WebSphere Message Broker

Installation Guide

Version 7 Release 0

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About this book

This book explains how to install WebSphere Message Broker Version 7.0, and how to verify your installation.

This book contains information that is extracted from the WebSphere Message Broker Version 7.0 information center. The Terms of use and Notices that apply to the information center also apply to this book.

Contents

Tables

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 latest version is always on the product readmes Web page; always check to see that you have the latest copy. The version of file which is included on the product media, and which is installed when you install product components, contains a link to the latest version on the product readmes Web page.

Installation Guide
The Installation Guide is provided as a PDF file with your product. It is also available on the IBM® Publications Center Web site. See 'Installation Guide' in the information center for details about where the installation information is included in the information center.

Information center
The information center is installed with the WebSphere Message Broker Toolkit and the WebSphere Message Broker Explorer, and updates are typically included when you apply service to those components.

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 WebSphere Message Broker Toolkit' in the information center 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".

Part 1. Planning

The first part of this book describes the environment that you need before you can install WebSphere Message Broker. The information here addresses z/OS® and distributed systems.

Chapter 1. Preparing for Installation

Use the instructions in this tutorial for an overview of the installation tasks, and to prepare for installation of WebSphere Message Broker.

The tasks that you perform to complete installation are listed here; each task indicates whether it is required or optional. A summary of each task is provided, along with pointers to later chapters or sections which describe that task in more detail.

1. Required: Make sure that you have acquired the product packages that you need for installation.

   Physical and electronic packages are available for WebSphere Message Broker Version 7.0.0.2.

   For more information about available packages and their contents, see Chapter 5, “Installation packages,” on page 29. If you have ordered the product for electronic delivery from IBM Passport Advantage®, check that you have downloaded all the images that you need for all components and all platforms. The contents of the images that are available are exactly equivalent to the CDs that are supplied in the physical packages. Find out how to access, download, and extract product images in “Accessing CDs and DVDs” on page 42.

   For instructions about downloading and applying service updates, see 'Applying service' in the information center.
2. Required: Make sure that you have access to the product documentation that you need for installation.
   - The product readme file `readme.html` contains the latest available information.
   - The information center describes planning and preparation on all platforms. The sections of the information center you need for installation are also available as a PDF file on the Quick Start CD.
   - This information center describes installation procedures for all components on all distributed platforms. The sections of the information center you need for installation are also available as a PDF file on the Quick Start CD.
   - The *Program Directory for WebSphere Message Broker for z/OS* describes installation procedures for all components on z/OS.

   Find out how to get these documents in “Finding the latest information” on page vii.
3. Required: Decide which components you want to install on your computers.

   The following information provides a minimum level of details about WebSphere Message Broker components; read Chapter 7, “Choosing what to install,” on page 49 to find out more about them.
   - The WebSphere Message Broker Toolkit. You must install this component on at least one computer. You can install this component only on Linux® on x86, Linux on x86-64, and Windows®.

     Use the WebSphere Message Broker Toolkit to create, manage, deploy, and delete message flows and associated resources in a development environment.
   - The WebSphere Message Broker Explorer. You can install this component only on Linux on x86, Linux on x86-64, and Windows.

Use the WebSphere Message Broker Explorer to administer your brokers in a production environment.

- The broker. You must install this component on at least one computer.

  If you want you can create multiple brokers on a single computer. Deploy your message flow resources to one or more brokers to process your application messages.

4. Required: Decide on which platform you want to install your chosen components.

   The following table shows which components you can install on the supported platforms.

Table 1. Summary of component and platform support

Component	Platform
WebSphere Message Broker Toolkit	• Linux on x86 • Linux on x86-64 • Windows 32 bit • Windows 64 bit
WebSphere Message Broker Explorer	• Linux on x86 • Linux on x86-64 • Windows 32 bit • Windows 64 bit
Broker	All supported platforms

5. Required: Prepare each computer on which you are installing one or more components.

   a. Check that your target computers meet the initial hardware, storage, and software requirements.

      The requirements vary depending on what computers you want to install WebSphere Message Broker on, and what components you are installing; read the details in "Hardware requirements" on page 7 and "Operating system requirements" on page 13.

      The supported hardware and software environments are updated occasionally; view the latest requirements information about the product requirements Web site:

      `www.ibm.com/software/integration/wbimessagebroker/requirements/`

   b. Complete appropriate tasks for your computer to set up security and UNIX® kernel configuration, and get ready to access the installation media.

      All these tasks are described in Chapter 6, "Preparing the system," on page 39.

   c. Check that your user ID has the required authority to complete installation:

      - AIX® systems: use the user ID root for installation.
      - Linux and other UNIX systems: Use either the user ID root, or another ID and become root.
      - Windows systems: Your user ID must be a member of the group Administrators.
      - z/OS systems: use a user ID that has suitable RACF® privileges to perform installation.

      This information is a summary only: more details are provided in "Setting up security" on page 39.

6. Required: Check the programs that you use to perform component installation.

   The following table lists the programs that are available.

Table 2. Summary of available installation methods

Platform	Tools
Windows only	The Windows Launchpad This program installs prerequisite products if they are not already installed, and identifies prerequisite products that are not at the supported level. See Chapter 9, "Installing with the Windows Launchpad," on page 63.
Linux, UNIX, and Windows systems	Installation wizards on each supported platform have unique names, which are listed in "Installation wizard names" on page 58. • To install runtime components, see Chapter 10, "Installing the WebSphere Message Broker broker," on page 69. • To install the WebSphere Message Broker Toolkit, see Chapter 11, "Installing the WebSphere Message Broker Toolkit," on page 77. • To install the WebSphere Message Broker Explorer, see Chapter 12, "Installing the WebSphere Message Broker Explorer," on page 83.
z/OS only	SMP/E To install runtime components, see the *Program Directory for WebSphere Message Broker for z/OS*

7. Required: install additional products that are required by WebSphere Message Broker

   WebSphere Message Broker requires other software products to work successfully. The order in which you install these products is not important. However, you must install all required products before you can configure and start WebSphere Message Broker components.

   The following table gives a summary of these requirements.

Table 3. Summary of prerequisite products

Component		Prerequisite products
WebSphere Message Broker Toolkit		• A Web browser to view the information center
WebSphere Message Broker Explorer		• Install WebSphere MQ Explorer • A Web browser to view the information center
WebSphere Message Broker		• WebSphere MQ to communicate with other components • A JRE

   Full details of all these requirements are provided in "Additional software requirements" on page 16:

   • For Web browsers, see "Browsers" on page 17.
   • For details of supported WebSphere MQ versions, see "WebSphere MQ" on page 16.

- For further information about JREs, see "JRE" on page 17.

8. Optional: Configure a minimum broker domain and verify its operation.
   a. To create a minimum broker domain, install the WebSphere Message Broker Toolkit and the broker component on a single computer. Because the WebSphere Message Broker Toolkit is required to complete this task, you must choose a Linux on x86, Linux on x86-64, or Windows computer.
   a. Use the Default Configuration wizard, which you can start from the WebSphere Message Broker Toolkit, to create the required components after installation.
   b. Use this broker domain to create message flow resources, verify your installation, investigate how the product works, and explore the product samples.

   The verification process is described in Chapter 13, "Verifying your installation," on page 93.
9. Optional: change the broker operation mode.

   When you install WebSphere Message Broker and create brokers, they are configured with an operation mode set either to trial (if you have installed the Trial Edition) or enterprise (all other editions). You must configure your brokers to conform to the license that you have purchased. Therefore, if you have purchased the Starter Edition, or the Remote Adapter Deployment, you must set the operation mode of all your brokers to the correct value.

   See Chapter 14, "Checking the broker operation mode and function level," on page 101 for more details.
10. Optional: change the broker function level.

    If new message flow nodes are delivered in a fix pack, they appear in the WebSphere Message Broker Toolkit, but are not enabled in the runtime broker environment. If you deploy a BAR file that includes a message flow that uses a new node, the deployment fails.

    If you want to use and test the new nodes, you can enable them on an individual broker basis. See Chapter 14, "Checking the broker operation mode and function level," on page 101 for more details.

You have completed the tutorial.

Chapter 2. System requirements

Use the reference information in this section to understand the hardware, software, and license requirements.

The product readme file `readme.html` might contain updates to the information in this chapter. The readme file includes information pertinent to all components and platforms, and is maintained in US English on the product readmes Web site:

`www.ibm.com/support/docview.wss?uid=swg27006913`

You must check this file to ensure that you have the latest information. Translated readme files are available on the documentation FTP site:

`ftp://public.dhe.ibm.com/software/integration/wbibrokers/docs/`

A readme file is included with the product; it contains a minimum level of information and directs you to the online version. It is available in these locations:

- Before installation, on the product media.

  The readme file is included in location `\readmes\`*`locale`*`\` (where *locale* identifies country, region, or language, for example `en_US`) on all of the following disks:
  - DVD (on Linux on x86, Linux on x86-64, and Windows only)
  - WebSphere Message Broker component Disk 1 (all operating systems)
  - WebSphere Message Broker component Disk 2 (Windows only)
  - WebSphere Message Broker Toolkit Disk 1
- After installation, in the installation directory:
  - For runtime components, in *`install_dir`*`\readmes\`*`locale`*`\` (where *locale* identifies country, region, or language, for example `en_US`).
  - For the WebSphere Message Broker Toolkit, in *`package_group_directory`*`\wmbt\documentation\`*`locale`*`\` (where *locale* identifies country, region, or language, for example `en_US`).

For further support information, including latest fixes and troubleshooting techniques, visit the WebSphere Message Broker support Web page:

`www.ibm.com/software/integration/wbimessagebroker/support/`

The supported hardware and software environments are updated occasionally; view the latest requirements information about the WebSphere Message Broker Requirements Web site:

`www.ibm.com/software/integration/wbimessagebroker/requirements/`

Hardware requirements

View the processor and related hardware requirements on all platforms.

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 can run 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.

Table 4. Hardware requirements

Operating system	**Requirements**[1]
AIX	64-bit IBM System p® systems Any hardware from IBM or other vendors that can run trademarked AIX systems[2]
HP-Itanium®	Itanium systems
Linux on POWER®	64-bit System i® and System p IBM POWER processor-based systems only
Linux on x86	IBM eserver System x® or equivalent Intel-based servers[3]
Linux on x86-64	AMD64, EM64T, or compatible processor servers[3]
Linux on System z®	Any server capable of running one of the supported Linux on System z releases
Solaris on SPARC	Sun Microsystems SPARC processor servers
Solaris on x86-64	AMD64, EM64T, and compatible processor servers
Windows 32-bit	Windows x86 technology-compatible PC hardware[3]
Windows 64-bit	AMD64, EM64T, or compatible processor servers[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.

   The `readme.html` file that is supplied on the product DVD or CD (for all components) provides a minimum level of information, and directs you to the online file on the product readmes Web page which is updated regularly. Always use the online file to check that you have the latest level of information.
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 WebSphere Message Broker Toolkit is supported on 32-bit and 64-bit systems. 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* 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 1 000 000 bytes).
- 512 MB of RAM is required to support WebSphere Message Broker Toolkit operations on Linux on x86, Linux on x86-64 or Windows. This specification is the minimum supported level; for improved performance, provide 1 GB (1 GB equals approximately 1 000 000 000 bytes).
- 512 MB of RAM is required to support the WebSphere Message Broker Explorer.
- 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, which provides guidance for both permanent product requirements and temporary space. 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 the two figures to check that you have enough space available. If you do not, increase the available storage or change the location of either the temporary space or the installation directory. The temporary files are deleted when installation is complete.

  – 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 must 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.

Table 5. Disk space requirements (Linux and Windows systems)

Component	Linux on POWER	Linux on x86[1]	Linux on x86-64	Linux on System z	Windows 32-bit[1]	Windows 64-bit[1]
WebSphere Message Broker	520 MB plus 330 MB temporary space	456 MB plus 330 MB temporary space	477 MB plus 330 MB temporary space	469 MB plus 330 MB temporary space	495 MB plus 330 MB temporary space	538 MB plus 330 MB temporary space
WebSphere Message Broker Toolkit	Unavailable	1.6 GB plus 1.6 GB temporary space	1.9 GB plus 220 MB temporary space	Unavailable	1.6 GB plus 1.6 GB temporary space	1.9 GB plus 220 MB temporary space
WebSphere Message Broker Explorer	Unavailable	250 MB plus 300 MB temporary space	250 MB plus 300 MB temporary space	Unavailable	200 MB plus 250 MB temporary	200 MB plus 250 MB temporary

Table 5. Disk space requirements (Linux and Windows systems) (continued)

Component	Linux on POWER	Linux on x86[1]	Linux on x86-64	Linux on System z	Windows 32-bit[1]	Windows 64-bit[1]
WebSphere Message Broker ODBC Database Extender (IE02)	90 MB plus 90 MB temporary space	80 MB plus 80 MB temporary space	75 MB plus 75 MB temporary space	80 MB plus 80 MB temporary space	Unavailable	Unavailable

Note:

1. The space required for the WebSphere Message Broker Toolkit includes space for the shared resources directory and the package group directory.

Table 6. Disk space requirements (UNIX)

Component	AIX	HP-Itanium	Solaris on SPARC	Solaris on x86-64
WebSphere Message Broker	710 MB plus 330 MB temporary space	960 MB plus 330 MB temporary space	620 MB plus 330 MB temporary space	620 MB plus 330 MB temporary space
WebSphere Message Broker Toolkit	Unavailable	Unavailable	Unavailable	Unavailable
WebSphere Message Broker Explorer	Unavailable	Unavailable	Unavailable	Unavailable
WebSphere Message Broker ODBC Database Extender (IE02)	80 MB plus 80 MB temporary space	200 MB plus 200 MB temporary space	130 MB plus 130 MB temporary space	130 MB plus 130 MB temporary space

- On computers on which you create a broker, up to 60 MB is required for the broker configuration data within your file system.
- 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 require 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 must 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 Details are given in "Disk space requirements on z/OS." You must also check for later updates to this information in the section about DASD storage requirements in the *Program Directory for WebSphere Message Broker for z/OS*.

Disk space requirements on z/OS

The installation of WebSphere Message Broker for z/OS uses approximately 400 MB of disk space; plan on using 500 MB to allow for the component directories, and for new service fixes to be applied.

When you apply service, if you do not replace your existing installation (for example, you apply the new fix pack level alongside your existing installation), you must plan the same amount of disk space for the higher service level libraries.

If you are transferring the files by using *tar* to package them, you need approximately 200 MB of space for the `.tar` file.

You can check how much space is used and how much is free in a file system by using the OMVS command:

```
df -P /pathname
```

100 MB is 3 276 800 512 byte sectors.

The following table gives guidance on the space required for a minimum installation (base installation and verification test) of WebSphere Message Broker for each component implemented on z/OS.

Component	Space required	Purpose
Component directory	20 MB	Holds the runtime-deployed configuration information and output directories for the component. This information includes all deployment information, such as ESQL, JAR files, message sets, XSLT files, and so on. This information also includes WebSphere Message Broker trace files and other user problem determination data, which might become large. Consideration must be given to the potential size of deployments to the WebSphere Message Broker runtime environment and, therefore, the size of this directory (including sub directories).
Component PDSE	1 MB	Holds the customization and administration jobs, procedures, and data for the component. The data set must be allocated with a fixed record length of 80 (`LRECL=80`) and a format of FB 80. Reserve directory space for 50 members, or use a PDSE if possible.
Started task user ID home directory	8 GB	Collects diagnostic materials: for example, dumps. Dumps are usually more than 500 MB in size. 8 GB of space must be available in the file system, but many user IDs can have their home directory in the file system.

The Component directory and the Started task user ID home directory must be separate to ensure that, when dumps are taken in the Started task user ID home directory, they do not cause problems with the runtime broker that still has to write to the Component directory.

Communications

Your system must have communications hardware that supports the protocols that brokers can use.

Choose one or more 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 13
- "Additional software requirements" on page 16

Support for 32-bit and 64-bit platforms

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

The following table shows support for 32-bit and 64-bit mode. Changes since Version 6.1 are summarized beneath the table. If support on your platform has changed, you might must make additional changes to your configuration. See 'Migrating from Version 6.1 products' and 'Configuring WebSphere Message Broker' in the information center for further details.

Table 7. Support for 32-bit and 64-bit operation

Platform	WebSphere Message Broker internal components and commands	32-bit execution groups	64-bit execution groups
AIX[1]	64-bit	No	Yes
HP-Itanium	64-bit	No	Yes
Linux on POWER	64-bit	No	Yes
Linux on x86	32-bit	Yes	No
Linux on x86-64[1]	64-bit	No	Yes
Linux on System z	64-bit	No	Yes
Solaris on SPARC[1]	64-bit	No	Yes
Solaris on x86-64	64-bit	No	Yes
Windows 32-bit	32-bit	Yes	No
Windows 64-bit	64-bit	No	Yes
z/OS[1]	64-bit	No	Yes

Changes since Version 6.1:

1. 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 one of the following:

- WebSphere Message Broker Toolkit
- WebSphere Message Broker Explorer
- mqsicreateexecutiongroup command
- 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 7.0, the execution group is 64-bit except on those platforms that support 32-bit only (Linux on x86, and Windows).

Table 8. Execution group default sizes

Workbench	Command	CMP API	32-bit only platforms	32-bit and 64-bit platforms	64-bit only platforms
Default	no options	`createExecutionGroup(`*`name`*`)`	32-bit	64-bit	64-bit

Operating system requirements

WebSphere Message Broker is supported on multiple operating systems.

Operating system software requirements are defined in the List of supported software for WebSphere Message Broker V7.0 and shown in the following table.

See the web page for the most up-to-date information.

Table 9. Operating system requirements

Operating system	Requirements[1]
AIX	• IBM AIX Version 5.3 (Technology Level 7 SP1)[2] • IBM AIX Version 6.1[2]
HP-Itanium	• HP-UX 11i V2 (B.11.23) for Itanium • HP-UX 11i V3 (B.11.31) for Itanium
Linux on POWER	• Linux PowerPC® Red Hat Enterprise Linux V4.0 with service level Update 2[3] • Linux PowerPC Red Hat Enterprise Linux V5.0[3] • Linux PowerPC SUSE Linux Enterprise Server (SLES) 9 RC5 or above[5] • Linux PowerPC SUSE Linux Enterprise Server (SLES) 10
Linux on x86	• Linux Intel Red Hat Enterprise Linux V4.0 with service level Update 2[3, 4] • Linux Intel Red Hat Enterprise Linux V5.0[3, 4] • Linux Intel SUSE Linux Enterprise Server (SLES) 9[5] • Linux Intel SUSE Linux Enterprise Server (SLES) 10

Table 9. Operating system requirements (continued)

Operating system	Requirements[1]
Linux on x86-64	• Linux Intel Red Hat Enterprise Linux V4.0 with service level Update 2[3] • Linux Intel Red Hat Enterprise Linux V5.0[3] • Linux Intel SUSE Linux Enterprise Server (SLES) 9[5] • Linux Intel SUSE Linux Enterprise Server (SLES) 10
Linux on System z	• Linux zSeries® (64-bit) Red Hat Enterprise Linux V4.0 with service level Update 2[3] • Linux zSeries (64-bit) Red Hat Enterprise Linux V5.0[3] • Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 9[5] • Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 10
Solaris on SPARC	• Sun Solaris Operating Environment 9 (with SunSolve recommended Patch Cluster level)[6] • Sun Solaris Operating Environment 10 (with SunSolve recommended Patch Cluster level)
Solaris on x86-64	• Sun Solaris Operating Environment 10 (with SunSolve recommended Patch Cluster level)[7]
Windows 32-bit[8]	• Microsoft® Windows XP Professional (with service level SP2) • Microsoft Windows Vista Business Edition (with service level SP1) • Microsoft Windows Vista Enterprise Edition (with service level SP1) • Microsoft Windows Vista Ultimate Edition (with service level SP1) • Microsoft Windows Server 2003 Standard Edition[9] • Microsoft Windows Server 2003 Enterprise Edition[9] • Microsoft Windows Server 2003 R2 Standard Edition[9] • Microsoft Windows Server 2003 R2 Enterprise Edition[9] • Microsoft Windows Server 2008 Standard Edition • Microsoft Windows Server 2008 Enterprise Edition • Microsoft Windows 7 (32-bit support)
Windows 64-bit[8]	• Microsoft Windows Server 2008 R2 Standard Edition • Microsoft Windows Server 2008 R2 Enterprise Edition • Microsoft Windows 7 (64-bit support)
z/OS[10]	• IBM z/OS Version 1.8 or later • 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 operating systems.

