

WebSphere Message Broker



Managing your Installation

Version 6 Release 1

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Note

Before you use this information and the product that it supports, read the information in the Notices appendix.

This edition applies to version 6, release 1, modification 0, fix pack 2 of IBM WebSphere Message Broker and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this topic collection

This PDF has been created from the WebSphere Message Broker Version 6.1 (June 2008) information center topics. Always refer to the WebSphere Message Broker online information center to access the most current information. The information center is periodically updated on the document update site and this PDF and others that you can download from that Web site might not contain the most current information.

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Installing

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

The “Installation Guide” defines hardware and software requirements for WebSphere Message Broker and its corequisite and prerequisite products. It describes the tasks that you must complete to prepare for installation, to install WebSphere Message Broker, and to verify the installation. When you have completed installation, use this information center to create and configure your components and the broker domain.

The software and hardware requirements are also provided within this information center in the “Installation” on page 41 reference section. This section also includes information about the support for 32-bit and 64-bit operating modes, and the changes and additions in Version 6.1.

See “Finding the latest information” on page 4 for details about how to check that you have access to the most recent information available.

If product 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 12
- “Applying service to the Message Broker Toolkit” on page 21

To install complementary products including DB2, see “Installing complementary products” on page 4.

Installation Guide

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

The guide provides general preparation, planning, and security information for all platforms. It also provides installation instructions for distributed systems, and describes common problems and solutions and the names and locations of the installation log files. The guide also covers verification programs on Linux® (x86 platform) and Windows®.

If you are installing on z/OS®, the equivalent installation instructions are provided in the Program Directory that is supplied in hardcopy with your product media.

The Installation Guide does not cover configuration or customization tasks on any operating system; it describes only how you install the product components onto your computers. When you have completed installation on distributed systems, you must initialize the local environment before you can create or configure resources. This task is described in “Setting up a command environment” on page 8. Environment initialization is not required on z/OS. Refer to Configuring WebSphere Message Broker for information about how to design and configure your broker domain on all systems.

The Installation Guide is available in English and in translation as PDF files:

- On the Quick Start CD
- In 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

Access the latest information for WebSphere Message Broker.

The following information is provided:

Requirements Web site

For the latest details of hardware and software requirements on all supported platforms, visit the WebSphere Message Broker Requirements Web site.

readme.html

The product readme file is frequently updated and includes information about last minute changes and known problems and workarounds. The file is included on the product media and is installed when you install product components. The latest version is always on the product readmes Web page; always check to see that you have the latest copy.

Installation Guide

The Installation Guide is provided in hardcopy with your product. It is also available on the IBM® Publications Center Web site. See “Installation Guide” on page 3 for instructions about how to access this site to view the guide online or check whether a later edition of the guide is available.

Information center

This information center is installed with the Message Broker Toolkit, and updates are typically included when you apply service to that component.

The information center is periodically updated independently of the code, and you can install the latest level from within the toolkit. See “Applying service to the Message Broker Toolkit” on page 21 for instructions about installing code and documentation updates.

Support information

The WebSphere Message Broker support Web page is regularly updated with the latest product support information. For example, if you are migrating from an earlier version, look under the heading “Solve a problem” for the document “Problems and solutions when migrating”.

Installing complementary products

WebSphere Message Broker works with several other products to provide complementary services.

If you want to use these optional services in your WebSphere Message Broker environment, refer to the following installation information:

- IBM DB2®
- IBM Tivoli® License Manager
- Eclipse plug-ins from another vendor

Installing IBM DB2

IBM DB2 Enterprise Server is one of the supported databases for use with WebSphere Message Broker.

Other editions of IBM DB2 that are stated to be suitable for production deployment are also supported. For a full list of supported databases and versions, from IBM and other vendors, see “Supported databases” on page 48.

On Windows only, the Derby database is embedded in the broker component. It is suitable for verification and evaluation only, and is enabled when you install the ODBC Drivers from the Launchpad as part of the WebSphere Message Broker product installation. For production systems, you must install one of the supported databases, for example, DB2 Enterprise Server. For information about how to install ODBC Drivers as part of the WebSphere Message Broker installation, see the “Installation Guide” on page 3.

For distributed systems, DB2 Enterprise Server Version 9.1 is supplied on DVD (for Linux (x86 platform) and Windows only) and on CD with WebSphere Message Broker. DB2 can be installed either before or after you have installed WebSphere Message Broker. To install DB2, see the install.html file in the /doc directory on the CD or DVD. The supplied version is subject to restricted terms and conditions for use with WebSphere Message Broker. Help is provided by the installation wizard following license acceptance.

For z/OS systems, either DB2 Version 8.1 or DB2 Version 9.1 is required, but no other databases are supported. You must install DB2 before you install WebSphere Message Broker on z/OS systems.

Installing Tivoli License Manager

IBM Tivoli License Manager (ITLM) enables you to monitor the use of IBM (and other) software products. WebSphere Message Broker includes support for ITLM Version 2.1.

Use ITLM to perform the following software auditing functions:

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

Ensure that you choose the correct ITLM license for the WebSphere Message Broker edition that you have purchased. See Operation modes.

If you are using one or more of the WebSphere Adapters with WebSphere Message Broker, you must activate ITLM to include those adapters, for example in monitoring activities. If you require this support, follow the instructions in Activating IBM Tivoli License Manager for WebSphere Adapters.

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.

For information about installing this product, see the IBM Tivoli License Manager information center.

Installing plug-ins using Eclipse Update Manager

Use Eclipse Update Manager to install and update plug-ins provided by partners and other software vendors.

Do not use the Eclipse Update Manager to update or install plug-ins that are managed by IBM Installation Manager. Always use Installation Manager to work with products that are installed with Installation Manager. For other products, use Eclipse Update Manager, but follow the restrictions and guidance provided:

- Do not delete the platform.xml file to prompt Eclipse to regenerate the file. The regenerated contents will be incomplete and therefore invalid.
- Always save a backup copy of your platform.xml file before you make any changes to your configuration, for example by using Eclipse Update Manager to install or update plug-ins that are provided by another software vendor.
- When you use Eclipse Update Manager (graphical interface or command line), always specify the package group directory as the destination; never specify the shared resource directory. The shared resource directory is managed by Installation Manager and is reserved for its use.
- Do not use Eclipse Update Manager to search for updates for features that you have installed using Installation Manager.
- Do not select **Clean up all configuration errors** in the Eclipse Update Manager interface; this option might lose information that is maintained by Installation Manager.

Publishing in a Citrix XenApp environment

This topic gives information about application location and users that you supply to Citrix to publish WebSphere Message Broker command console or Message Broker Toolkit.

Read the Citrix documentation for general information about publishing applications. Publishing does not involve any tasks within WebSphere Message Broker; you complete the following tasks in the Citrix Presentation Server console.

“Publishing a WebSphere Message Broker command console”

“Publishing a Message Broker Toolkit” on page 7

“Publishing applications using the Configuration Manager Proxy” on page 7

Publishing a WebSphere Message Broker command console

The following steps show how to set the Application Location and User information to publish a WebSphere Message Broker command console.

1. Set the **Application Type** to Application.
2. Set the **Command Line** to the following value:

```
C:\WINDOWS\system32\cmd.exe /k title IBM WebSphere Message Brokers 6.1
  &&"install_dir\MQSI\6.1\bin\mqsiprofile.cmd"
```

On Windows, you can install WebSphere Message Broker runtime in multiple locations. Each one can have a different level of service (fix pack) applied and can support a certain set of brokers. Each installation has its own command console executable. To publish command consoles corresponding to different runtimes, modify the path to mqsiprofile.cmd appropriately.

3. Set the **Working Directory** to `install_dir\MQSI\6.1`.
4. Define the users who are authorized to use the WebSphere Message Broker command console. This must be a subset of users or groups who are authorized to use the command console locally, on the server.

Attention: Users who have access to the WebSphere Message Broker command console through Citrix can use the console to run other commands that are unrelated to the broker.

Publishing a Message Broker Toolkit

To publish a Message Broker Toolkit, set the Application Location and User information as follows:

1. Set the **Application Type** to Application.
2. Set the **Command Line** to the package group directory for Message Broker Toolkit that your system uses, for example:

E:\WMBT610\eclipse.exe

3. Set the **Working Directory** to the appropriate workspace, for example:

E:\workspace\wbmt61\workspace1

When the workbench is run from Citrix, a window inviting the user to select a workspace is displayed. This is the same window that you see when you run the workbench locally. At this stage you can specify a different workspace, for which you have the necessary Windows read and write file permissions on the server.

4. Define the users who are authorized to use the WebSphere Message Broker command console. This must be a subset of users or groups who are authorized to use the command console locally, on the server.

Publishing applications using the Configuration Manager Proxy

You can publish a Java application which uses the CMP programming interface. The steps are similar to publishing a Message Broker Toolkit or command console.

For example, to publish the ConfigManagerProxyExerciser sample, publish this file:

install_dir\sample\ConfigManagerProxy\StartConfigManagerProxyExerciser.bat

Users and Citrix

This topic discusses categories of users, and concurrent multi-users.

Categories of users

The following categories of users exist:

Application developers

These users do not need to run mqsi commands, but must be placed in an access control list (ACL) before they can use a broker. Put these users only in the user list for publishing Message Brokers Toolkit.

Administrators

If you use Citrix to publish the Message Broker Toolkit and the WebSphere Message Broker command console, put all administrators in the users lists for both applications. For information about the permissions that administrators need, see Security requirements for administrative tasks.

You can create Windows groups that correspond to the application developer and administrator categories, put the groups in the appropriate user lists, and then allocate users to the relevant Windows group. Alternatively, you can give appropriate permissions directly to the user.

Make all users members of the Remote Desktop Users group, so that they can use Terminal Server.

Attention: Users who have access to the WebSphere Message Broker command console through Citrix can use the console to run other commands that are unrelated to the broker.

Deployment and changes to running brokers are controlled by broker ACLs defined by mqsi commands, rather than operating system groups. These ACLs are platform-independent; for more information, see Security for runtime resources: Access control lists.

For information about the rights of groups such as mqm, mqbrkr and Administrators, see Security requirements for Windows platforms.

Concurrent multi-users

Allowing multiple concurrent users to access WebSphere Message Broker by Citrix on Windows Server requires the same planning as allowing multiple concurrent users to access the Message Broker on a UNIX server. For example:

- All application developers should have their own execution group, so that they can deploy message flows and start and stop execution groups without conflicting with each other during development and testing. However, an execution group might be administered by more than one administrator. In these cases, administrators should coordinate their activities so that they do not conflict with each other. For example, when one administrator is starting an execution group, no one else should be trying to stop it.
- All users should have their own workspace. The Windows system administrator should give each user the appropriate read and write permissions for the directory that corresponds to their workspace.
- The Toolkit user can create the default configuration from the samples gallery; the product samples are deployed to the default configuration. Because there can be only one default configuration, only one user should use it at one time.

Setting up a command environment

After you have installed the product on any of the distributed systems, you must initialize the environment before you can use any runtime component or command.

Also complete this task if you have migrated to WebSphere Message Broker Version 6.1 from a previous version. A profile is provided to help you set up the environment.

If appropriate, you can extend the initialization performed by this profile; for example, for broker or user databases, or for other products that you want to use within the broker.

Ensure that you use this environment each time you run one of the administrative commands, or start a component; for example, a broker.

For information on setting up your command and runtime environment on a Windows system, see “Command environment: Windows platforms” on page 9

For information on setting up your command and runtime environment on Linux and UNIX[®] systems, see “Command environment: Linux and UNIX systems” on page 10

Command environment: Windows platforms

Set up the Windows environment to run WebSphere Message Broker commands.

On Windows platforms, the components run as services, therefore they do not inherit the environment that is set for the command prompt from which you start them. The components run the `mqsiprofile` command when they start, which completes the environment initialization.

The `mqsiprofile` command is located in the directory `install_dir\bin`.

You must not change the location of the `mqsiprofile` command, or make user modifications to the command, because it might be replaced if you install service, or an update, to the product.

If you need to run your own settings, add one or more command files called `your_file_name.cmd` to the directory `work_path\common\profiles`, where `work_path` identifies the broker's working directory, which has a default value of `C:\Documents and Settings\All Users\Application Data\IBM\MQSI\`. If you are unsure of the broker's work path, enter the following command in a Command Console:

```
echo %MQSI_WORKPATH%
```

When `mqsiprofile` runs, it automatically calls any additional user-written scripts in this directory.

A typical reason for adding scripts is "Running database setup scripts."

When you have configured any additional setup, you can use one of the following methods to initialize the runtime environment for components and commands:

1. If you have only one installation of the runtime product, open a Command Console by clicking **Start** → **IBM** → **WebSphere Message Brokers 6.1** → **Command Console**. The `mqsiprofile` command initializes the environment and invokes any additional scripts in the `common\profiles` directory.
2. If you have one or more installations of the runtime product, open a command prompt window. Locate and run the `mqsiprofile.cmd` script in the directory in which you installed the appropriate product. The `mqsiprofile` command initializes the environment and invokes any additional scripts in the `common\profiles` directory.

Check whether the following conditions apply to your environment:

- If you have a previous version of the product on this system, ensure that you run the correct profile before using Version 6.1. The `mqsiprofile` command places the Version 6.1 commands and libraries at the front of your search path, and invokes any user profiles that you have supplied which can override any combination of `PATH`, `CLASSPATH`, or library `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 that you require.

Running database setup scripts

A broker requires access to a database to maintain operational and state data, and might also require access to user databases from deployed message flows.

When you install a database product on Windows, the relevant settings are typically made to the system environment. However, some database managers provide a profile to perform this setup, or provide details of actions that you must take in their documentation. Always check the database product documentation for environment setup details; the information provided here is for general guidance only.

If a profile is provided for the database that you are using, complete the following steps:

1. If you can update the profile to provide permanent values for the details that are required (for example, the database server name or the installation directory):
 - a. Complete the changes to the database profile.
 - b. Copy the profile file to the directory *work_path*\common\profiles.
2. If you cannot update the profile permanently, but need to make changes each time, you must run it independently of the *mqsiprofile* command before you start the component.

When your environment has been set up, see *Configuring databases for information about setting up your databases for use with the broker.*

Command environment: Linux and UNIX systems

Set up the Linux or UNIX environment to run WebSphere Message Broker commands.

When you start a runtime component on Linux and UNIX systems, it inherits the environment from where you issue the *mqsistart* command.

