Managing Rational DOORS

IBM Rational DOORS

Managing Rational DOORS

Release 9.2

Before using this information, be sure to read the general information under the "Notices" chapter on page 185.

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1 *About this manual*

Welcome to IBM® Rational® DOORS® 9.2, a powerful tool that helps you to capture, track and manage your user requirements.

This book describes how to set up and manage Rational DOORS. It is for Rational DOORS Project Managers and Database Managers. It assumes that you've read *Getting Started with Rational DOORS*.

Typographical conventions

The following typographical conventions are used in this manual:

Typeface or Symbol	Meaning
Bold	Important items, and items that you can select, including buttons and menus: "Click **Yes** to continue".
Italics	Book titles.
Courier	Commands, files, and directories; computer output: "Edit your .properties file".
>	A menu choice: "Select **File > Open**". This means select the **File** menu, and then select the **Open** option.

Related documentation

The following table describes where to find information in the documentation set:

For information on	See
What's new in version 9.2 of Rational DOORS	The Rational DOORS readme file
How to install Rational DOORS	*Rational DOORS Installation Guide*
How to set up licenses to use Rational DOORS	*Rational Lifecycle Solutions Licensing Guide*

For information on	See
How to use Rational DOORS	*Getting Started with Rational DOORS* *Using Rational DOORS*
How to write requirements	*Get It Right the First Time*
How to set up and manage Rational DOORS	*Managing Rational DOORS*
The DXL programming language	*DXL Reference Manual*
How to integrate Rational DOORS with other applications	*Rational DOORS API manual*

These documents are on the Rational Information Center at
http://publib.boulder.ibm.com/infocenter/rsdp/v1r0m0/index.jsp.

2 *Planning*

This chapter contains the following topics:

- Planning how to organize your data
- Planning connections
- Planning users
- Types of user
- The Administrator user account
- Planning groups
- Controlling how users log in
- Using passwords
- Using system user names
- Dealing with login failures

Note Take time to plan before you set up your system. The time you spend planning saves you time later.

Planning how to organize your data

Think about what hierarchical structure you want for your data. Draw a sketch of the structure before you create any projects, folders or modules.

Bear these points in mind:

- Although you can rearrange the structure of your data by using drag-and-drop or cut and paste in the Database Explorer, you cannot do that when users are accessing the data.

- You use access controls to specify who can see what.

  For information about controlling who has access to the database root, see "Changing the access rights for the database root," on page 63.

- To be able to see a module in the Database Explorer, a user must have read access from a root node in the left pane of the Database Explorer right down to the module itself.

  In Database view, the user must have read access from the database root, right down to the module itself.

In Project view, the user must have read access from the project that contains the module right down to the module itself.

- You cannot create modules at the top level of the database, immediately below the database root.

  At the top level of the database, you can only have folders and projects.

- You can archive modules and projects, but you cannot archive folders.

  For information about archive and restore, see "Archiving and restoring data," on page 77.

- When you restore an archived module, you lose all the links to and from the restored module, including internal links between objects within the module.

- If you want to be able to archive and restore a project, make sure the project does not have any links to other projects.

  When you restore a project, links that are entirely contained within the restored project are preserved. Other links are lost.

  If you have links between projects A and B, you might want to create a dummy project that contains A and B. When you archive and restore the dummy project, the links between projects A and B are preserved.

- Each project has a unique name in the database.

  The location of any data in the project is uniquely identified by a path that starts at the project.

- When you use Project view in the Database Explorer, every project is displayed at the top-level in the left pane. This means that if you have nested projects, any subprojects are displayed in the left pane as top-level projects.

  Make sure users understand that they are seeing multiple views of the same data.

- You can partition projects, but you cannot partition folders.

  For information about partitions, see "Managing partitions," on page 137.

  If you want to be able to create a partition that contains modules in different projects, again you could consider creating a dummy project that contains the two projects.

  Users at the away database can see any links that are contained entirely within the partition.

Planning connections

There are upper limits to the number of client connections you can have to your database server. The number varies depending on the operating system you are running the Rational DOORS database server on:

Operating system	Maximum number of connections
Windows	1024
Solaris 9	128
Solaris 10	32000
Linux	900
HP-UX	360

If you exceed these upper limits, you run the risk of data corruption.

Setting up your Solaris 10 environment

To take full advantage of the maximum number of concurrent users on Solaris 10, you must set up your environment to make 65536 file descriptors available to the Rational DOORS server. This allows you to have a maximum of 32000 concurrent users.

To make 65536 file descriptors available, set up extended FILE support on the Solaris 10 server. From release 07/2007 onwards, this comes as standard. Turn it on by entering the following commands:

```
% ulimit -n 65536
% export LD_PRELOAD_32=/usr/lib/extendedFILE.so.1
% cd $DOORSHOME/bin
% ./doorsd -port
```

For users with an earlier version of Solaris 10, you must install the following three server patches (all are for the SPARC platform):

- 125100-04 Kernel Update Patch

- 120473-05 libc nss ldap PAM zfs Patch

- 125800-01 Fault Manager Patch

Planning users

You can use the IBM® Rational® Directory Server (RDS) to manage users. For more information, see "Configuring RDS," on page 45.

Generally, it is good practise to set up a separate user account for each user of your Rational DOORS database. Do not let different people share the same user name, or you will lose traceability—you will not know who made what changes to your data.

An exception to this rule is if you want to set up a general purpose guest account for visitors and other people who need short-term, read-only access to your data.

Note If someone needs to modify data, create an account for them, even if they only need it for a few days.

Naming conventions

Take time to plan what conventions you want to use for user names. Although you can change a user name at any time, Rational DOORS does not record this information in the database history. For example, if you change a user name from **John** to **John Smith**, you cannot tell from the database history whether **John Smith** is a brand new user or an existing user whose user name has changed.

When planning user names, bear these points in mind:

- Each user name must be unique.

  No two users can have the same user name. And user names and group names must be different; you cannot have a user and a group with the same name.

- User names can contain alphanumeric characters (letters of the alphabet and numbers), space characters, and punctuation characters.

- User names are case-sensitive. The names **John Smith** and **John SMITH** are different.

- Use the person's real name as their user name, for example, **John Smith** or **John J. Smith**, or **Smith J J** or **Smith, John (UK Sales)**.

- Use clear and unambiguous user names, like **John Smith**, not **JS** or **John**. When users are setting up access rights, they see a list of user names. Clear and unambiguous user names ensure that your users do not accidentally assign access rights to the wrong person.

Also, Rational DOORS uses the user name in its history of changes to the database. Clear and unambiguous user names help you to see who has been doing what by looking at the database history.

- All Rational DOORS screens that list user names list them in alphabetical order. Think about whether you want to see all the Johns together in the list, or all the Smiths. Would you prefer **John J Smith** or **Smith John J**?

- Bear in mind that the user has to remember their user name and type it when they log in to Rational DOORS, unless you are using system user names (see "Using system user names," on page 11).

Types of user

Before you create a user account, decide what type you want the user to be. The type of a user controls what operations they can perform, for example, whether they can create projects or archive data.

The following table shows the types you can choose from:

This type of user	Can do this
Standard user	Work with Rational DOORS data.
Project Manager	Everything a Standard user can do, plus management tasks normally associated with managing projects: • Partitioning data • Archiving data • Creating and managing groups
Database Manager	Everything a Project Manager can do, plus: • Creating projects • Creating and managing users • Managing the database

This type of user	Can do this
Custom user	Everything a Standard user can do, plus any of the following as defined for that user: • Creating projects • Partitioning data • Archiving data • Creating and managing groups • Creating and managing users • Managing the database

Note You can change a user's type at any time.

In addition to user types, you can use access rights to control what users can do. For example, a user who has the power to create projects can only create a project in a folder or project that they have create access to.

The ability to delete and purge projects is controlled entirely through access rights, as is the ability to create, delete and purge folders and modules.

The Administrator user account

Each Rational DOORS database has one user who can do anything—their user name is **Administrator**, and their user type is Database Manager.

The Administrator account bypasses all access rights checks.

You should only use the Administrator account in emergencies, for example, if no other users can log in, or if other users cannot access part of your database.

Because the Administrator account bypasses all access rights checks:

• Be careful who has access to the Administrator account.

• Choose a good password for it, not one that someone else can easily guess.

• Change the password regularly.

• Take care not to lose the password.

 You can only change the Administrator's password when you are logged on as the Administrator. If you lose the Administrator's password, you must contact Rational DOORS customer support, who will talk you through a recovery procedure.

The screens that list user names do not show the Administrator user, because it is a special user account, and you should not use it like a normal user account.

To change the user options for the Administrator, for example, the minimum password length:

1. Log in to Rational DOORS as the Administrator user.

2. Click **Tools**, and then the **Options** tab to change your user options.

   You cannot use **Tools > Manage Users** because the Administrator user is not included in the list of users.

Planning groups

This topic looks at things you should think about before you create any groups. For information about how to create groups, see "Creating a group," on page 38. You use RDS to manage users and groups. For more information, see "Configuring RDS," on page 45.

For information on groups and access rights, see *Getting Started with DOORS*.

Setting up access rights for individual users can be very time-consuming. Use groups to save time when you set up access rights for your data.

Remember that each user can be in several groups. There's no limit to the number of groups you can have, or the number of groups that each user can be in.

Naming conventions

When planning group names, bear these points in mind:

- Each group must have a unique name.

  No two groups can have the same name, and group names and user names must be different. You cannot have a group and a user with the same name.

- Group names can contain alphanumeric characters (letters of the alphabet and numbers), space characters, and punctuation characters.

- Group names are case-sensitive. The names **Test Boston** and **TEST Boston** are different.

- Avoid generic names like **Test** and **Engineering** if there's any possibility that you might need more than one test or engineering group in the future.

- Use clear and unambiguous names, like **Boston Test** and **Boston Engineering**. When users are setting up access rights, they see a list of

group names. Clear and unambiguous names ensure that your users do not accidentally assign access rights to the wrong group.

- All Rational DOORS screens that list group names list them in alphabetical order. Think about whether you want to see all the Boston groups together in the list, or all the test groups. Would you prefer **Boston Test** or **Test Boston**?

Controlling how users log in

By default, your Rational DOORS database is configured so that all users see the Rational DOORS login screen when they start Rational DOORS.

By default, you have to type your Rational DOORS user name and password to log in to Rational DOORS.

Database Managers can change the default behavior. They can control:

- Whether users have to type a password (see "Using passwords," on page 10)

- Whether users always have to type their Rational DOORS user name (see "Using system user names," on page 11)

For instructions on how to change the default behavior, see "Changing the login policy," on page 53.

Using passwords

By default, your Rational DOORS database is configured to use passwords. This means that when someone tries to start Rational DOORS, they see the Rational DOORS login screen and have to type their password.

You can control the minimum password length:

- You can specify the minimum password length for the database.

  By default, it is 6 characters, which means that every user must have a password that is at least 6 characters long.

- You can also specify a minimum password length for each user.

  For example, you might have a minimum length of 6 characters for the database and 14 characters for John Smith. Whenever John Smith changes his password, he must choose a password that is 14 characters or longer.

  Note A user with the powers to change another user's password can specify a new password that is shorter than the minimum password length.

If you do not want users to type in a password to log in to Rational DOORS, you can configure your database not to use passwords.

Using system user names

One of the pieces of information you can store in a user's account record is their **system user name**. This is the user name they use to log in to their computer, for example, their Windows® user name.

Caution For security reasons, you should use passwords along with system user names.

If you enable system user names, a user might not need to type in their Rational DOORS user name. Instead, Rational DOORS might be able to work out who they are from their system user name.

When system user names are enabled, if you are the only Rational DOORS user with a particular system user name:

• You do not need to type your Rational DOORS user name.

• If your database is not using passwords, you will not see the Rational DOORS login screen. When you start Rational DOORS, you go straight to the Database Explorer.

When system user names aren't unique

If there's any possibility that your users might not have unique system user names, make sure that you either disable system user names, or enable system user names and use passwords.

All system user names are unique within a single Windows 2003 domain.

Warning: Your system user names might not be unique if:

• Your users are in two or more Windows 2003 domains

• You have both UNIX® users and Windows users

Do you need to type your Rational DOORS user name?
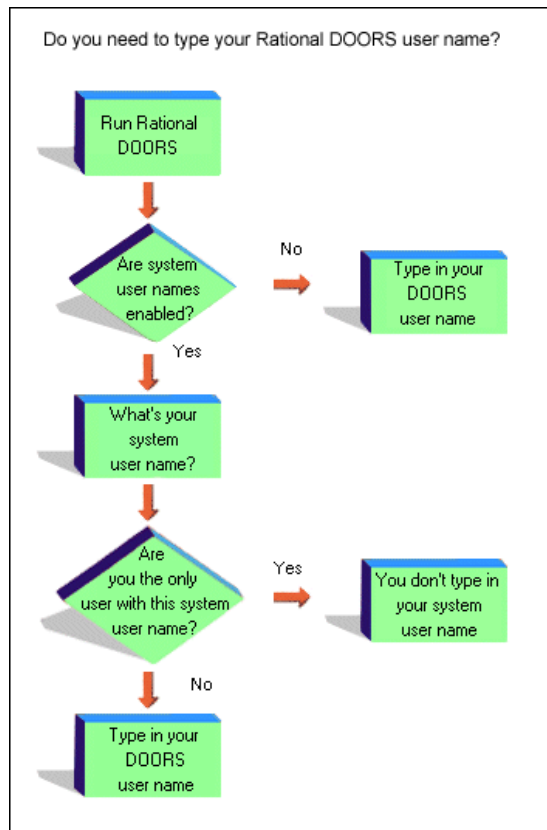
Let's look at what can happen if you enable system user names and your users do not have unique system user names.

Judy Brown is using Windows XP. Her system user name is **Judy**, and this is recorded in her Rational DOORS user account record. No other Rational DOORS user has the same system user name, so when she starts Rational DOORS, she does not have to type her Rational DOORS user name.

Now imagine you create an account for Judy Smith, who is using Windows 2003, and whose system user name is also **Judy**. You enter her system user name in her account record.

From now on, when either Judy Brown or Judy Smith start Rational DOORS, they have to type their Rational DOORS user name on the Rational DOORS login screen, because there are now two users with the system user name **Judy** and Rational DOORS cannot tell which is which.

But what if you forgot to enter Judy Smith's system user name in her account record? A warning message is displayed when you create her account, but what if you ignore it? In this case, when Judy Smith starts Rational DOORS, Rational DOORS sees that her system user name is **Judy**, and assumes that she is Judy Brown:

- If the Rational DOORS database is not using passwords, Judy Smith does not even see the Rational DOORS login screen and is logged straight into Rational DOORS as Judy Brown.

- If the database is using passwords, Judy Smith has to type a password. What she types does not match what Rational DOORS is expecting (it is expecting Judy Brown's password). So Judy Smith cannot log in to Rational DOORS.

  She contacts her Database Manager, who can fix the problem by either disabling system user names or entering her system user name in her account record.

If there's any possibility that your users might not have unique system user names, and you want to enable system user names:

- Make sure your Rational DOORS database uses passwords.

- Make sure that every Rational DOORS user's account record has its **System Username** field filled in.

- If warning messages are displayed telling you that a user account record does not have its **System Username** field filled in, do not ignore these messages.

Dealing with login failures

Database Managers can control:

- How many times users can make typing mistakes when they try to log in to Rational DOORS.

- Whether the Rational DOORS database server sends an e-mail whenever there is a failed login attempt.

Two limits control when an attempted login is rejected. For instructions on how to change these limits, see "Changing the login policy," on page 53.

Limit	Description
Maximum attempts per session	This is the maximum number of times that someone can try to log in with any user name.
	For example, if you set this value to 4, users are allowed four attempts to log in before the Rational DOORS login screen is closed.
	The number must be in the range 0 to 10. 0 means there is no limit. The default value is 4.
	Note If you have session timeouts configured, and a user session times out, only an Administrator can log in to unlock the session if the maximum attempts per session is reached. See "Reconfirm password session timeouts," on page 57 for more information.
Maximum attempts per user name	This is the maximum number of consecutive times that users can try to log in with their own user name.
	This is to ensure that if a hacker has stumbled on a valid user name, they cannot keep bypassing the other limit by trying to log in from different computers.
	For example, if you set this value to 3, users are allowed three attempts to get their password right before their account is disabled.
	The number must be in the range 0 to 20. 0 means there is no limit. The default value is 20.
	For each user name, Rational DOORS keeps track of the number of failed passwords submitted since the last successful login.
	Note If you have session timeouts configured, and a user session times out, only an Administrator can log in to unlock the session if the maximum attempts per user name is reached. See "Reconfirm password session timeouts," on page 57 for more information.

If you are using a Rational DOORS database server, the server can send an e-mail to one or more Rational DOORS users whenever there's a login failure. For more information, see "Changing the login policy," on page 53.

3 *Locales and unicode options*

- Locales
- How date and time are recorded
- Supported locales and formats
- Updating user options for locales
- Changing the locale for textual attributes
- Legacy data handling
- Display schemes

Locales

The locale of your computer is your local language and the geographical location of your computer. For example, the locales French (France) and French (Canada) are distinct. Your locale determines how certain elements are displayed on your computer, for example the date format used by programmes on your computer is derived from your locale.

Rational DOORS derives its default locale from the locale of your computer, and the display of formatted data is updated whenever the User Locale setting is changed on your computer. However, you can override the locale to which Rational DOORS defaults by changing settings within Rational DOORS. These settings are saved on a per locale basis, so that each time you change your locale, your user options are updated to match your previous settings for that locale.

For further information about language settings, please refer to the user documentation associated with your operating system.

How date and time are recorded

Rational DOORS date values between 1970 and 2036 are stored in the Rational DOORS database in terms of Universal Coordinated Time (UTC). UTC was developed as the international time standard. It is similar to Greenwich Mean Time (GMT) except that it observes no daylight saving time (DST) and is based on a 24-hour clock. Zero (0) hours UTC is midnight GMT. The local 24-hour time convention is converted to UTC by adding or subtracting hours based on your location with respect to the prime meridian as well as local daylight saving time considerations.

If you are in one time zone and edit data, the timestamp for the edit is displayed at different local times on each Rational DOORS client but is stored at the same absolute time in UTC on the database server.

For example, a user in the Atlantic Time zone in Canada signs a baseline at 11:00 local time. A user in the Pacific Time zone then views the signature. The time that the user in the Pacific Time zone sees for the signature is 7:00. The signature time is stored on the server in UTC (15:00).

The time that is recorded is the time on the database server, not the time on the client, and is stored in UTC regardless of the time zone of the client or the server.

In pre-8.0 versions of Rational DOORS, date attribute values did not include the information to make time zone adjustments, so date attribute values in migrated data might not display as expected. For example, if clients in multiple time zones were working on data, suspect links might not operate as you would expect.

When migrated data is opened and saved in 9.2, migrated date and time values are given a UTC timestamp. These timestamps assume that the migrated data was created in the saving client's time zone. Subsequently, migrated data that has been saved in Rational DOORS 9.2 will work in the same way as data that originates in Rational DOORS 9.2.

Supported locales and formats

We support the following locales and formats:

- All data formats, except those that use a column format (for example, some Japanese) and those where the text flows from right to left (for example, Hebrew).

- Arabic number format only.

- Gregorian calendars only.

- Any Windows locale

- Double Byte Character System (DBCS) operating systems are not supported on UNIX or Linux[®]

For further information about Unicode, refer to http://www.unicode.org.

Updating user options for locales

You can use the **Options** dialog box (click **Tools > Options** from the Database Explorer), to change the display of the elements described in the following table:

Locale setting	Description
Line spacing	This applies to textual attributes and text elements in dialog boxes that are defined using DXL.
	The default line spacing for locales in the Korean, Simplified Chinese and Traditional Chinese language groups is 1.5.
	The default for all other locales is single.
Text font	The default font for your database depends on the default display scheme for the database. For more information about the display schemes used by Rational DOORS, see "Display schemes," on page 20.
	You can select any of the fonts that are available on your client computer to be the default font for your locale.
Date display and input format	The default date format used by Rational DOORS is derived from the short date and time format used by Windows in your current locale.
	You can select from any of the date and time input formats and display formats that are available in your current locale.

Changing the locale for textual attributes

When you create a text, string or enumerated attribute value, you can select the locale for the attribute. The default locale is the current locale of the user creating the attribute.

The font and line spacing used when entering and displaying textual attributes is derived from the locale setting for the attribute. Any user with Modify access to the attribute definition can change the locale setting.

Legacy data handling

Data from previous versions of Rational DOORS might not have a locale property, so you can set a Legacy Data Locale, which will be the default locale for any legacy data that does not have a locale property. The Legacy Data Locale can be set by Database Managers in the Database Properties.

Legacy textual attributes that do not have a locale property inherit their locale property from the Legacy Data Locale. If the Legacy Data Locale has not been set, the locale is derived from the current client session.

Legacy module names and descriptions, and user and group information that include, for example, accented characters must be interpreted according to a code page to be displayed correctly.

- Data that has been saved by Rational DOORS 6.0a is interpreted as UTF-8 Unicode data.

- Data that has been saved by other previous versions of Rational DOORS is interpreted using the default code page for the Legacy Data Locale. If the Legacy Data Locale has not been set, the Latin-1 code page is used.

Display schemes

Rational DOORS is supplied with a number of standard display schemes:

- modern
- classic
- international modern
- international classic
- high contrast #1
- high contrast #2
- high contrast black
- high contrast white

The default display scheme depends on the origin of your database, and is explained in the following table:

Database origin	Default display scheme
New database created after Rational DOORS 8.0	International modern.
Database migrated from Rational DOORS 7.x	The same as it was before the database was migrated, so either modern or classic.

Database origin	Default display scheme
Database migrated from Rational DOORS 6.0a	If the 6.0a database display scheme was modern, the migrated database display scheme is international modern. If the 6.0a database display scheme was classic, the migrated database display scheme is international classic.

4 *Managing users and groups*

This chapter is for Database Managers, Project Managers and users who have the power to change the access rights of users or groups. It contains the following topics:

- Options for managing users and groups
- Showing information about users
- Creating a user
- Editing a user
- Editing a user when using RDS
- Deleting a user
- Disabling and enabling users
- Showing information about groups
- Creating a group
- Editing a group
- Access controls on groups
- Deleting a group
- Disabling and enabling a group

Options for managing users and groups

The information about Rational DOORS users and groups can be managed locally or using the Rational Directory Server (RDS).

If you are using RDS, you can only manage a limited amount of information about users and groups using the **Manage Users** menu option.

For information about setting up RDS to manage Rational DOORS users and groups, see "Configuring RDS," on page 45.

Showing information about users

To show information about users:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Select the **Users** tab.

The list of users is displayed.

A disabled user account looks like this: .

A user account that requires additional authentication when logging in looks like this: .

If RDS is being used to manage users, you need to enter a filter and click **Refresh** to see a list of users. To display a list of all users, use an asterisk (*) as the filter.

Creating a user

Note You cannot create a user in Rational DOORS if the information about Rational DOORS users and groups is being managed using RDS.

To create a user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. On the **Users** tab, either click **New** to set up the new user from scratch, or select the user you want to copy then click **Copy**.

Note Copying an existing user saves time because you do not have to type in so much information. And you do not have to set up the group membership information from scratch. The new user starts off in the same groups as the existing user.

4. Use the **General** tab to specify the user name and type for the new user:

a. Enter the new user's user name.

