WebSphere MQ for Windows

Quick Beginnings

Version 5.3

GC34-6073-01

Note!
Before using this information and the product it supports, be sure to read the general information under "Notices" on page 101.

Second edition (October 2002)

This is the second edition of this book that applies to IBM® WebSphere MQ for Windows®, Version 5 Release 3.

| WebSphere MQ for Windows Quick Beginnings was previously known as MQSeries® for Windows NT® and
| Windows 2000 Quick Beginnings.

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Welcome to WebSphere MQ

This book introduces you to IBM WebSphere MQ for Windows, V5.3. The term **WebSphere® MQ for Windows systems** means WebSphere MQ running on the Windows platforms:

- Windows NT
- Windows 2000
- Windows XP

It contains information about both the server and client features of WebSphere MQ for Windows and describes how to plan for, install, and begin to use the product.

For the operating systems supported by the IBM WebSphere MQ for Windows, V5.3 server, see "Prerequisite server software" on page 2.

For the operating systems supported by the IBM WebSphere MQ for Windows, V5.3 client, see "Prerequisite client software" on page 13.

How this book is organized

This book describes WebSphere MQ for Windows and explains how to plan for the product, install it, and verify that the installation has worked

- Chapter 1, "Planning to install the WebSphere MQ for Windows server" on page 1

  Provides information on hardware and software requirements for the WebSphere MQ for Windows server, describes the features that you can install, and summarizes the available installation methods.
- Chapter 2, "Planning to install the WebSphere MQ for Windows client" on page 13

  Provides information on hardware and software requirements for the WebSphere MQ for Windows client, describes the features that you can install, and summarizes the available installation methods.
- Chapter 3, "Installing WebSphere MQ" on page 17

  Describes how to install WebSphere MQ interactively (both server and client). It provides both a brief outline of how to install the product, and also a more detailed step-by-step walkthrough of the whole installation process.
- Chapter 4, "Other methods of installing WebSphere MQ" on page 39

  Describes other ways in which you can install WebSphere MQ, including unattended installation, installing across a LAN, and how to install using the Microsoft® System Management Server.
- Chapter 5, "Verifying the installation" on page 57

  Describes how to verify that the installation is successful. Information is provided on verifying both a local and a server-to-server installation.
- Chapter 6, "Setting up communications" on page 69

  Explains how to set up communication between multiple WebSphere MQ installations.
- Chapter 7, "Verifying a client installation" on page 71

  Explains how to verify that the WebSphere MQ for Windows client is installed successfully.

- Chapter 8, “Applying maintenance” on page 75

  Explains how to apply maintenance and restore previous backup versions of the product.
- Chapter 9, “Uninstalling WebSphere MQ” on page 77

  Explains how to remove WebSphere MQ if it was installed using the WebSphere MQ Server CD-ROM.
- Chapter 10, “Using the WebSphere MQ Client CD-ROM” on page 81

  Describes how to use the WebSphere MQ Client CD-ROM to install a WebSphere MQ for Windows client, including interactive installation, unattended installation, installing from a LAN, and using the Microsoft System Management Server. It also describes how to remove the WebSphere MQ client if it was installed using the WebSphere MQ Client CD-ROM.

Conventions used in this book

Knowing the conventions used in this book will help you to use it more efficiently.

- The term WebSphere MQ is used to mean the IBM WebSphere MQ for Windows product.
- The term Windows is used to mean the Microsoft Windows NT, Microsoft Windows 2000 and Microsoft Windows XP products.
- The terms click, double-click, and right-click are used to describe item selection with the mouse. For keyboard alternatives, refer to the Windows help.
- The term enter means type the relevant text or command, then press the Enter key.
- **Boldface** type indicates the name of an item you need to select or the name of a command.
- *Italics* type indicates new terms, book titles, or variable information that must be replaced by an actual value.
- `Monospace` type indicates an example (such as a fictitious path or file name) or text that is displayed on the screen.

What's new in WebSphere MQ for Windows, Version 5 Release 3

WebSphere MQ for Windows, Version 5 Release 3 provides the following new and changed functions:

- WebSphere MQ classes for Java™ and WebSphere MQ classes for Java Message Service (JMS) are now built in to WebSphere MQ.
- WebSphere MQ now contains components that provide MSCS support that were previously shipped in SupportPac™ MC74.
- WebSphere MQ is now fully integrated with the Secure Sockets Layer (SSL) protocol. The exception to this is on Windows 98, where SSL is not supported. For details of the SSL implementation on WebSphere MQ, see the *WebSphere MQ Security* book.

The features in the following list were part of the MQSeries product on previous versions. If you are installing WebSphere MQ V5.3 on top of an already-installed previous version, these features are removed from your computer if they were previously installed:

- WebSphere MQ Documentation

  WebSphere MQ Documentation is now supplied as a separate CD package alongside the product. For more information see "WebSphere MQ documentation" on page 17.
- Lotus® Script Extension

  There is no LSX function in this release. To use Notes™ with WebSphere MQ, use Java.
- Web Administration Server

  There is no Web Administration Server function in this release.
- Internet Gateway

  There is no Internet Gateway function in this release.

What's new in WebSphere MQ for Windows, Version 5 Release 3

Chapter 1. Planning to install the WebSphere MQ for Windows server

This chapter summarizes the prerequisite hardware and software that you need to run WebSphere MQ, the network protocols and compilers that are supported, the delivery media, and the various features (or components) of the product.

The chapters dealing with installation, verification, and communication setup assume that you are using TCP/IP as your communication protocol. You can use other protocols (for example, SNA, SPX, and NetBIOS). Where specific procedures for these protocols are not covered in this book, there are references to other books in the WebSphere MQ library that contain the relevant information. However, note that the following functions of WebSphere MQ are available only under TCP/IP:

- WebSphere MQ MQI Postcard
- WebSphere MQ JMS Postcard
- WebSphere MQ Explorer

Note: Although queue managers that run on machines that use Dynamic Host Configuration Protocol (DHCP) can be members of a cluster, we recommend that the queue manager that hosts the repository for a cluster is on a machine that has a static IP address.

