WebSphere Message Broker

Managing your Installation

Version 6 Release 0

IBM

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Managing your Installation

Version 6 Release 0

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Contents

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Part 1. Installing

Installing

Installation information for WebSphere Message Broker is provided in the WebSphere Message Broker Installation Guide, which is supplied in hard copy with your product media. The guide provides general planning and security information for all platforms. It also provides full installation instructions for distributed systems. If you are installing on z/OS, the equivalent installation instructions are provided in the Program Directory, also supplied in hard copy with your product media.

Find out how to access the "Installation Guide" in PDF.

Check in "Finding the latest information" that you have the most recent installation information available.

Refer to "Installing complementary products" on page 4 if you want to install complementary products such as Rational Agent Controller.

When you have installed the product on distributed systems, you must initialize the local environment before you can create or configure resources. This is described in "Setting up a command environment" on page 8. This is not required on z/OS.

Refer to Configuring the broker domain for information about how to design and configure your broker domain on all systems.

If fixes or updates are made available, refer to the following topics for information about how to apply these:
- "Applying service to runtime components" on page 11
- "Applying service to the Message Brokers Toolkit" on page 14

Installation Guide

Installation information for WebSphere Message Broker is provided in the Installation Guide, supplied in hardcopy with your product package.

Click the link below to access the book in the IBM Publications Center:

The Installation Guide PDF (in English only) is available on the Documentation CD. Translated versions are available on the IBM Publications Center.

You can view, search, and print PDF files using Adobe Acrobat Reader. To download Acrobat Reader, visit the Adobe Systems Inc. Web site.

Finding the latest information

To access the latest information, refer to the readme.html file available on the product readmes Web page.

If you have a problem with installing, check the installation log files. Refer to the "Installation Guide" for the names and locations of the installation log files on your operating system.

Installing complementary products

If your environment requires it, you might need to refer to installation information for these complementary products:
- IBM Rational Agent Controller
- IBM DB2
- IBM Tivoli License Manager

Installing Rational Agent Controller

Rational® Agent Controller (RAC) is a daemon process that provides the mechanism by which client applications either launch new host processes, or attach to agents that coexist within existing host processes. WebSphere Message Broker uses RAC to provide debugging facilities for message flows deployed to a running broker. Other IBM products might also use RAC for services.

If you are debugging an execution group locally, you must install RAC on the local system before you can use the flow debugger. If you are debugging an execution group remotely, you must install RAC on the remote system on which your broker is running. Also, the RAC component installed on the broker must have TCP/IP connectivity to the system the Message Brokers Toolkit is running on to allow it to communicate with the RAC client which is embedded in the Message Brokers Toolkit.

Rational Agent Controller Versions 6.0.1 and 5.0.2.1 are supported for use with WebSphere Message Broker Version 6.0.
- If you have previous versions of WebSphere Message Broker installed, and have a domain that includes Version 5 brokers in addition to Version 6 brokers, you must use RAC Version 5.0.2.1. RAC Version 6.0.1 cannot be used with Version 5 brokers. Do not update to RAC Version 6.0.1 if you want to continue to use RAC with your Version 5 brokers. Version 2.1 brokers do not use RAC.
- If you do not have brokers from previous versions, or you do not want to use RAC with them, you can use RAC Version 6.0.1. Rational Agent Controller Version 6.0.1 is supplied with WebSphere Message Broker on a supplemental CD and DVD.

The table below shows what is supported on the different platforms for use with Version 5 brokers:

	Version 5 Fix Pack 3 Broker and beyond with RAC 5.0.2[1]	Version 5 Fix Pack 2 Broker and below with RAC 5.0.2	Version 5 Fix Pack 2 Broker and below with RAC 5.0.1
Windows	Yes	Yes	Yes
AIX	Yes	Yes	Yes
Solaris	Yes	Yes	No
HP-UX	Yes	No	No
z/OS	Yes	No	No
Linux	Yes	No	No

Notes:

1. **A specific Agent Controller build is required for Fix Pack 3 and later brokers; only Version 5.0.2 Build 20040205_1459 works correctly.**

   This build applies to all broker operating systems. If you have a different version of Agent Controller installed (even if it is a later version), you must uninstall it and install this build.

To use RAC with WebSphere Message Broker brokers complete the following steps:

1. Install RAC from the supplemental CD or DVD supplied with WebSphere Message Broker using the full instructions provided in the file install.html located in the root directory of the RAC component on CD or DVD.

   For successful operation with the broker, you must disable the security option during installation. For more details, see the install.html file and the appropriate topic for your operating system:
   - AIX, HP-UX, and Solaris
   - Linux
   - Windows
   - z/OS

   You are highly recommended to install RAC behind a firewall and to stop the RAC service if you do not use the flow debugger.

2. In the workbench, select the option in the Debug preference page that corresponds to your broker configuration, as documented in Setting flow debug preferences.

Installing Rational Agent Controller on AIX, HP-UX, and Solaris

If you already have Rational Agent Controller (RAC) installed, and want to check what version it is, complete the following steps:

1. Log on as root.
2. On AIX enter:

   `lslpp -i ibmrac`

   if RAC is at 5.1 or later or

   `lslpp -i e22643e413d203c89236cd92ef065fbc`

   if RAC is at 5.0.x.
3. On HP-UX enter:

   `swlist | grep IBMRAC`

   if RAC is at 6.0 or later or

   `swlist | grep 628282f51593896a6d94a9eee71770f5`

   if RAC is at 5.0.x.
4. On Solaris:

   a. Enter the command `pkginfo -x > pkginfo.txt`
   b. Enter the command `vi pkginfo.txt`
   c. Search for "ibmrac" (if RAC is at 5.1 or later) or "28887f2df81d126aa228a4f84b6051d5" (if RAC is at 5.0.x).
   d. Find the version displayed on the line following the search string, reverse the third and fourth digits, and ignore trailing characters. For example if the version is displayed as "5.1.0.2DSP", this represents "5.1.2".

To install RAC 6.0.1 from the supplemental CD or DVD supplied with WebSphere Message Broker, refer to install.html supplied in the root directory of the RAC component on the CD or DVD. In addition to the instructions in install.html take note of the following points:

- When the installation wizard displays the list of features that you can select to install on the **Product Installation** page, you must clear the selection for the IBM Rational Plugins Security feature. If you do not disable security during RAC installation, you will be unable to debug message flows. If you do not clear this option, you must uninstall RAC and reinstall it with security disabled before you can use the debug functions.
- On the **Java Runtime Environment** page of the installation wizard, you must specify the location of the Java runtime file (java.exe). RAC requires a Java Runtime Environment (JRE) as a prerequisite, do not specify the JRE installed with WebSphere Message Broker for this purpose, you must use an alternative JRE.

After installation, add the lib directory (for example, /usr/lpp/IBM/ AgentController/lib) to the start of the appropriate environment variable before you start the broker to enable it to connect to RAC:

AIX   Add the directory to the variable LIBPATH

HP-UX
            Add the directory to the variable SHLIB_PATH

Solaris
            Add the directory to the variable LD_LIBRARY_PATH

Installing Rational Agent Controller on Linux

If you already have Rational Agent Controller (RAC) installed, and want to check what version it is, complete the following steps:

1. Log on as root.
2. Invoke the following command:

   ```
   rpm -q ibmrac
   ```

To install RAC 6.0.1 from the supplemental CD or DVD supplied with WebSphere Message Broker, refer to install.html supplied in the root directory of the RAC component on the CD or DVD. In addition to the instructions in install.html take note of the following points:

- When the installation wizard displays the list of features that you can select to install on the **Product Installation** page, you must clear the selection for the IBM Rational Plugins Security feature. If you do not disable security during RAC installation, you will be unable to debug message flows. If you do not clear this option, you must uninstall RAC and reinstall it with security disabled before you can use the debug functions.
- On the **Java Runtime Environment** page of the installation wizard, you must specify the location of the Java runtime file (java.exe). RAC requires a Java Runtime Environment (JRE) as a prerequisite, do not specify the JRE installed with WebSphere Message Broker for this purpose, you must use an alternative JRE.

After installation, add the lib directory (for example, /usr/lpp/IBM/ AgentController/lib) to the start of the LD_LIBRARY_PATH environment variable before you start the broker to enable it to connect to RAC.

Installing Rational Agent Controller on Windows

If you already have Rational Agent Controller (RAC) installed, and want to check what version it is, complete the following steps:

1. Log on as an administrator.
2. Find RAServer.exe in the bin directory of the Agent Controller installation.
3. Right-click and select **Properties**.
4. Select the **Version** tab.
5. The version is listed as "File version". For example, if you already have the required version, this is displayed as 6.0.1. (For most versions, the "Product Version" under "Other information" has the same value.)

To install RAC 6.0.1 from the supplemental CD or DVD supplied with WebSphere Message Broker, refer to install.html supplied in the root directory of the RAC component on the CD or DVD. In addition to the instructions in install.html take note of the following points:

- When the installation wizard displays the list of features that you can select to install on the **Product Installation** page, you must clear the selection for the IBM Rational Plugins Security feature. If you do not disable security during RAC installation, you will be unable to debug message flows. If you do not clear this option, you must uninstall RAC and reinstall it with security disabled before you can use the debug functions.
- When the installation wizard asks you to enter a location of the Java runtime file java.exe on the **Java Runtime** page, you must specify the location of a Java runtime file that is already installed. Do not specify the JRE installed with WebSphere Message Broker for this purpose, you must use an alternative JRE.

Stopping and starting the Rational Agent Controller service:

When you have successfully installed Rational Agent Controller, the Rational Agent Controller service is started automatically on Windows. You can stop and start the service using the **Services** window. You are strongly recommended to change the Startup type from **Automatic** to **Manual**. If you do not use the flow debugger, stop the Rational Agent Controller service.

Installing Rational Agent Controller on z/OS

If you already have Rational Agent Controller (RAC) installed, and want to check what version it is, go to /usr/lpp/IBM/AgentController/config, review the file serviceconfig.xml and check the attribute version.

To install RAC 6.0.1 from the supplemental CD or DVD supplied with WebSphere Message Broker, refer to install.html supplied in the root directory of the RAC component on the CD or DVD. In addition to the instructions in install.html take note of the following points:

- At the **Java Runtime Environment** prompt during installation, you must specify the location of the Java runtime file (java.exe). RAC requires a Java Runtime Environment (JRE) as a prerequisite, do not specify the JRE installed with WebSphere Message Broker for this purpose, you must use an alternative JRE.
- At the **Security** prompt during installation, enter **false** because the security feature is not supported.

To enable the z/OS broker to connect to RAC, add the lib directory (for example, /usr/lpp/IBM/AgentController/lib) to the start of the LIBPATH environment

variable in the broker's profile (`bipprof`), then submit `BIPGEN` to recreate the broker's ENVFILE. When this change has been completed, restart the broker to enable debugging sessions to be connected.