This must not be the same as any existing user name or group name.

For more information, and advice on what conventions to use, see "Planning users," on page 6.

b. Select **Disable User** if you do not want the new user to be able to log in yet, for example, if you want to set up access rights for them before they can log in. For more information, see "Disabling and enabling users," on page 37.

c. Select the new user's type: Standard, Project Manager, Database Manager, or Custom user.

If you select Custom user, use the check boxes to specify which powers you want the new user to have:

Select...	If you want the user to be able to...
Create projects	Create projects.
Archive data	Create Rational DOORS archives.
Partition data	Create and manage partitions.
Create groups	Create and manage groups.
Create users	Create and manage users. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.
Manage database	See and edit the database properties sheet. The user can: • Change the name and default display scheme for the database. • Configure the database login policy. • Configure the SMTP mail server that the database uses. • See the access rights for the database root, which control who can see the Database view in the Database Explorer. • Manage locks. • Delete baselines. • Allow or deny **Manage database** powers to themselves and other users. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.

d. The **Edit DXL** option is only displayed if the Rational DOORS Administrator has selected the **Only users with Edit DXL power may edit and run DXL** check box in the Database Properties.

Select this option to allow the user to edit and run DXL in the **DXL Interaction** window (**Tools > Edit DXL**), and from the DXL Library.

If this option is not selected, the **Run** and **Edit** buttons on these windows are unavailable. The user can still create DXL attributes and run layout DXL.

5. Use the **Security** tab to specify the password for the new user.

The following table describes the **Security** tab on the **New User** window:

Security tab	Description
Change Password	Specify the new user's initial password.
	You do not have to provide an initial password. The user is asked to change their password when they log in for the first time, regardless of whether you have set a password for them or not, and regardless of what has been set in the **Expires after** box.
	If you set a password, you must give this to the user, as they will not be able to log in to Rational DOORS without it. If you do not set a password, the user should leave the **Password** box empty on the **Rational DOORS Login** screen, and then on the **Change Password** screen they should leave the **Old password** box blank.
User might change password	Select this box if you want the new user to be able to change their password. If you clear this box, and their password expires, they must ask a Database Manager (or a Custom user who has the power to create users) to change their password.
	Note Ensure that the new user has logged on to Rational DOORS at least once before you clear this box. If you clear it before the user has logged on for the first time, they will be unable to log in.

Security tab	Description
Minimum password length	This is used to determine the minimum number of characters the user must type when they change their password. If it is less than the minimum password length for the database, the database value is used instead of the value in this box. For information about the database value, see "Changing the login policy," on page 53.
Expires after	This is how long the user's passwords last before they expire. It is measured in days, starting from when the password was last changed (see the **Last changed** box). Once the user's password has expired, the next time they log in, they will be asked to change their password. By default, the value is 0 days, which means that once the user has logged on for the first time, they are never asked to change their password again. **Note** The first time a user logs into Rational DOORS, they are asked to change their password, even if the value is set to 0 days.
Last changed	When the user's password last changed. This value is **Never**, because the user does not exist yet.
May use the password command line switch	The database can be set up to allow or not allow the use of the -password or -P password command line switch. If you want the user's login policy to match the database default, leave this check box cleared. If you want the user to be able to use the password command line switch regardless of the database setting, select this check box.

6. Use the **Details** tab to specify details such as the user's e-mail address.

The following table describes the **Details** tab on the **New User** window:

Details tab	Description
Full Name	The new user's full name. The full name does not have to be unique, and can be left blank. The user's Full Name is displayed as part of their electronic signature.

Details tab	Description
Email	The new user's e-mail address.
System username	The user name the user logs into their computer with, for example, their Windows 2003 user name. For more information about system user names, see "Controlling how users log in," on page 10. **Note** Leave this field blank for Database Managers. Your system is more secure if you always force Database Managers to type in their Rational DOORS user names.
Telephone	The new user's telephone number.
Location	The new user's location.
Additional information	Additional information about the new user.
E-mail updates to change proposals	If the new user is going to use the Change Proposal System to submit proposals, select this box if you want them to be notified by e-mail when the status of their proposals changes, for example, when one of their proposals is accepted or rejected, or when their proposals are added to or removed from a group.

Use the **Groups** tab to specify which groups you want the new user to be in.

If you want to add the user to a group, select the group in the **Not a member of** list and click the left arrow to move it into the **Member of** list. If you want to remove the user from a group, select the group in the **Member of** list and click the right arrow to move it into the **Not a member of** list. Use the **SHIFT** or **CTRL** keys to select multiple groups.

Note If you click anywhere in a list and then start typing, the highlight moves to the name you type. For example, if you type **test**, the first group whose name starts with **test** is highlighted.

7. Click **OK**.

8. Click **OK** to close the **Manage Users** window. The new user account is created.

Editing a user

Note If the information about Rational DOORS users and groups is being managed using RDS, see "Editing a user when using RDS," on page 33.

To edit a user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. On the **Users** tab, select the user you want to edit, and then click **Edit**.

4. Use the **General** tab to edit the user name and type for the user:

   a. Change the user's Rational DOORS user name.

      This must not be the same as any other user name or group name.

      For more information, and advice on what conventions to use, see "Planning users," on page 6.

   b. Change the user's type: Standard, Project Manager, Database Manager, or Custom user.

      If you select Custom user, use the check boxes to specify which powers you want the user to have:

Select...	If you want the user to be able to...
Create projects	Create projects.
Archive data	Create Rational DOORS archives.
Partition data	Create and manage partitions.
Create groups	Create and manage groups.

Select...	If you want the user to be able to...
Create users	Create and manage users. A user who has **Create users** powers, but does not have **Manage database** powers cannot allow or deny **Manage database** powers to any user, including themselves. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.
Manage database	See and edit the database properties sheet. The user can: • Change the name and default display scheme for the database. • Configure the database login policy. • Configure the SMTP mail server that the database uses. • See the access rights for the database root, which control who can see the Database view in the Database Explorer. • Manage locks. • Delete baselines. • Allow or deny **Manage database** powers to themselves and other users. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.

c. The **Edit DXL** option is only displayed if the Rational DOORS Administrator has selected the **Only users with Edit DXL power may edit and run DXL** check box in the Database Properties.

Select this option to allow the user to edit and run DXL in the **DXL Interaction** window (**Tools > Edit DXL**), and from the DXL Library.

If this option is not selected, the **Run** and **Edit** buttons on these windows are unavailable. The user can still create DXL attributes and run layout DXL.

5. Use the **Security** tab to change the password or security settings for the user.

The following table describes the **Security** tab on the **Edit User** window:

Security tab	Description
Change Password	To change the user's password: **a.** Click **Change Password**. **b.** Type the password in the **New password** box, and then type it again in the **Confirm new password** box. **c.** Click **OK**.
User may change password	Clear this box if you do not want the user to be able to change their password. If their password expires, they must ask a Database Manager (or a Custom user who has the power to create users) to change their password.
Minimum password length	This is used to determine the minimum number of characters the user must type when they change their password. If it is less than the minimum password length for the database, the database value is used instead of the value in this box. For information about the database value, see "Changing the login policy," on page 53.
Expires after	This is how long the user's password lasts before it expires. It is measured in days. Once the user's password has expired, the next time they log in, they will be asked to change their password. If the value is 0, the user's password never expires.
Last changed	When the user's password last changed.

Security tab	Description
May use the password command line switch	The database can be set up to allow or not allow the use of the -password or -P password command line switch. If you want the user's login policy to match the database default, leave this check box cleared. If you want the user to be able to use the password command line switch regardless of the database setting, select this check box.

6. Use the **Details** tab to change the user's details.

The following table describes the **Details** tab on the **Edit User** window:

Details tab	Description
Full Name	The new user's full name. The full name does not have to be unique, and can be left blank. The user's Full Name is displayed as part of their electronic signature.
E-mail address	The user's e-mail address.
System username	The user name the user logs into their computer with, for example, their Windows 2003 user name. For more information about system user names, see "Controlling how users log in," on page 10. **Note** Leave this field blank for Database Managers. Your system is more secure if you always force Database Managers to type in their Rational DOORS user names.
Telephone	The user's telephone number.
Location	The user's location.
Additional information	Additional information about the user.
E-mail updates to change proposals	If the user uses the Change Proposal System to submit proposals, select this box if you want them to be notified by e-mail when the status of their proposals changes, for example, when one of their proposals is accepted or rejected.

7. Use the **Groups** tab to change which groups the user is in.

   If you want to add the user to a group, select the group in the **Not a member of** list and click the left arrow to move it into the **Member of** list. If you want to remove the user from a group, select the group in the **Member of** list and click the right arrow to move it into the **Not a member of** list. Use the **SHIFT** or **CTRL** keys to select multiple groups.

   Note If you click anywhere in a list and then start typing, the highlight moves to the name you type. For example, if you type **test**, the first group whose name starts with **test** is highlighted.

8. Click **OK**.

9. Click **OK** to close the **Manage Users** window. The user account is updated.

   Note Other users might not see the changes you made until the next time they start Rational DOORS.

Editing a user when using RDS

If the information about Rational DOORS users and groups is being managed using RDS, you can only edit the following in Rational DOORS:

- The user type (on the **General** tab)
- Whether a user can edit and run DXL (on the **General** tab)
- If the user uses the Change Proposal System to submit proposals, whether they are notified by e-mail when the status of their proposals changes (on the **Details** tab)

The **Security** and **Groups** tabs are read-only.

To edit a user when using RDS:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. On the **Users** tab, select the user you want to edit, and then click **Edit**.

4. Use the **General** tab to change the user type of the user:

   a. Change the user type: Standard, Project Manager, Database Manager, or Custom user.

If you select Custom user, use the check boxes to specify which powers you want the user to have:

Select...	If you want the user to be able to...
Create projects	Create projects.
Archive data	Create Rational DOORS archives.
Partition data	Create and manage partitions.
Create groups	Create and manage groups.
Create users	Create and manage users. A user who has **Create users** powers, but does not have **Manage database** powers cannot allow or deny **Manage database** powers to any user, including themselves. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.

Select...	If you want the user to be able to...
Manage database	See and edit the database properties sheet. The user can: • Change the name and default display scheme for the database. • Configure the database login policy. • Configure the SMTP mail server that the database uses. • See the access rights for the database root, which control who can see the Database view in the Database Explorer. • Manage locks. • Delete baselines. • Allow or deny **Manage database** powers to themselves and other users. **Note** A user must have both **Create users** powers and **Manage database** powers to allow or deny **Manage database** powers to any user, including themselves.

b. The **Edit DXL** option is only displayed if the Rational DOORS Administrator has selected the **Only users with Edit DXL power may edit and run DXL** check box in the Database Properties.

Select this option to allow the user to edit and run DXL in the **DXL Interaction** window (**Tools > Edit DXL**), and from the DXL Library.

If this option is not selected, the **Run** and **Edit** buttons on these windows are unavailable. The user can still create DXL attributes and run layout DXL.

5. Select the **Details** tab.

On this tab you can only select or clear the **E-mail updates to change proposals** check box.

If the user uses the Change Proposal System to submit proposals, select this box if you want them to be notified by e-mail when the status of their proposals changes, for example, when one of their proposals is accepted or rejected.

6. Click **OK**.

7. Click **OK** to close the **Manage Users** window. The user account is updated.

   Note Other users might not see the changes you made until
   the next time they start Rational DOORS.

Deleting a user

Note You cannot delete a user in Rational DOORS if the
information about Rational DOORS users and groups is
being managed using RDS.

If you want to temporarily stop a user logging on, disable their account (see
"Disabling and enabling users," on page 37). If the person has left the company
and you are sure you no longer want their account, go ahead and delete it.

Note You cannot undelete a deleted user.

To delete a user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who
   has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. On the **Users** tab, select the user you want to delete, and then click **Delete**.

4. A message is displayed asking if you really want to delete the user. Click **Yes**.

5. Click **OK**.

6. Click **OK** to close the **Manage Users** window.

The selected user account is deleted. The user is removed from all the groups
they were in and their access rights entries are deleted. To preserve traceability,
the history of actions performed by the user is not deleted from the module
history.

If the user is currently logged on to Rational DOORS, they can continue
working, but once they exit Rational DOORS they will not be able to log in to
Rational DOORS again.

If you subsequently create a user account with the same user name as the one
you have just deleted, the new user is treated as a brand new user. The new user
cannot access the deleted user's data.

Note Other users currently logged on to Rational DOORS might
see the deleted user when they look at access rights screens.

They might not see the changes you made until the next time they log in to Rational DOORS.

Disabling and enabling users

You might want to stop a user from logging on because you want to edit their account or their access rights, and you do not want them to be able to log in again until you have finished making the changes.

Or you might want to a stop a user logging on because you think a hacker is trying to break into your system using their user name.

You can disable a single user or all users. Disabling all users stops all users except Database Managers from logging on.

Note Rational DOORS can automatically disable a user account if someone tries to log in using the right user name but the wrong password. For more information, see "Dealing with login failures," on page 13.

Disabling and enabling a single user

To disable or enable a particular user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, click **Tools > Manage Users**.

3. On the **Users** tab, select the user, and then click **Edit**.

4. To disable the user, select the **Disable user** box. To enable them, clear the box.

5. Click **OK**.

6. Click **OK** to close the **Manage Users** window.

When you disable a user, it takes effect the next time they try to log in. If they are logged on now, they do not get thrown out.

Disabling and enabling all users

When you disable all users, only Database Managers can log in to Rational DOORS.

To disable or enable all users:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

If necessary, click **View > Database View**.

3. In the left pane, click **Database** 🛢, and then right-click **Properties**.

4. Click the **Login Policy** tab.

5. To disable all users, select the **Disable user logins** box. To enable them, clear the box.

6. Click **OK**.

Showing information about groups

To show information about groups:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create groups.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Select the **Group** tab.

To help with performance, the list of groups is not displayed automatically.

4. Enter a filter and click **Refresh**.

A list of groups that fulfil the filter criteria is displayed. If you want to display a list of all groups, use an asterisk (*) as the filter.

A disabled group looks like this: 🖾.

Creating a group

Note You cannot create a group in Rational DOORS if the information about Rational DOORS users and groups is being managed using RDS.

Groups let you quickly set up access rights for multiple users. You can create a group that consists of any number of users. When you want to set up the access to some data (for example to a project or module), you can assign access rights to the group in a single operation, instead of assigning access rights to each user, one by one.

To create a group:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create groups.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Groups** tab.

4. Either click **New** to set up the new group from scratch, or select the group you want to copy then click **Copy**.

   Note Copying an existing group saves time because you do not have to set up the group membership information from scratch. The new group starts off with the same members as the existing group.

5. In the **Group name** box, type the name of the new group.

   The new group cannot have the same name as any existing group or user. For advice on what conventions to use for group names, see "Planning groups," on page 9.

6. Use the arrow buttons to select the users you want to include in the new group.

   Note Use the **SHIFT** or **CTRL** keys to select multiple users. If you click anywhere in any list of user names and then type, the highlight moves to the name you type. For example, if you type **john**, the first user name that starts with **john** is highlighted.

   • The **Members** box lists all the users in the group.
   • The **Non-members** box lists all the users who are not in the group.
   • To move users from one box to the other, select the users, and then click the arrow buttons.

7. Click **OK**.

8. Click **OK** to close the **Manage Users** window. The new group is created.

Editing a group

Note You cannot edit a group in Rational DOORS if the information about Rational DOORS users and groups is being managed using RDS.

To edit a group:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create groups.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Groups** tab.

4. Select the group you want to edit, and then click **Edit**.

5. If you want to disable the group, check the **Disable group** box. For more information, see "Disabling and enabling a group," on page 43.

6. To change the name of the group, type the new name in the **Group name** box.

   The group cannot have the same name as any existing group or user. For advice on what conventions to use for group names, see "Planning groups," on page 9.

7. Use the arrow buttons to add users to or remove users from the group.

   Note Use the **SHIFT** or **CTRL** keys to select multiple users. If you click anywhere in any list of user names and then type, the highlight moves to the name you type. For example, if you type **john**, the first user name that starts with **john** is highlighted.

   - The **Members** box lists all the users in the group.
   - The **Non-members** box lists all the users who are not in the group.
   - To move users from one box to the other, select the users, and then click the arrow buttons.

8. Click **OK**.

9. Click **OK** to close the **Manage Users** window. The group is updated with your changes.

   Note Other users might not see the changes you made until the next time they start Rational DOORS.

Access controls on groups

Note You cannot configure access controls on a group in Rational DOORS if the information about Rational DOORS users and groups is being managed using RDS.

Access controls regulate exactly who can read or alter the contents of individual projects, modules or attributes. Rational DOORS allows you to specify which users have access to read and modify information about groups and their members.

By setting a user to have no access to a group, you prevent that user from being aware of the group's existence. They can still be a member of the group and gain

the rights that come with that membership but they will never know that the group exists.

To use access controls on groups, you must have Create Group rights.

To configure access controls on groups:

1. In the Database Explorer, click **Tools > Manage Users**.

    The **Manage Users** dialog box is displayed.

2. Click the **Groups** tab, and then select a group from the list.

3. Click **Edit**.

    The **Edit Group** dialog box opens.

4. Click the **Access** tab, and then select a name in the list.

    If you have not configured access controls on groups before, the **Access Rights** list will only contain the group **Everyone**. By default, Everyone has full (RMDA) access.

5. Select a user or group and click **Edit** to change their access rights to the group.

    The **Edit Access** dialog box is displayed.

6. Choose the access rights for the user or group.

    The following table describes the access rights you can choose.

Access Right	The user/group can	The user/group cannot
None	N/A	View the group or make any alterations to the group
Read (R)	See the group name and membership details	Add and delete members or alter access rights
Modify (M)	Add or delete members and rename group	Delete group or alter access rights
Delete (D)	Alter membership and delete group	Alter access rights
Admin (A)	Delete the group and alter group's access controls	N/A

These access rights are accumulative and not exclusive.

> **Note** There is no Create access right on groups.

7. Click **OK**.

Note You can define new access rights on an individual or group basis by clicking **Add** instead of **Edit** and you can delete access rights by choosing a name from the list and clicking **Remove**.

For a detailed explanation of access rights, please refer to "About access rights" in *Using Rational DOORS*, or in the online help.

Deleting a group

Note You cannot delete a group in Rational DOORS if the information about Rational DOORS users and groups is being managed using RDS.

If you want to temporarily stop users in a group being able to access data using access rights assigned to the group, disable the group (see "Disabling and enabling a group," on page 43). If you are sure you no longer want a group, go ahead and delete it.

Note Deleting a group does not delete any of the users in the group.
You cannot undelete a deleted group.

To delete a group:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create groups.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Groups** tab.

4. Select the group you want to delete, and then click **Delete**.

5. A message is displayed asking if you really want to delete the group. Click **Yes**.

6. Click **OK** to close the **Manage Users** window.

The selected group is deleted.

Note Other users currently logged on to Rational DOORS might see the deleted group when they look at access rights screens.

They might not see the changes you made until the next time
they log in to Rational DOORS.

Disabling and enabling a group

Disabling a group does not disable the individual users in the group. It just
disables the access rights entries for the group.

It stops users in the group being able to access data using the access right entries
for the group. A user might still be able to access the data using other access
rights entries, for example, if they are in another group that can access the data.

To disable or enable a group:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a
   Custom user who has the power to create groups.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Groups** tab.

4. Select the group, and then click **Edit**.

5. To disable the group, select the **Disable group** check box. To enable the
   group, clear the check box.

6. Click **OK**.

7. Click **OK**.

5

Configuring RDS

This chapter is for Database Managers and users who have the power to manage the database.

It contains the following topics:

- About the Rational Directory Server
- Configuring Rational DOORS to use the Rational Directory Server
- Exporting users to the Rational Directory Server

About the Rational Directory Server

Rational DOORS uses the IBM® Rational® Directory Server (RDS).

RDS is a single enterprise directory solution designed for user authentication and administration for Rational Lifecycle Solution (RLS) tools. RDS is based on Lightweight Directory Access Protocol (LDAP version 3).

RDS allows you to define and administer user information at one place. In this way you do not need to authenticate the user information for the same users more than once.

RDS comes with the GUI-based client application, the Rational Directory Administration (RDA). The RDA can be installed along with RDS or installed separately.

The RDA allows you to perform day-to-day administrative tasks such as creating users and groups, enabling and disabling users, performing user and group searches, migrating groups and users, and so on with greater ease. For more information about these tasks, refer to the RDS documentation set.

RDS modes

Rational DOORS can use the following modes of RDS:

- Standalone mode

  User names and group names are stored in the Rational DOORS database. These user names are not shared with other applications.

- Corporate mode

  Corporate mode enables you to configure RDS to integrate with your external corporate LDAP repositories. This enables your corporate backbone to serve as the user and group read-only repository for Rational

Lifecycle Solution tools. The corporate mode enables you to access the corporate user and group information locally from the corporate partition.

When you are using RDS, you can add, edit, and delete users and groups in the Rational Directory Server and through the **Manage Users** dialog box in Rational DOORS. RDS is updated with changes made through the **Manage Users** dialog box, and vice versa. You can control how often users have to change their passwords using the **Passwords expire after** option on the **Password** tab.

Configuring Rational DOORS to use the Rational Directory Server

1. Log in to Rational DOORS as the Administrator user.

2. In the Database Explorer, click **Database** .

3. Right-click and select **Properties**.

   The **Database Properties** dialog box is displayed with the **General** tab selected.

4. Click **Change** in the **Directory Configuration** area.

   The **Change Directory Configuration** dialog box is displayed with **Rational DOORS Local Directory** selected.

5. Select **Rational Directory Service**.

6. In the **Server Host** field, type the name of the Rational Directory server machine.

7. In the **Server Port** field, select the port number that the Rational Directory server is using.

8. Click **Test Connection** to check that Rational DOORS can connect to the server.

   A message stating whether or not the connection was successful is displayed.

9. Click **OK**.

   A confirmation screen is displayed.

10. Click **OK**.

11. Click **OK** in the **Change Directory Configuration** dialog box.

Exporting users to the Rational Directory Server

1. Log in to Rational DOORS as the Administrator user.

2. In the Database Explorer, click **Database** .

3. Right-click and select **Properties**.

   The **Database Properties** dialog box is displayed with the **General** tab selected.

4. Click **Export User/Group Lists** in the **Directory Configuration** area.

   The **Export User/Group Lists** dialog box is displayed.

5. Select **Standalone** or **Corporate**.

6. If you want to export a user list, type the name of the folder you want to export the list to in the **Export User list** field and select **Export Users**.

7. If you want to export a group list, type the name of the folder you want to export the list to in the **Export Group list** field and select **Export Groups**.

8. When you have finished exporting users and groups, click **Close**.

6 *Managing the database*

This chapter is for Database Managers and users who have permission to manage the database.

It contains the following topics:

- Showing the properties of the database
- Changing the name of the database
- Changing the default display scheme
- Changing the login policy
- Password control
- Managing the dictionary
- The login history file
- Broadcasting a message
- Setting up a message of the day
- Setting up e-mail
- Changing the access rights for the database root
- Allowing and disallowing discussions

Showing the properties of the database

To show the properties of your database:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** 📁 , and then right-click **Properties**.

4. The **General** tab on the **Database Properties** window is described in the following table

General tab	Description
Name	The name of the database.