Release notes

Before starting to install WebSphere MQ, review the release notes file, which you will find on the product CD-ROM in the `\Readmes` folder for each national language. This file contains any additional information about the WebSphere MQ for Windows V5.3 product and might update information in this book.

During installation, the release notes file is copied to the WebSphere MQ program files folder (default `c:\Program Files\IBM\WebSphere MQ`).

Server hardware

This information applies to the server environment only. However, the hardware requirements for the WebSphere MQ for Windows client environment are similar. For details, see “Client hardware” on page 13.

The following are the hardware requirements for the WebSphere MQ server:

- Any IBM PC machine (or compatible), based on a 32–bit Intel processor, that is year 2000 compliant and that is certified as Windows NT, Windows 2000, or Windows XP compatible (including a suitable monitor for the operating system with a screen size of at least 800×600).
- Any communications hardware supporting SNA LU 6.2, TCP/IP, NetBIOS, or SPX is required for communication with other machines .

For a typical installation, WebSphere MQ requires a minimum of 85 megabytes (MB) of disk space for product code and data (if you use NTFS). Allow a minimum of 20 MB for working space. Also, the installation process requires space on your system drive and the location you set for temporary space, which is usually your system drive (total space required is approximately 30MB).

Prerequisite server software

This information applies to the server environment only. The software requirements for the WebSphere MQ for Windows client environment are in “Prerequisite client software” on page 13.

For details of the prerequisites for individual features of the product, see “Prerequisites for WebSphere MQ features” on page 6.

For the most up to date information regarding prerequisite sofware, refer to the `readme` file.

The following are the prerequisites for running WebSphere MQ for Windows; minimum supported levels are shown. Later compatible levels, if any, are supported, unless otherwise stated.

Operating system

WebSphere MQ requires one of the following:

- Microsoft Windows NT Version 4.0 with Service Pack 6a.

  Service Pack 6a is available from the Microsoft Web site at:

  `http://www.microsoft.com`
- Microsoft Windows 2000 with Service Pack 2. This can be any of the following products:

- Microsoft Windows 2000 Professional.
- Microsoft Windows 2000 Server.
- Microsoft Windows 2000 Advanced Server.

If you want to use COM+, you must have COM+ Rollup Package 18.1 or later.

COM+ Rollup Package 18.1 has a Microsoft Knowledge Base article number of Q313582 and is available from the Microsoft Web site at:

`http://www.microsoft.com`

- Microsoft Windows XP Professional.

Connectivity

WebSphere MQ requires one of the following for SNA connectivity:

- IBM Communications Server for Windows NT, Version 5.0 and Version 6.1.1.
- Attachmate Extra! Personal Client, Version 6.7.
- Attachmate Extra! Enterprise 2000.
- Microsoft SNA Server, Version 4.0.
- Microsoft Host Integrated Server 2000.
- TCP/IP, NetBIOS, and SPX. These are part of the base operating system.

Prerequisites for Windows NT

Additional prerequisiues for Windows NT are:

- Microsoft Internet Explorer 4.0.1 with Service Pack 1 or later, available from the Microsoft Web site at:

  `http://www.microsoft.com`
- Microsoft HTML Help 1.2, provided on the WebSphere MQ Server CD-ROM.
- Microsoft Management Console (MMC) 1.1, provided on the WebSphere MQ Server CD-ROM.
- Microsoft Installer (MSI) 2.0 or later, provided on the WebSphere MQ Server CD-ROM.
- Microsoft Active Directory Client Extensions (ADCE) for Windows NT, (required only for ADCE support). Provided on the WebSphere MQ Server CD-ROM.
- Java Runtime Environment Version (JRE) 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.
- Option Pack 4 for Microsoft Windows NT, (required only for Microsoft Transaction Server (MTS) support).

Prerequisites for Windows 2000

Additional prerequisites for Windows 2000 are:

- Microsoft Installer (MSI) 2.0 or later.
- Java Runtime Environment (JRE) Version 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.

Prerequisites for Windows XP

Additional prerequisites for Windows XP are:

- Java Runtime Environment (JRE) Version 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.

Installing prerequisite software

To install the prerequisite software provided on the WebSphere MQ Server CD-ROM (which does not include service packs or Web browsers), do one of the following:

- Use the WebSphere MQ installation procedure.

  When you install using the WebSphere MQ Server CD-ROM, there is a **Software Prerequisites** option in the WebSphere MQ Installation Launchpad window. You can use this option to check which prerequisite software is already installed and which is missing, and to install any missing software. See "Typical installation" on page 24.
- Use the Windows Explorer:
  1. Use the Windows Explorer to select the folder `\Prereqs` on the WebSphere MQ Server CD-ROM.
  2. Select the folder for the software item to be installed.
  3. Select the folder for the required installation language, if appropriate. These are:
     de_de German
     en_us English
     es_es Spanish
     fr_fr French
     it_it Italian
     ja_jp Japanese
     ko_kr Korean
     pt_br Brazilian Portuguese
     zh_cn Simplified Chinese
     zh_tw Traditional Chinese
  4. Start the installation program.
- Use MSI

  Double click `instmsiw.exe`, from the `\MSI` folder.

Optional server software

The following are options, not prerequisites. Minimum supported levels are shown. Later levels, if any, are supported unless otherwise stated.