Installing IBM DB2 Universal Database Enterprise Server Edition 8

IBM DB2 Enterprise Server 8.2 is one of the supported databases for use with WebSphere Message Broker, other versions of DB2 are also supported. For a production system you must install one of the supported databases, for example, DB2 Enterprise Server, for a full list of suitable databases, see "Supported databases" on page 31.

On Windows, Derby (delivered by IBM Cloudscape) is also supplied with WebSphere Message Broker and can be installed from the Launchpad as part of the WebSphere Message Broker product install. This database provides sufficient resource for a broker database, and install verification, but is not sufficient for a production system. For information about how to install Derby as part of the WebSphere Message Broker installation, see the "Installation Guide" on page 3.

DB2 Enterprise Server 8.2 is supplied on a CD supplied with the WebSphere Message Broker product and can be installed either before or after you have installed WebSphere Message Broker. To install DB2 see the install.html file on the CD. There is also help built into the Install Wizard following license acceptance.

Installing Tivoli License Manager

IBM Tivoli® License Manager enables you to monitor the usage of IBM (and other) software products. It provides you with the following software auditing functionality:

- Monitor the licenses used across different machines.
- Help keep unnecessary licenses to a minimal.
- Guard against software license compliance problems.

This version of WebSphere Message Broker includes support for ITLM V2.1. To find out more about using ITLM to monitor usage of WebSphere Message Broker and other IBM products, or to purchase ITLM, see the IBM Tivoli License Manager Web site.

Setting up a command environment

After you have installed the product on any of the distributed platforms, you must initialize the environment before you can use any runtime component or command. This means that you *must*:

- Run the provided mqsiprofile script, which is installed with the product.
- Make any additional environment changes for broker or user databases, or other products you want to use within the broker.

You *must* ensure that each time you run one of the administrative commands, or start a broker, that you have run this profile first.

For information on setting up your command environment on a Windows platform, see "Command environment - Windows platforms" on page 9

For information on setting up your command environment on Linux and UNIX systems, see "Command environment - UNIX systems and Linux"

Command environment - Windows platforms

On Windows platforms the components run as services, so do not inherit your command prompt environment; however, the components run mqsiprofile before starting.

You must not change the location of the mqsiprofile command, or make user modifications to the command, as it might be replaced if you install service, or an update, to the product. If you need to run your own settings, add a script to the profiles directory as described below.

mqsiprofile can call additional user-written scripts for you, if you place any files called *.cmd in the specific location:

 <workpath>\common\profiles

You might want to use this method to run database environment setup scripts.

To work with a broker, you need to set up the required environment for its databases and you are recommended to do this by running the vendor-provided profile for the database manager.

Note, that on Windows platforms, the relevant environment settings are normally made to the system environment when the database product is installed.

Once your environment is set, see Configuring component databases for information on setting up your databases for use with the broker.

Ensure that your database product settings are made in the system environment, or add them as a chained script in the common\profiles directory. You then have two options:

1. Open a Command Console by clicking **Start** → **IBM** → **WebSphere Message Brokers 6.0** → **Command Console** This works only if you have one installation of the runtime product.
2. Start a normal command prompt. Locate and run the mqsiprofile.cmd script from the path where you installed the product. This applies even if you have multiple installations of the runtime components; the profile you run determines which code you use.

Note the following:
- If you have a previous version of the product on the system, ensure that you run the correct profile before using Version 6.0. The mqsiprofile command places the Version 6.0 commands and libraries at the front of your search path.
- If you use the same user ID, and you run multiple profiles (from multiple different installations or versions), you might get unexpected results. Log off and log on again before you run the specific profile you require.

Command environment - UNIX systems and Linux

On Linux and UNIX systems, when you start a runtime component it inherits the environment from where you issued the **mqsistart** command.

The basic settings are made by the mqsiprofile command which is located in the `<product_install_path>/bin`

directory.

You must not change the location of the mqsiprofile command, or make user modifications to the command, as it might be replaced if you install service, or an update, to the product. If you need to run your own settings, add a script to the `profiles` directory as described below.

mqsiprofile can call additional user-written scripts for you, if you place any files called `*.sh` in the specific location:

`<workpath>/common/profiles`

You might want to use this method to run database environment setup scripts.

To work with a broker, you need to set up the required environment for its databases and you are recommended to do this by running the vendor-provided profile for the database manager.

Note that the environment setup depends on the database manager being used. You run the appropriate script, as follows:
- DB2, run `db2profile` for the relevant DB2 instance.
- Oracle, run `oraenv` (Note that you must export `ORACLE_HOME` and `ORACLE_SID` prior to running `oraenv`)
- Sybase, run `SYBASE.sh`

Once your environment is set, see Configuring component databases for information on setting up your databases for use with the broker.
1. Run your database profile. For example, if you use DB2, run

   `. <db2 instance directory>/sqllib/db2profile`
2. Run the WebSphere Message Broker product file

   `. <install_dir>/bin/mqsiprofile`

   You must include the period and space preceding the location for this invocation to work correctly. You might find it easier to add these to your login profile.

Note the following:
- If you have a previous version of the product on the system, ensure that you run the correct profile before using Version 6.0. The mqsiprofile command places the Version 6.0 commands and libraries at the front of your search path.
- If you use the same user ID, and you run multiple profiles (from multiple different installations or versions), you might get unexpected results. Log off and log on again before you run the specific profile you require.
- ODBC settings on Linux and UNIX systems are picked up from a text file. This is found from the `ODBCINI` environment variable, which defaults to

  `/var/mqsi/odbc/.odbc.ini`

  This filename was also used by earlier versions of the product but the format has changed. If you are coexisting multiple versions, you need to create a different `odbc.ini` file for each, and override the `ODBCINI` environment variable setting in mqsiprofile.

Applying service to runtime components

You cannot back out service without removing the entire product. You are strongly recommended to keep a backup image or previous GA CD or fix pack readily available in case you encounter any problems after installing service.

Maintenance updates for WebSphere Message Broker are available through a download from a web site, in the form of a Program Temporary Fix (PTF), also known as a fix pack. Fix packs are cumulative, therefore you do not need to install Fix Pack 1 before you can install Fix Pack 2. However, the GA code must have been installed first to activate the licensing requirements. You can find the latest information about available fix packs on the WebSphere Message Broker support Web page

Fix packs for WebSphere Message Broker are installed using the same technology as for the GA release. This means that product files are consistently tracked and updated appropriately.

You cannot remove individual fix packs; you can uninstall only the entire product. If you want to restore a system to a previous service level, you must uninstall the entire product, reinstall the GA level of the product, and then install the desired level of fix pack.

If you have any interim fixes applied to your existing installation, contact your IBM Service representative for instructions and possible updated interim fixes for the fix pack level you are installing.

You can download the latest fix pack from the WebSphere Message Broker support Web page . Scroll down the page and select the fix pack listed for your WebSphere Message Broker product.

To download maintenance updates:
1. Read the multiplatforms memo. To access the memo, scroll down to read the Installation Instructions. Click on the link **Problems fixed (MEMO.PTF)**.
2. To begin the download process, scroll to **Download package** and click the **HTTP** download option. Accept the download terms and conditions and sign in to the download site. Click the link for your desired operating system (with name of the form Fix Pack *XX Unnnnnn*, where *XX* is the number of the fix pack, and *Unnnnnn* is the fix pack file name) and follow the instructions.
3. Select a suitable destination as the target for download.

Choose the relevant operating system for instructions about how to apply maintenance updates:
- Windows
- Linux and UNIX
- z/OS

Backing up your system

You cannot back out service without removing the entire product. You are strongly recommended to keep previous GA or update packages readily available in case you encounter any problems after installing service.

Installing service on Windows

Before applying a maintenance update, download the update as described in "Applying service to runtime components" on page 11.

To apply maintenance updates to WebSphere Message Broker:

1. Ensure that the user ID you are logged on with is a member of the Windows Administrator group in the local security domain. You are recommended to use the same ID as the one you used for installing WebSphere Message Broker.
2. Ensure that all WebSphere Message Broker function is stopped. You must:
    a. Stop execution of the Configuration Manager, the User Name Server, and all brokers on this system using the mqsistop command, or by stopping the Windows services for these components from **Start** ⇾ **Settings** ⇾ **Control Panel** ⇾ **Administrative Tools** ⇾ **Services**.
    b. Stop execution of the workbench
    c. Ensure that you do not have any WebSphere Message Broker files open.
3. You are also strongly recommended to exit all Windows programs before applying maintenance to WebSphere Message Broker
4. Change to the directory into which you downloaded the fix pack file (Unnnnnn.exe).
5. In Windows Explorer, right-click the fix pack file and select **Open**. Alternatively, enter the following command at a command prompt: `FixPackLauncher` [`-s`] `-a` `install_arguments` , where

    `FixPackLauncher` is the full path to the fix pack executable file, for example U200208.exe.

    `-s` is optional and means that the fix pack launcher extracts silently. If you omit this, a progress of extraction panel is displayed.

    `-a` means 'read in the following install arguments'.

    `install_arguments` are the arguments that determine how the installer runs. For more information about install arguments, see "Modes of installation and uninstallation" on page 37.

After successful extraction the installer runs automatically according to the chosen arguments. Follow the instructions on the install panels.

When you have completed installation, review the multiplatform memo supplied in the directory readmes, and complete any manual post-installation tasks required.

Installing service on Linux and UNIX

Before applying a maintenance update, download the update as described in "Applying service to runtime components" on page 11.

To apply maintenance updates to WebSphere Message Broker:

1. Stop all brokers and User Name Servers that are running.
2. Change to the directory where you downloaded the fix pack file, Unnnnnn.tar.z.
3. Replace the .Z file with a .tar file, by entering the following command: `uncompress -fv filename.tar.Z` .
4. Untar the image and extract all the directories, subdirectories, and files required to apply the update, by entering the following command: `tar -xvf filename.tar`.

5. Decide which mode of installation you want to use. The alternatives are explained in "Modes of installation and uninstallation" on page 37.

6. Depending on the mode of installation you have decided to use, run one of the commands described below, where *<installer>* is the appropriate installation program for your platform, listed in the table below.

   • To invoke the installation wizard in graphical mode double-click the file or type its name with no options at a command prompt and press **Enter**. When you invoke the installation wizard, it guides you through a series of panels where you can make choices about where to install the components, and which components you want to install.

   • Enter one of the following commands to invoke the installation wizard in console mode. Enter this command for a default invocation, `<installer>` `-console`. Alternatively, for improved accessibility enter: `<installer>` `-accessibility`. Include the absolute or relative path names if you invoke installation from a directory other than the one in which the wizard exists. When you invoke the installation wizard, it guides you through a series of panels where you can make choices about where to install the components, and which components you want to install.

   • The command shown below invokes the installation wizard to complete a typical installation with all default settings. You must include the `-G` `licenseAccepted=true` flag on the invocation, to ensure the license is accepted. `<installer>` `-silent` `-G` `licenseaccept=true`. Include the absolute or relative path names if you invoke installation from a directory other than the one in which the wizard exists. If you want to specify non-default settings, you must include a response file on the invocation. for more details of how to do this, and how to create and edit a response file to define your requirements, see "Using response files" on page 39.