General tab	Description
Type	The type of item whose properties are being displayed. This is **Rational DOORS Database**, and cannot be edited.
Default display scheme	The default display scheme for the database. For more information, see "Changing the default display scheme," on page 52.
Legacy data locale	You can set a locale for legacy attributes that do not have a locale. This is set to **(none)** by default, and attributes in legacy data are displayed according to the current user locale on the client system.
URL	The URL of the database.
Copy URL	Copies the URL to the system clipboard. For more information about DOORS URLs see Understanding DOORS URLs in *Using Rational DOORS*.
SMTP mail server	The SMTP mail server that you want the Rational DOORS database server to use. For more information, see "Setting up e-mail," on page 62.
Mail account	The mail account that you want the SMTP mail server to use. For more information, see "Setting up e-mail," on page 62.
Prefix e-mails with text	The prefix text of e-mail messages that are sent automatically by Rational DOORS. For more information, see "Setting up e-mail," on page 62.
Directory Configuration	Rational DOORS uses the Rational Directory Server (RDS) for user information and authentication. This is selected by default. You can configure RDS. For information, see "Configuring RDS," on page 45.

General tab	Description
Record failed logins	Select this check box if you want to record every login failure in the login history file. For information about what constitutes a login failure, see "Dealing with login failures," on page 13. For information about the login history file, see "The login history file," on page 60.
Record successful logins	Select this check box if you want to record every successful login. For information about the login history file, see "The login history file," on page 60.
Save OLE objects in attribute history	Select this check box if you want details of changes to OLE objects to be stored in the objects history. If a change is made to an OLE object and this check box is selected, the OLE object will be displayed in the details pane of the object history when the history item is selected. If it is not selected and a change is made to an OLE object, Rational DOORS will record a change to the attribute in the object history but will not indicate the details of the change in the details pane.
Allow deletion of module baselines	Select this check box if you want users with the appropriate access to be able to delete module baselines. The database default is to not allow baseline deletion. You must be logged on as the Rational DOORS Administrator to change this setting.

General tab	Description
Only users with Edit DXL power may edit and run DXL	Select this option to prevent users editing and running DXL.
	When this option is selected you can control whether individual users can edit and run DXL. An **Edit DXL** check box is displayed on the **New user** and **Edit user** dialog boxes. Select the **Edit DXL** check box to allow the user to edit and run DXL.
	By default, the **Only users with Edit DXL power may edit and run DXL** is not selected, so any user can edit and run DXL.
	Users can still run DXL from the DXL library, but they cannot edit that DXL.
	You must be logged on as the Rational DOORS Administrator to change this setting.

Changing the name of the database

The name of your database is shown:

- On the title bar of the Database Explorer.
- To the right of **Database** in the left pane of the Database Explorer when you are in Database view.

To change the name of your database:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** , and then right-click **Properties**.

4. Type the new name in the **Name** box, and then click **OK**.

Changing the default display scheme

The **display scheme** controls the colors and fonts that are used in the Rational DOORS module windows. The database's default display scheme is the one that all users see by default, unless they explicitly select a different scheme.

There are a number of standard schemes:

- modern
- classic
- international modern
- international classic
- high contrast #1
- high contrast #2
- high contrast black
- high contrast white

When you first install Rational DOORS, the default display scheme is modern.

To change the default display scheme for your database:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** , and then right-click **Properties**.

4. On the **General** tab, select the **Default display scheme** you want.

5. Click **OK**.

Changing the login policy

To change the login policy of your database:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** , and then right-click **Properties**.

4. Click the **Login Policy** tab.

5. Select the options you want:

Login Policy tab	Description
Disable user logins	Select this check box if you want to stop all users except Database Managers from logging on.

Login Policy tab	Description
Use passwords	Select this check box if you want users to type in a password to log in to Rational DOORS.
Use additional authentication	This is a read-only check box and is only displayed if the Rational DOORS database is configured to use RDS for user authentication. If the check box is selected, the database has additional authentication enabled in RDS.
Use system usernames	This is unavailable if you are not logged on as the Administrator user. Select this check box to enable system user names. For more information, see "Controlling how users log in," on page 10. You cannot enable system user names if you have not defined a system user name for your own (Administrator) account. To define a system user name for your own account: **a.** Click **Tools > Options**. **b.** Click the **General** tab. **c.** Enter your system user name, and then click **OK**.
Minimum client version	Type the minimum client version that you want to be able to connect to the Rational DOORS database server, in the format n.n.n.n. For example, type 9.2.0.0 To check your client version click **Help > About Rational DOORS**. You cannot enter a minimum client version that would prevent your current client from connecting to the database. These restrictions do not apply to the dbadmin tool.

Login Policy tab	Description
Maximum client version	Type the maximum client version that you want to be able to connect to the Rational DOORS database server, in the format n.n.n.n. For example, type 9.2.0.0
	To check your client version click **Help > About Rational DOORS**.
	You cannot enter a maximum client version that would prevent your current client from connecting to the database.
	These restrictions do not apply to the dbadmin tool.
Minimum password length	This is the minimum length of passwords for the database.
Maximum attempts per session	Select the maximum number of times that users can try to log in with any user name.
	For example, if this value is 4, users are allowed four attempts to log in before the Rational DOORS login screen is closed.
	The number must be in the range 0 to 10. 0 means there is no limit. The default value is 4.
	Note If you have session timeouts configured, and a user session times out, only an Administrator can log in to unlock the session if the maximum attempts per session is reached. See "Reconfirm password session timeouts," on page 57 for more information.

Login Policy tab	Description
Maximum attempts per username	Select the maximum number of consecutive times that users can try to log in with their own user name. For example, if this value is 3, users are allowed three attempts to get their password right and log in before their account is disabled. The number must be in the range 0 to 20. 0 means there is no limit. The default value is 20. For more information see "Dealing with login failures," on page 13. **Note** If you have session timeouts configured, and a user session times out, only an Administrator can log in to unlock the session if the maximum attempts per user name is reached. See "Reconfirm password session timeouts," on page 57 for more information.
E-mail message for failed logins	By default, the e-mail sent by Rational DOORS when there is a failed login attempt is prefixed with the text: **The following is a notification message from Rational DOORS - please do not reply as it was sent from an unattended mailbox.** If you want to prefix e-mails with a different message, you can enter it here.
Notify failed logins by email to	This lists the users who receive an e-mail if there is a failed login attempt. The Rational DOORS client sends the e-mails. **Note** Make sure the users have the e-mail address box filled in on the General tabs of their user options screens.
Add	If you want to add an entry to the list of users who are e-mailed: **a.** Click **Add** **b.** Select the user from the list of Rational DOORS user names **c.** Click **OK**

Login Policy tab	Description
Remove	If you want to remove an entry from the list of users who are e-mailed: **a.** Select the entry you want to remove **b.** Click **Remove**

    6. Click **OK**.

Password control

You can impose rules on what passwords users can choose and how often they must be changed.

You can specify the types of characters in a password by making letters, numbers and/or symbols mandatory. You can also prevent users from reusing a password within a specified time period or reusing a password within a specified number of password iterations.

By default, passwords must have a minimum of six characters. You must be a database manager to configure password controls.

The password restrictions that you set are not enforced when a database manager or a custom user with the power to create users is creating or editing user passwords through the **Manage Users** dialog box. However, if a user of any type opens the **Options** dialog box (**Tools > Options**) and changes their password, the password must conform to the database restrictions.

To configure password controls:

1. In the **Database** view, click **Database** 📒 , and then right-click **Properties**.

The **Database Properties** dialog box is displayed.

2. Click the **Password** tab.

There are three areas that can be configured:

- Reconfirm Password
- Password Restrictions
- Password Repetition

Reconfirm password session timeouts

As a security feature, Rational DOORS allows you to lock Rational DOORS sessions after a specified period of inactivity.

Note You must be a database manager to configure session timeouts.

To configure session timeouts:

1. Select the **Password required to login** check box.

2. Under **Reconfirm Password**, select the **Password reconfirmation required** check box.

3. Type the time-out period, in minutes, in the text box. The default setting is five minutes. You can type a value between 5 and 60 minutes.

4. Click **Apply**, and then click **OK**.

   The new time-out settings are applied to all future login sessions.

   Re-entering the user's password unlocks the Rational DOORS session.

Note If the user account becomes disabled after a session times out, or the user reaches the limit for failed login attempts, only the Administrator can unlock the session.

Password restrictions

To restrict the types of passwords that users can use, select the following option(s):

- If you select **Letters**, at least one letter must be in the password.

- If you select **Numbers**, at least one number must be in the password.

- If you select **Symbols**, at least one symbol must be in the password.

- In the text box, type the minimum number of characters for passwords.

- The **Passwords expire after** option is only available if you have selected **Use Rational Directory for user information and authentication** on the **General** tab.

Password repetition

You can restrict how frequently a password is reused in terms of generations, days, or both, as follows:

1. For generations, type a whole number between 1 and 12.

   If you type 1, the current password will not be available to that user again until they choose a different password at least once. If you type 12, twelve other unique passwords must be used before the current password can be reused.

2. For days, type a whole number between 1 and 180.

   If you type 10, the password cannot be reused for 10 days since it was last used as a password.

   If both generations and days are used, both requirements must be met before the password becomes available to the user.

3. Click **Apply**, and then **OK**.

Command Line Login Restriction

If your database is configured to use RDS for authentication, you can set the database to allow or not allow the use of the -password or -P password command line switch. This setting can be overridden by editing the access rights of individual users.

By default, the database is set to allow users to use the -password or -P password command line switch. To restrict this use, select the **Disable the password command line switch by default** check box.

Managing the dictionary

Rational DOORS provides a client dictionary and a database dictionary for each installed language:

• Client dictionary

  The client dictionary is stored on the machine on which the Rational DOORS client is installed. This is not a personal dictionary, it can be accessed by any user of that client, including Citrix clients that access the client remotely, and remote access clients. Access controls cannot be set on the client dictionary.

  The default location of the client dictionary is:

  `C:\Program Files\IBM\Rational\DOORS\9.2\dictionary\us.dic`

• Database dictionary

  This dictionary is available to all the users of the database. You can set access rights to control who can add and remove words, and who can change user's access rights.

  The default location of the database dictionary is
  `$Rational DOORSHOME/Data/v6data/spelling`

The access rights for the database dictionary are as follows:

Access	Description
Modify	User can add and remove words from the database dictionary.
Admin	User can change the access rights to the database dictionary.

By default, all users have full access to the database dictionary.

To add a user or group:

1. Click **Tools > Manage Dictionaries**.

2. Select **Database** from the **Dictionary** list, and select the **Access** tab.

3. Click **Add**.

4. Select the user or group you want to add, the access rights you want them to have, and click **OK**.

To edit a user or group:

1. Click **Tools > Manage Dictionaries**.

2. Select **Database** from the Dictionary list, and click the **Access** tab.

3. Select the user or group whose access you want to change, and click **Edit**.

4. Assign the required access rights, and click **OK**.

The login history file

The Rational DOORS database server can keep a record of every:

- Login failure

- Successful login

By default, the database server only records login failures. To control what information is logged, see "Changing the login policy," on page 53.

The database server logs the information in a text file called `login_history.txt`. This file is stored in `<server_data_folder>`\v6data\logs.

On Windows, the **ServerData** entry in the registry (default location `HKEY_LOCAL_MACHINE\SOFTWARE\Telelogic\DOORS_Server\9.2\Config`) points to the location of the server data.

On Solaris, the `login_history.txt` file is stored in `$SERVERDATA/v6data/logs`.

To show the login history, open the `login_history.txt` file in a text editor, such as Notepad, WordPad, or Emacs.

Note The login history file can get quite big. You should regularly monitor its size and, if necessary, delete it (first copy it to another location, if you want to preserve the information). Rational DOORS automatically creates a new login history file in the **logs** folder.

Broadcasting a message

Database managers can broadcast a message to all the users that are connected to the Rational DOORS database server. For example, if you need to restart the Rational DOORS database server, you can broadcast a message to all the connected users warning them to save their work and log out of the database.

When the message is displayed, it is prefixed with the date and time, and the following text:

`Broadcast Message from` *username*`@`*database_server_name*

The time is displayed in the time zone of the Rational DOORS client.

To broadcast a message:

1. In the Database Explorer, click **Tools > Broadcast Message**.

   The **Broadcast Message** dialog box is displayed.

2. Type the message you want to broadcast and click **Send**.

   The message is sent to the database server, and is broadcast from there to all connected clients.

3. Click **OK** in the **Message Sent** dialog box.

Setting up a message of the day

You can set up Rational DOORS to display a message of the day, which is displayed on the **Login** dialog box. If you do not set up a message of the day, the standard **Login** dialog box is displayed.

To set up the message of the day:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3.   In the left pane, click **Database** 📁 , and then right-click **Properties**.

4.   Click the **Message of the Day** tab.

5.   Select the **Show message at startup** check box and type the message you want to display to users in the **Message of the Day** box.

6.   Click **Apply** or **OK**.

If you want to stop displaying the message of the day you can either:

•   Delete the text

•   Clear the **Show message at startup** check box

Setting up e-mail

The Rational DOORS client can send e-mails:

•   Whenever there is a failed attempt to log in to Rational DOORS.

•   When users submit proposals using the Change Proposal System, and the status of one of their proposals changes. For example, an e-mail can be sent to a user when one of their proposals is accepted or rejected.

E-mails sent by Rational DOORS always include the database name and the database URL.

To set up the client so that it can send e-mail messages:

1.   Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2.   In the Database Explorer, make sure the Database view is selected.

     If necessary, click **View > Database View**.

3.   In the left pane, click **Database** 📁 , and then right-click **Properties**.

4.   On the **General** tab, select the options you want.

     The following table lists the options available:

Option	Description
SMTP mail server	The SMTP mail server that you want the Rational DOORS client to use.

Option	Description
Mail account	The mail account that you want the SMTP mail server to use. This field is optional.
	If you leave this field blank, Rational DOORS will use a non-existent default mail account, smtp@doors, as some SMTP servers require user account authentication.
	The default mail account assigned by Rational DOORS is not in a valid e-mail format. If the SMTP server has security controls that require a user account in a valid format, it can be entered here.
	E-mail messages sent by the Rational DOORS client will display "change proposal system for **<projectname>**" in the **From** field.
Prefix e-mails with text	The prefix text of e-mail messages that are sent automatically by Rational DOORS.
	By default, automatic e-mails have the prefix:
	The following is a notification message from Rational DOORS - please do not reply as it was sent from an unattended mailbox.
	If you want to prefix e-mails with a different message, you can enter it here.

5. Click **OK**.

Changing the access rights for the database root

To change the access rights for the database root, you must have admin access to the database root.

To change the access rights for the database root:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** , and then right-click **Properties**.

4. Click the **Access** tab.

5. The current access rights for the database root are displayed.

   By default, these access rights are inherited by all top-level folders and projects you create in the database.

   The following table describes the access rights you need to do different tasks:

You need this access right	To
Read (R)	This has no meaning for the database root as you cannot deny an existing user Read access. To remove read access at the database root level you must either disable the user account or delete the user from the user list.
Create (C)	Create top-level projects and folders in the database.
Modify (M)	This has no meaning for the database root itself, but can be inherited by items in the database, such as folders and projects.
Delete (D)	This has no meaning for the database root itself, but can be inherited by items in the database, such as folders and projects.
Admin (A)	Change the access rights for the database root.

6. Set up the access rights you want.

   The following table describes how to do this:

To	Do this
Add a new entry	Click **Add**. The **Add Access** dialog box is displayed. In the **Name** box, select the name of the user or group that you want to add an entry for. Select the access rights you want to give them, and then click **OK**.
Remove an entry	Select the entry, and then click **Remove**.

To	Do this
Edit an existing entry	Select the entry, and then click **Edit**. The **Edit Access** dialog box is displayed. Select the access rights you want to give them, and then click **OK**.
Additional access	Select the additional access rights that you want to propagate with create access. The additional rights are propagated to the items in the tree below the database root that inherit their access rights from it

7. Click **OK**.

Allowing and disallowing discussions

You can control how discussions work in the database. You can:

- Allow all users to participate in all discussions
- Allow the Database Manager or a user with admin access to a module to control who can participate in discussions in a module
- Disable all discussions for the database

You need to be using a Rational DOORS 9.2 or later Database Server, and the server must be configured to exclude Rational DOORS 9.0 and 9.1 clients to make the discussions functionality fully available.

To allow or disallow discussions in a database:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to manage the database.

2. In the Database Explorer, make sure the Database view is selected.

   If necessary, click **View > Database View**.

3. In the left pane, click **Database** 🛢, and then right-click **Properties**.

4. Click the **Discussions Access** tab.

5. The current access for the database is displayed.

The following table describes the radio buttons:

Radio button	Controls
Allow Discussions	Allows all users to participate in all discussions.
Allow Discussions (access restrictions can be set on modules)	Allows the Database Manager or a user with admin access to a module to control who can participate in discussions in a module.
Do not allow Discussions	Disables all discussions for the database. **Note** If you disable discussions, and a module already has an open discussion, the discussion will stay open until you stop and restart the Rational DOORS client.

6. Click **OK**.

7 *Managing projects*

This chapter describes:

- Creating a project
- Using the Project Startup Wizard
- Converting a folder to a project
- Converting a project to a folder
- Editing project properties
- Changing the access rights for a project
- Deleting, undeleting and purging a project

Creating a project

You can either create a brand new project, or convert an existing folder to a project (see "Converting a folder to a project," on page 70).

Note For information about using a wizard to create a project, see "Using the Project Startup Wizard," on page 68.

To create a brand new project:

1. Log in to Rational DOORS as a Database Manager, or a Custom user who has the power to create projects.

2. In the Database Explorer select the folder or project in which you want to create the new project. This is the project's parent.

   You must have create access to the parent. To create a top-level project, you must have create access to the database root (see "Changing the access rights for the database root," on page 63).

3. Click **File > New > Project**.

4. In the Name box, type in the name of the new project.

   The name is case-sensitive. For example, the names **Myproject** and **MyPROJECT** are different.

   Project names must be unique throughout the Rational DOORS database. You cannot have two projects with the same name.

   The name can contain the following characters:

- Alphanumeric characters (letters of the alphabet and numbers)
- Space characters
- Periods (.)
- Underscores (_)
- Hyphens (-)

5. If you want to enter additional information about the new project, type it in the **Description** box.

6. Click **OK**.

   The new project inherits its access rights from its parent. If you want to change its access rights, follow the instructions in "Changing the access rights for a project," on page 72.

   Note If you receive the error **Cannot create this Project: Lock request timed out** when you try to create the project, wait a moment, and then try again. This error is generated if another Rational DOORS user is performing a paste operation when you click **OK** to create the project.

Using the Project Startup Wizard

Use the Project Startup Wizard to create a project that is already populated with modules, attributes and views. The wizard provides various defaults to help you quickly set up a new project.

To use the Project Startup Wizard:

1. Log in to Rational DOORS as a Database Manager, or a Custom user who has the power to create projects.

2. In the Database Explorer select the folder or project in which you want to create the new project. This is the project's parent.

   You must have create access to the parent. To create a top-level project, you must have create access to the database root (see "Changing the access rights for the database root," on page 63).

3. Click **File > New > Project Startup Wizard**.

   If you want to create a project from scratch, go to Step 4.

   If you want to use an existing project definition:

   a. Click **Re-use**, and then select the definition from the list.

    b. In the **Name** box, type the name of the new project, and enter additional information about the project in the **Description** box.

    c. Click **Next** to display the final wizard screen.

    d. Click **Finish**.

    The project is created, using the specified definition. It inherits its access rights from its parent. If you want to change its access rights, follow the instructions in "Changing the access rights for a project," on page 72.

4. If you want to create a project from scratch:

    a. Click **New**.

    b. In the **Name** box, type the name of the new project.

    c. In the **Description** box, enter additional information about the project.

    d. Click **Next**.

5. Select the project type (System or Software) and the approach (Formal, Informal, or Very Informal) that you want to adopt.

6. Click **Add Typical Modules**.

    Default modules for the specified project type and approach are listed in the **Modules** box.

7. The **Modules** box lists all the modules that are created in the project.

    If you do not want a module listed in the **Modules** box, select it then click **Remove selected module**.

    If you want to add another module, type the name of the module in the **Module Name** box, and then click **Insert custom module**.

8. Click **Next**.

9. Specify what attributes you want for each module:

    a. Select the module in the **Add attributes to module** box.

    b. In the **Attributes typical for** drop-down list, select the type of the module, and then click **Insert typical attributes**.

    Default attributes for the specified type of module appear in the **Attributes in selected module** box.

    c. If you do not want an attribute in your module, select it then click **Remove selected attribute**.

> **d.** If you want to add another attribute, type the name of the attribute in the **Attribute Name** box, select the type in the **and type** box, and then click **Insert custom attribute**.

10. Click **Next** to display the next wizard screen.

11. Specify what views you want for each module:

    a. Select the module in the **View onto module** box.

    b. In **Typical views,** select a view, and then click **Insert typical view**.

    The name of the view is displayed in the **Views** box, and the **Columns available** box shows the columns you could have in that view. Use the arrow keys to select which of these columns you want in the view.

    c. If you do not want a view shown in the **Views** box, select it then click **Remove selected view**.

    d. If you want to use a custom view name, type the name in the **Custom view name** box, select the columns you want in the view, and then click **Insert custom view**.

12. Click **Next**.

13. In the **Definition name** box, type a name for your project definition.

    You can re-use this definition next time you use the wizard to create a project.

14. Click **Next** to display the final wizard screen.

15. Click **Finish** to create the new project.

Note The new project inherits its access rights from its parent. If you want to change its access rights, follow the instructions in "Changing the access rights for a project," on page 72.

Converting a folder to a project

The differences between projects and folders are:

- Projects have unique names within the database, so that the location of any data in the project is uniquely identified by a path that starts at the project.

- When you use Project view in the Database Explorer, every project is displayed at the top level. A subproject is displayed in the tree below its parent project, as well as at the top level.

- You can partition and archive projects, but not folders.

- You can create a Change Proposal System for a project but not for a folder.

You cannot convert a folder to a project if either:

- The folder contains a module that is configured for review in the Change Proposal System.
- The folder or anything in it is open. When a module, folder or project is open, all the folders above it in the database tree are also open.

To convert a folder to a project:

1. Log in to Rational DOORS as a Database Manager, or a Custom user who has the power to create projects.

2. In the right pane of the Database Explorer, select the folder that you want to convert, and then click **File > Convert to Project**.

   You must have admin access to the folder.

Converting a project to a folder

The differences between projects and folders are:

- Projects have unique names within the database, so that the location of any data in the project is uniquely identified by a path that starts at the project.
- When you use Project view in the Database Explorer, every project is displayed at the top level. A subproject is displayed in the tree below its parent project, as well as at the top level.
- You can partition and archive projects, but not folders.
- You can create a Change Proposal System for a project but not for a folder.

You cannot convert a project to a folder if:

- The project has a Change Proposal System.
- The project has any exported or imported partitions.
- The project or anything in it is open. When a module, folder or project is open, all the projects above it in the database tree are also open.

To convert a project to a folder:

1. Log in to Rational DOORS as a Database Manager, or a Custom user who has the power to create projects.

2. In the right pane of the Database Explorer, select the project that you want to convert, and then click **File > Convert to Folder**.

   You must have admin access to the project.

3. A message is displayed asking if you really want to convert the project to a folder. Click **Yes**.

Editing project properties

To edit the properties of a project, you must have modify access to the project.