You must therefore initialize the environment before you start a component; the command *mqsiprofile* located in the directory *install_dir*/bin, performs this initialization. If you are starting a broker, you might also need to initialize the environment for any databases that are accessed by the broker.

You must not change the location of the *mqsiprofile* command, or make user modifications to the command, because it might be replaced if you install service, or an update, to the product.

If you want to run your own additional environment settings, add a script called *your_file_name.sh* to the broker's *work_path* directory which contains the:

```
/common/profiles
```

subdirectory.

When you run *mqsiprofile* again, the command automatically calls the additional user-written scripts in this location. The newly added script will not be picked up if you run an *mqsistart* command from an existing initialized command shell.

work_path identifies the broker's working directory; if you are unsure of the broker's work path, enter the following command:

```
echo $MQSI_WORKPATH
```

A typical reason for adding scripts is "Running database setup scripts" on page 11.

When you have configured any additional setup, you can initialize the runtime environment for components and commands:

1. Issue the `mqsiprofile` command:

```
. install_dir/bin/mqsiprofile
```

You must include the period and space preceding the location for this invocation to work correctly. Add this command to your login profile if you want it to be run at the start of every session.

This command accesses additional scripts that you have copied to the `common/profiles` directory, therefore the environment is initialized for runtime components and other resources such as databases.

2. Start the components that you want to run on this system using the `mqsistart` command.

Check if the following conditions apply to your environment:

- If you have a previous version of the product on the system, ensure that you run the correct profile before using Version 6.1. The `mqsiprofile` command places the Version 6.1 commands and libraries at the front of your search path, and invokes any user profiles that you have supplied which can override any combination of `PATH`, `CLASSPATH`, or library `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 that you require.
- 64-bit ODBC settings on Linux and UNIX systems are found in a text file defined by the `ODBCINI` environment variable. Set `ODBCINI` to point to a copy of the sample file `install_dir/ODBC64/V5.3/odbc64.ini`.
- 32-bit ODBC settings on Linux and UNIX systems are found in a text file defined by the `ODBCINI32` environment variable. Set `ODBCINI32` to point to a copy of the sample file `install_dir/ODBC32/V5.3/odbc32.ini`.

Running database setup scripts

A broker requires access to a database to maintain operational and state data, and might also require access to user databases from deployed message flows.

When you install a database product on Linux and UNIX systems, some database managers provide a profile to perform the environment set up that the database requires, or provide details of actions that you must take in their documentation. Always check the database product documentation for environment setup details; the information provided here is for general guidance only and might not be complete.

If you have installed 64-bit instances of DB2, Informix®, or 64-bit Oracle databases, you need to complete additional setup steps, including adding 32-bit libraries to `MQSI_LIBPATH32`. Detailed instructions are provided in *Setting your environment to access 32 bit databases*, *Creating a DB2 database on Linux and UNIX systems*, and *Connecting to a database from Linux and UNIX systems: 64-bit considerations*.

1. If you can update the profile to provide permanent values for the details that are required (for example, the database server name or the installation directory):
 - a. Complete the changes to the profile.
 - b. Copy the profile file to the directory `work_path\common\profiles`.
2. If you cannot update the profile permanently, but need to make changes each time, you must run it independently of the `mqsiprofile` command:

a. Run the appropriate profiles to initialize the environment for the database:

- For DB2, issue the following command for the relevant DB2 instance:

```
. db2_instance_directory/sqllib/db2profile
```

- For Oracle, export ORACLE_HOME and ORACLE_SID, then issue the following command:

```
. ${ORACLE_HOME}/bin/oraenv
```

- For Sybase, issue the following command, specifying your installation directory:

```
. Sybase_installation_directory/SYBASE.sh
```

- For Informix, check the documentation for the client on your broker system for details of the actions that you must take. For example, you might have to specify the following environment variables:

```
export INFORMIXDIR=/installation_directory_of_informix_client_software
export PATH=${INFORMIXDIR}/bin:${PATH}
export INFORMIXSERVER=server_name
export INFORMIXSQLHOSTS=${INFORMIXDIR}/etc/sqlhosts
export TERMCAP=${INFORMIXDIR}/etc/termcap
export TERM=vt100
export LIBPATH=${INFORMIXDIR}/lib:${INFORMIXDIR}/lib/esql:
    ${INFORMIXDIR}/lib/cli:$LIBPATH
```

where *server_name* is defined in the file *sqlhosts* (the required value is typically the machine name), and the location of the file *sqlhosts* is set up as part of the installation process.

To configure your system to run this setup at the start of every session, add these statements to the login profile of the user that is going to run the broker.

When your environment has been set up, see *Configuring databases for information on setting up your databases for use with the broker.*

Applying service to runtime components

Apply maintenance updates and program fixes to the product components.

Before you apply service to any component, check that you have backed up any associated resources, including the database used by any brokers on this computer. You might also choose to back up installation and work path directories. For details of this task, see *Backing up resources.*

You can download maintenance updates for WebSphere Message Broker from a Web site, in the form of a Program Temporary Fix (PTF), also known as a fix pack. Fix packs are cumulative, therefore, if multiple fix packs are available, you do not have to install a previous fix pack before you install the latest available. However, you must first install the GA code to ensure that you comply with your license agreement. You can find the latest information about available fix packs on the WebSphere Message Broker support Web page.

In some circumstances, fix packs are also provided as a media refresh; CDs and DVDs are recreated, and electronic images on IBM Passport Advantage® are replaced. Check with your IBM representative if you want a media refresh.

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

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

Because you can install more than one copy of WebSphere Message Broker runtime components on a single computer, you can choose how to apply service:

1. Apply service to an existing installation.

When you apply the fix pack, the new level of the product overwrites the existing level. You must stop all components before you apply service. All the components and resources that you have defined are retained. When the fix pack is successfully installed, restart the components.

2. Install the fix pack level of the product at a new location.

Fix packs are supplied as complete installations. You can install the product in a new location on your computer by using the fix pack packages. You can do this only within the terms of your license:

- You must have installed a GA level of the product on this computer.
- You must conform to the any license restrictions for the number of installations on a single computer; your license might permit you to install more than one copy of the product, but allow you to run only one installation at a time.

This option provides several advantages:

- You do not have to stop components to complete the installation.
- You can choose which component runs at which service level by running the appropriate mqsiprofile before you start the component.
- You can back out a component to the previous service level by using the mqsiprofile from the older code level and restarting the component.

If you already have more than one installation on the computer, read the additional information in “Applying service on computers with multiple installations” on page 14.

Service is not affected by the operation mode in which you broker is working.

If you want to remove service that you have applied, see “Uninstalling service for runtime components” on page 33.

Downloading a fix pack

Download the latest fix pack from the WebSphere Message Broker support Web page:

1. Click **Recommended fixes** in the Download section of the support page.
2. Click your WebSphere Message Broker product. Available fixes are displayed.
3. Click the fix that you want to download. Details about the fix, and instructions for download and installation, are displayed.
4. Click **Problems fixed** to find out what PMRs, APARs, and defects have been fixed in the fix pack.
5. Click **Release notes** to read more detail about the fix pack contents.
6. Click **HTTPS** in the **Download package** section to start the download process. Accept the download terms and conditions and sign in to the download site using your IBM ID. If you do not have an ID, you can register on this page.
7. Select your chosen operating system and follow the instructions to apply the maintenance updates for this fix.

- a. If you applying service to an existing installation:
 - Windows
 - Linux and UNIX
 - z/OS
- b. If you are applying service by installing an additional copy of the product, follow the instructions provided in the Installation Guide, specifying a new installation location.

Applying service on computers with multiple installations

If you have installed WebSphere Message Broker runtime components more than once on a single computer, you can choose to apply service to one or more of these installations in any order. You might therefore choose to install a service level on one instance initially, and complete some tests, before you apply the fixes to additional installations. You can also choose to run a subset of components at the new level of service, and leave others at the original level.

You must ensure that you comply with the terms of your license at all circumstances.

Distributed systems

You specify which installation you want runtime components to work with by running the `mqsiprofile` command that is associated with that installation. Any resources that you have defined are associated with the installation for which you have run `mqsiprofile`. When the `mqsiprofile` command has completed, restart the component.

If you decide to return to a previous level, stop the component, run the `mqsiprofile` command that is associated with the installation at the previous service level, and restart the component.

For further details about working with multiple installations, see “Command environment: Windows platforms” on page 9 and “Command environment: Linux and UNIX systems” on page 10.

z/OS systems

The component profiles that you create (for example, `BIPBPROF` for the broker) to define the characteristics of the component include the installation path. You can therefore change the installation against which the component runs by updating the relevant profile and submitting the `BIPGEN JCL` job to create a modified `ENVFILE`, and restarting the component.

For further information about components, see z/OS customization overview.

If you have a single installation on a computer, and you want to apply service, you must stop all runtime components, apply service, and restart the components. The service is applied to the product code and you can start the components immediately to run against the new service level.

Installing service on Windows

Apply maintenance updates and program fixes to product components.

Before you can apply maintenance to WebSphere Message Broker, download the update, which is typically a fix pack, as described in “Applying service to runtime components” on page 12.

Fix packs are supplied as self-extracting executable programs.

To install the updates that you have downloaded:

1. Ensure that the user ID you are logged on with is a member of the Windows Administrator group in the local security domain. If you can, use the same user ID as the one that you used for installing WebSphere Message Broker.
2. Ensure that all WebSphere Message Broker function is stopped:
 - a. Stop the Configuration Manager, the User Name Server, and all brokers on this computer by using the mqsisstop command, or by stopping the Windows services for these components from **Start** → **Settings** → **Control Panel** → **Administrative Tools** → **Services**.
 - b. Close all instances of the workbench.
 - c. Ensure that you do not have any WebSphere Message Broker files open.
3. Close all Windows programs before applying maintenance to WebSphere Message Broker to ensure that data is not lost.
4. Run the fix pack self-extracting program from either Windows Explorer or the command line.

The program is referred to as *FixPackLauncher* and its name is in the form *V.R.M-prod-platform-fixpack.exe*, where *V.R.M-prod* represents the version, release, and modification level of the product, *-platform* identifies the platform, and *-fixpack* identifies the fix pack. For example, the file name 6.1.0-WS-MB-WIN32-FP0001.exe identifies the file for Fix Pack 1 on Version 6.1.0 of WebSphere Message Broker on Windows.

- If you start this program from Windows Explorer, or you start it from the command line with no options, the *FixPackLauncher* runs with default options. It extracts the updates from the fix pack file, and starts the graphical interface of the WebSphere Message Broker installation program.
- If you run the program from the command line with options, you can choose the interface that you want to use, and how the WebSphere Message Broker installation program runs.

For further details of how you can install, and other options that you can specify, see “Installation and uninstallation interfaces” on page 58 and “How to install and uninstall runtime components” on page 59.

If you start this program from a directory other than the one in which the file is saved, you must include the fully qualified path of the file and its name.

Graphical interface

Use the following command format:

```
FixPackLauncher -a -gui
```

-gui specifies that you want use the graphical interface of the installation program. The graphical interface is used by default if you specify only *FixPackLauncher*.

For example, use either of the following commands

```
6.1.0-WS-MB-WIN32-FP0001.exe
```

```
6.1.0-WS-MB-WIN32-FP0001.exe -a -gui
```

Console interface

Use the following command format:

```
FixPackLauncher -a -console
```

-console specifies that you want to run the installation program console interface. You must specify this option if you want the installation to use this interface.

For example:

```
6.1.0-WS-MB-WIN32-FP0001.exe -a -console
```

Silent interface

Use the following command format:

```
FixPackLauncher -s -a -options "path" -silent
```

-s specifies that you want the extraction to use its silent interface. You must specify this option if you want the extraction to be completed without interaction.

-a specifies that you want to pass options to the installation program.

-options "*path*" specifies the path to the silent installation response file.

-silent specifies that you want the installation program to run in use its silent interface.

If you do not specify a response file, the default options are used from the supplied response file. If you want to tailor the options to suit your installation requirements, create your own response file and specify its location on the command.

For example, to run both the extractor program and the WebSphere Message Broker installation program silently with a response file, enter the following command:

```
FixPackLauncher -s -a -options "C:\response1.txt" -silent
```

5. If you use the graphical or console interface of the WebSphere Message Broker installation program, follow the prompts given and provide any input that is required to complete the installation.
6. If you run the fix pack installation program or the WebSphere Message Broker installation program silently, check the installation log to ensure that the process was successful. File mqsi6_install.log is stored in your home directory. The location of your home directory is typically C:\Documents and Settings*UserID*. If you are unsure of your home directory, enter echo %HOMEPATH% on the command line; your home directory is displayed.
7. When installation has successfully completed, review the release notes that are supplied in the directory readmes, and complete any manual post-installation tasks that are required.
8. Restart the components by using the mqsisstart command.

Installing service on Linux and UNIX

Apply maintenance updates and program fixes to product components.

Before applying a maintenance update to WebSphere Message Broker, download the update as described in "Applying service to runtime components" on page 12.

To install the updates that you have downloaded:

1. Log in to the system. On AIX, you must log in as root. On Linux and on other UNIX computers, your user ID must have root authority to complete

installation. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root.

2. Stop all components that are running on this computer by using the `mqsisstop` command. If you are applying service on a computer that is running Linux (x86 platform), close all instances of the workbench.
Ensure that you do not have any WebSphere Message Broker files open.
3. Change to the directory where you downloaded the fix pack file. The file name is in the form *V.R.M-prod-platform-fixpack.tar.z*, where *V.R.M-prod* represents the version, release, and modification level of the product, *-platform* identifies the platform, and *-fixpack* identifies the fix pack. For example, the file name *6.1.0-WS-MB-AIXPPC64-FP0001.tar.z* identifies the file for Fix Pack 1 on Version 6.1.0 of WebSphere Message Broker on AIX®.
4. Replace the *.z* file with a *.tar* file, by entering the following command:
`uncompress -fv V.R.M-prod-platform-fixpack.tar.z`
5. Untar the image and extract all the directories, subdirectories, and files required to apply the update, by entering the following command:
`tar -xvf V.R.M-prod-platform-fixpack.tar`
6. Decide which interface you want to use for the installation; `-graphical` (the default option if none is specified), `-console`, or `-silent`. For further details of how you can run and installation, and other options that you can specify, see “Installation and uninstallation interfaces” on page 58 and “How to install and uninstall runtime components” on page 59.
7. Depending on the choice you have selected, run one of the commands described below, where *installer* is the appropriate installation program for your platform, listed in the table.
 - To use the installation wizard graphical interface, type the *installer* name with no options at a command prompt, and press Enter. 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.
 - To use the installation wizard console interface, enter *installer -console*. 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 prompts you to enter input for all options, including where to install the components, and which components you want to install.
 - To use the installation wizard silent interface, enter *installer -silent*. 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, 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 with runtime components” on page 61.