Platform	Installation program
AIX	setupaix
HP-UX	setuphp
Linux (POWER platform)	setuplinuxppc
Linux (x86 platform)	setuplinux32
Linux (zSeries platform)	setuplinux390
Solaris (SPARC platform)	setupsolaris
Solaris (x86-64 platform)	setupsolarisx86

After successful extraction the installer runs automatically according to the chosen arguments. Follow the instructions on the installation panels.

When you have completed the installation, review the multiplatform memo supplied in the readme directory, and complete any manual post-installation tasks required.

Installing service on z/OS

If your SMP/E target zones are not on the same file system as your production directories, copy the directories as a whole to the system where they are to be used, and replace the directories currently there. This means that any brokers or the User Name Server use the updated directories when they next restart.

If you do not want all of your brokers to be affected by changing the directories, you need to have at least two copies of the product directories. Copy the updated files to the first copy and run one or more brokers with these directories. When you are satisfied with the updates, copy the updated files to the second copy of the directories for the rest of your brokers to use.

Use the following steps to back up your WebSphere Message Broker directories on z/OS, and restore them on another system or on the same system in a different directory:

1. Tar the code using the command:

   ```
   tar -cvozf wmqi.tar.z /usr/lpp/wmqi
   ```

   where */usr/lpp/wmqi* is the installation path.

2. FTP the tar file to the new file system in binary mode by entering the following commands:

   ```
   ftp machine_name
   binary
   cd USS_path_for_storing_tar_file
   put wmqi.tar.z
   quit
   ```

3. Extract the contents of the file using the following command:

   ```
   tar -xvozf wmqi.tar.z
   ```

   Because the initial tar command used the absolute path

   ```
   /usr/lpp/wmqi
   ```

   you need WRITE access to the root directory for this task. You can use a relative path instead. See the **tar** command in the *UNIX System Services Command Reference Guide* for more details.

Applying service to the Message Brokers Toolkit

The Message Brokers Toolkit uses the Rational Product Updater (RPU) to install service updates. Follow these instructions to install any available updates to the Message Brokers Toolkit. For more detailed information about the RPU, see the Rational Product Updater Help.

1. In the toolkit, select **Help > Software Updates > IBM Rational Product Updater** to launch the RPU.

2. On the Installed Products tab, click the entry for IBM WebSphere Message Brokers Toolkit. IBM WebSphere Message Brokers Toolkit is highlighted.

3. Click the **Find Updates** button. You are shown a list of updates that are available for the products you have installed. If any updates are available for the Message Brokers Toolkit, these appear below the product name.

4. For more information about any of the available updates, click the update. Information about the update appears in the Detailed information pane.

5. Before applying any of the available updates, read the information and follow any instructions given.

6. By default, all available updates are selected. Clear any items that you do not want to install.

7. Click **Install updates** to apply the service updates. Installation of the updates begins.

8. Whether any further input is required depends on the specific update. Follow any instructions and answer any questions that you are presented with.

When installation is complete, the service update appears on the Installed Products tab, under IBM WebSphere Message Brokers Toolkit.

If you still see a problem that you believe should be fixed by this update, close the Message Brokers Toolkit. Restart it from the command line with the -clean option. Change to the directory in which you have installed the component before you enter the command, or enter the full path.

For example on Linux (x86 platform), enter the following command:
```
./wmbt.bin -clean
```

On Windows, enter the following command
```
wmbt -clean
```

Part 2. Uninstalling

Uninstalling

This section describes the following tasks:
- "Uninstalling WebSphere Message Broker runtime components"
- "Uninstalling the Message Brokers Toolkit" on page 22

Uninstalling WebSphere Message Broker runtime components

This section describes the tasks that you must complete to uninstall the WebSphere Message Broker runtime components on the following systems:
- AIX
- HP-UX
- Linux
- Solaris
- Windows

1. Decide which mode of uninstallation you want to use. The alternatives are explained in "Modes of installation and uninstallation" on page 37.
2. Follow the uninstallation instructions provided in the corresponding uninstallation topic:
   - "Uninstalling the full product"
   - "Uninstalling runtime components in silent mode" on page 20
   - "Uninstalling manually" on page 22
   - "Uninstalling runtime components in console mode" on page 21

   For information about removing service updates see "Uninstalling service" on page 22.

Uninstalling the full product

Always use the uninstall wizard to remove this product, do not use the native uninstallation program.

The uninstallation process for the WebSphere Message Broker runtime and the Message Brokers Toolkit requires you to complete different actions. To uninstall the Message Brokers Toolkit, see "Uninstalling the Message Brokers Toolkit" on page 22. To uninstall the runtime components complete the following steps:

1. Stop all running processes that use any part of WebSphere Message Broker (brokers, Configuration Manager and the User Name Server) before uninstalling. Use the mqsilist (list resources) command to check which components are running. Stop each component using the mqsistop command.
2. On Windows and Linux (x86 platform), end any active sessions of the Message Brokers Toolkit.
3. If you do not plan to reinstall on this computer, delete all the brokers (mqsideletebroker command), Configuration Managers (mqsideleteconfigmgr command), and User Name Servers (mqsideleteusernameserver command) that are associated with this installation. When you delete a component, all its associated data and resources are deleted; if you want to retain component data, do not delete that component.
4. If you have created DB2 or Derby databases on Windows with the mqsicreatedb command, delete them with the mqsideletedb command. If you delete the last database, the Database Instance Manager is also deleted (the

Database Instance Manager controls all appropriate databases in a single system; if you have another Version 6.0 installation, this component might not be deleted if databases associated with the other installation remain). Databases created by the Default Configuration wizard can also be deleted in this way.

5. Use one of the following methods to invoke the uninstallation program. Only Windows users with one instance of the WebSphere Message Broker runtime installed should use the second method.

   - Run the following command from outside the installation directory, specifying the full path, this ensures that the folders are removed during uninstallation:

     /*install_dir*/_uninst_runtime/uninstaller

     Where *install_dir* is the home directory of your WebSphere Message Broker installation. If you accepted the default location during installation, this directory is as follows:

     – On Windows, C:\Program Files\IBM\MQSI\6.0
     – On AIX, HP-UX, and Solaris, /opt/IBM/mqsi/6.0
     – On Linux, /opt/ibm/mqsi/6.0

   - Navigate to **Start** → **Settings** → **Control Panel** → **Add/Remove Programs**. Select WebSphere Message Broker and click **Change/Remove**.

   The uninstaller is launched.

6. Choose the component or components you wish to uninstall and follow the prompts to complete uninstallation.

Uninstalling runtime components in silent mode

Always use the uninstall wizard to remove this product, do not use the native uninstallation program.

You can remove WebSphere Message Broker without user interaction. This process is called unattended (or silent) removal. This topic describes how to run the uninstallation program in silent mode without a response file; the program assumes all the default values.

If you want to complete a silent uninstallation, but have non-default requirements, you can use a response file. A response file is a text file that contains values for the options that you select when you uninstall WebSphere Message Broker. For more details of how to create, edit, and employ a response file to specify your requirements, see "Using response files" on page 39.

1. Stop all running processes that use any part of WebSphere Message Broker (brokers, Configuration Manager, and the User Name Server) before uninstalling. Use the mqsilist (list resources) command to check which components are running. Stop each component using the mqsistop command.

2. On Windows and Linux (x86 platform), end any active sessions of the Message Brokers Toolkit.

3. If you do not plan to reinstall on this computer, delete all of the runtime components. When you delete a component, all its associated data and resources are deleted. Use the following commands to do this: mqsideletebroker command, mqsideleteconfigmgr command, and mqsideleteusernameserver command.

4. If you have created DB2 or Derby databases on Windows with the mqsicreatedb command, delete them with the mqsideletedb command. If you

delete the last database, the Database Instance Manager is also deleted (the Database Instance Manager controls all appropriate databases in a single system; if you have another Version 6.0 installation, this component might not be deleted if databases associated with the other installation remain). Databases created by the Default Configuration wizard can also be deleted in this way.

5. Run the uninstallation program using one of the commands below:
   - On Windows, run the command from inside the installation directory.
     ```
     start /w uninstaller
     ```
   - On Linux and UNIX, run the command from outside the installation directory to ensure that the folders are removed during uninstallation.
     ```
     /install_dir/_uninst_runtime/uninstaller -silent
     ```

   Where *install_dir* is the home directory of your WebSphere Message Broker installation. If you accepted the default location during installation, this directory is as follows:
   - On Windows, C:\Program Files\IBM\MQSI\6.0
   - On AIX, HP-UX and Solaris, /opt/IBM/mqsi/6.0
   - On Linux, /opt/ibm/mqsi/6.0

   The uninstallation program runs without interaction.

Uninstalling runtime components in console mode

Always use the uninstall wizard to remove this product, do not use the native uninstallation program.

For information about console mode and alternative modes available, see "Modes of installation and uninstallation" on page 37. To invoke the uninstaller in console mode complete the following steps:

1. Stop all running processes that use any part of WebSphere Message Broker (brokers, Configuration Manager, and the User Name Server) before uninstalling. Use the mqsilist (list resources) command to check which components are running. Stop each component using the mqsistop command.

2. On Windows and Linux (x86 platform), end any active sessions of the Message Brokers Toolkit.

3. If you do not plan to reinstall on this computer, delete all of the runtime components. When you delete a component, all its associated data and resources are deleted. Use the following commands to do this: mqsideletebroker command, mqsideleteconfigmgr command, and mqsideleteusernameserver command.

4. If you have created DB2 or Derby databases on Windows with the mqsicreatedb command, delete them with the mqsideletedb command. If you delete the last database, the Database Instance Manager is also deleted (the Database Instance Manager controls all appropriate databases in a single system; if you have another Version 6.0 installation, this component might not be deleted if databases associated with the other installation remain). Databases created by the Default Configuration wizard can also be deleted in this way.

5. Invoke the uninstallation program in console mode from outside the installation directory, specifying the full path to ensure that the folders are removed during uninstallation.
   ```
   /install_dir/_uninst_runtime/uninstaller -console
   ```

Where *install_dir* is the home directory of your WebSphere Message Broker installation. If you accepted the default location during installation, this directory will be as follows:

- On Windows, C:\Program Files\IBM\MQSI\6.0
- On AIX, HP-UX and Solaris, /opt/IBM/mqsi/6.0
- On Linux, /opt/ibm/mqsi/6.0

Note: For improved accessibility, use the command `/install_dir/_uninst_runtime/uninstaller -console -accessibility`

6. When invoked, the uninstaller presents text-based screens on the console that you can navigate between using the following options:
   - 1 next
   - 2 previous
   - 3 cancel
   - 4 redisplay

The uninstaller asks you to confirm that you want to uninstall the product and that the location it is uninstalling from is correct. When you have responded to these questions, the uninstallation starts.

Uninstalling service

You cannot remove a service package without uninstalling the entire product.

If you want to restore a system to a previous service level, you must uninstall the product before you reinstall the desired level of service. You do not need to reinstall the GA level of the product first, because the update package does this for you. No data is lost during this process.