To edit the properties of a project:

1. In the Database Explorer, select the project then right-click **Properties**.

   The following table lists the available options on the **General** tab:

General tab	Description
Name	The name of the project. You cannot change the name of a project if any user has a folder, project or module in the tree below it open. If the project contains a link module, and the link module is named in any formal module filter that has been saved as a view, no objects will be displayed in the view if the project name is changed.
Description	Additional information about the project.
Type	The type of item whose properties are being displayed. This is **Project**, and cannot be edited.
URL	The URL of the project.
Copy URL	Copies the URL to the system clipboard.

2. Click **OK**.

Changing the access rights for a project

To change the access rights for a project, you must have Admin access to the project.

To change the access rights for a project:

1. In the Database Explorer, select the project then right-click **Properties**.

2. Click the **Access** tab.

3. The current access rights for the project are displayed.

The following table lists the available access rights:

You need this access right	To
Read (R)	See the project. If you do not have read access, the project is not displayed in your Database Explorer.
Create (C)	Create new modules, folders and projects inside the project. Paste existing modules, folders and projects into the project. Create partition definitions for the project. Create a Change Proposal System for the project.
Modify (M)	Change the name or description of the project. Edit partition definitions.
Delete (D)	Delete, undelete and purge the project. Cut the project to the Database Explorer clipboard. Delete partition definitions. Delete the project's Change Proposal System.
Admin (A)	Change the access rights for the project. Change the default linkset pairings for links from top-level modules within the project.

4. Set up the access rights you want.

The following table lists the boxes and buttons on the **Access** tab:

Access tab	Description
Inherit from parent	Select this check box if you want the project to inherit its parent's access rights. If it is a top-level project, it inherits its access rights from the database root. When this check box is selected, the list of access rights is unavailable, and shows what access rights the project is inheriting from its parent.

Access tab	Description
Add	To add a new entry to the list of access rights, click **Add**. The **Add Access** dialog box is displayed. In the **Name** box, select the name of the user or group that you want to add an entry for. Select the access rights you want to give them, and then click **OK**.
Remove	To remove an entry from the list of access rights, select the entry then click **Remove**.
Edit	To edit an entry in the list of access rights, select the entry then click **Edit**. The **Edit Access** dialog box is displayed. Select the access rights you want to give them, and then click **OK**.
Additional access	Select the additional access rights that you want to propagate with create access. The additional rights are propagated to the items in the tree below the folder that inherit their access rights from it.

5. Click **OK**.

Deleting, undeleting and purging a project

Deleting a project does not destroy any of the project data. It simply marks the project as deleted, and stops users from being able to access its data. To destroy the data, you must purge the project once you have deleted it.

Purging deleted projects removes them permanently from the database.

You cannot delete a project if the project or anything in it is open.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon or an open project icon . Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.

When a module is open, all the folders and projects above it in the database tree are also open.

To delete, undelete or purge a project, you must have delete access to the project and to all the folders and modules in it.

To delete a project:

• In the right pane of the Database Explorer, select the project you want to delete , and then click **File > Delete**.

To undelete a project:

1. In the Database Explorer, make sure that deleted items are being displayed. If necessary, click **View > Show Deleted**.

2. In the right pane of the Database Explorer, select the project you want to undelete , and click **File > Undelete**.

To purge a project:

1. In the Database Explorer, make sure that deleted items are being displayed. If necessary, click **View > Show Deleted**.

2. In the right pane of the Database Explorer, select the project you want to purge , and then click **File > Purge**.

   A message is displayed asking if you really want to purge the project.

3. Click **Yes**.

   The project and all the data in it is permanently removed from the database.

8 *Archiving and restoring data*

This chapter contains the following topics:

- Disk backups
- Rational DOORS archives
- Enabling server archives
- Archiving a module or project
- Restoring a module
- Restoring a project
- Archiving and restoring user information
- Restoring the entire database

Disk backups

To protect the data in your Rational DOORS database against the failure of the disk on which it is stored, take regular backups of the disk. Use standard file system backup tools to backup the disk.

In the event of a disk hardware error, you can restore the entire disk from your backups.

When you backup your disk:

- Only do full and differential backups. Do not do incremental backups.

  Because of the structure of the Rational DOORS database, incremental backups might capture inconsistent data.

- If you do differential backups, make sure you do a full backup at least once a week.

- Before you start the backup, make sure that all users are logged out of Rational DOORS.

  Most backup tools do not backup files that are open. If files are skipped because users are accessing the database, your backup might capture inconsistent data.

Rational DOORS archives

Use Rational DOORS archives to make a backup of a particular module or project to protect against accidents. For example, if a user accidentally deletes and purges a project, you can restore the project from your archive.

You can archive the following parts of your Rational DOORS database:

Rational DOORS archive	File type
An entire project	`.dpa`
A single module	`.dma`
Information about all the users and groups in the database	`.dua`

You can create Rational DOORS archives on the Rational DOORS client machine, or on the Rational DOORS database server machine.

Enabling server archives

Instead of saving archives on your local machine, you can save them to the Rational DOORS database server machine, where they are stored in a folder inside the data folder. This means that they can be restored to a Rational DOORS client on any machine, instead of only being available on your local machine.

If you want users to be able to create and restore archives on the Rational DOORS database server machine, follow the steps below.

On Windows machines:

1. Navigate to your Rational DOORS 9.2 data folder on the Rational DOORS database server machine. In the data folder create a folder, for example **serverarchive**. All server archives for the database will be created in this folder.

2. Open the Registry Editor, and navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\Telelogic\DOORS_Server\9.2\Config`.

3. Create a string called **DOORS_Archive_Location**.

4. Right-click the string, select **Modify**, and type the name of the folder you created in the **Value data** box. For example, type **serverarchive**

5. Stop and start the Rational DOORS 9.2 Database Server.

Check that server archives are enabled:

1. Run Rational DOORS and log in as a user with the power to archive and restore data.

2. Select a project in the right pane of the Database Explorer and click **File > Archive**. The **Archive Project** dialog box has an **Archive on server** check box. This check box is also available on the **Archive Module** check box. A **Restore from server** check box is displayed on the **Restore Project** and **Restore Module** dialog boxes.

On UNIX machines:

Include the following environment variable as part of the profile or startup script for the user who runs the Rational DOORS database server:

```
DOORS_ARCHIVE_LOCATION=<directoryname>
```

The directory `<directoryname>` will be created relative to `$SERVERDATA`.

Archiving a module or project

You cannot archive a module if any user has the module open in either shareable or exclusive edit mode.

You cannot archive a project if the project or anything in it is open.

You should make sure that any baseline sets that include modules you are going to archive are closed before you create the archive.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon 📂 or an open project icon 📂. Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.
When a module is open, all the folders and projects above it in the database tree are also open.

To archive a module or project:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to archive data.

2. In the right pane of the Database Explorer, select the module or project you want to archive.

    You need read access to the module or project in order to see it in the Database Explorer, but you do not need any other access to it. The archive

includes all the module or project data, including data that you do not have any access to.

If you want to create the archive file on the server machine, go to Step 4. You can only create archive files on the server machine if your database manager has set up Rational DOORS to allow server archives. For more information, see "Enabling server archives," on page 78.

3. If you want to create the archive file on the client machine:

    a. Click **File > Archive**.

    b. In the **File name** box, type a path and filename for the archive file, or use browse to select a location. Go to Step 5.

4. If you want to create the archive file on your server machine:

    a. Click **File > Archive**.

    b. Select **Archive on server**. The **Browse** button is removed from the dialog box.

       Note This option is only visible if your database manager has set up Rational DOORS to allow server archives. For more information, see "Enabling server archives," on page 78.

    c. Type a name for your archive file. If you want it to be created in a subfolder on the server, type a path then the archive name. For example, type **myarchives/project.dpa**.

       A folder called **myarchives** is created on the server, and **project.dpa** is stored inside it.

       Keep a record of your archive names and locations, as you cannot browse to the archive folder on the server. You must type the path and file name when you want to restore an archive.

5. By default, Rational DOORS includes all baselines in the archive. If you do not want to include baselines in the archive, select **do not archive any baselines**.

6. Select the **Span disks** check box if you want the archive file to span more than one disk. This is useful if you are creating the archive on floppy disks.

    Make sure you label the floppy disks to record the order in which you feed them into the computer when the archive is created. For example, label the first 1, the second 2 and so on.

7. Select **Include Rational DOORS backup system files (not needed for day-to-day archiving)** if you have been asked to do so by Customer Support. Otherwise, you do not have to select this check box when you archive data.

8. Click **OK**.

   An archive file is created in the location specified on the client or server machine.

   Note Keep the archive file on a different disk to the one on which your database is stored, so that you can access it in the event that your database disk is damaged. If the archive fails because something you want to archive is locked, follow the instructions in "Managing locks," on page 226.

Restoring a module

You should restore an archived module to the database where you created the archive. If you restore it to another database, you lose information about all the module's access rights, because the access rights are specific to the users and groups in the original database.

Note If you want to transfer data between Rational DOORS databases, use partitions, not archives. For information about partitions, see "Managing partitions," on page 137.

If you restore a module to	This information is lost
The same database	All the links to and from the restored module, including internal links between objects within the module.
A different database	All the links to and from the restored module, including internal links between objects within the module.
	All the information about access rights for the restored module. The restored module and all the data in it only has default access rights. This means they inherit their access rights from the project or folder in which you restore the module.

To restore a module:

1. If you are restoring from an archive that spans multiple floppy disks, put the last floppy disk into your floppy disk drive. The last floppy disk contains information about the total number of disks in the archive.

2. In the Database Explorer, select the project or folder to which you want to restore the module.

   You must have create access to this project or folder.

   If you want to restore a module archive from the server machine, go to Step 4.

3. If you want to restore a module archive from your client machine:

   a. Click **File > Restore > Module**.

   b. In the **File name** box, type the name of the archive file that contains the module you want to restore, or use **Browse** to locate it. Go to Step 5.

4. If you want to restore a module archive from the server machine:

   a. Click **File > Restore > Module**.

   b. Select **Archive on server**. The **Browse** button is removed from the dialog box.

      Note This option is only visible if your database manager has set up Rational DOORS to allow server archives. For more information, see "Enabling server archives," on page 78.

   c. In the **Server file name** box, type the name of the module archive you want to restore. You cannot browse to files on the server, so you must know the name of the archive and the path, if it was created in a subdirectory on the server.

5. Click **OK**.

   The **Restore Module** dialog box is displayed.

6. In the **New name** box, type the name you want to give to the restored module.

   The name is case-sensitive. For example, the names **Mymodule** and **MyMODULE** are different.

   The name must be unique within the parent project or folder. All the projects, folders and modules in the parent must have different names.

   The name can contain the following characters:

   • Alphanumeric characters (letters of the alphabet and numbers)

- Space characters
- Periods (.)
- Underscores (_)
- Hyphens (-)

7. Click **OK**.

Restoring a project

When you restore an archived project, you can choose which parts of the project you want to restore. You can restore the whole project, or you can restore selected sub-projects, folders and modules.

Links that are entirely contained within the restored modules are preserved.

A link is preserved if the set of restored modules includes the link's source and target module, and its link module.

You should restore a project to the database where you created the archive. If you restore it to another database, you lose information about the project's change proposal system (if it had one), and access rights, because they are specific to the users and groups in the original database.

Note If you want to transfer data between Rational DOORS databases, use partitions, not archives. For information about partitions, see "Managing partitions," on page 137.

If you restore a project to	This information is preserved	This information is lost
The same database	All links that are entirely contained within the restored modules.	Any links that are not entirely contained within the restored modules.

If you restore a project to	This information is preserved	This information is lost
A different database	All links that are entirely contained within the restored modules.	Any links that are not entirely contained within the restored modules. All the information about access rights for the restored project. The restored project and all the data in it only has default access rights. This means they inherit their access rights from the project or folder in which you restore the project. All change proposal system information.

To restore a project:

1. If you are restoring from an archive that spans multiple floppy disks, put the last floppy disk into your floppy disk drive. The last floppy disk contains information about the total number of disks in the archive.

2. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to create projects.

3. In the left pane of the Database Explorer, select the project or folder that you want to restore the archived project to.

   You must have create access to this project or folder.

   If you want to restore a project archive from the server machine, go to Step 5.

4. If you want to restore a project archive from your client machine:

   a. Click **File > Restore > Project**.

   b. In the **File name** box, type the name of the file that contains the archived project, or use **Browse** to locate the file. Go to Step 6

5. If you want to restore a project archive from the server machine:

   a. Click **File > Restore > Project**.

b. Select **Restore from server**. The **Browse** button is removed from the dialog box.

   Note This option is only visible if your database manager has set up Rational DOORS to allow server archives. For more information, see "Enabling server archives," on page 78.

c. In the **Server file name** box, type the name of the project archive you want to restore. You cannot browse to files on the server, so you must know the name of the archive, and the path if it was created in a subdirectory on the server.

6. Click **OK**.

7. In the **New name** box, type the name you want to give to the restored project.

   The name is case-sensitive. For example, the names **Myproject** and **MyPROJECT** are different.

   Project names must be unique throughout the Rational DOORS database. You cannot have two projects with the same name.

   The name can contain the following characters:

   •   Alphanumeric characters (letters of the alphabet and numbers)
   •   Space characters
   •   Periods (.)
   •   Underscores (_)
   •   Hyphens (-)

8. By default, the entire project is restored. If you do not want to restore a particular folder, project or module in the archive, clear the box at the left.

9. Click **OK**.

Archiving and restoring user information

You should regularly archive your user information. A user archive contains information about all the users and groups for the database.

If your Rational DOORS database is configured to use the Rational Directory Server, you cannot archive users and groups through Rational DOORS.

To archive user information:

1. Log in to Rational DOORS as a Project Manager, a Database Manager, or a Custom user who has the power to archive data.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Archives** tab.

4. In the Archive users and groups section, type the name of the file that you want to archive the data to in the **File name** box, or use **Browse** to locate it.

5. Select the **Span disks** check box if you want the archive file to span more than one disk. This is useful if you are creating the archive on floppy disks.

    Make sure you label the floppy disks to record the order in which you feed them into the computer when the archive is created. For example, label the first 1, the second 2 and so on.

6. Click **Archive**.

7. Click **OK**.

When you restore a user archive, you replace all the current user information with the information in the archive. For example:

• Users who were deleted after you created the archive now exist again.

• Access rights for users who were created after you created the archive no longer match any existing users or groups. Rational DOORS automatically deletes these access rights when it comes across them.

• If you are restoring a user list archived from a different database the Administrator password in the current database will be overwritten with the Administrator password from the other database.

To restore user information:

1. If you are restoring from an archive that spans multiple floppy disks, put the last floppy disk into your floppy disk drive. The last floppy disk contains information about the total number of disks in the archive.

1. Log in to Rational DOORS as the Administrator user.

2. In the Database Explorer, click **Tools > Manage Users**.

3. Click the **Archives** tab.

4. In the Restore users and groups section, type the name of the file that contains the archived user information in the **File name** box, or use **Browse** to locate it.

5. Click **Restore**.

6. Click **OK**.

Restoring the entire database

If your entire Rational DOORS database becomes corrupt, restore the disk that it is stored on. Use your disk backups to restore the entire disk.

If you cannot restore the disk, for example, because you have lost your backup tapes, contact the Rational DOORS customer support team, who will talk you through a procedure to restore the database using your Rational DOORS archives. They will help you salvage as much of your data as possible.

9 *Administering electronic signatures*

This chapter contains the following topics:

- About electronic signatures
- How do electronic signatures work?
- What information is stored with a signature?
- Creating a Label Specifier Type
- Configuring electronic signatures

About electronic signatures

An important part of any project's lifecycle is the review process. This can be complicated and time consuming, requiring numerous paper copies of the document to be distributed to various users for review and approval. These must then be collected, consolidated and filed. As all these activities are performed outside Rational DOORS, there is no traceability or history and you have little control over who has access to the document.

The introduction of electronic signatures to Rational DOORS means that you can automate this entire process, and the document need never be removed from the database. When your document reaches a point where it must be reviewed, you can configure it so that the users you need to review it can do so electronically.

You have complete control over who can review your document, and all the signatures are stored in the same place and with the module. This means that the process is secure, easy to administer, and the signature information can be easily retrieved and reviewed.

As well as defining the users you want to review your document, you can also define a list from which those users must select a value when they sign. This reduces the risk of misinterpretation when the time comes to review the signature information. Users can also add their own comments when they sign the baseline.

The electronic signature capability in Rational DOORS records the sort of information that would be impossible to capture when reviewing documents in the traditional way. Rational DOORS timestamps each signature to the nearest second and it records any access restrictions so that it is clear what information the user was able to review. If you set a list of values for users to choose from,

the values that were available to the user are listed. Users cannot alter any part of their signature once it has been submitted.

The rest of this chapter describes in detail how electronic signatures work, and what you need to do to set up your document to use electronic signatures.

How do electronic signatures work?

When you put your document out to users for review, you need to be sure that all those users have the same version of the document. Traditionally, you would do this by printing numerous paper copies and distributing them to the users.

You can achieve this electronically, using Rational DOORS's baselining functionality. A baseline is a read-only snapshot of a module at a given time. When a document reaches the stage when it needs to be reviewed, baseline it. Users can then access the baseline, review the information and sign it off. As all the users are accessing and signing the same baseline, all the users signatures are stored in the same place, so it is easy to access and cross-reference them.

As the project progresses you build up a series of baselines each containing the time-stamped signatures of your reviewers. This means you have a complete history of each stage of the modules development, and of every user that was involved in the review process from beginning to end.

Because all baselines are stored with the module, and all signatures are stored with the baseline that they pertain to, it is very easy to retrieve and review them. Rational DOORS provides access controls so that you can control which users can sign the baseline, and which users can read the signatures that have been made.

What information is stored with a signature?

When a user signs a baseline, the following information is stored with the signature:

- The user's Rational DOORS user name.

- The user's Full Name.

  The Full Name can be provided when the Rational DOORS user is created, however it is not a required field. If the Rational DOORS user does not have a Full Name, the Full Name is left blank in the signature.

- The date and time that the user signed the baseline. This is the date and time on the Rational DOORS database server, not the Rational DOORS client.

  For more information, see "How date and time are recorded," on page 17.

- When you configure electronic signatures you can choose to provide the users that are reviewing and signing each baseline with a list from which they must choose a value. In Rational DOORS this list is called the **Label Specifier**, and the values contained in the list are called the **Signature Labels**. The signature labels can be edited throughout the lifecycle of the module, so Rational DOORS records what signature labels were available to the user when signing the baseline.

- If you have provided users with a label specifier from which they must choose a signature label, the label they choose is recorded with their signature.

- A comments field is available to each user who signs the baseline. Any comments that they added are recorded with their signature.

- If the database is set up to use passwords, users must reconfirm both their Rational DOORS user name and password before their signature is added. If the database is not set up to use passwords then they need only reconfirm their user name. As the password policy for the database might change during a module's lifecycle, this information is stored with the signature.

- Rational DOORS access controls might prevent users from accessing all the information that is stored in a module. What is more, users might be unaware that they are not able to see all the information in the module. When a user signs a baseline, Rational DOORS records whether their access to the module was restricted. This means that users are not held accountable for information that they were unable to review.

Creating a Label Specifier Type

If you want to provide your users with a list from which they must select a value when they sign the baseline, you must create the Label Specifier Type. Label Specifiers are enumerated attributes, and are created in the same way as any other enumerated attribute. You assign a series of values to the enumerated attribute, and these are the values from which your users must choose when they sign the baseline.

Your module might contain a large number of enumerated attributes, so you must ensure that the name of the enumerated attribute that you create for use as a Label Specifier Type has an easily recognizable name.

If you do not want users to be able to add values to the Label Specifier Type, set access restrictions on the enumerated attribute type.

For information on how to create an enumerated attribute type, see the chapter entitled "Using attributes" in *Using Rational DOORS*.

Configuring electronic signatures

As electronic signatures are tied to your module's baselines, you have to baseline the module before you can configure electronic signatures.

1. In the module, click **File > Baseline > View**.

   The **View Baseline** dialog box is displayed, and all the baselines that have been made are displayed.

2. Select a baseline and click **Signatures**. It does not matter which baseline you select. Your configuration applies to all the baselines of the module. You can change the configuration at any time.

   The **Baseline Signatures** dialog box is displayed.

3. Click **Configure**.

   The **Signatures Configuration** dialog box is displayed.

4. Select **Include Signature Labels** if you want to provide users with a list of values. The **Label Specifier Type** list becomes available.

   Note If you have not created an enumerated type to use as the Label Specifier, you must do that before you can continue. For more information, see "Creating a Label Specifier Type," on page 91.

5. Select a **Label Specifier Type** from the list.

Setting access controls

The **Signatures Configuration** dialog box has two tabs for setting access controls for electronic signatures. These are **Access (Signatories)** and **Access (Label Specifier)**.

- **Access (Signatories)**

  The access controls on this tab govern who can read signatures, sign baselines and administer the signatures list.

This access right	Allows you to
R	Read signatures
M	Sign a baseline
A	Administer signatures list

To give a user access to electronic signatures:

a. Click **Add**.

    The **Add Access** dialog box is displayed.

b. Select the user or group you want to add in the upper pane and assign
    access rights in the lower pane, by selecting or clearing the check boxes.

c. Click **OK**.

    The **Add Access** dialog box closes and the user is added.

• **Access (Label Specifier)**

   The access controls on this tab govern who can change the Label Specifier
   Type.

This access right	Allows you to
M	Set the module to Include Signature Labels and change the Label Specifier Type.
A	Change the Label Specifier access rights.

   Note Access controls for the values of the Label Specifier
   Type (the options in the drop down list presented to
   signatories adding their signature to a baseline) are held
   with the attribute type definition. For more information,
   see Controlling access to an attribute type in *Using
   Rational DOORS*.

To give a user access to the label specifier:

a. Click **Add**.

    The **Add Access** dialog box is displayed.

b. Select the user or group you want to add in the upper pane and assign
    access rights in the lower pane, by selecting or clearing the check boxes.

c. Click **OK**.

    The **Add Access** dialog box closes and the user is added.

10 *Managing incremental development using Intelligent Traceability*

This chapter contains the following topics:

- Incremental development and Intelligent Traceability
- Intelligent Traceability and baseline sets
- Link behavior in baseline sets
- Link behavior outside baseline sets
- What is a baseline set definition?
- Creating a baseline set definition
- Copying a baseline set definition
- Renaming a baseline set definition
- Access controls for baseline set definitions
- Showing baseline set definitions
- Creating a baseline set
- Baselining a module to a baseline set
- Closing a baseline set
- Removing a baseline set definition

Incremental development and Intelligent Traceability

Incremental development

In complex projects it is often the case that various teams work in parallel on a set of data. For example, you might have a user requirements document, a system requirements document and test documents, all which are interdependent. Ideally in a projects life cycle, documents pass through several incremental phases, each phase being completed and signed off before the next phase begins. So the analysts create user requirements for phase one, the engineers base system requirements on them, and the test engineers develop tests for them. Once this process is complete and the results have been approved and signed off, the project moves on to the next incremental phase, and the process starts again.

In real life projects, however, it is unlikely that the process will run this smoothly. Inevitably, analysts complete phase one before engineers, and engineers before test. This leaves project managers with a dilemma: either hold back those teams that are ready to move forward to the next incremental phase until other teams have caught up, or allow the project to progress to the next phase before work is completed. In most projects, time is a deciding factor and the project must progress, but this leaves room for error and makes project planning and management difficult.

