
 configuring the DA Server port 23

T

Tomcat 1

U

Universal Resource Name
 identifying 13
URN
 identifying 13

W

welcome screen
 configuring 13



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