

WebSphere Message Broker



Installation Guide

Version 6.1

WebSphere Message Broker



Installation Guide

Version 6.1

Note!

Before using this information and the product it supports, be sure to read the general information under Appendix C, "Notices," on page 143.

This edition applies to version 6, release 1 of IBM WebSphere Message Broker for z/OS (product number 5655-M74) and IBM WebSphere Message Broker with Rules and Formatter Extension for z/OS (product number 5697-J09), and to IBM WebSphere Message Broker (product number 5724-J05) and IBM WebSphere Message Broker with Rules and Formatter Extension (product number 5724-J06) on all other supported platforms, and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this book

This book explains how to plan and prepare for the installation of IBM® WebSphere® Message Broker Version 6.1.

This edition of the book is specific to components at the following levels, and to all subsequent releases and modifications unless otherwise stated:

- Runtime components Version 6.1.0.2
- Message Broker Toolkit Version 6.1.0.2

WebSphere Message Broker is supported on the following operating systems:

- IBM AIX®
- HP-UX (Integrity platform)
- HP-UX (PA-RISC platform)
- Linux® (POWER™ platform) for iSeries™ and pSeries®
- Linux (x86 platform)
- Linux (x86-64 platform)
- Linux (zSeries® platform)
- Sun Solaris Operating Environment (SPARC platform)
- Sun Solaris Operating Environment (x86-64 platform)
- Microsoft® Windows® XP and Windows 2003
- IBM z/OS®

If you are installing WebSphere Message Broker for z/OS, use this book to plan your installation, and use the *Program Directory for WebSphere Message Broker for z/OS* for preparation and installation tasks.

If you are installing WebSphere Message Broker on other systems, use this book to plan your installation and to prepare your computers before you install this product. Follow the instructions provided to complete an initial installation, or to upgrade an existing installation. If you have installed all components on a single computer, this book tells you how to verify that your installation is successful.

If you have ordered WebSphere Message Broker with Rules and Formatter Extension for z/OS, use the *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS* to install both broker and broker runtime component extensions. On other systems, use this book to install WebSphere Message Broker components, then insert the appropriate Rules and Formatter Extension CD for your operating system. The Design-time Extension CDs provide extensions to the toolkit, the Run-time Extension CDs provide extensions to the broker runtime components.

About this book

For further information specific to the Rules and Formatter Extension, see the documentation on the supplied Rules and Formatter Extension CD, or access the V6.1\Rules and Formatter directory on the documentation FTP site at:
<ftp://ftp.software.ibm.com/software/integration/wbibrokers/docs>

The information center is the primary source of documentation for this product, and covers all post-installation configuration and customization tasks on all operating system, and details about how to install optional software, and how to remove the product. This book describes only how to install the product components onto your computers, although instructions are provided, in exceptional circumstances, for applying service, if actions are required beyond those provided in the information center.

After you have installed the required components on one or more operating systems, see the information center for instructions about tasks that are not included in this book. You can access the information center in the Message Broker Toolkit when you have installed that component, or you can access it from other locations before installation. See “Where to find more information” on page xii for details of the options that are available.

This book is divided into four parts:

- Part 1, “Planning,” on page 1
- Part 2, “Preparation,” on page 55
- Part 3, “Installation,” on page 83
- Part 4, “After installation,” on page 117

Appendixes provide further support and reference information.

Who this book is for

This book is for system administrators of computers on which WebSphere Message Broker components are installed.

What you need to know to understand this book

To understand this book, you must be familiar with the facilities of your operating system, for example accessing CDs and setting up security.

Terms used in this book

The term HP-UX refers to HP-UX (Integrity platform) and HP-UX (PA-RISC platform) where their behavior is common.

The term Linux refers to Linux (POWER platform), Linux (x86 platform), Linux (x86-64 platform), and Linux (zSeries platform) where their behavior is common.

The term Solaris refers to Solaris (SPARC platform) and Solaris (x86-64 platform) where their behavior is common.

The term UNIX[®] refers to the operating systems AIX, HP-UX, and Solaris where their behavior is common.

All references in this book to Windows are applicable to Windows XP and Windows 2003 unless otherwise stated.

The term distributed system refers to Windows, Linux, and UNIX systems where their behavior is common.

The term *installer* refers to the installation wizard (its name is not the same on every operating system). On some systems, you might have to invoke the wizard with more than just its name; for example, on Linux (zSeries platform), you must enter `./` before the wizard name.

The term *install_dir* refers to the directory in which you install the product. For the Message Broker Toolkit, this directory refers to the package group installation directory. Default locations are described in Chapter 2, “Coexistence and migration,” on page 27.

The term *working directory* refers to a directory on a distributed system that is associated with the current user logon ID. It contains product-related files.

DB2[®] and DB2 Enterprise Server refer to IBM DB2 Universal Database[™] Enterprise Server Edition and IBM DB2 Restricted Enterprise Server Edition. WebSphere Message Broker includes DB2 Restricted Enterprise Server Edition Version 9.1 with tailored terms and conditions on all distributed systems. This database edition is functionally identical to DB2 Enterprise Server and no distinction is made in this book. However, if you install the restricted edition, you must register your license; this task is described in Appendix B, “Registering your DB2 license,” on page 141.

Other editions of DB2 that are stated to be suitable for production deployment are also supported (for example, Workgroup Server Edition).

Derby refers to the database product based on the Apache Derby open source project from the Apache Software Foundation. Derby database support is embedded in the broker component on Windows only. See “Databases” on page 12 for further information about Derby.

Terms used in this book

Product terms that are introduced in this book are defined in the “Glossary of terms and abbreviations” on page 147. For a full product glossary, see the information center.

For information about terms and abbreviations that are not specific to this product, see the IBM Terminology Web site:

www.ibm.com/software/globalization/terminology/

Where to find more information

This book contains only installation information. Most of the information that you need to use this product is in the information center, which you can access after installation from the **Help > Help Contents** menu in the Message Broker Toolkit.

You can access the information center before and after installation from these additional locations:

- The Quick Start CD that is included in the product package.

The information center is provided for Linux (x86 platform) and Windows, and you can start it in both stand-alone mode (access is limited to the local computer) or Web server mode (which supports local and remote access).

You can access the information center directly on CD, or you can install it on to one or more computers.

- The documentation FTP site:

<ftp://ftp.software.ibm.com/software/integration/wbibrokers/docs>

Download file `wmb_help_lin.tgz` for Linux (x86 platform) or `wmb_help_win.zip` for Windows, and follow the instructions in the `installing_and_managing.htm` file that is included in each compressed file. The downloaded information center can also be started in stand-alone mode or Web server mode.

On this site you can also find PDF files of topic collections for printing, and translated versions of product readme files.

- The online IBM WebSphere Message Broker Information Center:

publib.boulder.ibm.com/infocenter/wmbhelp/v6r1m0/index.jsp

The information center that is provided on the Quick Start CD, and that available from the FTP site, include documentation plug-ins for WebSphere Message Broker, WebSphere MQ Version 6.0, and WebSphere MQ Everyplace Version 2.0.2.0.

The latest product readme file, in US English only, is available from the product support Web site:

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

Publications

The following books are available for WebSphere Message Broker:

- *WebSphere Message Broker Installation Guide (GC34-6866)* (this book)
- *Program Directory for WebSphere Message Broker for z/OS (GI13-0521)*
- *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS (GI13-0522)*

Related products

Online information centers and publications for other IBM products that you might use with WebSphere Message Broker are available through the IBM Publications Center:

www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi

Direct links are provided below.

WebSphere MQ

The WebSphere MQ documentation is included in the integrated information center provided on the WebSphere Quick Start CD.

You can also access the WebSphere MQ information center online:

publib.boulder.ibm.com/infocenter/wmqv6/v6r0/index.jsp

DB2 Enterprise Server

Access the Version 9.1 information center online:

publib.boulder.ibm.com/infocenter/db2luw/v9/index.jsp

Derby

Access further support information:

db.apache.org/derby/

WebSphere MQ Everyplace®

The WebSphere MQ Everyplace documentation is included in the integrated information center provided on the WebSphere Quick Start CD.

Information sources

WebSphere information on the Web

Follow links on the WebSphere Web site at www.ibm.com/software/info1/websphere to:

- Obtain the latest information about WebSphere products
- Access manuals, white papers, IBM Redbooks™, and other information sources
- Download service and support information including SupportPac™ offerings
- Access information about IBM Business Partners and associated offerings

Summary of changes

This section describes changes in this edition of *WebSphere Message Broker Installation Guide*. Changes that have been made since the previous edition of the book are marked by vertical lines to the left of the changes.

Changes for this edition

- On all systems except z/OS, you can choose one of three license options that support a range of features and capacity, according to your environment and business requirements. You must configure your brokers to operate in a mode that conforms to the license that you purchase.
A Trial Edition is also available on the Web, which you can download and use without charge. See “License requirements” on page 25 and Chapter 4, “Installation packages,” on page 41 for more information.
Use the information in this book to prepare for and install all editions, including the Trial Edition; the process is unchanged unless otherwise stated.
- Operating systems and hardware support; additions and changes have been made on some platforms.
- Database support: IBM DB2 Version 9.5 is supported on most platforms.
- Additional instructions are provided for applying V6.1.0.2 service updates to the Message Broker Toolkit.
- The appendix “System changes after installation” has been removed; the content is included in the information center under **Reference > Installation**.
- Minor technical corrections and editorial changes have been made throughout the book.

Changes

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, “System requirements,” on page 3
- Chapter 2, “Coexistence and migration,” on page 27
- Chapter 3, “National language support,” on page 37
- Chapter 4, “Installation packages,” on page 41

Chapter 1. System requirements

Before you install WebSphere Message Broker, check that your systems meet both the hardware and software requirements of the product. Details are provided in these sections:

- “Hardware requirements” on page 4
- “Software requirements” on page 9

The product readme file `readme.html` might contain updates to the information in this chapter. Therefore, always check for later information in the readme file. A single file is provided for WebSphere Message Broker that includes information pertinent to all components and 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 (x86 platform) and Windows only)
 - Runtime components Disk 1 (all operating systems)
 - Runtime components Disk 2 and Disk 3 (Windows only)
 - 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 Message Broker Toolkit, in `package_group_directory\wmbt\documentation\locale\` (where *locale* identifies country, region, or language, for example `en_US`).

The readme file is updated occasionally; access the product support Web site to check that you have the latest level:

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

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

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

For information about license requirements, see “License requirements” on page 25.

The information in this chapter is repeated in the information center (under **Reference > Installation**), so that you can check requirements online after installation.

Hardware requirements

Check that your target computers are at the required level of support. Table 1 describes what you need.

The Message Broker Toolkit is a required component that can be installed only on Linux (x86 platform) and Windows. Therefore your target computers must be able to support one of these two operating systems. You can install all other components on all supported operating systems.

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

Table 1. Hardware requirements

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

Table 1. Hardware requirements (continued)

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

Notes:

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

DVDs are provided for Linux (x86 platform) and Windows; if you want to install from DVD, your computer must have a DVD reader. If you plan to install from CD, your computer requires a CD reader. For details of the CDs and DVDs supplied, see Chapter 4, “Installation packages,” on page 41. If you prefer, you can download and install from images available from IBM Passport Advantage®, if you are registered with this scheme.

Memory and disk space

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

Distributed systems

- 512 MB of Random Access Memory (RAM) is required to support runtime operations (1 MB equals approximately 1 000 000 bytes).
- 512 MB of RAM is required to support Message Broker Toolkit operations on Linux (x86 platform) or Windows. This specification

Memory and disk space

is the minimum supported level; for improved performance, provide 1 GB of RAM (1 GB equals approximately 1 000 000 000 bytes).

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

Check that your computer has at least the space shown in Table 2 on page 7 or Table 3 on page 7, which provide guidance for both permanent product requirements and temporary space. If you install just one or two of the runtime components, the amount of storage that is required is reduced by only a small amount.

Check that these requirements have not been updated in the latest product readme file `readme.html` (the location of this file is described at the beginning of this chapter).

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

- On AIX, HP-UX, and Linux systems, the default temporary space directory is `/tmp`.
- On Solaris systems, the default temporary space directory is `/var/tmp`.
- On Windows systems, the default temporary space directory is pointed to by the `TEMP` system variable. On some systems, the variable `TMP` exists and is used before `TEMP`; therefore, you might need to check or change the setting of both these variables.

The installation wizard displays the requirements for permanent space, but not for temporary space. If the figure that the installation wizard displays is greater than the figure shown in Table 2 on page 7 or Table 3 on page 7, use the larger amount and check that your computer has sufficient space before you continue with the installation.

Table 2. Disk space requirements (Linux and Windows)

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

Notes:

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

Table 3. Disk space requirements (UNIX)

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

- If you install one of the database products supplied with WebSphere Message Broker, you need additional disk space:
 - DB2 Enterprise Server requires approximately 300 MB. This specification is for a Compact installation, which provides sufficient function for WebSphere Message Broker; if you choose a Typical or Custom installation, additional storage might be required (see “Databases” on page 12).
 - On Windows, ODBC (Open Database Connectivity) drivers for Apache Derby require approximately 105 MB.
- When you create a broker, approximately 10 MB is required for the broker tables. If you create databases to store data that is accessed during message processing, additional space is required on those systems.

Memory and disk space

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

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

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

Communications

Check that your computer has communications hardware that supports at least one of the following protocols:

- NetBIOS
- SNA LU 6.2
- SPX
- TCP/IP

Software requirements

WebSphere Message Broker has specific requirements for operating system software, and for supporting products:

- “Operating system requirements”
- “Databases” on page 12
- “Additional required products” on page 19
- “Optional software and support” on page 24

Operating system requirements

Ensure that you have the correct level of operating system software before you install WebSphere Message Broker. Check the requirements for your operating system in Table 4.

Table 4. Operating system requirements

Operating system	Requirements ¹
AIX	<ul style="list-style-type: none"> • AIX Version 5.3 (Technology Level 4)²
HP-UX (Integrity platform)	<ul style="list-style-type: none"> • HP-UX 11i V2 (B.11.23) for Integrity (with HP-UX recommended patches for Java 5.0) • HP-UX 11i V3 (B.11.31) for Integrity
HP-UX (PA-RISC platform)	<ul style="list-style-type: none"> • HP-UX 11i V2 (B.11.23) (with HP-UX recommended patches for Java 5.0) • HP-UX 11i V3
Linux (POWER platform)	<ul style="list-style-type: none"> • Linux PowerPC[®] Red Hat Enterprise Linux Version 4.0 (with service level Update 2) • Linux PowerPC Red Hat Enterprise Linux Version 5.0 • Linux PowerPC SUSE Linux Enterprise Server (SLES) 9 RC5 or above • Linux PowerPC SUSE Linux Enterprise Server (SLES) 10
Linux (x86 platform) ³	<ul style="list-style-type: none"> • Linux Intel Red Hat Enterprise Linux Version 4.0 (with service level Update 2) • Linux Intel Red Hat Enterprise Linux Version 5.0⁴ • Linux Intel SUSE Linux Enterprise Server (SLES) 9 • Linux Intel SUSE Linux Enterprise Server (SLES) 10⁴
Linux (x86-64 platform)	<ul style="list-style-type: none"> • Linux Intel Red Hat Enterprise Linux Version 4.0 (with service level Update 2) • Linux Intel Red Hat Enterprise Linux Version 5.0 • Linux Intel SUSE Linux Enterprise Server (SLES) 9 • Linux Intel SUSE Linux Enterprise Server (SLES) 10
Linux (zSeries platform)	<ul style="list-style-type: none"> • Linux zSeries (64-bit) Red Hat Enterprise Linux Version 4.0 (with service level Update 2) • Linux zSeries (64-bit) Red Hat Enterprise Linux Version 5.0 • Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 9 • Linux zSeries (64-bit) SUSE Linux Enterprise Server (SLES) 10
Solaris (SPARC platform)	<ul style="list-style-type: none"> • Solaris 9 (with SunSolve recommended Patch Cluster level)⁵ • Solaris 10 (with SunSolve recommended Patch Cluster level)
Solaris (x86-64 platform)	<ul style="list-style-type: none"> • Solaris 10 (plus SunSolve recommended Patch Cluster level)⁶

Operating system requirements

Table 4. Operating system requirements (continued)

Operating system	Requirements ¹
Windows ⁷	<ul style="list-style-type: none">• Windows XP Professional (with service level SP2)• Windows Server 2003 Standard Edition• Windows Server 2003 Enterprise Edition
z/OS ⁸	<ul style="list-style-type: none">• IBM z/OS Version 1.7• IBM SMP/E for z/OS Version 3.3 or later

Notes:

1. Always check the readme.html file and the product requirements Web site for the latest information about supported hardware.
2. WebSphere Message Broker requires the xIC runtime libraries at Version 8 or above. If you do not have an xIC or xIC++ compiler at this version installed, you must download and apply a PTF from this Web site:
www.ibm.com/support/docview.wss?uid=swg24014302
You must also download and install the fix for APAR HIPER IY83580, which is available from this Web site
www.ibm.com/support/docview.wss?uid=isg1IY83580
3. On Linux (x86 platform), you might require the following additional packages that are available with the operating system.
 - If you choose to use the graphical interface to install on SUSE Linux Enterprise Server, install package compat (at version 2002.12.6.0 or later). This package is not required for console or silent installations.
 - If you want to use the package manager (RPM), install package rpm-build.
4. The Message Broker Toolkit is not supported on this operating system version.
5. If you install the broker or the Configuration Manager component on this operating system version, the recommended Patch Cluster level must include patches 111711-16 (32-bit) and 111712-16 (64-bit).
6. If you install the broker or the Configuration Manager component on Solaris 9, the recommended Patch Cluster level must include patch 119964-08.
WebSphere Message Broker is supported only in the Global zone, or in a whole root non-global zone, and must be installed separately in each.
7. Windows operating systems are supported in 32-bit mode only.