Rational DOORS solves this problem by allowing those teams that have completed a phase to carry on to the next one, leaving a frozen, read-only record of the completed phase for other teams to access and link to. As the various teams complete the documents associated with that phase, they can add them to the set.

Intelligent Traceability

The most powerful features of Rational DOORS as a requirements management tool are linking and traceability. You can build up relationships between the requirements in your project using links, and then easily trace these links to keep track of changes to the project, and how the changes affect the requirements to which they are linked.

Usually, when you take a snapshot at a milestone, you are able to make a record of the requirements. However, you are unable to record the relationships between requirements. So when the project is completed, you have a file for each of the documents within the project at the various key stages of the development, but little idea of what the relationships between the documents were at those key stages.

Intelligent traceability™ means you can record the relationships between requirements at each key stage in the development. You do not take a snapshot of individual documents. You take a group shot of all the relevant documents, with the relationships intact.

Rational DOORS combines the ability to sign off documents that are part of the same incremental phase at different times, with intelligent traceability. This makes project planning and management easier, and enhances the clarity of your project history.

Intelligent Traceability and baseline sets

A baseline is a read-only snapshot of a module. You can baseline a module individually or you can baseline a group of modules as a **baseline set**.

To maintain intelligent traceability in your project you must use baseline sets when you baseline modules. A baseline set is a group of baselines that you want to treat as a single unit for project planning and management purposes. You create a baseline set for each phase in your projects development. Once a phase is complete and all the necessary modules have been baselined to the baseline set, you close the baseline set, and then create one for the next phase. Rational DOORS maintains a complete record of requirements, and the relationships between them, for each phase in your project's development.

Note You can also use baseline sets to reduce the administrative overhead of baselining a large group of modules at the same time.

Link behavior in baseline sets

All the links that are made between modules that are to be baselined in a baseline set, whether between current module versions, or from a current version to a baseline that is already part of the set, are maintained within that set. When the phase is completed and all the modules in the set have been baselined, you can follow the links between the baselined versions of the modules. This means that at any point in the future you can open a baseline of a module at a particular stage in your project's history, and follow the links between the modules in the baseline set. This gives you complete traceability at every stage in your project, allowing you to see the text of linked requirements as they were at the time they were made.

Note Only links created between modules and/or module baselines that are part of a baseline set behave in the way described in these diagrams. For information about links between modules and/or module baselines that are *not* part of a baseline set, see "Link behavior outside baseline sets," on page 101.
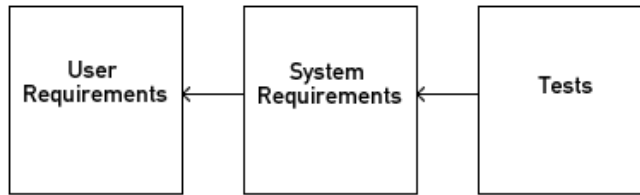
This is best explained with the use of some diagrams that show how links work when modules are baselined as part of a baseline set.

1. You have three modules: User Requirements, System Requirements and Tests, that you want to baseline in a baseline set.
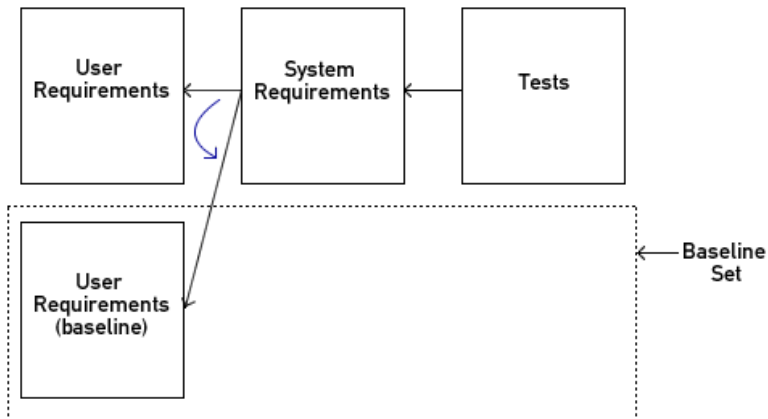
    There are links

    •   From System Requirements to User Requirements
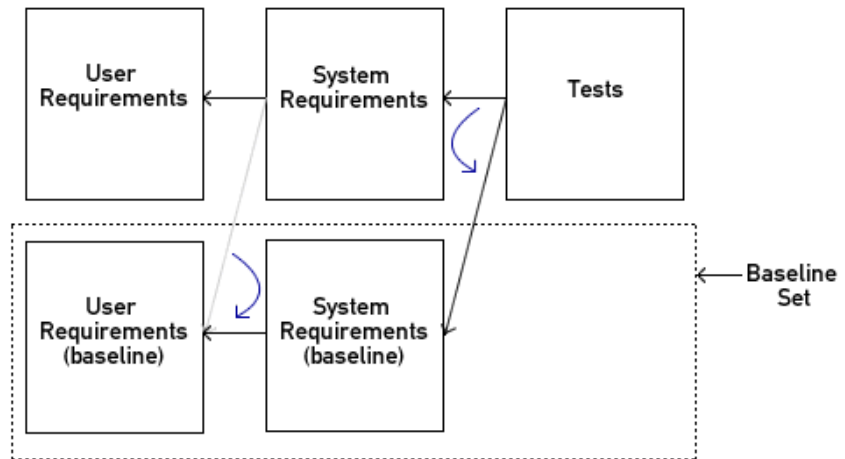
- From Tests to System Requirements.

2. When you baseline User Requirements the in-link from System Requirements is copied to the baseline. At this point, System Requirements has two outlinks: one to User Requirements, and one to User Requirements (baseline).
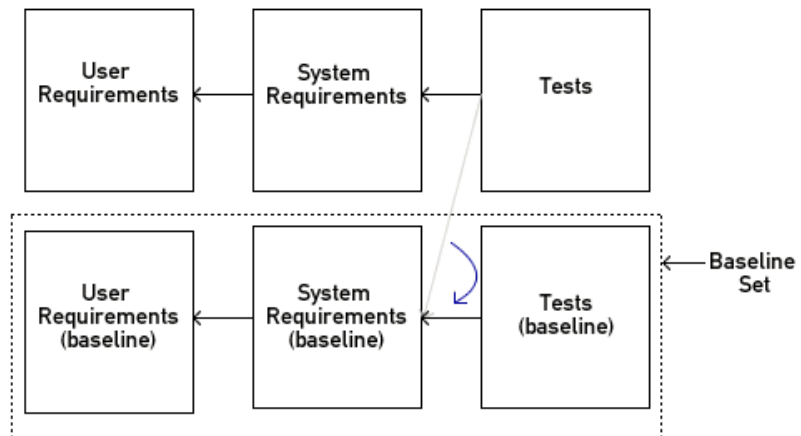

3. When you baseline System Requirements:

    - The out-link from System Requirements to User Requirements moves down into the baseline set.
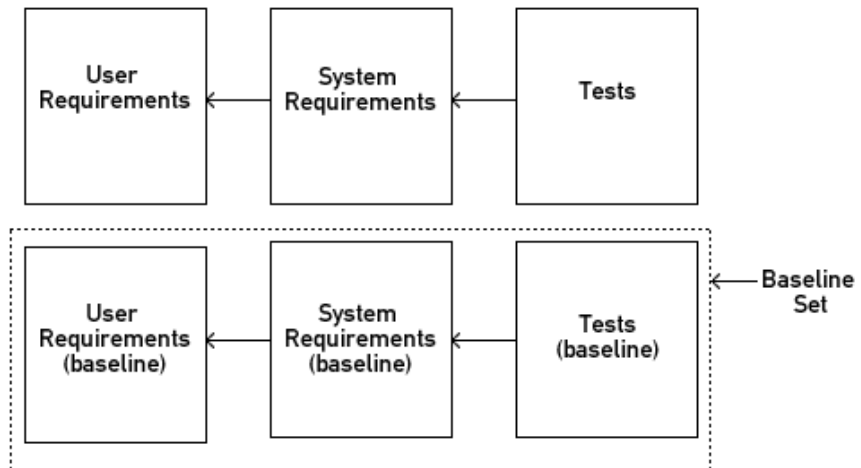
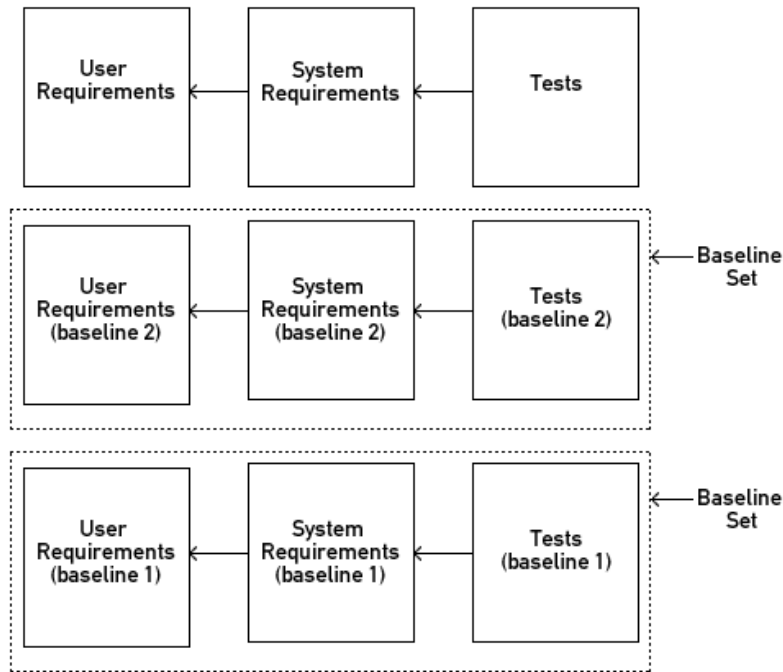- The in-link from Tests to System Requirements is copied to System Requirements (baseline).

4. When you baseline Tests in the baseline set, the out-link from Tests to System Requirements (baseline) moves down to the baseline set.

5. The resulting baseline set is a self contained group of baselines. All the relationships that existed between the modules at the time they were baselined are intact.

6. As your project progresses through the various development phases, you build up a series of baseline sets, that show the requirements and their relationships when each phase was completed.

Note You can create links from current modules to module baselines. For example, after you baseline the System Requirements module in the example above, you can create links to that baseline from the Tests module. When you baseline the Tests module in the baseline set, the links you have made to System Requirements (baseline) are moved down into the baseline set. To maintain traceability through all the incremental phases of your project, you should ensure that when you create a link to a baseline, you create an identical link to the current version of that module baseline.

Link behavior outside baseline sets

Not all modules in a project are related in such a crucial way that they require sophisticated traceability over time. For links that are only meaningful while they are being used in the current version, baseline sets can be an unnecessary

overhead. Putting such loosely related documents into a baseline set can detract from the importance of documents that are crucially related.

When modules that are linked are baselined outside a baseline set, the links are copied to the baseline. These links an only be followed from the baseline to the current version of the source or target module. There is no corresponding link from the current version to the baseline. Taking the example given in the previous section, the links behave as illustrated in the following diagram if the modules are not baselined in baseline sets.

For example, the following modules have links to User Requirements:

*   System Requirements (baseline 1)

*   System Requirements (baseline 2)

*   System Requirements

However, User Requirements has just one link, to the current version of System Requirements. Having followed a link from System Requirements (baseline x) to User Requirements, you cannot then follow that link back to the baseline.

As these links behave differently, the link arrows representing them are different. The link arrow for an in-link looks like this: , and for an out-link like this: .
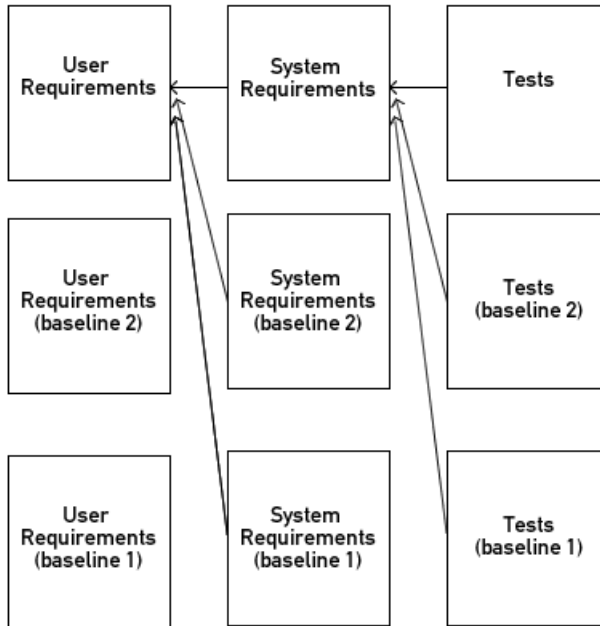
What is a baseline set definition?

A **Baseline Set Definition** is a template for the **Baseline Sets** that you create during your project's life cycle. A baseline set is a group of module baselines that you want to treat as a unit for project management purposes. You create a baseline set definition for each group of modules for which you want to maintain intelligent traceability. You can then create incremental baseline sets for each phase of the project. The baseline sets are stored together with the baseline set definition, so they can be easily accessed and compared at any stage.

Note Before you create a baseline set you must ensure that all the modules you want to baseline as part of that set are listed in the baseline set definition. Only modules that are listed in the baseline set definition at the time the baseline set is created can be baselined to it. Once the baseline set is closed, you can add modules to the definition for the next baseline set.

Creating a baseline set definition

To create a baseline set definition:

1. Select the project or folder that you want to use to manage the baseline set definition. You must have modify and create access to the project or folder.

    The modules that you want to add to the baseline set definition do not have to be contained within this project or folder. You can select them from anywhere in the database.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definitions** tab, and then click **New**.

    The **New Baseline Set Definition** dialog box is displayed.

4. Type a name and, optionally, a description for your baseline set definition.

5. Click **OK**.

    The **Baseline Set Definition** dialog is displayed.

6. Click **Edit**.

    The **Edit Baseline Set Definition** dialog is displayed.

    Use this dialog to:

    •   Add the modules you want to be able to baseline to a baseline set contained within this baseline set definition.

    •   Set access controls for the baseline set definition.

7. Navigate through your database structure, select the module that you want to add to your baseline set definition, and then click **Add** to add it.

    Note Before you create a baseline set you must ensure that all the modules you want to baseline as part of that set are listed in the baseline set definition. Only modules that are listed in the baseline set definition at the time the baseline set is created can be baselined to it. Once the baseline set is closed, you can add modules to the definition for the next baseline set.

8. If you do not want your baseline set definition to inherit its access controls from the parent project or folder:

    a. Select the **Access** tab.

    b. Clear the **Inherit from parent** box.

    c. Click **Add** to add a new user or group. You can then select the user or group, assign access and click **OK**.

    d. Select the user or group, and click **Edit** to edit its access. Change the access as required, and then click **OK**.

    For information about the access controls that apply to baseline sets, see "Access controls for baseline set definitions," on page 106.

9. When you have finished adding modules, and setting access rights, click **OK**.

    The **Edit Baseline Set Definition** dialog is closed and the modules you added to the definition are displayed on the **Baseline Set Definition** dialog box.

Note You cannot use the **Access** tab of the **View Baseline Set Definition** dialog to edit the access rights for the baseline set definition. To change the access rights you must click the **Edit** button on the **Definition** tab of the **View Baseline Set Definition** dialog box.

Copying a baseline set definition

When you copy a baseline set definition, you copy the modules that are included in the definition and the access controls for the definition. You do not copy any baseline sets that have been created from that baseline set definition.

To copy a baseline set definition:

1. Select the project or folder containing the baseline set definition you want to copy.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definitions** tab.

   The baseline set definitions are listed.

4. Select the baseline set definition that you want to copy and click **Copy**.

   The **Copy Baseline Set Definition** dialog box is displayed.

5. Type a new name for the definition in the **To** box, and optionally a description in the **New description** box.

6. Click **OK**.

   The copy is listed on the **Baseline Set Definitions** tab of the project or folder properties.

Renaming a baseline set definition

To rename a baseline set definition:

1. Select the project or folder containing the baseline set definition you want to rename.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definitions** tab.

   The baseline set definitions are listed.

4. Select the baseline set definition that you want to rename and click **Rename**.

   The **Rename Baseline Set Definition** dialog box is displayed.

5. Edit the name or description.

6. Click **OK**.

   The updated name and description are displayed on the **Baseline Set Definitions** tab.

Access controls for baseline set definitions

The access controls that apply to baseline set definitions are described in the following table:

You need this access to a baseline set definition	To
Read (R)	See the baseline set definition.
Modify (M)	Rename the baseline set definition Change the baseline set definition's description Add modules to the baseline set definition Remove modules from the baseline set definition
Create (C)	Create a baseline set definition Create a baseline set from the baseline set definition
Delete (D)	Delete the baseline set definition
Admin (A)	Change a user or groups access to the baseline set definition

Showing baseline set definitions

1. In the Database Explorer, select the project or folder whose baseline set definitions you want to show.
2. Right-click and select **Properties**.
3. Select the **Baseline Set Definitions** Tab.

   A list of all the baseline set definitions for the project or folder is displayed.

Creating a baseline set

Once you have created your baseline set definition, you create a baseline set. The baseline set provides the baseline version number, baseline suffix and baseline description for each of the modules that you baseline to the set.

You cannot create a baseline set until you have created the baseline set definition upon which it is based. For more information, see "What is a baseline set definition?," on page 103 and "Creating a baseline set definition," on page 103.

Note Ensure that all the modules that you want to include in the baseline set are listed in the baseline set definition before you create the baseline set. You cannot add any more modules to the baseline set definition when a baseline set is open. You can add more modules when the set is closed.

1. Select the project or folder in which you have created the **Baseline Set Definition**.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definitions** tab.

   A list of the baseline set definitions that have been created in the project or folder is displayed.

4. Select the baseline set definition from which you want to create a baseline set.

5. Click **Create Set**.

   Note Each baseline set definition can have one open baseline set at any one time. If a baseline set is open, you cannot create a baseline set, and the **Create Set** button is unavailable.

   The **View Baseline Set Definition** and **New Baseline Set** dialog boxes are displayed.

6. Select the **Version** for the baseline set, and then type a **Suffix** and **Description**.

   Note It is good practise to give your baseline set a suffix. This is because modules can belong to more than one baseline set, and can be baselined outside the baseline set, so the version numbers are not always the same for all the baselines in the set. The suffix provides an easy identifier for baselines that are part of a particular set.

7. Click **OK**.

8. The **New Baseline Set** dialog box is closed and your baseline set is listed on the **Baseline Sets** tab.

Baselining a module to a baseline set

If a module is included in a baseline set definition, you can choose whether or not to baseline the module as part of that baseline set definition.

You can baseline a module to a baseline set in two different ways:

- Using the **Baseline Set Definition** dialog box
- Creating a new baseline in the module

Using the Baseline Set Definition dialog

1. Select the project or folder in which the baseline set definition containing the baseline set you want to baseline to is held.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definition** tab.

   The baseline set definitions that have been created in this project are listed.

4. Select the baseline set definition that contains the baseline set you want to baseline the module to, and click **View**.

   The **Baseline Set Definition** dialog box is displayed, and the modules that are included in the definition are listed.

   Note The module that you want to baseline to the baseline set must be included in this list. If it is not you cannot baseline it to the baseline set.

5. Select the **Baseline Sets** tab.

   All the baseline sets that have been created in this baseline set definition are listed. You can only baseline a module to a baseline set if that baseline set is open. An open baseline set is denoted by an asterisk (*****) in the **Open** column.

6. Select the open baseline set in the list, and then click the **Baselines** subtab.

   The modules that are available for baselining as part of the baseline set are listed.

7. Click **Add to Set.**

   The **Extend Baseline Set** dialog box is displayed.

8. Select the check boxes of the module or modules that you want to baseline as part of the baseline set.

9. Click **OK**.

The selected module or modules are baselined. The baseline version number and the baseline set suffix are displayed in the **Version** column next to the module that has been baselined.

Note The version number is the baseline version of the **module** not of the **set**. This means that modules in the same set might have different version numbers. This is because modules can be baselined outside the baseline set. They can also be included in, and baselined as part of, more than one baseline set. The baseline set suffix is the same for all baselines in the set and can be used to distinguish baselines in this set from baselines in other sets.

Creating a new baseline in the module

1. Click **File > Baseline > New** in the formal module that you want to baseline as part of the baseline set.

   The **New Baseline** dialog box is displayed. Any baselines that have already been made of the module are listed in the **Existing baselines** pane.

2. Make sure that the correct **Baseline Set** is selected.

   Note All the options in the dialog are unavailable because the module baseline that you create takes its version type (major or minor), suffix and description from the baseline set to which it is being added.

3. Click **OK**.

   A confirmation message is displayed showing the baseline set to which the baseline will be added.

4. Click **Confirm**.

   The module is baselined to the baseline set.

Closing a baseline set

When you have baselined all the modules you want to include in the baseline set, you close the baseline set. The set is closed automatically by Rational DOORS when all the modules that are available in the baseline set definition have been baselined to the set.

Once the set is closed, you cannot baseline any more modules to it.

Note Links that exist between a baseline in a baseline set and the current version of a module that is not part of the baseline set are lost when the baseline set is closed.

1. Select the project or folder in which the baseline set definition containing the baseline set you want to close is held.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definition** tab.

   The baseline set definitions that have been created in this project are listed.

4. Select the baseline set definition that contains the baseline set you want to close, and click **View**.

   The **Baseline Set Definition** dialog box is displayed, and the modules that are included in the definition are listed.

5. Select the **Baseline Sets** tab.

   All the baseline sets that have been created in this baseline set definition are listed. The open baseline set is denoted by an asterisk (*****) in the **Open** column.

6. Select the open baseline set.

   If you want to check which of the modules that are listed in the baseline set definition have actually been baselined to the set, select the **Baselines** subtab

   The modules that have been baselined as part of the set have the version number and baseline set suffix displayed next to them in the **Version** column.

   Note You can close a baseline set before all the available modules have been baselined.

7. Click **Close**.

   If there are modules in the baseline set definition that have not been baselined as part of the baseline set, a message is displayed asking if you want to close the baseline set anyway.

8. Click **Yes**.

   The baseline set is closed.

Removing a baseline set definition

Removing a baseline set definition does not delete any baselines that have been made to baselines sets stored with that baseline set definition. It does remove the definition from the project or folder, and with that the record of the baseline sets that have been created. You can still open a baseline that is part of a baseline set associated with that definition from the current version of the module. However, as the baseline set definition is removed you can no longer access the baseline set and open all the baselines that have been made to that set from the same place.

To remove a baseline set definition:

1. Select the project or folder containing the baseline set definition you want to remove.

2. Right-click and select **Properties**.

3. Select the **Baseline Set Definitions** tab.

   The baseline set definitions are listed.

4. Select the baseline set definition that you want to remove and click **Remove**.

5. Click **Yes**.

   The baseline set definition is removed.

11 *Managing Change Proposal Systems*

This chapter is for Project Managers and Database Managers.

It describes the tasks carried out by change proposal managers, and contains the following topics:

- Creating a Change Proposal System
- Configuring modules for review
- Showing change proposal users
- Adding a new change proposal user
- Changing the role of a change proposal user
- Removing a change proposal user
- Deleting a change proposal system

For information on tasks done by Standard change proposal users and change proposal reviewers, see *Using Rational DOORS*.

