Rational® IBM Rational Focal Point, Version 6.4.1

Installation Guide

IBM

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Installation Guide

IBM

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Rational Focal Point overview

IBM Rational Focal Point is a configurable, Web-based decision support platform that you can use to manage requirements, products, and project portfolios. With the collaborative environment in Rational Focal Point, you can centralize requirements, products, and project data so that you can reach the following goals:

- Maximize customer value in relation to development costs
- Make more informed decisions faster
- Plan and monitor activity
- Maintain balance among resources, budgets, time-to-market, and business value

Installation terminology

To understand the installation tasks, you must first become familiar with the terminology that is used in the installation guide.

The following terms are used in the installation topics:

Installation directory
The location of product artifacts after the package is installed.

Package
An installable unit of a software product. Software product packages are separately installable units that can operate independently from other packages of that software product.

Package group
A package group is a directory in which different product packages share resources with other packages in the same group. When you install a package by using IBM® Installation Manager, you can create a new package group or install the packages into an existing package group. Some packages cannot share a package group; you cannot install those packages into an existing package group.

Repository
A storage area where packages are available for download. A repository can be disc media, a folder on a local hard disk, or a server or Web location.

Shared directory
In some instances, product packages can share resources. These resources are located in a directory that the packages share.

Planning the installation

There are several options and requirements that you must consider when planning your installation. Use the installation roadmap to help you get started.

Installation roadmap

The installation roadmap provides a snapshot of the procedures to install IBM Rational Focal Point.

Roadmap for installing Rational Focal Point

1. Verify that the system requirements are met.
2. Ensure that the server is started. Create the database schema with the table space names as mentioned in the "Setting up databases" on page 9 topic.
3. If you are upgrading from an earlier version, perform the tasks listed in "Upgrading from earlier versions of Rational Focal Point" on page 13
4. Install Rational Focal Point.

Installation Manager overview

IBM Installation Manager installs, updates, and modifies packages. You can use it to manage the IBM applications, or packages, that it installs on your computer. With Installation Manager, you can install packages, track what you installed, determine what is available to install, and organize installation directories.

Installation Manager provides tools to update and modify packages, manage the licenses for your packages, and uninstall packages.

Installation Manager includes six wizards to maintain packages:

- The Install wizard installs a package. You can install a package by accepting the defaults, or you can modify the default settings to create a custom installation. Before you begin the installation, you can view a complete summary of your selections. You can use the Install wizard to install one or more packages at a time.
- The Update wizard searches for available updates to packages that you installed. An update might be a released fix, a new feature, or a new version of the product. Details of the contents of the update are provided in the wizard. You can choose whether to apply an update.
- The Modify wizard modifies certain elements of an installed package. During the first installation of the package, you select the features to install. Later, if you need other features, you can use the Modify wizard to add them to your package. You can also remove features and add or remove languages.
- The Manage Licenses wizard sets up the licenses for your packages. Use this wizard to change your trial license to a full license, set up your servers for floating licenses, and select the type of license to use for each package.
- The Roll Back wizard reverts a package to a previous version.
- The Uninstall wizard removes a package from your computer. You can uninstall more than one package at a time.

> **Note:** With Rational Focal Point 6.4.1 package, you can use Installation Manager to install, modify and uninstall the product. Other Installation Manager features such as update, manage licenses and rollback features are not supported.
>
> For more information about Installation Manager, see http://publib.boulder.ibm.com/infocenter/install/v1r2/index.jsp

Installation requirements

Before you install IBM Rational Focal Point, make sure that you meet the requirements for hardware, software, server environment, operating systems, and other factors.

System requirements

Verify that your hardware and software meet or exceed the minimum requirements to install IBM Rational Focal Point.

The following table shows the minimum system requirements for installing and using the product.