- External transaction processing monitors
  - WebSphere Application Server, Version 4.0.
  - BEA Tuxedo, Version 6.4 and Version 6.5.
  - Microsoft Transaction Server (MTS)/COM+.
- Databases
  - IBM DB2 Universal Database™, Version 7.1 and Version 7.2.
  - Oracle, Version 8iR3 and 9i.
  - Sybase 12. Sybase Adaptive Server V12 and V12.5.
- Lightweight Directory Access Protocol (LDAP)
  - Netscape Directory Server Version 3.1 with the relevant year 2000 fixes.
- Java
  - A Java Secure Sockets Extension (JSSE) implementation. (Recommended for SSL; not necessary with a supported JRE 1.4 or later).
- SSL (not supported on Windows 98)
  - 128 bit cipher-strength. (Recommended for SSL)

Compilers for WebSphere MQ applications

The following software compilers are supported:

- C and C++:
  - Microsoft Visual C++, Version 6.0.
- COBOL:
  - IBM VisualAge® COBOL Enterprise, Version 2.2
  - Micro Focus Net Express Version 3.0 and Version 3.1
- PL/I:
  - IBM VisualAge PL/I for Windows, Version 2.1
- Visual Basic:
  - Microsoft Visual Basic, Version 6.0
- JDK:
  - IBM Developer Kit for Java - Version 1.3.0 or later

For latest details, see the WebSphere MQ product family Web site at:

`http://www.ibm.com/software/mqseries`

DCE support

For DCE support, you need:

- IBM Distributed Computing Environment (DCE) V1.1

  To enable users to run the WebSphere MQ-supplied DCE send, receive, or message exits, this must be the U.S. version that supports the Data Encryption Standard (DES).

  DCE names and security modules for WebSphere MQ are provided as part of the WebSphere MQ for Windows product.

  DCE support is not available for Windows 2000 or Windows XP.

WebSphere MQ features

You can select the features that you require when you install WebSphere MQ. The features shown below are available when you install WebSphere MQ from the Server CD; for information on the features that are available on the WebSphere MQ Client CD, see "WebSphere MQ client features" on page 15.

Server The server feature allows you to run queue managers on your computer and connect to other computers over a network. Java support is included.

Windows client
The WebSphere MQ client is a small subset of WebSphere MQ, without a queue manager, that uses the queue manager and queues on other (server) computers. It can be used only when the computer it is on is connected to another computer that is running a full server version of WebSphere MQ. The client and the server can be on the same computer if required.

Java Messaging
The files needed for messaging using Java (includes Java Message Service support).

Development Toolkit
This feature includes sample source files, and the bindings (files .H, .LIB, .DLL, and so on), that you need to develop applications to run on WebSphere MQ. Bindings and samples are provided for the following

languages: C, C++, Visual Basic, ActiveX, Cobol, DCE, and PL/1. Java and Java Message Service support is included and samples are provided for MTS, MQSC, and Lotus Notes.

Prerequisites for WebSphere MQ features

The following table shows the prerequisite software for running each of the WebSphere MQ features, and also the installation options used to install the features:

Table 1. Prerequisites and installation options for WebSphere MQ features

WebSphere MQ feature	Installation option	Prerequisites
Server	• Typical • Compact • Custom	• ADCE (required only for Active Directory support) • HTML Help 1.22 • Internet Explorer 4.0.1 with SP1® • MMC 1.1 • 128 bit cipher-strength (recommended for SSL)
Windows client	• Custom	• ADCE (required only for Active Directory support) • 128 bit cipher-strength (recommended for SSL)
Java Messaging	• Custom	• Supported Java Runtime Environment (JRE) Version 1.3 or later • A Java Secure Sockets Extension (JSSE) implementation (recommended for SSL; not necessary with a supported JRE 1.4 or later).
Development Toolkit	• Typical	• None

Migration

If you migrate from a previous level of this product, you **cannot** revert to your previous level, so back up your system **before** you install WebSphere MQ for Windows V5.3. This will enable you to back off the upgrade if necessary. If you back off the upgrade, however, you cannot recover any work performed by WebSphere MQ for Windows V5.3.

With WebSphere MQ for Windows, the installation process detects whether this is a new installation or an update from a previous level of this product. If you migrate from an earlier level, all the objects that you previously created (for example, your queue managers) can be maintained. The components that were previously installed are preselected in the feature options when you install the new level. If you leave these components selected, you can keep them or reinstall them. However, if you deselect any of these components, the installation process will uninstall them.

WebSphere MQ for Windows V5.3 no longer supports the following features, previously available in MQSeries systems. If any of these features were previously installed, when you migrate to the new level of WebSphere MQ, the installation process will uninstall them.

- Lotus Script Extension

- Web Administration Server
- Internet Gateway
- WebSphere MQ Documentation

  WebSphere MQ Documentation is now supplied as a separate CD package alongside the product. For more information see "WebSphere MQ documentation" on page 17.

AMQSCOMA.TST

When you create a queue manager, WebSphere MQ system default objects are created automatically. The sample MQSC definition file, AMQSCOMA.TST, is no longer provided. If you used AMQSCOMA.TST to customize your settings for MQSeries, and you want to use the same settings with WebSphere MQ:

1. Save your copy of AMQSCOMA.TST
2. Install WebSphere MQ for Windows V5.3
3. Load your copy of AMQSCOMA.TST and use the file to re-create your default objects

Alternatively, you can generate a new MQSC definition file.

.INI file configuration information

WebSphere MQ for Windows automatically migrates configuration information from your existing configuration .INI files into the Windows registry. Configuration information is then updated in the registry when you define or change details through the user interface.

Migrating authorization data

If you are migrating from MQSeries V5.1 or V5.2, with the compatibility OAM in use, all authorization data will migrate from the authorization files to the authorization queue the first time that you restart the queue manager after installing WebSphere MQ for Windows, V5.3. If the OAM detects a missing file and:

- The authorization applies to a single object, the OAM gives the mqm group access to the object and continues with the migration. Message AMQ5528 is written to the queue manager's error log. Refer to the *WebSphere MQ Messages* book for more information about message AMQ5528.
- The authorization applies to a class of objects, the OAM stops the migration. The queue manager does not start until the file has been replaced.