   The `readme.html` file that is supplied on the product DVD or CD (for all components) provides a minimum level of information, and directs you to the

online file on the product readmes web page, which is updated regularly. Always use the online file to check that you have the latest level of information.

2. WebSphere Message Broker Version 7.0 requires the xlC or xLC++ runtime libraries at Version 9.0.0.3 or above.

   WebSphere Message Broker Version 7.0.0.1, or later, requires the xlC or xLC++ runtime libraries at Version 11.1 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. If you install Red Hat Enterprise Linux V4 or V5, the SELinux feature is not supported. SELinux is enabled by default; you must disable it before you install the WebSphere Message Broker Toolkit or a WebSphere Message Broker runtime component.
4. On Linux on x86 installations, if you want to use the Red Hat package manager (RPM), install package `rpm-build`.
5. If you choose to use the graphical interface to install on SUSE Linux Enterprise Server (SLES) 9, install package `compat` (at version 2002.12.6.0 or later). This package is not required for console or silent installations.
6. If you install the broker component on Solaris 9 on Solaris on SPARC, the recommended Patch Cluster level must include patches 111711-16 (32-bit) and 111712-16 (64-bit).
7. If you install the broker component on Solaris 10 on Solaris on x86-64, 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. To ensure a consistent environment, use the same approach to installation for both WebSphere Message Broker and WebSphere MQ. For further details about Solaris zones, see the WebSphere Message Broker support statement.
8. Both 32-bit and 64-bit editions of all Windows operating systems are supported.

   On Windows Vista and later operating systems, no features specific to those operating systems are used by WebSphere Message Broker components.

   Note: Use the 32-bit edition unless running Windows 7 or Windows Server 2008 which uses the 64-bit edition.
9. On Windows Server 2003 Standard and Enterprise Editions, you can publish both the command console and the WebSphere Message Broker Toolkit to be accessed through Citrix XenApp (Presentation Server V4.0 and V4.5).
10. z/OS Version 1.8 must be at RSU0812 or later (for the target system).

    See the *Program Directory for WebSphere Message Broker 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 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.

Additional software requirements

WebSphere Message Broker requires additional software products to run successfully.

- "WebSphere MQ"
- "Microsoft Visual C++ " on page 17
- Java™ runtime environment
- "IBM Installation Manager" on page 18
- "Browsers" on page 17

WebSphere MQ

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

WebSphere MQ Version 7.0.1 (with tailored terms and conditions for use with WebSphere Message Broker) is supplied on DVD on Linux on x86, Linux on x86-64, and Windows only, and on CD on all other platforms. If you have a previous version of WebSphere MQ, you can use the supplied CD or DVD to upgrade your current installation.

A broker requires a WebSphere MQ queue manager. More than one broker cannot share a single queue manager.

Table 10. WebSphere MQ requirements

Operating system	Requirements
All distributed systems[1]	WebSphere MQ Version 7.0.1 (or later)[2]
z/OS[3]	WebSphere MQ Version 7.0.1 (or later) with MQ Java Classes feature

Notes:

1. WebSphere MQ is not required on Linux on x86, Linux on x86-64 or Windows systems on which you install only the WebSphere Message Broker Toolkit.

   You can configure SSL connections between the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer and the broker. To configure an SSL connection you must have an SSL certificate manager installed on the computer on which you have installed the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer. 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 have installed WebSphere Message Broker.

   If you have already installed Version 7.0.1, check that your installation includes the Java Messaging component; add it from the WebSphere MQ media if it is not installed.

   If you start the WebSphere MQ Version 7.0.1 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 on x86 and Windows only, install the WebSphere Eclipse Platform Version 3.3 and the WebSphere MQ Explorer components.

Other WebSphere MQ components are optional.

3. On z/OS, WebSphere MQ is a mandatory requirement and must be installed before you install WebSphere Message Broker.

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

Microsoft Visual C++

When you install the Windows 64-bit version of WebSphere Message Broker on Windows 7 or Windows Server 2008 RC2 only, Microsoft Visual C++ Runtime V10 for 32-bit and for 64-bit are required. The Visual C++ Runtime V10 installers supplied with the product media are in US English only. The WebSphere Message Broker runtime installer installs Visual C++ Runtime V10 automatically for you. If you want to install Visual C++ Runtime V10 separately, the installers are on the root of Runtime Disk 1.

If you want to install a multicultural version of this product, which displays a translated installation interface and product license agreement, but is otherwise identical to the US English version, you must download both the required versions that you want from the Microsoft web site and install them before you install the WebSphere Message Broker runtime.

JRE

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

- On distributed platforms, Java Runtime Environment (JRE) Version 6 SR6 is embedded in product components.
- On z/OS, you must acquire and install a JRE which must be Version 6 (SR6 or a later service release).

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

WebSphere Message Broker supports all JMS providers that conform to the Java Message Service Specification, version 1.1, and requires the minimum JRE levels stated here. You must consider both these factors when you select a JMS provider whose client is embedded in the broker.

Browsers

For best results when viewing the information center from the WebSphere Message Broker Toolkit, use Mozilla 1.4.2 (or later) on Linux on x86 and Linux on x86-64.

On Windows, an embedded browser is launched to view the information center.

Some Linux on x86 and Linux on x86-64 offerings do not install Mozilla by default. If you plan to install the WebSphere Message Broker Toolkit on your Linux on x86 or Linux on x86-64 system, check that a supported version of Mozilla is already installed. If not, install Mozilla from your Linux on x86 or Linux on x86-64 operating system media.

IBM Installation Manager

WebSphere Message Broker Toolkit is installed by the IBM Installation Manager.

All Rational® products at Version 7 or later are installed by IBM Installation Manager, which also controls management, updates, licensing, and uninstallation. The WebSphere Message Broker Toolkit includes some Rational product components, and therefore includes and uses Installation Manager.

The following Rational products are controlled by Installation Manager:

- WebSphere Message Broker Toolkit Version 7.0 or later
- Rational Application Developer (RAD) Version 7.5 or later
- Rational Software Architect (RSA) Version 7.0 or later
- WebSphere Integration Developer (WID) Version 7.0.0.1 or later

Installation Manager is included with the WebSphere Message Broker Toolkit and with the other products in this list. When you first install the WebSphere Message Broker Toolkit (or another listed product), Installation Manager installs itself into a directory that you specify, and then drives the installation of the WebSphere Message Broker Toolkit (or other listed product). If you install another product, Installation Manager detects that it is already installed, and drives only the installation of that product.

The WebSphere Message Broker Toolkit shares certain resources with these other products, if installed; for example, Eclipse features and plug-ins. All common resources that are used by the installed products must be installed into a single directory, which is known as the *shared resources directory*. You are asked to specify the location of this directory when you first install the WebSphere Message Broker Toolkit or another Rational product.

If you install another product, Installation Manager finds the shared resources directory and uses its content during the installation process; you cannot change the location of this directory.

The shared resources directory must be on a drive that is local to this computer; you cannot specify a mapped or remote drive. The drive that you specify for the shared resources directory must be of sufficient size to handle all your expected installations; you cannot change or expand this directory after installation. When you specify the directory during a first installation, specify a new directory to ensure that it does not contain any files that might cause conflicts.

Memory requirements for the WebSphere Message Broker Toolkit are listed in “Memory and disk space requirements” on page 8. If you plan to install additional Rational products, allow 2 GB for each additional product.

You must also allocate space in another directory in which you can manage the workspace resources that you create for the installed Rational products.

When you install the WebSphere Message Broker Toolkit, you are also asked to specify a package group. Products that you install into a single package group share Eclipse features and plug-ins, and these resources are loaded and viewable in a single Eclipse instance. You can choose whether to install a product in a package group with other products, or to install WebSphere Message Broker Toolkit in a new package group.

Each package group is isolated from products in other package groups, although all package groups access a single shared resources directory. You are asked to specify the location for the package group directory; you must specify a new directory for each new package group. All product-specific files are installed into this directory.

You might choose to use separate package groups to install different combinations of the WebSphere Message Broker Toolkit and other Rational products, so that users can gain access to tailored Eclipse instances. When you install the first product, the first package group is created with the name **IBM WebSphere Message Broker Toolkit**. This name is fixed; you cannot change it.

If you choose to install another product into a new package group, another group is created with the name **IBM Software Development Platform_1**. Each new package group name follows this same naming pattern with the numeric suffix incremented by one.

For example, you might have defined the following package groups:

- **IBM WebSphere Message Broker Toolkit** into which you have installed the WebSphere Message Broker Toolkit and RAD
- **IBM WebSphere Message Broker Toolkit_1** into which you have installed the WebSphere Message Broker Toolkit and RSA
- **IBM WebSphere Message Broker Toolkit_2** into which you have installed WID and RSA

When you start an Eclipse session in one of these package groups, you can access only those resources that are associated with the products installed in that group.

If you install later versions of any of the products in a different package group, the updates are available only in that group. The shared resources directory is also updated with later versions of shared files, which are maintained separately from the original versions and are used only for the upgraded products.

Each Rational product specifies which versions of plug-ins and features it requires, if appropriate. Installation Manager ensures the integrity of these requirements in each package group. If the product that you are currently installing breaks this integrity, Installation Manager prevents the installation into that package group.

Installation Manager also controls uninstallation of the WebSphere Message Broker Toolkit and the other products previously listed; you cannot uninstall Installation Manager until all listed products in all package groups have been removed.

Installation Manager is not required for any of the runtime components.

License requirements

Use the reference information in this section to understand license requirements.

You can install WebSphere Message Broker to support a full range of transformation and routing operations. If appropriate, you can install an edition that supports a restricted set of functions, if that subset fulfills your business requirements. You must ensure that your use and configuration of the product conforms to the license agreement that you have purchased:

- WebSphere Message Broker Trial Edition. You can download this edition from the Web, at no charge. This edition has its own license and terms and conditions

which is valid for 90 days. You can use all available function, and are not limited in the number of resources that you create and maintain.

- WebSphere Message Broker Starter Edition. If you expect to use all or most of the features that are available, but you configure a limited environment because of low capacity requirements, purchase this edition. You can use all available function, but are limited in the number of resources that you create and maintain.
- WebSphere Message Broker Remote Adapter Deployment. If you expect your typical use of WebSphere Message Broker to be integration with Enterprise Information Systems (EIS), purchase this edition. This edition supports the subset of development resources that provide EIS interaction.
- WebSphere Message Broker. If you want to set up a full broker environment that uses most or all of the features available, you require a full (unrestricted) license.

WebSphere Message Broker for z/OS is unavailable in Remote Adapter Deployment, or in Starter or Trial Editions.

If you choose to change your license agreement from a full license to either of the two specialized licenses, you might find that your current configuration is no longer supported. For further details about what features are available for each license, and how to configure your environment, see 'WebSphere Message Broker technical overview' in the information center.

You can upgrade to the full license from another edition, if appropriate, by purchasing another license.

Your license also covers use of the product for development and unit test purposes. All developers in your organization, who are working on resources and applications for WebSphere Message Broker, can install one copy of all components on their computer. They can create and configure a broker environment without any functional or resource restrictions. Installation of the WebSphere Message Broker Toolkit limits this use to Windows, Linux on x86, and Linux on x86-64 computers. The unit test environment is limited to these three platforms even if you have purchased a license for WebSphere Message Broker for z/OS.

You can also install the supplied WebSphere MQ product on the computers on which your developers create their development and test configurations, regardless of the license agreement that you have purchased.

You can view licenses after installation in your chosen language in directory *install_dir*/license/. Terms and conditions are also supplied for third-party products used by WebSphere Message Broker. The file containing these details is stored in the same license subdirectory when you install one or more runtime components.

Contact your IBM representative if you want further details about license agreements, or if you want to purchase additional licenses or change the type of license that you have purchased.

Chapter 3. Coexistence and migration

WebSphere Message Broker Version 7.0 can coexist with previous versions.

You can install WebSphere Message Broker Version 7.0 on a computer on which you have installed previous versions, but each version must be installed into its own directory, referred to as *install_dir*. Different versions can coexist and can run independently, and you can migrate brokers from one version to another, if and when appropriate. You can also install multiple instances of the same version on the same computer, each in its own separate directory, including the broker with different FixPack levels, for example; you can coexist V7.0.0.0 with V7.0.0.1. You can install multiple instances of the same version on the same computer of WebSphere Message Broker runtime and WebSphere Message Broker Toolkit but not WebSphere Message Broker Explorer, only one version of WebSphere Message Broker Explorer is allowed.

The following sections provide further details:

- "Coexistence"
- "Migration" on page 25

Coexistence

WebSphere Message Broker Version 7.0 can coexist with previous versions as follows:

- The broker component can coexist with runtime components at Version 6.0, and Version 6.1.
- The WebSphere Message Broker Toolkit can coexist with the toolkit at Version 6.0, and Version 6.1.

The following sections describe how to achieve coexistence, and the restrictions that apply.

Broker component on distributed systems

When you install theWebSphere Message Broker on distributed systems, the default action taken by the installation wizard is to complete a typical installation, which installs the broker into a default directory.

The default directory for a typical installation is fixed and you cannot change it. It includes the version and release of the product that you are installing in the format *v.r* (version.release), and has the following values:

Linux `/opt/ibm/mqsi/v.r`

UNIX `/opt/IBM/mqsi/v.r`

Windows

`C:\Program Files\IBM\MQSI\v.r` for the Windows on x86 product (32-bit operating system editions) and the Windows on x86-64 product *v.r* `C:\Program Files(x86)\IBM\MQSI\v.r` for the Windows on x86 product (64-bit operating system editions)

These locations define the default value of *install_dir* on each platform.

Each unique version and release of the product is therefore installed into a different default location.

The installation wizard differentiates only at version and release level; it does not differentiate between different modification levels and fix pack levels. The current modification level is 0 (Version 7.0.0). If a later modification level is made available, it installs into the same default location, and therefore upgrades the Version 7.0.0 to the higher modification level (for example, Version 7.0.1).

The wizard installs one fix pack over a previous fix pack, but prohibits you from installing a previous modification or fix pack over a more recent one.

You can install the product at the same version and release more than once; these installations can be at the same modification or fix pack level, or at different levels. To achieve concurrent installations, you must select the custom installation option and specify a unique directory for each installation (one of which can be the default directory).

You can also use custom installation to install into a non-default directory.

If you have never completed a typical installation of the product on the computer on which you have selected a custom installation, the directory is initially set to the default directory, but you can change this default value to your chosen value.

If you attempt to install the broker into a directory that already contains an installation of the broker at a previous version, you are prompted to confirm that you want to continue with the installation, because it overwrites the existing installation. Cancel the installation and select a different directory to preserve your existing configuration.

If you install the same version and release more than once, the native installer support cannot manage these installations in the normal way. See “How to uninstall multiple broker installations” on page 53.

You can use multiple installations at different modification or fix pack levels to test out fixes or new functions, or to stage your adoption of a new fix pack level. For more information, see 'Applying service, in the information center'.

During and after installation, files are also stored in the working directory, which is associated with the user ID with which you are currently logged on. The location depends on the operating system:

Linux and UNIX

`/var/mqsi`

Windows

`%ALLUSERSPROFILE%\Application Data\IBM\MQSI`

The environment variable `%ALLUSERSPROFILE%` defines the system working directory. The default directory depends on the operating system:

- On Windows XP and Windows Server 2003: `C:\Documents and Settings\All Users\Application Data\IBM\MQSI`
- On WindowsVista and later operating systems: `C:\ProgramData\IBM\MQSI`

The actual location might be different on your computer.

If you have multiple installations on a single computer, you can review the contents of the file `install.properties`, which is stored in the root of the working directory. For each installation at Version 6.1 and above, the file is updated with the location and the level.

This example shows the contents of `install.properties` on a Windows 32-bit operating system on which a single installation has completed:

```
C\:\\Program\ Files\\IBM\\MQSI\\7.0=7.0.0.0
```

(The backslash character \ is interpreted as an escape character. It is inserted before each non-alphabetic and non-numeric character in the string to preserve the character. A colon, a space, and several backslash characters are escaped in this example.)

If you want to revert from your latest installation to a previous level for any reason, you must uninstall the current version and install the previous level of the product. Before you uninstall, back up any resources that you want to return to a previous state.

Because the version and release are included in the directory structure when you complete a typical installation, you can also install Version 7.0 and later releases on the computer on which you have already installed either Version 6.0, or Version 6.1. The Version 7.0 installation can coexist with the existing installation; you can operate the two configurations independently.

If you use custom installations for Version 7.0 and later releases, you can specify a unique installation directory for each release, and therefore achieve coexisting releases on a single computer.

The number of installations of Version 7.0, or later, is limited only by the availability of system resources.

Because different versions and releases can coexist, you can migrate to Version 7.0 from an earlier version in a controlled manner, and you do not have to migrate all brokers at the same time. For more information, see "Migration" on page 25.

Broker component on z/OS

On z/OS, you can install multiple copies of the broker on the same computer if you specify a different installation location for each copy. The installations can run independently of each other. The code can be at the same or different version and release levels; Version 6.0, Version 6.1, and Version 7.0. The number of installations is restricted only by the availability of system resources.

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

WebSphere Message Broker Toolkit on Linux on x86, Linux on x86-64 and Windows

Linux When you install the WebSphere Message Broker Toolkit, the default action taken by the installation wizard is to install Installation Manager files, shared files, and product-specific files into the following directories:

- Installation Manager installation directory:
  `/opt/IBM/InstallationManager`
- Shared resources directory:

/opt/IBM/SDP70Shared

- Package group directory:

  /opt/IBM/WMBT700

  This location defines the default value of *install_dir* on this platform.

For a description of these directories, see Chapter 11, "Installing the WebSphere Message Broker Toolkit," on page 77.

You can install multiple instances of the WebSphere Message Broker Toolkit Version 7.0 at the same modification or fix pack level, or at different levels, on a single computer. Each installation must be in a separate package group; package groups are described in more detail in "IBM Installation Manager" on page 18.

Windows

When you install the WebSphere Message Broker Toolkit, the default action taken by the installation wizard is to install Installation Manager files, shared files, and product-specific files into the following directories:

- Installation Manager installation directory:
  C:\Program Files\IBM\InstallationManager for 32-bit editions
  C:\Program Files (x86)\IBM\InstallationManager for 64-bit editions
- Shared resources directory:
  C:\Program Files\IBM\SDP70Shared for 32-bit editions
  C:\Program Files (x86)\IBM\SDP70Shared for 64-bit editions
- Package group directory:
  C:\Program Files\IBM\WMBT700 for 32-bit editions
  C:\Program Files (x86)\IBM\WMBT700 for 64-bit editions

  This location defines the default value of *install_dir* on this platform.

For a description of these directories, see Chapter 11, "Installing the WebSphere Message Broker Toolkit," on page 77.

You can install multiple instances of the WebSphere Message Broker Toolkit Version 7.0 at the same modification or fix pack level, or at different levels, on a single computer. Each installation must be in a separate package group; package groups are described in more detail in "IBM Installation Manager" on page 18.