Table 1. System requirements to install Rational Focal Point

Item	Requirements
Hardware	- Memory: 1 GB minimum, 8GB recommended - Disk space: minimum 10 GB, recommended 80 GB - Display: minimum resolution 1024*768 on a client computer
Platform	One of the following operating systems must be installed: - Microsoft Windows Server 2003 Enterprise Edition, SP1 (32-bit x86, 64-bit x86 toleration) - Microsoft Windows Server 2003 Standard Edition, SP1 (32-bit x86, 64-bit x86 toleration) - Red Hat Enterprise Linux AS 5.0 (32-bit x86, 64-bit x86 toleration) - Red Hat Enterprise Linux ES 5.0 (32-bit x86, 64-bit x86 toleration) - Red Hat Enterprise Linux Desktop 5.0 (64-bit x86 toleration) - Red Hat Enterprise Linux WS 5.0 (32-bit x86 toleration) - Sun Solaris 9 or 10 SPARC
Application server	One of the following application servers must be installed: - Apache Tomcat 5.5 - IBM WebSphere® Application Server Community Edition 2.1.1.1 **Notes:** - Apache Tomcat application server that was provided with Rational Focal Point package is not bundled with Rational Focal Point version 6.4.1 package. - The Financier technical preview tool that is provided as an optional feature works only on Apache Tomcat server.

Table 1. System requirements to install Rational Focal Point (continued)

Item	Requirements
Relational database	One of the following databases must be installed: • IBM DB2® Enterprise Server Edition 9.5 FP4 • Oracle Database 10g Standard Edition Release 2 (10.2.0.1) • PostgreSQL 8.1, 8.2, 8.3 **Notes:** • If you are using IBM DB2 database with IBM WASCE application server, see the tech. note. http://www.ibm.com/support/docview.wss?rs=4057 &uid=swg21409940
Java SE Runtime Environment (JRE)	• Server: Sun JRE6 or IBM JRE6 with SR5 • Client: Sun JRE or IBM JRE
Web browser	You can use these browsers to log in to Rational Focal Point: • Mozilla Firefox 2.0.x, 3.0.x (recommended) • Microsoft Internet Explorer 6.0, 7.0, 8.0 (recommended) **Note:** Microsoft Internet Explorer 6.0 browser is not supported by the Financier tool.
Licensing server	• IBM Rational® License Server TL 2.0 For more information see, http://publib.boulder.ibm.com/ infocenter/rsdp/v1r0m0/topic/ com.ibm.help.download.tls.doc/topics/ IBM_Rational_License_Server_version20.html.
Installation Manager prerequisite	• On Linux: The GNU Image Manipulation Program Toolkit (GTK+), Version 2.8.11, or later For any installation issues due to IBM Installation Manager, refer to the Installation Manager documentation and the tech. notes..

Note: If you set up a clustered environment, make sure that the system time on the different servers is synchronized and differ less than one second.

For the most up-to-date system requirements, refer to http://www.ibm.com/ support/docview.wss?rs=4057&uid=swg27017417

User account and permission requirements

Before you install IBM Rational Focal Point, your user ID must have specific characteristics and permissions.

Verify that your user ID meets the following criteria before you install the product:
• Your user ID must not contain double-byte characters.
• **For Microsoft Windows operating systems**: Your user account must have certain access rights that depend on the version of your operating system. Your user ID must belong to the Administrators group.
• **For Linux**: You must be able to log in as root.

Preinstallation tasks

Before you install the product, you must prepare and configure your computer.

Setting up databases

After your database is installed, you must create the database schema and the table spaces for Rational Focal Point.

Configuring the PostgreSQL database

Set up a PostgreSQL database to work with Rational Focal Point.

Before you begin

You must complete the following prerequisite tasks before you can configure PostgreSQL:

- Install a PostgreSQL database. For instructions, see PostgreSQL documentation.
- To properly handle Unicode content, the database character set must be UTF-8 encoding.

Procedure

1. Create a database named `focalpoint`. Rational Focal Point uses the default PostGreSQL table space.
2. Modify the required configurations file to enable the `focalpoint` database to accept connections from the application server in which Rational Focal Point will be installed.
3. Either allow access for the database port through any existing firewall, or disable the firewall.

Configuring an Oracle database

Set up an Oracle database to work with Rational Focal Point.

Before you begin

Install the Oracle database. For instructions, consult your Oracle documentation or an Oracle database administrator (DBA).