You can continue to store authorization data in files. However, if you do so, you cannot exploit any of the V5.3 improvements (such as generic profiles), and the performance of the OAM will be significantly affected. The default OAM service module is amqzfu.dll. WebSphere MQ for Windows, V5.3 also provides the previous service module for compatibility as amqzfu0.dll. There are two ways in which you can use the previous module to continue to store authorization data in files:

1. Modify the Module attribute for the service component to use amqzfu0 using MQ Services. See the section on changing queue manager configuration information in the *WebSphere MQ System Administration Guide*. Note that this option is possible only for queue managers created before you migrated to V5.3.
2. Replace the amqzfu module found in `c:\Program Files\IBM\WebSphere MQ` by the previous version. You can do this by:

a. Removing the new amqzfu.dll module
b. Renaming amqzfu0.dll as amqzfu.dll

Note:

1. You can restore the new amqzfu.dll module from the copy provided as amqzfu1.dll.
2. Once you have created or restarted a queue manager with the new OAM, you can no longer replace the amqzfu.dll with the previous version. The migration process, described above, is not reversible. You can view authorization data with the dspmqaut and dmpmqaut commands. Refer to the *WebSphere MQ System Administration Guide* for a complete description of these commands.

Default configuration

For MQSeries V5.1, if you migrate the default configuration of a machine hosting the repository queue manager for a cluster, the other machines in the cluster no longer have access to the repository and therefore encounter errors until they also migrate.

Although the default configuration can be set up and used on machines with either DHCP or static IP addresses, it is recommended that the queue manager selected to host the repository for a cluster should be on a machine that has a static IP address.

Migration of scmmqm

WebSphere MQ does not contain the **scmmqm** program (available in MQSeries Version 5.0). When migrating, the WebSphere MQ installation procedure processes the commands in any startup files that have been registered by using the `scmmqm` command. WebSphere MQ Services properties are set for each command, as follows:

runmqchi A channel initiator processing the specified initiation queue is automatically started when the queue manager starts.

runmqchl The specified channel is automatically started when the queue manager starts.

runmqlsr A listener with the specified parameters is automatically started when the queue manager starts.

strmqcsv This command is ignored. A command server is automatically started when each queue manager starts.

strmqm The specified queue manager is automatically started when the WebSphere MQ Service starts.

tpstart This command is ignored. After WebSphere MQ is installed, either set your system to run tpstart automatically on system startup, or configure a WebSphere MQ listener for the queue manager with the required TPNAME property.

Java and JMS support for WebSphere MQ

WebSphere MQ classes for Java and WebSphere MQ classes for Java Message Service (JMS) are built in to WebSphere MQ for Windows V5.3. Previously, Java and JMS were available as a SupportPac (MA88).

If Java and JMS are already installed from SupportPac MA88, the installation program in WebSphere MQ V5.3 displays a warning message, then removes the old WebSphere MQ Java and JMS files and replaces them with the new, updated support files.

Installation methods

To install the WebSphere MQ server, use the WebSphere MQ Server CD-ROM. The following installation methods are available:

- Interactive installation (that is, using a sequence of windows and wizards). See Chapter 3, "Installing WebSphere MQ" on page 17.
- Installation across a LAN. See "Installing from a LAN" on page 39.
- Direct installation without interaction. See "Unattended (silent) installation" on page 40.
- Advanced methods of direct installation. See:
  - "Using Msiexec with command line parameters" on page 44
  - "Using Msiexec with a response file" on page 48
  - "Using the MQParms command" on page 48
- Installation using the Microsoft System Management Server (SMS). See "Using Microsoft System Management Server" on page 54.

Before all methods of installation, refer to "Preparing for installation" on page 17.

Accessibility

The WebSphere MQ user interfaces do not use any special keys, but instead follow the Windows user interface guidelines for accelerator keys on items such as context menus, dialogs, and dialog controls such as buttons. Access the accelerator keys in the usual way. See the Windows help for more information (look in the Windows help index for *keyboard*; for accessibility features look for *Accessibility*).

Special features for accessibility

Some of the user interfaces in WebSphere MQ are normally visual, but they behave differently when accessibility features are activated, as follows:

- High Contrast Mode

  In this mode, Launchpad, Prepare WebSphere MQ Wizard, First Steps, and Postcard, all hide their background bitmaps and ensure that they use the system text colors so that they are easily visible and readable.

- Screen Reader Mode

  When a screen reader is active, Prepare WebSphere MQ Wizard, Default Configuration, Postcard, and API Exerciser, simplify their appearance by hiding background bitmaps, raised effects, shadow boxes, and so on that can otherwise confuse the screen reader.

  Additionally, API Exerciser, when the result of doing an API call is added to the list in the window, pops up a message box, so that the screen reader reads it to the user.

Enabling the special accessibility features on Windows NT

On Windows NT, WebSphere MQ is cannot query the operating system to find out whether you are using either of the two accessibility modes referred to above (High Contrast and Screen Reader). However, there is a way for you to tell

Accessibility

WebSphere MQ that you want them enabled, and you do this in First Steps. For more details see "Enabling accessibility features on Windows NT" on page 57.

It is also possible to enable the accessibility features on Windows NT by setting the HIGHCONTRAST property; see Table 5 on page 41.

WebSphere MQ documentation

This chapter describes the documentation for WebSphere MQ for Windows. It starts with a list of the publications, including their PDF filenames, and then discusses:

If there is similar information in this book and any of the books in the following list, the information in this book should take precedence.