8. z/OS Version 1.7 must be at RSU0609 or later (for the target computer) and you must install PTFs for APARs PK34716 and PK34041

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

In all operating environments except z/OS, defect support is available for virtualization environments where they relate to releases that are already supported by WebSphere Message Broker. Unless stated elsewhere in the system requirements, WebSphere Message Broker has not been specifically tested in virtualization environments. WebSphere Message Broker support is therefore unable to assist in issues related to configuration and setup, or issues that are directly related to the virtualization environment itself.

Support for 32-bit and 64-bit operation

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

On operating systems where both modes are supported, 64-bit operation is the default mode. You cannot create execution groups for a broker in a mode that is not supported by its underlying hardware and software.

If you are migrating components from Version 6.0, broker operation and execution group support have changed, indicated in Table 5, and you might need to make additional changes to your configuration. Read the migration and configuration sections in the information center for further details.

The installation tasks that are described in this book do not depend on 32-bit or 64-bit mode. The verification tasks that are described are applicable only to 32-bit operating systems, because the Message Broker Toolkit is supported only in 32-bit environments.

Table 5. Support for 32-bit and 64-bit operation

Platform	Broker core components and commands	32-bit execution groups	64-bit execution groups
AIX ¹	64-bit	Yes	Yes
HP-UX (Integrity platform)	64-bit	No	Yes
HP-UX (PA-RISC platform) ¹	64-bit	Yes	Yes
Linux (POWER platform) ^{1, 2}	64-bit	No	Yes
Linux (x86 platform)	32-bit	Yes	No
Linux (x86-64 platform)	64-bit	Yes	Yes

Operating system requirements

Table 5. Support for 32-bit and 64-bit operation (continued)

Platform	Broker core components and commands	32-bit execution groups	64-bit execution groups
Linux (zSeries platform) ^{1, 2}	64-bit	No	Yes
Solaris (SPARC platform) ¹	64-bit	Yes	Yes
Solaris (x86-64 platform) ^{1, 2}	64-bit	No	Yes
Windows	32-bit	Yes	No
z/OS	32-bit	Yes	No

Notes:

1. On this platform, the broker core components operate in 64-bit mode in contrast to Version 6.0, where the broker core components operate in 32-bit mode.
2. On this platform, you can no longer create or run 32-bit execution groups. Execution groups can be only 64-bit mode.

Databases

A broker requires a database to contain operational and state data. You can complete the WebSphere Message Broker installation program if you do not have a suitable database installed on this system, but you must install one before you create a broker. Table 6 on page 14 shows the levels of database that are supported on each operating system.

DB2 Enterprise Server V9.1 is supplied with WebSphere Message Broker for distributed systems. You can install this version of DB2 on all supported operating systems; its use is restricted to WebSphere Message Broker components. A compact installation provides all the function that is required by WebSphere Message Broker; typical and custom installations are also available, and the installation program provides further details about additional features and storage requirements.

On z/OS, you must obtain and install your own copy of DB2 Enterprise Server. If you do not already have DB2 installed, contact your IBM representative for further information and assistance.

On Windows only, you can use the embedded Derby database, which is supported for test and evaluation purposes only. No other Derby database is supported; you can use only the database embedded in the broker component.

To use the Derby database, you do not have to install any database server code, but you must install the ODBC Drivers for Apache Derby that provide an interface to that database. These drivers are available with the IBM DB2

Run-Time Client for Windows Version 8.2.5, a copy of which is provided on CD or DVD for WebSphere Message Broker on Windows only. If you use the Windows Launchpad to install, select the option for the ODBC Drivers for Apache Derby. If you do not use the Launchpad, install the DB2 Run-Time Client directly from CD or DVD.

For a production system, install and configure your chosen enterprise database; for example, DB2 Enterprise Server. If you use the Windows Launchpad to install WebSphere Message Broker, you can install DB2 Enterprise Server at the same time.

Microsoft SQL Server, Oracle, and Sybase Adaptive Server Enterprise (ASE) databases are also supported, as shown in Table 6 on page 14. You must acquire your own version of these products; they are not supplied with WebSphere Message Broker.

Multiple brokers in the same installation can access the same database, if appropriate, because all tables are qualified by the broker name. Brokers in different installation locations on the same system cannot share a database.

You can configure message flows to access databases that hold data associated with your message processing. The database software that is supported for this purpose (known as *user databases*) is the same as that supported for a broker database, with the addition of DB2 on OS/400®, and Informix® on most operating systems, as shown in Table 6 on page 14.

You can use stored procedure support on all supported databases except Informix.

In most situations, the broker that accesses the database does not have to be running on the same operating system as the database server. For details about local and remote database use, and existing restrictions, see “Database locations” on page 17.

Databases

Table 6. Supported databases

Operating system	DB2 ^{1, 2, 3}	SQL Server	Oracle ^{1, 4, 5}	Sybase ¹	Informix ^{1, 6}
AIX	8.2 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2 ⁸	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC4 fix pack
HP-UX (Integrity platform)	8.2 9.1 9.5	Not applicable	10g Release 2	Not supported	Not supported
HP-UX (PA-RISC platform)	8.2 9.1 ⁹	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with HC4 fix pack
Linux (POWER platform)	8.2 9.1 9.5	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC4 fix pack
Linux (x86 platform)	8.2 ¹⁰ 9.1	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC3 fix pack
Linux (x86-64 platform)	8.2 ¹⁰ 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC3 fix pack
Linux (zSeries platform)	8.2 9.1 9.5	Not applicable	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	Not supported	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC4 fix pack
i5/OS [®] and OS/400 ¹¹	V5R2 V5R3 V5R4	Not applicable	Not applicable	Not applicable	Not applicable
Solaris (SPARC platform)	8.2 ¹² 9.1 9.5	2000 SP3a ⁷ 2005 SP1 ⁷	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with UC7 fix pack Client SDK Version 2.90 with UC4 fix pack

Table 6. Supported databases (continued)

Operating system	DB2 ^{1, 2, 3}	SQL Server	Oracle ^{1, 4, 5}	Sybase ¹	Informix ^{1, 6}
Solaris (x86-64 platform)	8.2 ¹² 9.1 9.5	Not applicable	10g Release 1 10g Release 2	12.5	Not supported
Windows	8.2 ¹³ 9.1 9.5	2000 SP3a 2005 SP1	9i Release 2 Patch Set 4 (9.2.0.5, patch 3501955) 10g Release 1 10g Release 2	12.5	Dynamic Server Version 9.4 with TC7 fix pack Client SDK Version 2.90 with TC4 fix pack
z/OS	8.1 ¹⁴ 9.1 ¹⁴	Not applicable	Not supported	Not applicable	Not supported

Notes:

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

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

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

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

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

Supported connections to databases:

- ODBC drivers for Oracle and Sybase on all relevant systems, and for SQL Server on Linux and UNIX systems, are supplied with WebSphere Message Broker; alternative drivers are not supported on these systems. For other systems and for other databases on all systems, obtain these files from your database vendor.

- JDBC drivers are not supplied with WebSphere Message Broker; obtain these files from your database vendor. The following JDBC type 4 drivers are supported:

- IBM DB2 Driver for JDBC and SQLJ Version 9.1 and 9.5
- Microsoft SQL Server 2005 JDBC driver 1.1 (non-XA only)
- Oracle 10gR2 JDBC Driver
- Sybase jConnect for JDBC 6.05
- IBM Informix JDBC 3.00.JC3

JDBC type 4 transaction support that uses DB2 requires DB2 Version 9.1 Fix Pack 2 or later; support for DB2 Version 8 is not available.

2. Check the `readme.html` file for your product to check whether a fix pack or other fix is required.

DB2 Version 8.2 is functionally equivalent to Version 8.1 Fix Pack 7.

If you define a connection to DB2 Version 8.2 from a broker that operates in 64-bit mode, you must specify that you want to create a 64-bit database instance. If you use DB2 Version 9.1, a 64-bit instance is the default instance created on 64-bit operating systems.

3. Automatic Client Reroute for DB2 is supported on all platforms.
4. If you install the Oracle Database Server on 32-bit systems, or on mixed mode systems on which you plan to create 32-bit execution groups, you must also install the Oracle Runtime Client.
5. The Connect-Time Failover feature of Oracle RAC (Real Application Clusters) in a non-XA environment only is supported on all Linux, UNIX, and Windows systems.
6. Informix is supported only as a user database accessed by message flows; you cannot create a broker database as an Informix database.

Each broker system requires only the client SDK; install the Dynamic Server on the system on which you create databases.

Large Objects (LOBs) are not supported.

7. On Linux or UNIX systems, you can remotely access a SQL Server database on Windows by using a supplied wire protocol driver.

On Linux (x86-64 platform), you can access SQL Server as a user database only from a 32-bit execution group.

8. On AIX, Oracle 10g Release 2 requires the AIX fix for APAR IY89080.
9. If you use DB2 V9.1 on HP-UX (PA-RISC platform), you must set the following environment variable, and export it in the broker's environment:

```
MQSI_SIGNAL_EXCLUSIONS=10
```

10. If you have installed Red Hat Enterprise Linux V4.0 and DB2 Version 8 Fix Pack 9 on Linux (x86-64 platform), you must use a 32-bit database instance. If you have a later release of DB2, you can use both 32-bit and 64-bit database instances.
11. You can configure message flows to access DB2 databases on i5/OS and OS/400 for user data. The message flows can run on any supported broker platform. You cannot create a broker database as a remote DB2 database on i5/OS or OS/400 from any broker platform. For further details of these restrictions, and for information about the PTFs that are required with this product, see “Database locations.”
12. Solaris 10 on Solaris (SPARC platform) requires DB2 Version 8 Fix Pack 9; Solaris 10 on Solaris (x86-64 platform) requires DB2 Version 8 Fix Pack 11.
13. For verification, evaluation, and test purposes only, you can optionally use the Derby database that is embedded in the broker component. For a production system, install and configure your chosen enterprise database.
14. On z/OS, DB2 is a mandatory requirement. You must create a unique database for each broker.
 - If you install DB2 Version 8.1, it must be at RSU0609 or later, and you must install FMID JDB8817 (ODBC support) and PTFs for APAR PK37248.
 - If you install DB2 Version 9.1, you must install FMID JDB9917 (ODBC support) and PTFs for APAR PK41943.

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

Database locations

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

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

DB2 databases on i5/OS and OS/400

- You can use only DB2 (UDB) databases on iSeries (System i™) running OS/400 or i5/OS.
- You must install OS/400 V5R2, or i5/OS V5R3 or V5R4.
- On Linux, UNIX, and Windows you can use DB2 Connect™ to connect. On Windows only, you can also use iSeries Access for Windows.
- You cannot define globally-coordinated (XA) transactions.

Databases

- You cannot configure message flows that include Rules and Formatter Extension nodes to access a database on OS/400 or i5/OS.
- You can call stored procedures only if access to the remote database is provided by DB2 Connect.

DB2 databases on z/OS

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

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

WebSphere Information Integrator databases

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

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

- You can configure message flows on z/OS to access user data in WebSphere Information Integrator Classic Federation for z/OS Version 8.2. This support provides direct SQL connectivity with the following z/OS data sources:
 - IMS™
 - VSAM
 - ISAM
 - Sequential files
 - CA-IDMS
 - CA-Datcom
 - Software AG ADABAS
 - DB2

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

- If you choose to use a remote database, you must configure the ODBC connection to the database correctly.

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

Additional required products

WebSphere Message Broker requires additional software products to run successfully:

- “WebSphere MQ”
- “Java Runtime Environment” on page 21
- “IBM Installation Manager” on page 21
- “XML Toolkit” on page 23
- “Browsers” on page 23

WebSphere MQ

All WebSphere Message Broker components require WebSphere MQ at the minimum supported level shown in Table 7.

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

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

Table 7. WebSphere MQ requirements

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

Notes:

1. WebSphere MQ is not required on Linux (x86 platform) or Windows systems on which you install only the Message Broker Toolkit component.
2. The minimum set of components that you must install are the server and Java Messaging components.

You can install WebSphere MQ before or after you install WebSphere Message Broker. Install WebSphere MQ first for the following benefits:

Additional products

- WebSphere MQ user IDs and groups that components use are created for you. See “Setting up security” on page 57 for more details.
- The runtime components installation wizard checks that a supported version of WebSphere MQ is installed. If you use the graphical or console interface to install, you can choose to continue. However, if you use the silent interface, installation fails unless you change the default behavior of the installation wizard. See Chapter 9, “Installing runtime components,” on page 97 for more information about installation options.

If you have already installed WebSphere MQ Version 6.0, check that your installation includes the Java Messaging component; add it from the WebSphere MQ media if it is not already installed.

On Windows, if you choose to install WebSphere MQ Version 6.0 from the Launchpad, Express installation installs all required components for you. If you use Advanced installation, you must select a custom installation and include at least the server and Java Messaging components.

If you start the WebSphere MQ installation program directly on any operating system, including Windows, you must select a custom installation and include at least the server and Java Messaging components.

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

Other WebSphere MQ components are optional.

3. Check the availability of WebSphere MQ Version 6.0 on your operating system; exact GA versions vary on different platforms.
4. Some specific broker functions might require later levels of WebSphere MQ:
 - Globally-coordinated (XA) transactions are supported only by WebSphere MQ Version 6.0.1.0 or later.
 - If you develop message flows that use WebSphere MQ Real-time Transport with Multicast PGM support, you must apply APAR IC47032 and USERMOD ANPGM01 on WebSphere MQ Version 6.0..
5. On z/OS, WebSphere MQ is a mandatory requirement and must be installed before you install WebSphere Message Broker. WebSphere MQ must be at RSU0609 or later, and you must install FMID JMS6008 (MQ connectivity) and PTFs for APARs PK53810 and PK55665.

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

For details of WebSphere MQ products and supported versions, see the WebSphere MQ product requirements Web site:

www.ibm.com/software/integration/wmq/requirements/

Java Runtime Environment

A Java Runtime Environment (JRE) is required on all platforms:

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

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

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

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 Message Broker Toolkit includes some Rational product components, and therefore includes and uses Installation Manager.

The following Rational products are controlled by Installation Manager:

- Message Broker Toolkit Version 6.1
- Rational Application Developer (RAD) Version 7.0
- Rational Software Architect (RSA) Version 7.0
- WebSphere Integration Developer (WID) Version 6.1

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

Additional products

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. Installation Manager might also install additional shared resources into the directory, including a single copy of every Eclipse plug-in and feature of every installed Rational product at every installed version.

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 Message Broker Toolkit are listed in “Memory and disk space” on page 5. 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 will manage the workspace resources that you create for the installed Rational products.

When you install the 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 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 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 Software Development Platform**. 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 Software Development Platform** into which you have installed the Message Broker Toolkit and RAD
- **IBM Software Development Platform_1** into which you have installed the Message Broker Toolkit and RSA
- **IBM Software Development Platform_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 Message Broker Toolkit and the other products listed above; 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.

XML Toolkit

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

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

Browsers

Documentation and online help is provided in an information center that is accessed from the Message Broker Toolkit. For best viewing results, use Internet Explorer Version 6.0 (or later) on Windows systems, or Mozilla 1.4.2 (or later) on Linux (x86 platform) systems.

Additional products

Some Linux (x86 platform) offerings do not install Mozilla by default. If you plan to install the Message Broker Toolkit on your Linux (x86 platform) system, check that a Mozilla-based browser version 1.4.2 (or later) is already installed. If not, install Mozilla from the operating system media.

Optional software and support

The products listed in this section are not required, but they interact with WebSphere Message Broker in ways that you might find useful. WebSphere MQ Everyplace is supplied with WebSphere Message Broker; all other listed products are not.

You do not need to install any of these products to complete the verification procedure described in Chapter 11, “Configuring and verifying your system,” on page 119.

- “EIS client libraries”
- “WebSphere MQ Everyplace”
- “Tivoli License Manager”
- “Adobe Flash Player” on page 25

EIS client libraries

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

WebSphere MQ Everyplace

WebSphere MQ Everyplace Version 2.0.2.0 supports mobile and wireless applications with robust and secure messaging. Installing WebSphere MQ Everyplace in the broker domain gives these applications access to brokers and other services.