It is possible to have more than one instance of WebSphere Message Broker installed on a machine. These different installations can be at different levels. Therefore it is not necessary to uninstall an instance of the product to replace it with an installation at an earlier level. For further information see, Coexistence with previous versions and other products.

Uninstalling manually

Always use the uninstall wizard to remove this product, do not use the native uninstallation program.

If, in exceptional circumstances, the uninstall wizard fails to remove the product successfully, you can remove the product manually. Please contact your IBM Service Center for assistance if a failure occurs.

Uninstalling the Message Brokers Toolkit

This section describes the tasks that you must complete to uninstall the Message Brokers Toolkit on the following systems:
- Windows
- Linux (x86 platform)

1. Decide which mode of uninstallation you want to use. The alternatives are explained in "Modes of installation and uninstallation" on page 37.
2. Follow the uninstallation instructions provided in the corresponding topic:

- "Uninstalling the Message Brokers Toolkit in graphical mode"
- "Uninstalling the Message Brokers Toolkit in console mode"
- "Uninstalling the Message Brokers Toolkit in silent mode" on page 24

Uninstalling the Message Brokers Toolkit in graphical mode

For information about graphical mode and alternative modes available, see "Modes of installation and uninstallation" on page 37. Invoke and complete the uninstaller to uninstall the Message Brokers Toolkit.

1. Invoke the uninstaller in graphical mode using one of the following methods, Linux users must use the third option:
   - On Windows, find the entry for **IBM WebSphere Message Broker Toolkit Version 6.0** in Add/Remove Programs and click **Remove**.
   - Find the uninstallation wizard in the <installdir>/wmbt_prod/_uninst directory. Its name is defined in the table below. Double click the file.
   - Navigate to the uninstallation directory, <installdir>/wmbt_prod/_uninst directory, in a command prompt and type one of the following commands:
     - On Linux type the following command: `./uninstall.bin`
     - On Windows type the command: `uninstall.exe`

Platform	Uninstallation wizard
Windows	uninstall.exe
Linux	uninstall.bin

2. When the uninstaller is invoked, follow the guidance through the series of panels.

To complete the uninstallation of the Message Brokers Toolkit, restart your computer.

Uninstalling the Message Brokers Toolkit in console mode

For information about console mode and alternative modes available, see "Modes of installation and uninstallation" on page 37. Invoke the uninstallation wizard with the options of your choice.

1. Invoke the uninstaller in console mode.
   - On Windows enter this command for default invocation: `uninstall.exe -console`
   - On Windows enter this command for improved accessibility: `uninstall.exe -accessibility`
   - On Linux enter this command for default invocation: `./uninstall.bin -console`
   - On Linux enter this command for improved accessibility: `./uninstall.bin -accessibility`

   If you invoke installation from a directory other than the one in which the wizard exists, <installdir>/wmbt_prod/_uninst directory, include the absolute or relative path with the command name.

2. When invoked, the uninstaller presents text-based screens on the console that you can navigate between using the following options:
   - 1 next
   - 2 previous

- 3 cancel
- 4 redisplay

The uninstaller will ask you to confirm that you wish to uninstall the product and that the location it is uninstalling from is correct. Once you have responded to these questions the uninstallation commences.

Uninstalling the Message Brokers Toolkit in silent mode

For information about silent mode and alternative modes available, see "Modes of installation and uninstallation" on page 37. To complete uninstallation without any user interaction, use the silent mode.

The commands shown below invoke the uninstaller with all the default settings.
- On Linux systems, enter the following command to start a default uninstallation:

  `./uninstall.bin -silent`
- On Windows systems, invoke the installation command within a start command with parameter /w to ensure that the installation completes before it returns to the command prompt. Enter the following command to start a default uninstallation:

  `start /w uninstall.exe -silent`

If you invoke installation from a directory other than the one in which the wizard exists, <installdir>/wmbt_prod/_uninst directory, include the absolute or relative path with the command name.

To use non-default settings, you must include a response file on the invocation:

`<uninstaller> -silent <responsefile>`

where `<uninstaller>` is the name of the uninstaller for your platform, and `<responsefile>` is the full path and name of your chosen response file. For more details of how to create, edit, and employ a response file to specify your requirements, see "Using response files" on page 39.

Uninstalling service from the Toolkit

You can remove WebSphere Message Broker iFix service updates from the Toolkit using the Rational Product Updater (RPU).

1. Launch the RPU, from the toolkit. **Help > Software Updates > IBM Rational Product Updater**.
2. On the Installed Products tab you will see the entry for the IBM WebSphere Message Brokers Toolkit, any updates that have been installed will appear under this entry. If you want to uninstall any of these updates click on the **Rollbacks** tab.
3. Untick the box on the left of the update that you wish to uninstall. Ensure that no products are ticked that you do not wish to uninstall.
4. To remove the update, click **Roll Back Updates**.

Part 3. Reference

Installation

Reference information associated with installation is provided to help you to understand how you choose your installation options, and what effects your choices have on the system.

- "Hardware requirements"
- "Software requirements" on page 30
- "Modes of installation and uninstallation" on page 37
- "National language support" on page 42
- System changes

You are also recommended to read the readme.html file, its location is listed in "Finding the latest information" on page 3.

Hardware requirements

This section provides information about the hardware requirements of WebSphere Message Broker.

- "Supported processors"
- "Memory and disk space" on page 28
- "Communications" on page 29

Supported processors

WebSphere Message Broker is supported on the following systems.

Operating system	Requirements[1]
AIX®	IBM e(logo)server pSeries® IBM RS/6000® processor machines IBM e(logo)server i5
HP-UX (PA-RISC platform)	Hewlett-Packard HP-9000 PA-RISC 2.0 processor machines[2]
Linux (POWER platform)	IBM e(logo)server iSeries IBM e(logo)server pSeries
Linux (x86 platform)	IBM e(logo)server xSeries® or equivalent Intel® based systems[3]
Linux (zSeries platform)	IBM e(logo)server zSeries® 600 or e(logo)server 700 Server
Solaris (SPARC platform)	Sun Microsystems SPARC processor machines
Solaris (x86-64 platform)	Sun Microsystems AMD64 or equivalent EM64T based systems
Windows®	IBM e(logo)server xSeries or equivalent Intel based systems IBM e(logo)server iSeries Server using the IBM Integrated xSeries Server[4]
z/OS®[5]	Any server capable of running one of the supported z/OS releases

Notes:

1. Always check the readme.html file for the latest information about supported processors. A readme file is supplied on the product DVD or CD (for runtime components and for the Message Brokers Toolkit), and you can access it from the final panel of the relevant installation program. However, the files are updated occasionally; access the product readmes Web page to check that you have the latest level.

2. The +DAportable flag cannot be used for 64-bit compilations, therefore PA-RISC 1.1 chips are no longer supported.

3. The Message Brokers Toolkit requires any Intel Pentium® III (or higher) processor-based IBM PC or compatible, with 700 or more MHz processor speed. This is the minimum supported level; for improved performance use a 2GHz processor.

   A minimum display resolution of at least 1024 x 768 is required for some dialogs (for example, the Preferences dialog).

4. You must install OS/400® Version 5 Release 2 or Version 5 Release 3 on the iSeries Server to exploit this support.

5. See the *Program Directory for WebSphere Message Broker for z/OS* or *Program Directory for WebSphere Message Broker with Rules and Formatter Extension Option for z/OS* for further details.

Memory and disk space

WebSphere Message Broker memory and disk space requirements depend on the installation operating system, and the components that you are installing.

Distributed systems

- 512 MB of RAM are required to support runtime operations (1 MB equals approximately 1000 000 bytes).

- 512 MB of RAM are required to support Message Brokers Toolkit operations on Linux (x86 platform) or Windows. This specification is the minimum supported level; for improved performance, provide 1 GB (1 GB equals approximately 1 000 000 000 bytes).

- Disk space requirements are dependent on the components that you install and the working space that is required by those components (for example, for WebSphere MQ queues and persistent messages).

  Check that your system has at least the space shown in the table below, which provides guidance for both permanent product requirements and temporary space. If you install just one or two of the runtime components, the storage required is reduced by only a small amount. Check that these requirements have not been updated in the latest product readme file readme.html.

  If the installation directory and the temporary space are on the same partition or drive, add together the two figures to check that you have enough space available. If you do not, increase the available storage or change either the location of the temporary space or the installation directory. The temporary files are deleted when installation has completed.

  – On AIX, HP-UX, and Linux systems, the default temporary space directory is /tmp.

  – On Solaris systems, the default temporary space directory is /var/tmp.

  – On Windows, the default temporary space directory is pointed to by the TEMP system variable. On some systems, the variable TMP exists and is used before TEMP, so you might need to check or change the setting of both these variables.

  If you are installing the Message Brokers Toolkit, you can specify a different temporary space directory when you invoke the installation wizard. Detailed instructions are given in the "Installation Guide" on page 3.

The installation wizard displays requirements for permanent space, but not for temporary space. If the figure that the installation wizard displays is greater than the figure shown in the table below, check that your system has sufficient space before you continue with the installation.

Component	AIX	HP-UX	Linux[1+2]	Solaris	Windows[1]
Broker, Configuration Manager, and User Name Server	500 MB plus 300 MB temporary space	680 MB plus 300 MB temporary space	300 MB plus 300 MB temporary space	550 MB plus 300 MB temporary space	310 MB plus 300 MB temporary space
Message Transformation Services (optional broker extension)	45 MB	50 MB	25 MB	30 MB	30 MB
Message Brokers Toolkit	Not available	Not available	5.0 GB plus 1.9 GB temporary space	Not available	5.0 GB plus 1.9 GB temporary space

Notes:

1. Requirements vary slightly on different Linux offerings; maximum figures are shown.
2. The Message Brokers Toolkit is available on Linux (x86 platform) and Windows only.

- If you install one of the database products supplied with WebSphere Message Broker, you need additional disk space:
  – DB2 Enterprise Server requires approximately 300 MB. This specification is for a Compact installation, which provides sufficient function for WebSphere Message Broker; if you choose a Typical or Custom installation additional storage might be required.
  – On Windows, ODBC (Open Database Connectivity) drivers for Cloudscape require approximately 105 MB.

- On systems on which you create a broker, approximately 10 MB is required for the broker tables. If you create user databases that are accessed by message flows, additional space is required on those systems.

z/OS See the section about DASD storage requirements in the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter Extension for z/OS*.