WebSphere MQ is described in the following books:

Table 2. WebSphere MQ family books

PDF file name	Order Number	Title
CSQZAE07	SC34-6059	*WebSphere MQ Intercommunication*
CSQZAH05	SC34-6061	*WebSphere MQ Queue Manager Clusters*
CSQZAF07	GC34-6058	*WebSphere MQ Clients*
AMQZAG03	SC34-6068	*WebSphere MQ System Administration Guide*
CSQZAJ07	SC34-6055	*WebSphere MQ Script (MQSC) Command Reference*
CSQZAX03	SC34-6069	*WebSphere MQ Event Monitoring*
CSQZAI01	SC34-6060	*WebSphere MQ Programmable Command Formats and Administration Interface*
AMQZAO04	GC34-6057	*WebSphere MQ Messages*
CSQZAL07	SC34-6064	*WebSphere MQ Application Programming Guide*
CSQZAK07	SC34-6062	*WebSphere MQ Application Programming Reference*
AMQZAN07	SC34-6067	*WebSphere MQ Using C++*
CSQZAW11	SC34-6066	*WebSphere MQ Using Java*
AMTYAK08	SC34-6065	*WebSphere MQ Application Messaging Interface*
CSQZAS01	SC34-6079	*WebSphere MQ Security*
CSQZAY01	SC34-6113	*WebSphere MQ Bibliography and Glossary*

Table 3. WebSphere MQ for Windows books

PDF file name	Order Number	Title
AMQTAN02	SC34-6134	*WebSphere MQ for Windows, V5.3 Using the Component Object Model Interface*

Hardcopy books

This book, and all the books listed in Table 2 and Table 3, are available for you to order or print.

You can order publications from the IBMLink™ Web site at:

```
http://www.ibm.com/ibmlink
```

In the United States, you can also order publications by dialing **1-800-879-2755**.

In Canada, you can order publications by dialing **1-800-IBM-4YOU (1-800-426-4968).**

For further information about ordering publications, contact your IBM authorized dealer or marketing representative.

For information about printing books, see "PDF".

Online information

This section describes:

Publications supplied with the product

The WebSphere MQ documentation is supplied separately on a CD-ROM alongside the product. You can either view the documents directly from CD, or you can install them on your computer (either before or after installing the WebSphere MQ product).

The WebSphere MQ online documentation is delivered in HTML, Microsoft Compiled HTML Help (.CHM), and PDF formats on CD-ROM.

HTML: You can view the compiled HTML version of the books from the WebSphere MQ Help Center. Look for "IBM WebSphere MQ Information Center". Microsoft Compiled HTML Help (.CHM) files are also on the WebSphere MQ CD-ROM in the `\Docs\htmlhelp\` folder. Double-click on a .CHM file to view it.

You can install the WebSphere MQ manuals in your national language. Some manuals are not translated into every language, so you should also install the English versions to get a full set.

PDF: A PDF (Portable Document Format), corresponding to each hardcopy book, is available on the documentation CD-ROM. You can read PDFs using Adobe Acrobat Reader. Also, you can download them to your own file system, or you can print them on a PostScript printer.

The PDFs are available in U.S. English in the *en_US* directory, and also in some or all of the following national languages. To find out which ones are available in your language, look for the appropriate directory on the CD-ROM. The PDFs are in a subdirectory called *ll_LL*, where *ll_LL* is one of the following:

- de_DE (German)
- es_ES (Spanish)
- fr_FR (French)
- it_IT (Italian)
- ja_JP (Japanese)
- ko_KR (Korean)
- pt_BR (Brazilian Portuguese)
- zh_CN (Simplified Chinese)
- zh_TW (Traditional Chinese)

Within these directories, you can find the complete set of PDFs that are available. Table 2 on page 10 shows the file names used for the PDF files.

HTML and PDF books on the World Wide Web

The WebSphere MQ books are available on the World Wide Web as well as on the product CD-ROM. They are available in PDF and HTML format. The WebSphere MQ product family Web site is at:

```
http://www.ibm.com/software/mqseries
```

By following links from this Web site you can:

- Obtain latest information about the WebSphere MQ product family.
- Access the WebSphere MQ books in HTML and PDF formats.

You can access the Web versions of the books directly from the WebSphere MQ Information Center (see the "Reference" section).

Online help

To view the online help for a specific topic when using the WebSphere MQ user interface, press F1, click on the Help button, or use the Help menu.

Alternatively, you can click on the Start menu, select **WebSphere MQ** from the Programs menu, and select the **WebSphere MQ Information Center**.

SupportPacs

SupportPacs contain material that complements the WebSphere MQ family products, for example, there are a number of SupportPacs to help you with performance and capacity planning. Many SupportPacs are freely available for download, others can be purchased as a fee-based service. SupportPacs can be obtained from the following Web site:

```
http://www.ibm.com/software/mqseries/support
```

WebSphere MQ newsgroups

WebSphere MQ support provides a number of newsgroups where members share their knowledge and experience with others. A list of the newsgroups can be found at:

```
http://www.ibm.com/software/mqseries/support/newsgroups
```

Whitepapers and migration documents

IBM produces a number whitepapers that contain other useful information about WebSphere MQ. These can be found at:

```
http://www.ibm.com/software/mqseries/library
```

Service support summary (PTF readmes)

The service support summary gives a summary of the support information and end of service dates for in-service MQSeries products. This can be found at:

```
http://www.ibm.com/software/mqseries/support/summary
```

Chapter 2. Planning to install the WebSphere MQ for Windows client

This chapter outlines the hardware and software required for use with the WebSphere MQ for Windows client, and lists the compilers that are supported for applications running on WebSphere MQ clients.

For similar information about the WebSphere MQ for Windows server environment, see Chapter 1, "Planning to install the WebSphere MQ for Windows server" on page 1.

Client hardware

This section outlines the hardware requirements for a WebSphere MQ for Windows client only. However, the hardware requirements for the WebSphere MQ for Windows server environment are similar. For details, see "Server hardware" on page 2.

A WebSphere MQ client can run on Windows 98, Windows NT, Windows 2000 or Windows XP. The client can run on any IBM PC machine or equivalent that is based on a 32–bit Intel processor that is certified as Windows compatible (including a suitable monitor for the operating system). There must be enough random access memory (RAM) and disk storage for the programming prerequisites (below), the WebSphere MQ client, the access methods, and the application programs.