WebSphere MQ Everyplace Version 2.0.2.0 is supplied on DVD (on Linux (x86 platform) and Windows only) and on CD in the supplemental package; see “Message Broker Toolkit and Supplemental packages” on page 49. For more information about connecting your WebSphere MQ Everyplace clients to brokers, see the information center.

Tivoli License Manager

WebSphere Message Broker includes support for IBM Tivoli® License Manager Version 2.1. For more information about monitoring the use of IBM and other product licenses with Tivoli License Manager, see the information center.

Adobe Flash Player

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

www.adobe.com/products/flashplayer/

The Adobe Web site has details of the browsers that are supported for each operating system.

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 will configure a limited domain 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 domain that uses most or all of the features available, you require a full (unrestricted) license.

WebSphere Message Broker for z/OS is not available in Remote Adapter Deployment, or in Starter or Trial Editions. For further details about what features are available for each license, and how to configure your domain, see the **Technical Overview** and the **Configuring** sections in the information center.

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

License requirements

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 the WebSphere Message Broker domain, can install one copy of all components on their computer. They can create and configure a broker domain without any functional or resource restrictions. Installation of the Message Broker Toolkit limits this use to Windows and Linux (x86 platform) computers. The unit test environment is limited to these two platforms even if you have purchased a license for WebSphere Message Broker for z/OS.

You can also install the supplied WebSphere MQ and DB2 products 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 2. Coexistence and migration

You can install WebSphere Message Broker Version 6.1 on a computer on which you have installed previous versions; each version must be installed into a unique directory, referred to in this book as *install_dir*. Different versions can coexist and can run independently, and you can migrate product components 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 location.

The following sections provide further details:

- “Coexistence”
- “Migration” on page 34

If you have already installed WebSphere Message Broker Version 6.1 components, and want to apply the updates for V6.1.0.2, see “Applying updates to existing installations” on page 35.

Coexistence

You can install WebSphere Message Broker Version 6.1 on computers on which you have installed previous versions:

- All runtime components (broker, Configuration Manager, User Name Server) can coexist with runtime components at Version 5.0 and Version 6.0.
- The Message Broker Toolkit can coexist with the toolkit at Version 5.0, Version 5.1, and Version 6.0.

The components and their purpose are described in Chapter 6, “Choosing what to install,” on page 71. The following sections describe how to achieve coexistence, and the restrictions that apply.

Runtime components on distributed systems

When you install WebSphere Message Broker runtime components on distributed systems, the default action taken by the installation wizard is to complete a *typical installation*, which installs all components 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/ <i>v.r</i>
UNIX	/opt/IBM/mqsi/ <i>v.r</i>
Windows	C:\Program Files\IBM\MQSI\ <i>v.r</i>

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 6.1.0). If a later modification level is made available, it will install into the same default location with a *v.r* value of 6.1, and will therefore upgrade the Version 6.1.0 to the higher modification level (for example, Version 6.1.1).

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 choose a *custom installation* and specify a unique directory for each installation (one of which can be the default directory).

You can also use a custom installation to install into a non-default directory, or to install a subset of the runtime components into the default, or another, directory. If you have already installed one or more of the runtime components into the specified directory, the installation wizard indicates this situation on the page on which you choose further components.

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.

You cannot install runtime components into a directory that already contains a previous installed version of these components. For example, you cannot install Version 6.1 into a directory in which Version 6.0 is installed.

If you install the product on any individual computer more than once, at any version and release, the following restrictions apply:

- If you install the same version and release more than once, the native installer support cannot manage these installations in the normal way. See “Native software installer support” on page 33 for more details.
- Brokers associated with one installation cannot share a database with brokers associated with a different installation.
- Components created in one installation cannot share a queue manager with components created in a different installation.

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

Linux and UNIX	<code>/var/mqsi</code>
Windows	<code>%ALLUSERSPROFILE%\Application Data\IBM\MQSI</code> (%ALLUSERSPROFILE% is the environment variable that defines the working directory; the default value is C:\Documents and Settings\All Users but this setting might have a different value 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 system on which a single installation has completed:

```
C:\Program Files\IBM\MQSI\6.1=6.1.0.0
```

(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 your installation to a previous level for any reason, you must uninstall the current version and install the previous product. Before you uninstall, back up any resources (for example, databases) 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 6.1 and later releases on the computer on which you have already installed either Version

Coexistence

5.0 or Version 6.0. The Version 6.1 installation can coexist with the Version 6.0 (or Version 5.0) installation; you can operate the two configurations independently.

If you use custom installations for Version 6.1 and later releases, you can specify a unique installation directory for each release, and therefore achieve coexisting releases on a single computer.

However, you cannot install Version 5.0 if you have already installed Version 6.1; the installation programs fail because Version 5.0 does not support multiple installations on a single computer. If you want multiple versions, you must install Version 5.0 before you install Version 6.1. This restriction does not apply to installation of Version 6.0 with Version 6.1.

The number of installations of Version 6.1, or later, is limited only by the availability of system resources.

Because different versions and releases can coexist, you can migrate to Version 6.1 from an earlier version in a controlled manner, and do not have to migrate all components at the same time. For more information, see “Migration” on page 34.

Runtime components on z/OS

On z/OS you can install multiple copies of the runtime components 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 5.0, Version 6.0, and Version 6.1. The number of installations is restricted only by the availability of system resources.

The default installation directory is `/usr/lpp/mqsi/VxRxMx` where `VxRxMx` represents Version X, Release X, Modification X; for example, `V6R1M0`. This location defines the default value of `install_dir` on this platform.

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

Message Broker Toolkit on Linux (x86 platform) and Windows

Linux When you install the 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/WMBT610

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

For a description of these directories, see Chapter 1, “System requirements,” on page 3.

You can install multiple instances of the Message Broker Toolkit Version 6.1 on a single computer; each one must be in a separate package group. Package groups are described in more detail in Chapter 1, “System requirements,” on page 3.

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

The Message Broker Toolkit Version 6.1 can coexist with multiple installations of runtime components, subject to the restrictions described for those components.

Windows

When you install the 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
- Shared resources directory:
C:\Program Files\IBM\SDP70Shared
- Package group directory:
C:\Program Files\IBM\WMBT610

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

For a description of these directories, see Chapter 1, “System requirements,” on page 3.

You can install multiple instances of the Message Broker Toolkit Version 6.1 on a single computer; each one must be in a separate

package group. Package groups are described in more detail in Chapter 1, “System requirements,” on page 3.

If you install the 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 Message Broker Toolkit Version 6.1 can coexist with the Message Brokers Toolkit Version 6.0. Only one instance of the Message Brokers Toolkit Version 6.0 can be installed on a single computer.

The Message Broker Toolkit Version 6.1 can also coexist with the Message Brokers Toolkit for WebSphere Studio Version 5.0 or Version 5.1 (but not both; Version 5.0 and Version 5.1 cannot be installed on the same computer).

The Message Broker Toolkit Version 6.1 can coexist with multiple installations of runtime components, subject to the restrictions described for those components.

If your toolkit users operate in a team environment, and share resources with each other, upgrade all users to Version 6.1 at the same time to ensure continued access to all resources. Because toolkit resources are stored in a different format when they are first saved in Version 6.1, your users might experience compatibility problems in some circumstances if they are using an older version of the toolkit.

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, for example, `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 and you must invoke commands in the 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 an earlier version of this product installed on this 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 Chapter 12, “What’s next,” on page 127.

Native software installer support

If you install the same version and release of the runtime components (for example, 6.1) on a single computer more than once, the native installer support cannot manage these installations in the normal way.

To guarantee that you uninstall the correct installation, use the appropriate uninstall program *uninstaller* in the `_uninst_runtime` directory of that installation. For further information about uninstalling the product, see the information center.

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 `mqsivr`, for example `mqsiv61`. Subsequent installations at the same *vr* level are displayed under the first one when you list installed products with `lsllpp`. 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/61`. 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.

Migration

Because you can install WebSphere Message Broker Version 6.1 on the same computer as previous versions and other installations of Version 6.1, you are not required to complete any migration tasks before you install Version 6.1.

WebSphere Message Broker Version 6.1 can coexist with the following products:

- WebSphere Business Integration Event Broker Version 5.0
- WebSphere Business Integration Message Broker Version 5.0
- WebSphere Business Integration Message Broker with Rules and Formatter Extension Version 5.0
- WebSphere Event Broker Version 6.0
- WebSphere Message Broker Version 6.0
- WebSphere Message Broker with Rules and Formatter Extension Version 6.0

You can choose how and when to migrate resources and components, according to the instructions provided in the information center. You can migrate all runtime components from the earlier versions listed above.

You cannot migrate the Message Broker Toolkit, but resources that you have created in previous versions are mostly compatible with later releases. If you do not use a repository such as CVS or ClearCase®, export your workspace to retain the existing content and to support reversion to the previous version. Import the workspace into Message Broker Toolkit Version 6.1.

Version 5.0 and Version 5.1

If you created message mappings (in `.mfmaps` files) in Version 5.0 or Version 5.1, you must migrate them by using the `mqsimigratemfmaps` command.

You can access all other resources in both Version 6.1 and Version 5.0 or Version 5.1.

If you edit and save resources in Version 6.1, you can no longer access these resources in Message Broker Toolkit Version 5.0 or Version 5.1, and can deploy them only to Version 6.1 brokers.

Version 6.0

You can access all resources that you have created in Version 6.0 in both Version 6.1 and Version 6.0.

If you edit and save resources in Version 6.1, you can no longer access these resources in Message Broker Toolkit Version 6.0, and can deploy them only to Version 6.1 brokers.

If you are migrating from Version 6.0 or Version 5.0, you can migrate existing brokers only to a full version of WebSphere Message Broker Version 6.1. Do not migrate brokers from an earlier version to the Trial Edition. If you choose to migrate brokers by using the **mqsigratecomponents** command, the brokers are migrated in enterprise mode. If you have purchased either the Starter Edition or the Remote Adapter Deployment, you must change the mode of all your migrated brokers to comply with the terms of your license. See Chapter 13, “Checking the broker operation mode,” on page 131 for further guidance.

To review migration information before you install, view a stand-alone or online version of the information center. Access instructions are provided in “Where to find more information” on page xii.

Applying updates to existing installations

If you have already installed WebSphere Message Broker Version 6.1.0.0 or V6.1.0.1, you can update your existing installations without reinstalling the components:

- For runtime components, follow the instructions in the section **Installing > Applying service to runtime components** in your current Version 6.1 information center.
- For the Message Broker Toolkit, the update for V6.1.0.2 also requires an update to Installation Manager, therefore the instructions in the information center are incomplete for this fix pack. Full instructions are provided in “Upgrading the Message Broker Toolkit” on page 110.

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 domain configuration is no longer supported. For further details about what features are available for each license, and how to configure your domain, see the **Technical Overview** and the **Configuring** sections in the information center.

Applying updates

Chapter 3. National language support

When you install WebSphere Message Broker, the installation wizards detect your current system locale and perform the installation process in the associated language.

If your current system locale is not one of the supported languages (indicated below), you must select a supported language from those listed in the dialog box that is presented by the wizard before you can continue with the installation. This language is used for the installation process only and does not affect other processes on your computer.

After installation on distributed systems, the user interface and message catalogs are provided in the following languages:

- Brazilian Portuguese
- French
- German
- Italian
- Japanese
- Korean
- Simplified Chinese
- Spanish
- Traditional Chinese
- US English

After installation on z/OS, the message catalogs are provided in the following languages:

- Japanese
- Simplified Chinese
- US English

The messages written to the z/OS operator console (which are a subset of the messages written to the joblog) 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. If you use other products in conjunction with WebSphere Message Broker, these products might cause WebSphere Message Broker to report errors by using its message catalogs, or might report problems by using their own techniques.

National language support

Refer to the documentation supplied with any other products that you use to determine the language support that they provide. In particular, check the documentation supplied with 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 the **mqsireadlog** command) are generated in code page 1208 (UTF-8).

Locales

WebSphere Message Broker supports messages for the following locales.

Table 8. Supported locales

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

Notes:

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

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

Chapter 4. Installation packages

This chapter describes the packages that are available, and the content of those packages.

Packaging options

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 Start Edition, Remote Adapter Deployment, and the full (unrestricted) licenses. Contents are described in “Package contents” on page 43.

When you install the product from the media, 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.

Electronic images

If you are registered with IBM Passport Advantage, you can download electronic images from IBM Passport Advantage for WebSphere Message Broker Start 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 43. although are not formatted as CD or DVD images. For further information, and to register, access the IBM Passport Advantage Web site:

www.ibm.com/software/sw-lotus/services/cwepassport.nsf/wdocs/passporthome

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 download Web site:

www.ibm.com/developerworks/downloads/ws/wmb/

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. 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 are not included with the WebSphere Message Broker Trial Edition. If you have not already ordered and installed WebSphere MQ, you can obtain a trial version from the developerWorks WebSphere MQ download Web site:

www.ibm.com/developerworks/downloads/ws/wmq/

The WebSphere MQ trial version includes the required Java and Eclipse components.

Always check the WebSphere Message Broker readme file `readme.html` on the support Web site for the latest information about supported trial versions:

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

- Electronic images of DB2 and ODBC Drivers for Apache Derby are not included with the WebSphere Message Broker Trial Edition. If you have not already ordered and installed DB2, or an alternative supported database, you can download the latest fix pack for DB2 from the DB2 Version 9.1 fix packs and clients Web site:

www.ibm.com/support/docview.wss?rs=71&uid=swg21255572

DB2 fix packs are complete installable images, and you can download and install one for your chosen platform without charge, and use it for 90 days.

If you want to use the Derby database, you can download a trial version of IBM DB2 Run-Time Client for Windows Version 8.2.5 from the developerWorks Cloudscape Web site:

www.ibm.com/developerworks/db2/library/techarticle/dm-0409cline2/

Always check the WebSphere Message Broker readme file `readme.html` on the support Web site for the latest information about supported trial versions:

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

- 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 product components, 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 Chapter 13, “Checking the broker operation mode,” on page 131 and 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

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

The Trial Edition content is restricted; differences are described where they apply.

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

WebSphere Message Broker or WebSphere Message Broker with Rules and Formatter Extension

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 and Eclipse plug-in formats. This CD is always at the top of the package. For more detail about its content, see “Message Broker Toolkit and Supplemental packages” on page 49.
- A set of plastic wallets that contain CDs for installation of runtime components and required products, grouped by operating system. The CDs are listed in “Runtime packages” on page 45.
- A plastic wallet that contains CDs for installation of the Message Broker Toolkit on both Linux (x86 platform) and Windows, and for supplemental software. The CDs are listed in “Message Broker Toolkit and Supplemental packages” on page 49.

Installation packages

- A plastic wallet that contains two DVDs, one for Linux (x86 platform) and one for Windows. The DVDs contains all required and optional product code and additional optional software. The structure of the DVD content is described in “DVD package” on page 51.
- If you have ordered **WebSphere Message Broker with Rules and Formatter Extension**, an additional wallet contains the set of CDs shown in “Rules and Formatter Extension packages” on page 53. The Rules and Formatter extension code is not included on DVD; you must install this extension from CD.
- This Installation Guide, printed in US English.
- The Quick Start Guide, printed in US English, French, and Japanese.

WebSphere Message Broker for z/OS or WebSphere Message Broker with Rules and Formatter Extension 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 the product for Linux (x86 platform) and Windows, because the Message Broker Toolkit is available only on those operating systems.

- Two plastic wallets that contain CDs for installation of runtime components and required products, one for Linux (x86 platform) and one for Windows. The CDs are listed in “Runtime packages” on page 45.
- A plastic wallet that contains CDs for installation of the Message Broker Toolkit on both Linux (x86 platform) and Windows, and supplemental CDs. The CDs are listed in “Message Broker Toolkit and Supplemental packages” on page 49.
- A plastic wallet that contains two DVDs, one for Linux (x86 platform) and one for Windows. The DVDs contains all required and optional product code and additional optional software. The structure of the DVD content is described in “DVD package” on page 51.
- 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* or the *Program Directory for WebSphere Message Broker with Rules and Formatter for z/OS*.
- This Installation Guide, printed in US English.

Runtime packages

The contents listed in Table 9 are supplied for installation of runtime components and associated products.

WebSphere MQ and DB2 images are not included in the Trial Edition.

The physical packages are marked with the symbol  .