Creating a Change Proposal System

Note When you create a Change Proposal System (CPS), you automatically become a change proposal manager for it.

To create a change proposal system:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

   Note The Administrator user cannot create a CPS.

2. In the left pane of the Database Explorer, select the project you want to create a CPS for. You must have full access (RMCDA) to the project.

3. Click **Tools > Change Proposal System > Setup > New**.

   Rational DOORS creates a folder called **Change Proposal System** under the project. This is where all the information about the CPS is stored, including the Suggestions and Proposals modules.

   Note Use the procedures described in this chapter and in *Using Rational DOORS* to manage the modules in the Change Proposal System folder. Never edit these modules directly.

4. Rational DOORS gives users the option to configure the CPS immediately or later.

5. If you do not want to configure the CPS immediately, click **No.** Users will not be able to submit change proposals against the project until it has been configured.

6. Click **Yes** to configure the CPS.

    An empty **Change Proposal System for <projectname>** window is displayed.

The rest of this chapter describes how to configure modules and users for the change proposal system.

Configuring modules for review

Change proposal managers control which modules are configured for review, and which attributes within these modules are included in the review.

Note that by including attributes in a review, you can indirectly let them be seen by Rational DOORS users who do not have read access to the attribute value. For example, Jim does not have read access to an attribute called **Confidential**, but Sue does. Jim cannot see this attribute when he submits change proposals. But when Jim looks at a change proposal submitted by Sue, Jim sees its current value, because it is included in Sue's proposal. If Jim does not have read access to the attribute definition, the attribute is not displayed, and he cannot review change proposals for it.

To configure modules for review:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to configure.

    You must be a change proposal manager for the CPS.

3. Click **Tools > Change Proposal System > Setup > Configure**.

    On the **Module** tab, a list is displayed of all the modules currently configured for review.

4. To add a module to the list:

    a. Click **Add**.

        A mini-explorer is displayed.

    b. Navigate to and select the module you want to add, and then click **OK**.

5. By default, the **Object Heading** and **Object Text** attributes are made available for review.

   To check or change the attributes that are configured for review:

   a. Select a module, and then click **Attributes**.

      A list of the attributes you can include in the review is displayed. You can include user defined attributes and the following system attributes: **Object Heading**, **Object Short Text**, and **Object Text**.

   b. Select the check boxes for the attributes you want to include.

   c. Click **OK**.

6. To remove a module from the list:

   a. Select the module, and then click **Remove**.

      A message is displayed asking if you really want to remove the module.

   b. Click **Yes**.

7. When you have finished, click **OK**.

   The changes you made to the configuration are applied. This might take some time.

   If you added a new module:

   • A Proposals module is created in the Change Proposal System folder. It has a section for each existing change proposal user.
   • A linkset is created for links from the new Proposals module to the original module.

   If you removed a module:

   • The Proposals module is deleted and purged from the Change Proposal System folder. This does not affect any proposals previously applied to the source module, but you lose all the data stored in the Proposals module, including history information.
   • The linkset for links from the Proposals module to the original module is deleted.

Showing change proposal users

To show change proposal users:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to look at.

You must be a change proposal manager for the CPS.

3. Click **Tools > Change Proposal System > Setup > Configure**.

4. Click the **Users** tab.

    A list of all the users who are currently configured to take part in the review is displayed.

5. Use the **SHIFT** or **CTRL** keys to select multiple users.

    If you click anywhere in the list of users and then type, the highlight moves to the name you type. For example, if you type **john**, the first user whose name starts with **john** is highlighted.

6. Clear the **Notify updates by email** check box if you do not want any users of this CPS to be notified when the status of their proposals changes, or when their proposals are added to or removed from a group.

7. Select **Reviewer can edit CPs** if you want reviewers to be able to modify change proposals during the review process.

Adding a new change proposal user

To add a new change proposal user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to manage.

    You must be a change proposal manager for the CPS.

3. Click **Tools > Change Proposal System > Setup > Configure**.

4. Click the **Users** tab.

5. Click **Add**.

    A message telling you that adding new change proposal users does not affect any existing change proposal users is displayed. If you add a change proposal user who already exists, their change proposal role is not changed.

6. Click **OK** to continue.

    A list of all the users and groups for the database is displayed.

7. Select the users and groups you want to add.

    If you want to check which users are in a group, select the group, and then click **Members**. A list of all the users in the group is displayed.

8. In the **CP Role** box, select the change proposal role for the users.

> **Note** Make sure that every change proposal manager has the power to create users. You need this power to manage a CPS.

9. Click **OK**.

10. The list of members on the **Users** tab now includes the users you selected in Step 7.

   Notice that if you selected a group, the names of all the users in the group are displayed, not the name of the group. Selecting a group provides a quick way of selecting all the users who are currently in the group.

   > **Note** If the members of a group change and you want to update your change proposal users to reflect the changes, simply add the group again. The new members become new change proposal users. No changes are made to existing users, so users who are no longer in the group remain as change proposal users.

11. Click **OK**.

   The new users are added. This might take some time.

   For each new user that you added, a new section is created in the Suggestions module and in each of the Proposals modules in the Change Proposal System folder.

Changing the role of a change proposal user

To change a change proposal user's role:

1. Log in to Rational DOORS as a Database Manager or a Custom user who has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to manage.

   You must be a change proposal manager for the CPS.

3. Click **Tools > Change Proposal System > Setup > Configure**.

4. Click the **Users** tab.

5. Select the user whose role you want to change, and then click **Edit**.

   > **Note** You cannot change your own role. If you want to change your role, get another change proposal manager to do it. Make sure that every change proposal manager has the

power to create users. You need this power to manage a
CPS.

6. In the **CP Role** box, select the role you want.

7. Click **OK**.

8. Click **OK**.

Removing a change proposal user

Removing a change proposal user does not affect any existing modules in the
Change Proposal System folder. The user still has a section in the Suggestions
module and Proposals modules.

Removing a user only affects Proposals modules created from now on. Next
time you add a module to the review, the user will not get a section in it.

To remove a change proposal user:

1. Log in to Rational DOORS as a Database Manager or a Custom user who
   has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to manage.

   You must be a change proposal manager for the CPS.

3. Click **Tools > Change Proposal System > Setup > Configure**.

4. Click the **Users** tab.

5. Select the user you want to remove, and then click **Remove**.

   Note You cannot remove yourself. If you want to remove
   yourself, get another change proposal manager to do it.

6. Click **OK**.

7. Click **OK**.

Deleting a change proposal system

To delete a change proposal system:

1. Log in to Rational DOORS as a Database Manager or a Custom user who
   has the power to create users.

2. In the Database Explorer, select the project whose CPS you want to delete.

   You must be a change proposal manager for the CPS, and you must have
   delete access to the project.

3. Click **Tools > Change Proposal System > Setup > Delete**.

    A message is displayed asking if you really want to delete the CPS.

4. Click **Yes**.

    The Change Proposal System folder of the project is deleted and purged.

12 *Managing the database server*

This chapter is for Database Managers and users who have the power to manage the database.

It contains the following topics:

- Changing the password for the server
- Starting the server
- Stopping the server
- Removing or reinstalling the server on Windows
- Installing and removing additional database server services
- Checking what database server services are running on the machine
- Changing the port the server uses
- Checking which users are connected to the server
- Cleaning up unwanted connections and locked files
- Summary of dbadmin command switches

Changing the password for the server

When you use the server manager or `dbadmin` command to manage the Rational DOORS database server, you need to supply the server's password.

When you first install the server, its password is blank, which means that anyone can manage it. Change the server's password to make sure that ordinary users cannot manage the server.

The way that you change the server's password depends on which computer the server is running.

- Changing the password on Windows
- Changing the password on UNIX

Note If you forget the Rational DOORS database server's password, contact Rational DOORS customer support, who will talk you through a recovery procedure to reset the password.

Changing the password on Windows

1. Click **Start > Programs > IBM Rational > IBM Rational Lifecycle Solutions Tools > IBM Rational DOORS 9.2 > DOORS Database Server Admin**.

   This runs the Server Manager.

2. Connect to the server whose password you want to change:

   a. In the **Database** box, specify the location of the server, using the format *port@computer*:

Where	Is
port	The port the server is using (by default, 36677).
computer	The name of the computer the server is running on.

   b. In the **Password** box, type the server's current password.

   c. Click **Refresh List**.

3. Click **Change password**.

4. Type the new password into both the **New password** and the **Confirm new password** boxes, and then click **OK**.

5. Click **Close** to exit the Server Manager.

Changing the password on UNIX

Note In a mixed architecture network, you can run the Server Manager on a Windows computer to change the password of your UNIX server.

To change the password on a UNIX computer:

1. Change your working directory to $Rational DOORSHOME/bin.

2. Enter the following command:

   ```
   dbadmin -data port@computer [-password oldpassword]
   -newpassword newpassword
   ```

Where	Is
port	The port the server is using (by default, 36677).

Where	Is
computer	The name of the computer the server is running on.
oldpassword	The current password (omit the -password switch if the password is currently blank).
newpassword	The new password.

Starting the server

The way that you start the Rational DOORS database server depends on which computer it is running on:

• Windows

• UNIX

Starting the server on Windows

On Windows, the Rational DOORS database server runs as a service. Like all services, you can start and stop it using the Control Panel.

The server is automatically started when the computer that it is running on is started.

When the server starts up, it reads the following configuration information from the registry.

Value in registry	Description
portnumber	The port number that the server uses. By default, it is 36677. Do not use a port number less than 1000, or the server must run in privileged mode. Do not run the server in privileged mode.
serverdata	Where the Rational DOORS data is. This is the full path to the folder in which all the database files are stored.
home	The Rational DOORS home directory. This is the full path to the folder that Rational DOORS was installed into.

When you start the Rational DOORS database server, you can optionally set it to log database activity. To enable logging on Windows, you must create the following registry values:

Value in registry	Description
`logfile`	The path to the file in which the server logging will be contained.
`loglevel`	The level of logging, `1` being the lowest and `6` being the most verbose.

To start the server on Windows:

1. Open **Administrative Tools** in the **Control Panel**, and then select **Services**.

2. In the list of services, select **DOORS Database Server 9.2**, and then click **Start**.

When the server starts up, it reads configuration information from the registry, unless you use switches on the `doorsd` command to override the settings in the registry.

Value in registry	Switch (abbreviation)	Description
`portnumber`	`-portnumber` `(-p)`	The port number that the server uses. By default, it is 36677. Do not use a port number less than 1000, or the server must run in privileged mode. Do not run the server in privileged mode.
`serverdata`	`-serverdata` `(-s)`	Where the Rational DOORS data is. This is the full path to the folder in which all the database files are stored.
`home`	`-home` `(-h)`	The Rational DOORS home directory. This is the full path to the folder that Rational DOORS was installed into (the folder that has a `bin` folder which contains the `doorsd.exe` file).

You can also set the server to log database activity using the `-logfile` and `-loglevel` arguments on the `doorsd` command.

Value in registry	Switch (abbreviation)	Description
`logfile`	`-logfile` (`-l`)	The path to the file in which the server logging will be contained
`loglevel`	`-loglevel` (`-L`)	The level of logging, `1` being the lowest and `6` being the most verbose.

Starting the server on UNIX

When the Rational DOORS database server starts up, it reads configuration information from environment variables, unless you use command line switches on the `doorsd` command to override them.

Environment variable	Switch (abbreviation)	Description
`PORTNUMBER`	`-portnumber` (`-p`)	The port number that the server uses. By default, it is 36677. Do not use a port number less than 1000, or the server must run in privileged mode (as root). Do not run the server in privileged mode.
`SERVERDATA`	`-serverdata` (`-s`)	Where the Rational DOORS data is. This is the full path to the folder in which all the database files are stored.
`Rational DOORSHOME`	`-home` (`-h`)	The Rational DOORS home directory. This is the full path to the folder that Rational DOORS was installed into (the folder that has a `bin` folder which contains the `doorsd` file).

When you start the Rational DOORS database server, you can set it to log database activity. On UNIX, these are arguments to the doorsd command, as described in the following table.

Switch (abbreviation)	Parameter	Description
-logfile (-l)	Path to a file	The path to the file in which the server logging will be contained
-loglevel (-L)	Integers 1 to 6	The level of logging. 1 being the lowest and 6 being the most verbose.

To start the server from a UNIX computer:

1. Log in as the Rational DOORS owner user.

   You specify the Rational DOORS owner when you install Rational DOORS. This user owns the data directory and all the files in it.

2. Change your working directory to $Rational DOORSHOME/bin.

3. Enter the following command, using switches if you want to override the environment variable settings:

   ./doorsd

Stopping the server

You might need to stop the Rational DOORS database server because you want to reinstall or upgrade your Rational DOORS software.

Caution If anyone is using Rational DOORS when you stop the server, they might lose data.

Before you stop the server, give your users adequate notice that you are about to stop the server, and ask them to exit Rational DOORS. Use the Server Manager to check that there are no user connections to the server (see "Checking which users are connected to the server," on page 131). If a client is disconnected from the server, and is not reconnected within two minutes, the client session is considered invalid and any unsaved work is lost.

The way that you stop the Rational DOORS database server depends on which computer it is running on:

• Windows

• UNIX

Stopping the server on Windows

On Windows, the Rational DOORS database server service is automatically stopped when the computer is shut down. To stop the Rational DOORS database server service without shutting down the computer, use either the Control Panel or the Server Manager.

Note You can create a shortcut that stops the server (see "Summary of dbadmin command switches," on page 135).

Stopping the server using the Control Panel

The Control Panel can be used to stop the Rational DOORS database server service on Windows.

To stop the server on Windows:

1. Open **Administrative Tools** in the **Control Panel**, and then select **Services**.

2. In the list of services, select **DOORS Database Server 9.2**, and then right-click **Stop**.

Stopping the server using the server manager

The Server Manager can be used to stop the Rational DOORS database server on Windows.

1. Click **Start > Programs > IBM Rational > IBM Rational Lifecycle Solutions Tools > IBM Rational DOORS 9.2 > DOORS Database Server Admin**.

2. This runs the Rational DOORS Database Server Administration Tool.

3. Connect to the server you want to stop:

   a. In the **Database server** box, specify the location of the server, using the format `port@computer`:

Where	Is
`port`	The port the server is using (by default, 36677).
`computer`	The name of the computer the server is running on.

   b. In the **Password** box, type the server's password.

   c. Click **Refresh List**.

4. Click **Shutdown Server**.

A message is displayed asking you to confirm that you really want to stop the server.

5. Click **Yes**.

6. Click **Close** to exit the Server Manager.

Stopping the server on UNIX

Note In a mixed architecture network, you can run the Server Manager on a Windows computer to stop your UNIX server.

To stop the server from a UNIX computer:

1. Change your working directory to `$Rational DOORSHOME/bin`.

2. Enter the following command:

   ```
   dbadmin -data port@computer -killserver [-password password]
   ```

Where	Is
`port`	The port the server is using (by default, 36677).
`computer`	The name of the computer the server is running on.
`password`	The server's password (omit the `-password` switch if the password is currently blank).

Removing or reinstalling the server on Windows

To remove or reinstall the Rational DOORS database server service on Windows:

1. Get a DOS command prompt:

   a. Click **Start > Run**.

   b. In the **Open** box, type **cmd**.

   c. Click **OK**.

2. Use the `cd` (change directory) command to change your directory to the `Rational\DOORS\9.2\bin` folder. For example, type:

   ```
   cd "c:\program files\IBM\Rational\DOORS\9.2\bin"
   ```

3. Type this command to remove the Rational DOORS database server service:

   ```
   doorsd -remove
   ```

4. Type this command to reinstall the Rational DOORS database server service:

   ```
   doorsd -install
   ```

   The service starts automatically whenever your computer restarts, and stops whenever it shuts down.

Installing and removing additional database server services

You can install and run multiple Rational DOORS database server services on one machine.

To install another Rational DOORS database server service on a Windows machine:

1. Open a command prompt.

2. Type the following command:

   ```
   doorsd -minstall -p portnumber -s server data path
   ```

   where *portnumber* is the port the new service uses and *server data path* is the servdata path.

   Note The new service must use a different port number than existing services.

   For example:

   ```
   doorsd -minstall -p 36666 -s
   "C:\Program Files\IBM\Rational\DOORS\9.2\newdoorsdata"
   ```

3. Press **RETURN**.

   The new service is installed, and a new Config folder is created in the registry, with a unique ID number. The service is also displayed in the **Services** window with the same unique ID number.

4. Start the service by highlighting it in the **Services** window and selecting **Start** from the **Action** menu, or by clicking **Start Service** on the toolbar.

To remove a database server service, other than the default service:

1. Open a command prompt.

2. Type the following command:

   ```
   doorsd -mremove -i unique ID
   ```

   where *unique ID* is the ID number that was assigned to the service when it was created.

The service is removed.

Checking what database server services are running on the machine

To see a list of the Rational DOORS database server services that are running on your Windows machine:

1. Open a command prompt.

2. Type the following command:

   ```
   doorsd -list
   ```

   The services that are running are listed in the window.

Changing the port the server uses

By default, the Rational DOORS database server uses port number 36677. This port is not normally used by other software. However, if you want to install software that needs to use this port, you can configure Rational DOORS to use a different port.

Note Do not use a port number less than 1000, or the server must run in privileged mode. Do not run the server in privileged mode.

To change the port on	Do this
Windows	Edit the **PortNumber** line in the registry. For example, to get the server to use port number 44889, right-click on **PortNumber** and select **Modify** then type **44889** into the **Value data** field. The next time the server starts up it uses the new port.
	Alternatively, if you are starting the server from the command line or a shortcut and you want to temporarily use a different port, use the -portnumber switch. You can abbreviate this switch to -p.
UNIX	Change the value of the PORTNUMBER environment variable or use the -portnumber switch on the command line. You can abbreviate this switch to -p.

Checking which users are connected to the server

The Rational DOORS client only makes a connection to the server when it needs to read data from disk or write data to disk. It closes the connection as soon as the data transfer is completed.

The way that you check which users currently have a connection to the server depends on which computer the server is running on:

• Windows

• UNIX

Checking user connections on Windows

To check which users currently have a connection to a server running on Windows:

1. Click **Start > Programs > IBM Rational > IBM Rational Lifecycle Solutions Tools > IBM Rational DOORS 9.2 > DOORS Database Server Admin**.

    This runs the Server Manager.

2. Connect to the server whose connections you want to check:

    a. In the **Database** box, specify the location of the server, using the format `port@computer`:

Where	Is
`port`	The port the server is using (by default, 36677).
`computer`	The name of the computer the server is running on.

    b. In the **Password** box, type the server's password.

    c. Click **Refresh List**.

    d. In the **Users and locked files** box, a list is displayed of all the users who currently have a connection, in the form `user_name@computer`.

    Indented below the user name is a list of all the files the user currently has locked.

3. Click **Refresh List** to refresh the list of users and locked files.

4. Click **Close** to exit the Server Manager.

Checking user connections on UNIX

Note In a mixed architecture network, you can run the Server Manager on a Windows computer to check connections to your UNIX server and vice versa.

To check user connections from a UNIX computer:

1. Change your working directory to `$Rational DOORSHOME/bin`.

2. Type the following command to list all the user connections:

    ```
    dbadmin -data port@computer [-password password] -userlist
    ```

Where	Is
`port`	The port the server is using (by default, 36677).
`computer`	The name of the computer the server is running on.
`password`	The server's password (omit the -`password` switch if the password is currently blank).

For example:

```
marg$ dbadmin -data 36677@homer -userlist
-I- DBADMIN 6823:ptfrint@bart
-I- DBADMIN 8978*admin@marg
marg$ dbadmin -data 36677@hog -killprocess 6823
```

A list is displayed of all the users who currently have a connection, in the form *channel-id*:*user_name*@*computer*.

The connection made by the dbadmin command has the user name admin, and an asterisk before the user name, instead of a colon.

Cleaning up unwanted connections and locked files

If a user's computer crashes or hangs, the Rational DOORS database server might have an unwanted connection for the user and locked files associated with that connection.

Note Stopping and then restarting the server automatically gets rid of all unwanted connections and locked files.

The way that you cleanup unwanted connections and locks depends on which computer the server is running on:

• Windows

- UNIX

Cleaning up on Windows

To cleanup unwanted connections and locks when the server is on a Windows computer:

1. Click **Start > Programs > IBM Rational> IBM Rational Lifecycle Solutions Tools > IBM Rational DOORS 9.2 > DOORS Database Server Admin**.

   This runs the Server Manager.

2. Connect to the server you want to cleanup.

   a. In the **Database** box, specify the location of the server, using the format port@computer:

Where	Is
port	The port the server is using (by default, 36677).
computer	The name of the computer the server is running on.

   b. In the **Password** box, type the server's current password.

   c. Click **Refresh List**.

3. To delete a connection, select it in the **Users and locked files** box, and then click **Disconnect User**.

   Note Be careful not to disconnect a user who is currently connected or unlock a file a user is currently accessing, or you could corrupt your database.

4. To unlock a file, select it in the **Users and locked files** box, and then click **Unlock File**.

5. Click **Close** to exit the Server Manager.

Cleaning up on UNIX

Note In a mixed architecture network, you can run the Server Manager on a Windows computer to cleanup connections to your UNIX server.

To cleanup unwanted connections and locks from a UNIX computer:

1. Change your working directory to $Rational DOORSHOME/bin.

2. Type this command to list all the user connections:

   ```
   dbadmin -data port@computer [-password password] -userlist
   ```

   and this command to delete a connection:

   ```
   dbadmin -data port@computer [-password password] -killprocess
   channel_identifier
   ```

Where	Is
port	The port the server is using (by default, 36677).
computer	The name of the computer the server is running on.
password	The password (omit the -password switch if the password is currently blank).
channel_identifier	The channel identifier displayed by the -userlist switch.

   For example:

   ```
   marg$ dbadmin -data 36677@homer -userlist
   -I- DBADMIN 6823:ptfrint@bart
   -I- DBADMIN 8978*admin@marg
   marg$ dbadmin -data 36677@hog -killprocess 6823
   ```

   Notice that the connection made by the dbadmin command has the user name admin, and an asterisk before the user name, instead of a colon.

3. Type this command to list all the locked files:

   ```
   dbadmin -data port@computer [-password password] -locklist
   ```

   and this command to unlock a file:

   ```
   dbadmin -data port@computer [-password password] -unlock
   channel_identifier
   ```

   where channel_identifier is the channel identifier displayed by the -userlist switch.

   Note Be careful not to disconnect a user who is currently connected or unlock a file a user is currently accessing, or you could corrupt your database.

Summary of dbadmin command switches

You can use the `dbadmin` command to manage the Rational DOORS database server:

```
dbadmin -data port@computer [switches]
```

The following table shows the switches and any abbreviations:

Switch (abbreviation)	Parameter	Description
`-data` `(-d)`	`port@computer`	Where the Rational DOORS data is. This specifies the port number that the server is using and the name of the computer that it is running on.
`-killprocess` `(-k)`	`channel_identifier`	Deletes a user connection.
`-killserver` `(-K)`		Stops the server.
`-locklist` `(-l)`		Lists all the files that are currently locked. The `channel_identifier` is displayed by `-locklist`.
`-outfile` `(-o)`	`filename`	Sends output to a file (use with the `-locklist` and `-userlist` switches).
`-password` `(-P)`	`password`	The server's current password.
`-newpassword` `(-p)`	`newpassword`	The server's new password.
`-unlock` `(-U)`	`channel_identifier`	Unlocks a locked file. The `channel_identifier` is displayed by `-locklist`.
`-userlist` `(-u)`		Lists all the user connections.