Communications

Your system must have communications hardware that supports at least one of the following protocols:
- NetBIOS
- SNA LU 6.2
- SPX
- TCP/IP

Software requirements

This section provides information about the software requirements of WebSphere Message Broker.
- "Operating system requirements"
- "Supported databases" on page 31
- "Additional software prerequisites" on page 35

Operating system requirements

You must have the correct level of operating system software before you install WebSphere Message Broker. Operating system software requirements are as follows:

Operating system	Requirements[1]
AIX	- AIX Version 5.2 with Maintenance Level 3 - AIX Version 5.3 with Maintenance Level 2
HP-UX	HP-UX 11i v1 (B.11.11) (plus December 2003 QPK)
Linux (POWER platform)	- Linux PowerPC Red Hat Enterprise Advanced Server V4 (plus Update 2) - Linux PowerPC SUSE Linux Enterprise Server (SLES) 9
Linux (x86 platform)[2+3]	- Linux Intel (32-bit) Red Hat Enterprise Linux Advanced Server V3.0 (plus Update 2) - Linux Intel (32-bit) Red Hat Enterprise Advanced Server V4.0 (plus Update 2) - Linux Intel (32-bit) SUSE LINUX Enterprise Server (SLES) 9
Linux (zSeries platform)	- Linux zSeries (31-bit) Red Hat Enterprise Linux Advanced Server V3.0 (plus Update 2) - Linux zSeries (31-bit) Red Hat Enterprise Advanced Server V4.0 (plus Update 2) - Linux zSeries (31-bit) SUSE LINUX Enterprise Server (SLES) 9
Solaris (SPARC platform)	- Solaris 8 (plus SunSolve recommended Patch Cluster level and Patch ID 111308-05)[4] - Solaris 9 (plus SunSolve recommended Patch Cluster level) - Solaris 10 (plus SunSolve recommended Patch Cluster level)
Solaris (x86-64 platform)	Solaris 10 (plus SunSolve recommended Patch Cluster level)
Windows	- Windows XP Professional - Windows Server 2003 Standard Edition - Windows Server 2003 Enterprise Edition
z/OS[5]	z/OS 1.5 or later

Notes:

1. Always check the readme.html file for the latest information about supported software. A readme file is supplied on the product DVD or CD (for runtime components and for the Message Brokers Toolkit), and you can access it from the final panel of the relevant installation program. However, the files are updated occasionally; access the product readmes Web page to check that you have the latest level.

2. The Message Brokers Toolkit is supported on Linux Intel (32-bit) Red Hat Enterprise Linux Advanced Server V3.0 and Linux Intel (32-bit) SUSE LINUX Enterprise Server (SLES) 9 only.

3. You might require the following additional packages on Linux (x86 platform) These are available with the operating system:
   - If you chose to install in graphical mode, compatibility libraries are required:
     – Red Hat Enterprise Advanced Server 3.0: package `compat-libstdc++`
     – SUSE LINUX Enterprise Server: package `compat` (at version 2002.12.6.0 or later)

     These are not required for console or silent installations.
   - If you want to use the package monitor (RPM), the `rpm-build` package is required.

4. This patch provides multithreaded malloc support on Solaris 8. It is required because the standard system malloc library is optimized for single threaded applications, but the broker typically runs many threads and requires the multithreaded mtmalloc.

5. See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Rules and Formatter Option for z/OS* for further details. In particular, review the information in "Preventative Service Planning".

Supported databases

A broker requires a database to contain operational and state data. Multiple brokers within a single instance can access the same database, if appropriate, because all tables are qualified by the broker name. Brokers in different installation locations on the same system cannot share a database. You can also configure message flows to access user databases.

The broker tables are created when you invoke the mqsicreatebroker command. The tables that are created are listed in "Database contents" on page 34.

The following table indicates which levels of database are supported on which operating systems. In most situations, the broker that accesses the database does not have to be running on the same operating system as the database server. For details about local and remote database use, and existing restrictions, see "Database locations" on page 33.

Operating system	DB2[1]	Microsoft SQL Server	Oracle[1]	Sybase	Informix[2]
AIX	8.2[3]	2000 SP3a[4]	9i Rel 2 Patch Set 4 (9.2.0.5, patch 3501955) 10G	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack

Operating system	DB2[1]	Microsoft SQL Server	Oracle[1]	Sybase	Informix[2]
HP-UX	8.2[3]	2000 SP3a[4]	9i Rel 2 Patch Set 4 (9.2.0.5, patch 3501955) 10G	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
Linux (POWER platform)	8.2[3]	Not applicable	Not supported	Not supported	Not supported
Linux (x86 platform)	8.2[3]	2000 SP3a[4]	9i Rel 2 Patch Set 4 (9.2.0.5, patch 3501955) 10G	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
Linux (zSeries platform)	8.2[3+9]	Not applicable	Not supported	Not supported	Not supported
OS/400[5]	8.2[3]	Not applicable	Not applicable	Not applicable	Not supported
Solaris (SPARC platform)	8.2[3+6]	2000 SP3a[4]	9i Rel 2 Patch Set 4 (9.2.0.5, patch 3501955) 10G	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
Solaris (x86-64 platform)	8.2[3+6]	Not applicable	Not supported	Not supported	Not supported
Windows	8.2[3+7]	2000 SP3a	9i Rel 2 Patch Set 4 (9.2.0.5, patch 3501955) 10G	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
z/OS	7.1[8] 8.1[8]	Not applicable	Not supported	Not applicable	Not supported

Notes:

1. Supported releases of DB2 and Oracle can participate as a Resource Manager in a distributed XA transaction, and can be coordinated by WebSphere MQ as the XA Transaction Manager. In WebSphere Message Broker, this is referred to as supporting a globally coordinated message flow. On z/OS, all transactions are coordinated by Recoverable Resource Services (RRS).

   XA coordination for messages in the MRM domain on Windows requires DB2 Version 8.2 FixPak 10 or later.

   If you use WebSphere MQ Version 6.0 as a transaction manager, all datasources connected to DB2 from message flows in both 32-bit and 64-bit execution groups must connect to 64-bit DB2 instances.

   If you deploy message flows that access databases, you can define the message flows to be coordinated so that updates to those databases are synchronized with updates to other resources.

2. Informix is supported only as a user database accessed by message flows. The client SDK only is required on each broker system; install the Dynamic Server on the system on which you create databases. You cannot create a broker database as an Informix database; this option is not supported. There is no XA and no Large Object (LOB) support.

3. Check the readme.html file for your product to check if a fix pack or other fix is required.

   DB2 Version 8.2 is functionally equivalent to Version 8.1 FixPak 7. If you install DB2 Version 8.2 from the supplied CDs or DVD, you might see information that indicates the Version 8.1 level, for example when you use the command db2level.

4. SQL Server is supported only as a remote database on Windows from a Linux or UNIX system using a supplied wire protocol driver.

5. You can access a DB2 database installed on OS/400 as a user database from a message flow running on a broker on any supported system. You cannot create a broker database on any system as a remote DB2 database on OS/400. For further details of these restrictions, and for information about the PTFs that are required with this product, see "Database locations."

6. Solaris 10 on Solaris (SPARC platform) requires DB2 Version 8.2 FixPak 9 and Solaris (x86-64 platform) requires DB2 Version 8.2 FixPak 11.

7. You can use the embedded Derby database for verification, evaluation, and test purposes only. (Derby refers to IBM Cloudscape™ Version 10.0, a database product that is built on the Derby database from the Apache Software Foundation.) For a production system, install and configure your chosen enterprise database.

8. On z/OS, DB2 is a mandatory requirement. You must create a unique database for each broker. See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Rules and Formatter Option for z/OS* for further details.

9. 31-bit DB2 only.

Database locations

A broker domain requires databases to support its brokers. (The Configuration Manager and the User Name Server have no requirement for database access). In addition, your brokers can host message flows that access user databases.

You can choose to create and configure these databases on the local system, or on a remote system, subject to the following restrictions:

- You can use a local or remote database for the broker tables, with the exception that a remote database cannot be accessed on z/OS or OS/400.
- You can use a local or remote database for user data, subject to the following operating system restrictions:

  Database on iSeries

  – Database support on iSeries (OS/400) is DB2 only.

  – Your OS/400 installation must be V5R2 or V5R3.

  – On Linux, UNIX, and Windows you can connect using DB2 Connect. On Windows only you can also use iSeries Access for Windows.

  – Globally coordinated (XA) transactions are not supported.

  – New Era of Network nodes within message flows cannot access an iSeries database.

  – You can call stored procedures only if access to the remote database is provided by DB2 Connect.

  Database on zSeries

  – Database support on z/OS is DB2 only.

– You must use DB2 Connect on Linux, UNIX, and Windows.

– Large database objects (LOBs) are supported with DB2 for z/OS V7.1 at RSU0409 or later.

– New Era of Network nodes within message flows cannot access a database on z/OS.

For further details, see the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Rules and Formatter Option for z/OS*.

WebSphere Information Integrator Support

– Message flows on all distributed systems brokers can access databases on WebSphere Information Integrator for Linux, UNIX, and Windows Version 8.2.

– Message flows on z/OS brokers can access WebSphere Information Integrator Classic Federation for z/OS Version 8.2. This support provides direct SQL connectivity with the following z/OS data sources:
  - IMS
  - VSAM
  - ISAM
  - Sequential files
  - CA-IDMS
  - CA-Datacom
  - Software AG ADABAS
  - DB2

WebSphere Information Integrator Classic Federation for z/OS Version 8.2 does not support two phase commit, and you must set up all ODBC connections with CAF (Call Attachment Facility), not the default option which is RRSAF (Recoverable Resource Manager Services Attachment Facility).

• If you choose to use a remote database, you must configure the ODBC connection to the database correctly. Refer to the documentation for the database product that you are using for further information.

See the documentation for your database product using for WebSphere Message Broker to determine the best options for your specific environment and requirements, and information about how to configure remote databases access.

Database contents

WebSphere Message Broker stores configuration and resource information in databases to retain the information and ensure its security and integrity. Each broker creates and maintains information in tables specifically created for that purpose.

When you create a broker, the mqsicreatebroker command creates a number of database tables within the database that you specify in the command. You can specify a different database for every broker, or share a database between brokers. The database tables schema inherits its name from the Data Source User ID specified in the create command.

The table below shows the database tables that are created by the mqsicreatebroker command in the broker database. The tables are created when you create the first broker. When you create further brokers specifying the same database, new rows

are created for each broker. Every row created in the table includes the broker name, therefore each row is unique to a single broker.

Table name	Description
BACLENTRIES	ACL entries
BCLIENTUSER	Maps client identifiers to durable subscriptions
BGROUPNAME	Publish/subscribe principals: groups
BMQEPUBDEST	Contains list of WebSphere MQ Everyplace® queues on which messages can be placed
BMQEPUBMSGIN	Holds persistent WebSphere MQ Everyplace publish/subscribe messages waiting to be processed by the broker
BMQEPUBMSGOUT	Holds persistent WebSphere MQ Everyplace publish/subscribe to be placed on an WebSphere MQ Everyplace queue
BMQESTDMSGIN	Holds persistent WebSphere MQ Everyplace non-publish/subscribe messages waiting to be processed by the broker
BMQESTDMSGOUT	Holds persistent messages to be sent to WebSphere MQ Everyplace destinations
BMQPSTOPOLOGY	Publish/subscribe neighbor information
BMULTICASTTOPICS	Multicast topics records
BNBRCONNECTIONS	Inter-broker neighbor connection information
BPUBLISHERS	Registered publishers
BRETAINEDPUBS	Retained publications
BRMINFO	Registered resource managers
BRMPHYSICALRES	Physical resources
BRMRTDDEPINFO	Runtime dictionary dependency values
BRMRTDINFO	Registered runtime dictionaries
BRMWFDINFO	Registered wire format descriptors
BROKERAA	Broker process details to support recovery
BROKERAAEG	Execution group details to support recovery
BROKERRESOURCES	Broker resources
BSCADADEST	Contains list of SCADA clients to which messages can be sent
BSCADAMSGIN	Holds persistent SCADA messages waiting to be processed by the broker
BSCADAMSGOUT	Holds persistent messages to be sent to SCADA destinations
BSUBSCRIPTIONS	Durable subscription information
BTOPOLOGY	Inter-broker neighbor information
BUSERCONTEXT	Maps client identifiers to context information
BUSERMEMBERSHIP	Publish/subscribe principals: membership
BUSERNAME	Publish/subscribe principals: users

Additional software prerequisites

WebSphere Message Broker requires additional software products to run successfully.