Table 9. CDs and images supplied for WebSphere Message Broker for runtime components and associated products

Operating System ¹	CD label	Description
AIX	WebSphere Message Broker Version 6.1 AIX (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 AIX (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 AIX (Runtime Disk 3)	US English product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 AIX (Runtime Disk 4)	National Language additions
HP-UX (Integrity platform)	WebSphere Message Broker Version 6.1 HP-UX on Itanium (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 HP-UX on Itanium platform (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 HP-UX on Itanium (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 HP-UX on Itanium (Runtime Disk 4)	National Language additions
HP-UX (PA-RISC platform)	WebSphere Message Broker Version 6.1 HP-UX (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 HP-UX (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 HP-UX (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 HP-UX (Runtime Disk 4)	National Language additions

Runtime packages

Table 9. CDs and images supplied for WebSphere Message Broker for runtime components and associated products (continued)

Operating System ¹	CD label	Description
Linux (POWER platform)	WebSphere Message Broker Version 6.1 Linux on POWER (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Linux on POWER platform (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Linux on POWER (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Linux on POWER (Runtime Disk 4)	National Language additions
Linux (x86 platform)	WebSphere Message Broker Version 6.1 Linux x86 (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Linux x86 (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Linux x86 (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Linux x86 (Runtime Disk 4)	National Language additions
Linux (x86-64 platform)	WebSphere Message Broker Version 6.1 Linux x86-64 (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Linux on x86-64 platform (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Linux x86-64 (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Linux x86-64 (Runtime Disk 4)	National Language additions
Linux (zSeries platform)	WebSphere Message Broker Version 6.1 Linux on System z (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Linux on zSeries platform (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Linux on System z (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Linux on System z (Runtime Disk 4)	National Language additions

Table 9. CDs and images supplied for WebSphere Message Broker for runtime components and associated products (continued)

Operating System ¹	CD label	Description
Solaris (SPARC platform)	WebSphere Message Broker Version 6.1 Solaris (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Solaris (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Solaris (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Solaris (Runtime Disk 4)	National Language additions
Solaris (x86-64 platform)	WebSphere Message Broker Version 6.1 Solaris on x86-64 (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Solaris on x86-64 (Runtime Disk 2)	Product code
	DB2 V9.1 for WebSphere Broker Products Version 6.1 Solaris on x86-64 (Runtime Disk 3)	Product code and documentation
	DB2 V9.1 for WebSphere Broker Products, NLV Additions Version 6.1 Solaris on x86-64 (Runtime Disk 4)	National Language additions
Windows	WebSphere Message Broker Version 6.1 Windows (Runtime Disk 1)	Product code Version 6.1.0.2 ²
	WebSphere MQ Version 6.0 Windows (Runtime Disk 2)	Product code ³
	IBM DB2 V9.1 for WebSphere Broker Products Version 6.1 Windows (Runtime Disk 3)	Product code and documentation ³

Notes:

1. On all operating systems, the CDs and images for WebSphere MQ (Runtime Disk 2) and DB2 (Runtime Disks 3 and 4) 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 “Packaging options” on page 41 for more information.

Runtime packages

2. Disk 1 includes the following resources:
 - Runtime components installation files Version 6.1.0.2.
 - IBM DB2 Run-Time Client V8.2.5 (Windows only). If you want to use the Derby database that is embedded in the broker component, install this product to install the ODBC Drivers for Apache Derby that are required. This product is not included in the Trial Edition. You can obtain a trial version of this software; see “Packaging options” on page 41 for more information.
 - Launchpad (Windows only).
 - Quick Tour (stand-alone executable program on Windows 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.
 - 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.
3. The Launchpad and stand-alone Quick Tour are also included on Disk 2 and Disk 3 on Windows.

Message Broker Toolkit and Supplemental packages

The contents listed in Table 10 are supplied for installation of the Message Broker Toolkit and supplemental software products.

Supplemental product images are not included in the Trial Edition.



The physical package is marked with the symbols  and .

Table 10. CDs and images supplied for the Message Broker Toolkit

Operating System	CD label	Description
Linux (x86 platform)	WebSphere Message Broker Toolkit Version 6.1 Linux x86 Disk 1	<ul style="list-style-type: none"> • Product code Version 6.1.0.2¹ • Installation Manager² • Additional resources³
	WebSphere Message Broker Toolkit Version 6.1 Linux x86 Disk 2	Product code
	WebSphere Message Broker Toolkit Version 6.1 Linux x86 Disk 3	Product code
Windows	WebSphere Message Broker Toolkit Version 6.1 Windows Disk 1	<ul style="list-style-type: none"> • Product code Version 6.1.0.2 • Installation Manager² • Additional resources³
	WebSphere Message Broker Toolkit Version 6.1 Windows Disk 2	Product code
	WebSphere Message Broker Toolkit Version 6.1 Windows Disk 3	Product code
Multiplatforms	WebSphere MQ Everyplace Version 2.0.2.0 for Multiplatforms	Product code
	Quick Start CD	Documentation ⁴

Notes:

1. The product code includes the information center.
2. Installation Manager is installed only if does not already exist on the target computer; this product is required to manage the Message Broker Toolkit installation.
3. Disk 1 includes the following resources:
 - Message Broker Toolkit installation files Version 6.1.0.2.
 - Launchpad (Windows only).
 - Quick Tour (stand-alone executable program on Windows only).
 - License files. These files are used by the installation wizard and are supplied in all supported languages.

Toolkit and Supplemental packages

- 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 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.

These files are identical to the equivalent files described in “Runtime packages” on page 45.

4. The Quick Start CD is included at the top of the physical product package. When you have finished using this CD, add it to the supplemental package for safe-keeping.

You can explore the contents of the CD or electronic image on all supported distributed operating systems, but some items have restricted usage, as indicated below:

- A stand-alone integrated information center that includes documentation plug-ins for WebSphere Message Broker Version 6.1, WebSphere MQ Version 6.0, and WebSphere MQ Everyplace Version 2.0.2.0.

An information center is provided for Windows and Linux (x86 platform) only. View or install the one that is appropriate for your operating system.

- Readme files (US English and translations).
- PDF files for the Quick Start Guide (US English and translations).
- PDF files for this Installation Guide (US English and translations).

DVD package

DVDs (type DVD-R, size DVD-5) are supplied for Linux (x86 platform) and Windows only. The DVD labels are WebSphere Message Broker Version 6.1 Linux x86 and WebSphere Message Broker Version 6.1 Windows.

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 Version 6.1.0.2 runtime components
- Message Broker Toolkit Version 6.1.0.2
- WebSphere MQ Version 6.0
- DB2 Enterprise Server Version 9.1
- DB2 Run-Time Client Version 8.2.5 (Windows only)

If you use the Launchpad to install on Windows (described in Chapter 8, “Installing with the Windows Launchpad,” on page 85), the Launchpad navigates the DVD to find the products and components that you have chosen to install, and you do not have to be familiar with the structure of the DVD contents.

If you install on Linux (x86 platform), or you install on Windows and choose not to use the Launchpad, use the DVD structure shown in Table 11 to find what you want.

Table 11. DVD contents

Directory	Description
\ (root)	<ul style="list-style-type: none"> • Runtime components Version 6.1.0.2 installation files • (Windows only) Launchpad and Quick Tour¹
\DB2_Enterprise_Server_V9.1	DB2 Restricted Enterprise Server Version 9.1 installation images ²
\DB2_Runtime_Client_V8.2	(Windows only) DB2 Runtime Client Version 8.2.5
\IBMInstallationManager	Installation Manager installation images
\installation_guide	Installation Guides ³
\license	License files ³
\Message_Broker_Toolkit_V6	Message Broker Toolkit Version 6.1.0.2 installation repository ⁴
\readmes	Readme files ³
\sample-scripts	Sample response files ³
\WebSphere_MQ_V6.0	WebSphere MQ installation images

DVD package

Notes:

1. This item is a stand-alone executable version of the Quick Tour, which is available only on Windows. On Linux (x86 platform) and Windows, you can access the Quick Tour from the Message Broker Toolkit.
2. On Linux (x86 platform), this directory has two subdirectories: one for US English and one for National Language Additions.
3. The files in this directory are identical to the equivalent files described in “Runtime packages” on page 45.
4. The files in this directory are not an installation image for the Message Broker Toolkit but are in the format required by Installation Manager to install the Message Broker Toolkit.

Rules and Formatter Extension packages

The contents listed in Table 12 are supplied only if you have purchased WebSphere Message Broker with Rules and Formatter Extension. The Rules and Formatter Extension components are not included on the DVDs.

Rules and Formatter Extension images are not included in the Trial Edition.

The physical package is marked with the symbol  .

Table 12. CDs and images supplied for the Rules and Formatter Extension

Operating System ¹	CD label	Description
AIX	Rules and Formatter Run-time Extension V6.1 AIX	Product code and documentation
HP-UX (PA-RISC platform)	Rules and Formatter Run-time Extension V6.1 HP-UX	Product code and documentation
Linux (x86 platform)	Rules and Formatter Run-time Extension V6.1 Linux x86	Product code and documentation
	Rules and Formatter Design-time Extension V6.1 Linux x86	Product code and documentation
Solaris (SPARC platform)	Rules and Formatter Run-time Extension V6.1 Solaris	Product code and documentation
Windows	Rules and Formatter Run-time Extension V6.1 Windows	Product code and documentation
	Rules and Formatter Design-time Extension V6.1 Windows	Product code and documentation

Notes:

1. The Rules and Formatter Run-time Extension is a 32-bit application and is not available for HP-UX (Integrity platform), Linux (POWER platform), Linux (x86-64 platform), Linux (zSeries platform), or Solaris (x86-64 platform).

Rules and Formatter Extension packages

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 5, “Preparing the system,” on page 57
- Chapter 6, “Choosing what to install,” on page 71
- Chapter 7, “Choosing an installation interface,” on page 75

Chapter 5. Preparing the system

You must complete several tasks on some operating systems before you install WebSphere Message Broker. You might want to complete other tasks, depending on your installation intentions.

Always read the following section:

- “Setting up security”

If you are installing on a distributed system, read the following section:

- “Accessing CDs and DVDs” on page 62

If you are installing on Linux or UNIX systems, read the following section:

- “Checking the kernel configuration on Linux and UNIX systems” on page 69

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

- Chapter 8, “Installing with the Windows Launchpad,” on page 85
- Chapter 9, “Installing runtime components,” on page 97
- Chapter 10, “Installing the Message Broker Toolkit,” on page 103

Setting up security

This section describes security requirements:

- To install the product
- To complete the procedures described in Chapter 11, “Configuring and verifying your system,” on page 119

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.

Setting up security

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 and UNIX systems, and on z/OS, they are restricted to eight characters. Database products, for example DB2, might restrict also user IDs to eight characters. If you have a mixed environment, ensure that the user IDs that you use within the broker domain are limited to a maximum of eight characters.
- Ensure that the case (upper, lower, or mixed) of user IDs in your broker domain 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 domain.

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

Set up the required security for 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 60.
- If you are installing on z/OS, go to “Security on z/OS systems” on page 61.

Security on Linux and UNIX systems

Before you install WebSphere Message Broker, you must set up the required security.

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 (SAM) on HP-UX.

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 log in 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. It might also be required if you are logging in from a remote system.

If you are installing only the Message Broker Toolkit on Linux (x86 platform), continue with step 7.

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 will run as a production server (with the broker and perhaps Configuration Manager components installed), create an additional new user ID for use only with product components. If you create a new ID, add it to the mqbrkrs group.

On a Linux (x86 platform) 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 user and group.
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.
6. On some systems, you might have to log off and log on again for these new group definitions (mqbrkrs and mqm) to be recognized.
7. Verification procedures are provided for Linux (x86 platform) 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 have not already done so, add your post-installation user ID to the groups mqbrkrs and mqm before you launch the Message Broker Toolkit.

Setting up security

Security on Windows systems

Before you install WebSphere Message Broker runtime components or the Message Broker Toolkit, log on with a user ID that has Administrator authority, but is not the Administrator ID.

If you are installing the runtime components, the installation wizard calls the **mqsisetsecurity** command which completes the following tasks:

1. Creates a new security group called mqbrkrs.
2. Adds your current (logged on) user ID to the group mqbrkrs.
3. 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 8, "Installing with the Windows Launchpad," on page 85), 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 to complete these tasks.

If you are running Terminal Services on this system, you must also 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 make this change, files might be written to other locations and, although the installation might complete successfully, the product might not work as expected.

Enter the following command to change user mode before you install any product components:

```
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 that 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 domain environment

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 do not install WebSphere Message Broker on the domain controller:

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

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

When you install or upgrade WebSphere Message Broker, you can access CDs or DVD 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 (x86 platform) and Windows only.

You can also install or upgrade from installation images that you have obtained from Passport Advantage, if you are registered with this scheme. If you want to use this option, read the instructions that are provided with the packages that explain how to download and extract the images. Use this section to set up local or remote access to these images in the same way that you do for a CD or DVD.

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, as shown in a later example, otherwise the Java process times out. If you cannot map the drive, or choose not to map the drive, copy the contents of the CD to a local drive and install from that drive.

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 65.

Accessing CDs and DVDs on the local system

If you want to install product components from a local CD or DVD, complete this task. Always consult your operating system documentation for exact details of this task.

AIX

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 58.
3. Create a CD mount point directory:

```
mkdir /cdbroker
```

where */cdbroker* is the mount point.

4. Insert the CD that you want to access into the drive of the computer on which you want to install one or more 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-UX

The HP-UX 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 58.
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 that you want to access into the drive of the computer on which you want to install one or more product components.
5. Mount the CD by using the following command:

```
mount -F cdrfs /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

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 58.
3. Create a CD mount point directory:

```
mkdir /cdbroker
```

where */cdbroker* is the mount point.

Accessing CDs and DVDs locally

4. Insert the CD that you want to access into the drive of the computer on which you want to install one or more 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 58.

3. Insert the CD that you want to access into the drive of the computer on which you want to install one or more 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_s01* 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, but is not the Administrator ID.
2. Complete the security setup described in “Security on Windows systems” on page 60.
3. Insert the CD that you want to access into the drive of the computer on which you want to install one or more product components.

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

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 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 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.

You can use these instructions if you want to install, from a server, other products that are supplied with WebSphere Message Broker, for example DB2 Enterprise Server. However, you must check with the appropriate associated product documentation to ensure that remote installation is supported.

Accessing CDs and DVDs remotely

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 Message Broker Toolkit on Linux (x86 platform) 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 62. The installation programs for the runtime components and the 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 invoked. 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 fastpath command `smitty mknfsexp`. Complete the fields as appropriate and press Enter.

HP-UX and Linux

Use the **exportfs** command. The example below 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 example below 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.

Accessing CDs and DVDs remotely

Setting up the target system

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 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 quotes.

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 **net use**).

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 CD 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 install the product in that directory.

Checking the kernel configuration on Linux and UNIX systems

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:

- WebSphere MQ; see the topic "Kernel configuration" for your operating system in the online WebSphere MQ information center at:
publib.boulder.ibm.com/infocenter/wmqv6/v6r0/index.jsp
- DB2, if installed. If you are using Version 9.1, see the online information center at:
publib.boulder.ibm.com/infocenter/db2luw/v9/index.jsp

If you are using Version 8, see the online information center at:

publib.boulder.ibm.com/infocenter/db2luw/v8/index.jsp

- Any other software that you have installed to work with WebSphere Message Broker that provides documented values; for example, other database suppliers.
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, SAM on HP-UX. 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 have to restart your system for these changes to take effect. Check the documentation for your operating system for further information about these parameters.

Checking the kernel configuration

Chapter 6. Choosing what to install

WebSphere Message Broker delivers three runtime components and the Message Broker Toolkit. You can install one or more runtime components (broker, Configuration Manager, and User Name Server) on all supported operating systems. You can install the Message Broker Toolkit only on Linux (x86 platform) and Windows.

Runtime components

On distributed systems, you can choose to install one or more components. On z/OS, all the runtime components are installed; you cannot choose to install a subset of components.

Broker

The broker is a set of execution processes that provides message processing facilities that 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, 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.

Choosing what to install

The broker creates and maintains state and local configuration data in a database. You must install and initialize a suitable database before you create a broker, although you can install the broker component and the database in any order. For information about supported databases, see “Databases” on page 12.

Configuration Manager

A Configuration Manager is an interface between the Message Broker Toolkit and a set of one or more brokers, and controls the resources in a broker domain. It maintains the configuration details of the domain, and disseminates the updates and additions that you make to that domain in the Message Broker Toolkit.

The Configuration Manager creates and maintains the configuration data for the domain in an internal repository.

User Name Server

A User Name Server is an optional component that provides authentication for publish/subscribe environments by using access control lists based on operating system definitions. Install this component only if you want to restrict the publish/subscribe activity of users or groups.

A single User Name Server to handle the publish/subscribe authentication within a broker domain is typically sufficient; if you have heavy publish/subscribe message traffic and a large number of users, you might want to consider more than one User Name Server. See the additional information about this option in the information center.

If you are migrating from Version 5.0 or Version 6.0, and you already have a User Name Server that provides publish/subscribe authentication within your domain, you do not need to install another one, because the User Name Server is unchanged in function in Version 6.1.

You can install any combination of these components, and you can install them more than once on any system. For more details about how different installations can coexist, see Chapter 2, “Coexistence and migration,” on page 27.

For installation of runtime components, you can choose between a typical installation and a custom installation. These are explained in Chapter 2, “Coexistence and migration,” on page 27.

Message Broker Toolkit

The Message Broker 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 Message Broker 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.

Administrators can connect the Message Broker Toolkit to one or more Configuration Managers, and manage the broker domains through those Configuration Managers, for example by deploying resources to brokers, and starting and stopping resources.