About this task

To configure an Oracle database for Rational Focal Point:

Procedure

1. Create a new Oracle instance. Make sure that the parameter **NLS_SORT** is set to **BINARY_CI**.
2. Create a database schema for Rational Focal Point. To store the Unicode characters as supported in the product, ensure that the database is created with a Unicode character set; for example, AL32UTF8.
3. Create a user to hold the schema for Rational Focal Point. For example, `CREATE USER focalpoint IDENTIFIED BY focalpoint`.
4. Create three tablespaces FP_DATA, FP_INDEX and FP_BIGOBJ.

5. Grant unlimited quota to the *focalpoint* user on the newly created tablespaces.
6. Create a files named `create_focalpoint_oracle.sql` with the following code:

```
GRANT ALTER INDEX TO &1;
GRANT ALTER TABLE TO &1;
GRANT ALTER SESSION TO &1;
GRANT CREATE TABLE TO &1;
GRANT CREATE SESSION TO &1;
GRANT CREATE VIEW TO &1;
GRANT CREATE SEQUENCE TO &1;
GRANT CREATE PROCEDURE TO &1;
```

7. In SQL*Plus, run `create_focalpoint_oracle.sql` as `system` with the *focalpoint* user as the first parameter. For example, `@create_focalpoint_oracle.sql focalpoint`.
8. Add the JDBC driver to the `<application server>\common\lib` location.

   Note: The JDBC driver is included with the Oracle database installation. You can also download it from Oracle web site.

Configuring DB2 database

Set up an IBM DB2 database to work with Rational Focal Point.

Before you begin

Install a DB2 database. For instructions, see the IBM DB2 documentation.

To configure a DB2 database for Rational Focal Point:

Procedure

1. Create a file named **create_focalpoint_db2.sql** with the following SQL code format with the appropriate parameter values based on your setup:

```
CREATE  DATABASE FOCALDB AUTOMATIC STORAGE YES USING CODESET UTF-8 TERRITORY US;

CONNECT TO FOCALDB;

CREATE BUFFERPOOL FPDATABUFF SIZE 2000 PAGESIZE 32K;
CREATE BUFFERPOOL FPINDEXBUFF SIZE 1000 PAGESIZE 32K;
CREATE BUFFERPOOL FPBIGOBJBUFF SIZE 500 PAGESIZE 32K;

CREATE TABLESPACE FP_DATA
PAGESIZE 32K
MANAGED BY DATABASE
USING (FILE 'D:\DB2\fp_data_cont11' 150M, FILE 'D:\DB2\fp_data_cont12' 150M)
PREFETCHSIZE 500
BUFFERPOOL FPDATABUFF
OVERHEAD 24.1
TRANSFERRATE 0.9
AUTORESIZE YES ;

CREATE TABLESPACE FP_INDEX
PAGESIZE 32K
MANAGED BY DATABASE
USING (FILE 'D:\DB2\fp_index_cont11' 100M, FILE 'D:\DB2\fp_index_cont12' 100M)
PREFETCHSIZE 300
BUFFERPOOL FPINDEXBUFF
OVERHEAD 24.1
TRANSFERRATE 0.9
AUTORESIZE YES ;


CREATE TEMPORARY TABLESPACE FP_BIGOBJ
```

```
PAGESIZE 32K
MANAGED BY DATABASE
USING (FILE 'D:\DB2\fp_temp_cont11' 100M)
PREFETCHSIZE 50
BUFFERPOOL FPBIGOBJBUFF
OVERHEAD 24.1
TRANSFERRATE 0.9
AUTORESIZE YES ;
```

Important: Modify the sample code parameters based on your environment.

- For each tablespace, change the path to a suitable local directory. Make sure that the local directory has read and write permissions.
- Based on the server configuration, specify the size for each tablespace.
- Modify the territory name, if required.

Attention: Do not modify the tablespace names.

2. Log in to DB2 as the DB2 administrator.
3. In the command editor, run `create_focalpoint_db2.sql`.

Upgrading from earlier versions of Rational Focal Point

All previous versions of IBM Rational Focal Point must be uninstalled before attempting to migrate to IBM Rational Focal Point version 6.4.1.