The required software products are shown in the table below.

- Except where listed, the Java™ Runtime Environment is embedded with WebSphere Message Broker.
- WebSphere MQ Version 6.0 (with tailored terms and conditions for use with WebSphere Message Broker) is supplied on CD or DVD (on Linux (x86 platform) and Windows only). If you have a previous version, you can use the supplied CDs or DVD to upgrade your current installation.

Operating system	Requirements
AIX HP-UX Solaris (SPARC platform)	WebSphere MQ Version 5.3.0.1 or later[1+2+3]
Linux (POWER platform) Linux (x86 platform) with Red Hat Enterprise Advanced Server V4.0 Linux (zSeries platform) with Red Hat Enterprise Advanced Server V4.0	WebSphere MQ Version 6.0.0.0 or later[1+2+3] Mozilla 1.4.2 or above[4]
Linux (x86 platform) with Red Hat Enterprise Advanced Server V3.0 or SUSE Enterprise Server 9 Linux (zSeries platform) with Red Hat Enterprise Advanced Server V3.0 or SUSE Enterprise Server 9	WebSphere MQ Version 5.3.0.1 or later[1+2+3] Mozilla 1.4.2 or above[4]
Solaris (x86-64 platform)	WebSphere MQ Version 6.0.1.1 or later[1+2]
z/OS[5]	WebSphere MQ Version 5.3.1 with MQ Java Classes feature applied[2+3] Java Runtime Environment (JRE) Version 1.4.2 (Fix Pack 2)

Notes:

1. The minimum set of components that you must install are the server and Java Messaging components. You can install WebSphere MQ before or after you install WebSphere Message Broker.

   If you have WebSphere MQ Version 5.3 already installed, the Java Messaging component is not installed by default. Check that your installation includes it; add this component from the WebSphere MQ Version 5.3 CD if it is not installed.

   If you choose to install WebSphere MQ Version 6 from the Windows Launchpad, Express installation installs all required components for you. If you use Advanced installation, you must select a custom installation and include the server and Java Messaging components.

   If you start the WebSphere MQ Version 6 installation program directly on any platform, including Windows, you must select a custom installation and include the server and Java Messaging components.

   Other components are optional for use with WebSphere Message Broker.

2. WebSphere Message Broker requires a full WebSphere MQ product and cannot function correctly with the WebSphere MQ product that is included with WebSphere Application Server Version 5 (known as Embedded Messaging).

   You cannot install WebSphere MQ if you already have WebSphere Application Server Version 5 installed, because you cannot upgrade the Embedded Messaging component to the full WebSphere MQ product. You must uninstall WebSphere Application Server Version 5, install WebSphere MQ, then reinstall WebSphere Application Server Version 5.

   WebSphere Message Broker is fully compatible with WebSphere Application Server Version 6. You do not have to take any special action for these products to interact successfully.

3. For some specific broker functions, later levels are recommended:
   - If you are running publish/subscribe applications that use WebSphere MQ Real-time transport, WebSphere MQ Version 5.3.0.10 or later might be required if you experience problems in a heavily loaded broker system.
   - If you develop message flows that include the MQOptimizedFlow node, you must install WebSphere MQ Version 5.3.0.10 or later on each affected broker system.
   - Support for JMS SSL requires WebSphere MQ Version 5.3.0.11 or later.
   - If you develop message flows that use WebSphere MQ Real-time Transport with Multicase PGM support, you must install WebSphere MQ Version 6.0 or later on each affected broker system. An iFix is also required; see the readme.html file for the latest information.
   - To exploit the Native POSIX Threading Library (NPTL) performance gains on Linux systems (available with Kernel 2.6 and above), which support multiple threads running within one process, you must install WebSphere MQ Version 6.0. Performance gains might be achieved where you have multiple message flows assigned to a single execution group.

   For z/OS, see the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Rules and Formatter Option for z/OS* for further details about required levels of WebSphere MQ.

4. Some Linux offerings do not install Mozilla by default. If you plan to install the Message Brokers Toolkit on your Linux system, check that a supported version of Mozilla is already installed. If not, install Mozilla from your Linux operating system media.

5. On z/OS, WebSphere MQ is a mandatory requirement and must be installed before you install WebSphere Message Broker. See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Rules and Formatter Option for z/OS* for further details.

For best results when viewing the information center from the Message Brokers Toolkit, you are recommended to use Internet Explorer Version 6.0 or higher.

Modes of installation and uninstallation

This topic describes the three modes that you can use during installation and uninstallation, both for the runtime components and the Message Brokers Toolkit:
- "Graphical mode" on page 38
- "Console mode" on page 38

- "Silent mode" on page 39

In this topic *installer* and *uninstaller*, used in example commands, denote where you must enter the specific names of the installation or uninstall wizard. For the names of the installation and uninstall wizards, and full details of these tasks, see "Installation Guide" on page 3 and "Uninstalling" on page 19.

Graphical mode

The installation and uninstallation wizards start in graphical mode if you invoke them with no options (this is the default mode). The wizards guide you through the installation or uninstallation process with a series of dialogs that present options and defaults. You can accept the default values, or change them to suit your environment and requirements.

This mode provides the highest level of information and guidance to help you complete an installation. Use this mode when you are unfamiliar with the product, or if you want to monitor the installation or uninstallation progress.

If you click **Cancel** before the Install Progress or Uninstall Progress panel appears, you can exit the setup. If you choose to exit, your system returns to its state before launching the wizard. However, if you cancel the installation wizard after installation or uninstallation has completed, and the final summary panel is displayed, your system is not restored to its previous state: the installation wizard stops immediately. If you want to remove any program that has been installed, you must invoke the uninstallation program.

When you use the wizards, you might have to wait a few seconds to move to the next panel after clicking **Next >**. Progress is not always displayed on all panels. If you click **Next >** twice, you might skip an entire panel. To ensure the installer or uninstaller is progressing, you can monitor your CPU usage: CPU usage increases greatly during both installation and uninstallation.

Console mode

Console mode presents a text based interface with which you interact in a command window. It presents the same options as the graphical interface, and you can choose values and navigate through the process using the keyboard only.

Use this mode if you prefer a command line interface to a graphical based interface, or if you require additional audible information for visually-impaired users. When you specify an accessibility option, the wizard generates modified and additional information about its processing that is more appropriate for screen reader software such as JAWS.

Use these prompts to navigate through the installation:
- 1 Move to the next panel
- 2 Return to the previous panel
- 3 Cancel and terminate the install program
- 4 Redisplay the current screen

The default option is always displayed within brackets, for example [1]. If this is the correct choice, press Enter to continue.

Action	Invocation
Invoke the installation wizard in console mode. Messages are displayed on the console during installation.	*installer* `-console`
Invoke the installation wizard in console mode with additional audible information for visually-impaired users. (This option sets the installation automatically to console mode so you do not need the `-console` option as well.)	*installer* `-accessibility`

Silent mode

If you invoke a silent installation or uninstallation, the wizard runs without any interaction. In this mode, the process is completed with default options, or according to a predefined set of options, as described below.

Use this unattended interface for automated installations or uninstallations over a large number of identical systems.

Silent mode does not provide any feedback to the caller, therefore you must check the log to determine if the action was successful.

You can perform a silent installation:
- With default settings. For example, for installation this results in these actions:
  - Check that prerequisite software is installed (runtime components only).
  - Install to the default directory.
  - Install all selectable features.

  Because the installation wizard for the runtime components checks for prerequisite software in silent mode, the program fails if the prerequisite software is not already installed. You can override this check if you use a response file (see "Using response files"), or include the appropriate parameter with a non-default value on the command invocation.

  To run a default silent installation, specify the `-silent` option on the command. For example, to install runtime components on Linux (x86 platform), enter the following command:

  `setuplinuxia32 -silent`
- With one or more non-default settings. If you want the installation wizard to use non-default values for one or more values, you can either specify non-default options on the command invocation or specify a response file, as described in "Using response files."

  A sample response file for installation of the runtime components is provided in the `sample-scripts` directory of root CD directory. It includes detailed information about the options that you can change, and the values you must enter to change them. You can tailor this file to your requirements, or you can generate a new response file, as described below.

  To run a tailored silent installation using a response file called `response1.txt`, specify the `-silent` option and the filename on the installation command. For example, on Linux (x86 platform), enter the following command:

  `setuplinuxia32 -silent -options` *response1.txt*

Using response files

This topic describes how to use response files.

Before you perform an operation such as installing service or uninstalling, refer to the instructions specific to the task that you are performing in addition to this topic.

For uninstallation you are advised to use the "Sample response files" supplied with WebSphere Message Broker.

You can also use response files to install service updates; for further information see:
- "Generating response files"
- "Recording a response file" on page 41
- "Calling response files in commands" on page 41

If you want to install or uninstall in silent mode (see "Modes of installation and uninstallation" on page 37), but you want to use values other than the defaults, you can pass a response file to the program. A response file is a text file that contains options that define the choices that the wizard makes. For example, you can tailor several options in the installation and uninstallation wizards to cause the operation to be completed in a particular way.
- Specify a non-default installation location
- Choose a custom installation (typical is the default) (runtime components only)
- Choose which components to install (runtime components only)
- Specify if the program is to check for prerequisite software (runtime components only)

Commands in this topic show the use of response files when installing service, however, this information is equally applicable to uninstalling the product. To use response files when uninstalling, substitute *uninstaller* for *installer* where it occurs in the example commands. In the example commands, *uninstaller* and *installer* denote where the specific names of the uninstall or installation wizards should be entered. For the names of the uninstall and installation wizards, and full details of these tasks, see the "Installation Guide" on page 3, "Applying service to runtime components" on page 11, and "Uninstalling" on page 19.

Sample response files

Sample response files are supplied with WebSphere Message Broker. Use these response files when uninstalling the product. The sample response file includes detailed information about the options that you can change, and the values you must enter to change them. You can tailor this file to your requirements. The sample response files are located in the sample_scripts directory of root CD directory.

Generating response files

The command for generating a template installation response file, without installation being performed is:

```
installer -options-template responsefile
```

where *responsefile* is the full path and name of your chosen response file. On Windows, surround the path and name with double quotes if it contains spaces.