Choosing what to install

Chapter 7. Choosing an installation interface

Choose the interface that you want to use to install WebSphere Message Broker from the following options:

- On Windows only, “The Windows Launchpad”
- “Graphical interface” on page 76
- “Console interface (runtime components only)” on page 76
- “Silent interface” on page 77

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

- Chapter 8, “Installing with the Windows Launchpad,” on page 85
- Chapter 9, “Installing runtime components,” on page 97
- Chapter 10, “Installing the Message Broker Toolkit,” on page 103

The same interfaces are also available for uninstallation tasks, which are described in the information center.

The Windows Launchpad

On Windows, the Launchpad is the preferred and the default process for installation. The Launchpad helps you through the installation process for WebSphere Message Broker and the prerequisite products (for example, DB2 and WebSphere MQ) that are required for runtime components. You can either install them individually by following the Launchpad prompts, or request that the Launchpad installs your selected products for you, by using default options.

From the Launchpad you can also view this book in PDF format, review the readme file `readme.html`, and launch the Quick Tour (see Chapter 11, “Configuring and verifying your system,” on page 119 for further information).

The Launchpad exists on the Windows DVD, and on every Windows CD from which you might install product components or prerequisite products. If autorun is enabled, the Launchpad starts automatically when you insert a CD or DVD.

Graphical interface

Graphical interface

If you start the installation wizard with no options, it starts the graphical interface (this interface is the default option). The wizard guides you through the installation process with a series of pages that present options and default values. 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 to help you complete an installation. Use this interface when you are unfamiliar with the product, or if you want to monitor the installation progress.

The name of the installation wizard for your operating system is listed in “Installation wizard names” on page 82; for example, `setupaix` for AIX.

If you click **Cancel** before you start the installation process, you can exit the setup. If you decide to exit, your system returns to the state that it was in before the installation wizard was launched. However, if you cancel the installation wizard after the installation has completed, and the final summary page is displayed, your system is not restored to its previous state; the installation wizard stops immediately. If you want to remove a program that has been installed, you must use the uninstall program.

When you use the wizard, you might have to wait a few seconds to move to the next page after clicking **Next**. Progress is not always displayed on all pages. If you click **Next** twice, you might skip an entire page. To ensure that the installer is progressing, you can monitor your CPU usage; CPU usage increases greatly during installation.

Console interface (runtime components only)

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.

This interface is not available when you install the Message Broker Toolkit.

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

The name of the installation wizard for your operating system is listed in “Installation wizard names” on page 82. Specify the option `-console` to run the console interface. For example, on AIX:

```
./setupaix -console
```

To navigate through the installation, enter the following values:

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

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

Silent interface

If you start a silent installation, the installation wizard runs without any interaction; installation is completed with default options, or according to a set of options that are defined in a response file.

Use the silent interface to run the process unattended for automated installations over a large number of identical systems.

The silent interface does not provide any feedback to the caller; therefore, you must check the installation log to determine whether the installation was successful. The location of the installation log is given in “Dealing with problems during installation” on page 94 (runtime components) and “Dealing with problems during installation” on page 115 (Message Broker Toolkit).

The name of the installation wizard for your operating system is listed in “Installation wizard names” on page 82.

Silent installation of runtime components

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

Because the installation wizard checks for prerequisite software, the program fails if the prerequisite software is not already installed. You can override this check if you use a response file (described below), or if you include the appropriate parameter with a non-default value on the command invocation.

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

```
./setuplinuxia32 -silent
```

Silent interface

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

You can create a response file that contains your non-default settings in three ways:

- Edit the sample response file that is provided on the CD or DVD.

The file is `/sample-scripts/install.opt` on Linux and UNIX systems and `\sample-scripts\install.opt` on Windows. It includes detailed information about the options that you can change, and the values that you must enter to change them.

Modify the response file to take one or more of the following actions:

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

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

Remove the number sign (the character #):

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

- 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=<value>
```

- Choose which components to install.

For example, to exclude the Configuration Manager, find this line in the response file:

```
# -P configManagerFeature.active=true
```

Change the line to read:

```
-P configManagerFeature.active=false
```

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

Add one or both of the following lines to the file to instruct the installation wizard to ignore the check for specific software:

```
# don't check for WebSphere MQ
```

```
-P mqPrerequisite.active=false
```

```
# don't check for Java Messaging
```

```
-P javaMessagingPrerequisite.active=false
```


- Record a response file that contains your installation preferences.

Run the graphical interface of the installation program from the command line, specifying the option `-record`. Complete the installation following the guidance in “Running a graphical installation” on page 99; the response file content is recorded to reflect the choices that you made. For example:

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

where *installer* is the name of the installation wizard on your operating system (listed in “Installation wizard names” on page 82) and *responsefile* is the fully qualified path and name of your response file. Specify a directory that is different to the one that you specify as your installation directory. On Windows, you must surround the path and name with double quotes if it contains spaces.

Before you use the response file, check for the following line:

```
-W setupTypes.selectedSetupId=custom
```

Remove the value `custom` so that the line has the content shown below; if you do not, a full installation is completed:

```
-W setupTypes.selectedSetupId=
```

Use the recorded file for subsequent installations, as shown below.

- Generate a template response file.

Run the graphical interface of the installation program from the command line, specifying the option `-template` and the name of the file that you want to record. Navigate through the installation following the guidance in “Running a graphical installation” on page 99; the response file content is generated to reflect the choices that you made but installation is not performed. For example:

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

where *installer* is the name of the installation wizard on your operating system (listed in “Installation wizard names” on page 82) and *responsefile* is the fully qualified path and name of your chosen response file. Specify a directory that is different to the one that you specify as your installation directory. On Windows, you must surround the path and name with double quotes if it contains spaces.

Edit the template to change any of the options, then use the modified file for subsequent installations, as shown below.

You can also record a response file, or generate a template file, by using the console interface. Add the option `-console` to the commands shown above, and follow the guidance in “Running a console installation” on page 100.

Silent interface

To run a silent installation that uses a response file called `response1.txt`, specify the `-silent` option and the fully qualified path and name of the file on the installation command. For example, on Linux (x86 platform), enter the following command:

```
./setuplinuxia32 -silent -options /user1/scripts/response1.txt
```

The following table provides a summary of the options you can use with response files.

Table 13. Options for silent installation of runtime components

Action	Invocation
The installation wizard performs a default installation with no user interaction.	<code>installer -silent</code>
The installation wizard performs an installation with input provided by the response file.	<code>installer -silent -options responsefile</code>
The installation wizard generates a template response for later modification and use but performs no installation.	<code>installer -options -template responsefile</code>
The installation wizard presents the graphical interface for installation with user input, and records all specified options in a response file.	<code>installer -options -record responsefile</code>
The installation wizard presents the console interface for installation with user input, and records all specified options in a response file.	<code>installer -options -record -console responsefile</code>

Silent installation of the Message Broker Toolkit

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

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

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

Linux (x86 platform)

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

Windows

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

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

To create a response file that contains your non-default settings, start the installation program and specify only the option `-record`, and the name and path of the response file.

Complete an installation by using the graphical interface following the guidance in “Running a graphical installation” on page 105; the toolkit is installed and the response file content is recorded to reflect the choices that you make.

For example, on Linux (x86 platform), enter the following command to record the response file:

```
install -record /user1/scripts/response1.xml
```

where `/user1/scripts/response1.txt` is the fully qualified path of your response file.

To run a tailored silent installation, specify the recorded response file when you start the installation program for subsequent installations. For example:

```
./install -nosplash --launcher.suppressErrors -silent -input /user1/scripts/response1.xml
```

Installation wizard names

Installation wizard names

The installation wizard has a different name on each operating system. To help you find these programs quickly, the names are shown in the table below. Substitute this name where you see *installer* in the text.

Table 14. Installation wizard names

Operating system	Installation wizard name
AIX	setupaix
HP-UX (Integrity platform)	setuphia64
HP-UX (PA-RISC platform)	setuphp
Linux (POWER platform)	setuplinuxppc
Linux (x86 platform)	setuplinuxia32 (runtime components) install (Installation Manager for Message Broker Toolkit)
Linux (x86-64 platform)	setuplinuxx64
Linux (zSeries platform)	setuplinux390
Solaris (SPARC platform)	setupsolaris
Solaris (x86-64 platform)	setupsolarisx64
Windows	setup.exe (runtime components) install.exe ¹ (Installation Manager for Message Broker Toolkit)

Notes:

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.

Part 3. Installation

This part of the book describes how you install WebSphere Message Broker. The information here addresses installation of runtime components on distributed systems. It also addresses installation of the Message Broker Toolkit for all users.

- Chapter 8, “Installing with the Windows Launchpad,” on page 85
- Chapter 9, “Installing runtime components,” on page 97
- Chapter 10, “Installing the Message Broker Toolkit,” on page 103

If you are installing runtime components on z/OS, follow the instructions provided in the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter Extension for z/OS*.

Chapter 8. Installing with the Windows Launchpad

On Windows only, use the Launchpad for additional help:

- To install the Message Broker Toolkit
- To install WebSphere Message Broker runtime components
- To install prerequisite products for the runtime components
- To upgrade runtime components to Version 6.1.0.2

The Launchpad uses the DVD or CDs to install and upgrade components; you cannot use the Launchpad if you want to install or upgrade components from update packages that you have downloaded from Passport Advantage. For these alternative methods, and their potential advantages, see Chapter 9, “Installing runtime components,” on page 97 or Chapter 10, “Installing the Message Broker Toolkit,” on page 103.

Multiple installations on a single computer

You can use the Launchpad to install only one instance of the product components on a single computer. If you have selected and installed the runtime 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 9, “Installing runtime components,” on page 97 or Chapter 10, “Installing the Message Broker Toolkit,” on page 103 for instructions about how to complete these tasks.

The Launchpad also manages only one installation of DB2 and WebSphere MQ on a single computer. Refer to the relevant product documentation if you want to install multiple instances.

Installation summary

This list summarizes the actions that you must take:

1. Check the readme file `readme.html` for any updates to these installation instructions. The readme file location is shown at the start of Chapter 1, “System requirements,” on page 3.
2. Check that you have enough memory and disk space; refer to “Memory and disk space” on page 5.
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 62.
4. Start the Launchpad to install WebSphere Message Broker and its prerequisite products. Full instructions are provided in “Starting the Windows Launchpad.”

When you have completed installation, see Part 4, “After installation,” on page 117 for information about verifying your installation, and what you can do next.

If you experience problems during installation, refer to “Dealing with problems during installation” on page 94.

Starting the Windows Launchpad

When you insert the product media, the Launchpad starts automatically if autorun is enabled. If autorun is not enabled, find and double-click the file `mqsilaunchpad.exe` in the root directory of the CD or DVD, or type `mqsilaunchpad` in a command window and press Enter. The Launchpad is available on every CD or DVD from which product components or prerequisite products can be installed.

On the first page, choose how to install WebSphere Message Broker and any of its prerequisite products that you have not previously installed:

- **Express Installation** installs the set of products that are required for a minimum configuration of WebSphere Message Broker. The Launchpad completes the installation of each prerequisite product with minimal input by using default values where input is required. The Message Broker Toolkit and runtime components are installed by using the graphical interface.

Choose this option if you are not familiar with WebSphere Message Broker, or its software requirements, or if you want a default installation of the minimum set of software required for a broker domain configuration.

If you want to perform an Express Installation, see “Express Installation” on page 89.

- **Advanced Installation** displays a larger set of required and optional products that you can install one by one. For each product that you select, the Launchpad invokes the installation wizard graphical interface, and you must provide all required input.

Choose this option if you are familiar with WebSphere Message Broker and its software requirements, or if you want to install products individually and specify your own values for any options during installation.

If you want to perform an Advanced Installation, see “Advanced Installation” on page 92.

Access further information from the left pane:

- Click **Installation Guide** to launch a PDF copy of this book in Acrobat® 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 Chapter 12, “What’s next,” on page 127 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 can be found, but if you are installing from CD, the program might be on another CD, or might not be in the expected location. If necessary, the Launchpad prompts you to take the appropriate action to find the file. Table 15 shows, for each supplied product, the program names and their locations on the CDs.

Table 15. Installation wizard names and locations

Product	Installation wizard name	Directory	CD
WebSphere Eclipse Platform V3.0 ¹	IBM WebSphere Eclipse Platform V3.0.msi	\WebSphere_MQ_V6.0\Prereqs\IES\MSI	Runtime Disk 2
WebSphere MQ ¹	IBM WebSphere MQ.msi	\WebSphere_MQ_V6.0\MSI	Runtime Disk 2
ODBC Drivers for Apache Derby ¹	setup.exe	\DB2_Runtime_Client_V8.2	Runtime Disk 1
Message Broker runtime components	setup.exe	\ (root directory)	Runtime Disk 1
Message Broker Toolkit	install.exe	\IBMInstallationManager ²	Toolkit Disk 1
DB2 Enterprise Server ¹	DB2 Enterprise Server Edition.msi	\DB2_Enterprise_Server_V9.1\db2\Windows	Runtime Disk 3

Starting the Launchpad

Table 15. Installation wizard names and locations (continued)

Product	Installation wizard name	Directory	CD
WebSphere MQ Everyplace ¹	setup.exe	\ (root directory)	WebSphere MQ Everyplace supplemental disk

Notes:

1. WebSphere Message Broker Trial Edition does not include these items. See Chapter 4, "Installation packages," on page 41 for further information.
2. The Launchpad starts Installation Manager, which installs itself (if required), and starts the Message Broker Toolkit installation.

Express Installation

When the Launchpad starts, it displays the Express Installation page.

1. Review the minimum set of products that are required for a default configuration:
 - WebSphere Eclipse Platform V3.0.1
 - WebSphere MQ V6.0
 - ODBC Drivers for Apache Derby
 - WebSphere Message Broker V6.1.0.2 (runtime components)
 - WebSphere Message Broker Toolkit V6.1.0.2
2. Check the initial installation status that is shown for each listed product:
 - **Required** indicates that the product is not installed, and is one of the products that is required for a minimum configuration, and its selection is cleared.
 - **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 will be 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 that are required to ensure 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 will be installed.
 - **Incorrect Level** indicates that a level of the product that is not supported by WebSphere Message Broker is installed on the system. Use the Advanced Installation option to upgrade this product to a supported level.

If an unsupported level of DB2 or WebSphere MQ is installed, you are directed to run the installation of these products from the Advanced Installation option, so that you are presented with the full interactive graphical installation and you can respond to any decisions that must be made during the upgrade.

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.

Not all components of each required product are installed during an Express Installation; for example, when the Launchpad installs WebSphere MQ V6.0, it installs the server, WebSphere MQ Explorer, and the Java

Express Installation

Messaging component. Check the details that are provided to ensure that an Express Installation installs all the components that you want. If you want additional components, use the Advanced Installation option.

WebSphere MQ Explorer requires the WebSphere Eclipse Platform to be installed; when you select WebSphere MQ V6.0, the Eclipse Platform is automatically selected.

The ODBC Drivers for Apache Derby are used only to support access to the default Derby embedded database which you can use for test and evaluation purposes. If you already have a supported version of DB2 installed on this computer, you cannot install this component.

If you install the ODBC Drivers and use the embedded Derby database for test or evaluation, install your chosen enterprise database product on computers that you set up for production use, for which Derby is not suitable.

If DB2 is your database of choice, install DB2 Enterprise Server Version 9.1 from the Advanced Installation. After installation of DB2, you must register your license; this task is described in Appendix B, "Registering your DB2 license," on page 141.

4. If you do not want a listed product, clear the check box associated with the product. Its status is changed to **Required**, because you cannot configure and verify your installation without all of the listed products. However, you can complete installation of the remaining products, and install other required products at a later time.

If you are installing WebSphere Message Broker Trial Edition, clear the selections for WebSphere MQ, the Eclipse platform, and the ODBC Drivers for Apache Derby. 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 4, "Installation packages," on page 41 for more information.

5. Click **Launch Express 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, prompting you to insert different CDs, if required. You cannot make any changes on the Express Installation page after you have started the installation process. When the Launchpad starts each installation, it updates status from **Pending** to **In Progress**.

- If you have selected WebSphere Eclipse Platform V3.0.1, the Launchpad starts the installation wizard silent interface; default values are used for all options. A progress bar is displayed.
- If you have selected WebSphere MQ V6.0, the Launchpad starts the installation wizard silent interface; default values are used for all options. A progress bar is displayed so that you can check on progress.

- If you have selected ODBC Drivers for Apache Derby, the Launchpad starts the installation wizard silent interface; default values are used for all options. A progress bar is displayed. During installation, you see the product name DB2 Run-Time Client on the progress bar; this name is also shown in **Add/Remove Programs** when the installation is complete.
- If you have selected WebSphere Message Broker V6.1.0.2 (runtime components), the Launchpad invokes 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 pages where you can make choices about where to install the components, and which components you want to install.

You must also read and accept the Software License Agreement that is displayed. This agreement covers your use of both WebSphere MQ Version 6.0 and the ODBC Drivers for Apache Derby, if you have chosen to install one or both of these products. These products are licensed for use with WebSphere Message Broker only, and must not be used for other purposes.

When you are asked if you want to open a command console when the wizard terminates, select **Yes**. A console window opens, initialized with the correct environment for command invocation. The command console is explained in “Setting the environment for an installation” on page 32.

- If you have selected the 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 “IBM Installation Manager” on page 21.

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

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

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

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

6. Click **Exit Launchpad** to end the program.

Advanced Installation

When the Launchpad starts, it displays the Express Installation page.

1. Click **Advanced Installation** in the left pane to display the Advanced Installation page. The Launchpad displays a list of the following products:
 - WebSphere Eclipse Platform V3.0.1
 - WebSphere MQ V6.0
 - ODBC Drivers for Apache Derby
 - WebSphere Message Broker V6.1.0.2 (runtime components)
 - WebSphere Message Broker Toolkit V6.1.0.2
 - DB2 Enterprise Server Version 9.1 (optional)
 - Oracle (optional)
 - Sybase (optional)
 - Microsoft SQL Server 2000 (optional)
2. Check the initial installation status that is shown for each listed product:
 - If the product is not installed, and is one of those required for a minimum configuration, the status is **Required**.
 - If the product is not installed, and it is an optional product, the status is **Not Installed**.
 - If the product is already installed, and it is a version that is supported by WebSphere Message Broker (or later), the status is **Installed**.
 - If an earlier version of the product that is not supported by WebSphere Message Broker is installed on the system, the status is **Incorrect Level**. Install the supported version from this page.
 - If a product is found but has not had a complete installation, the status is **Partial Installation**. Install the full product from this page.
For example, you might previously have completed a typical installation of WebSphere MQ, which does not include the Java Messaging component, which the broker requires, therefore your installation is shown as partially complete.
3. Click the plus sign to the left of a product to expand the information that is displayed about the product.

If you want to install this product, and it is an IBM product that is not already installed, click **Install** in the expanded information to launch the product installation.

The Launchpad launches the installation wizard graphical interface. You must supply the input required by the installation wizard, including, if appropriate, which components you want to install.

If you are installing WebSphere Message Broker Trial Edition, you can install only the runtime components and the Message Broker Toolkit. No other IBM products are available with the Trial Edition. You must obtain

prerequisite software from other sources to support the Trial Edition. See Chapter 4, “Installation packages,” on page 41 for more information.

The ODBC Drivers for Apache Derby are used only to support access to the default Derby embedded database which you can use for test and evaluation purposes. If you already have a supported version of DB2 installed on this computer, you cannot install this component.

Start each required installation in the order of your choice. Each installation is performed separately, and the Launchpad prohibits any other action until the current installation has completed. It also minimizes its window while the installation is in progress, and restores itself to focus when the installation is complete.

If the Launchpad cannot find an installation wizard because it is on another CD, or is not in the expected location, it prompts you to take the appropriate action to find the file. See Table 15 on page 87 for details of installation program names and locations.

When the Launchpad has completed the installation, it updates the product status to **Installed**.

If you install the ODBC Drivers and use the embedded Derby database for test or evaluation, install your chosen enterprise database product on computers that you set up for production use, for which Derby is not suitable. If DB2 is your database of choice, install DB2 Enterprise Server Version 9.1. If you do so, you must register your license for this product; this task is described in Appendix B, “Registering your DB2 license,” on page 141.

If you want to use Oracle, Sybase, or SQL Server, but the product that you have installed is not at the required supported version, or it is not installed, you must acquire and install the product yourself; the Launchpad does not provide this option. If Oracle is installed, you must check that the installed version is supported, because the Launchpad cannot determine the version of the installed product. Supported databases are shown in Table 6 on page 14.

4. Repeat the previous step for each product that you want to install.
5. When you install WebSphere Message Broker runtime components or the Message Broker Toolkit, the installation wizards guide you through a series of pages where you can make choices about where to install the components, which components you want to install, and (for the Message Broker Toolkit only) what language support you want to be installed. You must also read and accept the Software License Agreement that is displayed.

During the installation of runtime components, you are asked whether you want to open a command console when the wizard terminates. If you do, select **Yes**. A console window opens, initialized with the correct environment for command invocation. The command console is described in “Setting the environment for an installation” on page 32.

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If you want to launch the Message Broker Toolkit when its installation wizard has completed, select **Message Broker Toolkit** in the list of installed products that is displayed on the completion page. When you click **Finish**, the wizard ends and the Message Broker Toolkit is started.

6. When an installation has completed, and before you start another installation, you can click **Refresh Advanced Installation List** to check the status of each product listed.
7. When you have completed the installation of all your chosen products, click **Exit Launchpad** to end the program.

Dealing with problems during installation

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:

- If you have chosen an Express Installation, you must either correct the error and restart the Launchpad, or return to the Express Installation page and deselect the product that failed.
- If you have chosen an Advanced Installation, you can continue to install other products and address any reported errors at a later time.

If you are unable to install a product:

- Refer to the readme file `readme.html` for any late changes to the installation instructions.
- If Message Broker runtime components fail to install, check the contents of the installation log file `mqsib_install.log`, stored in your home directory.
- If the 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 file is stored in the directory `/var/ibm/InstallationManager/uninstall/logs` on Linux or `%ALLUSERSPROFILE%\Application Data\IBM\Installation Manager\logs` on Windows (`%ALLUSERSPROFILE%` is the environment variable that defines the working directory; the default value is `C:\Documents and Settings\All Users` but this setting might have a different value on your computer.)

- If WebSphere MQ fails to install, check the contents of `MQV6_install.date_time.log` stored in the temp directory of your home directory.
- If the ODBC Drivers for Apache Derby fail to install, check the contents of the installation log file `\DB2LOG\db2.log` stored in your home directory.
- If DB2 fails to install, check the contents of `db2diag.log` and other logs created during the installation of this product. For details of location and possible content, see the DB2 documentation.
- Review the problem scenarios described in Appendix A, “Installation problems,” on page 137 and follow the guidance given.

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

Chapter 9. Installing runtime components

This chapter describes the tasks that you must complete to install one or more runtime components on all supported operating systems.

If you are installing runtime components on Windows, you can use the Launchpad to complete this task; see Chapter 8, “Installing with the Windows Launchpad,” on page 85.

If you have already installed runtime components at V6.1.0.0 or V6.1.0.1 on this computer, and you want to apply the update to V6.1.0.2, follow the instructions in the section **Installing > Applying service** in the information center in your existing installation.

If you want to install only the Message Broker Toolkit, see Chapter 10, “Installing the Message Broker Toolkit,” on page 103.

Installation summary

This list summarizes the actions that you must take:

1. Check the readme file `readme.html` for any updates to these installation instructions. The readme file location is shown at the start of Chapter 1, “System requirements,” on page 3.
2. Check that you have enough memory and disk space; refer to “Memory and disk space” on page 5.
3. If you do not already have WebSphere MQ installed, install it before you install the runtime components.

Although you can install WebSphere MQ after you have installed runtime components, 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 WebSphere Message Broker runtime components.

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 62

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page 62 for both CDs or DVDs, and 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 which installation interface you want to use. The alternatives are explained in Chapter 7, “Choosing an installation interface,” on page 75.
6. Follow the installation instructions provided in “Running a graphical installation” on page 99, “Running a console installation” on page 100, or “Running a silent installation” on page 101.

When you start the installation wizard, it checks your system locale setting. If the locale setting is supported (listed in Chapter 3, “National language support,” on page 37), 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.

If the directory that you specify for installation already contains a previous version of WebSphere Message Broker, for example Version 6.0.0.3, the installation wizard prevents you from installing Version 6.1.0.0 in this location. You must specify a different location. You can then migrate components to Version 6.1 from the previous version when appropriate.

If you are installing a broker, a database is required. The installation wizard completes even if a supported database is not present on this system, but you must install one before you can use the broker. For further information about software requirements, see “Software requirements” on page 9.

When you have completed installation, see Part 4, “After installation,” on page 117 for information about verifying your installation, and what you can do next.

If you install one or more runtime components on Windows, the **Start** menu is updated. Detailed updates are described in the information center.

If you experience problems during installation, refer to “Dealing with problems during installation” on page 101.

Running a graphical installation

To perform a graphical installation:

1. Start the installation wizard graphical interface:

- For local access, load the product CD or DVD.

Windows

- If autorun is enabled, the Launchpad is started immediately. To use the Launchpad, see Chapter 8, “Installing with the Windows Launchpad,” on page 85. To cancel the Launchpad, click **Exit Launchpad**.
- In Windows Explorer, navigate to the root directory of the CD. Locate the wizard: its name is defined in “Installation wizard names” on page 82. Double-click the wizard to start it.
- Open a command prompt and navigate to the root directory of the CD. Type the program name with no options, and press Enter.

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

- For remote access, access the remote CD drive or network drive on which the product media is available. Find the program file that you want on the CD or mapped drive and start it as described above.
2. When the wizard starts, navigate through the windows and provide input when requested. For example, you are asked to specify where to install the components, and which components you want to install. You must also read and accept the Software License Agreement.
 3. 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.

Running a console installation

To perform a console installation:

1. Locate the installation wizard in the root directory of the local CD or remote CD or network drive. The wizard name for your operating system is listed in “Installation wizard names” on page 82.
2. Enter the following command at a command prompt for default invocation:

```
installer -console
```

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.

3. When the wizard starts, follow the prompts given and provide input when requested. For example, you are asked to specify where to install the components, and which components you want to install. You must also read and accept the Software License Agreement that is displayed.
4. Check and confirm your choices when asked to do so, and enter 1 to complete installation.

If you are installing a broker, a database is required. The installation wizard completes even if a supported database is not present on this system, but you must install one before you can use the broker. For further information about database requirements, see “Databases” on page 12.

Running a silent installation

To perform a silent installation:

1. Locate the installation wizard in the setup directory of the local CD or DVD or remote CD or network drive. The wizard name for your operating system is listed in “Installation wizard names” on page 82.
2. Enter the following command at a command prompt for a 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
```

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
```

If you want to specify non-default settings, include a response file on the invocation. You must specify a response file, for example, if you want to install Version 6.1.0.0 in a customized location.

For more details of how to use response files, how to create response files, and how to edit them to define your requirements, see “Silent installation of runtime components” on page 77.

The installation wizard completes without any user interaction.

Dealing with problems during installation

If you have problems during installation:

- Refer to the readme file `readme.html` for any late changes to the installation instructions.
- Check the contents of the installation log `mqs16_install.log`, stored in your home directory.
- Review the problem scenarios described in Appendix A, “Installation problems,” on page 137 and follow the guidance given.

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

Chapter 10. Installing the Message Broker Toolkit

This chapter describes the tasks that you must complete to install the Message Broker Toolkit on Linux (x86 platform) or Windows operating systems.

If you are installing the Message Broker Toolkit on Windows, you can use the Launchpad to complete this task; see Chapter 8, “Installing with the Windows Launchpad,” on page 85.

If you have already installed Message Broker Toolkit V6.1.0.0 or V6.1.0.1 on this computer, and you want to apply the update to V6.1.0.2, follow the instructions in “Upgrading the Message Broker Toolkit” on page 110.

If you want to install only runtime components, see Chapter 9, “Installing runtime components,” on page 97.

Installation summary

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

1. Check the readme file `readme.html` for any updates to these installation instructions. The readme file location is shown at the start of Chapter 1, “System requirements,” on page 3.
2. Check that you have enough memory and disk space; refer to “Memory and disk space” on page 5.
3. Decide how you want to run the installation. Choose from the following methods:
 - Insert the media into the appropriate drive and access the installation wizard directly.
 - Copy the media contents to disk and install from the copy.
 - Download the electronic media images from Passport Advantage (if you are registered with this scheme), and install from the local images.

If you set up a remote server for any of these options, users on different systems can access the same images. You can also create a tailored response file so that all your users can complete a silent installation.

4. If any Rational products are running, stop or close them before you start the installation.

Installing the Message Broker Toolkit

5. Complete the installation:
 - a. 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 62.
 - b. Decide which installation interface you want to use. The alternatives are explained in Chapter 7, “Choosing an installation interface,” on page 75. (The console interface is not supported by the Message Broker Toolkit installation wizard.)
 - c. Follow the installation instructions provided in “Installing from CD or DVD.” The instructions do not differentiate between CDs, DVDs, and downloaded images; their behavior is the same.

The installation of the Message Broker Toolkit is controlled by Installation Manager. If Installation Manager is not already installed on the computer, it installs itself and the Message Broker Toolkit.

When you have completed installation, see Part 4, “After installation,” on page 117 for information about verifying your installation, and what you can do next.

When you install the Message Broker Toolkit on Windows, the **Start** menu is updated. When you install the Message Broker Toolkit on Linux (x86 platform), the main menu is updated. Detailed updates are described in the information center.

If you experience problems during installation, refer to “Dealing with problems during installation” on page 115.

Installing from CD or DVD

This section provides instructions for installing directly from CD or DVD. You can also follow these instructions if you have copied the contents of the CDs or DVD to disk, or if you have downloaded electronic images from Passport Advantage; the task is identical except where specified otherwise.

If you choose to use CDs, you might find it more convenient to copy the content of the CDs to a hard disk, and install from the copy, because the installation wizard can continue unattended and does not require your attention to swap CDs when requested. If you make CD copies, ensure that you create the directory structure correctly; if you do not, the process might fail. Follow the instructions in “Setting up CD copies on disk” on page 109, then continue with the appropriate section below.

When you start the installation wizard, it checks your system locale setting. If the locale setting is supported (listed in Chapter 3, “National language support,” on page 37), 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.

If you install the Message Broker Toolkit directly from CD on Linux (x86 platform), invoke the wizard from a location other than the mount point itself. If you do not do so, you cannot change CDs because the CD drive is locked. For example, if your mount point is `/media/dvd/`, invoke the wizard from another location with the following command:

```
/media/dvd/IBMInstallationManager/install
```

Install the Message Broker Toolkit with your chosen installation interface:

- “Running a graphical installation”
- “Running a silent installation” on page 108

Running a graphical installation

To perform a graphical installation:

1. Start the installation wizard graphical interface:
 - To install directly from CD or DVD, load the media in the appropriate drive.

Windows

- If autorun is enabled, the Launchpad is immediately started. To use the Launchpad, see Chapter 8, “Installing with the Windows Launchpad,” on page 85. To cancel the Launchpad, click **Exit Launchpad**.
- In Windows Explorer, navigate to the `\IBMInstallationManager` directory of the CD. Locate the wizard: its name is defined in “Installation wizard names” on page 82. Double-click the wizard to start it.
- Open a command prompt and navigate to the `\IBMInstallationManager` directory of the CD. Type the program name with no options, and press Enter.

Linux Open a command prompt and navigate to the `/IBMInstallationManager` directory of the CD. Type the program name (defined in “Installation wizard names” on page 82) with no options, and press Enter.

- To install from local downloaded images, or copies of the media, navigate to the location, find the installation file, and invoke it as described above.
- To install from a remote server, access the remote CD or DVD drive, or network drive, on which the product images are available. Find the program file that you want on the CD or network drive, and invoke it as described above.

Installing from CD or DVD

- 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 root directory of disk 1.

Installation Manager starts and the Install Packages window opens.

2. The installation wizard is preconfigured to install both Installation Manager and the Message Broker Toolkit, therefore the 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.
3. 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 4. If Installation Manager is already installed, The Package group directory window opens; continue with step 5.

4. Specify the location of the shared resources directory. The default location is displayed:
 - Linux (x86 platform): `/opt/IBM/SDP70Shared`
 - Windows: `C:\Program Files\IBM\SDP70Shared`

Type over the default location, or click **Browse**, to specify a different location.

The shared resources directory must not contain another installation of 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 (x86 platform): `/opt/IBM/InstallationManager`
- Windows: `C:\Program Files\IBM\InstallationManager`

Type over the default location, or click **Browse**, to specify a different location.

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

5. Specify the package group into which you want to install Message Broker Toolkit. If you have not installed Message Broker Toolkit (or another related product) on this computer, the option **Create a new package group** is selected automatically and the default values are displayed:
 - Package group name: **IBM Software Development Platform**
 - Installation directory:
 - Linux (x86 platform): `/opt/IBM/WMBT610`
 - Windows: `C:\Program Files\IBM\WMBT610`

Type over the default location, or click **Browse**, to specify a different location.

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

If you have previously installed another product that is managed by Installation Manager, you can install Message Broker Toolkit into an existing package group, or create a new one. Select the correct option for the action that you want to complete. If you install into an existing package group, the package group installation directory is already finalized; you cannot change it.

This window displays the current setting of the shared resources directory for information.

Click **Next** to continue. The Language Selection window opens.

6. If you want to use the 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.
7. Check your choices and click **Back** if you want to make any 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.

8. 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.
9. 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 Message Broker Toolkit to be launched when you click **Finish** to close the wizard. This option is not available on Linux (x86 platform), because you might want to complete verification logged on as a different user ID that does not have root authority.

Installing from CD or DVD

If you do not choose to install optional locales at this time, you can install them later:

- On Linux (x86 platform), 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 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`.

Running a silent installation

You cannot install the Message Broker Toolkit directly from CD if you use the silent interface, because you are required to swap CDs when prompted. Therefore, for a silent installation, you must either install from DVD, or copy the CD images on to a local or remote drive. For more information about copying CD images, see “Setting up CD copies on disk” on page 109.

To perform a silent installation:

1. Locate the installation wizard in the `IBMInstallationManager` directory of the local CD or DVD or remote CD or network drive. The wizard name for your operating system is listed in “Installation wizard names” on page 82.
2. Enter the following command at a command prompt for an installation with all default settings.

Linux (x86 platform)

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

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 “Silent installation of the Message Broker Toolkit” on page 80.

If you prefer, you can install the Message Broker Toolkit by using the batch files `installToolkit-silent.sh` or `installToolkit.bat` which use the response file `mbtoolkit-silent.xml`. The batch files are in the root directory of disk 1.

3. When the wizard starts, it installs Installation Manager (if it is not already installed), then installs the Message Broker Toolkit by using default values, or a response file, if specified.
4. The installation wizard runs to completion. Check the log for success or failure of the installation process.

Setting up CD copies on disk

If you want to copy the contents of the installation CDs on Linux (x86 platform) or Windows to disk, 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. Copy the appropriate CD contents to each directory.

This structure ensures that the installation wizard does not prompt for location and wait for input, and does not fail because it cannot find the right images or files.

Upgrading the Message Broker Toolkit

Message Broker Toolkit V6.1.0.2 is integrated with Installation Manager V1.1.1, which is later than the version that supports Message Broker Toolkit V6.1.0.0 and V6.1.0.1.

If you have already installed the Message Broker Toolkit V6.1.0.0 or V6.1.0.1, and you now want to upgrade one or more installations to V6.1.0.2, you can either refresh the whole Message Broker Toolkit component to V6.1.0.2, or apply only the updates.

If you refresh the whole component, Installation Manager is updated to V1.1.1 before the Message Broker Toolkit is refreshed. If you apply only the updates, you must apply the update to Installation Manager before you can complete the update for the Message Broker Toolkit.

You can continue to run Message Broker Toolkit V6.1.0.0 and V6.1.0.1 with the updated Installation Manager, therefore you can update Installation Manager on computers on which you want to continue to run earlier versions of the toolkit, if that is appropriate in your environment.

If you have other Rational products installed on this computer, you can upgrade Installation Manager to V1.1.1; this version is backward compatible, and supports earlier versions of other Rational products.

Upgrade your current installation to V6.1.0.2 by using update packages that are available from the Web, or by using the physical media or electronic images.

Update packages from the Web

These options install only the fixes for both Installation Manager V1.1.1 and Message Broker Toolkit V6.1.0.2.

Updating your installation on computers that have access to the Internet

Apply the fixes directly from update packages that are available on the Web.

1. Close all Rational programs that are running on your computer, including the Message Broker Toolkit.

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

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

 - `IBMIM`
 - `IBMIM.exe`

The initial window opens.

3. Click **Update Packages**. Installation Manager automatically finds the update for V1.1.1 and displays a message; click **Yes** to continue the update.

The update might take a few minutes to complete, depending on network traffic, and the speed of your connection.

If you click **No** to cancel this update, you cannot install the update to the Message Broker Toolkit at this time, because that update depends on the updated version of Installation Manager.
4. When the update has completed, a confirmation message is displayed. Click **OK** to restart Installation Manager. The initial window opens.
5. Click **Update Packages**. The Update Packages window opens. Select the package group in which you have installed Message Broker Toolkit. The list of products installed in this package group is displayed.
6. Click **Next**; Installation Manager searches the Web update site and displays a list of available updates for the products and features that you have installed in the selected package group.

Initially, **Show recommended** (below the list) is selected, and the latest updates only are shown. (Updates are cumulative, therefore you need only apply the latest fixes.)
7. Select the updates that you want to apply and click **Update**. Follow any prompts that are displayed; the updates are applied.

Upgrading the Message Broker Toolkit

8. Click **OK** to return to the Installation Manager initial panel.
9. Click **File > Exit** to close Installation Manager.

Updating your installation on computers that do not have access to the Internet

Download the fixes from the Web to create local copies, then apply those fixes to other computers in your broker domain.

To download the fixes on a computer that has access to the Internet:

1. Access the WebSphere Message Broker Recommended Fixes Web site:
www.ibm.com/support/docview.wss?uid=swg27006041
2. Click **IBM WebSphere Message Broker v6.1**, then click **Toolkit** in the table of fixes. Recommended fixes for the Message Broker Toolkit are displayed for all versions; click **Version 6.1**.
3. Look for the fix for V6.1.0.2 in the table; its status indicates that it is recommended. Click **Information and download** for this fix. The download and installation instructions, and details about changes made in this version, are displayed.
4. Scroll down the page to find the **Prerequisites** section, then click **IM 1.1.1 release and download**.
5. Scroll down the page to find **Download package**, and download the file `im-1.1.1.zip` to a temporary directory; for example, `C:\temp` on Windows.
The package might take a few minutes to download, depending on network traffic, and the speed of your connection.
6. Return to the page that contains the download and installation instructions for the fixes for V6.1.0.2. Scroll down the page to find **Download package**, then click the **HTTP** link to download file `MB6100_6102.zip` into a temporary directory. You can use the directory you used for the IM 1.1.1 fix download package, or specify a different one. The package might take a few minutes to download.
7. Extract the compressed file `im-1.1.1.zip` into an appropriate directory; for example, on Windows you might choose directory `C:\IM11_fix`.
8. Extract the compressed file `MB6100_6102.zip` into the same or another directory; for example, on Windows you might choose directory `C:\V6102_fix`.

To apply the fixes on other computers:

1. Close all Rational programs that are running on your computer, including the Message Broker Toolkit.
2. Start Installation Manager by following the previous instructions in this section, and click **File > Preferences**.
3. On the Preferences window, click **Repositories**, then click **Add Repository**. Click **Browse** and navigate to the directory in which you extracted the Installation Manager update package. Select the file `respository.config` and click **OK**.
4. Select **Search service repositories during installation and updates** and click **OK**.
5. Click **Update Packages**. Installation Manager automatically finds the update for V1.1.1 and displays a message that asks if you want to continue; click **Yes**.

When the update has completed, a confirmation message is displayed. Click **OK** to restart Installation Manager. The initial window opens.

If you click **No** to cancel this update, you cannot install the update to the Message Broker Toolkit at this time, because the update depends on the updated version of Installation Manager.

6. When Installation Manager restarts, click **File > Preferences**.
7. Click **Add Repository**, then click **Browse** and navigate to the directory in which you extracted the Message Broker Toolkit update package. Select the file `respository.config` and click **OK**.
8. Check that **Search service repositories during installation and updates** is selected, then click **OK**.
9. Click **Update Packages**. Installation Manager automatically finds the update for Message Broker Toolkit V6.1.0.2. Follow the prompts to install the updated component.
10. When you have completed all updates, close Installation Manager.

Physical media and electronic images

The options described in this section do not require the computer to have access to the Internet.

Refreshing your existing installation

This option replaces the current installation of Installation Manager and updates the Message Broker Toolkit installation to V6.1.0.2, by using the physical media (CD or DVD) or the equivalent electronic images.

1. Close all Rational programs that are running on your computer, including the Message Broker Toolkit.

Upgrading the Message Broker Toolkit

2. If you are using physical media, insert the DVD or CD Disk 1 into the drive.
3. Navigate to the root directory of the CD, or to the equivalent location in the image directory structure.
4. Locate and start the installation wizard. The name of the wizard is shown in “Installation wizard names” on page 82. When it starts, the wizard has preselected both Installation Manager and the Message Broker Toolkit for installation.
5. Clear the selection for the Message Broker Toolkit and click **Next**. The Installation Manager wizard runs and the product is installed in the directory in which it is found on this computer.
6. When installation is complete, close the installation wizard and start Installation Manager as described earlier in this section. You can now apply the upgrade to the Message Broker Toolkit.
7. Click **File > Preferences**.
8. On the Preferences window, click **Repositories**, then click **Add Repository**. Click **Browse** and navigate to the root directory of disk 1, or the equivalent location in the image directory structure.
9. Select the file `diskTag.inf` and click **OK**.
10. Select **Search service repositories during installation and updates** and click **OK**.
11. Click **Update Packages**. Installation Manager automatically finds the update for Message Broker Toolkit V6.1.0.2. Follow the prompts to install the updates.
12. When you have completed all updates, close Installation Manager.

Installing Message Broker Toolkit V6.1.0.2 in a different package group

If you are installing Message Broker Toolkit V6.1.0.2 on a computer on which it already installed, but in a different package group, you must first ensure that Installation Manager is installed at Version 1.1.1 on this computer:

1. Close all Rational programs that are running on your computer, including the Message Broker Toolkit.
2. Start the Installation Manager installation wizard and follow the instructions provided to refresh the component (in the section that immediately precedes this section).

If Installation Manager is already at V1.1.1, the wizard starts Installation Manager and the Install Packages window opens. The Message Broker Toolkit V6.1.0.2 package is displayed and preselected. A status message is also displayed; click **Continue** to install into another package group.

3. Click **Next**; the License Agreement window opens. Accept the license and click **Next**.
4. Specify the package group into which you want to install Message Broker Toolkit V6.1.0.2. You cannot choose the package group in which you have already installed Message Broker Toolkit at any version. Select an alternative package group, or select **Create a new package group** and type a new name or click **Browse** to find the required location.
5. Click **Next**; the Language Selection window opens. From this point, the installation works in the same way as a new installation; refer to the instructions in “Installing from CD or DVD” on page 104, starting at step 6, if you need further information.
6. When the installation is complete, click **Finish** to close the wizard.

Installing Message Broker Toolkit V6.1.0.2 on a different computer

If you are installing Message Broker Toolkit V6.1.0.2 on a different computer, not as an update to an earlier V6.1 version, follow the instructions in “Installing from CD or DVD” on page 104. The media and electronic images provided for V6.1.0.2 include the latest level of both Installation Manager and Message Broker Toolkit, and no additional steps are required.

Dealing with problems during installation

If you have problems during installation:

- Refer to the readme file `readme.html` for any late changes to the installation instructions.
- Check the contents of the installation log file `YYYYMMDD_TIME.xml`, where `YYYYMMDD_TIME` is the date and time of installation. The file is stored in the directory `/var/ibm/InstallationManager/logs` on Linux or `%ALLUSERSPROFILE%\Application Data\IBM\Installation Manager\logs` on Windows (`%ALLUSERSPROFILE%` is the environment variable that defines the working directory; the default value is `C:\Documents and Settings\All Users` but this setting might have a different value on your computer.)
- Review the problem scenarios described in Appendix A, “Installation problems,” on page 137 and follow the guidance given.

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

Part 4. After installation

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

Verify your installation on Linux (x86 platform) or Windows

You can perform verification on Linux (x86 platform) or Windows computers only, because it exploits wizards and sample programs which are available when you launch the Message Broker Toolkit. The samples require that all WebSphere Message Broker components are installed on the same computer. No specific verification programs are provided on other operating systems.

Follow the procedures described in Chapter 11, “Configuring and verifying your system,” on page 119.

Learn about the product

Information about the product is available in the information center, which is installed as an integral part of the Message Broker Toolkit on Linux (x86 platform) and Windows.

After you have installed the Message Broker Toolkit, explore the Welcome page resources and the information center. These resources are provided to help you to learn about the product, and how to use it on all operating systems.

Chapter 12, “What’s next,” on page 127 provides information about what resources are available and how you can access them.

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 (x86 platform) or Windows, because you must install the Message Broker Toolkit to complete unit testing. You can also install the supplied WebSphere MQ and DB2 products on your test computers for use with WebSphere Message Broker only.

Check the broker operation mode

When you have completed installation, verification, and testing, you might need to change the operation mode of your brokers.

Chapter 13, “Checking the broker operation mode,” on page 131 describes when and how to make this change.

Chapter 11. Configuring and verifying your system

This chapter describes how to verify your installation on Linux (x86 platform) or Windows. You must install all runtime components and the Message Broker Toolkit on a single computer to complete these verification procedures. You must also install a database product for use by the broker.

After verification, you can keep all the components to carry out further development and unit test. Development and test environments are restricted to Linux (x86 platform) and Windows systems 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 runtime 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 13, “Checking the broker operation mode,” on page 131 for details of this task.

Getting started

When you have completed installation:

1. Launch the Message Broker Toolkit:

- On Linux (x86 platform), you do not need root authority to complete verification. You cannot launch the Message Broker Toolkit from the installation wizard; if you create resources such as brokers when you are logged in as root, you might experience problems during operation 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 this is not root), or log in as another ID, but do not become root.

Launch the Message Broker Toolkit from the main menu, or issue the following command on a command line. The command is located in the root directory of the package group; either navigate to that directory before you enter the command, or specify a fully qualified path.

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

Getting started

- 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 Message Broker Toolkit from the installation wizard, launch it from the **Start** menu, or issue the following command on a command line. The command is located in the root directory of the package group; either navigate to that directory before you enter the command, or specify a fully qualified path.

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

2. When you first launch the Message Broker Toolkit, you are asked to specify the location of your workspace. This directory exists on your local drive, and is where the 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 Message Broker Toolkit.

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

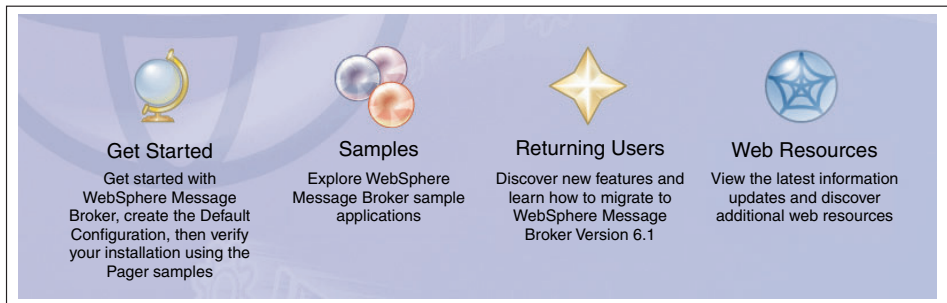


Figure 1. The Welcome page choices (Windows)

3. 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 (see Chapter 12, “What’s next,” on page 127) or create a default configuration that is used by a sample program to verify that your installation is successful. To continue configuration and verification, follow the instructions in “Creating the default configuration” on page 121 and “Running the Pager samples” on page 124.

Creating the default configuration

Before you can run any sample programs, create a set of components within a broker domain. You can complete this task by using the Default Configuration wizard, which creates the components that you need with fixed names and properties.

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

- You have installed all runtime components and the Message Broker Toolkit.
- On Linux (x86 platform), you have installed DB2 Enterprise Server, and you have run the DB2 profile for your current user ID, for example:

```
. ~db2inst1/sqllib/db2profile
```

where `db2inst1` is the user ID of the DB2 instance owner (`db2inst1` is the default name; substitute the name that is in use on this system).

- On Windows, you have installed either the ODBC Drivers for Apache Derby, or DB2 Enterprise Server.

If you have installed DB2 Enterprise Server Version 9.1 supplied with either Linux (x86 platform) or Windows, you have registered your license; this task is described in Appendix B, “Registering your DB2 license,” on page 141.

- None of the default components already exist (the components are listed in Table 16 on page 123).
- This configuration is required for test and evaluation purposes only.
- Your current user ID has the following characteristics:
 - It is a member of groups `mqbrkrs` and `mqm`.
 - It has Administrator authority (Windows only).
 - It is a local ID, not a domain ID (Windows only).
 - It is authorized to create a database for the broker:
 - On Linux, add your user ID to the DB2 instance manager owner group.
On some Linux systems, you might also need to add your user ID to the DB2 administrator group.
 - On Windows, add your user ID to the DB2 administrator group.


For more information about these security requirements, see “Setting up security” on page 57.

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

Creating the default configuration

To create the default components within a broker domain:

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

Configuration  . The "Creating the Default Configuration" page opens.

2. Click **Start the Default Configuration wizard**. The Default Configuration wizard starts.
3. Follow the guidance provided by the wizard to navigate through its pages.

The wizard creates a default configuration that can be used by a sample program to verify that your installation is successful. (Ignore the option to enable a publish/subscribe broker within the domain. Publish/subscribe enablement is not required by the sample that you run to verify your installation. After verification, refer to the information center to find out about publish/subscribe.)

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, the location of which is shown below. If you have not specified the default workspace directory, `wmbt610` is replaced by your chosen value.

Linux (x86 platform)

```
user_home_dir/IBM/wmbt610/workspace/.metadata/DefaultConfigurationWizard.log
```

Windows

```
user_home_dir\eclipse\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**. The wizard rolls back all the actions that it has taken so far, if it can, 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.

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 Table 16.