If you install the WebSphere Message Broker Toolkit on Windows and you specify your own directory location, be aware of the file system limit of 256 characters imposed by Windows file systems. This limit can cause restrictions in path specification to resources (for example, message flows), and might cause access problems if the combination of path and resource name exceeds this limit. Keep installation locations and resource names short to avoid problems associated with this restriction.

The WebSphere Message Broker Toolkit Version 7.0 can coexist with the WebSphere Message Broker Toolkit Version 6.0 or Version 6.1. Only one instance of the WebSphere Message Broker Toolkit Version 6.0 can be installed on a single computer.

The WebSphere Message Broker Toolkit Version 7.0 can coexist with multiple installations of the broker, subject to the restrictions described for the broker.

Setting the environment for an installation

Because you can have more than one installation on a single computer, you must ensure that the commands that you issue on that computer are directed to the correct version of installed code.

- On Linux and UNIX systems, you must run the profile file mqsiprofile to set up the correct environment before you run other WebSphere Message Broker commands, such as mqsicreatebroker. The profile file is stored in *install_dir*/bin.

  If you add the profile file to your system logon profile, it is run automatically whenever you log on.
- On Windows systems, a command console is available for each installation. So you must run commands in the correct window for a particular installation.

  If you prefer, you can run the mqsiprofile.cmd file, which is stored in *install_dir*\bin.

If you have installed an earlier version of this product on the same computer, check that the earlier profile is not set for the current user ID. The two profiles are incompatible and might cause unpredictable results. Consider using a different user ID for each version and associate the correct profile with each user ID to avoid potential problems.

This requirement is not applicable on z/OS systems.

For more details about mqsiprofile, see 'Setting up a command environment' in the information center.

Only one copy of WebSphere Message Broker Explorer can be installed at any time on a single system, so you need to ensure the latest level of WebSphere Message Broker Explorer is installed. For example, if you have WebSphere Message Broker V7.0.0.0 and WebSphere Message Broker V7.0.0.1 installed on the same system, you need to ensure that WebSphere Message Broker Explorer is installed at the later V7.0.01 level. This only applies to Windows, Linux (x86) and Linux (x86-64) systems.

Migration

Because you can install WebSphere Message Broker Version 7.0 on the same computer as previous versions and other installations of Version 7.0, you are not required to complete any migration tasks before you install Version 7.0.

Because WebSphere Message Broker Version 7.0 requires WebSphere MQ Version 7.0.1, you must update any existing WebSphere Message Broker Version 6.0 and WebSphere Message Broker Version 6.1 installations to use WebSphere MQ Version 7.0.1 before installing WebSphere Message Broker Version 7.0.

For details about migrating to WebSphere Message Broker Version 7.0, see 'Migrating and upgrading' in the information center.

Chapter 4. Multicultural support

Multicultural support is available for a selection of languages on both distributed systems and z/OS.

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. Because of limited syslog support on HP-Itanium operating systems, messages are written to the log in US English only.
2. These values are the same for all Linux systems.

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

Chapter 5. Installation packages

View the installation packages that are available, and the contents of those packages.

This section contains the following topics:

Packaging options

Both physical media and electronic images are available for the installation of WebSphere Message Broker.

Physical media

You can order the physical media for WebSphere Message Broker Starter Edition, Remote Adapter Deployment, and the full (unrestricted) licenses. Contents are described in "Package contents" on page 30.

When you install the product from the media, configure your brokers to operate in the mode that conforms to the license you have purchased. See the information center for further details.

Electronic images

If you are registered with IBM Passport Advantage, you can download electronic images from IBM Passport Advantage for WebSphere Message Broker Starter Edition, Remote Adapter Deployment, and the full (unrestricted) licenses. You can also request one set of the physical media.

The electronic images exactly mirror the physical media that are described in "Package contents" on page 30. although are not formatted as CD or DVD images. For further information, and to register, access the IBM Passport Advantage Web site.

Electronic images are available on request for WebSphere Message Broker for z/OS. Contact your IBM representative for further information and assistance.

When you install the product from these images, you must configure your brokers to operate in the mode that conforms to the license that you have purchased. See the information center for further details.

Trial Edition electronic images

For distributed systems only, you can download electronic images for WebSphere Message Broker Trial Edition from the developerWorks® WebSphere Message Broker Trial package Web site.

Images are provided for the runtime components and the WebSphere Message Broker Toolkit. Use this edition to assess how the product can

address your business requirements, and explore how you might use it with existing software in your enterprise.

For the latest information about supported trial versions, always check the WebSphere Message Broker `readme.html` file on the product readmes Web site.

The following restrictions apply:

- All product features are available, but the broker component operates for only 90 days after installation.
- Electronic images of WebSphere MQ Version 7.0.1 are not included with the WebSphere Message Broker Trial Edition. If you have not already ordered and installed WebSphere MQ Version 7.0.1, you can download a trial package from the Web. The WebSphere MQ trial versions include the required Java and Eclipse components. Download Version 7.0.1 from the WebSphere MQ Trial package Web site.
- Physical images are not available for the Trial Edition.
- The Trial Edition is not available for z/OS.

If you choose to buy WebSphere Message Broker during or after the trial period, and want to continue to use the product components that you have installed, you do not have to reinstall them, but you must reconfigure existing brokers, and create new brokers, in the mode that conforms to the license that you have purchased. You can retain all the associated resources that you have developed or imported during the trial period. For further information, see 'Changing the operation mode of your broker' in the information center..

Unless otherwise stated in this book, you can use electronic images in the same way as the physical CDs or DVDs, and all installation and set up procedures described are identical for the trial and full packages.

Package contents

Contents of the physical media packages for WebSphere Message Broker Starter Edition, Remote Adapter Deployment, and the full (unrestricted) licenses. The electronic images that you can download have equivalent content.

Content for the Trial Edition packages is restricted; differences are described where they apply.

The contents of the package depend on the product that you have ordered:

WebSphere Message Broker

The package includes product code for all supported distributed operating systems, plus other optional software and documentation:

- The Quick Start CD, which contains documentation in PDF format. This CD is always at the top of the package. The CD includes the following documentation:
  - PDF files for the Quick Start Guide (US English and translations).
  - PDF files for this Installation Guide (US English and translations).
- A plastic wallet that contains four DVDs, one for Linux on x86, one for Linux on x86-64, one for Windows 32-bit, and one for Windows 64-bit. The DVDs contains all required and optional product code. The structure of the DVD content is described in “DVD package” on page 34.

The WebSphere Message Broker Toolkit package is contained on the DVDs. For more information about the contents of the WebSphere Message Broker Toolkit package, see "Toolkit package" on page 33.

- A set of plastic wallets that contain CDs for installation of the broker, grouped by operating system, for systems other than Linux on x86, Linux on x86-64, and Windows. The CDs are listed in "The broker component and WebSphere Message Broker Explorer package."
- The Quick Start Guide, printed in US English, French, and Japanese.

WebSphere Message Broker for z/OS

The package includes product code for the z/OS operating system on tape, plus other optional software and documentation. In addition, you receive WebSphere Message Broker for Linux on x86, Linux on x86-64, and Windows, because the WebSphere Message Broker Toolkit is available only on those operating systems.

The electronic images that you can download have equivalent content.

- A plastic wallet that contains four DVDs, one for Linux on x86, one for Linux on x86-64, one for Windows 32-bit, and one for Windows 64-bit. The DVDs contain all required and optional product code. The structure of the DVD content is described in "DVD package" on page 34.

  The WebSphere Message Broker Toolkit package is contained on the DVDs. For more information about the contents of the WebSphere Message Broker Toolkit package, see "Toolkit package" on page 33.
- z/OS tapes

  For information about tapes supplied with WebSphere Message Broker for z/OS, see the *Program Directory for WebSphere Message Broker for z/OS*.

The broker component and WebSphere Message Broker Explorer package

Contents of the broker component package.

The contents listed in the following table are supplied for installation of the broker. WebSphere MQ images are not included in the Trial Edition.

On Linux on x86, Linux on x86-64, and Windows the product code is delivered on DVD. The structure of the DVD content is described in "DVD package" on page 34. On these operating systems, the following table shows the contents of the downloaded images.

The physical package for the DVD is marked with the symbol 

.

On operating systems other than Linux on x86, Linux on x86-64, Windows, and z/OS, the product code is delivered on CD.

The physical packages for the CDs are marked with the symbol  .

Table 11. CDs and images supplied for WebSphere Message Broker and associated products

Operating System[1]	CD label	Description
AIX	WebSphere Message Broker Version 7.0 AIX (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 AIX (Runtime Disk 2)	Product code
HP-Itanium	WebSphere Message Broker Version 7.0 HP-Itanium (Runtime Disk 1)	Product code [2]
	WebSphere MQ Version 7.0.1 HP-Itanium platform (Runtime Disk 2)	Product code
Linux on POWER	WebSphere Message Broker Version 7.0 Linux on POWER (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Linux on POWER platform (Runtime Disk 2)	Product code
Linux on x86	WebSphere Message Broker Version 7.0 Linux on x86 (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Linux on x86 (Runtime Disk 2)	Product code
Linux on x86-64	WebSphere Message Broker Version 7.0 Linux on x86-64 (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Linux on x86-64 platform (Runtime Disk 2)	Product code
Linux on System z	WebSphere Message Broker Version 7.0 Linux on System z (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Linux on System z platform (Runtime Disk 2)	Product code
Solaris on SPARC	WebSphere Message Broker Version 7.0 Solaris (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Solaris (Runtime Disk 2)	Product code
Solaris on x86-64	WebSphere Message Broker Version 7.0 Solaris on x86-64 (Runtime Disk 1)	Product code[2]
	WebSphere MQ Version 7.0.1 Solaris on x86-64 (Runtime Disk 2)	Product code
Windows 32-bit	WebSphere Message Broker Version 7.0 Windows 32-bit (Runtime Disk 1)	Product code[3]
	WebSphere MQ Version 7.0.1 Windows 32-bit (Runtime Disk 2)	Product code[4]
Windows 64-bit	WebSphere Message Broker Version 7.0 Windows 64-bit (Runtime Disk 1)	Product code[3]
	WebSphere MQ Version 7.0.1 Windows 64-bit (Runtime Disk 2)	Product code[4]

Notes:

1. On all operating systems, the CDs and images for WebSphere MQ (Runtime Disk 2) are not included in the Trial Edition. You must obtain prerequisite software from other sources to support the Trial Edition of WebSphere Message Broker. See "Additional software requirements" on page 16 for more information.
2. Disk 1 for all Linux and UNIX systems includes the following resources:
   - WebSphere Message Broker installation files.

- WebSphere Message Broker Explorer installation file (Linux on x86 and Linux on x86-64 only)
- License files. These files are used by the installation wizard and are supplied in all supported languages.
- Readme files. The `readme.html` files contain late updates about the product and its documentation and are supplied in all supported languages. The latest versions are always on the product readmes Web page. The files which are included on the product media contains a link to the latest versions on the product readmes Web page.
- Installation Guides. PDF files of this Installation Guide are supplied in all supported languages to which it has been translated. For PDF files in US English and other languages, access the IBM Publications Center.
- Sample scripts. Use these sample response files to run the silent interface to install and uninstall components.

3. Disk 1 for Windows includes the following resources:
   - WebSphere Message Broker installation files.
   - WebSphere Message Broker Explorer installation file.
   - Launchpad.
   - Quick Tour stand-alone executable program.
   - License files. These files are used by the installation wizard and are supplied in all supported languages.
   - Readme files. The `readme.html` files contain late updates about the product and its documentation and are supplied in all supported languages. The latest versions are always on the product readmes Web page. The files which are included on the product media contains a link to the latest versions on the product readmes Web page.
   - Installation Guides. PDF files of this Installation Guide are supplied in all supported languages to which it has been translated.
   - Sample scripts. Use these sample response files to run the silent interface to install and uninstall components.
4. The Launchpad and stand-alone Quick Tour are also included on Disk 2 on Windows.

Toolkit package

Contents of the Toolkit package.

The Toolkit package is supplied on the product DVDs for installation of the WebSphere Message Broker Toolkit. The structure of the DVD content is described in “DVD package” on page 34.

The Toolkit package contains three directories, called disk1, disk2, and disk3. The contents of the disks in shown in the following table.

Table 12. DVD and images supplied for WebSphere Message Broker Toolkit

Operating System	Directory	Description
Linux on x86	disk1	• Product code • Installation Manager[1] • Additional resources[2]
	disk2	Product code
	disk3	Product code

Table 12. DVD and images supplied for WebSphere Message Broker Toolkit (continued)

Operating System	Directory	Description
Linux on x86-64	disk1	• Product code • Installation Manager[1] • Additional resources[2]
	disk2	Product code
	disk3	Product code
Windows 32-bit	disk1	• Product code • Installation Manager[1] • Additional resources[2]
	disk2	Product code
	disk3	Product code
Windows 64-bit	disk1	• Product code • Installation Manager[1] • Additional resources[2]
	disk2	Product code
	disk3	Product code

Notes:

1. Installation Manager is installed only if does not exist on the target computer; this product is required to manage the WebSphere Message Broker Toolkit installation.
2. Disk 1 includes the following additional resources:
   - Readme files. The `readme.html` files contain late updates about the product and its documentation and are supplied in all supported languages.
   - Installation Guides. PDF files of the Installation Guide are supplied in all supported languages to which it has been translated.
   - Sample scripts. Use these sample response files to run the silent interface to install and uninstall components.
   - On Windows only, the Launchpad.
   - On Windows only, the Quick Tour stand-alone executable program.

   These files are identical to the equivalent files described in "The broker component and WebSphere Message Broker Explorer package" on page 31.

DVD package

Use the DVD package to install the WebSphere Message Broker broker component, the WebSphere Message Broker Toolkit, the WebSphere Message Broker Explorer, and WebSphere MQ Version 7.0.1.

DVDs (type DVD-R, size DVD-5) are supplied for Linux on x86, Linux on x86-64, and Windows only. The DVD labels are WebSphere Message Broker Version 7.0 Linux on x86, WebSphere Message Broker Version 7.0 Linux on x86-64, WebSphere Message Broker Version 7.0 Windows 32-bit and WebSphere Message Broker Version 7.0 Windows 64-bit.

DVD images are not included in the Trial Edition.

The physical package is marked with the symbol 

.

The DVDs contain code for the following products:
- WebSphere Message Broker broker component
- WebSphere Message Broker Toolkit
- WebSphere Message Broker Explorer
- WebSphere MQ Version 7.0.1

If you use the Launchpad to install on Windows (described in Chapter 9, "Installing with the Windows Launchpad," on page 63), the Launchpad navigates the DVD to find the products and components that you have chosen to install; therefore, you do not need to be familiar with the structure of the DVD contents.

If you install on Linux on x86 or Windows and choose not to use the Launchpad, use the DVD structure shown in the following table to find what you need.

Table 13. DVD contents

Directory	Description
\ (root)	• WebSphere Message Broker installation files • (Windows only) Launchpad and Quick Tour[1]
\installation_guide	Installation Guides[2, 3]
\license	License files[3]
\Message_Broker_Toolkit_V7	WebSphere Message Broker Toolkit installation repository [4]
\MBExplorer	WebSphere Message Broker Explorer installation repository
\readmes	Readme files[3]
\sample-scripts	Sample response files[3]
\WebSphere_MQ_V7.0	WebSphere MQ installation images

Notes:

1. This item is a stand-alone executable version of the Quick Tour, which is available only on Windows. On Linux on x86 and Windows, you can access the Quick Tour from the WebSphere Message Broker Toolkit.
2. On Linux on x86, this directory has two subdirectories: one for US English and one for translated PDF files.
3. The files in this directory are identical to the equivalent files described in "The broker component and WebSphere Message Broker Explorer package" on page 31.
4. This directory contains WebSphere Message Broker Toolkit installation repository and Installation Manager. The version of the Installation Manager in this directory is specific to the target operating system.

Part 2. Preparation

This part of the book describes the tasks that you might need to complete before you start installing WebSphere Message Broker. The information here addresses z/OS and distributed systems.

Chapter 6. Preparing the system

On some operating systems, you must complete several tasks before you install WebSphere Message Broker.

You might also want to complete other tasks, depending on your installation intentions.

Read the following sections before installing:

1. "Setting up security"
2. If you are installing on a distributed system, "Accessing CDs and DVDs on the local system" on page 43
3. If you are installing on Linux or UNIX systems, "Checking the kernel configuration on Linux and UNIX systems" on page 48

When you have completed these tasks, follow the installation instructions for distributed systems in the appropriate chapter:

- On distributed systems, choose which WebSphere Message Broker components to install. See Chapter 7, "Choosing what to install," on page 49
- On z/OS, refer to the *Program Directory for WebSphere Message Broker for z/OS*.

Setting up security

Set up the required security before you install WebSphere Message Broker.

This section describes security requirements:

- To install the product
- To complete the procedures described in Chapter 13, "Verifying your installation," on page 93

After installation, check the topics under the Security heading in the information center to review and implement the security requirements for additional users doing other tasks.

Security control of WebSphere Message Broker components, resources, and tasks depends on the definition of users and groups of users (principals) to the security subsystem of the operating system. Check that you have the correct authority, and that the required principals are in place, before you install WebSphere Message Broker.

User ID restrictions: some operating systems and other products impose restrictions on user IDs:

- On Windows systems, user IDs can be up to 12 characters long, but on Linux, UNIX, and z/OS systems, they are restricted to eight characters. Database products, for example DB2®, might also restrict user IDs to eight characters. If you have a mixed environment, ensure that the user IDs that you use within the broker environment are limited to a maximum of eight characters.
- Ensure that the case (upper, lower, or mixed) of user IDs in your broker environment is consistent. In some environments, uppercase and lowercase user IDs are considered the same, but in other environments, user IDs of different

case are considered unique. For example, on Windows the user IDs 'tester' and 'TESTER' are identical, but on Linux and UNIX systems they are recognized as different user IDs.

- Check the validity of spaces and special characters in user IDs to ensure that, if used, these characters are accepted by all relevant systems and products in your broker environment.

If your user ID does not conform to these restrictions, you might have problems with installation or verification. If so, use an alternative user ID, or create a new one, to complete installation and verification.

Set up the security appropriate to the operating systems that you are using:

- If you are installing on Linux or UNIX systems, go to "Security on Linux and UNIX systems."
- If you are installing on Windows, go to "Security on Windows systems" on page 41.
- If you are installing on z/OS, go to "Security on z/OS systems" on page 42.

Security on Linux and UNIX systems

Set up the required security on Linux and UNIX systems before you install WebSphere Message Broker.

Use the security facilities provided by your operating system to complete these tasks; for example, the Systems Management Interface Tool (SMIT) on AIX, or the System Administration Manager on HP-Itanium.

Complete the following actions:

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 login as root, or log in as another user and become root.

   The use of a user ID other than root itself has some advantages; it provides an audit trail of the user ID that performs installation and it limits the scope of root authority to tasks performed in a single session. The use of a user ID other than root might also be mandatory if you are logging in from a remote system.

   If you are using a Linux on x86 or a Linux on x86-64 system and are not planning to install the WebSphere Message Broker broker, continue with step 6 on page 41.
2. Create a new security group called *mqbrkrs*.
3. Add your current logon ID to the group *mqbrkrs*.

   If you are installing on a system that runs as a production server (with the broker component installed), create an additional new user ID for use only with product components and add it to the *mqbrkrs* group.

   On a Linux on x86 or a Linux on x86-64 system that you are running as a development or test system, you can use the ID that you logged in with to complete installation.
4. If you have already installed WebSphere MQ on this system, a group called *mqm* and a user called *mqm* have already been defined. If you have not yet installed WebSphere MQ, you must create this group and user.
5. Add to the group *mqm* the user ID that you logged in with, the new user ID (if you created one), and the user ID *mqm*.

On some systems, you might must log off and log on again for these new group definitions (*mqbrkrs* and *mqm*) to be recognized.

6. Verification procedures are provided for Linux on x86 only. To complete verification, you do not require root authority; if you do not want to complete verification with root authority, log off when you have completed installation. Log in with the same or a different user ID, but do not become root.