The generated template response file contains full instructions on how to edit it to specify your required options. Installation is not performed.

You can edit the file to change the options to define the operation that you want to be performed.

If you are uninstalling, create the response file in another directory to ensure that it is not deleted as part of the uninstallation.

A problem with InstallShield causes generated response files to contain incorrect options. If you select one or more specific components to be uninstalled (rather than the full product), the option is ignored and the full product is uninstalled. To overcome this problem, complete the following steps.

1. Open the generated response file in a text editor.
2. Find each line that specifies if an individual component is to be uninstalled:

   `-P` *feature*`.active=true`

   where *feature* is the name of the component that you want to be uninstalled.
3. Change each line to the following content:

   `-P` *feature*`.activeForUninstall=true`
4. Find each line that specifies if an individual component is not to be uninstalled:

   `-P` *feature*`.active=false`

   where *feature* is the name of the component that you do **not** want to uninstall.
5. Change each line to the following content:

   `-P` *feature*`.activeForUninstall=false`
6. Check that one of these statements is present for every component. The generated response file might also include activeForUninstall statements that refer to components that are not installed on this system. If such statements exist, ensure that the activeForUninstall option for each of these components is set to `true`. If the activeForUninstall option is set to `false` for these components, the uninstallation program fails.

Recording a response file

The command for recording a response file during installation is:

installer `-options-record` *responsefile*

where *responsefile* is the full path and name of your chosen response file. On Windows, surround the path and name with double quotes if it contains spaces. Create this file in a directory different to the one in which the product is installed.

The installation wizard starts in graphical mode, and requires your input as it progresses. Your responses are recorded during installation. When installation is complete, the response file contains all the choices you have made during installation.

If you want to record a response file during a console mode installation, use the following command:

installer `-options-record` *responsefile* `-console`

Calling response files in commands

To run a program specifying the silent options and the response file that you want to use, use the following command:

installer `-options` *responsefile* `-silent`

where *responsefile* is the full path and name of your chosen response file. On Windows, surround the path and name with double quotes if it contains spaces.

The program runs without interaction according to the options selected when you recorded the response file.

National language support

The user interface and message catalogs are provided in the following languages on distributed systems:
* Brazilian Portuguese
* French
* German
* Italian
* Japanese
* Korean
* Simplified Chinese
* Spanish
* Traditional Chinese
* US English

The message catalogs are provided in the following languages on z/OS:
* Japanese
* Simplified Chinese
* US English

The messages written to the z/OS operator console (which are a subset of the messages written to the syslog) are in US English only, and are written in mixed case or in uppercase depending on your chosen system configuration.

WebSphere Message Broker provides a selection of message catalogs that are used by the product components to report any problems that occur. Products that are used in conjunction with WebSphere Message Broker might cause WebSphere Message Broker to report errors using its message catalogs, or might report problems using their own techniques.

You must refer to the documentation supplied with any other products that you use to determine the process they employ. In particular, you must check the documentation supplied by the databases that you use and documentation provided with any user-defined node or parser that you integrate into the WebSphere Message Broker environment.

You can install WebSphere Message Broker and WebSphere MQ in any supported language; all language versions for each product are compatible with all language versions for the other product. All languages for the WebSphere MQ messaging products are included on the WebSphere MQ server CD supplied with WebSphere Message Broker.

All messages generated for internal inter-component message exchange (for example, deployed configuration messages and log files for **mqsireadlog**) are generated in code page 1208 (`utf-8`).

Locales

WebSphere Message Broker supports messages for at least the following locales:

Windows	AIX	Solaris	HP-UX[1]	Linux[2]	z/OS
English (United States)	en_US	en_US	en_US.iso88591, en_US.roman8	en_US	En_US.IBM-1047, En_US.IBM-037
German (Standard)	de_DE, De_DE	de	de_DE.ISO88591, de_DE.roman8	de_DE	not supported
Spanish (Modern Sort)	es_ES, Es_ES	es	es_ES.ISO88591, es_ES.roman8	es_ES	not supported
French (Standard)	fr_FR, Fr_FR	fr	fr_FR.ISO88591, fr_FR.roman8	fr_FR	not supported
Italian (Standard)	it_IT, It_IT	it	it_IT.ISO88591, it_IT.roman8	it_IT	not supported
Portuguese (Brazilian)	pt_BR, Pt_BR	pt_BR	pt_BR.ISO88591, pt_BR.utf8	pt_BR	not supported
Japanese	Ja_JP, ja_JP	ja_JP.PCK, ja	ja_JP.SJIS, ja_JP.eucJP	ja_JP	Ja_JP.IBM-939, Ja_JP.IBM-930
Simplified Chinese (China)	Zh_CN, zh_CN	zh, zh.GBK	zh_CN.hp15CN	zh_CN	Zh_CN.IBM-1388, Zh_CN.IBM-935
Traditional Chinese (Taiwan)	Zh_TW, zh_TW	zh_TW, zh_TW.BIG5	zh_TW.big5, zh_TW.eucTW	zh_TW	not supported
Korean	ko_KR	ko	ko_KR.eucKR	ko_KR	not supported

Notes:

1. Due to limited syslog support on HP-UX, messages are written to the log in US English only.
2. These values are the same for Linux (POWER platform), Linux (x86 platform), and Linux (zSeries platform).

System changes caused by installation and configuration

When you install WebSphere Message Broker, the installation program causes certain changes to be made to your system. Resources are also affected by how you configure your system (for example, the brokers that you create).
- Directory structures
- Registry contents
- Environment variables
- Default WebSphere MQ resources
- Database contents

Directory structures after installation

When you install WebSphere Message Broker, the installation program creates a structure of subdirectories under the directory that you specified as the installation directory. The exact structure depends on the platform on which you have installed, and the components that you have installed.

AIX

On AIX, the default home directory *install_dir* is /opt/IBM/mqsi/6.0. The directories created in *install_dir* are shown in the table below.

Directories under *install_dir*	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
bin	Executable binaries
catalina	Web Services support files
classes	Java class files
DD64	ODBC driver and related files (64-bit support)
docs	Java API files
exmltConfig	XML transformation files
include	Header and other files for samples
itlm	Tivoli License Manager files
jplugin	Java plug-in files
jre	IBM Runtime Environment for the Java Platform
lib	Shared library files
license	License files
lil	Loadable library files (32-bit)
lil64	Loadable library files (64-bit)
merant	ODBC driver and related files
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files
xml4c	XML processing files

On AIX, the default work directory is /var/mqsi/. The directories created are shown in the table below.

Directories under /var/mqsi	Contents
common/errors	Error files
common/locks	Resource locks
common/log	Trace files
common/profiles	User profiles
components	Component details
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	User XML file resources
XSL	User stylesheet resources

HP-UX

On HP-UX, the default home directory *install_dir* is /opt/IBM/mqsi/6.0. The directories created in *install_dir* are shown in the table below.

Directories under *install_dir*	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
bin	Executable binaries
catalina	Web Services support files
classes	Java class files
DD64	ODBC driver and related files (64-bit support)
docs	Java API files
exmltConfig	XML transformation files
include	Header and other files for samples
itlm	Tivoli License Manager files
jplugin	Java plug-in files
jre	IBM Runtime Environment for the Java Platform
lib	Shared library files
license	License files
lil	Loadable library files (32-bit)
lil64	Loadable library files (64-bit)
merant	ODBC driver and related files
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files
xml4c	XML processing files

On HP-UX, the default work directory is /var/mqsi/. The directories created are shown in the table below.

Directories under /var/mqsi	Contents
common/errors	Error files
common/locks	Resource locks
common/log	Trace files
common/profiles	User profiles
components	Component details
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	User XML file resources
XSL	User stylesheet resources

Linux

On Linux, the default home directory *install_dir* is /opt/ibm/mqsi/6.0. The directories created in *install_dir* are shown in the table below.

Directories under *install_dir*	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
bin	Executable binaries
catalina	Web Services support files
classes	Java class files
docs	Java API files
exmltConfig	XML transformation files
include	Header and other files for samples
itlm	Tivoli License Manager files
jplugin	Java plug-in files
jre	IBM Runtime Environment for the Java Platform
lib	Shared library files
license	License files
lil	Loadable library files (32-bit)
merant	ODBC driver and related files (Linux (POWER platform) and Linux (x86 platform) only)
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files
xml4c	XML processing files

On Linux, the default work directory is /var/mqsi/. The directories created are shown in the table below.

Directories under /var/mqsi	Contents
common/errors	Error files
common/locks	Resource locks
common/log	Trace files
common/profiles	User profiles
components	Component details
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	User XML file resources
XSL	User stylesheet resources

Message Brokers Toolkit

On Linux (x86 platform) only, the default home directory *install_dir* for the Message Brokers Toolkit is /opt/ibm/MessageBrokersToolkit/6.0. The default workspace directory is /IBM/wmbt6.0/workspace in your home directory.

The directories created are shown in the table below.

Directories under *install_dir*	Contents
bin	Rational directories and files
csdev	Rational directories and files
csdevrpt_shared	Rational directories and files
eclipse	Toolkit features and plug-ins
evtoolkit	Event Broker specific plug-ins
ibtoolkit	Message Broker specific plug-ins
logs	Installation logs
rad	Rational directories and files
radrsm_shared	Rational directories and files
Resource Adapters	Rational directories and files
runtimes	Rational directories and files
rwd	Rational directories and files
rwdrpt_shared	Rational directories and files
sdpisv	Rational directories and files
setup	Installation program and file
updater	Rational product updater (RPU) files
updater/eclipse	RPU executable file for command line execution
wmbt_prod	Readme files, product information
wmbt_prod/_uninst	Uninstall files

Solaris

On Solaris, the default home directory *install_dir* is /opt/IBM/mqsi/6.0. The directories created in *install_dir* are shown in the table below.

Directories under *install_dir*	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
bin	Executable binaries
catalina	Web Services support files
classes	Java class files
DD64	ODBC driver and related files (64-bit support)
docs	Java API files
exmltConfig	XML transformation files
include	Header and other files for samples
itlm	Tivoli License Manager files
jplugin	Java plug-in files
jre	IBM Runtime Environment for the Java Platform
lib	Shared library files
license	License files
lil	Loadable library files (32-bit)

Directories under *install_dir*	Contents
lil64	Loadable library files (64-bit)
merant	ODBC driver and related files
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files
xml4c	XML processing files

On Solaris, the default work directory is /var/mqsi/. The directories created are shown in the table below.

Directories under /var/mqsi	Contents
common/errors	Error files
common/locks	Resource locks
common/log	Trace files
common/profiles	User profiles
components	Component details
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	User XML file resources
XSL	User stylesheet resources

Windows

On Windows, the default home directory *install_dir* is C:\<Program Files folder>\IBM\MQSI\6.0. The directories created in *install_dir* are shown in the table below.