About this task

You must perform the following tasks before you install Rational Focal Point 6.4.1:

Procedure

1. Open your existing instance of Rational Focal Point and verify the integrity of the view definitions by clicking **Advanced** → **Verify Integrity** → **Views**. Correct any broken view definitions that serve as limitations for incoming link attributes, including views in inactive or archived workspace.

2. If you are using Rational Focal Point version 5.4, create a backup copy of report images. The report images are stored at:
   - On Windows, `<Rational Focal Point Installation directory>\images`
   - On Linux, `/usr/share/focalpoint/images`
   - On Solaris, `/opt/FOCAfp/share/images`

3. Note any used custom business rule.
   - If you are using Rational Focal Point version 5.4, the custom business rules files are stored at:
     - On Windows, `<Rational Focal Point Installation directory>\forumlas`.
     - On Linux, `/usr/share/focalpoint/formulas`
     - On Solaris, `/opt/FOCAfp/share/formulas`
   - If you are using Rational Focal Point version 6.x, log in to Rational Focal Point and export the custom business rules.

   Note: After you install Rational Focal Point 6.4.1, you must request the custom business rules that you use from IBM Rational Focal Point support team for compatibility reasons. Only the common business rules are included in the installation. The common business rules are: `ChoiceAttributeText, LinkByText, LinkInfo, LinkListAttributeSum, ListAttributeSum, MailImport, MatrixWriter, SetChoice,` and `TrafficLight`. Incompatible business rules are ignored.

4. Back up the database.

5. Stop the application service and uninstall IBM Rational Focal Point.
   - On Windows, click **Start** → **Control Panel** → **Add or Remove Program** and uninstall Rational Focal Point
   - On Linux, execute the command `rpm -ev focalpoint` to uninstall the package.
   - On Solaris, execute the command `pkgrm FOCAfp` to uninstall the package.

   Note: On Unix, Apache Tomcat application server is uninstalled when you uninstall IBM Rational Focal Point. You must install the application server before installing Rational Focal Point version 6.4.1.

What to do next

- If you are upgrading IBM Rational Focal Point from version 5.4 releases, you must install Rational Focal Point version 6.4.0. Log in to Rational Focal Point 6.4.0 to upgrade the database. After the database upgrade, you must uninstall Rational Focal Point 6.4.0 and then install Rational Focal Point version 6.4.1. See "Upgrading from Rational Focal Point version 5.4 releases"
- If you are upgrading IBM Rational Focal Point from version 6.x, you can proceed to "Migrating data from earlier versions of Rational Focal Point" on page 15

Upgrading from Rational Focal Point version 5.4 releases

Before you can install IBM Rational Focal Point version 6.4.1, you must upgrade to Rational Focal Point version 6.4.0.

Before you begin

Complete all of the tasks in "Upgrading from earlier versions of Rational Focal Point" on page 13 topic.

Procedure

1. Obtain Rational Focal Point 6.4.0 from IBM Rational Support.
2. Install Rational Focal Point 6.4.0. For more information about installing the package, see the installation guide.
3. Start the application server. Rational Focal Point is now running.
4. Open a web browser and type the URL of the Rational Focal Point login page, for example `http://localhost:8080/fp/servlet/Login`
5. Log in to Rational Focal Point. A confirmation message about the database upgrade is displayed.
6. To confirm the database update, click **Yes**. The database update can take some time depending on the size of the database. When the database has been updated, the updated workspace is displayed.
7. Restart the services, login to Rational Focal Point and migrate the baseline. For information about migrating the baselines, see the Rational Focal Point help system.
8. Stop the application service and uninstall IBM Rational Focal Point 6.4.0:
   - On Windows, click **Start** → **Control Panel** → **Add or Remove Program** and uninstall Rational Focal Point
   - On Linux, execute the command `rpm -ev focalpoint` to uninstall the package.
   - On Solaris, execute the command `pkgrm FOCAfp` to uninstall the package.

   Note: On Unix, Apache Tomcat application server is uninstalled when you uninstall IBM Rational Focal Point. You must install the application server before installing Rational Focal Point version 6.4.1.