Platform	Installation program
AIX	setupaix
HP-UX (Integrity platform)	setuphia64
HP-UX (PA-RISC platform)	setuphp
Linux (POWER™ platform)	setuplinuxppc

Platform	Installation program
Linux (x86 platform)	setuplinuxia32
Linux (x86-64 platform)	setuplinuxx64
Linux (zSeries® platform)	setuplinux390
Solaris (SPARC platform)	setupsolaris
Solaris (x86-64 platform)	setupsolarisx64

The installer extracts the update files and runs according to the arguments supplied.

8. Follow the instructions presented by the installation program and provide any input that is required to complete the installation.

When installation has successfully completed, review the release notes that are supplied in the directory readmes, and complete any manual post-installation tasks that are required.

9. If you have defined ODBC connections for brokers on this computer, you must update the odbc32.ini and odbc64.ini files before you restart your brokers.

To change your files when you apply service from V6.1.0.0 or V6.1.0.1 to V6.1.0.2 or later, follow the instructions in “Changing the ODBC connection and XA resource manager definitions for V6.1.0.2 or later.”

10. When you have completed any required ODBC changes, restart the components by using the mqsisstart command.

Changing the ODBC connection and XA resource manager definitions for V6.1.0.2 or later

Update definitions for Oracle and Sybase databases when you apply service to update brokers to Version 6.1.0.2 or later.

WebSphere Message Broker Version 6.1.0.2 includes later versions of the ODBC drivers that are supplied by DataDirect Technology (formerly Merant). These ODBC drivers are for Oracle and Sybase databases. A new version of the DataDirect Driver Manager for Linux and UNIX systems is also supplied. You must make a number of changes as a result of the later versions of the ODBC drivers for Oracle and Sybase databases before you can restart your brokers.

To ensure that you can recover the ODBC files if you later decide to remove service, take a copy of your existing files and store them in a safe place before you make any changes.

- If you are applying the Version 6.1.0.2 service update to a Version 6.1.0.0 or Version 6.1.0.1 broker on a Windows system, update the ODBC definition for each broker and the user data source name. Complete this task for Oracle and Sybase databases only.
- If you are applying the Version 6.1.0.2 service update to a Version 6.1.0.0 or Version 6.1.0.1 broker on Linux or UNIX systems, create a new ODBC configuration file that contains definitions for each of your existing data sources. Use the Version 6.1.0.2 template to complete this task, as described in Connecting to a database from Linux and UNIX systems: 64-bit considerations or Connecting to a database from Linux and UNIX systems: 32-bit considerations. Do not change the existing definition file.
- If you have a message flow that updates an Oracle or Sybase database within a global unit of work that is coordinated by the broker queue manager, you must also change the XA resource manager definition for the database.

The following sections describe the changes in detail.

Changing the ODBC connection definitions:

Linux and UNIX systems:

Create a new ODBC definitions file by following the instructions in Connecting to a database from Linux and UNIX systems: 64-bit considerations or Connecting to a database from Linux and UNIX systems: 32-bit considerations. Before you run the Version 6.1.0.2 commands, check that your ODBCINI environment variable points to the new file and not to the existing file.

Windows systems:

To change the ODBC connection definitions on a Windows system:

1. Open the ODBC Data Source Administrator window.
2. Open the System DSN page.
3. For each Oracle and Sybase database that is accessed by the broker, associate the data source name with the new ODBC driver:
 - a. Delete the data source by clicking **Remove**.
 - b. Re-create the data source with the new ODBC driver by clicking **Add**.

The following table displays the name of the new ODBC driver for each database management system (DBMS).

DBMS	New ODBC driver
Oracle	MQSeries® DataDirect Technologies 5.30 32-BIT Oracle
Sybase	MQSeries DataDirect Technologies 5.30 32-BIT Sybase Wire Protocol

Changing the XA resource manager definitions:

Linux and UNIX systems:

To change the XA resource manager definitions on a Linux or UNIX system, edit the queue manager configuration file (qm.ini) of the broker queue manager. This file is in the queue manager's directory.

In the XAResourceManager stanza for each Oracle and Sybase database that participates in a global unit of work, coordinated by the broker queue manager, change the entry for the switch file. The following tables specify what you need to change for each broker operating system and database management system (DBMS).

UNIX Complete the following changes on AIX, HP-UX (Integrity platform), Solaris, and Linux (excluding Linux (zSeries platform), on which Sybase is not supported).

DBMS	Change ...	To ...
Oracle	SwitchFile=UKor8tdc22.so	SwitchFile=UKor8dtc23.so
Sybase	SwitchFile=UKasedtc22.so	SwitchFile=UKasedtc23.so

HP-UX Complete the following changes on HP-UX (PA-RISC platform).

DBMS	Change ...	To ...
Oracle	SwitchFile=UKor8tdtc20.s1	SwitchFile=UKor8tdtc23.s1
Sybase	SwitchFile=UKasedtc20.s1	SwitchFile=UKasedtc23.s1

Windows systems:

Windows To change the XA resource manager definitions on a Windows system:

1. Open the **Properties** window of the broker queue manager using the WebSphere MQ Services snap-in.
2. Open the **Resources** page.
3. For each Oracle and Sybase database that participates in a global unit of work, coordinated by the broker queue manager, change the contents of the **SwitchFile** field. The following table specifies what you need to change for each database management system (DBMS).

WBIMB represents the fully qualified path name of the directory in which you have installed WebSphere Message Broker.

DBMS	Change ...	To ...
Oracle	<i>WBIMB</i> \bin\ukor8tdtc22.d11	<i>WBIMB</i> \bin\ukor8tdtc23.d11
Sybase	<i>WBIMB</i> \bin\ukase22.d11	<i>WBIMB</i> \bin\ukase23.d11

Installing service on z/OS

Apply maintenance updates to product components

Before applying a maintenance update to WebSphere Message Broker, download the update as described in “Applying service to runtime components” on page 12.

Use this three stage process to install service on z/OS:

1. Store the updates on your target system.
2. Install and test the fix pack. If testing is not satisfactory, you can remove this fix pack at this stage.
3. After testing, confirm the fix pack as your current base level of installation.

Follow these instructions to complete the process:

1. Receive the updates. Use SMP/E RECEIVE to transfer the contents of the fix pack from the tape or the downloaded package to your system at the specified location.
2. Apply the updates. Use SMP/E APPLY to install the fix pack which completes the link edit steps and generates a runtime environment in your chosen location.

The installation process completes updates to USS and to four product datasets (SBIPSAMP, SBIPINST, SBIPPROC, and SBIPAUTH).

If your SMP/E target system is not on the same file system as your production system, copy the datasets (including the dataset that represents your USS mount point) to the system where they are to be used, overwriting the current content. When you complete this action, all runtime components use the updated datasets when they next restart.

If you do not want all of your components to use the updated installation, copy the datasets to a different location and start selected components against that copy.

You can specify the same destination for receiving the fix pack contents (the SMP/E target system) and for installing (the production system). If you specify a different location, you must copy the product datasets to the appropriate location.

When you have installed the fix pack, you can test it to ensure that it is working correctly in your environment. If you find any problems at this stage, you can remove the fix pack using SMP/E RESTORE. The command restores your installation to the level that you last accepted (SMP/E ACCEPT).

3. Confirm the update. Use SMP/E ACCEPT to commit the changes and to establish this fix pack as the current level. When you have completed this step, you cannot restore your system to a previous service level. If you want to use an earlier service level, you must reinstall that level.

Applying service to the Message Broker Toolkit

Apply maintenance updates and program fixes to the Message Broker Toolkit.

Before you apply a fix pack or other service pack to the Message Broker Toolkit, you might want to preserve the resources that you have created or imported into Version 6.1. For details of this task, see *Backing up the Message Broker Toolkit workspace*.

Linux To apply service to the Message Broker Toolkit on Linux (x86 platform), your user ID must have root authority. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root.

Windows To apply service to the Message Broker Toolkit on Windows, your user ID must have Administrator authority.

The Message Broker Toolkit uses IBM Installation Manager to install service updates. Occasionally, an update is also required to Installation Manager; for example, with Version 6.1.0.2:

- To apply service to upgrade from Version 6.1.0.0 or Version 6.1.0.1 to Version 6.1.0.2, follow the instructions in “Upgrading the Message Broker Toolkit to Version 6.1.0.2” on page 22 to upgrade both Installation Manager and the Message Broker Toolkit.
- To apply service in all other cases, follow the instructions in this topic to install all available updates to the Message Broker Toolkit.

Occasionally, updates to the information center are also made available. These updates are integrated with component updates when they are made available, and are therefore automatically included when you apply any updates using these instructions.

For information about current fixes, follow the link **Recommended fixes** on the WebSphere Message Broker support Web page. From that page, you can access the service release notes, and the list of problems fixed in a fix pack or other maintenance release.

If you want Installation Manager to retrieve updates from a different location, see “Changing the update repositories for Installation Manager” on page 23. If you use FTP or HTTP proxies to allow applications to access the Internet, see “Setting FTP and HTTP proxies for Installation Manager” on page 24.

1. Start the Installation Manager by using one of the following two methods:
 - From the Linux main menu or the Windows Start menu:
 - **Linux** On Linux, you can use this option only if you are logged in as root. If you have logged in as another user, you cannot use the main menu links, even if you become root.
 - On Red Hat, click **System** → **IBM Installation Manager**.
 - On SUSE, click **System Tools** → **IBM Installation Manager**.
 - **Windows** On Windows, click **Start** → **Programs** → **IBM Installation Manager** → **IBM Installation Manager**.
 - From the command line:

Navigate to the eclipse subdirectory in the directory in which Installation Manager is installed and run the following command:

 - **Linux** IBMIM
 - **Windows** IBMIM.exe

Installation Manager opens and displays its initial panel.

2. Click **Update Packages**, then select the package group in which you have installed the Message Broker Toolkit.
3. Click **Next**. Installation Manager searches the selected update site or sites, and displays a list of available updates for the products and features that you have installed.

Initially **Show recommended** (below the list) is selected, and the latest updates only are shown. To include earlier updates as well, select **Show all**.

See “Changing the update repositories for Installation Manager” on page 23 for information about how you can change the locations that are searched.
4. Select the updates that you want to apply and click **Update**. The updates are applied.
5. Click **OK** to return to the Installation Manager initial panel.
6. Click **File** → **Exit** to close Installation Manager.

If you want to remove service that you have applied, see “Uninstalling service from the Message Broker Toolkit” on page 37.

Upgrading the Message Broker Toolkit to Version 6.1.0.2

Apply the service changes for Version 6.1.0.2 to the Message Broker Toolkit.

The Message Broker Toolkit uses IBM Installation Manager to install service updates. In Version 6.1.0.2, Installation Manager has been upgraded to a later version than that integrated with the Message Broker Toolkit at Version 6.1.0.0 and Version 6.1.0.1. Therefore, if you choose to apply service to upgrade an existing installation to Version 6.1.0.2, you must update Installation Manager to Version 1.1.1 before you can complete the update for the Message Broker Toolkit.

Choose one of the following options to apply V6.1.0.2 service updates:

- Use the update packages that contain only updates to the installed level of code. These packages are smaller than the refresh packages, and are therefore quicker to download and to install.

If your computer has Internet access, install the update packages directly. If your computer does not have access, you must download the packages on a computer that has access, and make them available to other users.

Start Installation Manager from the command line or the Linux (x86 platform) main menu or the Windows **Start** menu.

If necessary, add the location of your downloaded packages to the list of repositories maintained by Installation Manager. Installation Manager updates itself; when that update has completed, click **Install Packages** to install the update for the Message Broker Toolkit.

- Use the refreshed media (CD or DVD) or the electronic images that are available on IBM Passport Advantage.

The refreshed packages are complete installations and include both Installation Manager at the later version, and the Message Broker Toolkit.

If you want to refresh your current installation, start the installation wizard and first update the Installation Manager installation. Then start Installation Manager, add the location of the media or image to the list of repositories maintained by Installation Manager, and click **Update Packages** to update the Message Broker Toolkit.

If you want to install the Message Broker Toolkit in a new package, start the installation wizard to update Installation Manager. Then start Installation Manager, add the location of the media or image to the list of repositories maintained by Installation Manager, and click **Install Packages** to install a new copy of the Message Broker Toolkit.

If you want more detailed information about these instructions, the options for downloading fixes, making local copies, and applying service to the Installation Manager and the Message Broker Toolkit, refer to the Installation Guide, or to the download documents that are supplied on the WebSphere Message Broker support Web page.

If you want to remove service that you have applied, see “Uninstalling service from the Message Broker Toolkit” on page 37.

Changing the update repositories for Installation Manager

If you have a large number of Message Broker Toolkit users, or your users do not have regular access to the Internet, you might find it more convenient to download updates to a local site or server, and modify Installation Manager to access the updates at that alternative site.

You might take this action to limit Internet access, or to reduce download times, or both.

Complete the following steps:

1. Start Installation Manager using one of the methods shown previously. Installation Manager opens and displays its initial panel.
2. Click **File** → **Preferences**. The Preferences dialog is displayed.
3. Click **Repositories** in the left pane. The Repositories page is displayed.

4. Click **Add Repository**. If you know the name and location of the update repositories that Installation Manager is to search, enter the URL or fully qualified location of the update file, including the repository name, for example repository.config.

To search for repositories, which can be on a local or a remote computer, click **Browse** and navigate to the correct location. The field **File of type** lists the values repository.config, diskTag.inf, .jar, and .zip, and repositories with these names and types are searched for by default. The identity of an update depends on what type of update it is (for example, disk images are named diskTag.inf),

If you are not sure what updates you might want, leave the contents of field **File of type** unchanged; all available updates are shown. Click the required repository to select it, then click **Open**. The repository is added to the displayed list of repositories. If the repository is not connected, a red cross is displayed in the **Connection** column. You might need to check your network connections, or try again at a later time.

When it is added to the list, the repository is initially shown as selected, to indicate that its contents will be included when you run Installation Manager to update packages.

Repeat this step to add additional repositories if appropriate from the same or another location. You can have one or more locations selected at any time; Installation Manager searches all selected repositories listed on the Repositories page.