Table 16. Resources created by the Default Configuration wizard

Name	Type
DEFBKD61	Broker database
Local_Domain	Broker domain
LocalProject	Server project
WBRK61_DEFAULT_CONFIGURATION_MANAGER	Configuration Manager that manages the broker domain
WBRK61_DEFAULT_BROKER	Broker
WBRK61_DEFAULT_QUEUE_MANAGER	WebSphere MQ queue manager that hosts the broker and Configuration Manager. The queue manager has a listener at the first available port greater than or equal to 2414.

It also starts the Configuration Manager and the broker so that they are ready to process a sample.


4. On the final page, ignore the option to start the Samples Preparation wizard; you will start this wizard later in these instructions.
5. Click **Finish** to close the wizard.

When the wizard completes, it opens the broker topology editor in your workbench. The editor opens in the Broker Administration perspective and displays the resources that the wizard has created. The Domains and Navigator panes within the perspective also show the resources.

You can use the configuration that is created by the Default Configuration wizard for other purposes. For example, you can import, deploy and run the supplied samples, or you can create and deploy your own message flows. You can also run the wizard to remove all the default resources. To start the Default Configuration wizard from the Message Broker Toolkit, click **File > New > Other > Broker Administration - Get Started**.

Running the Pager samples

To verify your installation, return to the Get Started page. If you cannot see this page in your workbench, click **Help > Welcome** to return to the Welcome page, and click **Get Started** again.

1. Click the link to **Run the Pager samples** .

The Samples Gallery opens in a separate window and displays the "Pager samples" page, which presents the following options:

- **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 with 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 their function and the messages that are handled by those flows.

2. 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.
3. 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 in this text window. This information is also written to the following log file:

Linux (x86 platform)

```
user_home_dir/IBM/wmbt610/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**. The wizard rolls back all the actions that it has taken so far, if it can, 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.

4. Click **Next** when you have read the messages about the actions completed by the wizard. The confirmation page is displayed.
5. Click **Finish** to close the wizard. The "Pager samples" page (from which you launched the wizard) is redisplayed.
6. Click **Run the Pager samples**. A help page opens and displays two sections:

- **Running the Text Messenger sample (point-to-point messaging)**

The Text Messenger sample briefly introduces you to the point-to-point style of messaging, and demonstrates how message transformation works. Click the **Pager** icon to launch the Pager application; click the **Text Messenger** icon to start that application and send messages to the Pager application.

You can start these applications in either order; because they use WebSphere MQ to pass messages between applications, messages can be held safely for an application and can be retrieved by that application when it starts.

- **Running the SurfWatch sample (publish/subscribe messaging)**

The SurfWatch sample briefly introduces you to the publish/subscribe style of messaging, and demonstrates how message transformation works. Click **Surf Report Publisher and Pager** to start the publisher application and the Pager application.

Running the Pager samples

Click **Start** in the Surf Report Publisher window to start sending messages about weather conditions at certain surfing locations to the Pager application. Pager displays all messages that it receives in its window.

Click **Subscriptions**. The Surf Report Subscriptions dialog opens. Here you can select the locations for which you want to receive surf reports; the messages sent to Pager are controlled by this dialog.

Refer to the help pages to read and understand more about how these applications work together.

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

You can start the Samples Preparation wizard to create the resources and start other supplied sample programs. Click **File > New > Other > Broker Administration - Get Started** in the Message Broker Toolkit and select **Preparing the Samples**. The Samples Preparation wizard opens and lists other samples that are available. You can also access the Samples Gallery from the information center.

You can also invoke the Samples Preparation wizard to remove the sample or samples from the broker, and to remove the sample resources from your workspace.

Chapter 12. What's next

When you have completed installation, there are two main sources of information that you can use to help you learn about the product, and to create and deploy a broker domain on all operating systems. Launch the Message Broker Toolkit to access these resources:


The Welcome page

The Welcome page is typically what you see when you first launch the Message Broker Toolkit. You can also access it at any time; click **Help > Welcome** to display this page. Minimize the Welcome page to view it alongside other open panes in the toolkit; close it when you no longer want it in view.

The Welcome page has been designed to ensure that both new and experienced users can find what they need when they have completed the installation process. It also has information that is relevant if you are migrating from previous versions.


In addition to Getting Started (covered in Chapter 11, "Configuring and verifying your system," on page 119), the Welcome page displays these choices for you to explore:

- If you are new to WebSphere Message Broker, click the **Get Started**

icon  to learn about the product.

Access the Quick Tour, which provides new users with an overview of key product concepts, and shows its main interfaces in a graphical format. The tour lasts approximately 15 minutes.

- If you have a previous version installed, click the **Returning Users**

icon  to see what new and enhanced functions are included in Version 6.1. From here you can also access a description of the steps that you need to take to migrate your current broker domain to Version 6.1. The information provided covers planning, preparation, and implementation.

- Click the **Samples** icon  to explore samples that show how to exploit the function of the broker.

The Samples Gallery includes samples that show how you can develop message flows and message sets that exploit the message routing and transformation capabilities of the broker.

- Click the **Web Resources**  icon to link to additional resources on the Web that support WebSphere Message Broker. These include education courses, Business Partners, and IBM support.

The information center

The information center provides full post-installation documentation for the product on all operating systems. Click **Help > Help Contents** in the Message Broker Toolkit to open the information center in a new window. The front page links to topic pages within the information center and to other resources such as IBM Redbooks. You can also read about different ways to find information in the information center, whether you are a new user or an experienced user.

The information center is divided into sections that cover tasks and reference information. The task sections listed below are those that you might typically want to explore first.

Start here

The **Start here** section provides new users with information that introduces the product and what you can do with it. It provides explanations of the main terminology and components, and presents a set of initial tasks in an order that you would typically take as a new user.

Start here topics link to other areas of the information center, and to external links, to help you to understand more about the product, and to employ its varied functions to solve your business problems.

Start here also contains hints and tips for more experienced users who have installed previous versions.

Configuring the broker domain

The broker domain and its components are explained, and the tasks that you must complete to create a broker domain and the resources that it requires on all operating systems are described.

- Use the appropriate **mqs** commands (for example, **mqsicreatebroker**). Navigate through the Configuring section to find details about the tasks involved in creating your configuration and the commands to use.

When you issue commands on a distributed system, you must ensure that you issue them in the correct environment and to the correct installation.

For the verification process described in Chapter 11, “Configuring and verifying your system,” on page 119, the Default Configuration wizard completes this action for you, but you must set up the environment yourself if you are not using the wizard, or if you are working on operating systems on which the wizard is not available:

Linux and UNIX

Run the `mqsiprofile` file, supplied in the following directory:

```
install_dir/bin
```

Windows

Click **Start > IBM WebSphere Message Brokers 6.1 > Command Console** to open a window with the correct environment setup. Invoke the commands in this window.

See the topics in the information center under **Reference > Operations > Commands** for more details about `mqsiprofile`, and how to initialize the environment.

This action is not required on z/OS.

- On Linux (x86 platform) and Windows, use the Default Configuration wizard to create components of fixed names on systems local to the toolkit, as explained in Chapter 11, “Configuring and verifying your system,” on page 119. You might find this wizard useful even if you do not want to complete the verification steps.
- On Windows only, use the Command Assistant wizard to create components with your choice of names and characteristics. In the Message Broker Toolkit, click **File > New > Other > Broker Administration - Getting Started** to access the Command Assistant wizard. This wizard can also modify and delete existing components.

Developing applications

This section provides details about how to develop message flows, message sets, user-defined extensions, publish/subscribe applications, and more.

Deploying

Find out about broker archive files, configurations, and topology, and how to deploy the message flows and other resources that you have developed.

Chapter 13. Checking the broker operation mode

You must ensure that you configure your production brokers to conform to the terms of your license.

If you are upgrading from the Trial Edition

If you installed WebSphere Message Broker Trial Edition, and have now purchased a license, 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`, and 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 broker operation mode” on page 134. After this change, your brokers are no longer restricted by the trial period, but check the license agreement file to ensure that you conform to any restrictions for development and unit test. Development and unit test conditions are described in “License requirements” on page 25.
- 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`.

Checking the broker operation mode

If you do reinstall the runtime components 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 or Remote Adapter Deployment, you must always change the mode to confirm to the license that you have purchased.

If you also installed trial versions of WebSphere MQ, DB2, or both, you are now entitled to install the restricted license version of those products that are supplied as part of WebSphere Message Broker. You do not have to make any further purchases if the supplied products meet your requirements, and you intend to use them only with WebSphere Message Broker.

WebSphere MQ

Take the following steps to change from your trial version of WebSphere MQ:

1. Uninstall the trial version.
2. Install the version of WebSphere MQ that is included with WebSphere Message Broker by using either the supplied media or the images that you have downloaded. If you are installing on Windows, you can use the Launchpad to help you to install this product.
3. If you prefer, for example if you want to use WebSphere MQ for applications that are not related to your use of WebSphere Message Broker, you can purchase a separate license for WebSphere MQ.

DB2

To change from your trial version of DB2, you must register your license on every computer on which you have installed this copy of DB2. This process is described in Appendix B, "Registering your DB2 license," on page 141.

You do not have to uninstall the trial version and install the version of DB2 that is included with WebSphere Message Broker.

If you to use an alternative supported version of DB2, or you want to use DB2 for applications that are not related to your use of WebSphere Message Broker, you must purchase a separate license for DB2 at that version and install the product again.

If you already have licensed copies of WebSphere MQ, DB2, or both, you do not have to take any further action, provided that the licensed

products that you have installed meet the requirements of WebSphere Message Broker, shown in Chapter 1, “System requirements,” on page 3.

If you have purchased Remote Adapter Deployment or Starter Edition

If you have purchased WebSphere Message Broker Remote Adapter Deployment or 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 25.
- If you intend to use these brokers for production purposes, follow the instructions in “Changing the broker operation mode” on page 134 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. When you create a new broker, the operation mode is set to the default value `enterprise`. You can either override the default value by specifying an alternative value of `adapter` or `starter` with the `-o` flag on the `mqscreatebroker` command, or you can change the mode by using the `mqsimode` command for the created broker.

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 never have to 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

Checking the broker operation mode

license. Development and unit test conditions are described in “License requirements” on page 25.

For a full description of the broker operation mode, and behavior associated with each mode, see the information center. If you want to know more about your license and terms and conditions, see “License requirements” on page 25, or contact your IBM representative for further information.

Changing the broker operation mode

To change the broker operation mode:

1. On Linux (x86 platform), run the **mqsiprofile** command to initialize the command environment. On Windows, click **Start > Programs > IBM WebSphere Message Brokers 6.1 > Command Console** to open a command console.
2. Enter the following command:

```
mqsimode -i ip_address -p port -q queue_manager -b broker -o new_mode
```

where:

- *ip_address* is the host name or the IP address of the computer on which the Configuration Manager is started. You can omit this parameter if you have created the broker and Configuration Manager on the same computer.
- *port* is the port number on which the Configuration Manager’s queue manager is listening.
- *queue_manager* is the name of the queue manager that hosts the Configuration Manager; for example, WBRK61_DEFAULT_QUEUE_MANAGER.
- *broker* is the name of the broker; for example, WBRK61_DEFAULT_BROKER.
- *new_mode* is the operation mode that is required for this broker. You can set the mode to enterprise, adapter, or starter.

For more information, and other examples of the use of this command, see the information center.

Part 5. Appendixes

Appendix A. Installation problems

This appendix describes problem scenarios that you might experience during component installation on distributed systems. Refer to the *Program Directory for WebSphere Message Broker for z/OS* or the *Program Directory for WebSphere Message Broker with Rules and Formatter Extension for z/OS* if you experience problems installing on z/OS.

The installation wizards return 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 runtime components are recorded in the log file `mqsib6_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

Your home directory is typically `C:\Documents and Settings\userID`. Enter `echo %HOMEPATH%` to check the location.

- Problems associated with installation of the 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 directory `/var/ibm/InstallationManager/logs` on Linux or `%ALLUSERSPROFILE%\Application Data\IBM\Installation Manager\logs` on Windows (`%ALLUSERSPROFILE%` is the environment variable that defines the working directory; the default value is `C:\Documents and Settings\All Users` but this setting might have a different value on your computer.)

Typical problems, with a solution, or a workaround, are described below:

All operating systems: runtime component installation process is interrupted

If you are installing runtime components, 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 this interface to work correctly. See Table 4 on page 9 for details.

Installation problems

Linux: RPM query fails

If you invoke an RPM (package manager) 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 similar to the following message 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 Table 4 on page 9.

Linux and UNIX: display problems

If you try to install one or more runtime components by using the graphical interface, you might see one of two common errors reported. These 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 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 local system's temporary file space. On Linux and UNIX systems, the temporary space is typically /tmp. If there is not enough file space 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 Table 3 on page 7 to check how much temporary space is required.

Linux (x86 platform) and Windows: Installation Manager

If you click **Next** in the Installation Manager immediately when it first opens, you might cause the Installation Manager to hang. Close the window and reopen it.

Linux (x86 platform) and Windows: Installation Manager

If you are installing the Message Broker Toolkit, and the initial Install Packages page that is displayed by Installation Manager does not show the Message Broker Toolkit components, the location 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.

Installation problems

Appendix B. Registering your DB2 license

If you have installed DB2 Restricted Enterprise Server Version 9.1 from the media supplied with WebSphere Message Broker, you must register the associated license. Complete this task on every computer on which you have installed DB2 from the WebSphere Message Broker media.

1. Log in to the computer. On Linux and UNIX systems, your user ID must have root authority. On Windows, you must have Administrator authority.
2. Issue the register command:

AIX systems

```
/usr/opt/db2_09_01/adm/db2licm -a db2_installation_directory/license/db2ese_o.lic
```

Linux and other UNIX systems

```
/opt/IBM/db2/V9.1/adm/db2licm -a db2_installation_directory/license/db2ese_o.lic
```

Windows systems

Open a DB2 command window and enter the following command:

```
db2licm -a db2_installation_directory\license\db2ese_o.lic
```

where *db2_installation_directory* identifies the directory into which you have installed DB2 Restricted Enterprise Server Version 9.1.

The DB2 product license key information is now stored in the following directories:

AIX systems

```
/var/iform
```

Linux and other UNIX systems

```
/var/lum
```

Windows systems

```
DB2PATH/sql1lib/license
```

Registering your DB2 license

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Glossary of terms and abbreviations

This glossary defines WebSphere Message Broker terms and abbreviations used in this book. A full product glossary is provided in the information center. For information about how to access the information center, see “Where to find more information” on page xii.

For information about terms and abbreviations that are not specific to this product, see the IBM Terminology Web site.

B

broker. A set of execution processes that host one or more message flows. Also known as message broker.

broker domain. A collection of brokers that share a common configuration, together with the Configuration Manager that controls them.

C

collective. A set of brokers that are fully interconnected and form part of a multi-broker network for publish/subscribe applications.

Configuration Manager. The component that provides an interface between the Message Broker Toolkit and a set of runtime brokers. It provides brokers with their initial configuration, and updates them with any subsequent changes. It maintains the broker domain configuration.

D

deploy. To make operational the configuration and topology of the broker domain.

Derby. The database product based on the Apache Derby open source project from the

Apache Software Foundation. The Derby database is embedded in the broker component on Windows only.

E

execution group. A named process or set of processes within a broker in which message flows are run. The broker is guaranteed to enforce some degree of isolation between message flows in distinct execution groups because it ensures that they run in separate address spaces, or as unique processes.

L

local error log. A generic term that refers to the logs to which WebSphere Message Broker writes records on the local system. Also known as system log.

M

message broker. See broker.

Message Broker Toolkit. The integrated development environment that includes IBM Rational features and plug-ins, and is based on the IBM WebSphere Eclipse Platform.

message flow. A sequence of processing steps that execute in the broker when an input message is received. A message flow must include an input node that provides the source of the messages that are processed. Message flows are deployed to a broker for execution.

MRM domain. The domain associated with messages that are modeled in the Message Brokers Toolkit.

Glossary

O

operation mode. The mode in which a broker runs that determines what operations it can perform.

P

point-to-point. A style of messaging application in which the sending application knows the destination of the message. Contrast with publish/subscribe.

principal. An individual user ID (for example, a login ID) or a group. A group can contain individual user IDs and other groups, to the level of nesting supported by the underlying facility.

publish/subscribe. A style of messaging application in which the providers of information (publishers) are de-coupled from the consumers of that information (subscribers) by using a broker. See also topic. Contrast with point-to-point messaging.

publisher. An application that makes information about a specified topic available to a broker in a publish/subscribe system.

R

Rational Application Developer (RAD). A comprehensive integrated development environment, based on the Eclipse open source platform, that accelerates application development and deployment.

S

subscriber. An application that requests information about a specified topic from a publish/subscribe broker.

system log. See *local error log*.

T

topology. The brokers and collectives (and connections between them) in the broker domain.

Transformation Services. Message transformation and routing services that extend the capability of the broker.

U

User Name Server. A component that interfaces with operating system facilities to determine valid users and groups.

W

workbench. An active instance of the Message Broker Toolkit that is associated with a user's workspace. The workbench might also include plug-ins from other products that have been integrated with the base plug-ins of WebSphere Message Broker.

workspace. A store of resources accessed by the Message Broker Toolkit, typically associated with a user or set of users.

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