What to do next

- Complete the tasks in "Migrating data from earlier versions of Rational Focal Point" on page 15

Migrating data from earlier versions of Rational Focal Point

After you upgrade to IBM Rational Focal Point, Version 6.4.1, you can migrate the baselines, reports, and the business rules that you generated in your earlier version of the product.

Before you begin

- Complete all of the tasks in "Upgrading from earlier versions of Rational Focal Point" on page 13.
- After you uninstall your earlier version of the product, install Rational Focal Point 6.4.1.

About this task

To reuse the data from earlier versions of Rational Focal Point in version 6.4.1:

Procedure

1. Log in to Rational Focal Point.
2. To reuse the custom business rules:
   a. Obtain the updated custom business rules from IBM support.
   b. Click **Advanced** › **Business Rules**. Import the custom business rules to the database. For more information, see the help system.
3. To import the report images to the database, click **General** › **Report Images**. Import the required report images. For more information, see the help system.
4. To migrate the saved baselines, click **Advanced** › **Migrate Baselines**. Migrate the baselines to Rational Focal Point. For more information, see the help system.

Installing Rational Focal Point

Follow these instructions to install IBM Rational Focal Point.

Before you begin

- You can install Rational Focal Point from the installation media, or from a download package available on the IBM Passport Advantage site. Before starting the installation, obtain the installation media, or download the installation package.
- Verify that your computer meets the system requirements, and complete the preinstallation tasks.
- You must have the administrator access to the server.
- Ensure that the database and the license server connectivity is enabled with the application server.

About this task

To installing Rational Focal Point on the Windows or Linux operating systems:

Procedure

1. If you are using the installation media, insert the media into the disk drive. If you are using the download package, extract the files from the downloaded .zip package to a temporary directory.
2. Click the launchpad program to start the package installation:
   - On Windows: Click **launchpad.exe**
   - On Linux: Click **launchpad.sh**
3. Click **Install** IBM Rational Focal Point.
4. In the Installation Manager Start page, click **Install**.
5. The Install page of the Install Packages wizard lists all the packages found in the repositories that Installation Manager searched. If two versions of a package are discovered, only the most recent, or recommended, version of the package is displayed. If Installation Manager is not installed on your computer, Installation Manager is listed in the Install Packages page with IBM Rational Focal Point.
   - To display all versions of any package found by Installation Manager, click **Show all versions**.

   Note: For Installation Manager to search the predefined IBM update repository locations for the installed packages, the preference **Search the linked repositories during installation and updates** on the Repositories preference page must be selected. This preference is selected by default. Internet access is also required.
6. Select Installation Manager and Rational Focal Point and the version. Click **Next**.
7. Read the license agreement. If you agree with its terms, accept the license agreement, and click **Next**.
8. Either accept the default installation directory for Installation Manager or click **Browse** to specify a different installation location and click **Next**.

9. Either accept the default installation directory for Rational Focal Point or click **Browse** to specify a different installation location and click **Next**.

10. On the Features page, select IBM Research Financier to install this optional feature that enables you to build financial models of expected cost and benefit estimates of your project over time. Click **Next**.

11. On the Focal Point Application Server page, specify the application server details.

    a. Select the application server and click **Browse Server Home** to specify the location of the application server home path.

    b. If you are using Websphere Application Server Community Edition, type the server user name and the password.

    c. Specify the memory usage limit for the application server.

       Note: Ensure that the required memory space is available in the computer. The application server cannot be started if there is no sufficient memory space.

    d. Select the default locale for Rational Focal Point.

12. On the Database Type Selection and Configuration page, specify the database details.

    a. Select the application database.

       Note: If you are using an Oracle or IBM DB2 database, ensure that you have created the database tables with the specified Focal Point table space names.

    b. Type the database host name/IP address, database port and the database name.

    c. Type the database user name and the password.

       Note: The database connection parameters are the same settings that you have set while installing the database.

13. On the Focal Point License Information page, specify the license information.

    - Select **I will supply license information later** to proceed with the installation of Rational Focal Point. You must specify the license information when you login to Rational Focal Point.

    - Select **A Rational License Server** if you are using a floating license. Type the location of the license server in the format *port@host*, for example, `19353@licenseserver`.