Switch (abbreviation)	Parameter	Description
`-serverLogging`	`loglevel 1 - 6`	Allows the user to change the level of logging on the server without having to restart it first. Assumes that **doorsd** has already been started with the `loglevel` and `logfile` parameter in place. For more information about these parameters, see "Starting the server," on page 123.
`-tdsUserFilterLimit`	`string`	Allows limits to be set on RDS user searches.
`-tdsGroupFilterLimit`	`string`	Allows limits to be set on RDS group searches.

For example, you could create a shortcut that shuts down the server:

• Create a shortcut to dbadmin.exe, in the Rational DOORS\9.2\bin folder.

• Use the -killserver switch, which stops the server.

13

Managing partitions

For an introduction to partitions, see *About partitions,* which is in the online help and *Getting Started with Rational DOORS.*

This chapter is for Database Managers, Project Managers, and users who have the power to partition data. It contains the following topics:

- Partitions
- Synchronization
- The three files
- Creating a partition definition
- Showing partition definitions
- Editing a partition definition
- Removing a partition definition
- Exporting a partition
- Showing exported partitions
- Importing a partition
- Showing imported partitions
- Showing imported partition details
- Adding data to an imported partition
- Synchronizing an imported partition
- Synchronizing an exported partition
- Returning an imported partition
- Rejoining a partition
- Recovering a partition

Partitions

Partitions let you import modules from another database, and edit them locally.

The database where the modules came from is called the **home database**. Your database is the **away database**.

This is the sequence of events at the home and away databases:

1. A user at the home database creates a **partition definition**.

   The definition describes what data is in the partition, and what access rights users at the away database can have to the data.

2. The user at the home database **exports** the partition.

   This creates a **partition file** and copies the data described by the partition definition to the file.

   For any module that can be edited at the away database, Rational DOORS locks the local copy, making it read-only.

   Each module in the partition is either read-only at the home database or read-only at the away database. You cannot edit the same module at both databases.

3. The user at the home database sends the partition file to the user at the away database.

4. The user at the away database **imports** the partition.

   This copies the data from the partition file into the away database.

5. Users at the away database edit the data. Note that partitioned in modules cannot be set up for shareable edit. This is because users in the away database do not have administrative access to objects in partitioned in modules.

6. When they have finished, they **return** the imported partition.

   This creates a **return file** and copies the partition data to the file. You can choose to either:

   • Remove all the partition data from the away database.
   • Keep the partition data in the away database, but reset its status to make it look like normal local data.

7. The user at the away database sends the return file to the user at the home database.

8. The user at the home database **rejoins** the partition, using the return file.

   Rational DOORS copies the data from the return file and removes the locks applied in Step 2, so that the data is no longer read-only at the home database.

   Caution Although it is possible to create a partition definition in the away database that includes modules that are part of an imported partition, this is not supported. You might find that you cannot rejoin or recover data to either partition.

Synchronization

Any module that can be edited at the away database remains read-only at the home database until the partition is rejoined. Meanwhile, as users at the away database edit the module, the read-only copy at the home database becomes out-of-date.

So you should regularly **synchronize** the two databases to feed the changes made at the away database back into the home database:

- A user at the away database creates a **synch file**, which contains the updates made at the away database.

- The away user sends the synch file to the user at the home database.

- The home user synchronizes their database using the synch file. The data is copied from the synch file back into the home database, so that both databases are now synchronized.

The three files

You use three different files to partition, synchronize and return data. They all have the `.par` file type.

File	Description
Partition file	Used to transfer data from the home database to the away database. Read-only locks at the home database stop users at the home database from editing any modules that can be edited at the away database.
Synch file	Used to transfer updates from the away database to the home database, to synchronize both databases.
Return file	Used to transfer the final updates from the away database back to the home database. The read-only locks at the home database are removed, allowing users at the home database to edit the data.

Creating a partition definition

Make sure there are no active change proposals against objects in any of the modules you plan to include in the partition definition. If modules included in the partition definition have active change proposals against them in the home

database, the project will be locked in the away database, even if the modules are partitioned with read-only access.

To create a partition definition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project that you want to create a partition definition for, and then click **File > Properties**.

    You must have create access to the project.

3. Click the **Partition Definitions** tab.

4. Either click **New** to create the new partition definition from scratch, or select the partition definition you want to copy then click **Copy**.

    Note Copying an existing definition saves time because you do not have to type in so much information.

5. In the **Name** box, type the name of the new partition definition.

6. If you want to enter additional information about the partition definition, type it in the **Description** box.

7. Click **OK**.

    The **Edit Partition Definition** window is displayed.

8. The top of the screen is like the Database Explorer. Select the modules you want to include in the partition definition in the right pane. You can only select modules that are in the project you selected in Step 2.

9. Use the **with access rights** check boxes to specify the maximum access rights you want users to have at the away database. These limit the access rights that can be set at the away database.

    For example, if you only select the **Read** and **Modify** check boxes:

    •   No-one at the away database has create or delete access.

        A user with admin access at the away database can specify create and delete access, but these access rights are ignored.

    •   A user with admin access at the away database can restrict the access for particular users or groups further. For example, they might let the QA group have read and modify access and give everyone else read access.

10. Click **Add Selected Modules** to add the modules to the partition with the access rights specified.

The selected modules are listed in the box at the bottom of the screen. This shows all the data included in the partition. The attributes in each module inherit the access rights that you set when you add the module to the partition list.

Note If you add a module to the partition with a certain set of access rights, for example Read, and then change your mind and add the module again allowing Read and Modify access, the attributes in the module will still have Read access. If you want the attributes to inherit new access rights, you must remove the module from the partition definition and add it again with the correct access rights.

11. By default, the partition includes all the module's attributes.

    If you do not want to include all the attributes for a particular module:

    a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Attributes**.

    b. Clear the attributes that you do not want to include in the partition.

    The **Access** column shows the maximum access rights at the away database.

    c. If you want to change the maximum access rights at the away database for a particular attribute, select the attribute, and then click **Edit Access**.

    d. Select the boxes for the access rights you want, and then click **OK**.

    e. In the **Edit Partition Attributes** dialog box, click **OK**.

12. By default, the partition includes all the views for each of the modules you add to the partition.

    If you do not want to include all the views for a particular module:

    a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Views**.

    b. Clear the views that you do not want to include in the partition.

    The **Access** column shows the maximum access rights at the away database.

    c. If you want to change the maximum access rights at the away database for a particular view, select the view, and then click **Edit Access**.

    d. Select the boxes for the access rights you want, and then click **OK**.

    e. In the **Edit Partition Views** dialog box, click **OK**.

13. In the **Edit Partition Definition** window, click **OK**.

    The **Select Linksets** dialog box is displayed if you selected link modules and the set of modules you selected included the source and target modules for their linksets.

    The **Select Linksets** dialog box shows all the linksets you could include in the partition. For each linkset, it shows the source module, the target module and the link module. It only shows a linkset if you selected all three modules in the **Edit Partition Definition** window.

    Note Any links that are made suspect as a result of changes made to source or target objects in the away database are not marked as suspect when the partition is synchronized or rejoined.

14. Select the check boxes for the linksets you want to include, and then click **OK**.

Showing partition definitions

To show partition definitions:

1. In the Database Explorer, select the project whose partition definitions you want to show, and then right-click **Properties**.

2. Click the **Partition Definitions** tab.

    A list of all the partition definitions for the project is displayed.

Editing a partition definition

To edit a partition definition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition definition you want to edit, and then right-click **Properties**.

    You must have modify access to the project.

3. Click the **Partition Definitions** tab.

4. Select the partition definition you want to edit, and then click **Edit**.

    The **Edit Partition Definition** window is displayed. At the bottom of the screen is a list of all the modules in the partition.

5. To remove a module from the partition definition, select the module, and then click **Remove**.

6. To add a module to the partition definition, use the explorer in the top half of the screen. Select the module in the right pane, and then click **Add Selected Modules**.

Notice that the explorer panel only lets you select modules in the project you selected in Step 2. You cannot add modules from other projects.

> **Note** If you want to change the access rights for a module that has already been included in the partition, you should remove the module and add it again with the new access rights. If you overwrite a module that is already included in the partition definition, the module's access rights are updated, but the access rights for the attributes in the module are not.

7. If the **Attributes** column says **All attributes** for a module, the partition includes all the module's attributes.

To control which attributes are included in the partition definition for a particular module:

a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Attributes**.

b. Select the attributes that you want to include in the partition.

The **Access** column shows the maximum access rights at the away database.

c. If you want to change the maximum access rights at the away database for a particular attribute, select the attribute, and then click **Edit Access**.

d. Select the check boxes for the access rights you want, and then click **OK**.

e. In the **Edit Partition Attributes** dialog box, click **Close**.

8. If the **Views** column says **All views** for a module, the partition includes all the module's views.

To control which views are included in the partition definition for a particular module:

a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Views**.

b. Select the views that you want to include in the partition.

The **Access** column shows the maximum access rights at the away database.

   c.   If you want to change the maximum access rights at the away database for a particular view, select the view, and then click **Edit Access**.

   d.   Select the boxes for the access rights you want, and then click **OK**.

   e.   In the **Edit Partition Views** dialog box, click **OK**.

9. In the **Edit Partition Definition** window, click **OK**.

   The **Select Linksets** dialog box is displayed if you selected link modules and the set of modules you selected included the source and target modules for their linksets.

   The **Select Linksets** dialog box shows all the linksets you could include in the partition. For each linkset, it shows the source module, the target module and the link module. It only shows a linkset if you selected all three modules in the **Edit Partition Definition** window.

10. Select the check boxes for the linksets you want to include, and then click **OK**.

Removing a partition definition

To remove a partition definition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition definition you want to remove, and then right-click **Properties**.

   You must have delete access to the project.

3. Click the **Partition Definitions** tab.

4. Select the partition definition you want to remove, and then click **Remove**.

5. A message is displayed asking if you really want to remove the partition definition. Click **Confirm**.

6. On the project properties sheet, click **OK**.

Exporting a partition

You cannot export a partition if either the project or any of the modules in the partition are open.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon or an open project icon . Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.
When a module is open, all the folders and projects above it in the database tree are also open.

To export a partition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition you want to export, and then right-click **Properties**.

    You must have modify access to the project.

3. Click the **Partition Definitions** tab.

4. Select the partition definition that describes the data you want to export, and then click **Export**.

    You must have admin access to all the modules in the partition.

5. In the **Partition file name** box, type the name of the partition file that you want to write the data to, or use **Browse** to locate it.

6. In the **Partition name** box, type the name you want to give the exported partition.

    This name is used for the partition folder at the away database.

7. If you want to include a comment for the users at the away database, type it in the **Comment** box.

8. Click **OK**.

    Rational DOORS creates the partition file and copies the data described by the partition definition to it.

    Rational DOORS places a read-only lock on any modules in the home database that were not read-only in the partition. Each module in the partition is either read-only at the home database or read-only at the away database. You cannot edit the same module at both databases.

9. Send the partition file to a user at the away database, so that they can import the partition.

Showing exported partitions

To show exported partitions:

1. In the Database Explorer, select the project whose exported partitions you want to show, and then right-click **Properties**.

2. Click the **Exported Partitions** tab.

   A list of all the exported partitions for the project is displayed.

   Note If you export a partition and set all its away database access rights to read-only, it does not appear on this list. This list only shows partitions that were exported with some modules not set to read-only.

Access rights for imported partitions

When a partition definition is created, access rights are assigned to each module in the partition. The access rights that are assigned for each module are the maximum rights that any user has to the data in the away database.

The access rights of users and groups in the away database can be further restricted by setting access rights on the project into which the partition will be imported. When the data is initially imported into the project it inherits the restricted access rights, so if the modules are partitioned with full access, but a user or group has read-only access to the parent project, they will have read-only access to the data in the partition.

You should make sure that the access rights that users and groups have to the parent project are sufficient before you import a partition. Once the partition is imported, you cannot give existing users increased access to existing attributes. Any users who do not have specific access rights for the parent project assigned before the partition is imported will have the access rights of the **Everyone else** group.

Importing a partition

To import a partition:

1. At the away database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the right pane of the Database Explorer, select the folder or project that you want to import the data into.

   You must have create access to this folder or project.

You cannot import a partition into a folder that is not in a project. The project does not have to be an immediate parent, but there must be a project at some point above the folder in the hierarchy.

3. Click **File > Import Partition**.

4. In the **Partition file name** box, type the name of the partition file that contains the data you want to import, or use **Browse** to locate it.

5. Click **OK**.

A screen that shows the following information about the partition is displayed:

- The name of the partition file
- The name of the partition
- Any comment made by the user at the home database who created the partition
- The target project or folder that the partition is to be imported under, that you selected in Step 2

6. Click **Import**.

Rational DOORS creates a **partition folder** underneath the target project or folder. The partition folder has the same name as the partition.

Rational DOORS copies all the partition data into the partition folder. If necessary, it creates folders within the partition folder to retain the hierarchy of the modules at the home database.

Note If you create a partition definition that contains modules with traceability columns, and restore it to another database, the traceability columns will not display any information. To display the traceability information in the restored project, you must add the traceability column again.

Caution If your partition contains subfolders, and you move a subfolder to another part of the away database, you will be unable to edit the partition definition, or rejoin, or recover the partition.

Showing imported partitions

To show imported partitions:

1. In the Database Explorer, select the project whose imported partitions you want to show, and then right-click **Properties**.

2. Click the **Imported Partitions** tab.

    A list of all the partitions that are currently imported into the project and that have not yet been returned is displayed.

Showing imported partition details

To show imported partition details:

1. In the Database Explorer, select the project that contains the partition whose details you want to show, and then right-click **Properties**.

2. Click the **Imported Partitions** tab.

3. Select the partition, and then click **Details**.

    Details about the partition are displayed.

    The available details are listed in the following table:

Item	Description
Partition name	The name of the partition. This is the same as the name of the partition folder at the local (away) database.
Description	Additional information added by the person who created the partition file at the home database.
Definition name	The name of the partition definition.
Exported by	The user name of the person who created the partition file at the home database.
Date exported	When the partition file was created at the home database.
Date imported	When the partition was imported into the local (away) database.
Date synchronized	When the partition was last synchronized. This is when someone at the local (away) database last created a synch file.
Synchronized by	The user name of the person at the local (away) database who created the last synch file.
Type	Whether the partition is read-only or not.

For more information about how Rational DOORS handles dates, see "How date and time are recorded," on page 17.

4. Click **Close**.

Adding data to an imported partition

Before you synchronize or return an imported partition, you might want to add data to it.

You can add formal modules and link modules. They must be in the partition folder. Once you have added the modules to the partition, they look like they were imported from another database, just like the other modules in the partition. You cannot subsequently remove them from the partition.

Note You cannot add data to a read-only imported partition.

If you have added new linksets to link modules that were included in the original partition from the home database, you must add the new linksets to the partition, or they will not be included when it is returned to the home database.

You can also add child folders and projects to the imported partition, which can contain new formal modules and link modules. The new folders and projects must also be in the partition folder. If you have created links between the new modules in the child directory, the directory must be a folder. If you have created a child project, links between modules that are held in that project are lost when the partition is rejoined. This is a limitation of the software, and only affects projects that are added to imported partitions in the away database.

To add data to an imported partition:

1. At the away database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project that contains the partition, and then right-click **Properties**.

3. Click the **Imported Partitions** tab.

4. Select the partition that you want to add the data to, and then click **Add Data**.

5. Select the modules you want to add to the partition.

   The top of the screen is like the Database Explorer. Use it to select the modules you want to add in the right pane, and then click **Add Selected Modules**.

The selected modules are added to the box at the bottom of the screen, which shows all the data in the partition.

Notice that the explorer panel only lets you select modules in the partition folder.

The maximum access rights at the other database are always read, modify, create and delete. The **with access rights** check boxes are unavailable.

6. By default, the partition includes all the attributes for each module you add to the partition.

   If you do not want to include all the attributes for a particular module:

   a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Attributes**.

   b. Clear the attributes that you do not want to include in the partition.

7. By default, the partition includes all the views for each of the selected modules.

   If you do not want to include all the views for a particular module:

   a. Select the module in the list of modules at the bottom of the screen, and then click **Edit Views**.

   b. Clear the views that you do not want to include in the partition.

   c. In the **Edit Partition Views** dialog box, click **OK**.

8. In the **Add Data to Partition** dialog box, click **OK**.

   The **Select Linksets** dialog box is displayed if you added link modules and the partition includes the source and target modules for their linksets.

   The **Select Linksets** dialog box shows all the linksets you could add to the partition. For each linkset, it shows the source module, the target module and the link module. It only shows a linkset if all three modules are in the partition.

9. Select the check boxes for the linksets you want to add, and then click **OK**.

Synchronizing an imported partition

Synchronize an imported partition when you want to update the home database to reflect the changes you have made so far.

Synchronizing does not remove the read-only locks at the home database. So users at the home database can still only read the data, while users at your (away) database can continue editing it.

To synchronize an imported partition:

1. At the away database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project that contains the partition, and then right-click **Properties**.

3. Click the **Imported Partitions** tab.

4. Select the partition you want to synchronize, and then click **Synchronize**.

   You must have admin access to all the modules in the partition.

5. In the **Synch file name** box, type the name of the synch file that you want to write the data to, or use **Browse** to locate it.

6. If you want to include a comment for the people at the home database, type it in the **Comment** box.

7. Click **OK**.

   Rational DOORS creates the synch file and copies the data to it.

8. Send the synch file to a user at the home database, so that they can use it to synchronize their database.

Synchronizing an exported partition

Synchronizing an exported partition updates the home database with the changes made at the away database.

It does not remove the read-only locks at the home database. So for any data that was not exported with read-only access rights, users at the home database can still only read it, and users at the away database can continue editing it.

You cannot synchronize an exported partition if either the project or any of the modules in the partition are open.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon ![icon] or an open project icon ![icon]. Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.
When a module is open, all the folders and projects above it in the database tree are also open.

To synchronize an exported partition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose data you want to synchronize, and then right-click **Properties**.

   You must have modify and create access to the project.

3. Click the **Exported Partitions** tab.

4. Select the partition you want to synchronize, and then click **Synchronize**.

   You must have admin and delete access to all the modules in the partition.

5. In the **Synch file name** box, type the name of the synch file, or use **Browse** to locate it.

6. Click **OK**.

   A screen that shows the following information about the partition is displayed:

   • The name of the synch file
   • The name of the partition
   • Any comment the user made at the away database when they created the synch file

Click	To
Details	See more information about the partition and synch file.
Report	Open a new window that contains full information about the partition, including all the modules in it. **Note** To print the report, cut and paste from this window into a text editor then print the text file.
Synchronize	Synchronize your database with the away database.

Returning an imported partition

When you have finished editing the modules in an imported partition, you return the partition to its home database.

You cannot return a partition if any user has a module in the partition open.

To return an imported partition:

1. At the away database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition you want to return, and then right-click **Properties**.

3. Click the **Imported Partitions** tab.

4. Select the partition you want to return, and then click **Return**.

   You must have admin and delete access to all the modules in the partition.

5. In the **Return file name** box, type the name of the file that you want to write the data to, or use **Browse** to locate it.

6. If you want to include a comment for the users at the home database, type it in the **Comment** box.

7. Use the **After returning** radio buttons to specify whether you want to delete the data from your database:

   • Click **Delete the imported data** to delete and purge all the partition data from your database.

   • Click **Keep the imported data** to keep all the partition data in your database. The data no longer looks like it was imported from another database; it looks like local data and users at the local database can continue to edit it. Its partition access rights no longer limit access rights defined locally.

8. Click **OK**.

   Rational DOORS creates the return file and copies the updated data to it.

9. Send the return file to a user at the home database, so that they can rejoin the partition back into their database.

Rejoining a partition

Rejoining an exported partition updates the home database with the changes made at the away database. As changes in the away database might have been made by users who do not exist in the home database, the history record shows the user in the home database who rejoins the partition as being the user who made the changes.

The following system attributes are automatically created when you rejoin a partition:

• Remote Created By

• Remote Created On

- Remote Last Modified By

- Remote Last Modified On

Rejoining an exported partition also removes the read-only locks at the home database. So users at the home database can now edit the data again.

You cannot rejoin a partition if either the project or any of the modules in the partition are open.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon [icon] or an open project icon [icon]. Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.
When a module is open, all the folders and projects above it in the database tree are also open.

To rejoin a partition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition you want to rejoin, and then right-click **Properties**.

   You must have modify and create access to the project.

3. Click the **Exported Partitions** tab.

4. Select the partition you want to rejoin, and then click **Rejoin**.

   You must have admin and delete access to all the modules in the partition.

5. In the **Return file name** box, type the name of the return file, or use **Browse** to locate it.

6. Click **OK**.

   A screen that shows the following information about the partition is displayed:

   - The name of the return file
   - The name of the partition

- Any comment the user made at the away database when they created the return file.

Click	To
Details	See more information about the partition and return file.
Report	Open a new window that contains full information about the partition, including all the modules in it. **Note** To print the report, cut and paste from this window into a text editor then print the text file.
Rejoin	Rejoin the partition to your database. Rational DOORS updates the data in your database and removes all read-only locks associated with the partition.

Recovering a partition

If you have a partition that can never be rejoined because the away database was corrupted or lost (for example, if it was damaged in a fire), you can recover the original data. This removes the read-only locks associated with the partition, so that users at the home database can edit the data.

Note If you recover a partition, you can never feed the changes made at the away database back to your database.

You cannot recover a partition if either the project or any of the modules in the partition are open.

Note In the Database Explorer, the folder or project selected in the left pane is open and has an open folder icon 📂 or an open project icon 📂. Its parent folder or project is also open, and so are all the folders and projects above it in the database tree, although they do not have open folder or open project icons.
When a module is open, all the folders and projects above it in the database tree are also open.

To recover a partition:

1. At the home database, log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data.

2. In the Database Explorer, select the project whose partition you want to recover, and then right-click **Properties**.

   You must have modify access to the project.

3. Click the **Exported Partitions** tab.

4. Select the partition you want to recover, and then click **Recover**.

   You must have admin and delete access to all the modules in the partition.

   A message is displayed asking if you really want to recover the partition.

5. Click **Confirm**.

14 *Requirements Interchange Format*

This chapter is for Database Managers, Project Managers, and users who have the power to partition data. It contains the following topics:

- RIF
- Creating a RIF definition
- Editing a RIF definition
- Deleting a RIF definition
- Exporting a RIF package
- Importing a RIF package
- Merging a RIF package
- Recovering RIF locks

RIF

The Requirements Interchange Format (RIF) is a standardized format that you can use to exchange requirement information between requirements databases and requirements tools.

You can send Rational DOORS data for editing to another Rational DOORS database or another requirements tool. After the data has been edited, it is returned to the originating Rational DOORS database, and, if appropriate, merged with the original data. Returning the data and merging it is a two-step process.

You need to be using a Rational DOORS 9.2.0.1 or later Database Server, and the server must be configured to use a minimum client version of 9.2.0.1 to make the RIF functionality fully available.