5. If you want Installation Manager to search only the repositories that you have added, clear **Search service repositories during installation and update**. The service repositories are those locations on the product support Web sites that host updates. If you clear this option, the default service repositories are not searched. The service repositories location is fixed and predefined; you cannot change it.
6. Click **OK** on the Browse panel if you opened it, and click **OK** on the Repositories page.
7. Click **Apply** to confirm the update, and then click **OK** to close the Preferences dialog.

To remove a repository from the selected list, clear its selection. If you want to delete a repository in the list, select the repository and click **Remove Repository**. To clear selection of all listed repositories, click **Clear Credentials**.

Setting FTP and HTTP proxies for Installation Manager

If your environment has a firewall, or uses proxies to control access to the Internet, you can change the Installation Manager settings to enhance your access security.

You do not have to complete this task if you have changed the Installation Manager repository location to a local site.

Complete the following steps:

1. Start Installation Manager using one of the methods shown previously. Installation Manager opens and displays its initial panel.
2. Click **File** → **Preferences**. The Preferences dialog is displayed.
3. Expand the **Repositories** tree in the left pane, and select **Ftp Proxy** or **Http Proxy**.
4. Select **Enable proxy server** and enter the details in the entry fields that are required for the protocol that you selected.

5. Click **Apply** to confirm the updates, and then click **OK** to close the Preferences dialog.

Part 2. Uninstalling

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Uninstalling

This section describes the following tasks:

- “Uninstalling runtime components”
- “Uninstalling the Message Broker Toolkit” on page 34

You might also want to uninstall complementary products. See the documentation provided by those products to complete this task:

- IBM DB2: Access the appropriate information for your installation:
 - DB2 V9 information center (distributed systems)
 - DB2 V8 information center (distributed systems)
 - DB2 information center (z/OS) (Versions 8 and 9)
- IBM Tivoli License Manager: access the IBM Tivoli License Manager information center

Uninstalling runtime components

Uninstall the runtime components on distributed systems.

This section describes this task for the following systems:

- AIX
- HP-UX
- Linux
- Solaris
- Windows

If you are uninstalling on Linux or UNIX systems, make sure that the directory /var is not full; the uninstallation wizard requires space in this directory while it is running.

1. Decide which mode of uninstallation you want to use. The choices are explained in “How to install and uninstall runtime components” on page 59.
2. Follow the uninstallation instructions provided in the corresponding topic:
 - “Uninstalling runtime components with the graphical interface”
 - “Uninstalling runtime components with the console interface” on page 31
 - “Uninstalling runtime components with the silent interface” on page 32

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

For information about removing service updates, see “Uninstalling service for runtime components” on page 33.

Uninstalling runtime components with the graphical interface

Remove the runtime components by using the graphical interface.

Always use the WebSphere Message Broker uninstall wizard to remove product components, unless otherwise stated. Do not use the uninstallation program that is provided by the operating system; for example, geninstall on AIX, or swremove on HP-UX.

On HP-UX Version 11.23, and on Linux (POWER platform), a known restriction prevents the creation of the uninstall wizard. If this situation occurs, use the alternative command specified in these instructions. Also check the readme.html file to ensure that no additional operating systems are affected by this restriction.

For information about the graphical interface and alternative interfaces available, see “How to install and uninstall runtime components” on page 59.

To start the graphical interface of the uninstaller, complete the following steps:

1. Stop all running processes that are associated with runtime components (broker, Configuration Manager and User Name Server) before you uninstall. Use the `mqsolist` (list resources) command to check which components are running. Use the `mqsistop` command to stop each component.
 2. On Windows and Linux (x86 platform), end all active sessions of the Message Broker Toolkit.
 3. If you do not plan to reinstall on this computer, delete all the brokers (`mqsdeletebroker` command), Configuration Managers (`mqsdeleteconfigmgr` command), and User Name Servers (`mqsdeleteusername` 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 `mqscreatedb` command, delete them with the `mqsdeletedb` 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 installation, this component might not be deleted if databases that are associated with the other installation remain). Databases that have been created by the Default Configuration wizard can also be deleted in this way.
 5. Run the following command from outside the installation directory, specifying the full path (this method of invocation ensures that the full directory structure is removed during uninstallation):
 - On HP-UX systems running Version 11.23 only, and on Linux (POWER platform) systems:

```
/install_dir/_uninst_runtime_jvm/jre/bin/java -jar /install_dir/_uninst_runtime/uninstall.jar
```
 - On all other operating systems:

```
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\6.1
 - On AIX, HP-UX, and Solaris, /opt/IBM/mqsi/6.1
 - On Linux, /opt/ibm/mqsi/6.1
- Alternatively, if you have a single installation of runtime components on Windows, you can navigate to **Start** → **Settings** → **Control Panel** → **Add/Remove Programs**. Select WebSphere Message Broker and click **Change/Remove**. The uninstaller graphical interface opens.
6. Choose the component or components that you want to uninstall and follow the prompts to complete uninstallation.

Uninstalling runtime components with the console interface

Remove the runtime components by using the console interface in console mode.

Always use the WebSphere Message Broker uninstall wizard to remove product components, unless otherwise stated. Do not use the uninstallation program that is provided by the operating system; for example, `geninstall` on AIX, or `swremove` on HP-UX.

On HP-UX Version 11.23, and on Linux (POWER platform), a known restriction prevents the creation of the uninstall wizard. If this situation occurs, use the alternative command specified in these instructions. Also check the `readme.html` file to ensure that no additional operating systems are affected by this restriction.

For information about the console interface and alternative interfaces available, see “How to install and uninstall runtime components” on page 59.

To start the console interface of the uninstaller, 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 you uninstall. 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 Broker Toolkit.
3. If you do not plan to reinstall on this computer, delete all the brokers (`mqsdeletebroker` command), Configuration Managers (`mqsdeleteconfigmgr` command), and User Name Servers (`mqsdeleteusernameserver` 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 `mqscreatedb` command, delete them with the `mqsdeletedb` 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 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 from outside the installation directory, specifying the full path to ensure that the folders are removed during uninstallation.
 - On HP-UX systems that are running Version 11.23 only, and on Linux (POWER platform) systems:

```
/install_dir/_uninst_runtime_jvm/jre/bin/java -jar /install_dir/_uninst_runtime/uninstall.jar -console
```

- On all other operating systems:

```
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 is as follows:

- On Windows, `C:\Program Files\IBM\MQSI\6.1`
- On AIX, HP-UX, and Solaris, `/opt/IBM/mqsi/6.1`
- On Linux, `/opt/ibm/mqsi/6.1`

6. When started, the uninstaller presents text-based screens on the console. Navigate between these screens 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 runtime components with the silent interface

Remove the runtime components without user interaction by using the silent interface .

Always use the WebSphere Message Broker uninstall wizard to remove product components, unless otherwise stated. Do not use the uninstallation program that is provided by the operating system; for example, `geninstall` on AIX, or `swremove` on HP-UX.

On HP-UX Version 11.23, and on Linux (POWER platform), a known restriction prevents the creation of the uninstall wizard. If this situation occurs, use the alternative command specified in these instructions. Also check the `readme.html` file to ensure that no additional operating systems are affected by this restriction.

If you use the silent interface to uninstall runtime components, the wizard always uninstalls components from the last known Version 6.1 installation location (that is, the most recent installation), regardless of the location of the uninstallation wizard that you start. If you want to remove components from an earlier Version 6.1 installation, use the console or graphical interface.

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 silently 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](#).

For information about the silent interface and alternative interfaces available, see “How to install and uninstall runtime components” on page 59.

To start the silent interface of the uninstaller, 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 you uninstall. 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 Broker Toolkit.
3. If you do not plan to reinstall on this computer, delete all the brokers (`mqsdeletebroker` command), Configuration Managers (`mqsdeleteconfigmgr`

command), and User Name Servers (mqsideleteusername server 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 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 following command from outside the installation directory, specifying the full path (this method of invocation ensures that the full directory structure is removed during uninstallation):
 - On HP-UX systems that are running Version 11.23 only, and on Linux (POWER platform) systems:

```
/install_dir/_uninst_runtime_jvm/jre/bin/java -jar /install_dir/_uninst_runtime/uninstall.jar -silent
```

- On all other operating systems:

```
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\6.1
- On AIX, HP-UX, and Solaris, /opt/IBM/mqsi/6.1
- On Linux, /opt/ibm/mqsi/6.1

The uninstallation program runs without interaction.

Uninstalling service for runtime components

On some platforms, you can remove fixes that you have applied.

Distributed systems

You cannot remove individual fixes that you have applied to runtime components on distributed systems. 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.

If you have a single installation on your computer, create and retain a backup image, or keep previous GA or fix pack images or media, in case of problems after you have installed service. If you have multiple installations, each one can be at a different service level and you can transfer the runtime components to work with an alternative installation at a newer or older level of service. This option is described in “Applying service to runtime components” on page 12.

When you uninstall the product, the components that you have created are not lost, and you can continue to use these components and associated resources with the reinstalled product. However, you might want to take a backup of the installation and work path directories before you start this procedure.

To restore a system on which you have a single installation to a previous service level:

1. Uninstall the entire product.

2. Reinstall the GA level of the product. This step is required to ensure that you comply with your license agreement.
3. Install the desired level of fix pack.

z/OS On z/OS systems, you can uninstall service levels under some circumstances during the installation phase; for further information, see “Installing service on z/OS” on page 20.

Uninstalling the Message Broker Toolkit

Choose how you want to uninstall the Message Broker Toolkit.

The Message Broker Toolkit can be installed on the following systems:

- Windows
- Linux (x86 platform)

To uninstall the Message Broker Toolkit on Linux (x86 platform), your user ID must have root authority. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root. On Windows, your user ID must have Administrator authority.

When you uninstall the Message Broker Toolkit, entries are removed from the system menus:

Linux If you have installed the Message Broker Toolkit more than once on Linux (x86 platform), the main menu shows a single entry, regardless of the number of installations that you have completed; the entry always accesses the last installation that you completed. When you uninstall this component, the single entry is removed, and you cannot access remaining installations using the main menu. Navigate to the correct package group installation directory and start the Message Broker Toolkit from the command line.

Windows Entries in the Windows Start menu are grouped by package group. When you uninstall this component, the entry within the appropriate package group is correctly removed.

Complete the following steps to uninstall the Message Broker Toolkit:

1. Decide which mode of uninstallation you want to use. The choices are explained in “How to install and uninstall the Message Broker Toolkit” on page 62.
2. Follow the instructions provided in the corresponding topic:
 - “Uninstalling the Message Broker Toolkit in graphical mode”
 - “Uninstalling the Message Broker Toolkit in silent mode” on page 36

Uninstalling the Message Broker Toolkit in graphical mode

The graphical interface guides you through the process of uninstalling the Message Broker Toolkit.

For information about the modes that are available, see “How to install and uninstall the Message Broker Toolkit” on page 62.

Complete the following steps:

1. Log on to the computer on which Message Broker Toolkit is installed:

- **Linux** Your user ID must have root authority. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root.
 - **Windows** Your user ID must have Administrator authority.
2. Start IBM Installation Manager.
 - **Linux** Choose one of the following options:
 - The main menu. You can use this option only if you are logged in as root. If you have logged in as another user, you cannot use the main menu links, even if you become root.
 - On Red Hat, click **System** → **IBM Installation Manager**.
 - On SUSE, click **System Tools** → **IBM Installation Manager**.
 - Navigate to the eclipse subdirectory in the directory in which Installation Manager is installed and run the command IBMIM.
 - On the command line, start the Message Broker Toolkit uninstallation wizard (where *package_group_dir* is the directory in which you have installed the package group):


```
package_group_dir/uninstall/uninstall.sh
```

 For example:


```
/opt/IBM/WMBT610/uninstall/uninstall.sh
```
 - **Windows** Choose one of the following options:
 - Click **Start** → **Programs** → **IBM Installation Manager** → **IBM Installation Manager**.
 - Click **Start** → **Settings** → **Control Panel** → **Add/Remove Programs**. Open the package group and select the package group in which you have installed Message Broker Toolkit, for example **IBM Software Development Platform_1**.
 - Navigate to the eclipse subdirectory in the directory in which Installation Manager is installed and run the command IBMIM.exe.
 - On the command line, start the Message Broker Toolkit uninstallation wizard (where *package_group_dir* is the directory in which you have installed the package group):


```
package_group_dir\uninstall\uninstall.bat
```

 For example:


```
C:\Program Files\IBM\WMBT610\uninstall\uninstall.bat
```
 3. If you started Installation Manager from the Start or main menu, or by running IBMIM or IBMIM.exe, click **Uninstall Packages**. The Uninstall Package panel displays.
 4. Select the Message Broker Toolkit and then click **Next**. The Uninstall Summary panel is displayed.
 5. Check that the items listed are those that you want to uninstall. Click **Back** if you want to make changes, or click **Uninstall** to continue. The uninstallation process starts.
 6. Follow the guidance through the series of panels, providing input and responses as required.
 7. When the process completes, check the log file for errors. The file YYYYMMDD_TIME.xml is written to the following directory:
 - **Linux** /var/ibm/InstallationManager/logs
 - **Windows** %ALLUSERSPROFILE%\Application Data\IBM\InstallationManager\logs where %ALLUSERSPROFILE% is the environment

variable that defines the working directory. The default value is C:\Documents and Settings\All Users, but this value might be different in your environment.

- Restart your computer to complete the uninstallation of the Message Broker Toolkit.

Uninstalling the Message Broker Toolkit in silent mode

Uninstall the Message Broker Toolkit without user interaction.

For information about alternative modes that are available, see “How to install and uninstall the Message Broker Toolkit” on page 62.

Complete the following steps:

- Log on to the computer on which Message Broker Toolkit is installed:
 - Linux** Your user ID must have root authority. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root.
 - Windows** Your user ID must have Administrator authority.
- To silently uninstall the Message Broker Toolkit, start IBM Installation Manager using the supplied script files.
 - Navigate to the uninstall directory:
 - Linux** `package_group_dir/uninstall/`
For example:
`/opt/IBM/WMBT610/uninstall/`
 - Windows** `package_group_dir\uninstall\`
For example:
`C:\Program Files\IBM\WMBT610\uninstall\`
 - Open the following script file in a text editor:
 - Linux** `uninstall.sh`
 - Windows** `uninstall.bat`
 - Modify the invocation of the IBMIM executable file as follows:
`IM_dir/IBMIM -nosplash -input uninstall.xml -silent`
Replace `IM_dir/` with the full path for Installation Manager on your operating system. If you have installed Installation Manager in the default location, the full path is:
 - Linux** `/opt/IBM/InstallationManager/eclipse/`
 - Windows** `C:\Program Files\IBM\InstallationManager\eclipse\`
- Run the file that you just edited. The product is uninstalled silently; control is returned to the command line when uninstallation is finished.
- When the process completes, check the log file for errors. The file `YYYYMMDD_TIME.xml` is written to the following directory:
 - Linux** `/var/ibm/InstallationManager/logs`
 - Windows** `%ALLUSERSPROFILE%\Application Data\IBM\InstallationManager\logs` where `%ALLUSERSPROFILE%` is the environment variable that defines the working directory. The default value is C:\Documents and Settings\All Users, but this value might be different in your environment.

5. Restart your computer to complete the uninstallation of the Message Broker Toolkit

Uninstalling service from the Message Broker Toolkit

Remove maintenance or fixes from the Message Broker Toolkit.

Linux To remove service from the Message Broker Toolkit on Linux (x86 platform), your user ID must have root authority. Follow your local security guidelines to acquire root authority; either log in as root, or log in as another user and become root.

Windows To remove service from the Message Broker Toolkit on Windows, your user ID must have Administrator authority.

You can remove WebSphere Message Broker iFix and service updates from the toolkit using IBM Installation Manager.

To uninstall service:

1. Close all sessions of the workbench on this computer.
2. Start Installation Manager in one of the following ways:
 - From the Linux (x86 platform) main menu or the Windows Start menu:
 - On Linux, you can use this option only if you are logged in as root. If you have logged in as another user, you cannot use the main menu links, even if you become root.
 - On Red Hat, click **System** → **IBM Installation Manager**.
 - On SUSE, click **System Tools** → **IBM Installation Manager**.
 - On Windows, click **Start** → **Programs** → **IBM Installation Manager** → **IBM Installation Manager** .
 - Navigate to the eclipse subdirectory in the directory in which Installation Manager is installed and run the following command:
 - **Linux** IBMIM
 - **Windows** IBMIM.exe

Installation Manager starts and displays its initial panel.

3. Click **Roll Back Packages**, then select the package group in which you have installed the Message Broker Toolkit.
4. Click **Next**. The Roll Back Packages panel displays the products that you have installed in the selected group. The service updates that you have applied to any item in the list are displayed under the item to which they apply.
5. If updates are installed, select the updates that you want to remove from each particular installation. A summary of the selected updates is displayed. Click **more details...** to open the readme file associated with the fix.
6. Click **Next** to continue. Installation Manager checks that no workbench sessions are running. If the check fails, an error message is displayed and you cannot continue with the operation. Close all active sessions, then return to this step and click **Next** again.

Installation Manager displays the exact identification of the fixes that you selected; check that what is listed is correct. If you want to change your choices, click **Back** to view the list of fixes again.

7. Click **Roll Back**. Installation Manager starts to remove the selected fixes. A progress bar is displayed so that you can monitor the request. A completion message is displayed; click **View log** to read the report that is generated by the removal.
8. If the fix has been removed successfully, click **Finish** to return to the initial panel. If the removal failed, examine the contents of the log file to determine the cause of the error.
9. Click **File** → **Exit** to close Installation Manager.

Part 3. Reference

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Installation

Use the reference information in this section to understand what your installation options are, and how they affect the system.

- “Hardware requirements”
- “Software requirements” on page 44
- “Installation and uninstallation interfaces” on page 58
- “National language support” on page 65
- System changes

Read the product readme.html file to see if additional options or restrictions are in force; this file is provided on CD (or DVD) and installed with the product. You can find the most up-to-date version on the Web, as described in “Finding the latest information” on page 4.

Product requirements are also available on the Web, and are occasionally updated. Check for the latest information on the WebSphere Message Broker Requirements.

Hardware requirements

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

- “Supported processors”
- “Memory and disk space requirements” on page 42
- “Communications” on page 44

Supported processors

WebSphere Message Broker is supported on multiple processors.

The hardware requirements for each supported operating system are given in the following table. All support statements assume that the stated systems are capable of running the required level of a compatible operating system and have enough storage for the WebSphere Message Broker components that you install, and all prerequisite products.

Operating system	Requirements ¹
AIX	64-bit IBM pSeries® systems Any hardware from IBM or other vendors that is capable of running trademarked AIX systems ²
HP-UX (Integrity platform)	Hewlett-Packard Integrity servers
HP-UX (PA-RISC platform)	Hewlett-Packard HP-9000 PA-RISC 2.0 processor servers
Linux (POWER platform)	64-bit iSeries™ and pSeries IBM POWER processor based systems only
Linux (x86 platform)	IBM eServer™ xSeries® or equivalent Intel® based servers ³
Linux (x86-64 platform)	AMD64, EM64T, or compatible processor servers
Linux (zSeries platform)	Any server capable of running one of the supported Linux (zSeries platform) operating system releases
Solaris (SPARC platform)	Sun Microsystems SPARC processor servers

Operating system	Requirements ¹
Solaris (x86-64 platform)	Sun Microsystems AMD64, EM64T, or compatible processor servers
Windows	Windows x86 technology-compatible PC hardware ³
z/OS ⁴	Any server capable of running one of the supported z/OS releases

Notes:

1. Always check the WebSphere Message Broker Requirements Web site and 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 Broker 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. You can use AIX systems only if they have passed a set of verification tests for compliance with the AIX application binary and programming interfaces.
3. The Message Broker Toolkit is supported on 32-bit systems only. It requires a computer with an Intel Pentium® III processor (or higher) that has a speed of at least 700 MHz. This specification is the minimum supported level; for improved performance use a 2 GHz processor.
A minimum display resolution of at least 1024 x 768 is required for some dialogs (for example, the Preferences dialog).
4. See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS* for further details.

Memory and disk space requirements

Check the memory and disk space that is required for your installation.

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

Distributed systems

- 512 MB of RAM is required to support runtime operations (1 MB equals approximately 1000 000 bytes).
- 512 MB of RAM is required to support Message Broker 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 computer 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, therefore you might need to check or change the setting of both these variables.

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 following tables, check that your computer has sufficient space before you continue with the installation.

Component	Linux POWER platform)	Linux (x86 platform) ¹	Linux (x86-64 platform)	Linux (zSeries platform)	Windows ¹
Broker, Configuration Manager, and User Name Server	440 MB plus 300 MB temporary space	440 MB plus 300 MB temporary space	600 MB plus 300 MB temporary space	440 MB plus 300 MB temporary space	460 MB plus 300 MB temporary space
Message Broker Toolkit	Not available	1.9 GB plus 1.5 GB temporary space	Not available	Not available	1.9 GB plus 1.5 GB temporary space

Component	AIX	HP-UX (Integrity platform)	HP-UX (PA-RISC platform)	Solaris (SPARC platform)	Solaris (x86-64 platform)
Broker, Configuration Manager, and User Name Server	840 MB plus 300 MB temporary space	740 MB plus 300 MB temporary space	800 MB plus 300 MB temporary space	860 MB plus 300 MB temporary space	540 MB plus 300 MB temporary space
Message Broker Toolkit	Not available	Not available	Not available	Not available	Not available

Notes:

1. The space required for the Message Broker Toolkit includes space for the shared resources directory and the package group directory.
- 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 the Derby database require approximately 105 MB.
 - On computers 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 computers.

- If you intend to create more than one broker on any one computer, you will need additional memory and swap space. For example, you might create more than one broker at different versions to complete migration. Plan for 1 GB RAM and 1 GB of swap space for each broker, in addition to the space and memory requirements of other applications.

You might need to increase these figures if you deploy complex message flows to the brokers, or if you process large messages (of many megabytes) or complex messages that contain many different tags.

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 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

View the operating system, database, and other software requirements.

This section provides information about requirements of WebSphere Message Broker:

- “Support for 32-bit and 64-bit platforms”
- “Operating system requirements” on page 46
- “Supported databases” on page 48
- “Additional software requirements” on page 54
- “Optional software support” on page 56

Support for 32-bit and 64-bit platforms

WebSphere Message Broker operates in 32-bit mode, or 64-bit mode, or both, on supported operating systems.

On operating systems where both modes are supported, 64-bit operation is the default mode. If you create an execution group for a broker in a mode that is not supported by its underlying hardware and software, it is created and operates in the supported mode, although the workbench reports the mode that you specified. For example, if you specify 64-bit mode on Windows, an execution group is created, and you can deploy resources to it. It operates in 32-bit mode, even though it is displayed as a 64-bit execution group.

The following table shows support for 32-bit and 64-bit mode. Changes since Version 6.0 are summarized beneath the table. (64-bit mode is not supported in versions before Version 6.0.) If support on your platform has changed, you might need to make additional changes to your configuration. See *Migrating from Version 6.0 products and Configuring WebSphere Message Broker* for further details.

Platform	Broker core components and commands	32-bit execution groups	64-bit execution groups
AIX ¹	64-bit	Yes	Yes
HP-UX (Integrity platform)	64-bit	No	Yes
HP-UX (PA-RISC platform) ¹	64-bit	Yes	Yes
Linux (POWER platform) ¹⁺²	64-bit	No	Yes
Linux (x86 platform)	32-bit	Yes	No
Linux (x86-64 platform)	64-bit	Yes	Yes
Linux (zSeries platform) ¹⁺²	64-bit	No	Yes
Solaris (SPARC platform) ¹	64-bit	Yes	Yes
Solaris (x86-64 platform) ¹⁺²	64-bit	No	Yes
Windows	32-bit	Yes	No
z/OS	32-bit	Yes	No

Changes since Version 6.0:

1. On this platform, the broker core components (bipservice, bipbroker) operate in 64-bit mode; in Version 6.0, the broker core components operated in 32-bit mode.
2. On this platform, you can no longer create or run with 32-bit execution groups. Execution groups can be only 64-bit mode.

Execution groups

You can create an execution group by using the workbench, the `mqsicreateexecutiongroup` command, or the CMP. If you do not specify the size of execution group that you require, the size that is created depends on how you create it, and the version of the target broker to which you deploy it. The following default values apply:

- If the target broker is Version 5.0, the execution group is always 32-bit.
- If the target broker is Version 6.0, the execution group is 32-bit except on HP-UX (Integrity platform), which supports 64-bit only.
- If the target broker is Version 6.1, the execution group is 64-bit except on those platforms that support 32-bit only (Linux (x86 platform), Windows, and z/OS).

Workbench	Command	CMP API	32-bit only platforms	32-bit and 64-bit platforms	64-bit only platforms
Default	no options	<code>createExecutionGroup(name)</code>	32-bit	64-bit	64-bit
32-bit	-s	<code>createExecutionGroup(name, 32)</code>	32-bit	32-bit	64-bit ¹
64-bit	-l	<code>createExecutionGroup(name, 64)</code>	32-bit ²	64-bit	64-bit

Notes:

1. BIP2828 is generated.
2. BIP2827 is generated.

Operating system requirements

WebSphere Message Broker is supported on multiple operating systems.

Operating system software requirements are defined in the following table.

Operating system	Requirements ¹
AIX	<ul style="list-style-type: none"> IBM AIX Version 5.3 (Technology Level 5 SP2)²
HP-UX (Integrity platform)	<ul style="list-style-type: none"> HP-UX 11i V2 (B.11.23) for Integrity (with HP-UX recommended patches for Java 5.0) HP-UX 11i V3 (B.11.31) for Integrity
HP-UX (PA-RISC platform)	<ul style="list-style-type: none"> HP-UX 11i V2 (B.11.23) (with HP-UX recommended patches for Java 5.0) HP-UX 11i V3
Linux (POWER platform)	<ul style="list-style-type: none"> Linux PowerPC[®] Red Hat Enterprise Linux V4.0 with service level Update 2 Linux PowerPC Red Hat Enterprise Linux V5.0 Linux PowerPC SUSE Linux Enterprise Server (SLES) 9 RC5 or above Linux PowerPC SUSE Linux Enterprise Server (SLES) 10
Linux (x86 platform) ³	<ul style="list-style-type: none"> Linux Intel Red Hat Enterprise Linux V4.0 with service level Update 2 Linux Intel Red Hat Enterprise Linux V5.0⁴ Linux Intel SUSE Linux Enterprise Server (SLES) 9 Linux Intel SUSE Linux Enterprise Server (SLES) 10⁴
Linux (x86-64 platform)	<ul style="list-style-type: none"> Linux Intel Red Hat Enterprise Linux V4.0 with service level Update 2 Linux Intel Red Hat Enterprise Linux V5.0 Linux Intel SUSE Linux Enterprise Server (SLES) 9 Linux Intel SUSE Linux Enterprise Server (SLES) 10
Linux (zSeries platform)	<ul style="list-style-type: none"> Linux zSeries (64-bit) Red Hat Enterprise Linux Version 4.0 with service level Update 2 Linux zSeries (64-bit) Red Hat Enterprise Linux Version 5.0 Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 9 Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 10
Solaris (SPARC platform)	<ul style="list-style-type: none"> Sun Solaris Operating Environment 9 (with SunSolve recommended Patch Cluster level)⁵ Sun Solaris Operating Environment 10 (with SunSolve recommended Patch Cluster level)
Solaris (x86-64 platform)	<ul style="list-style-type: none"> Sun Solaris Operating Environment 10 (with SunSolve recommended Patch Cluster level)⁶
Windows ⁷	<ul style="list-style-type: none"> Microsoft[®] Windows XP Professional (with service level SP2) Microsoft Windows Server 2003 Standard Edition⁸ Microsoft Windows Server 2003 Enterprise Edition⁸

Operating system	Requirements ¹
z/OS ⁹	<ul style="list-style-type: none"> • IBM z/OS Version 1.7 • IBM SMP/E for z/OS Version 3.3 or later

Notes:

1. Always check the WebSphere Message Broker Requirements Web site and 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 Broker 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. WebSphere Message Broker requires the xLC runtime libraries at Version 8 or above. If you do not have an xLC or xLC++ compiler at this version installed, you must apply a PTF; information and instructions are provided in this PTF support document.
3. On Linux (x86 platform) installations, you might require the following additional packages that are available with the operating system:
 - If you install in graphical mode on SUSE Linux Enterprise Server, install package compat (at version 2002.12.6.0 or later). This package is not required for console or silent installations.
 - If you want to use the package manager (RPM), install package rpm-build.
4. The Message Broker Toolkit is not supported on these operating system versions.
5. If you install the broker or the Configuration Manager component on this operating system version, the recommended Patch Cluster level must include patches 111711-16 (32-bit) and 111712-16 (64-bit).
6. If you install the broker or the Configuration Manager component on this operating system version, the recommended Patch Cluster level must include patch 119964-08.
WebSphere Message Broker is supported only in the Global zone, or in a whole root non-global zone, and must be installed separately in each.
7. Windows operating systems are supported in 32-bit mode only.
8. On Windows Server 2003 Standard and Enterprise Editions, you can publish both the command console and the Message Broker Toolkit to be accessed through Citrix XenApp (Presentation Server V4.0 and V4.5).
9. z/OS Version 1.7 must be at RSU0609 or later (for the target system) with PTFs for APARs PK34716 and PK34041
See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS* for further details. In particular, review the information in "Preventative Service Planning".

In all operating environments except z/OS, defect support is available for virtualization environments where they relate to releases that are already supported by WebSphere Message Broker. Unless stated elsewhere in the system requirements, WebSphere Message Broker has not been specifically tested in virtualization environments. WebSphere Message Broker support is therefore

unable to assist in issues related to configuration and setup, or issues that are directly related to the virtualization environment itself.

Supported databases

A broker requires access to a database to store operational and state data. Databases from IBM and other suppliers are supported.

You must create the broker database before you create the broker, and specify the name of the database on the `mqsicreatebroker` command. The command creates tables to hold the broker data; these tables are listed in “Database contents” on page 52.

You can use the same database schema for all brokers that are at the same version, if appropriate, even if you create the brokers on different computers. The broker tables are created in a schema which is determined by the user ID that you specify for the broker database connection, and the rows within the tables are qualified by a unique identifier (UUID) for each broker. The schema user ID is set by `-u dataSourceUserId` (if you specified this parameter on the `mqsicreatebroker` or `mqsichangebroker` command), or by `-i serviceUserId` (if you did not specify the `-u` parameter).

You can also create user databases to be accessed from message flows; database support is the same as that defined for brokers except where specifically stated. Some data types supported by these databases are not supported by WebSphere Message Broker; for details, see Data types of values from external sources.

In most environments, the broker does not have to be running on the same operating system as the database server. For details about local and remote database use, and the restrictions that apply, see “Database locations” on page 51.

The following table, and the accompanying notes, indicate the minimum levels of products that are supported for databases on each operating system. For the latest details on all supported platforms, visit the WebSphere Message Broker Requirements Web site.

Operating system	DB2 ^{1, 2, 3}	Microsoft SQL Server ¹	Oracle ^{1, 4, 5}	Sybase ¹	Informix ^{1, 6}