Directories under *install_dir*	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
bin	Executable binaries
catalina	Web Services support files
classes	Java class files
DataDirect	ODBC driver and related files
docs	Java API files
exmltConfig	XML transformation files
include	Header and other files for samples
itlm	Tivoli License Manager files
jplugin	Java plug-in files
jre	IBM Runtime Environment for the Java Platform
lib	Shared library files

Directories under *install_dir*	Contents
license	License files
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files

On Windows, the default work directory is C:\Documents and Settings\All Users\Application Data\IBM\MQSI. Your system might have a different value for Documents and Settings\All Users\ but the remainder of this path is fixed. The directories created are shown in the table below.

Directories under *work_dir*	Contents
Ccommon/dbinstmgr	Derby database files
Common/errors	Error files
Common/locks	Resource locks
Common/log	Trace files
Common/profiles	User profiles
components	Component details
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	User XML file resources
XSL	User stylesheet resources

Message Brokers Toolkit

On Windows, the default home directory *install_dir* for the Message Brokers Toolkit is C:\Program Files\IBM\MessageBrokersToolkit\6.0. The default workspace directory is \IBM\wmbt6.0\workspace in your home directory.

The directories created are shown in the table below.

Directories under *install_dir*	Contents
bin	Rational directories and files
csdev	Rational directories and files
csdevrpt_shared	Rational directories and files
eclipse	Toolkit features and plug-ins
evtoolkit	Event Broker specific plug-ins
ibtoolkit	Message Broker specific plug-ins
logs	Installation logs
rad	Rational directories and files
radrsm_shared	Rational directories and files
Resource Adapters	Rational directories and files
runtimes	Rational directories and files

Directories under *install_dir*	Contents
rwd	Rational directories and files
rwdrpt_shared	Rational directories and files
sdpisv	Rational directories and files
setup	Installation program and file
updater	Rational product updater (RPU) files
updater\eclipse	RPU executable file for command line execution
wmbt_prod	Readme files, product information
wmbt_prod_uninst	Uninstall files

z/OS

The default installation directory is /usr/lpp/mqsi/*VxRxMx* where *VxRxMx* represents Version X, Release X, Modification X, for example, V6R0M0.

For more details of locations, libraries, and file system paths, see the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter Extension for z/OS*.

Registry changes caused by installation and configuration

When you install WebSphere Message Broker, the installation program creates a number of entries in a registry. Further changes are made by some configuration updates (for example, when you create a broker).

On Windows, the system registry is used; on Linux and UNIX systems, equivalent values are stored within the installation directory structure. Do not alter or remove these entries unless instructed to do so by IBM Service.

The table below describes the main Windows registry entries. These are created under HKEY_LOCAL_MACHINE\SOFTWARE\IBM\WebSphereMQIntegrator.

Location	Description
component_name	Top level entry for each component that you have installed and configured.
component_name\CurrentVersion\DataSourceName	Name of database for this component.
component_name\CurrentVersion\FADLevel	Formats and data version; contents depend on service installed. FADLevel does not necessarily change with each product update.
component_name\CurrentVersion\QueueManagerName	Name of queue manager for this component.

Entries are also created under HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBCINST.INI for the installed database drivers for Oracle and Sybase, which contain driver locations and parameters.

An entry is added under HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Eventlog\Application\WebSphere Broker v*** for Event Log information, where v*** is the current three-digit product version number.

Message Brokers Toolkit

On Windows, the system registry is used; on Linux systems, equivalent values are stored within /etc/IBM/WebSphereMessageBrokersToolkit/. Do not alter or remove these entries unless instructed to do so by IBM Service. The table below shows the main Windows registry entries, created under HKEY_LOCAL_MACHINE\SOFTWARE\IBM\ WebSphere Message Brokers Toolkit.

Location	Description
product\com.ibm.wmbt	Installation location and version details
components\com.ibm.wmbt.specific	Location of files specific to Message Broker

Environment variables after installation

On distributed systems, you must ensure that your environment is set up correctly for working with WebSphere Message Broker. If you have installed on z/OS, see Customizing the z/OS environment.

Sample profile files are provided with WebSphere Message Broker, and you must check their content to ensure the variables are set correctly for your environment before you use the product or configure any resources.
- On Linux and UNIX, the profile is *install_dir*/bin/mqsiprofile.
- On Windows, a command console is set up when you install components. Access this through the **Start** menu. When you select this option, a command line window is opened and the relevant environment is set up for you.

  If you prefer, you can access the profile *install_dir*\bin\mqsiprofile.cmd; you must run this in a command window before you work with WebSphere Message Broker.

If you have more than one installation on a single system, you must ensure that you run the correct profile, or access the correct command console, for the installation that you want to work with. If an installation is at Version 2.1 or Version 5, these profiles are incompatible with Version 6 profiles. You must log off and log on again before you run a second profile.

Check the readme file (readme.html) to ensure that you have the latest version of the profile.

Default WebSphere MQ resources created during configuration

When you install WebSphere Message Broker and create components, WebSphere MQ resources are created for use by those components.

The resources created have names that begin with the reserved characters SYSTEM. The table below lists the resources and indicates the component queue manager with which they are associated.

Resource name	Type	Queue manager	Description
SYSTEM.BROKER.ADMIN.QUEUE	Queue	Broker	Target for messages sent by the Configuration Manager and by commands to modify the broker's configuration and operation.
SYSTEM.BROKER.ADMIN.REPLY	Queue	Configuration Manager	Target for response messages sent by the broker to the Configuration Manager.
SYSTEM.BROKER.AGGR.CONTROL	Queue	Broker	Used internally to store a control message for each aggregate group.
SYSTEM.BROKER.AGGR.REPLY	Queue	Broker	Used internally to store each known response message received by an AggregateReply node.
SYSTEM.BROKER.AGGR.REQUEST	Queue	Broker	Used internally to store each request message that forms part of an aggregate group.
SYSTEM.BROKER.AGGR.TIMEOUT	Queue	Broker	Used internally in the timeout and unknown timeout processing within an AggregateReply node.
SYSTEM.BROKER.AGGR.UNKNOWN	Queue	Broker	Stores each unknown response received by an AggregateReply node.
SYSTEM.BROKER.CLIENTS.DATA	Queue	Broker	Used internally for publish/subscribe data.
SYSTEM.BROKER.CONFIG.QUEUE	Queue	Configuration Manager	Target for messages sent to the Configuration Manager from the toolkit.
SYSTEM.BROKER.CONFIG.REPLY	Queue	Configuration Manager	Target for messages sent to the toolkit by the Configuration Manager.
SYSTEM.BROKER.CONTROL.QUEUE	Queue	Broker	Target for publish/subscribe control requests sent to the broker by applications.
SYSTEM.BROKER.EXECUTIONGROUP.QUEUE	Queue	Broker	Target for messages sent by the Configuration Manager to the broker.
SYSTEM.BROKER.EXECUTIONGROUP.REPLY	Queue	Broker	Target for response messages from the User Name Server to the broker.
SYSTEM.BROKER.INTER.BROKER.COMMUNICATIONS	Broker	Target for publish/ subscribe control messages	
SYSTEM.BROKER.INTERBROKER.MODEL.QUEUE	Queue	Broker	Model for dynamic publication queues.
SYSTEM.BROKER.INTERBROKER.QUEUE	Queue	Broker	Target for publish/subscribe messages sent by neighbor brokers.

Resource name	Type	Queue manager	Description
SYSTEM.BROKER.IPC.QUEUE	Broker	Target for internal control messages	
SYSTEM.BROKER.MODEL.QUEUE	Queue	All	Model for dynamic response queues.
SYSTEM.BROKER.SECURITY.QUEUE	Queue	User Name Server	Target for messages to the User Name Server from the Configuration Manager, brokers, and the toolkit.
SYSTEM.BROKER.SECURITY.REPLY	Queue	Configuration Manager and brokers	Target for response messages from the User Name Server to its requestor.
SYSTEM.BROKER.SUBSCRIPTIONS.DATA	Queue	Broker	Used internally for publish/subscribe data
SYSTEM.BROKER.TIMEOUT.QUEUE	Queue	Broker	Used internally to support the TimeoutControl and Notification nodes.
SYSTEM.BROKER.WS.ACK	Queue	Broker	Used internally for Web Services client support.
SYSTEM.BROKER.WS.INPUT	Queue	Broker	Used internally for Web Services client support.
SYSTEM.BROKER.WS.REPLY	Queue	Broker	Used internally for Web Services client support.
SYSTEM.BKR.CONFIG	SVRCONN	Configuration Manager	A connection channel for toolkit clients.

These resources are defined in addition to the default WebSphere MQ objects created when that product is installed.

Database contents

WebSphere Message Broker stores configuration and resource information in databases to retain the information and ensure its security and integrity. Each broker creates and maintains information in tables specifically created for that purpose.

When you create a broker, the mqsicreatebroker command creates a number of database tables within the database that you specify in the command. You can specify a different database for every broker, or share a database between brokers. The database tables schema inherits its name from the Data Source User ID specified in the create command.

The table below shows the database tables that are created by the mqsicreatebroker command in the broker database. The tables are created when you create the first broker. When you create further brokers specifying the same database, new rows are created for each broker. Every row created in the table includes the broker name, therefore each row is unique to a single broker.

Table name	Description
BACLENTRIES	ACL entries
BCLIENTUSER	Maps client identifiers to durable subscriptions
BGROUPNAME	Publish/subscribe principals: groups
BMQEPUBDEST	Contains list of WebSphere MQ Everyplace queues on which messages can be placed
BMQEPUBMSGIN	Holds persistent WebSphere MQ Everyplace publish/subscribe messages waiting to be processed by the broker
BMQEPUBMSGOUT	Holds persistent WebSphere MQ Everyplace publish/subscribe to be placed on an WebSphere MQ Everyplace queue
BMQESTDMSGIN	Holds persistent WebSphere MQ Everyplace non-publish/subscribe messages waiting to be processed by the broker
BMQESTDMSGOUT	Holds persistent messages to be sent to WebSphere MQ Everyplace destinations
BMQPSTOPOLOGY	Publish/subscribe neighbor information
BMULTICASTTOPICS	Multicast topics records
BNBRCONNECTIONS	Inter-broker neighbor connection information
BPUBLISHERS	Registered publishers
BRETAINEDPUBS	Retained publications
BRMINFO	Registered resource managers
BRMPHYSICALRES	Physical resources
BRMRTDDEPINFO	Runtime dictionary dependency values
BRMRTDINFO	Registered runtime dictionaries
BRMWFDINFO	Registered wire format descriptors
BROKERAA	Broker process details to support recovery
BROKERAAEG	Execution group details to support recovery
BROKERRESOURCES	Broker resources
BSCADADEST	Contains list of SCADA clients to which messages can be sent
BSCADAMSGIN	Holds persistent SCADA messages waiting to be processed by the broker
BSCADAMSGOUT	Holds persistent messages to be sent to SCADA destinations
BSUBSCRIPTIONS	Durable subscription information
BTOPOLOGY	Inter-broker neighbor information
BUSERCONTEXT	Maps client identifiers to context information
BUSERMEMBERSHIP	Publish/subscribe principals: membership
BUSERNAME	Publish/subscribe principals: users

Part 4. Appendixes

Appendix. Notices

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