   If you log in with another user ID, and have not already added this ID to the groups *mqbrkrs* and *mqm*, do so before you launch the WebSphere Message Broker Toolkit.

Security on Windows systems

Set up the required security on Windows systems before you install WebSphere Message Broker.

Before you install the WebSphere Message Broker broker component, the WebSphere Message Broker Toolkit, or the WebSphere Message Broker Explorer, log on with a user ID that has Administrator authority.

If you are installing the broker component, the installation wizard calls the mqsisetsecurity command which completes the following tasks:

- Creates a new security group called *mqbrkrs*.
- Adds your current (logged on) user ID to the group *mqbrkrs*.
- Adds your current user ID to the group *mqm*, if that group exists.

  The *mqm* group exists if you have already installed WebSphere MQ on this system. If you have not, call the mqsisetsecurity command when you have completed WebSphere MQ installation. If you use the Windows Launchpad (described in Chapter 9, "Installing with the Windows Launchpad," on page 63), it completes WebSphere MQ installation first.

If you prefer to create principals before you install WebSphere Message Broker, use the security facilities provided by the Windows Control Panel.

If you are running Terminal Services on this computer, change user mode to ensure that actions taken during installation are completed correctly; for example, the creation of `.ini` files and other related files in the default system directory `C:\Windows`. If you do not change user mode, files might be written to other locations and, although the installation might complete successfully, the product might not work as expected.

- Before you install any product components, enter the following command to change user mode:

  ```
  change user /install
  ```

- When installation is complete, enter the following command to restore the original user mode:

  ```
  change user /execute
  ```

To complete verification, your user ID must have Administrator authority. If you log in with a different user ID from the ID with which you perform installation, you must add that user ID to the groups *mqbrkrs* and *mqm*. Use either the Windows security facilities or the mqsisetsecurity command (run this command after you have logged on with that different ID) to complete these additions.

Security in a Windows domain environment

Set up the required security in a Windows domain environment before you install WebSphere Message Broker.

If you intend to install in a Windows domain environment, you must decide whether you want to install WebSphere Message Broker on the domain controller.

If you install WebSphere Message Broker on the domain controller:

1. Install on the domain controller before you install on any of the domain workstations.

   The WebSphere Message Broker installation program creates the *mqbrkrs* local group only if you have Domain Administrator authority; if you do not have this authority when you install, create this group at a later time.

   In a domain environment, WebSphere Message Broker also requires a global group, Domain *mqbrkrs*, which you must create by using Windows security facilities. You must also add Domain *mqbrkrs* to the local group *mqbrkrs*.
2. Install on each workstation that is a member of the same domain. The WebSphere Message Broker installation program creates the *mqbrkrs* local group. Add the Domain *mqbrkrs* global group to the local *mqbrkrs* group.

If you install WebSphere Message Broker on another computer in the domain:

1. Create the Domain *mqbrkrs* global group on the domain controller system.
2. Install the required product components onto each workstation in the domain. After installation has completed, add the Domain *mqbrkrs* global group to the local group.

Security on z/OS systems

User ID security required for z/OS system product installation.

The user ID that you use to install the product must be no more than eight characters in length. It must also have suitable RACF privileges to perform SMP/E installation in your environment. The user ID must have a valid OMVS segment, because the product installs into the file system paths specified during the SMP/E APPLY processing.

Accessing CDs and DVDs

Accessing CDs and DVDs to install WebSphere Message Broker.

When you install or upgrade WebSphere Message Broker, you can access CDs or DVDs on the local system, or you can set up a shared drive and access the shared resource from multiple computers.

The information in the following sections is relevant to both CDs and DVDs. All references are to CDs; DVD behavior is identical. DVDs are available for Linux on x86, Linux on x86-64, Windows 32-bit, and Windows 64-bit only.

You can also install or upgrade from installation images that you have obtained from Passport Advantage, if you are registered with this scheme:

1. Read the instructions that are provided with the packages.

2. Download the images that you require for the operating systems in your environment.
3. Extract the contents of the images. Specify a short path for the directory to which you are extracting; the depth of directory structure and the directory names might cause problem if restrictions on some operating systems are reached. For example, the limit of 256 characters on Windows might be exceeded.
4. Set up local or remote access to these images in the same way that you do for a CD or DVD. For local installations, see "Accessing CDs and DVDs on the local system"; for remote installations, see "Accessing CDs and DVDs on a remote system" on page 45.

If you are installing on Windows, you cannot enter a Universal Naming Convention (UNC) path (`\\server\drive`) to access the installation program; you must map the drive, otherwise the Java process times out. If you cannot map the drive, or choose not to map the drive, copy the contents of the DVD to a local drive and install from that drive.

Accessing CDs and DVDs on the local system

If you want to install product components from a local CD or DVD, or a local downloaded image, complete this task.

Always consult your operating system documentation for exact details.

AIX

1. Log in as root. You cannot complete installation successfully if you have logged in as another ID and become root.
2. Complete the security setup described in "Security on Linux and UNIX systems" on page 40.
3. Create a CD mount point directory:
   ```
   mkdir /cdbroker
   ```
   where */cdbroker* is the mount point.
4. Insert the CD into the drive of the computer on to which you want to install product components.
5. Use SMIT to mount the CD, or use the following command:
   ```
   mount -r -v cdrfs /dev/cd0 /cdbroker
   ```
   where */dev/cd0* is the CD device and */cdbroker* is the mount point.

You are now ready to install the product that is supplied on this CD.

HP-Itanium

The HP-Itanium CDs have the format ISO 9660, with Rockridge extensions enabled. If volume management software is in use, the CD mounts automatically when you insert it into the CD drive. Alternatively, you can mount the CD as described in the following procedure.

If the CD is mounted incorrectly, some of the files cannot be read and the installation fails with a corrupted directory. You must mount the CD with Rockridge extensions enabled.

1. Log in and ensure that your user ID has root authority.
2. Complete the security setup described in "Security on Linux and UNIX systems" on page 40.

3. Create a CD mount point directory and grant read-only access to all users:

   ```
   mkdir /cdbroker
   chmod 775 /cdbroker
   ```

   where */cdbroker* is the mount point.
4. Insert the CD into the drive of the computer on to which you want to install product components.
5. Mount the CD by using the following command:

   ```
   mount -F cdfs /dev/dsk/device /cdbroker
   ```

   where */device* is the CD device, for example `/c0t0d0` and */cdbroker* is the mount point.

You are now ready to install the product that is supplied on this CD.

Linux on x86 and Linux on x86-64

1. Log in and ensure that your user ID has root authority.
2. Complete the security setup described in "Security on Linux and UNIX systems" on page 40.
3. Create a DVD mount point directory:

   ```
   mkdir /dvdbroker
   ```

   where */dvdbroker* is the mount point.
4. Insert the DVD into the drive of the computer on to which you want to install product components.
5. Run the following command:

   ```
   mount -o ro -t iso9660 /dev/dvdrom /dvdbroker
   ```

   where */dev/dvdrom* is the name of your DVD device (for example, `/dev/hdc`) and */dvdbroker* is the mount point.

You are now ready to install the product that is supplied on this DVD.

Linux, other than Linux on x86 and Linux on x86-64

1. Log in and ensure that your user ID has root authority.
2. Complete the security setup described in "Security on Linux and UNIX systems" on page 40.
3. Create a CD mount point directory:

   ```
   mkdir /cdbroker
   ```

   where */cdbroker* is the mount point.
4. Insert the CD into the drive of the computer on to which you want to install product components.
5. Run the following command:

   ```
   mount -o ro -t iso9660 /dev/cdrom /cdbroker
   ```

   where */dev/cdrom* is the name of your CD device (for example, `/dev/hdc`) and */cdbroker* is the mount point.

You are now ready to install the product that is supplied on this CD.

Solaris

1. Log in and ensure that your user ID has root authority.
2. Complete the security setup described in "Security on Linux and UNIX systems" on page 40.

3. Insert the CD into the drive of the computer on to which you want to install product components.
4. Enter the following command to check whether the Volume Manager is running on your system:

   ```
   /usr/bin/ps -ef | /bin/grep vold
   ```

   If the Volume Manager is running, the CD is mounted on `/cdrom/vol_label` automatically, where *vol_label* is the volume label of the current CD; for example, `wmb6_sol` for Runtime Disk 1.
5. If the Volume Manager is not started, run the following commands to mount the CD:

   ```
   mkdir -p /cdbroker
   mount -F hsfs -o ro /dev/dsk/cdrom /cdbroker
   ```

   where */dev/dsk/cdrom* is the CD location (for example, `c0t0d0`) and */cdbroker* is the mount point directory.

   Check where your CD is located by using the command `iostat -En`. Alternatively, use the volcheck command to mount a CD device automatically.

You are now ready to install the product that is supplied on this CD.

Windows

1. Log on with a user ID that has Administrator authority.
2. Complete the security setup described in "Security on Windows systems" on page 41.
3. Insert the DVD into the drive of the computer on to which you want to install product components. The Launchpad opens.

You are now ready to install the product that is supplied on this DVD.

Accessing CDs and DVDs on a remote system

If you want to install product components from a remote (server) CD or DVD, complete this task.

Always consult your operating system documentation for exact details of this task.

If you want to perform more than one installation of one or more components, you might find that a remote server setup provides some performance benefits, particularly for the WebSphere Message Broker Toolkit which is the largest component. You might also find this method more convenient if you want to run installations by using the silent interface.

If you want to install the WebSphere Message Broker Toolkit by using the silent interface, and you cannot install from DVD, you must copy the installation images onto a disk drive, as described here, to avoid the requirement to swap CDs during the process.

To enable a remote installation, you must complete tasks on both the server (the computer on which the CD, DVD, or shared drive is mounted) and each target system (on which you want to install the product). For details of the commands used in these examples, refer to the operating system documentation.

To set up a server, see "Setting up the server" on page 46.

To set up a target system, see "Setting up the target system" on page 47.

Setting up the server

You can either share the CD drive on the server, or copy the installation images onto a disk and share the directory on that disk.

You can share a CD drive on Linux or UNIX with any other supported Linux or UNIX system, but not with Windows. You can share a Windows CD drive only with other Windows systems.

1. If you want to share a copy of the installation image, create the copy:
   a. Create a directory on the server to store the installation images:

      Linux and UNIX

      Enter the following command:

      ```
      mkdir /instbroker
      ```

      where *instbroker* is the directory into which you copy the product files.

      Windows

      Enter the following command:

      ```
      md m:\instbroker
      ```

      where *m* is the drive on which you want to store the installation images and *instbroker* is the directory on that drive.

      If you are creating directories for the WebSphere Message Broker Toolkit on Linux on x86, Linux on x86-64 or Windows, you must create all three disk subdirectories in the same directory, for example:

      ```
      /instbroker/disk1
      /instbroker/disk2
      /instbroker/disk3
      ```

      Where each subdirectory, for example `disk1`, is the root level of the corresponding CD image.

      This structure ensures that the installation program does not prompt for location, and does not fail because it cannot find the right images.

   b. Insert and mount the appropriate CD in the drive as described in "Accessing CDs and DVDs on the local system" on page 43. The installation programs for the runtime components and the WebSphere Message Broker Toolkit are on separate CDs; insert the correct CD for the components that you want to install from this server.

      If you have inserted a runtime or toolkit CD on Windows and autorun is enabled, the Launchpad is started. When the initial window opens, click **Cancel** to close it.

   c. Copy the complete contents of the CD to the new directory.

      Linux and UNIX

      Enter the following command:

      ```
      cp -rf /cdrom/. /instbroker
      ```

      Windows

      Enter the following command:

      ```
      xcopy f:\*.* m:\instbroker /e
      ```

      where *f* is the CD drive.

2. Grant users access to the drive that contains the product code. These instructions are the same for a disk drive on which you have copied the CD contents, and for the CD drive itself.

   AIX Either type smit and click **Communications Applications and Services → NFS → Network File System (NFS) → Add a Directory to Exports List**, or enter the fast path command smitty mknfsexp. Complete the fields as appropriate and press Enter.

   HP-UX and Linux
   Use the exportfs command. The following example gives all users read-only access using NFS:

   ```
   exportfs -i -o ro /instbroker
   exportfs -a
   ```

   where */instbroker* represents the CD drive or the directory that contains the CD copy.

   Solaris
   Use the share and exportfs commands. The following example gives all users read-only access using NFS:

   ```
   share -F nfs -o ro -d "Broker LAN server" /instbroker
   exportfs -a
   ```

   where "*Broker LAN server*" is an optional description and */instbroker* represents the server CD drive or directory containing the CD copy.

   Windows
   Open Windows Explorer and right-click the drive that you want to share. Click **Sharing** and follow the instructions on the Properties dialog box.

Setting up the target system

Set up a target system to access CDs and DVDs from a server.

1. On Linux and UNIX systems, create a new directory on which to mount the shared directory. Enter the following command:

   ```
   mkdir /remotebroker
   ```

   where *remotebroker* is the name of the new directory.

2. Access the remote directory:

   Linux and UNIX
   Enter the following command:

   ```
   mount server name:instbroker /remotebroker
   ```

   where *server name* is the name of the server on which you created the CD or DVD copy.

   Windows
   Connect to the appropriate drive and folder by using the **net use** command at a command prompt on the target system, for example:

   ```
   net use x: \\server_name\instbroker
   ```

   where *x*: is the required mapped drive on the target system.

   If your shared installation directory name contains spaces (for example, Broker Image), enclose it in double quotation marks.

If your server is protected, you might need to specify a user ID and password on this command (see the Windows online help for more information about the net use command). Alternatively, use Windows Explorer or an alternative method to map the shared resource to a drive letter.

You cannot enter a UNC path (`\\server\drive`) to access the installation program; you must map the drive, as shown, otherwise the Java process times out. If you cannot map the drive, or choose not to map the drive, copy the contents of the DVD onto a local drive and install from that drive. In addition, you cannot enter a UNC path when the installation wizard requests a path as input; the wizard cannot interpret a UNC path.

3. Change to the remote image directory. You are now ready to run the Launchpad (on Windows only) or the installation wizard to install the product from the remote directory to your local system.

Checking the kernel configuration on Linux and UNIX systems

Check the kernel configuration parameters on Linux and UNIX systems for prerequisite and corequisite products.

WebSphere Message Broker has no specific requirements for kernel configuration parameters, However, other products might require particular settings. If you do not tune your kernel parameters to suit the products that you have installed, you might see unexpected behavior or experience performance deterioration.

1. Check the documented values for the following products:
   a. WebSphere MQ; see the topic "Kernel configuration" for your operating system in the appropriate online WebSphere MQ information center. Version 7 is at:

      `publib.boulder.ibm.com/infocenter/wmqv7/v7r0/index.jsp`
2. Take the highest value for each parameter and compare it to the corresponding value in your kernel configuration.
3. If the current value is lower than the highest documented value, update the current setting by using the appropriate tool; for example, HP-Itanium. If the current value is higher, leave it unchanged.
4. On Solaris, increase the maximum number of concurrent open file descriptors on your system to at least 256.
5. If you have changed any kernel values, you might must restart your system for these changes to take effect. Check the documentation for your operating system for further information about these parameters.

Chapter 7. Choosing what to install

Choose which WebSphere Message Broker components to install.

On some operating systems, you must complete several tasks before you install WebSphere Message Broker. For more information, see Chapter 6, “Preparing the system,” on page 39

WebSphere Message Broker consists of three components, the broker, the Explorer, and the Toolkit. You can install the broker on all supported operating systems. You can install the Explorer and the Toolkit only on Linux on x86 and Windows.

Broker

The broker is a set of execution processes that provides message processing facilities; these interact with a variety of application clients that use both point-to-point and publish/subscribe communications. The message flows that you create are hosted by the broker. A broker can host many message flows, in one or more execution groups, and can support many clients.

You define how messages are received, processed, and delivered to receiving applications or subscribers:

- You can customize some message processing nodes in a message flow with mappings, ESQL, Java, PHP, and XSL style sheets.
- You can create message models to define message structures determined by C and COBOL data structures, industry standards such as SWIFT or EDIFACT, and XML DTD or schema.
- You can develop user-defined extensions (nodes and parsers) to support message processing options that are not provided by the supplied nodes and parsers.
- You can debug message flows and step through processing to check paths and results.
- You can use message flow aggregation to manage multiple requests and responses that are generated by a single input message.

You can install more than one broker component on any system. For more details about how different installations can coexist, see Chapter 3, “Coexistence and migration,” on page 21.

For installation of the broker component, you can choose between a typical installation and a custom installation. These installation options are explained in Chapter 3, “Coexistence and migration,” on page 21.

WebSphere Message Broker Explorer

The Explorer is a stand-alone administration environment that is based on the Eclipse platform which communicates with one or more brokers. Administrators use the Explorer to manage the resources associated with these brokers. Install the Explorer on computers on which you intend to perform only administrative tasks.

WebSphere Message Broker Toolkit

The Toolkit is an integrated development environment and graphical user interface that is based on the Eclipse platform and the Rational framework.

Application developers work in separate instances of the Toolkit to develop message flows, message sets, and user-defined nodes and parsers. You can access a shared repository (for example, CVS) to store resources and make them accessible in a secure manner to multiple users.

WebSphere Message Broker ODBC Database Extender

The WebSphere Message Broker ODBC Database Extender is required when using WebSphere Message Broker to interface with an ODBC data source that is not supported through the DataDirect ODBC drivers.

Choose the interface you want to use to install WebSphere Message Broker. For more information, see "IBM Installation Manager" on page 18

Chapter 8. Installation and uninstallation interfaces

You can use different interfaces for installation and uninstallation of runtime components and the WebSphere 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 the broker."

When you install or uninstall the WebSphere Message Broker Toolkit, you can choose a graphical or silent interface. These options are described in "How to install and uninstall the WebSphere Message Broker Toolkit" on page 55.

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 the broker

Install and uninstall the broker by using one of three interfaces.

- "Graphical interface"
- "Console interface" on page 52
- "Silent interface" on page 52

Each interface has different advantages, which are discussed in the appropriate sections. When you have chosen the interface that you want to use:

- Check that your user ID has the correct authority to complete this task; see 'Installation and uninstallation authorization' in the information center for details.
- If you have multiple broker installations on your system, see "How to uninstall multiple broker installations" on page 53.
- Follow the installation instructions in 'Installing' in the information center (for a new installation or to install service to existing components), or in 'Uninstalling' in the information center (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 started. 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 processor 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 option 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 the broker, the wizard always uninstalls components from the last known Version 7.0 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 7.0 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 54), 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 -G licenseAccepted=true` options on the command:

```
installer -silent -G licenseAccepted=true
```

- 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 54.

  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 -G licenseAccepted=true -options response1.txt
  ```

How to uninstall multiple broker installations

Uninstall the broker when you have multiple broker installations

If you install the same version and release of the runtime components on a single computer (for example, Version 7.0) more than once, the installer support provided by the operating system cannot manage these installations in the normal way.

If you later want to uninstall one of the multiple installations, use the uninstall program *uninstaller* in the `_uninst_runtime` directory of the specific installation that you want to remove, not the facilities provided by the operating system.

You can view the `install.properties` file to see current installations and their locations, and check the operating system representation:

AIX The first installation is recorded as mqsi*vr*, for example `mqsi70`. Subsequent installations at the same *vr* level are displayed under the first one when you list installed products with **lslpp**. If you use **smitty** and **geninstall** to manage those subsequent installations, results are unpredictable.

Linux, HP-UX, and Solaris
The first installation is recorded as mqsi/*vr*, for example `mqsi/70`. Subsequent installations at the same *vr* level are recorded as mqsi/*vr*-2, and so on.

Windows
The most recent installation that you completed for any given version and release is displayed in **Add/Remove Programs**. No other installations are shown here. Similarly, the **Command Console** option in the **Start** menu is that associated with the most recent installation for any given version and release.

If you uninstall the product at a specific version and release listed by **Add/Remove Programs**, earlier installations that you completed on the computer are not reinstated in that view.

To uninstall other instances, navigate to the directory that contains the uninstallation program. For details of uninstallation tasks, see the information center.

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

A sample response file is supplied. On Linux and UNIX systems, the file is`/sample-scripts/install.opt`. On Windows, the file is`\sample-scripts\install.opt`. The sample response files includes detailed information about the options that you can change, and the values that you can enter to change them. You can tailor the file 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:

- To accept the product license:

  ```
  -G licenseAccepted=true
  ```

- 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
  ```

- Specify whether the program is to check for prerequisite software.