AIX	8.2 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2 ⁸	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
HP-UX (Integrity platform)	8.2 9.1 9.5	Not applicable	10g Release 2	Not supported	Not supported
HP-UX (PA-RISC platform)	8.2 9.1 ⁹	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with HC4 fix pack
Linux (POWER platform)	8.2 9.1 9.5	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack

Operating system	DB2 ^{1, 2, 3}	Microsoft SQL Server ¹	Oracle ^{1, 4, 5}	Sybase ¹	Informix ^{1, 6}
Linux (x86 platform)	8.2 ¹⁰ 9.1	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC3 fix pack
Linux (x86-64 platform)	8.2 ¹⁰ 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC3 fix pack
Linux (zSeries platform)	8.2 9.1 9.5	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	Not supported	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
i5/OS [®] and OS/400 ^{®11}	V5R2 V5R3 V5R4	Not applicable	Not applicable	Not applicable	Not applicable
Solaris (SPARC platform)	8.2 ¹² 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with UC7 fix pack Client SDK V2.90 with UC4 fix pack
Solaris (x86-64 platform)	8.2 ¹² 9.1 9.5	Not applicable	10g Release 1 10g Release 2	12.5	Not supported
Windows	8.2 ¹³ 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server V9.4 with TC7 fix pack Client SDK V2.90 with TC4 fix pack
z/OS	8.1 ¹⁴ 9.1 ¹⁴	Not applicable	Not supported	Not applicable	Not supported

Notes:

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

WebSphere MQ Version 6.0.1.0 or later is required for globally-coordinated transaction support (XA).

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

XA coordination for messages in the MRM domain on Windows requires DB2 Version 8 Fix Pack 10 or later.

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.

Supported connections to databases:

- ODBC drivers for Oracle and Sybase on all relevant systems, and for SQL Server on Linux and UNIX systems, are supplied with WebSphere Message Broker; alternative drivers are not supported on these systems. For other systems and for other databases on all systems, obtain these files from your database vendor.
- JDBC drivers are not supplied with WebSphere Message Broker; obtain these files from your database vendor. The following JDBC type 4 drivers are supported:
 - IBM DB2 Driver for JDBC and SQLJ Version 9.1 and 9.5
 - Microsoft SQL Server 2005 JDBC driver 1.1 (non-XA only)
 - Oracle 10gR2 JDBC Driver
 - Sybase jConnect for JDBC 6.05
 - IBM Informix JDBC 3.00.JC3

JDBC type 4 transaction support using DB2 requires DB2 Version 9.1 Fix Pack 3 or later; support for DB2 Version 8 is not available.

2. Check the readme.html file for your product to check whether a fix pack or other fix is required.
DB2 Version 8.2 is functionally equivalent to Version 8.1 Fix Pack 7.
If you define a connection to DB2 Version 8.2 from a broker that operates in 64-bit mode, you must specify that you want to create a 64-bit database instance. If you use DB2 Version 9.1, a 64-bit instance is the default instance created on 64-bit operating systems.
3. Automatic Client Reroute for DB2 is supported on all platforms.
4. If you install the Oracle Database Server on 32-bit systems, or on mixed mode systems on which you plan to create 32-bit execution groups, you must also install the Oracle Runtime Client.
5. The Connect-Time Failover feature of Oracle RAC (Real Application Clusters) in a non-XA environment only is supported on all Linux, UNIX, and Windows systems.
6. Informix is supported only as a user database accessed by message flows; you cannot create a broker database as an Informix database.
Each broker system requires only the client SDK; install the Dynamic Server on the system on which you create databases.
Large Objects (LOBs) are not supported.
7. On Linux or UNIX systems, you can remotely access a SQL Server database on Windows using a supplied wire protocol driver. For the Linux (x86-64 platform) you can access SQL Server as a user database only from a 32-bit execution group.
8. On AIX, Oracle 10g Release 2 requires the AIX fix for APAR IY89080.
9. If you use DB2 Version 9.1 on HP-UX (PA-RISC platform), you must set the following environment variable, and export it in the broker's environment:
`MQSI_SIGNAL_EXCLUSIONS=10`
10. If you have installed Red Hat Enterprise Linux V4.0 and DB2 Version 8 Fix Pack 9 on Linux (x86-64 platform), you must use a 32-bit database instance. If you have a later release of DB2, you can use both 32-bit and 64-bit database instances.

11. You can configure message flows to access DB2 databases on i5/OS and OS/400 for user data. The message flows can run on any supported broker platform. You cannot create a broker database as a remote DB2 database on i5/OS or OS/400 from any broker platform. For further details of these restrictions, and for information about the PTFs that are required with DB2 on these operating systems, see "Database locations."
12. Solaris 10 on Solaris (SPARC platform) requires DB2 Version 8 Fix Pack 9 or later; Solaris 10 on Solaris (x86-64 platform) requires DB2 Version 8 Fix Pack 11 or later.
13. For verification, evaluation, and test purposes only, you can use the Derby database that is embedded in the broker component. (Derby refers to the database product based on the Apache Derby open source project from the Apache Software Foundation.) For a production system, install and configure your chosen enterprise database.
14. On z/OS, DB2 is a mandatory requirement. You must create a unique database for each broker.
 - If you install DB2 Version 8.1, it must be at RSU0609 or later, and you must install FMID JDB8817 (ODBC support) and PTFs for APAR PK37248.
 - If you install DB2 Version 9.1, you must install FMID JDB9917 (ODBC support) and PTFs for APAR PK41943.

See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker for z/OS* for further details.

Database locations

The broker can access databases set up on the local computer or on a remote server, subject to restrictions.

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

You can create and configure a broker database on the local broker system, or on a remote system, with the exception that you cannot create a remote broker database on i5/OS, OS/400, or z/OS.

- You can use a local or remote database for user data, subject to the following restrictions:

Databases on i5/OS and OS/400

- You can use only DB2 (UDB) on iSeries (System i™) under OS/400 or i5/OS.
- You must install OS/400 V5R2, or i5/OS V5R3 or V5R4.
- On Linux, UNIX, and Windows, you can connect using DB2 Connect™. On Windows only, you can also use iSeries Access for Windows.
- You cannot define globally-coordinated (XA) transactions.
- You cannot configure message flows that include Rules and Formatter Extension nodes to access a database on i5/OS or OS/400.
- You can call stored procedures only if access to the remote database is provided by DB2 Connect.

Databases on z/OS

- You can use only DB2 (UDB) on z/OS. If you install DB2 V8.1, you must apply the PTF for APAR PQ84976.
- You must use DB2 Connect on Linux, UNIX, and Windows.
- You cannot configure message flows that include Rules and Formatter Extension nodes to 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 Message Broker with Rules and Formatter for z/OS*.

WebSphere Information Integrator databases

- You can configure message flows on all distributed systems to access user data in WebSphere Information Integrator for Linux, UNIX, and Windows Version 8.2.

You can also configure message flows to access user data in WebSphere Information Integrator Classic Federation for z/OS Version 8.2, on broker platforms for which WebSphere Information Integrator Classic Federation client code is provided.

- You can configure message flows on z/OS brokers to access user data in 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-Datcom
 - Software AG ADABAS
 - DB2

WebSphere Information Integrator Classic Federation for z/OS Version 8.2 is supported only with a CAF (Call Attachment Facility) ODBC connection. This support does not include two-phase commit, and database operations are not coordinated by Recoverable Resource Services (RRS).

- 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 the database product that you are using with WebSphere Message Broker to determine the best options for your specific environment and requirements, and information about how to configure remote database 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. The database schema is created, if it does not already exist, based on the user ID you specify on the command, and the tables are created if they do not already exist.

You can specify parameters that create a different database schema for every broker, or share a database schema between brokers. If you create further brokers that specify the same database schema, new rows are created for each broker. Every row that is created in the table is qualified by a unique identifier (UUID) for each broker, therefore each row is unique to a single broker.

The following table shows the database tables that are created by the `mqsicreatebroker` command in the broker database schema.

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
BROKERA	Broker process details to support recovery
BROKERAEG	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 requirements

WebSphere Message Broker requires additional software products to run successfully.

- “WebSphere MQ”
- Java™ runtime environment
- “Installation Manager” on page 55
- “XML Toolkit” on page 56
- “Browsers” on page 56

WebSphere MQ

All WebSphere Message Broker components require WebSphere MQ at the minimum supported level shown in the table.

WebSphere MQ Version 6.0 (with tailored terms and conditions for use with WebSphere Message Broker) is supplied on DVD on Linux (x86 platform) and Windows only, and on CD on all platforms. If you have a previous version of WebSphere MQ, you can use the supplied CDs or DVD to upgrade your current installation.

All runtime components (broker, Configuration Manager, and User Name Server) require a WebSphere MQ queue manager. Each component of the same type must have a dedicated local queue manager. More than one broker cannot share a single queue manager; this restriction also applies to Configuration Manager and to User Name Server components. Components of different types can share a queue manager; for example, a broker and a Configuration Manager on a single computer can share a queue manager.

Operating system	Requirements
All distributed systems ¹	WebSphere MQ Version 6.0 (or later) ^{2, 3, 4}
z/OS ⁵	WebSphere MQ Version 6.0.0 (or later) with MQ Java Classes feature ⁴

Notes:

1. WebSphere MQ is not required on Linux (x86 platform) or Windows systems on which you install only the Message Broker Toolkit.
If you want to configure an SSL connection between the Message Broker Toolkit and the Configuration Manager, you must have an SSL certificate manager installed on the computer on which you have installed the Message Broker Toolkit. If you choose to use WebSphere MQ to provide SSL management, install either the Client or the Server; both components include IBM Key Management tools.
2. 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 already installed WebSphere MQ Version 6.0, check that your installation includes the Java Messaging component; add it from the WebSphere MQ media if it is not installed.
On Windows, if you choose to install WebSphere MQ Version 6.0 from the Windows Launchpad, Express installation installs all required components for you. If you use Advanced installation, select a custom installation and include the server and Java Messaging components.

If you start the WebSphere MQ Version 6.0 installation program directly on any platform, including Windows, select a custom installation and include the server and Java Messaging components.

If you want to use the WebSphere MQ Explorer, the graphical interface that is available on Linux (x86 platform) and Windows only, install the WebSphere Eclipse Platform Version 3.0.1 and the WebSphere MQ Explorer components.

Other WebSphere MQ components are optional.

3. Check the availability of WebSphere MQ Version 6.0 on your operating system; exact GA versions vary on different platforms.
4. Some specific broker functions might require later levels of WebSphere MQ:
 - Globally-coordinated (XA) transactions are supported only by WebSphere MQ V6.0.1.0 or later.
 - If you develop message flows that use WebSphere MQ Real-time Transport with Multicast PGM support, you must apply APAR IC47032 and USERMOD ANPGM01 on WebSphere MQ Version 6.0.
5. On z/OS, WebSphere MQ is a mandatory requirement and must be installed before you install WebSphere Message Broker. WebSphere MQ must be at RSU0609 or later, and you must install FMID JMS6008 (MQ connectivity) and PTFs for APARs PK53810 and PK55665

See the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS* for further details about required levels of WebSphere MQ.

For details of WebSphere MQ products and supported versions, see the WebSphere MQ product information Web site.

JRE

A Java runtime environment (JRE) is required on all platforms:

- On distributed platforms, Java Runtime Environment (JRE) Version 5 SR5 is embedded in product components.
- On z/OS, you must acquire and install a JRE which must be at Version 5 SR5 or later.

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

WebSphere Message Broker supports any JMS 1.1 provider. You must consider both this level of support and the supported JRE when you select a JMS provider whose client will be embedded in the broker.

Installation Manager

All Rational® products at Version 7.0 or later are installed by IBM Installation Manager, which also controls management, updates, licensing, and uninstallation. The Message Broker Toolkit includes some Rational product components, and therefore includes and uses Installation Manager.

For further information about Installation Manager and the Message Broker Toolkit, see the "Installation Guide" on page 3.

XML Toolkit

For z/OS only, you must install the IBM XML Toolkit for z/OS, Version 1.9.

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

Browsers

For best results when viewing the information center from the Message Broker Toolkit, use Internet Explorer Version 6.0 (or later) on Windows, or Mozilla 1.4.2 (or later) on Linux (x86 platform).

Some Linux (x86 platform) offerings do not install Mozilla by default. If you plan to install the Message Broker Toolkit on your Linux (x86 platform) system, check that a supported version of Mozilla is already installed. If not, install Mozilla from your Linux (x86 platform) operating system media.

Optional software support

The products listed here are not required, but might be useful. Except where stated, these products are not supplied with WebSphere Message Broker.

- "EIS client libraries"
- "WebSphere MQ Everyplace"
- "Tivoli License Manager"
- "Security providers" on page 57
- "JMS providers" on page 57
- "Compilers" on page 57
- "Adobe Flash Player" on page 58
- Citrix XenApp

EIS client libraries

If you plan to use WebSphere Adapters on any supported operating system, you must obtain the appropriate Enterprise Information System (EIS) client libraries from the relevant EIS vendor (for example, PeopleSoft, Siebel, or SAP). The client libraries are required to complete connections between Adapters nodes and the EIS; install them on each computer on which you run a broker that hosts message flows that include Adapters nodes.

WebSphere MQ Everyplace

WebSphere MQ Everyplace supports messaging to, from, and between pervasive devices, including handheld devices such as mobile phones and PDAs.

WebSphere MQ Everyplace Version 2.0.2.0 is supplied with WebSphere Message Broker.

Tivoli License Manager

To monitor the use of software products including WebSphere Message Broker, install IBM Tivoli License Manager Version 2.1.

Security providers

The runtime security manager interacts with external security providers:

- Lightweight Directory Access Protocol (LDAP) provides authentication and authorization services.
- Tivoli Federated Identity Manager (TFIM) provides authentication, mapping, and authorization services.

JMS providers

The JMSInput and JMSOutput nodes are compatible with, and work with, any JMS provider that conforms to the Java Message Service Specification, version 1.1.

Compilers

If you develop user-defined extensions in C or Java, you need the appropriate supported software:

C

AIX

AIX

IBM XL C/C++ for AIX Version 8.0

HP-UX

HP-UX (PA-RISC platform)

HP aC++ Version A 03.73 or later

HP-UX

HP-UX (Integrity platform)

HP aC++ Version A 06.12 or later

Linux

Linux (POWER platform)

GNU gcc, Version 3.3 or later

Linux

Linux (x86 platform)

GNU gcc, Version 3.3 or later

Linux

Linux (x86-64 platform)

GNU gcc, Version 3.3 or later

Linux

Linux (zSeries platform)

GNU gcc, Version 3.3 or later

Solaris

Solaris (SPARC platform)

Sun Studio 11

Solaris

Solaris (x86-64 platform)

Sun Studio 11

Windows

Windows

Microsoft Visual C++ .NET 2003

If you are using Microsoft Visual Studio 2005, you need to package and ship the relevant Microsoft C Run Time (CRT) libraries including the appropriate Microsoft manifest files together with your .manifest files and your .dll files.

See the Microsoft Visual Studio documentation for details on redistribution of the CRT.

z/OS

z/OS

IBM z/OS C/C++, for z/OS Version 1.5 or later

Java Version 5 (also known as Java 1.5) SR5 is supported on all operating systems. An SDK is included on distributed systems, and is installed in the *install_dir\jre15* directory. On z/OS, you must install your required level of JRE. For further details, see “Additional software requirements” on page 54.

Adobe Flash Player

If you want to launch the Quick Tour from the information center in the Message Broker Toolkit, you must install Adobe Flash Player Version 6.0 or later. You can freely download from the Adobe Web site an Adobe Flash Player plug-in for the Web browsers that are supported by the Message Broker Toolkit.

System requirements for Citrix XenApp

This topic gives information about licensing issues, and the software and hardware that you need to use WebSphere Message Broker in a Citrix XenApp environment.

Operating system

The required operating system is Windows 2003 Server. Client versions of Windows, such as Windows XP, cannot be used because Citrix XenApp requires Terminal Server, which is not available on client versions of Windows.

The recommended version of Windows Server 2003 is Enterprise Edition. You can also use Windows Server 2003 Standard Edition, but you might need to reduce the maximum heap size for the Java virtual machine that is used by the Message Broker Toolkit.

Software prerequisites

Citrix XenApp (previously known as Citrix Presentation Server 4.0 or 4.5) and its prerequisites must be installed on the Windows 2003 server.

Hardware prerequisites

The server must have enough CPU, RAM, disk space, and network bandwidth for each concurrent user. Performance depends on the tasks that are being performed, and on the hardware, software and networking setup. As a guide, the server should have a minimum of 1 GB of RAM per concurrent user and at least 4 GB of RAM in total. If the tasks require frequent disk access, it should help performance to have a separate physical disk for each user so that they do not slow each other down.

Licensing

Any number of users can use the Message Broker Toolkit through Citrix, provided they all connect only to a Message Broker that has a valid license.

Installation and uninstallation interfaces

You can use different interfaces for installation and uninstallation of runtime components and the Message Broker Toolkit.

When you install or uninstall the runtime components, you can choose a graphical, console, or silent interface. These options are described in “How to install and uninstall runtime components” on page 59.

When you install or uninstall the Message Broker Toolkit, you can choose a graphical or silent interface. These options are described in “How to install and uninstall the Message Broker Toolkit” on page 62.

Examples of commands in the topics in this section use *installer* and *uninstaller* for the names of the installation or uninstall wizard. Substitute the correct names for the platform on which you are using the wizard. Unless otherwise specified, you can use the examples for uninstalling components, or applying service; the same format is used for all three operations.

How to install and uninstall runtime components

Install and uninstall runtime components by using one of three interfaces.

- “Graphical interface”
- “Console interface”
- “Silent interface” on page 60

Each interface has different advantages, which are discussed in the appropriate sections. When you have chosen the interface that you want to use, follow the installation instructions in the “Installation Guide” on page 3 (for a new installation), in “Installing” on page 3 (to install service to existing components), or in “Uninstalling” on page 29 (for product components and service).

Graphical interface

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

The graphical interface provides the highest level of information and guidance. Use this interface when you are unfamiliar with the product, or to monitor 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 that it was in before the wizard was launched. 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 wizard stops immediately. If you want to remove any program that has been installed, invoke the uninstallation wizard.

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, monitor your CPU usage, which increases greatly during both installation and uninstallation.

Console interface

The console interface is a character-based interface with which you interact in a command window. It presents the same options as the graphical interface.

Use the console interface if you want a command-line or text interface rather than a graphical interface. This interface is suitable for users who use only the keyboard to choose values and navigate through installation, and those with screen reader software such as JAWS.

Invoke the installer using the following command. Use the same format for the uninstaller.