    - If you have a node-locked license, copy the file to a folder on your computer and type the path of the license file.

14. Click **Next**.

15. Click **Install**.

16. A message confirms the successful completion of the process.

    - To verify the installation, click **View Log File**. The installation log file for the current session opens in a new window. To close the log file window and return to the installation wizard, click **Close**.

    - To close the installation wizard without verifying the installation, click **Finish**.

What to do next

If you are migrating from earlier versions of Rational Focal Point, you can import data from earlier versions. See "Migrating data from earlier versions of Rational Focal Point" on page 15

Starting IBM Rational Focal Point for the first time

After you install IBM Rational Focal Point, start the program and change your password.

Procedure

1. Start the application server. Verify that Rational Focal Point is running.
2. Open a web browser and type the URL of the Rational Focal Point login page in the format `http://localhost:<port number of the application server>/fp/servlet/Login`, for example `http://localhost:8080/fp/servlet/Login`
3. In the Rational Focal Point login page, type the login name as `admin` and the password as `focalpoint`.
4. Click **Login**.
5. On the home page, click **Preferences**.
6. Click **Profile/Password Settings** and change the `admin` password.
7. Optional: To change your user name, from the navigation bar, click **Users/Manage Users**.

Maintaining Rational Focal Point

You can configure and maintain IBM Rational Focal Point by logging in to the product from the Web interface. To complete this task, you must be an application or workspace administrator, as defined by the local usage policies.

As an administrator you can maintain Rational Focal Point by performing various tasks:

- Backing up and restoring the database regularly. For more information, see the database documentation.
- Increasing the memory usage of the application server, if required.
- Monitoring the application
- Setting up the cluster configuration for Rational Focal Point in an application server to improve scalability, if required. For more information, see the application server documentation.

Rational Focal Point log files

Depending on which server you use, the log files for IBM Rational Focal Point are in different locations.

- If you use Apache Tomcat server, the log files are in `fp/catalinabaseX/logs`.
- If you use IBM WebSphere Application Server Community Edition, the log files are in `WASCE_HOME/var/log/fp.log`. To modify the location of the Rational Focal Point log files in WebSphere Application Server Community Edition:
  - Open `WASCE_HOME/com/ibm/rational/focalpoint/fp/1.0/fp-1.0.war/WEB-INF/classes/fp-logging.properties`
  - Modify the entry: `java.util.logging.FileHandler.pattern=WASCE_HOME/var/log/fp.log`
  - Restart the server.

Commands to monitor Rational Focal Point

You can check the status of IBM Rational Focal Point application from a browser.

You can monitor the status by using the following commands:

Table 2. Commands to monitor Rational Focal Point

Command	Reply
`http://<host name>:8080/fp/servlet/Ping?cmd=ping`	- Pong: The applications and the database are active and running. - Dead or no response: There is a problem.
- `http://<host name>:8080/fp/servlet/Ping?cmd=stats` - `http://<host name>:8080/fp/servlet/Ping?cmd=htmlstats`	An XML or and HTML file is shown that describes the application state.
`http://<host name>:8080/fp/servlet/Ping?cmd=version`	The application version is displayed.

Increasing the memory of the application server

When you installed IBM Rational Focal Point, you specified the memory usage limit for the server. You can increase the memory usage for the application server by either specifying it in the utility provided by the application server or by manually modifying the required files.

Modifying the server configuration file

1. Open the Rational Focal Point application server configuration file.
   - On Windows, `<application server home>/bin/fpenv.bat`
   - On Linux, `<application server home>/bin/fpenv.sh`
2. Modify the required values in the configuration file:
   - Allocate more server HEAP memory
   - Allocate more server PERM memory
   - Add more flags for optimizing JVM/Server for performance
3. Save the configuration file and restart the application server.

Using the Apache Tomcat server configuration utility

To increase the memory in Apache Tomcat server when the services are running:

1. Open the Apache Tomcat Properties window, click Java.
2. On the Java tab, you can increase the values for the Max Perm Size for the JVM and also increase the memory pool.

Setting up clusters for Rational Focal Point

You can set up cluster configurations for Rational Focal Point in the application servers.