  Add the following line to the file to instruct the installation wizard to ignore the check for WebSphere MQ:

  ```
  # don't check for WebSphere MQ
  -P mqPrerequisite.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 WebSphere Message Broker Toolkit

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

- "Graphical interface" on page 56
- "Silent interface" on page 56

Each interface has different advantages, which are explained in the appropriate sections. When you have chosen the interface that you want to use:

- Check that your user ID has the correct authority to complete this task; see 'Installation and uninstallation authorization' in the information center for details.

- Follow the installation instructions in 'Installing' in the information center (for a new installation or to install service to existing components), or in 'Uninstalling' in the information center (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 started. 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, start the uninstallation wizard.

When you use the wizards, you might must 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 that the installer or uninstaller is progressing, you can monitor your processor usage, which increases greatly during both installation and uninstallation.

Silent interface

Use the silent interface for automated installations over many identical systems. If you start a silent installation or uninstallation, the wizard runs 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. Locate the installation wizard in the /Message_Broker_Toolkit_V7/disk1/IBMInstallation Manager directory of the local or remote DVD, or the network drive. If IBM Installation Manager is not already installed, it is installed before the WebSphere Message Broker Toolkit is installed.

  Linux **Linux on x86**

```
./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 WebSphere Message Broker Toolkit."

Using response files with the WebSphere 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 WebSphere 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 on x86 and Windows. The files assume that IBM Installation Manager has not yet been installed, and sets options to install both Installation Manager and the WebSphere 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 on x86:

```
./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 on x86:

```
./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.

Installation wizard names

View the installation wizards that are used to install the WebSphere Message Broker broker, the WebSphere Message Broker Toolkit, and the WebSphere Message Broker Explorer.

The installation wizard has a different name on each operating system. To help you find these programs quickly, the names are shown in the following tables.

Installation wizard names for WebSphere Message Broker broker

The following table shows the installation wizard names that are used to start the installers for the broker component.

Table 14. Installation wizard names for WebSphere Message Broker broker

Operating system	Installation wizard name
AIX	`setupaix`
HP-Itanium	`setuphpia64`
Linux on POWER	`setuplinuxppc`
Linux on x86	`setuplinuxia32`
Linux on x86-64	`setuplinuxx64`
Linux on System z	`setuplinux390`
Solaris on SPARC	`setupsolaris`
Solaris on x86-64	`setupsolarisx64`
Windows 32-bit	`setup.exe`
Windows 64-bit	`setup.exe`

Installation wizard names for WebSphere Message Broker Toolkit

The following table shows the installation wizard names that are used to start Installation Manager that controls the installation of the WebSphere Message Broker Toolkit.

Table 15. Installation wizard names for WebSphere Message Broker Toolkit

Operating system	Installation wizard name
Linux on x86	`install`
Linux on x86-64	`install`
Windows 32-bit	`install.exe`[1]
Windows 64-bit	`install.exe`[1]

Note:

1. You can also use `installc.exe` to start Installation Manager. This program operates synchronously and does not return control to the command line until the installation has completed.

Installation wizard names for WebSphere Message Broker Explorer

The following table shows the installation wizard names that are used to start the installers for the WebSphere Message Broker Explorer.

Table 16. Installation wizard names for WebSphere Message Broker Explorer

Operating system	Installation wizard name
Linux on x86	`install`
Linux on x86-64	`install`
Windows 32-bit	`install.exe`
Windows 64-bit	`install.exe`

Part 3. Installation

This part of the book describes how to install WebSphere Message Broker on distributed systems by using the Launchpad (available on Windows only) or the installation wizards.

- To install the broker component, the WebSphere Message Broker Toolkit, and the WebSphere Message Broker Explorer on Windows, use the Launchpad. This program also installs prerequisite products if they are not already installed, or advises you if they are not at the supported level. This program is described in Chapter 9, "Installing with the Windows Launchpad," on page 63.
- To install the broker component on Linux or UNIX systems, run the appropriate installation wizard for your operating system. Follow the instructions in Chapter 10, "Installing the WebSphere Message Broker broker," on page 69.

  You can also use a wizard on Windows, if you prefer not to use the Launchpad.
- To install the WebSphere Message Broker Toolkit on Linux on x86 and Linux on x86-64, run the installation wizard by following the instructions in Chapter 11, "Installing the WebSphere Message Broker Toolkit," on page 77.

  You can also use a wizard on Windows, if you prefer not to use the Launchpad.
- To install the WebSphere Message Broker Explorer on Linux on x86 and Linux on x86-64, run the installation wizard by following the instructions in Chapter 12, "Installing the WebSphere Message Broker Explorer," on page 83.

  You can also use a wizard on Windows, if you prefer not to use the Launchpad.

To install runtime components on z/OS, use the processes described in the *Program Directory for WebSphere Message Broker for z/OS*.

Chapter 9. Installing with the Windows Launchpad

Use the Windows Launchpad to install the WebSphere Message Broker components and its prerequisite products.

Choose which WebSphere Message Broker components to install. For more information, see Chapter 7, “Choosing what to install,” on page 49

On Windows only, use the Launchpad for additional help with installing:

- The WebSphere Message Broker Toolkit
- The WebSphere Message Broker Explorer
- The broker
- Prerequisite products for the broker

If you use the Launchpad, you can install everything that you need, and do not have to follow the procedures described in other chapters for installing the broker, the WebSphere Message Broker Toolkit, and the WebSphere Message Broker Explorer.

The Launchpad works with both physical media (the DVD) and with electronic images that you have downloaded from IBM Passport Advantage; however, the Launchpad depends on a file structure identical to that on the DVD, therefore you must not make any changes during or after download.

Multiple installations on a single computer

You can use the Launchpad to install only one instance of each component on a single computer. If you have selected and installed the broker or toolkit components, you cannot use the Launchpad to install these components again in a different location.

To install additional instances, run the appropriate installation wizard directly. See Chapter 10, “Installing the WebSphere Message Broker broker,” on page 69, Chapter 11, “Installing the WebSphere Message Broker Toolkit,” on page 77, and Chapter 12, “Installing the WebSphere Message Broker Explorer,” on page 83 for instructions about how to complete these tasks.

The Launchpad also manages only one installation of WebSphere MQ on a single computer. Refer to the relevant documentation for these products if you want to install multiple instances.

Installation summary

This list summarizes the actions that you must take:

1. Check the `readme.html` file for any updates to these installation instructions.
2. Check that you have enough memory and disk space; refer to “Memory and disk space requirements” on page 8
3. Decide whether you want to install from a server, or install locally on each system. These choices are described in “Accessing CDs and DVDs” on page 42

4. Start the Launchpad to install WebSphere Message Broker and its prerequisite product WebSphere MQ. Full instructions are provided in "Starting the Launchpad."

Starting the Launchpad

Starting the Windows Launchpad.

The Launchpad is available on every DVD and downloaded image from which product components or prerequisite products can be installed.

If you are using physical product media, the Launchpad starts automatically if autorun is enabled. If autorun is not enabled, or if you are installing from a downloaded image, navigate to root directory of the DVD or image, and double-click the file `mqsilaunchpad.exe` or type `mqsilaunchpad` in a command window and press **Enter**.

The **Installation** window is displayed. On the **Installation** window you can install the set of products that are required for a default configuration of WebSphere Message Broker, including WebSphere MQ, if it is not already installed. For more information, see "Installation" on page 65.

Access further information from the left pane:

- Click **Installation Guide** to launch a PDF copy of the Installation Guide in Adobe® Reader.
- Click **Readme** to view the readme file `readme.html` in a new browser window.
- Click **Quick Tour** to take a tour around the product. See 'WebSphere Message Broker overview' in the information center for further information.

The Launchpad might have to search for an installation wizard for some of your selections. If you are installing from DVD, all the required products are available, but if you are installing from a downloaded image, the program might be on another downloaded image, or might not be in the expected location. If necessary, the Launchpad prompts you to take the appropriate action to find the file. The following table shows, for each supplied product, the program names and their locations on the downloaded images.

Table 17. Installation wizard names and locations used by the Windows Launchpad

Product	Installation wizard name	Directory	Downloaded image
WebSphere Eclipse Platform V3.3[1]	`IBM WebSphere Eclipse Platform V3.3.msi`	`\WebSphere_MQ_V7.0.1\Prereqs\IES\MSI`	Runtime Disk 2
WebSphere MQ V7.0.1[1]	`IBM WebSphere MQ.msi`	`\WebSphere_MQ_V7.0.1\MSI`	Runtime Disk 2
WebSphere Message Broker broker	`setup.exe`	`\` (root directory)	Runtime Disk 1
WebSphere Message Broker Explorer	`install.exe`	`\MBExplorer`	Runtime Disk 1
WebSphere Message Broker Toolkit	`install.exe`	`\IBMInstallationManager`[2]	Toolkit Disk 1

Notes:

1. WebSphere Message Broker Trial Edition does not include this product. See Chapter 5, “Installation packages,” on page 29 for further information.
2. The Launchpad starts Installation Manager, which installs itself (if required), and starts the WebSphere Message Broker Toolkit installation.

Installation

Use the Installation window to install a default configuration.

When the Launchpad starts, it opens the Installation window.

1. The minimum set of products that are required for a default configuration is listed:
   - WebSphere MQ V7.0.1
   - WebSphere Message Broker V7.0
   - WebSphere Message Broker Toolkit V7.0
   - WebSphere Message Broker Explorer V7.0
2. Check the initial installation status that is shown for each listed product:
   - **Required** indicates that the product is not installed, it is one of the products that are required for a minimum configuration, and either you have cleared the associated check box, or the Launchpad cannot install it (and no check box is shown).
   - **Pending** indicates that the product must be installed to ensure the successful operation of a minimum configuration broker domain. The associated check box is selected to show that this product is installed.
   - **Installed** indicates that the product is already installed at a level that is supported by WebSphere Message Broker. The installed version is shown and no check box is displayed.
   - **Partial Installation** indicates that the product is installed, but not all components required to ensure that the successful operation of a minimum configuration broker domain are present on the system. The associated check box is selected to show that additional components are installed.
3. Click the plus sign to the left of each listed product in turn. The Launchpad displays more information about the product, which you can use to decide if you want it installed. The additional information also provides an estimate of the time taken to complete each product installation, if appropriate.
4. Check that Installation has installed all the WebSphere MQ components that you require. WebSphere Message Broker requires only the server, WebSphere MQ Explorer, and the Java Messaging component, and only these components are installed.

   If you want additional components, use the WebSphere MQ installer.
5. WebSphere MQ Explorer requires the WebSphere Eclipse Platform to be installed; when you select WebSphere MQ V7.0.1, the Eclipse Platform is automatically installed.
6. If you do not want to install a listed product, clear the check box that is associated with the product. Its status is changed to **Required**, because you cannot configure and verify your installation without all the listed products. If the product you have cleared is a prerequisite for another product, that other product is also cleared. You can complete installation of any remaining products, and install the cleared products at a later time.

   If you are installing WebSphere Message Broker Trial Edition, you must install WebSphere MQ and the Eclipse platform before using the Launchpad. These products are not supplied with the Trial Edition. You must obtain prerequisite

software from other sources to support the WebSphere Message Broker Trial Edition. See Chapter 5, “Installation packages,” on page 29 for more information.

7. Click **Launch Installation for WebSphere Message Broker**.

   If you have cleared one or more of the required products, you are asked to confirm your choices.

   The Launchpad installs the products that you have selected in the order shown. You cannot change the Installation window after you have started the installation process. When the Launchpad starts each installation, it updates status from **Pending** to **In Progress**.

   If you have the wrong WebSphere MQ level, for example V6.1, you might get the following warning. The Launchpad uninstalls WebSphere MQ V6.1 and installs WebSphere MQ V7.0.1.

   ```
   One or more of the selected installs will upgrade an existing version
   of the installed software. Please be aware that the old version may be
   removed with no further prompting.
   Click OK to continue.
   ```

   - If you have selected WebSphere MQ V7.0.1, the Launchpad starts the installation wizard silent interface for WebSphere Eclipse Platform V3.3; default values are used for all options. A progress bar is displayed. When the installation completes, the Launchpad starts the installation wizard silent interface for WebSphere MQ V7.0.1; default values are used for all options. A progress bar is displayed so that you can check on progress.
   - If you have selected WebSphere Message Broker V7.0 (broker component), the Launchpad starts the installation wizard graphical interface. You must supply the input that is required by the installation wizard.

     The installation wizard guides you through a series of windows where you can make choices about where to install the component.

     You must also read and accept the Software License Agreement that is displayed.

     The license agreement covers your use of WebSphere MQ Version 7.0.1. This product is licensed for use with WebSphere Message Broker only, and must not be used for other purposes.

     You are asked if you want to open a command console when the wizard terminates; select **Yes** to open a console window that is initialized with the correct environment for command invocation. The command console is explained in 'Command environment: Windows platforms' in the information center. If you do not want to enter any commands at this time, select **No**.
   - If you have selected the WebSphere Message Broker Toolkit, the Launchpad starts the installation wizard graphical interface.

     The process is controlled by Installation Manager, which installs itself if it is not already installed on this computer. For further information about Installation Manager, see “Additional software requirements” on page 16.

     The installation wizard guides you through a series of windows where you can make choices about where to install the component, which package group to install it in, and which language support you want to install. You must supply all input that is required by the installation wizard. You must also accept the Software License Agreement that is displayed.

     If you want to launch the WebSphere Message Broker Toolkit when its installation wizard is complete, select **WebSphere Message Broker Toolkit** in the list of installed products that is displayed on the completion window. When you click **Finish**, the wizard ends and returns control to the Launchpad, and the WebSphere Message Broker Toolkit is started.

- If you have selected WebSphere Message Broker Explorer V7.0, the Launchpad starts the installation wizard graphical interface. You must supply the input that is required by the installation wizard.

  The installation wizard guides you through a series of windows where you can make choices about where to install the component.

  You must also read and accept the Software License Agreement that is displayed.

The status of each product changes to **Installed** when the Launchpad completes its installation.

When the Launchpad has installed all your selected products, it returns control to the Installation window.

8. Click **Refresh** to check the status of each product listed.
9. Click **Exit Launchpad** to end the program.

Problem resolution during installation

Use the advice given here as a first step to resolving problems that can arise when you are installing product components.

The Launchpad waits for a return code from each installation wizard that it initiates. If the return code indicates that the installation has failed, the Launchpad reports the error and refers you to the documentation for the product that has failed. Most installation wizards roll back from the point of the error and return your system to the state it was in before the failed attempt, and you can therefore try again after you have corrected the error.

If the Launchpad has already installed one or more products successfully before an error occurred, it does not roll back these installations. When you restart the Launchpad, the status of installed products reflects successful installations from the previous invocation.

If a failure occurs you must either correct the error and restart the Launchpad, or click **Refresh** and clear the selection of the product that failed.

If you are unable to install a product:

- Refer to the readme file `readme.html` for late changes to the installation instructions.
- If WebSphere Message Broker runtime components fail to install, check the contents of the installation log file `mqsi7_install.log`, stored in your home directory.
- If the WebSphere Message Broker Toolkit fails to install, check the contents of the installation log file *YYYYMMDD_TIME*`.xml`, where *YYYYMMDD_TIME* is the date and time of installation. The log file location is defined in “Installation problems,” on page 107.
- If the WebSphere Message Broker Explorer fails to install, check the contents of the installation log file `MBExplorer_install.log`. The log file is stored in the installation directory.
- If WebSphere MQ Version 7.0.1 fails to install, check the contents of `MQV7_install.`*date_time*`.log` stored in the `temp` directory of your home directory.
- Review the problem scenarios described in “Installation problems,” on page 107 and follow the guidance given.

If you are still unable to resolve the problem, contact your IBM Support Center.

Chapter 10. Installing the WebSphere Message Broker broker

Use the installation wizard to install the WebSphere Message Broker broker.

This topic describes the tasks that you must complete to install the broker component on all supported operating systems.

If you are installing the WebSphere Message Broker on Windows, you can use the LaunchPad to complete this task. For more information, see Chapter 9, "Installing with the Windows Launchpad," on page 63. If you do not want to use the LaunchPad, complete the tasks in this topic instead.

The following list identifies the choices that you have for installing the broker component, and the actions that you must take to complete your chosen task:

1. Check the `readme.html` file for any updates to these installation instructions. The readme file location is shown in Chapter 2, "System requirements," on page 7.
2. Check that you have enough memory and disk space; see "Memory and disk space requirements" on page 8.
3. If you do not already have WebSphere MQ installed, install it before you install the broker component. Although you can install WebSphere MQ after you have installed the broker component, the installation wizard checks that you have the supported level of WebSphere MQ, or later, installed. If this check fails when you are using the graphical or console interface, the installation wizard displays a warning that lists potential problems. If you decide to continue, you must complete the installation of WebSphere MQ before you create or start any brokers.

   If you start the installation silent interface, the check for WebSphere MQ fails. If you have not modified the default behavior by specifying a tailored response file, the wizard terminates without taking any further action. If you have modified the response file to ignore this check, the installation wizard continues.
4. Decide if you want to install from a server, or to install locally on each system. These choices are described in "Accessing CDs and DVDs" on page 42 for both CDs and DVDs, and for images that you have downloaded from Passport Advantage (if you are registered with the scheme). The instructions here do not differentiate between CDs and downloaded images; their behavior is the same.
5. Decide whether to use the graphical installation, a console installation, or a silent installation. For more information about these interfaces, see "How to install and uninstall the broker" on page 51
6. If you decide to use the graphical installation, continue with these instructions. To use a console installation, see "Installing the WebSphere Message Broker broker in console mode" on page 71. To use a silent installation, see "Installing the WebSphere Message Broker broker in silent mode" on page 71.
7. Determine the installation wizard name for your operating system. See "Installation wizard names" on page 58.
8. Start the installation wizard graphical interface:
   a. For local access, load the product CD or DVD.

Linux and UNIX

Open a command prompt and navigate to the root directory of the CD. Type the installation wizard name with no options, and press **Enter**.

Windows

Take one of the following actions:

- If autorun is enabled, the Launchpad is started immediately. To use the Launchpad, see Chapter 9, "Installing with the Windows Launchpad," on page 63. To cancel the Launchpad, click **Exit Launchpad**.
- In Windows Explorer, navigate to the root directory of the CD or DVD. Locate the installation wizard and double-click the wizard to start it.
- Open a command prompt and navigate to the root directory of the CD or DVD. Type the installation wizard name with no options, and press **Enter**.

b. To install from a remote server, access the remote CD or DVD drive or network drive on which the product media is available. Find the installation wizard on the CD, DVD, or network drive and start it as previously described.

The installation wizard checks your system locale setting. If the locale setting is supported (listed in Chapter 4, "Multicultural support," on page 27), the wizard continues in this locale. If the current setting is not supported, the wizard displays a dialog box, and you must choose from the list of supported languages. This language is used for installation only, and does not affect other processes on your computer.

9. When the wizard starts, navigate through the windows and provide input when requested. You must also read and accept the Software License Agreement.

   If the directory that you specify for installation already contains a previous version of WebSphere Message Broker, for example Version 6.1.0.4, the installation wizard prevents you from installing Version 7.0 in this location. You must specify a different location. You can then migrate components to Version 7.0 from the previous version when appropriate.