If you are transferring Rational DOORS data between two Rational DOORS clients, both clients need to be the same version.

How you use the RIF functionality depends on which task you need to complete:

- Sending data for review or edit
- Receiving and editing Rational DOORS data in a RIF file

Sending data for review or edit

If you are sending data for review or edit, you must perform the following tasks:

- Packaging the data
- Exporting the data
- Importing the data
- Merging the data

Packaging the data

The first step in packaging the data is to identify the modules that contain the data that you want to send to a third party.

You can send a whole module, or a subset of the data in the module. If you want to send only a subset of the data in a module, use Rational DOORS views to determine the data that is sent.

After you have set up your data, you must create a **RIF definition**.

A RIF definition is comprised of the following items:

- One or more formal modules
- A view of the data in each module
- The locks to apply to the data

  If you are sending data to be edited by a third party, you need to lock the local copy, to make it read-only.

  Similarly, if you are sending data to the third-party to be viewed and not edited, you need to lock the exported copy.

  Each piece of data in the RIF definition is either locked in the local Rational DOORS database or locked in the exported copy. You cannot edit the same data in both places.

Exporting the data

The RIF definition is exported as a **RIF package**, which copies the data determined by the RIF definition to an xml file.

The RIF package can contain data from formal modules and link modules from the same Rational DOORS project. It can also contain baselined data.

Links are only included in the RIF package if both ends of the link and its link module are included in the RIF package. External links are not included.

Linkset parings are also included in the RIF package.

Layout DXL is included in the RIF package as read-only text.

The absolute numbers of the objects in the RIF package may be different in the third-party's database.

Importing the data

After the third party has edited the data, they return the file and you **import** it into the local database.

When you import the xml file, Rational DOORS recognizes that the data in the file is associated with the RIF definition that you originally created, and imports it under that definition.

Merging the data

You **merge** the returned data with the original data, and any locks are removed.

Receiving and editing Rational DOORS data in a RIF file

If you are receiving RIF data, and need to edit it with Rational DOORS, you must perform the following tasks:

- Receiving and importing the data

- Exporting the data

Receiving and importing the data

You receive the RIF data in an xml file, which you need to import.

When you import the xml file, you must create a RIF definition, which you will use when you are ready to return the data. The first time you import the data, a folder is created for you. On subsequent imports, you must create a new folder to contain the imported RIF data.

After the RIF data is imported, it is displayed as modules. It is probable that some of the data in the modules will be editable, and some will be read-only.

Exporting the data

When you have completed your review or your edits, you select the RIF definition that you created for the import and export the data.

Note If you delete an object as part of your edits, do not purge it before you export the data.

Also, do not delete links before you export the data.

You can choose to return the edit locks, so that you cannot make any further updates to the data.

The data is exported to an xml file, which you can return to the original Rational DOORS database.

Creating a RIF definition

A RIF definition is composed of one or more formal modules, a view of the data in each module, and the locks to apply to the data.

To create a RIF definition:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project where you want to create a RIF definition, and then click **File > Properties**.

3. Click the **RIF Definitions** tab.

4. Click **New**.

   The **New RIF Definition** window is displayed.

5. Enter a name in the **RIF Definition Name** box.

6. If you want to enter additional information about the RIF definition, type it in the **Description** box.

7. Click **OK**.

   The **Add RIF Definition** window is displayed.

8. Open the project and select the first module you want to add to the RIF definition.

9. Select the version of the module that contains the data you want to export.

   If the module has been baselined, you can select the current version of the module, or one of the baselines.

10. Select the data to lock in the local module:

List item	Description
Lock all data	All the data in the module in the local database is locked.
	Users in the remote database can edit all the data in the module.
	Any updates in the remote database can be imported and merged with the local module.
	Note If you select this option, the **Include data in view** field is unavailable.
	Do not use this option if the module contains any sensitive information. You cannot prevent it from being included in the RIF definition.
	If you select this option, you cannot include any layout DXL in the RIF definition.
Lock objects	The selected objects in the module in the local database are locked.
	Users in the remote database can modify the specified objects and add new objects.
	Updates to the specified objects in the remote database can be imported and merged with the local module.
	Note Updates to any other objects are not merged with the local module.

List item	Description
Lock attributes	The selected attributes in the module in the local database are locked.
	Users in the remote database can modify the specified attributes.
	Updates to the specified attributes in the remote database can be imported and merged with the local module.
	Note Updates to any other attributes are not merged with the local module.
No locks	None of the data in the module in the local database is locked.
	Users in the remote database can edit all the data in the module.
	Any updates in the remote database cannot be imported and merged with the local module.
No locks. Exported data is read-only	None of the data in the module in the local database is locked.
	Users in the remote database can only view the data in the module.
	Any updates to the data in the remote database cannot be merged with the local module.

11. Select the view that displays the data that you want to export.

If you want to include only the data in a specific view of the module, select **Include data in view**, and then select a view from the drop-down list.

12. If you have selected either **Lock objects** or **Lock attributes**, you must select a second view in the **Apply locks to objects in view** field.

Note If you selected **Lock attributes**, the label changes to **Apply locks to attributes in view**.

This view displays the objects or attributes that you want to be editable in the exported data.

13. Click **Add or Update Module** to add the module to the RIF definition.

Continue adding modules until your RIF definition is complete.

14. Click **OK**.

Editing a RIF definition

You can change the contents of a RIF definition by adding or removing modules, or changing the data and locks you have included.

Note If the RIF definition has already been exported, you cannot change or remove the modules that are already contained in the definition. You can only add new modules, or, in the case of baselined modules, add a different version of the baseline. For example, if the RIF definition contains the current version of a module that has been baselined, you can select a baseline of the module, and add it to the definition.

To edit a RIF definition:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project where you want to change a RIF definition, and then click **File > Properties**.

3. Click the **RIF Definitions** tab.

4. Select the RIF definition you want to edit, and then click **Edit**.

   The **Edit RIF Definition** window is displayed with the current contents of the RIF definition.

5. Open the project and select the first module you want to change.

6. Make your changes, and click **Add or Update Module**. The properties for the module displayed in the **RIF Definition Contents** pane are updated.

   You can continue selecting and changing modules until you have made all the changes you want to make.

7. If you want to add a module to the RIF package, follow Step 8 to Step 13 in "Creating a RIF definition," on page 160.

8. If you want to remove a module from the RIF definition, select it in the **RIF Definition Contents** pane, and click **Remove**.

9. Click **OK**.

Deleting a RIF definition

To delete a RIF definition:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project where you want to delete a RIF definition, and then click **File > Properties**.

3. Click the **RIF Definitions** tab.

4. Select the RIF definition you want to delete, and click **Remove**.

5. Click **Yes**.

Exporting a RIF package

To export a RIF package:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. Make sure the project and the modules in the RIF definition you want to export are not open.

3. In the Database Explorer, select the project containing the RIF definition you want to export, and then click **File > Properties**.

4. Click the **RIF Definitions** tab.

5. Click **Export**.

   The **Export RIF Definition** window is displayed.

6. Accept the file name in the **RIF Package File Name** box or browse to a new file name.

   The **RIF Definition Name** is read-only.

7. Click **OK**.

The RIF package is exported.

Importing a RIF package

To import a RIF package:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project or folder where you want to import the RIF package, and then click **File > Import RIF Package**.

   The **Import RIF Package File** window is displayed.

3. Browse to the .xml file that you want to import.

4. Click **OK**.

   The **Import RIF Package** window is displayed.

5. Select or clear the **Use existing RIF definition** check box.

   This check box is only available if it is the first time the RIF package has been imported, and it is not a Rational DOORS package.

   If you want to use an existing RIF definition, select the check box. The definitions are displayed in the **RIF Definition Name** box. Select one from the drop-down list.

   If you want to enter a new RIF definition, clear the check box, enter a name in the **RIF Definition Name** box, and then enter a description in the **RIF Definition Description** box.

6. Enter a description in the **RIF Import Package Description** box.

7. Enter the name of the folder you want to import the RIF package into.

   You cannot enter the name of an already existing folder.

   If you have not imported this RIF package before, this field is read only. By default, the RIF package is imported into the root folder of the project.

8. Click **Import**.

   The RIF package is imported into the specified folder and is ready to be merged.

   Note Opening the folder before the import is complete can corrupt the imported data.

   Only the person who imported the RIF package can access the folder that the RIF package was imported into unless access rights for the folder are changed.

Merging a RIF package

When you have imported the RIF package, you can merge the modules in it with the modules in the local database.

To perform merge, you select a RIF definition. The RIF packages based on the RIF definition that have been imported into your Rational DOORS system are listed. Select the RIF package you want to merge.

To merge a RIF package:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project containing the RIF package you want to merge, and then click **File > Properties**.

3. Click the **RIF Definitions** tab.

4. Select the RIF definition that the RIF package you want to merge was based on, and click **Imports**.

   The **RIF Definition Imports** window is displayed, listing the RIF packages based on the RIF definition.

   If you want to list only the RIF packages that need to be merged, select **Show only imports requiring merge**.

5. Select the RIF package you want to merge.

   If you want to display more information about the RIF package, click **Details**.

   The **Details of RIF Import** window is displayed, listing the details of the RIF package.

6. Click **Merge**.

   The RIF package is merged.

   You can continue to select RIF packages and merge them.

7. Click **Close**.

Recovering RIF locks

There are occasions when you need to recover the locks on objects in a local module.

For example, if you need to resend a RIF package, you need to recover the locks in the local module before resending the package.

Note If you recover all the locks in a module, you cannot
subsequently merge the RIF package that is associated with
the recovered locks.

To recover locks:

1. Log in to Rational DOORS as a project manager, database manager, or custom user who has the power to partition data and modify access to the project.

2. In the Database Explorer, select the project where the RIF package was exported from, and then click **File > Properties**.

3. Click the **RIF Definitions** tab.

4. Select the RIF definition that the RIF package was exported from, and click **Recover Locks**.

   The **Recover Locks** window is displayed, listing the exported packages.

5. Select the RIF package or packages you want to recover.

   You can also click **Select All** or **Clear All**.

6. Click **Recover Locks**.

   A message is displayed.

7. Click **Yes**.

   The locks are recovered.

8. Click **OK**.

15 *Maintaining the integrity of your Rational DOORS database*

This chapter is divided into the following sections:

- About the Rational DOORS database
- How does the Database Integrity Checker work?
- Running the Database Integrity Checker
- The log file

About the Rational DOORS database

Rational DOORS relies on the underlying integrity of the network on which it is running to complete certain database operations. Rational DOORS can usually recover from temporary interruptions to the contact between Rational DOORS clients and the database server. However, if it is processing particular operations at the moment of failure it might not be able to recover, and database integrity might be lost. If this happens, you can use the Database Integrity Checker to identify and repair any problems.

The Rational DOORS Database consists of a hierarchy of projects, folders and modules. Depending on where they exist in the hierarchy, these items are either parent items, child items or both. For example in a simple database you might have a project (Project A) that contains a single folder (Folder B).

- Project A is the parent of Folder B
- Folder B is the child of Project A

Each item in the Rational DOORS database is represented internally in Rational DOORS by files that contain information about the item, about the item's parent, and about the item's children, if it has any. As folder and module names in Rational DOORS do not have to be unique in the database, each item is identified by a unique reference number. For example, Project A might have a reference number of 00000001, and Folder B a reference number of 00000002.

Note This is the number that is returned by the DXL perm,
`uniqueID`.

Each item contains the reference number of its parent and the reference numbers of any children it contains. So in the above example, 00000001 (Project

A) contains the reference number of its child, 00000002 (Folder B). 00000002 (Folder B) contains the reference number of its parent, 00000001 (Folder A).

As long as each parent contains a reference to each of its children and each of the children has a corresponding reference to its parent, the database integrity is intact and all the data is represented in the Database Explorer as expected. However, the database integrity can be affected if a failure in your computer system causes a database operation to fail when partially completed. Typically, an error message stating **Item is not in expected folder** is displayed if you try to delete or view an item that has been affected in this way.

If you moved Folder B in the above example to Folder C, the following changes are made to the files:

- The reference to Folder B is removed from its original parent, Project A

    Folder B is no longer referenced as a child of Project A.

- A reference to Folder B is added to its new parent, Folder C

    Folder C now contains a reference to its new child, Folder B.

- The reference to Project A is removed from Folder B and a reference to Folder C is added to Folder B

Project A is no longer referenced as the parent of Folder B. Folder B now contains a reference to its new parent, Folder C.

A failure in your computer system during this operation could result in some of the changes not being made to the files. This can cause problems with the integrity of the Rational DOORS database.

The other main causes of database integrity problems are losing contact with the database server while you are:

- Deleting an item
- Converting a project to a folder, or a folder to a project

How does the Database Integrity Checker work?

When you run the database integrity checker it checks to make sure that:

- Each reference from a parent item to a child item has a corresponding reference back from the child to the parent.
- No child item is referenced as a child of two different parent items.
- Every item in the database is referenced as the child of another item. If an item is not referenced by a parent, it (and any children it has) is not displayed in the Database Explorer. This data is recovered to a Lost and Found folder.

- Every project in the database has an entry in the Project View list, which is the list Rational DOORS uses to generate the Project View in the Database Explorer.

Once the database integrity check is complete, you can use the wizard to repair any inconsistencies in the database and move or restore any recovered data.

You can also run a restricted integrity check on the contents of a selected folder or project. An integrity check on a project or folder cannot check for data that is not referenced by any other item. It can check for:

- Missing data

- Items that are referenced by more than one parent

- Projects that are not included in the project list

Running the Database Integrity Checker

To run the integrity checker:

1. Log in to Rational DOORS as the Administrator user. The Check Integrity function is not available to any other Rational DOORS users.

2. In the Database Explorer, click **Database** , or a project or folder, and click **File > Check Integrity**.

   The Database Integrity Check wizard is displayed.

   Note If the Rational DOORS database server your client is connecting to is version 7.0 SP1 or earlier, an error message is displayed and you will be unable to run the Database Integrity Checker.

   The path to the item to be checked is displayed in the **Folder** box. If you selected the database, **/** is displayed. You can change the item that is checked by clicking **Browse**, and navigating to the project or folder you want to check.

   By default, items that are not referenced in the database are recovered to the Lost and Found folder. These items are not displayed in the Database Explorer until they are recovered by the integrity checker and placed in this folder. If the Lost and Found folder does not exist, it is created by the integrity checker. You can recover the data to a different folder by clicking **Browse** and navigating to the project or folder you want to use.

   The results of the integrity check can be recorded in a log file. The following information is logged on the file:

- The start and finish times for the checking of each item
- A list of all the problems that were detected
- A log of the repairs that were made using the wizard

If you want to create a log file, ensure the **Log results to file** check box is selected and type a path and filename for the file, for example `C:\integrity check\log.txt`. Subsequent database integrity checks overwrite this file, unless a new log file is specified.

If you want to repair database integrity problems that are detected by the integrity checker, leave the **Prompt for repair actions when completed** check box selected.

If you clear the **Prompt for repair actions when completed** check box, the **Finish** button becomes available and the **Next** button is unavailable. When you click **Finish**, data that is not referenced in the database is recovered to the Lost and Found folder and the integrity checker results are logged to a log file, if you choose to create one.

Note   If you are only checking the contents of a project or folder, the integrity checker cannot check for items that are not referenced by any parent, so if you clear the **Prompt for repair actions when complete** check box you must select the **Log results to file** check box.

3. Click **Next** or **Finish**.

   Progress bars are displayed as the data is checked. If a folder or project is being checked, one progress bar is displayed. If the entire database is being checked, three progress bars are displayed in succession.

   If you cleared the **Prompt for repair actions when complete** check box, a **Database verification completed** message is displayed when the integrity check is complete.

   Otherwise, the first step of the Database Integrity Check wizard is displayed. The **Finish** button is unavailable until you reach the last screen in the wizard.

A list of items that are referenced by a parent, but do not exist in the database is displayed.

Click	To
Remove reference	Remove the reference to the child item from the parent. The item is removed from the list in the wizard.
Create Folder	Create an empty folder with the same name and unique reference number as the one referenced by the parent. The item is removed from the list in the wizard.
	Note If the item is referencing a missing project, the **Create Folder** button changes to a **Create Project** button. If the item is a module, the button is unavailable.
Close	Close the Database Integrity Check wizard and return to the module.

If you leave any items in this list, their references are not updated and they will appear on subsequent integrity checks of this database.

If you are only checking a folder or project, go to Step 5. The screen described in Step 4 is not displayed.

4. Click **Next**.

   If you are checking the whole database, a list of items that are not referenced by any parent is displayed, similar to the following screen:

   These items were not previously displayed in the database, and are moved to the Lost and Found folder you specified in Step 2 until you update their references.

   The **Item** column gives the name or unique reference number of the unreferenced item. The **Referenced Location** column gives the name of the folder or project that the item references as its parent.

   Each item in the database has information stored about the item, its parent and its children, and has a unique reference number. The files that contain information about projects and folders do not contain the project or folder name; this information is stored in the item's parent, and in the Project View

list. As the folders that are listed on this screen are not referenced by a parent, they do not have a name and description. The projects listed on this screen only have a name and description if they are included on the Project View list. If the integrity checker cannot find a name and description for the item, it is called **Folder** or **Project**, followed by its unique file reference number, for example **Folder 00000003**. Once the item is restored and you have closed the Database Integrity Check wizard you can locate it using the Database Explorer and rename it.

The following table describes the options available for the recovered items.

Click	To
Delete	Delete the item (the icon has a red cross in the corner). Once an item is deleted, the only option available from the wizard is **Purge**.
Purge	Purge the item from the database. The item is removed from the list in the wizard.
Move	Open a mini-explorer. Navigate to and select the folder or project to which you want to restore the item and click **OK**. The item is moved to the new location, and is removed from the list in the wizard.
Restore	Restore the item to the parent that it references. This is the folder or project whose path is displayed in the **Referenced Location** column. The item is removed from the list in the wizard. If the **Referenced Location** path has **(Data not found)** appended, this means that the project or folder does not exist in the database. These items were listed in the previous screen. If you restore to this location, the folder or project that does not exist is created as detailed in Step 3, and the item is restored to that location.
View	Open a module in read-only mode or display a project or folder in a mini-explorer. You can use the explorer to view the contents of the folder or project.

Click	To
Close	Close the Database Integrity Check wizard and return to the module.

Any items that you do not restore, move, delete or purge are stored in the Lost and Found folder. They do not appear on subsequent integrity checks of this database.

5. Click **Next**.

The **Items with conflicting parent references** screen is displayed.

Each reference from a parent item to a child item should have a corresponding reference back from the child to the parent. Occasionally a child item is referenced as a child of two different parent items, or references a different item as its parent, resulting in integrity problems in the database.

If one of the items in the lower pane has its name appended with **(referenced as parent)**, this means that the child item in the top pane references that item as its parent.

If you want to look at the contents of an item before you update its references, select it and click **View**. If a module is selected, it is opened in read-only mode. If a folder or project is selected, it is displayed in a mini-explorer. You can use the explorer to view the contents of the folder or project.

In the lower pane, select the parent item to which you want the child to refer, and click **Select**. The references are updated, and the item is removed from the list in the wizard.

If you leave any items in this list, their references are not updated and they will appear on subsequent integrity checks of this database.

6. Click **Next**.

The final step of the Database Integrity Check wizard is displayed.

The Project View list is the list that Rational DOORS uses to generate the Project View of the Database Explorer. A reference to each project in the database should be contained in the Project View list. If a project is not referenced in the Project View list, it is not displayed in the Database Explorer when Project view is selected.

If the database integrity checker finds a project that is not referenced in the Project View list it is displayed here. The following table describes the options available for the items that are listed.

Click	To
View	See the contents of the project. A mini explorer is opened, with the project displayed in its current location in the database. You can use the explorer to see the contents of the project.
Convert to Folder	Convert the project to a folder. The reference to the project is removed from the Project View list, and the item is removed from the list in the wizard.
Add entry	Add a reference for the project to the Project View list. The project will now be displayed in the Database Explorer when Project View is selected. Project names must be unique in the database. If another project of the same name is already included in the project list, a number is appended to the project name, and a message is displayed giving the new project name.
Close	Close the Database Integrity Check wizard and return to the module.

If you leave any items in this list, their references are not updated and they will appear on subsequent integrity checks of this database.

7. Click **Finish**.

   The Database Integrity Check wizard is closed.

The log file

When you run the database integrity checker you can create a log file. The results of the integrity check are recorded in this file.

The log file is created in the directory you specified when you ran the Database Integrity Check wizard. It contains three sections:

• The first section contains a list of all the items that were checked.

Each item that was checked is listed along with the date and time of the check. Items that have integrity problems are marked with *******, and a brief description of the problem is given.

- The second section contains a summary of each problem that was detected and provides details of the parent and child references that existed for each item.

- The final section contains details of the repairs you made to the database using the Database Integrity Check wizard. Any repair that failed is marked with *******.

16 *Troubleshooting*

This chapter describes how to troubleshoot Rational DOORS:

- If you cannot start the FLEXnet License Manager (lmgrd) on Solaris 9
- If a restored data directory is locked
- If you are not receiving email notifications
- If you cannot import a Word document to Rational DOORS

Note For the latest information about known problems with Rational DOORS and how to work around them, visit the support center on our web site at http://www.ibm.com/software/awdtools/doors/support/doc.html

If you cannot start the FLEXnet License Manager (lmgrd) on Solaris 9

If you get the error message:

```
Vendor daemon can't talk to lmgrd (Cannot read data from license
server (-16,287:22 "Invalid argument"))
```

when you try to start the FLEXnet License Manager on Solaris 9, run the command

```
ulimit -H -n 1024
```

before you run lmgrd.

If a restored data directory is locked

If you copy the data directory to create a backup while the Rational DOORS database server service is running, a server data lock will be present. If you restore this copy you will have to remove the lock before the database can be accessed. To do this, delete the servdata.dtc file from the data directory.

If you are not receiving email notifications

If Rational DOORS is configured to send email notifications but you are not receiving those emails, your virus scanning or firewall software might be blocking the Rational DOORS executable, which uses Port 25 to send email notifications. Check your virus scanning or firewall software, and if necessary

modify them to allow this access. For example, with McAfee VirusScan Enterprise v8.0:

1. Open the **VirusScan Console**.

2. Right-click **Access Protection**, and select **Properties**.

3. On the **Port Blocking** tab, select the rule **Prevent mass mailing worms from sending mail**.

4. Click on **<Edit...>**.

5. Add **doors.exe** to the **Excluded Processes** list.

If you cannot import a Word document to Rational DOORS

When a Standard user with no Administrative access to the local machine attempts to export a document from Word to Rational DOORS they might receive the error **Unable to communicate to Rational DOORS**.

The first time a Word document is exported to Rational DOORS, registry entries are created for the **Rational DOORS.Application** object and its **COM** or **DCOM** components. If the user who attempts the export for the first time does not have Administrative access to the computer, the registry entries cannot be created and the export fails.

To register the required components, log in to the local machine as an Administrator and export a Word document to Rational DOORS. This registers the required components in the registry, so a user without administrative access to the machine can now export Word documents to Rational DOORS.

17 *Contacting support*

This chapter contains the following topics:

- Contacting IBM Rational Software Support
- Prerequisites
- Submitting problems
- Other information

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

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-01.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.

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.
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 click **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-01.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

For Rational software product news, events, and other information, visit the IBM Rational Software Web site on http://www.ibm.com/software/rational/.

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