Prerequisite client software

This information applies to the client environment only. The software requirements for the WebSphere MQ for Windows server environment are in "Prerequisite server software" on page 2.

For the most-up-to date information regarding prerequisite software, refer to the `readme` file.

The following are the prerequisites for running WebSphere MQ for Windows; minimum supported levels are shown. Later compatible levels, if any, are supported, unless otherwise stated.

Operating system

WebSphere MQ client requires one of the following:

- Microsoft Windows 98
- Microsoft Windows NT, with Service Pack 6a

  Service Pack 6a is available from the Microsoft Web Site at:

  `http://www.microsoft.com`
- Microsoft Windows 2000 with Service Pack 2. This can be any of the following products:
  - Microsoft Windows 2000 Professional.
  - Microsoft Windows 2000 Server.
  - Microsoft Windows 2000 Advanced Server.

- Microsoft Windows XP Professional.

Connectivity

WebSphere MQ client requires one of the following for SNA connectivity:

- IBM Communications Server for Windows NT, Version 5.0 and Version 6.1.1.
- Attachmate Extra! Personal Client, Version 6.7.
- Attachmate Extra! Enterprise 2000.
- Microsoft SNA Server, Version 4.0.
- Microsoft Host Integrated Server 2000.
- TCP/IP, NetBIOS, and SPX. These are part of the base operating system.

Prerequisites for Windows 98 and Windows NT

Additional prerequisites for Windows 98 and Windows NT are:

- Microsoft Internet Explorer 4.0.1 with Service Pack 1 or later, is required only for SSL support. (SSL is not supported on Windows 98), available from the Microsoft Web site at:

  `http://www.microsoft.com`
- Microsoft Installer (MSI) 2.0 or later, provided on the WebSphere MQ Server CD-ROM.
- Microsoft Active Directory Client Extensions (ADCE) for Windows NT, (required only for ADCE support). Provided on the WebSphere MQ Server CD-ROM.
- Java Runtime Environment (JRE) Version 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.

Prerequisites for Windows 2000

Additional prerequisites for Windows 2000 are:

- Microsoft Installer (MSI) 2.0 or later.
- Java Runtime Environment (JRE) Version 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.

Prerequisites for Windows XP

Additional prerequisites for Windows XP are:

- Java Runtime Environment (JRE) Version 1.3 or later, (required only for Java Messaging). The latest list of available JREs is available in the readme file.

Optional client software

The following are options, not prerequisites.

- Microsoft Windows Terminal Server feature
- Java
  - A Java Secure Sockets Extension (JSSE) implementation. (Recommended for SSL; not necessary with a supported JRE 1.4 or later)
- SSL (not supported on Windows 98)
  - 128 bit cipher-strength. (Recommended for SSL)

Compilers for WebSphere MQ applications (clients)

The following software compilers are supported:

- C and C++:

  - Microsoft Visual C++, Version 6.0.
- COBOL:
  - IBM VisualAge COBOL Enterprise, Version 2.2
  - Micro Focus Net Express Version 3.0 and Version 3.1
- PL/I:
  - IBM VisualAge PL/I for Windows, Version 2.1
- Visual Basic:
  - Microsoft Visual Basic, Version 6.0
- JDK:
  - IBM Developer Kit for Java - Version 1.3.0 or later

For latest details, see the WebSphere MQ product family Web site at:
`http://www.ibm.com/software/mqseries`

DCE support

For DCE support you need:

- IBM Distributed Computing Environment (DCE) V1.1

  To enable users to run the WebSphere MQ-supplied DCE send, receive, or message exits, this must be the U.S. version that supports the Data Encryption Standard (DES).

  DCE names and security modules for WebSphere MQ are provided as part of the WebSphere MQ for Windows product.

  DCE support is not available for Windows 2000 or Windows XP.

WebSphere MQ client features

The following features for the WebSphere MQ for Windows client environment can be installed from the WebSphere MQ Server CD-ROM or the WebSphere MQ Client CD-ROM:

Windows client
The WebSphere MQ client is a small subset of WebSphere MQ, without a queue manager, that uses the queue manager and queues on other (server) computers. It can be used only when the computer it is on is connected to another computer that is running a full server version of WebSphere MQ. The client and server can be on the same computer if required.

Java Messaging
The files needed for messaging using Java (includes Java Message Service support).

Development Toolkit
This feature includes sample source files, and the bindings (files .H, .LIB, .DLL, and so on), that you need to develop applications to run on WebSphere MQ. Bindings and samples are provided for the following languages: C, C++, Visual Basic, ActiveX, Cobol, DCE, and PL/1. Java and Java Message Service support is included and samples are provided for MTS, MQSC, and Lotus Notes.

For information on WebSphere MQ feature prerequisites, see “Prerequisites for WebSphere MQ features” on page 6.

Installation methods

There are two different versions of the WebSphere MQ for Windows client installation code, one on the WebSphere MQ Server CD-ROM, and one on the WebSphere MQ Client CD-ROM. Both versions install the same files.

You can use the WebSphere MQ Server CD-ROM to:

- Install the WebSphere MQ client on any client machine.

You can use the WebSphere MQ Client CD-ROM to install the WebSphere MQ client on any client machine that does not have the WebSphere MQ server installed.

You might use the WebSphere MQ Client CD-ROM to install the WebSphere MQ client, then subsequently decide to use that machine for the WebSphere MQ server. In this situation, use the WebSphere MQ Server CD-ROM to install the WebSphere MQ server and to reinstall the WebSphere MQ client.

To install the WebSphere MQ client, the following installation methods are available:

- All methods that use the WebSphere MQ Server CD-ROM. See Chapter 3, "Installing WebSphere MQ" on page 17 and Chapter 4, "Other methods of installing WebSphere MQ" on page 39.