```
installer -console
```

Use these prompts to navigate through the wizard:

- 1 Move to the next panel
- 2 Return to the previous panel
- 3 Cancel and terminate the wizard
- 4 Redisplay the current screen

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

Silent interface

Use the silent interface for automated installation or uninstallation over a large number of identical systems. If you start a silent installation or uninstallation, the wizard runs without any interaction. Using this interface, the process is completed with default options, or according to a predefined set of options. The silent interface does not provide any feedback to the caller, therefore you must view the log to check whether the action was successful.

If you use the silent interface to uninstall runtime components, the wizard always uninstalls components from the last known Version 6.1 installation location (that is, the most recent installation), regardless of the location of the uninstallation wizard that you invoke. To remove components from an earlier Version 6.1 installation, use the console or graphical interface.

You can perform a silent installation in the following ways:

- With default options:

The installation wizard performs the following actions:

- Checks that prerequisite software is installed
- Installs to the default directory
- Installs all selectable features

Because the installation wizard checks for prerequisite software using the silent interface, 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 with runtime components” on page 61), or include the appropriate parameter with a non-default value on the command invocation.

The uninstallation wizard performs the following actions:

- Removes all selectable features

To run the wizard with default options, specify the `-silent` option on the command:

```
installer -silent
```

- With one or more non-default options:

If you want the wizard to use non-default values for one or more options, specify non-default options either on the command invocation, or in a response file, as described in “Using response files with runtime components” on page 61.

A sample response file is provided in the sample-scripts directory of the root CD directory. This file includes detailed information about the options that you can change, and the values that you must enter to change them. Tailor this file to match your requirements, or generate a new response file.

To run a tailored silent installation using a response file called response1.txt, specify the `-silent` option and the file name on the command:

```
installer -silent -options response1.txt
```

Using response files with runtime components

Use a response file to define the behavior of an installation or uninstallation wizard running the silent interface.

A response file is a text file that contains options that define the choices that the wizard makes. You can use response files to install or uninstall runtime components, or to apply service updates, using non-default values.

- “Editing the sample response files”
- “Recording a response file” on page 62
- “Generating response files” on page 62
- “Calling response files in commands” on page 62

Editing the sample response files:

Sample response files are supplied. On Linux and UNIX systems, the files are `/sample-scripts/install.opt` and `/sample-scripts/uninstall.opt`. On Windows, the files are `\sample-scripts\install.opt` and `\sample-scripts\uninstall.opt`. The sample response files include detailed information about the options that you can change, and the values that you can enter to change them. You can tailor these files to match your requirements.

A number sign (`#`) at the start of a line denotes a comment. Remove the comment character to enable the line.

You must remove the comment character at the start of the following line. If you do not do this, your other options are ignored.

```
# -W setupTypes.selectedSetypTypeId=
```

Some examples of how you can modify the installation response file follow:

- Choose a custom installation (typical is the default option):
`-W setupTypes.selectedSetupTypeId=custom`
- Install to a non-default directory.
Find the following line, remove the number signs, and insert your chosen installation directory:
`### -P installLocation=new_location`
- Choose which components to install.
For example, to exclude the Configuration Manager, find this line in the response file:
`# -P configManagerFeature.active=true`
Change the line to read:
`-P configManagerFeature.active=false`
- Specify whether the program is to check for prerequisite software.
Add one or more of the following lines to the file to instruct the installation wizard to ignore the check for specific software:

```
# don't check for WebSphere MQ
P mqPrerequisite.active=false

don't check for Java Messaging
P javaMessagingPrerequisite.active=false
```

Recording a response file:

Use the following command to record a response file:

```
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 quotation marks if it contains spaces ("response file"). Create this file in a directory different from the one in which the product is installed.

The installation wizard starts its graphical interface and records your responses as it progresses. When installation is complete, the response file contains all the choices that you have made during installation.

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

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

Generating response files:

Use the following command to generate a template installation response file. The wizard does not perform installation or uninstallation when you start it with these options:

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

The generated template response file contains full instructions on how to edit it to specify your required options.

To generate a response file during a console installation, use the following command:

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

Calling response files in commands:

Use the following command to run the silent interface with a response file:

```
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 quotation marks if it contains spaces.

The wizard runs, taking its input from the response file.

How to install and uninstall the Message Broker Toolkit

Install and uninstall the Message Broker Toolkit by using one of two interfaces.

- "Graphical interface" on page 63

- “Silent interface”

Each interface has different advantages, which are discussed in the appropriate sections. When you have chosen the interface, follow the installation instructions in the “Installation Guide” on page 3 (for a new installation), in “Installing” on page 3 (to install service), or in “Uninstalling” on page 29 (for the component or service).

Graphical interface

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

The graphical interface provides the highest level of information and guidance. Use this interface when you are unfamiliar with the product, or to monitor 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 that it was in before the wizard was launched. 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 wizard stops immediately. If you want to remove any program that has been installed, invoke the uninstallation wizard.

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, which increases greatly during both installation and uninstallation.

Silent interface

Use the silent interface for automated installations over a large number of identical systems. If you start a silent installation or uninstallation, the wizard without any interaction; the process is completed with default options, or according to a predefined set of options. The silent interface does not provide any feedback to the caller; therefore, you must check the log to determine whether the action was successful.

You can run a silent installation with default settings, or with one or more non-default values:

- With default settings, the installation wizard performs the following actions:
 - Installs to the default directories
 - Installs all supported locales

To run a default silent installation, enter the following command. If IBM Installation Manager is not already installed, it is installed before the Message Broker Toolkit is installed.

Linux **Linux (x86 platform)**

```
./install -nosplash --launcher.suppressErrors -silent -input mbtoolkit-silent.xml
```

Windows **Windows**

```
install.exe -nosplash --launcher.suppressErrors -silent -input mbtoolkit-silent.xml
```

- With one or more non-default settings, the wizard applies the options that you specify in a response file to determine what actions to take.

If you want the wizard to use non-default values for one or more options, specify a recorded response file, as described in “Using response files with the Message Broker Toolkit.”

Using response files with the Message Broker Toolkit

Specify a response file to define the behavior of the installation or uninstallation wizard.

You can use response files to install or uninstall the Message Broker Toolkit, or to apply service updates.

- “Editing the sample response files”
- “Recording a response file”
- “Calling response files in commands”

Editing the sample response files:

A sample response file `mbtoolkit-silent.xml` is supplied on Linux (x86 platform) and Windows. The files assume that IBM Installation Manager has not yet been installed, and sets options to install both Installation Manager and the Message Broker Toolkit in the default locations.

Although you can tailor these files to match your requirements, for example by changing the installation locations, the record option on a graphical installation or uninstallation is preferable. If you use the record option, you do not have to modify the file content, which is complex because the files handle multiple installations, directories, and options.

Recording a response file:

Use the following command to record a response file:

- On Linux (x86 platform):

```
./install -record response.xml
```

- On Windows:

```
install.exe -record response.xml
```

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

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

Calling response files in commands:

Use the following command to run the installation wizard with the silent interface and a recorded response file:

- On Linux (x86 platform):

```
./install -nosplash --launcher.suppressErrors -silent -input response.xml
```

- On Windows:


```
install.exe -nosplash --launcher.suppressErrors -silent -input response.xml
```

where *response.xml* is the full path and name of the response file you recorded. On Windows, surround the path and name with quotation marks if it contains spaces.

The wizard runs, taking its input from 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

Message support is provided in a number of locales.

WebSphere Message Broker supports 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. These values are the same for HP-UX (Integrity platform) and HP-UX (PA-RISC platform). Due to limited syslog support on HP-UX operating systems, messages are written to the log in US English only.
2. These values are the same for Linux (POWER platform), Linux (x86 platform), Linux (x86-64 platform), and Linux (zSeries platform).

Other locales might be supported; check your operating system for further details.

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).

- Start and main menu updates
- Directory structures
- Registry contents
- Environment variables
- Default WebSphere MQ resources
- Database contents

Start and main menu updates after installation

When you install WebSphere Message Broker on Linux (x86 platform) or Windows, the installation program makes changes to the main menu or the Start menu.

Message Broker Toolkit on Linux (x86 platform) running Red Hat

The main menu is populated with the following entries:

- **Programming** → **IBM WebSphere Message Broker Toolkit**
- **Programming** → **IBM Installation Manager**

If you install multiple products with Installation Manager on this operating system, a single entry exists in the main menu and refers to the last product that you installed. The package groups of installed products are not reflected in the main menu. To invoke applications that you installed previously, including other installations of the Message Broker Toolkit, you must use the command line interface.

If you want to start Installation Manager, for example to update or uninstall one or more packages, you cannot use the main menu items, because these actions require root authority. Become root and start the Installation Manager program `/eclipse/IBMIM` in the Installation Manager installation directory on the command line.

Message Broker Toolkit on Linux (x86 platform) running SUSE

The main menu is populated with the following entries:

- **All Applications** → **Development** → **IBM WebSphere Message Broker Toolkit**
- **All Applications** → **Development** → **IBM Installation Manager**

If you install multiple products with Installation Manager on this operating system, a single entry exists in the main menu and refers to the last product that you installed. The package groups of installed products are not reflected in the main menu. To invoke applications that you installed previously, including other installations of the Message Broker Toolkit, you must use the command line interface.

If you want to start Installation Manager, for example to update or uninstall one or more packages, you cannot use the main menu items, because these actions require root authority. Become root and start the Installation Manager program `/eclipse/IBMIM` in the Installation Manager installation directory on the command line.

Message Broker Toolkit on Windows

The **Start** menu is populated with the following entries:

- **IBM Software Development Platform** → **IBM WebSphere Message Broker Toolkit** → **WebSphere Message Broker Toolkit**
- **IBM Software Development Platform** → **IBM WebSphere Message Broker Toolkit** → **IBM Support Assistant**
- **IBM Software Development Platform** → **IBM WebSphere Message Broker Toolkit** → **Release Notes**

These entries assume that you have installed into the first or default package group. Additional products that you install in this package group might also appear in this start list.

Entries are also added to the **Start** menu when Installation Manager is first installed:

- **Programs** → **IBM Installation Manager** → **IBM Installation Manager**
- **Programs** → **IBM Installation Manager** → **Release Notes**
- **Programs** → **IBM Installation Manager** → **Uninstall IBM Installation Manager**
- **Programs** → **IBM Installation Manager** → **View Installed Packages**

Runtime components on Windows

The **Start** menu is populated with the following entries:

- **Programs** → **IBM WebSphere Message Brokers 6.1** → **Command Console**
- **Programs** → **IBM WebSphere Message Brokers 6.1** → **Java Programming APIs** → **Configuration Manager Proxy API Documentation**
- **Programs** → **IBM WebSphere Message Brokers 6.1** → **Java Programming APIs** → **Configuration Manager Proxy API Exerciser**
- **Programs** → **IBM WebSphere Message Brokers 6.1** → **Java Programming APIs** → **Java Plugin API Documentation**

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 WebSphere Message Broker, and the components that you have installed.

If you install the Message Broker Toolkit, other directories might be created for Installation Manager, the Shared Resources Directory, and the package group in which you install the toolkit.

AIX, HP-UX (PA-RISC platform), Linux (x86-64 platform), and Solaris (SPARC platform)

On AIX, HP-UX (PA-RISC platform), Linux (x86 platform, 64-bit), and Solaris (SPARC platform), the default home directory *install_dir* is `/opt/IBM/mqsi/6.1`. The directories created in *install_dir* are shown in the following table.

Directories under <i>install_dir</i>	Contents
<code>_uninst_runtime</code>	Uninstall programs
<code>_uninst_runtime_jvm</code>	Uninstall programs (JVM)
<code>adapters</code>	WebSphere Adapters files
<code>bin</code>	Executable binaries
<code>catalina</code>	Web Services support files
<code>classes</code>	Java class files
<code>DD64</code>	ODBC driver and related files (64-bit support)
<code>docs</code>	Java API files
<code>exmltConfig</code>	XML transformation files
<code>include</code>	Header and other files for samples
<code>itlm</code>	Tivoli License Manager files
<code>jplugin</code>	Java plug-in files

Directories under <i>install_dir</i>	Contents
jre15	IBM Runtime Environment for the Java Platform Version 5 (also known as Version 1.5)
lib	Shared library files
license	License files
lil	Loadable library files (64-bit)
lil32	Loadable library files (32-bit)
merant	ODBC driver and related files
messages	Description files for messages and exceptions
migration	Migration files
ODBC32	Sample 32-bit ODBC configuration files
ODBC64	Sample 64-bit ODBC configuration files
readmes	Product readme files
sample	C, C++, and Java sample files
SecurityProviders	Security files (64-bit)
SecurityProviders32	Security files (32-bit)
webservices	Web Services files
xlpc	Product library files
xml4c	XML processing files

On AIX, HP-UX (PA-RISC platform), Linux (x86 platform, 64-bit), and Solaris (SPARC platform), the working directory is `/var/mqsi/`. The directories created are shown in the following table.

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

HP-UX (Integrity platform), Linux (POWER platform), Linux (zSeries platform), and Solaris (x86-64 platform)

On HP-UX (Integrity platform), Linux (POWER platform), Linux (zSeries platform), and Solaris (x86-64 platform), the default home directory *install_dir* is `/opt/IBM/mqsi/6.1`. The directories created in *install_dir* are shown in the following table.

Directories under <i>install_dir</i>	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
adapters	WebSphere Adapters files
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
jre15	IBM Runtime Environment for the Java Platform Version 5 (also known as Version 1.5)
lib	Shared library files
license	License files
lil	Loadable library files
messages	Description files for messages and exceptions
migration	Migration files
ODBC64	Sample 64-bit ODBC configuration files
readmes	Product readme files
sample	C, C++, and Java sample files
SecurityProviders	Security files
webservices	Web Services files
xlpc	Product library files
xml4c	XML processing files

On HP-UX (Integrity platform), Linux (POWER platform), Linux (zSeries platform), and Solaris (x86-64 platform), the default working directory is `/var/mqsi/`. The directories created are shown in the following table.

Directories under <code>/var/mqsi</code>	Contents
common/errors	Error files
common/locks	Resource locks
common/log	Trace files
common/profiles	User profiles
components	Component details
config	Profiles
odbc	ODBC files
registry	Registry information
shared-classes	User installed user-defined node classes
XML	XML files

Directories under <i>/var/mqsi</i>	Contents
XSL	XSL style sheets

Linux (x86 platform)

On this platform, you can install both the runtime components and the Message Broker Toolkit.

Runtime components

On Linux (x86 platform), the default home directory *install_dir* is */opt/ibm/mqsi/6.1*. The directories created in *install_dir* are shown in the following table.

Directories under <i>install_dir</i>	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
adapters	WebSphere Adapters files
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
jre15	IBM Runtime Environment for the Java Platform Version 5 (also known as Version 1.5)
lib	Shared library files
license	License files
lil	Loadable library files
merant	ODBC driver and related files
messages	Description files for messages and exceptions
migration	Migration files
ODBC32	Sample 32-bit ODBC configuration files
readmes	Product readme files
sample	C, C++, and Java sample files
SecurityProviders	Security files
webservices	Web Services files
xlxpc	Product library files
xml4c	XML processing files

The default working directory is */var/mqsi/*. The directories created are shown in the following table.

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

Message Broker Toolkit

The default IBM Installation Manager installation directory is /opt/ibm/InstallationManager. The default Shared Resources Directory is /opt/ibm/SDP70Shared. The default package group directory is /opt/IBM/WMBT610. These directories are defined and described in the “Installation Guide” on page 3.

The directories created are shown in the following tables.

Directories under /opt/ibm/InstallationManager	Contents
eclipse	Eclipse plug-in directories and files
license	License files

Directories under /opt/ibm/SDP70Shared	Contents
atoc	Eclipse plug-in directories and files
extra	License files
features	Product files for features installed on this computer
native	
plugins	Eclipse plug-in directories and files common to features installed on this computer

Directories under /opt/IBM/WMBT610	Contents
bin	Directories and files for products within the package group
configuration	Configuration files
eclipse	Eclipse files
features	Directories and files for products within the package group
jdk	Java directories and files
lum	License files

Directories under /opt/IBM/WMBT610	Contents
plugins	Eclipse plug-ins and related files
ResourceAdapters	Rational directories and files
runtimes	Rational directories and files
samples	Sample response files
uninstall	Product uninstall files
wmbt	Message Broker files

Other files are also stored by the Installation Manager in the directory /var/ibm/InstallationManager.

Windows

On this platform, you can install both the runtime components and the Message Broker Toolkit.

Runtime components

On Windows, the default home directory *install_dir* is C:\Program Files\IBM\MQSI\6.1. The directories created in *install_dir* are shown in the following table.

Directories under <i>install_dir</i>	Contents
_uninst_runtime	Uninstall programs
_uninst_runtime_jvm	Uninstall programs (JVM)
adapters	WebSphere Adapters files
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
jre15	IBM Runtime Environment for the Java Platform Version 5 (also known as Version 1.5)
lib	Shared library files
license	License files
messages	Description files for messages and exceptions
migration	Migration files
readmes	Product readme files
sample	C, C++, and Java sample files
webservices	Web Services files

The default working directory is %ALLUSERSPROFILE%\Application Data\IBM\MQSI where %ALLUSERSPROFILE% is the environment variable that defines the system working directory. The default value of %ALLUSERSPROFILE% is C:\Documents and Settings\All Users; this setting might have a different value on your computer, but the remainder of the product working directory path is fixed. The directories created are shown in the following table.

Directories under <i>work_dir</i>	Contents
Common/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	XML files
XSL	XSL style sheets

Message Broker Toolkit

On Windows, the default IBM Installation Manager installation directory is C:\Program Files\IBM\InstallationManager. The default Shared Resources Directory is C:\Program Files\IBM\SDP70Shared. The default package group directory is C:\Program Files\IBM\IBM\WMBT610. These directories are defined and described in the “Installation Guide” on page 3.

The directories created are shown in the following tables.

Directories under C:\Program Files\IBM\InstallationManager	Contents
eclipse	Eclipse plug-in directories and files
license	License files

Directories under \SDP70Shared	Contents
atoc	Eclipse plug-in directories and files
extra	License files
features	Product files for features installed on this computer
native	
plugins	Eclipse plug-in directories and files common to features installed on this computer

Directories under \WMBT610	Contents
bin	Eclipse plug-in directories and files
configuration	License files
features	Product files for features installed on this computer
jdk	Java directories and files
lum	License files
plugins	Eclipse plug-in directories and files common to features installed on this computer
ResourceAdapters	Rational directories and files
runtimes	Rational directories and files
samples	Sample response files
uninstall	Product uninstall files
wmbt	Message Broker files

Other files are also stored by the Installation Manager in the directories C:\Documents and Settings\All Users\Application Data\IBM\Installation Manager and C:\Documents and Settings\Administrator\IBM\InstallationManagerInstaller. Your system might have a different value for Documents and Settings, but the remainder of these paths are fixed.

z/OS

The default installation directory is /usr/lpp/mqsi/VxRxMx where VxRxMx represents Version X, Release X, Modification X, for example, V6R1M0.

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 for z/OS*.

Registry changes created 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).

Runtime components

On Windows, the system registry is used; on Linux and UNIX systems, equivalent values are stored within the installation directory structure; the environment variable \$MQSI_REGISTRY is set to point to the location. 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 entries 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.

Location	Description
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 Broker Toolkit

All registry entries are controlled by Installation Manager. On Windows, the system registry is used; on Linux (x86 platform), equivalent entries are stored in /var/ibm/InstallationManager/. Do not alter or remove these entries unless instructed to do so by your IBM Service representative.

The installation directory for Installation Manager is stored in HKEY_LOCAL_MACHINE\SOFTWARE\IBM\Installation Manager under the location value.

Uninstall keys are created for all products that are installed by Installation Manager under HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Current\Version\Uninstall\IBM Installation Manager, under the name IM-*packagegroupname* where *packagegroupname* is the name of the package group in which the product is installed; for example, IBM Software Development Platform.

Environment variables after installation

On distributed systems, ensure that your environment is set up correctly.

If you have installed on z/OS, see Customizing the z/OS environment.

Sample profile files are provided with WebSphere Message Broker; 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 systems, the profile is *install_dir/bin/mqsiprofile*.
- On Windows systems, a command console is set up when you install components. Access this through the **Start** menu. When you select this option, a command window containing the correct environment is opened.

If you prefer, run *install_dir\bin\mqsiprofile.cmd* in a command window before working with WebSphere Message Broker in the same command window.

If you have more than one installation on a single system, 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 5.0 or Version 6.0, the profile is incompatible with the Version 6.1 profile. 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 installation and configuration

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

The names of these resources begin with the reserved characters SYSTEM. The resources are additional to the default WebSphere MQ objects that are created when you install that product. The following table 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 that the broker sends 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.CONFIG.QUEUE	Queue	Configuration Manager	Target for messages that the toolkit sends to the Configuration Manager.
SYSTEM.BROKER.CONFIG.REPLY	Queue	Configuration Manager	Target for messages that the Configuration Manager sends to the toolkit.
SYSTEM.BROKER.CONTROL.QUEUE	Queue	Broker	Target for publish/subscribe control requests that applications send to the broker.

Resource name	Type	Queue manager	Description
SYSTEM.BROKER.EDA.COLLECTIONS	Queue	Broker	Used internally to store event handler information for message collections generated by the Collector node.
SYSTEM.BROKER.EDA.EVENTS	Queue	Broker	Used internally to store messages received by the Collector node.
SYSTEM.BROKER.EXECUTIONGROUP.QUEUE	Queue	Broker	Target for messages that the broker's internal AdminAgent component sends to execution groups.
SYSTEM.BROKER.EXECUTIONGROUP.REPLY	Queue	Broker	Target for response messages that execution groups send to the broker's internal AdminAgent component.
SYSTEM.BROKER.INTER.BROKER.COMMUNICATIONS	Queue	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.
SYSTEM.BROKER.IPC.QUEUE	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 that the Configuration Manager, brokers, and the toolkit send to the User Name Server.
SYSTEM.BROKER.SECURITY.REPLY	Queue	Configuration Manager and brokers	Target for response messages that the User Name Server sends to its requestor.
SYSTEM.BROKER.TIMEOUT.QUEUE	Queue	Broker	Used internally to support the TimeoutControl and TimeoutNotification 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.

Part 4. Appendixes

Appendix. Notices for WebSphere Message Broker

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