   Linux and UNIX only

   At the end of this installer, a panel will ask if you would like to start the installation of the WebSphere Message Broker ODBC Database Extender (IE02) SupportPac. If selected, the IE02 SupportPac installer will be automatically launched in GUI mode. For more information refer to the WebSphere Message Broker ODBC Database Extender (IE02) SupportPac installation instructions, which are located within the IE02 directory contained on the WebSphere Message Broker install image.

10. When the summary window is displayed, check your choices and click **Next** to complete installation. A progress bar is displayed so that you can check on progress.
11. If you want to install the WebSphere Message Broker ODBC Database Extender package, select **Yes** when the window appears at the end of the installation process. See "Installing the WebSphere Message Broker ODBC Database Extender (IE02)" on page 73 for further details.
12. If you experience problems during installation, see "Dealing with problems during installation of WebSphere Message Broker broker" on page 75

When you have completed installation, see Chapter 13, “Verifying your installation,” on page 93, Chapter 14, “Checking the broker operation mode and function level,” on page 101, and 'Start and main menu updates after installation' in the information center.

Installing the WebSphere Message Broker broker in console mode

Install the WebSphere Message Broker broker using the installation wizard in console mode.

The following list identifies the choices that you have for installing the broker component in console mode, and the actions that you must take to complete your chosen task:

1. Determine the installation wizard name for your operating system. See “Installation wizard names” on page 58.
2. Locate the installation wizard in the root directory of the local or remote CD or DVD, or the network drive.
3. If you are installing on HP-Itanium, `/usr/sbin/` must be included in the PATH statement.
4. Enter the following command at a command prompt for default invocation:

   `installer` `-console` (where *installer* is the installation wizard name).

   If you start the installation from a directory other than the one in which the wizard exists, include the absolute or relative path with the command name.
5. When the wizard starts, navigate through the windows and provide input when requested. You must also read and accept the Software License Agreement.

   If the directory that you specify for installation already contains a previous version of WebSphere Message Broker, for example Version 6.1.0.4, the installation wizard prevents you from installing Version 7.0 in this location. You must specify a different location. You can then migrate components to Version 7.0 from the previous version when appropriate.

   Linux and UNIX only

   At the end of this installer, a panel will ask if you would like to start the installation of the WebSphere Message Broker ODBC Database Extender (IE02) SupportPac. If selected, the IE02 SupportPac installer will be automatically launched in console mode. For more information see “Installing the WebSphere Message Broker ODBC Database Extender (IE02)” on page 73.
6. When the summary window is displayed, check your choices and enter 1 to complete installation.
7. If you experience problems during installation, see to “Dealing with problems during installation of WebSphere Message Broker broker” on page 75

When you have completed installation, see Chapter 13, “Verifying your installation,” on page 93, Chapter 14, “Checking the broker operation mode and function level,” on page 101, and 'Start and main menu updates after installation' in the information center.

Installing the WebSphere Message Broker broker in silent mode

Install the WebSphere Message Broker broker using the installation wizard in silent mode.

The following list identifies the choices that you have for installing the broker component in silent mode, and the actions that you must take to complete your chosen task:

1. Determine the installation wizard name for your operating system. See "Installation wizard names" on page 58.
2. Locate the installation wizard in the root directory of the local or remote CD or DVD, or the network drive.
3. If you are installing on HP-Itanium, `/usr/sbin/` must be included in the PATH statement.
4. Enter the following command at a command prompt for typical installation with all default settings.

   If you start the installation from a directory other than the one in which the wizard exists, include the absolute or relative path with the command name.

   Linux and UNIX

   `installer` `-silent -G licenseAccepted=true` (where *installer* is the installation wizard name).

   Windows

   Start the installation wizard within a start command with parameter /w to ensure that the installation completes before it returns to the command prompt:

   ```
   start /w setup.exe -silent -G licenseAccepted=true
   ```

   If you want to specify non-default settings, include a response file on the invocation. If you want to install Version 7.0.0.1 in a customized location you must specify a response file. For more details of how to use response files, how to create response files, and how to edit them to define your requirements, see "Using response files with runtime components" on page 54.
5. The installation wizard completes without any user interaction.

   If you start the installation from a directory other than the one in which the wizard exists, include the absolute or relative path with the command name.

   Linux and UNIX only

   Note: the WebSphere Message Broker ODBC Database Extender (IE02) installer cannot be automatically started when running the install in silent mode. For more information see "Installing the WebSphere Message Broker ODBC Database Extender (IE02)" on page 73.

   If you want to specify non-default settings, include a response file on the invocation. If you want to install Version 7.0.0.1 in a customized location you must specify a response file. For more details of how to use response files, how to create response files, and how to edit them to define your requirements, see "Using response files with runtime components" on page 54.
6.
7. If you experience problems during installation, see "Dealing with problems during installation of WebSphere Message Broker broker" on page 75

When you have completed installation, see Chapter 13, "Verifying your installation," on page 93, Chapter 14, "Checking the broker operation mode and function level," on page 101, and 'Start and main menu updates after installation' in the information center.

Installing the WebSphere Message Broker ODBC Database Extender (IE02)

WebSphere Message Broker ODBC Database Extender encapsulates the unixODBC driver manager, which is an implementation of the Open DataBase Connectivity interface for UNIX systems. and this topic describes how you install it.

Before you start:

Read the information about the unixODBC Project and the IBM solidDB® product family.

Install WebSphere Message Broker Version 7.0.0.1

WebSphere Message Broker ODBC Database Extender is required when using WebSphere Message Broker to interface with an ODBC data source that is not supported through the DataDirect ODBC drivers.

1. To install the WebSphere Message Broker ODBC Database Extender, download the package for your platform to the directory of your choice, or select the option to install the WebSphere Message Broker ODBC Database Extender from the product disk.

   To download the package externally, select WebSphere Message Broker on the WebSphere MQ SupportPacs Web page and locate the package file.

   The package file is called `ie02-install.bin` on all platforms.

   This package must be run with the same privileges (typically root) that you used when installing WebSphere Message Broker.
2. Run the installer in one of the following modes:
   - Graphical
   - Console
   - Silent

   a. **Graphical**. From within the directory where you downloaded the package file, run the following command:

      ```
      ./ie02-install.bin
      ```

      The installer launches within a separate window and guides you through the installation process. However, if the installer cannot launch in Graphical mode, it launches in console mode.

   b. **Console**. From within the directory where you downloaded the package file, run the following command:

      ```
      ./ie02-install.bin –i console
      ```

      The installer launches, and guides you through the installation process from within the same console as the command was run.

   c. **Silent**. When specifying a silent install, a response file is required to define the required responses to the options provided by the installer. An example response file is shown below:

      ```
      # This file was built by the Replay feature of InstallAnywhere.
      # It contains variables that were set by Panels, Consoles or Custom
      # Code.

      #Has the license been accepted
      #-----------------------------
      LICENSE_ACCEPTED=TRUE
      ```

```
#Choose Install Folder
#---------------------
USER_INSTALL_DIR=/opt/ibm/IE02
```

Note that the above example specifies that the license has been accepted. By using this example script you are accepting the terms of the license agreement.

The response file must be named `installer.properties` and needs to be located in the same directory as the WebSphere Message Broker ODBC Database Extender installer.

Run the following command from within the directory where you downloaded the WebSphere Message Broker ODBC Database Extender:
`./ie02-install.bin –i silent`

After the installation has completed, review the install log. This is located under the installation path specified during the install. The file name of the log is: `WebSphere_Message_Broker_ODBC_Database_Extender_InstallLog.log`.

If you are installing over a previous installation (within the same installation directory), the previous installation is silently uninstalled before the new version is installed.

Next, Configure the WebSphere Message Broker Database Extender.

Configuring the WebSphere Message Broker ODBC Database Extender (IE02)

WebSphere Message Broker ODBC Database Extender encapsulates the unixODBC driver manager, which is an implementation of the Open DataBase Connectivity interface for UNIX systems, and this topic describes how you configure it.

Before you start:

Install the WebSphere Message Broker ODBC Database Extender.

To allow WebSphere Message Broker to take advantage of the additional database support, it needs to know where you have installed the SupportPac. The location of the SupportPac should be set by the value of the environment variable `IE02_PATH`.

This environment variable is automatically set within the WebSphere Message Broker profile during the installation of the SupportPac, by the creation of the script called `IE02.sh` which is placed within the directory `/var/mqsi/common/profiles`. An example file is shown below:

```
#!/usr/bin/sh
# This file was created as part of the IBM WebSphere Message Broker ODBC
# Database Extender SupportPac (IE02) install
export IE02_PATH=/opt/ibm/IE02
chmod 755 /var/mqsi/common/profiles/IE02.sh
```

If you alter the location of your `$MQSI_WORKPATH` and, therefore, alter the location where WebSphere Message Broker dynamically runs additional scripts whilst loading its profile, you must either copy the existing file, or create a new file containing the required contents within your new `{$MQSI_WORKPATH}/common/profiles` directory.

You must not put the `lib` directory of the WebSphere Message Broker ODBC Database Extender into your library path (`LD_LIBRARY_PATH` or equivalent). If you

do so, the WebSphere Message Broker ODBC Database Extender is not correctly loaded by WebSphere Message Broker and unpredictable results can occur.

Dealing with problems during installation of WebSphere Message Broker broker

Deal with problems during installation of the WebSphere Message Broker broker component.

If you have problems during installation:

1. Refer to the readme file `readme.html` for any late changes to the installation instructions.
2. Check the contents of the installation log `mqsi7_install.log`, which is stored in your home directory. The log file location is defined in "Installation problems," on page 107.
3. Review the problem scenarios described in "Installation problems," on page 107 and follow the guidance given.
4. If you are still unable to resolve the problem, contact your IBM Support Center.

Chapter 11. Installing the WebSphere Message Broker Toolkit

Use the installation wizard to install the WebSphere Message Broker Toolkit.

This topic describes the tasks that you must complete to install the WebSphere Message Broker Toolkit on Windows and Linux on x86 operating systems.

If you are installing the WebSphere Message Broker Toolkit on Windows, you can use the LaunchPad to complete this task. For more information, see Chapter 9, "Installing with the Windows Launchpad," on page 63. If you do not want to use the LaunchPad, complete the tasks in this topic instead.

The following list identifies the choices that you have for installing the WebSphere Message Broker Toolkit, and the actions that you must take to complete your chosen task:

1. Check the `readme.html` file for any updates to these installation instructions. The readme file location is shown in Chapter 2, "System requirements," on page 7.
2. Check that you have enough memory and disk space; see "Memory and disk space requirements" on page 8.
3. Decide if you want to install from a server, or to install locally on each system. These choices are described in "Accessing CDs and DVDs" on page 42 for both DVDs, and for images that you have downloaded from Passport Advantage (if you are registered with the scheme). The instructions here are identical for all these choices, except where specified otherwise.
4. Decide whether to use the graphical installation or a silent installation. For more information about these interfaces, see "How to install and uninstall the WebSphere Message Broker Toolkit" on page 55
5. If you decide to use the graphical installation, continue with these instructions. To use a silent installation, see "Installing the WebSphere Message Broker Toolkit in silent mode" on page 80. The installation of the WebSphere Message Broker Toolkit is controlled by Installation Manager. If Installation Manager is not already installed on the computer, it installs both itself and the WebSphere Message Broker Toolkit.
6. Determine the installation wizard name for your operating system. See "Installation wizard names" on page 58.
7. Start the installation wizard graphical interface:
   a. For local access, load the product DVD.

      Linux on x86

      Open a command prompt and navigate to the `/Message_Broker_Toolkit_V7/disk1/IBMInstallationManager` directory of the DVD. Type the installation wizard name with no options, and press **Enter**.

      Windows

      Take one of the following actions:

      - If autorun is enabled, the Launchpad is started immediately. To use the Launchpad, see Chapter 9, "Installing with the Windows Launchpad," on page 63. To cancel the Launchpad, click **Exit Launchpad**.

- In Windows Explorer, navigate to the `/Message_Broker_Toolkit_V7/disk1/IBMInstallationManager` directory of the DVD. Locate the installation wizard and double-click the wizard to start it.
- Open a command prompt and navigate to the `/Message_Broker_Toolkit_V7/disk1/IBMInstallationManager` directory of the DVD. Type the installation wizard name with no options, and press **Enter**.

b. To install from local downloaded images, or copies of the media, navigate to the location, find the installation wizard, and start it as previously described.

c. To install from a remote server, access the remote DVD drive, or network drive, on which the product images are available. Find the installation wizard that you want on the DVD or network drive, and start it as previously described.

d. If you prefer, you can run the batch file `installToolkit.sh` (on Linux) or `installToolkit.bat` (on Windows) to start the installation wizard graphical interface. The files are in the `/Message_Broker_Toolkit_V7/disk1` directory of the DVD.

The installation wizard checks your system locale setting. If the locale setting is supported (listed in Chapter 4, "Multicultural support," on page 27), the wizard continues in this locale. If the current setting is not supported, the wizard continues in US English. This language is used for installation only, and does not affect other processes on your computer. Installation Manager starts and the Install Packages window opens.

8. The installation wizard is preconfigured to install both Installation Manager and the WebSphere Message Broker Toolkit, therefore the WebSphere Message Broker Toolkit packages are already selected in this window. If Installation Manager has not been installed on this computer, its packages are also selected. You cannot clear Installation Manager selections. Click **Next** to continue. The Software License Agreement window opens.
9. Read the license agreement, select **I accept the terms in the license agreements**, and click **Next**.

   If you do not accept the license, the installation wizard ends. If you have not installed Installation Manager on this computer, or if you have installed Installation Manager, but have not yet installed any product that is managed by Installation Manager, the Shared Directory window opens; continue with step 10. Otherwise, because the shared resources directory has already been defined, the Package group directory window opens; continue with step 11 on page 79.
10. Specify the location of the shared resources directory that is used by all the products that are managed by Installation Manager. The default location is displayed:
    - Linux on x86: `/opt/IBM/SDP70Shared/`
    - Windows: `C:\Program Files\IBM\SDP70Shared\` for 32-bit editions

      `C:\Program Files(x86)\IBM\SDP70Shared\v.r` for 64-bit editions

    To specify a different location, type over the default location, or click **Browse**.

    The shared resources directory must not contain another installation of WebSphere Message Broker Toolkit, or other files or products; *you must specify a new directory in this field*.

    If Installation Manager is not yet installed, you must also specify its installation directory. The default location is displayed:
    - Linux on x86: `/opt/IBM/InstallationManager/`

- Windows: `C:\Program Files\IBM\InstallationManager\` for 32-bit editions
  `C:\Program Files (x86)\IBM\InstallationManager\` for 64-bit editions

  To specify a different location, type over the default location, or click **Browse**.

  Click **Next**. The Package group directory window opens.

11. If you want to use the WebSphere Message Broker Toolkit in a locale other than US English, select additional support from the list presented. English is always selected and installed; you cannot clear this selection. If you select one or more alternative locales, documentation and properties files for all supported languages are installed. Click **Next** to continue. The Summary window opens.
12. Check your choices and click **Back** if you want to make further changes to your responses on any of the previous windows. This window displays guidance information for the space required for the packages that you are about to install and indicates that your disk has sufficient space.

    Click **Next** to start installation. The Install Progress window opens.
13. The features that you are installing, their associated directories, and the locales that you have selected, are displayed for information. A progress bar is displayed so that you can check the status of the installation. When installation has finished, the Completion window opens
14. The wizard displays an indication of success or failure, and lists the products and options that have been installed. Click **View Log File** to check the results of the installation.

    On Windows, only you can indicate that you want the WebSphere Message Broker Toolkit to be launched when you click **Finish** to close the wizard. This option is not available on Linux on x86, because you might want to complete verification while logged on as a different user ID that does not have root authority.
15. If you experience problems during installation, see “Dealing with problems during installation of WebSphere Message Broker Toolkit” on page 80.

When you have completed installation, see Chapter 13, “Verifying your installation,” on page 93, Chapter 14, “Checking the broker operation mode and function level,” on page 101, and 'Start and main menu updates after installation' in the information center.

If you do not install optional locales at this time, you can install them later in the following way:

- On Linux on x86, navigate to the `/eclipse` directory within the Installation Manager installation directory, and start the Installation Manager program `IBMIM`.

  (You cannot use the main menu entries unless you are already logged on as root; the menu item does not provide an option to become root, and root authority is required for all installation tasks.)
- On Windows, click **Start → Programs → IBM Installation Manager → IBM Installation Manager** to launch Installation Manager, and click **Modify Packages** to change your installation.

  If you prefer to use the command line, navigate to the `\eclipse` directory within the Installation Manager installation directory, and start the Installation Manager program `IBMIM.exe`.

Installing the WebSphere Message Broker Toolkit in silent mode

Install the WebSphere Message Broker Toolkit using the installation wizard in silent mode.

To perform a silent installation:

1. Determine the installation wizard name for your operating system. See "Installation wizard names" on page 58.
2. Locate the installation wizard in the `/Message_Broker_Toolkit_V7/disk1/IBMInstallationManager` directory of the local or remote DVD, or the network drive.
3. Enter the following command at a command prompt for an installation with all default settings:

   Linux on x86

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

   where `mbtoolkit-silent.xml` is the name of the response file that contains all the default settings for installation.

   Windows

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

   where `mbtoolkit-silent.xml` is the name of the response file that contains all the default settings for installation.

   If you want to specify non-default settings, include a different response file on the invocation. To create a different response file, complete the first installation by using the graphical interface, specifying the `-record` option. The installation wizard records a response file that includes all your chosen selections. For more information about how to record and use response files, see "Using response files with the WebSphere Message Broker Toolkit" on page 57.
4. The installation wizard completes without any user interaction. Check the log for success or failure of the installation process.
5. If you experience problems during installation, refer to "Dealing with problems during installation of WebSphere Message Broker Toolkit."

When you have completed installation, see Chapter 13, "Verifying your installation," on page 93, Chapter 14, "Checking the broker operation mode and function level," on page 101, and 'Start and main menu updates after installation' in the information center.

Dealing with problems during installation of WebSphere Message Broker Toolkit

Deal with problems during installation of the WebSphere Message Broker Toolkit.

If you have problems during installation:

1. Refer to the readme file `readme.html` for any late changes to the installation instructions.
2. Check the contents of the installation log file *`YYYYMMDD_TIME`*`.xml`, where *`YYYYMMDD_TIME`* is the date and time of installation. The log file location is defined in "Installation problems," on page 107.

3. Review the problem scenarios described in "Installation problems," on page 107 and follow the guidance given.
4. If you are still unable to resolve the problem, contact your IBM Support Center.

Chapter 12. Installing the WebSphere Message Broker Explorer

If you want to use the WebSphere Message Broker Explorer rather than install the complete WebSphere Message Broker Toolkit, use the WebSphere Message Broker Explorer installation wizard to install the WebSphere Message Broker Explorer.

If you want to install the WebSphere Message Broker Explorer on Windows or Linux, complete the following tasks. If you want to install the complete WebSphere Message Broker Toolkit; see Chapter 11, "Installing the WebSphere Message Broker Toolkit," on page 77.

One version only of the WebSphere Message Broker Explorer can be active at any one time, because one version only of the WebSphere MQ Explorer can be installed on any one system.

If you already have the WebSphere MQ Explorer installed, and you decide to install a later version of the WebSphere Message Broker Explorer, you must upgrade the existing version.

To upgrade the existing version, complete the following steps:

1. Uninstall the WebSphere Message Broker Explorer. You can uninstall the WebSphere Message Broker Explorer only if you are the administration user, for example, root on Linux or Administrator on Windows.
2. Check that no files exist in the previous installation directory.
3. Install the WebSphere Message Broker Explorer.