  For the interactive installation, select a **Custom** installation type, and select the **Windows client** feature.
- Methods that use the WebSphere MQ Client CD-ROM:
  - Interactively using the WebSphere MQ Client CD-ROM (see "Installing the WebSphere MQ client" on page 81)
  - From a LAN (see "Installing from a LAN" on page 85)
  - Using SMS (see "Unattended (silent) installation" on page 85)
  - Unattended (see "Advanced installation methods" on page 87)

Because the WebSphere MQ for Windows client installation code is different on the two CD-ROMs, you must also use the appropriate uninstallation method:

- If you installed using the WebSphere MQ Server CD-ROM, see Chapter 9, "Uninstalling WebSphere MQ" on page 77.
- If you installed using the WebSphere MQ Client CD-ROM, see "Uninstalling WebSphere MQ client" on page 94.

Windows 98 users

On Windows 98, the default amount of environment space is insufficient for the environment variables that WebSphere MQ creates. WebSphere MQ needs the environment space to be at least 2048 bytes. To update Windows 98 to use this amount of environment space you must type `/e:2048` on the shell statement in config.sys.

If you use the default command interpreter, type:

```
SHELL=c:\windows\command.com /p /e:2048
```

Chapter 3. Installing WebSphere MQ

This chapter describes how to install WebSphere MQ directly from the WebSphere MQ Server CD-ROM in attended mode (interactively).

You can use the WebSphere MQ Server CD-ROM to install the WebSphere MQ server or the WebSphere MQ client. If you want to install the WebSphere MQ server and the WebSphere MQ client on the same machine, you **must** use the WebSphere MQ Server CD-ROM.

For information on alternative methods of installation, see:
- "Installing from a LAN" on page 39
- "Unattended (silent) installation" on page 40
- "Advanced installation methods" on page 44

Note: You can also install the WebSphere MQ client by using the WebSphere MQ Client CD-ROM. The installation methods you use with this CD-ROM differ slightly. See Chapter 10, "Using the WebSphere MQ Client CD-ROM" on page 81.

The installation configuration described in this chapter is for an environment that uses TCP/IP. The installation procedure is the same for environments that use other communications protocols (for example, SNA, SPX, or NetBIOS). However, not all of the functions and facilities of WebSphere MQ for Windows are available in these environments. The items that are **not** available are:
- WebSphere MQ MQI Postcard
- WebSphere MQ JMS Postcard
- WebSphere MQ Explorer

WebSphere MQ documentation

The WebSphere MQ documentation is supplied as a separate CD package alongside the product. You can either view the documents directly from CD, or you can install them on your computer (either before or after installing the WebSphere MQ product).

Installing WebSphere MQ documentation

1. Insert the WebSphere MQ Documentation CD into the CD-ROM drive.

   If autorun is enabled, the installation process starts. If it is not, double-click the **Setup** icon in the root folder on the CD-ROM to start the process.
2. Follow the instructions and actions that are presented to you.

For prerequisites, or if you have any problems, see the readme file in the root folder on the CD-ROM.

Preparing for installation

Before you start to install WebSphere MQ, review the release notes file, which is on the product CD-ROM in the `\Readmes` folder for each national language. This file contains any additional information about the WebSphere MQ for Windows, V5.3 product and might update information in this book.

During installation, the release notes file is copied to the WebSphere MQ program files folder (default `c:\Program Files\IBM\WebSphere MQ`).

The following sections list the points you must consider before you start to install WebSphere MQ.

General considerations

- Ensure that you close all Windows programs (including all WebSphere MQ windows).
- Ensure that you set up default logging for the installation process. See "Creating a log file when you install WebSphere MQ" on page 20.

Migration considerations

If MQSeries is installed on the machine:

- Ensure that no queue managers are running and that the IBM MQSeries Service is stopped. (To stop the MQSeries Service, right-click on the MQSeries icon in the task bar, then click **Stop IBM MQSeries**).
- If an earlier version of MQSeries is already installed on the machine, back up your system **before** you install WebSphere MQ for Windows V5.3. See "Migration" on page 6.
- WebSphere MQ checks for any existing MQSeries configuration files (MQS.INI or QM.INI). If it finds any, it automatically migrates configuration information to the Windows registry. Otherwise, WebSphere MQ automatically puts its configuration information directly into the Windows registry.

MQSC users

MQSC now produces text saying `WebSphere MQ` where it used to say `MQSeries`. If you parse the MQSC output, you need to rework your parser to accommodate this change.

MSCS users

WebSphere MQ for Windows V5.3 contains components that provide MSCS support that were previously shipped in SupportPac MC74. If you install WebSphere MQ for Windows V5.3, you no longer need the SupportPac and you should not install it. The files included with WebSphere MQ for Windows V5.3 supersede those in the SupportPac.

If you are using SupportPac MC74 with your previous version of MQSeries, uninstall before you install WebSphere MQ for Windows V5.3. You can upgrade the machines in your cluster without losing your configuration parameters by upgrading to WebSphere MQ, V5.3 using a rolling upgrade, that is, upgrade each node in turn, waiting for one to complete before starting the next node.

If you want to install WebSphere MQ for Windows V5.3 into a different directory from that used by MQSeries, you cannot use a rolling upgrade.

Migrating to Windows XP

If you intend to migrate and run WebSphere MQ on Windows XP you must do the following:

1. Migrate from your existing version of MQSeries to WebSphere MQ V5.3 on your existing Windows platform. If your existing platform is Windows NT, see "Migrating from Windows NT to Windows 2000 or Windows XP" on page 19.
2. Migrate from your existing Windows platform to Windows XP.

Migrating from Windows NT to Windows 2000 or Windows XP

If you install WebSphere MQ on a Windows NT machine, then want to migrate the operating system to Windows 2000 or Windows XP, be aware that your current access control lists (ACLs) for your domain resources might become invalid.