About this task

Before you set up the cluster configuration in the application server, perform the following tasks:

Procedure

1. Start the application server and ensure that Rational Focal Point is running.
2. Set a multicast group address in the database by setting an unused `Administratively-scoped (local) multicast address` on your network.
   a. Login to Rational Focal Point.
   b. Click **Advanced** → **SQL** and insert the following code format.

      ```
      insert into projectsetting (pid,name,value) select projectid,'multicast.group.address','<mult
      ```

      For example, to set 239.0.0.1 as multicast address in the network, insert the code

      ```
      insert into projectsetting (pid,name,value) select projectid,'multicast.group.address','239.0
      ```

      Note: Ensure that this multicast does not interfere with other multicast on your network.

   c. Click **Execute**.

      Note: For information about setting up the clusters in Apache Tomcat server, refer to the server documentation.

Setting up cluster configuration in IBM Websphere Application Server Community Edition

For setting up clusters in Websphere Application Server Community Edition, you must specify the configuration parameters and the application deployment plan as mentioned in this section.

Before you begin

You must refer to the Websphere Application Server Community Edition documentation for information about clustering.

About this task

To set up the cluster configuration in IBM Websphere Application Server Community Edition

Procedure

1. Configure the database pool for IBM Websphere Application Server Community Edition by editing the database parameters.
   a. Open the database deployment plan file.
      - PostgreSQL: `<fp>/wasce/postgres_deployment-plan.xml`
      - Oracle: `<fp>/wasce/db2_deployment-plan.xml`
      - IBM DB2: `<fp>/wasce/oracle10g_deployment-plan.xml`
   b. Change all occurrences of fpdbpool in the database deployment plan to the required database name.
   c. In `<fp>/wasce/geronimo_deploy_dbpool.sh` file, uncomment the required database pool and comment out other database pool configurations.
   d. Update `<fp>/wasce/geronimo-web.xml` file with the new database pool name.
   e. Deploy the database configuration by running `geronimo_deploy_dbpool.sh`.
2. Open `config.xml` in`<WASCE_HOME>/var/config/`. Search for the module `org.apache.geronimo.configs/tomcat6/2.1.1/car`. Add the following gbean immediately after the module as follows:

   ```
    <gbean name="TomcatEngine">
   <attribute name="initParams">name=WASCE
    jvmRoute=node1</attribute>
   </gbean>
   ```

   where node1 is the required node name.
3. Optionally modify PortOffset with the required offset in `<WASCE_HOME>/var/log/config-substitution.properties`. If PortOffset is set to 5, all port numbers specified will be increased by 5.
4. Open `geronimo-web.xml` file.
   a. Modify `tcpListenAddress` with the IP address of the server where WASCE is configured.
   b. Uncomment the `Tomcat Native Clustering` configuration tags.
5. Create another copy of the WASCE folder, for example WASCE2.
6. Repeat the steps 2 and 3 for the next node. Specify a different node name and a different PortOffset value for the new node.
7. Start application services.
8. Deploy Rational Focal Point with WASCE by running `geronimo_deploy.sh`.

9. After WASCE is started, start WASCE2.
10. Deploy Rational Focal Point with WASCE by running `geronimo_deploy.sh.`
11. Access Rational Focal Point using a web browser with the assigned port numbers. If a single machine is used for testing, open two different Web browsers and test Rational Focal Point.

Contacting IBM Rational Software Support

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

Note: If you are a heritage Telelogic customer, a single reference site for all 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¬Æ software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html

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

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

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

Submitting problems

About this task

To submit your problem to IBM Rational Software Support:

Procedure

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

   Use the following table to determine the severity level.

Table 3.

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.

Severity	Description
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 select **File** → **View Installed Packages**. Expand a package group and select a package to see the package name and version number.

   - Start your product, and click **Help** → **About** to see the offering name and version number.

   - What is your operating system and version number (including any service packs or patches)?

   - Do you have logs, traces, and messages that are related to the problem symptoms?

   - Can you recreate the problem? If so, what steps do you perform to recreate the problem?

   - Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?

   - Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.

3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:

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

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

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

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

Results

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/.

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