After installing the new version of the WebSphere Message Broker Explorer, if you are upgrading from an existing version of the WebSphere Message Broker Explorer, you must complete the following steps:

1. To initialize the new version of the WebSphere Message Broker Explorer run the following command:

   ```
   strmqcfg -i
   ```

   To run this command, you must be the administration user, for example, root on Linux or Administrator on Windows.
2. Start WebSphere Message Broker Explorer either using the WebSphere Message Broker Explorer Windows shortcut or by running the following command:

   ```
   strmqcfg -c -d
   ```

Windows OnWindows: The **Add/Remove** program panels point at the new installation location. To remove the older version, navigate to the old location on the file system and run the uninstaller that is located there.

Windows If you are installing the WebSphere Message Broker Explorer on Windows, you can use the Launchpad to complete this task. If you do not want to use the Launchpad, complete the tasks in this topic instead.

If you want to use the installation wizard for the WebSphere Message Broker Explorer with a Java compatible screen reader for accessibility reasons; see "Installing the WebSphere Message Broker Explorer using the wizard with a screen reader" on page 86.

Linux To install WebSphere Message Broker Explorer on Linux systems, you must have write access to the locations that you want to use for the installation and data (configuration) directories. If you use an installation directory in your home directory rather than the default installation directory, do not use a tilde character (~) as a path prefix. Specify the directory path name in full. An InstallAnywhere error occurs if you use a tilde character, which means the product is not installed and you must repeat the installation process. You can install to a private location if you do not have root access to the default installation location.

If you encounter any problems during the installation process, you can view the install log `MBExplorer_install.log`. The install log is created in the installation directory, for example `C:\Program Files\IBM\MBExplorer\MBExplorer_install.log`.

Note: The install log is not created until the installation wizard has completed and you click **Done** to exit the wizard.

If you have previously installed the IS02: WebSphere Message Broker Explorer plug-in SupportPac, you must complete the following steps before installing WebSphere Message Broker Explorer:

1. Move or delete the location that you extracted the IS02 SupportPac to.
2. Delete the `BrokerExplorer.link` file, which you copied into the `links` directory. On Windows: The directory name is: `C:\Program Files\IBM\WebSphere MQ\eclipseSDK33\eclipse\links\`. On Linux: The directory name is: `/opt/mqm/eclipseSDK33/eclipse/links`.
3. Start WebSphere Message Broker Explorer either by using the WebSphere Message Broker Explorer Windows shortcut or by running the following command:

   ```
   strmqcfg -c -d
   ```

4. Optional: If you want a new installation of your WebSphere Message Broker Explorer, complete one of the following steps:
   - Move or delete the WebSphere Message Broker Explorer `metadata` directory. On Windows: The directory name is: `C:\Documents and Settings\<user>\Application Data\IBM\MQ Explorer\.metadata` On Linux: The directory name is: `/home/user/.mqdata/.metadata`
   - Alternatively, switch your Eclipse workspace.

   Moving or deleting the `metadata` directory or switching your Eclipse workspace resets your WebSphere Message Broker Explorer to its initial startup state; you must then reconnect to any remote queue managers. Any local queue manager is discovered automatically.

The following list identifies the choices that you have for installing the WebSphere Message Broker Explorer, and the actions that you must take to complete your chosen task:

1. Check the `readme.html` for any updates to these installation instructions. The readme file location is shown in Chapter 2, "System requirements," on page 7.
2. Check that you have enough memory and disk space; see "Memory and disk space requirements" on page 8.

3. If you do not already have WebSphere MQ installed, install it before you install the WebSphere Message Broker Explorer.
4. Decide if you want to install from a server, or to install locally on each system. These choices are described in "Accessing CDs and DVDs" on page 42 for both CDs and DVDs, and for images that you have downloaded from Passport Advantage (if you are registered with the scheme). The instructions here do not differentiate between CDs and downloaded images; their behavior is the same.
5. Decide whether to use the graphical installation, a console installation, or a silent installation.
   - To use the graphical installation, continue with these instructions.
   - To use the installation wizard with a screen reader; see "Installing the WebSphere Message Broker Explorer using the wizard with a screen reader" on page 86.
   - Windows To use a console installation on Windows; see "Installing the WebSphere Message Broker Explorer in console mode on Windows" on page 86.
   - Linux To use a console installation on Linux; see "Installing the WebSphere Message Broker Explorer in console mode on Linux" on page 87.
   - To use a silent installation; see "Installing the WebSphere Message Broker Explorer in silent mode" on page 87.
6. Launch the installation wizard, by using the executable file or binary file. On Windows: This file is `install.exe` On Linux: This file is `install.bin` The files are located in the `\MBExplorer` directory on the CD.
7. When you have launched the wizard, continue with the installation process by working through each of the following panels. The installation wizard itself contains help information about selected panels.
8. Select the language that you want to use for the installation process. Click **OK**.
9. On the Introduction panel, click **Next**.
10. Read the software license agreement and select the option to accept the terms of the license. Click **Next**.
11. Enter (or browse) for a product installation directory for the WebSphere Message Broker Explorer, or accept the default location. On Windows: The default installation directory for the WebSphere Message Broker Explorer is `C:\Program Files\IBM\MBExplorer`. On Linux: The default installation directory for the WebSphere Message Broker Explorer is `/opt/IBM/MBExplorer`.

    If the product installation directory exists because you have previously installed the WebSphere Message Broker Explorer, you can either choose to **Refresh** the existing installation or **Select** new product directory.
12. Click **Next**.
13. Read the summary panel. You can click **Previous** to go back and modify any of the earlier panels.
14. Click **Install**, and wait while the files are installed.
15. On the Install complete panel, click **Done**.

You can now use the WebSphere Message Broker Explorer. To start the WebSphere Message Broker Explorer:

- On Windows:

Click **Start** → **All Programs** → **IBM WebSphere Message Broker 7.0** → **IBM WebSphere Message Broker Explorer**.

- On Linux:

  Enter the `strmqcfg` command on a command line, or run `/usr/bin/strmqcfg` to start the WebSphere Message Broker Explorer.

When you have completed installation; see Chapter 13, "Verifying your installation," on page 93.

Installing the WebSphere Message Broker Explorer using the wizard with a screen reader

The WebSphere Message Broker Explorer installation wizard provides a method of launching the installation wizard so that you can use screen reader software for accessibility reasons.

If you want to use the installation wizard with screen reader software, use the following steps:

1. Install the screen reader program.
2. Install WebSphere Message Broker Explorer using the installation wizard in console mode. For more details, see "Installing the WebSphere Message Broker Explorer in console mode on Windows" or "Installing the WebSphere Message Broker Explorer in console mode on Linux" on page 87.

Installing the WebSphere Message Broker Explorer in console mode on Windows

You can install WebSphere Message Broker Explorer using the installation wizard in console mode on Windows and Linux.

Use the following steps to install the WebSphere Message Broker Explorer using the console mode on Windows. If you encounter any problems during the installation process, you can view the install log `MBExplorer_install.log`.

1. Type the following command on a command line to run a console install:

   `<dvd_rom>/MBExplorer/install.exe -i console`
2. Select the language that you want to use for the installation process by typing the number next to the language and press **Enter**. The installer uses the term "locale" rather than "language". Alternatively, press **Enter** to accept the default language.
3. Read the console install instructions, and press **Enter** to continue.
4. Read the software license agreement and type 1 to accept the terms of the license. Press **Enter**.
5. Type the name of the product installation directory for the WebSphere Message Broker Explorer and press **Enter**. Alternatively, press **Enter** to accept the default location. The default installation directory for the WebSphere Message Broker Explorer on Windows is `C:\Program Files\IBM\MBExplorer`.
6. Read the Pre-Installation Summary information and press **Enter** to install the WebSphere Message Broker Explorer. Wait while the files are installed.
7. On the Installation Complete panel, press **Enter** to exit the console installer.

You can now use the WebSphere Message Broker Explorer. To use the WebSphere Message Broker Explorer you must start the WebSphere MQ Explorer. Click **Start** →

All Programs → IBM WebSphere MQ → WebSphere MQ Explorer, or enter the `strmqcfg` command on a command line to start the WebSphere MQ Explorer.

When you have completed installation, see Chapter 13, “Verifying your installation,” on page 93.

Installing the WebSphere Message Broker Explorer in console mode on Linux

You can install WebSphere Message Broker Explorer using the installation wizard in console mode on Windows and Linux.

Use the following steps to install the WebSphere Message Broker Explorer using the console mode on Linux. If you encounter any problems during the installation process, you can view the install log `MBExplorer_install.log`.

1. Type the following command on a command line to run a console install:
   `<cd_rom>/MBExplorer/install.bin -i console`
2. Select the language that you want to use for the installation process by typing the number next to the language and press **Enter**. The installer uses the term "locale" rather than "language". Alternatively, press **Enter** to accept the default language.
3. Read the software license agreement and type 1 to accept the terms of the license. Press **Enter**.
4. Type the name of the product installation directory for the WebSphere Message Broker Explorer and press **Enter**. Alternatively, press **Enter** to accept the default location. The default installation directory for the WebSphere Message Broker Explorer on Linux systems is `/opt/IBM/MBExplorer`. If the product installation directory already exists because you have previously installed the WebSphere Message Broker Explorer, you can either refresh the existing installation or select a new product directory.
5. Confirm that the install location is correct, and press **Enter** to continue.
6. Read the Pre-Installation Summary information and press **Enter** to install the WebSphere Message Broker Explorer. Wait while the files are installed.
7. On the Installation Complete panel, press **Enter** to exit the console installer.

You can now use the WebSphere Message Broker Explorer. To use the WebSphere Message Broker Explorer you must start the WebSphere MQ Explorer. Enter the `strmqcfg` command on a command line, or run `/usr/bin/strmqcfg` to start the WebSphere MQ Explorer.

When you have completed installation, see Chapter 13, “Verifying your installation,” on page 93.

Installing the WebSphere Message Broker Explorer in silent mode

You can install WebSphere Message Broker Explorer by using the installation wizard in silent mode.

Before you can run the installation wizard in silent mode, you must create a response file that contains the installation options. You can create a response file during an installation using the graphical installation wizard, or you can use a sample response file supplied in the `samples-scripts` directory in the root

directory of the installation media. To install silently, you specify the path to the response file as an argument to the installation command.

Use the following steps to create the response file and run the installation wizard in silent mode:

1. Create a response file using the graphical installation wizard or by manually editing a response file:
   - Create a response file during an installation using the graphical installation wizard. You must provide a full path for the response file, or the response file is not created by the installation wizard.

     Enter the following commands into a command prompt:

     – on Windows:

       `install.exe -r <filepath>`

     – on Linux:

       `install.bin -r <filepath>`

     This command starts the GUI installation as normal, except that it also records all your answers and saves them in the file you specified, for example, `c:\temp\mbx-response.properties`. You can then use this response file with the silent installer for subsequent installations of WebSphere Message Broker Explorer.
   - Alternatively, use the supplied template in the `samples-scripts` directory in the root directory of the local or remote CD or DVD, or the network drive. Or use the following template to create a response file manually:

```
# Thu Jul 09 16:44:28 BST 2009
# Replay feature output
# ---------------------
# This file was built by the Replay feature of InstallAnywhere.
# It contains variables that were set by Panels, Consoles or Custom Code.

#Has the license been accepted
#-----------------------------
LICENSE_ACCEPTED=TRUE

#Choose Install Folder
#---------------------
USER_INSTALL_DIR=C:\\Program Files\\IBM\\MBExplorer
```

2. To run the installation wizard in silent mode with the response file, run the following command:
   - on Windows:

     `install.exe -i silent -f <filename>`
   - on Linux:

     `install.bin -i silent -f <filename>`

   where *<filename>* is the path to the response file, for example: `d:\messagebroker_runtime1\sample-scripts\mbx-response.properties`.

You can now use the WebSphere Message Broker Explorer. To use the WebSphere Message Broker Explorer you must start the WebSphere MQ Explorer:

- On Windows:

  Click **Start → All Programs → IBM WebSphere MQ → WebSphere MQ Explorer**, or enter the `strmqcfg` command on a command line to start the WebSphere MQ Explorer.
- On Linux:

Enter the `strmqcfg` command on a command line, or run `/usr/bin/strmqcfg` to start the WebSphere MQ Explorer.

When you have completed installation, see Chapter 13, "Verifying your installation," on page 93.

Part 4. After installation

This part of the book describes what to do after installation of WebSphere Message Broker:

Verify your installation

On Linux on x86, Linux on x86-64 or Windows computers you can verify your installation by using wizards and sample programs which are available when you launch the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer. The samples require that all WebSphere Message Broker components are installed on the same computer. Follow the procedures described in Chapter 13, "Verifying your installation," on page 93.

On all other platforms you can verify your installation by using commands to create, start, stop, and delete a broker.

Learn about the product

After you have installed the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer on Linux on x86, Linux on x86-64 or Windows, you can access the WebSphere Message Broker information center. The information center is installed as an integral part of the WebSphere Message Broker Toolkit and the WebSphere Message Broker Explorer on Linux on x86, Linux on x86-64 and Windows. Explore the information center and the Welcome page resources to learn about the product and how you can use it.

Develop and unit-test domain configurations and resources

After you have purchased a license for WebSphere Message Broker, all developers in your organization can install one copy of all components on their own test computer to develop and unit-test components and business resources. This option applies only to computers that are running Linux on x86, Linux on x86-64 or Windows, because you must install the WebSphere Message Broker Toolkit to complete unit-testing. You can also install the supplied WebSphere MQ product on your test computers for use only with WebSphere Message Broker.

Check the broker operation mode and function level

When you have completed installation, verification, and testing, you must change the operation mode of your brokers. For more information, see Chapter 14, "Checking the broker operation mode and function level," on page 101.

To install runtime components on z/OS, use the processes described in the *Program Directory for WebSphere Message Broker for z/OS*.

Chapter 13. Verifying your installation

Use the instructions in this section to verify your installation of WebSphere Message Broker.

This section describes how to verify your installation on Linux on x86, Linux on x86-64 or Windows using either the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer.

- "Verifying your installation using the WebSphere Message Broker Toolkit"
- "Verifying your installation using the WebSphere Message Broker Explorer" on page 97

After verification, you can keep all the components to carry out further development and unit test. Development and test environments are restricted to Linux on x86, Linux on x86-64 and Windows computers on which one copy of each component is installed on each computer. You can also create additional components and resources on your test computers to investigate the ways in which your business requirements can be met by this product.

If you have purchased WebSphere Message Broker Remote Adapter Deployment or Starter Edition, you must modify the operation mode of the broker after you have completed the procedures in this chapter (unless you are running a test environment). The broker operation mode is always set to the default `enterprise` when you install the broker component from the full product packages. If you intend to keep and use the default broker that you create in this chapter, you are required to modify its mode to conform to the terms of your license. See Chapter 14, "Checking the broker operation mode and function level," on page 101 for details of this task.

Verifying your installation using the WebSphere Message Broker Toolkit

Use the instructions in this tutorial to verify your installation of WebSphere Message Broker and learn how to run samples with the WebSphere Message Broker Toolkit.

You must have installed the WebSphere Message Broker Toolkit to run this tutorial.

To verify your installation using the WebSphere Message Broker Toolkit complete the following tasks:

- Create a Default Configuration
- Run the Pager samples
- (Optional) Start the Samples Preparation wizard
- Remove the samples

Before you can run sample programs, you must use the Default Configuration wizard to create a broker, which has a fixed name and properties that the samples depend on.

The Default Configuration wizard requires that the following conditions are met:

- You have installed the broker and the WebSphere Message Broker Toolkit.

- None of the default components exist (the components are listed in the table that is included later in this section).
- This configuration is required for test and evaluation purposes only.
- Your current user ID has the following characteristics on Windows only:
  - It is a member of groups mqbrkrs and mqm.
  - It has Administrator authority.
  - It is a local ID, not a domain ID.

  For more information about these security requirements, see 'Setting up broker security' in the information center.

You cannot complete the configuration and verification described here if the previously described conditions are not met.

Use the following instructions to complete these tasks:

1. Start the WebSphere Message Broker:
   - On Windows:

     On Windows, you cannot complete verification unless you have Administrator authority; carry out verification with the same user ID that you used to complete installation.

     If you did not launch the WebSphere Message Broker Toolkit from the installation wizard, launch it from the **Start** menu, or run the script file provided. On a command line, navigate to the root directory of the package group and enter the following command:

     ```
     mb.exe
     ```

     The script file runs the following command; if you prefer you can use this command yourself:

     ```
     eclipse.exe -product com.ibm.etools.msgbroker.tooling.ide
     ```
   - On Linux:

     On Linux on x86 and Linux on x86-64, you do not need root authority to complete verification. You cannot launch the WebSphere Message Broker Toolkit from the installation wizard because you might experience problems during operation if you were to create resources such as brokers when you are logged in as root, and this option is therefore unavailable.

     Log off from the user ID with which you have installed the product. Log in as the same ID (if ID is not root), or log in as another ID, but do not become root.

     Launch the WebSphere Message Broker Toolkit from the main menu or run the script file provided. On a command line, navigate to the root directory of the package group and enter the following command:

     ```
     ./launcher
     ```

     If you prefer, you can also run the application directly:

     ```
     ./eclipse -product com.ibm.etools.msgbroker.tooling.ide
     ```

     However, you must set the *LD_LIBRARY_PATH* before running the application. For details of how to set *LD_LIBRARY_PATH*, see the launcher script.

   When you first launch the WebSphere Message Broker Toolkit, you are asked to specify the location of your workspace. This directory exists on your local drive, and is where the WebSphere Message Broker Toolkit stores all the resources that you create. You can accept the default directory shown, or you can specify your own choice either by typing it in, or by clicking **Browse** to

specify the location. Select **Use this as the default and do not ask again** to inhibit the display of the workspace dialog next time you launch the WebSphere Message Broker Toolkit.

The WebSphere Message Broker Toolkit opens and the Welcome page is displayed.

2. Click the **Get Started** icon To begin the configuration and verification process.

   The Get Started page opens, from which you can start the Quick Tour or create a default configuration that is used by a sample program to verify that your installation is successful.

3. Create the Default Configuration:

   a. On the Get Started page, click the link to **Create the Default Configuration**

    The "Creating the Default Configuration" page opens.

   b. Click **Start the Default Configuration wizard**.

   Follow the guidance provided by the wizard to navigate through its pages.

   The wizard creates a default broker that can be used by a sample program to verify that your installation is successful.

   The wizard displays a progress bar that shows which task it is currently performing. It also reports on all the actions that it takes by writing progress information into a scrollable text window from which you can copy and paste some or all of the information displayed.

   The information in the text window is also written to a log file in your workspace directory structure. The default workspace directory is shown in the example, but you can choose another location when you start the WebSphere Message Broker Toolkit.

   Linux on x86

   ```
   user_home_dir/IBM/wmbt70/workspace/.metadata/
   DefaultConfigurationWizard.log
   ```

   Windows

   ```
   user_home_dir\IBM\wmbt70\workspace\.metadata\
   DefaultConfigurationWizard.log
   ```

   If the wizard encounters an error in processing, it informs you of what has happened and returns any error information, for example a return code from a command. If you know why the error has occurred from the error text, and can correct the situation, you can do so now. Return to the error message display and click **Yes** to continue the wizard.

   If you do not understand the error, and do not know how to fix it, click **No**. If the wizard can, it rolls back all the actions that it has taken so far, so that when it completes, your system is in the same state as it was before you started the wizard. The text window shows you exactly what the wizard has, and has not, done.

   Click **Open Log File** to access the log from the summary page of the wizard; this option is available whether the wizard has succeeded or failed.

   The wizard creates the resources shown in the following table.

Table 18. Resources created by the Default Configuration wizard

Name	Type
MB7BROKER	Broker

Table 18. Resources created by the Default Configuration wizard (continued)

Name	Type
MB7QMGR	WebSphere MQ queue manager that hosts the broker. The queue manager has a listener at the first available port greater than or equal to 2414.

It also starts the broker so that it is ready to process a sample.

c. On the final page, ignore the option to start the Samples Preparation wizard; you start this wizard later in these instructions.

d. Click **Finish** to close the wizard. When the wizard completes, it opens the Broker Application Development perspective and displays the resources that the wizard has created.

4. To verify your installation, click **Help → Samples and Tutorials → WebSphere Message Broker Toolkit - Message Broker** to open the Samples and Tutorials panel. The Samples and Tutorials panel can also be opened from the Welcome page.

   a. Expand **Application Samples**, and click **More information** for the Pager samples to open the Pager samples page. The following options are displayed:

      - **Set up the Pager samples**

        This option starts the Samples Preparation wizard, which helps you to import the samples into your workspace, and to deploy the samples and associated resources (for example, message flows) to the default broker.

      - **Run the Pager samples**

        This option opens the help page that contains a description of each of three sample programs, and icons that you can click to start each one.

      - **Find out what the Pager samples do**

        This option opens a page that describes in detail what the Pager samples do and how they work. You can examine the message flows that implement the sample function, and the messages that are handled by those flows.

   b. Click **Set up the Pager samples**. The Samples Preparation wizard starts and displays its first page. The option to import and deploy to the default broker is preselected.

   c. Click **Next** and follow the guidance provided by the wizard to navigate through its pages.

      The wizard displays a progress bar that shows which task it is currently performing. It also reports on all the actions that it takes by writing progress information into a scrollable text window.

      You can copy and paste some or all of the information that is reported in this text window. This information is also written to the following log file:

      Linux on x86

      ```
      user_home_dir/IBM/wmbt70/workspace/.metadata/
      samplePreparationWizard.log
      ```

      Windows

      ```
      user_home_dir\eclipse\workspace\.metadata\
      samplePreparationWizard.log
      ```

      If the wizard encounters an error in processing, it informs you of what has happened and returns any error information, for example a return code from a command. If you know why the error has occurred from the error

text, and can correct the situation, you can do so now. Return to the error message display and click **Yes** to continue the wizard.

If you do not understand the error, and do not know how to fix it, click **No**. If the wizard can, it rolls back all the actions that it has taken so far, so that when it completes, your system is in the same state as it was in before you started the wizard. The text window shows you exactly what the wizard has, and has not, done.

The wizard displays information messages to show that the Pager samples and associated resources are deployed and ready to run.

d. Click **Next** when you have read the messages about the actions that have been completed by the wizard. The confirmation page is displayed.

e. Click **Finish** to close the wizard. The "Pager samples" page (from which you launched the wizard) is redisplayed.

f. Click **Run the Pager samples**. On the page that opens, click **How to use the applications** to read about the Text Messenger and Surf report publisher applications. When you understand what the applications do, and how to use them, click the icon that represents the application that you want to run.

If you want more detailed information about the contents of these applications, and how the message flows work, click **Find out what the Pager samples do**.

g. When you have sent and received messages successfully, you have verified that your installation is complete. You can now close your Pager applications and the Samples Gallery.

5. (Optional) You can start the Samples Preparation wizard to create the resources and start other supplied sample programs. Click **File → New → Other → Broker Administration - Getting Started** in the WebSphere Message Broker Toolkit, and select **Prepare the Samples**. The Samples Preparation wizard opens, and lists other samples that are available.

   You can view information about samples only when you use the information center that is integrated with the WebSphere Message Broker Toolkit or the online information center. You can run samples only when you use the information center that is integrated with the WebSphere Message Broker Toolkit.

6. To remove the sample or samples when you have finished with them, run the Samples Preparation wizard again and remove the samples that you have added. This action removes the samples from the broker, and removes the sample resources from your workspace.

   When you have completed your verification tests, run the Default Configuration wizard to remove all the default resources. Use the same workspace and the same user ID that you used to create the resources. To start the wizard from the WebSphere Message Broker Toolkit, click **File → New → Other** and expand Broker Administration - Getting Started. Select **Create the Default Configuration** and click **Next**.

You have completed the tutorial.

Verifying your installation using the WebSphere Message Broker Explorer

Use the instructions in this tutorial to verify your installation of WebSphere Message Broker and learn how to deploy broker archive files with the WebSphere Message Broker Explorer.

You must have installed the WebSphere Message Broker Explorer to run this tutorial. If you are using the WebSphere Message Broker Toolkit you can verify your installation using one of the samples. For a list of samples, see 'Samples' in the information center.

To verify your installation using the WebSphere Message Broker Explorer you can complete the following tasks:

- Create a Default Configuration
- Deploy a broker archive file
- Check the results of a deployment
- Test the message flow

Use the following instructions to complete these tasks:

1. To use the WebSphere Message Broker Explorer you must start the WebSphere MQ Explorer:
   - On Windows:

     Click **Start → All Programs → IBM WebSphere Message Broker 7.0 → IBM WebSphere Message Broker Explorer**, or enter the `strmqcfg` command on a command line to start the WebSphere MQ Explorer.
   - On Linux:

     Enter the `strmqcfg` command on a command line, or run `/usr/bin/strmqcfg` to start the WebSphere MQ Explorer.
2. Create the Default Configuration:
   - Start the Create the Default Configuration wizard using the following link:

     Start the Default Configuration wizard

     You can use this link only when you use the information center that is integrated with the WebSphere Message Broker Toolkit or the WebSphere Message Broker Explorer.
   - Alternatively, you can use the following instructions to start the Create the Default Configuration wizard:
     a. In the **WebSphere MQ Explorer - Navigator** view, click the **Brokers** folder.
     b. In the **WebSphere MQ Explorer - Content** view, click the **Create the Default Configuration** button. The Create the Default Configuration wizard is displayed.

   a. You can click **Cancel** at any time to cancel the creation of the default configuration.
   b. The Default Configuration Summary page lists the resources created. Click **Next** to continue.
   c. Click **Finish**.

   The default broker is created and started. The broker is also added to the **WebSphere MQ Explorer - Navigator** view.
3. Deploy the broker archive file to the broker:
   a. Expand the **Broker Archive Files** folder.
   b. Expand the **Getting Started** folder.
   c. Right-click on the `pager.bar` file, and click **Deploy File**.
   d. Select the MB7BROKER broker, and click **Finish**. The broker archive file is deployed to the broker.
4. Check the results of the deployment:

a. In the **WebSphere MQ Explorer - Navigator** view, expand the **Brokers**.
b. Click MB7BROKER to select the broker.
c. View messages from the broker in the Administration Log view. If the deployment was successful, message BIP2881I is displayed in the Administration Log view. You can also see the TextMessenger message flow and the PagerMessageSets message set deployed to the Default execution group under the MB7BROKER broker.

5. Test the message flow:
   a. In the **WebSphere MQ Explorer - Navigator** view, expand MB7QMGR in the **Queue Managers** folder.
   b. Right-click the **Queues** folder, and click **New → Local Queue**.
   c. Enter TEXTMESSENGER as the name for the queue, and click **Finish**. This queue is the input queue for the Pager message flow.
   d. Click **OK**.
   e. Right-click the **Queues** folder, and click **New → Local Queue**.
   f. Enter TEXTMESSENGER_FAIL as the name for the queue, and click **Finish**. This queue is the failure queue for the Pager message flow.
   g. Click **OK**.
   h. Right-click the **Queues** folder, and click **New → Local Queue**.
   i. Enter PAGER as the name for the queue, and click **Finish**. This queue is the output queue for the Pager message flow.
   j. Click **OK**.
   k. In the **WebSphere MQ Explorer - Content** view right-click on the TEXTMESSENGER queue, and click **Put Test Message**. The Put test message dialog is displayed.
   l. Enter the following message in the message data field, and click **Put message** to put the test message to the input queue for the Pager message flow:

      ```
      <Pager><text>This is my message to the pager.</text></Pager>
      ```

      The test message is passed through the message flow, transformed, and the output message is put to the Pager queue.
   m. Click **Close** to close the Put test message dialog.
   n. Right-click on the Pager queue, and click **Browse Messages**. The Message browser dialog opens and displays any messages on the queue. If the test is successful, the queue shows a message like the following:

      ```
      <?xml version="1.0"?><!DOCTYPE Pager>
      <!--MRM Generated XML Output on :Sat Jun 20 10:38:56 2009-->
      <Pager><Text> Powered by IBM.</Text></Pager>
      ```

6. Click **Close** to close the Message browser dialog.

You have completed the tutorial.

Chapter 14. Checking the broker operation mode and function level

Use the instructions in this tutorial to ensure that your production brokers conform to the terms of your license.

You might also want to change the function level to enable the use of nodes that are supplied in the latest fix pack.

You must complete the following tasks:

- Configure your brokers to conform to your license
- Change the function levels of your brokers

Use the following instructions to complete these tasks:

1. Configure your brokers to conform to your license:
   a. If you are upgrading from the Trial Edition:

      If you installed WebSphere Message Broker Trial Edition, and have now purchased the product, you can keep the components and all the associated resources that you have already created and configured. You do not have to uninstall the Trial Edition and reinstall the purchased packages. However, if you do not reinstall, the operation mode of your existing brokers, and the default operation mode of all new brokers that you create, has the value `trial`, you must change this value:

      - If you intend to keep the brokers that you created for your trial domain for further development and unit test by your developers, change the operation mode of each broker to `enterprise`, as described in 'Changing the operation mode of your broker' in the information center.

        After this change, your brokers are no longer restricted by the trial period, but check the license agreement file to ensure that your configuration conforms to any restrictions for development and unit test. Development and unit test conditions are described in “License requirements” on page 19.
      - If you intend to use the brokers that you created for your trial domain for production purposes, change the operation mode to conform to the license that you have purchased:
        – If you have purchased Remote Adapter Deployment, change the operation mode to `adapter`.
        – If you have purchased Starter Edition, change the operation mode to `starter`.
        – If you have purchased the full (unrestricted) license, change the operation mode to `enterprise`.

      If you do reinstall the broker component with the new physical or electronic packages for your purchased product, the default operation mode of all new brokers that you create has the value `enterprise`. If you have purchased Starter Edition, Remote Adapter Deployment, you must always change the mode to conform to the license that you have purchased.

      If you also installed trial version of WebSphere MQ, you are now entitled to install the restricted license version that is supplied as part of WebSphere

Message Broker. If the supplied products meet your requirements and you intend to use them only with WebSphere Message Broker, you need not make any further purchases.

Complete the following steps to upgrade your trial version of WebSphere MQ:

1) Uninstall the trial version.
2) Install a licensed version of WebSphere MQ:
   - Version 7.0.1 is included with WebSphere Message Broker for use only with WebSphere Message Broker. Use either the supplied media or the images that you have downloaded to install this version. If you are installing on Windows, you can use the Launchpad to help you to install this product.
   - If you want to use WebSphere MQ for applications that are not related to your use of WebSphere Message Broker, you must purchase a separate license.

     If you want to use additions or enhancements that are included in WebSphere MQ Version 7.0, you can also purchase a separate license.

b. If you have purchased Remote Adapter Deployment, Starter Edition, :

   If you have purchased WebSphere Message Broker Remote Adapter Deployment, WebSphere Message Broker Starter Edition, and installed components from the full runtime package:

   - All brokers that you have created (for example, by completing the verification procedures) have an operation mode set to `enterprise`, which is the default setting for this installation. You can keep these brokers for further development and unit test, subject to any restrictions that apply for unit test environments, as indicated in your license. Development and unit test conditions are described in "License requirements" on page 19.
   - If you intend to use these brokers for production purposes, follow the instructions in 'Changing the operation mode of your broker' in the information center, to conform to the license that you have purchased:
     – If you have purchased Remote Adapter Deployment, change the operation mode to `adapter`.
     – If you have purchased Starter Edition, change the operation mode to `starter`.
   - When you create new brokers, you must set the operation mode to conform to the license that you have purchased, because by default the operation mode is set to the value `enterprise`. You can either override this default value by specifying an alternative value of `adapter`, `starter`, with the -o flag on the mqsicreatebroker command, or you can change the mode by using the mqsimode command for the created broker.

c. If you have purchased a full (unrestricted) license for WebSphere Message Broker:

   If you have purchased a full (unrestricted) license and installed components from the full runtime package, all brokers that you create have an operation mode set to the default value of `enterprise`, which is the correct setting for your license.

   Whenever you create a new broker, on existing installations or on different installations or computers, the operation mode is set to `enterprise`, and you need never change this value.

   You can continue to work with all the components and associated resources that you have already created. For example, after you have completed verification, you might keep the resources that you have created for further

development and unit test (subject to any restrictions that apply for unit test environments, as indicated in your license). Development and unit test conditions are described in “License requirements” on page 19.

d. For a full description of the broker operation mode, and behavior associated with each mode, see 'Operation modes' in the information center.

2. Change the function levels of your brokers:

   Note: Version 7.0.0.1 can be installed as a full generally available version, or as a FixPack. Version 7.0.0.1 has the function enabled for V7.0.0.1 regardless of the installation route chosen. Future Version 7.0 FixPacks might revert to the procedure which follows.

   When a fix pack is delivered, it might include new nodes that you can add to your message flows to provide specific functions.

   The default function level of the broker is not set to a specific value; the default value is equivalent to the value `7.0.0.0`, which represents the level for Version 7.0. At this level, nodes that might be added by later fix packs are not supported by the broker.

   Nodes that are added in later fix packs are available in the WebSphere Message Broker Toolkit, and you can include these nodes in a message flow. You can deploy the message flow to a broker only if you have set the function level of that broker to the value that represents the fix pack in which the nodes are first delivered.

   Because you can control the function level of each broker, you can try out new nodes on test brokers without affecting the operation of your production brokers. When you are satisfied that the nodes provide the function that you require, and work as you expect, you can set the function level of other brokers in your domain, as and when appropriate.

   To change the function level of a broker, use the mqsichangebroker command, specifying the **-f** flag with the appropriate value.

   For more information about nodes added in fix packs, and the use of the mqsichangebroker command, see 'mqsichangebroker command' in the information center.

You have completed the tutorial.

Part 5. Appendixes

Appendix. Installation problems

Problem scenarios that you might experience during component installation on distributed systems

See the *Program Directory for WebSphere Message Broker for z/OS* if you experience problems installing on z/OS.

The installation wizards return a return code of zero if installation is successful. If a non-zero return code is returned, check the installation log files for errors and explanations:

- Problems associated with installation of the broker component are recorded in the log file `mqsi7_install.log`, which is stored in the home directory associated with your account:

  Linux and UNIX
  Enter `echo $HOME` to find your home directory.

  Windows
  Enter `echo %HOMEPATH%` to find your home directory. Typically the location is set to the following default values:
  - On Windows XP and Windows Server 2003, `C:\Documents and Settings\`*`userID`*
  - On Windows Vista and later operating systems, `C:\Users\`*`userID`*
- Problems associated with installation of the WebSphere Message Broker Toolkit are recorded in the Installation Manager log file, *`YYYYMMDD_TIME`*`.xml`, where *`YYYYMMDD_TIME`* is the date and time of installation. The file is stored in the following location:
  - On Linux: `/var/ibm/InstallationManager/logs`
  - On Windows systems, the directory is created at `%ALLUSERSPROFILE%\Application Data\IBM\Installation Manager\logs` where `%ALLUSERSPROFILE%` is the environment variable that defines the system working directory. The default directory depends on the operating system:
    - On Windows XP and Windows Server 2003: `C:\Documents and Settings\All Users\Application Data\IBM\Installation Manager\logs`
    - On Windows Vista and later operating systems: `C:\ProgramData\IBM\Installation Manager\logs`

    The actual location might be different on your computer.
- Problems associated with installation of the WebSphere Message Broker Explorer are recorded in the log file `MBExplorer_install.log`, which is stored in the installation directory. The default installation directories are:

  Linux `opt/IBM/MBExplorer`

  Windows
  `C:\Program Files\IBM\MBExplorer`

The following list describes typical problems, with a corresponding solution or workaround:

All operating systems: broker component installation process is interrupted
If you are installing the broker component, and the process is interrupted

before completion, for example due to a power failure, delete the *install_dir* and all its contents before you restart the program.

Linux: java.lang.UnsatisfiedLinkError

If you are using the graphical interface to install on Linux, you must install additional packages for the interface to work correctly. See "Operating system requirements" on page 13 for details.

Linux: RPM query fails

If you start a Red Hat package manager (RPM) query after you have installed the product, and nothing is returned, it is likely that your system does not have the required RPM support.

An information message like the following might have been reported in the installation log:

```
(01-Jun-2005 09:02:27), mqsi.Setup,
   com.ibm.wizard.platform.linux.LinuxProductServiceImpl, wrn,
   The installer could not successfully add the product information
   into the RPM database. Installation will continue as this is not
   critical to the installation of the product.
```

Install the additional RPM build package that is described in "Operating system requirements" on page 13.

Linux and UNIX: display problems

If you try to install runtime components by using the graphical interface, you might see one of two common errors reported. These errors typically occur if you log in remotely, or you switch user ID.

- `Can't open display localhost:1.0`

  Check that the DISPLAY variable is set to the correct value. If you are logged in locally, the typical value is `:0.0` or `localhost:0.0`.

- `Connection to ":0.0" refused by server`

  Run the following command, where *user* is the user ID you are logged in as:

  ```
  xauth merge ~user/.Xauthority
  ```

If you are unable to correct this error, contact your systems administrator for further help.

Linux and UNIX: insufficient temporary space

When you install the product, the installation program tries to unpack product files into the temporary file space of the local system. On Linux and UNIX systems, the temporary space is typically located in `/tmp`. If sufficient file space is not available in this directory, the command might fail without reason (the command returns with no comment), or it might report a lack of file space.

To correct this problem, give the installation wizard (for example, `setupaix`) a temporary file system to use. The command-line option is `-is:tempdir` *name of temp directory*.

For example, on AIX, enter the following command:

```
./setupaix -is:tempdir /largetemp
```

Do not specify a temporary directory that is NFS-mounted from another machine; if you do so, the installation might fail because user permission checks made by the installer sometimes report an error that security principals mqm and mqbrkrs do not exist on the local machine.

See "Memory and disk space requirements" on page 8 to check how much temporary space is required.

Linux on x86 and Windows: Installation Manager

If you click **Next** in the Installation Manager when it first opens, you might cause the Installation Manager to hang. Close the window and reopen it.

Linux on x86 and Windows: Installation Manager

If you are installing the WebSphere Message Broker Toolkit, and the initial Install Packages page that is displayed by Installation Manager does not show the WebSphere Message Broker Toolkit components, the location of the update repository has not been set correctly.

Select **File → Preferences** and click **Add Preferences**. Enter the URL or directory where the installation packages are stored or click **Browse** to search for the correct location.

Click **OK**. The packages are listed in the Install Packages page.

Linux and Windows: Installation Manager

You already have IBM Installation Manager installed on your machine and the version is earlier than Installation Manager Version 1.3.4.1. While installing a newer version of IBM Installation Manager (as supplied with WebSphere Message Broker Toolkit Version 7.0.0.1), you cancel the installation before completion. When you try to restart the installed Installation Manager from your machine, you will get the following error:

```
Error restoring Installation Manager state
Installation data has incompatible version 0.0.4; expected [0.0.2,0.0.3].
Newer version of the Installation Manager was used on the system
```

To work around this error, complete the following steps:

1. Open the Installation Manager `installRegistry.xml` file, which is in the Installation Manager agent data location. The location of this file depends on your platform. See the Installation Manager Information Center to find out the location on your machine: http://publib.boulder.ibm.com/infocenter/install/v1r2/index.jsp?topic=/com.ibm.silentinstall12.doc/topics/r_app_data_loc.html
2. When you have located the `installRegistry.xml` file, change this line in the file:

   ```
   <?installRegistry version='0.0.4'?>
   ```

   to match the following line:

   ```
   <?installRegistry version='0.0.3'?>
   ```

Installation Manager should now start correctly.

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