On Windows NT, WebSphere MQ user account details are stored as security identifiers (SIDs) in your ACLs. When you migrate to a new Windows platform these SIDs are lost, invalidating the ACLs. This causes WebSphere MQ commands to fail, and you lose registry permissions and the WebSphere MQ Administration (mqm) security group.

You have the following options:

- To avoid losing WebSphere MQ user account access rights, remap the ACLs on your domain resources.

  Consult your operating system documentation on migration from Windows NT for details about how to remap the ACLs on your domain resources. You do not need to reinstall WebSphere MQ if you choose this option.
- If you do not want to remap your ACLs, and would like to start afresh, do the following:
  1. Uninstall WebSphere MQ from Windows NT.
  2. Migrate from Windows NT to your new Windows platform.
  3. Install WebSphere MQ on your new Windows platform.

  You must redefine your operating system user accounts and security groups as required, if you choose this option.

Naming considerations

- Ensure that the machine name does not contain any spaces. WebSphere MQ does not support machine names that include spaces. If you install WebSphere MQ on such a machine, you cannot create any queue managers.
- For WebSphere MQ authorizations, names of user IDs and groups must be no longer than 20 characters (spaces are not allowed).

Security considerations

- Are you installing WebSphere MQ on a network where the domain controller is on a Windows 2000 server? If so, you probably need to obtain a special domain account from your domain administrator. For further information, and the details that the domain administrator needs to set up this special account, refer to Chapter 11, “Configuring WebSphere MQ accounts” on page 97.
- You **must** have administrator authority. Define this authority through the Windows facilities.
- Your user ID **must** belong to the *local* `mqm` or `Administrators` group in order to administer any queue manager on that system, or to run any of the WebSphere MQ control commands. If the local `mqm` group does not already exist on the local computer, it is created automatically when WebSphere MQ is installed. The user ID can either belong to the local `mqm` group directly, or belong indirectly through the inclusion of global groups in the local `mqm` group.
- If you intend to administer queue managers on a remote system, your user ID **must** be authorized on the target system. The information on protecting WebSphere MQ resources in the *WebSphere MQ System Administration Guide* includes more information on this topic.
- A user account that is used to run the IBM WebSphere MQ Services COM server is set up by default during the installation process, typically with the user ID

MUSR_MQADMIN. This account is reserved for use by WebSphere MQ. Refer to Chapter 11, “Configuring WebSphere MQ accounts” on page 97.

For further information about WebSphere MQ user IDs on Windows systems and the WebSphere MQ Object Authority Manager (OAM), see the *WebSphere MQ System Administration Guide*.

Creating a log file when you install WebSphere MQ

WebSphere MQ for Windows is installed using the Microsoft Installer (MSI). To generate a log file during installation, you need to set up default logging. This means that a log file is created each time that you install software that uses MSI.

Default logging on Windows NT

Note: To set up default logging on Windows NT, you need to change a registry setting. We recommend that you back up your registry first.

To set up default logging for installation on Windows NT, use the following steps:

1. At a command line, type:
   ```
   regedit
   ```
2. Navigate to, or create,
   ```
   HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\Installer
   ```
3. Set the value of Logging to:
   ```
   voicewarmup
   ```

Default logging on Windows 2000 and Windows XP

To set up logging for Windows 2000, use the following steps:

1. Launch the msiconfig snap-in to display the msiconfig window using one of the following methods:
   - If this is already set up on your machine, click **Start→Programs→Administrative Tools→msiconfig.mmc**.
   - Otherwise, use the following steps to set it up:
     a. From the Windows task bar, click **Start→Run**.
     b. Type `mmc`, then click **OK** to display the Console window.
     c. Click **Console→Add/Remove Snap-in** to display the Add/Remove Snap-in dialog.
     d. Click **Add** to display the Add Standalone Snap-in dialog.
     e. Click **Group policy** from the list, then click **Add** to display the click Group Policy Object dialog.
     f. Click **Finish**.
     g. In the Add Standalone Snap-in dialog, click **Close**.
     h. In the Add/Remove Snap-in dialog, click **OK**.
2. From the tree in the left-hand panel of the window, expand the following:
   a. Local Computer Policy
   b. Computer Configuration
   c. Administrative Templates
   d. Windows Components
3. Click **Windows Installer**.
4. In the Policy panel, right click Logging, then click **Properties** from the resulting menu.

The Logging Properties dialog is displayed.

5. Click the **Enabled** option.
6. In the Logging field, enter:

   ```
   voicewarmup
   ```

7. Click **OK**.
8. Save the new setting and close the msiconfig window.

Installation types

Before you install, you can decide what type of installation you require. Table 4 shows the installation types available, and the features that are installed with each option. For the prerequisites required for each feature, see "Prerequisites for WebSphere MQ features" on page 6.

Table 4. Features installed with each type of installation

Installation type	Features installed	Comments
Typical	• Server • Development Toolkit	The default option. Features are installed to default locations.
Compact	• Server only	The feature is installed to the default location.
Custom	By default, the following features are preselected: • Server • Development Toolkit	All the available features are listed and you can select which ones to install, and where to install them. This method must be used if you want to install the Windows client or Java Messaging.

To install the WebSphere MQ server

To install the WebSphere MQ server, you can select a Typical, Compact, or Custom installation.

To install the WebSphere MQ client

To install the WebSphere MQ client, select a Custom installation, then ensure that you select the client feature.

You can use the Client CD-ROM to install the WebSphere MQ client on any of the supported Windows platforms; see Chapter 10, "Using the WebSphere MQ Client CD-ROM" on page 81.

Installing WebSphere MQ - quick guide

This installation procedure quickly leads you through a typical installation. You will be guided through a number of windows in which you choose what to install, and how to configure the installation. The installation procedure should take about 30 minutes to complete. For a more comprehensive, step-by-step set of instructions for a typical installation, see "Typical installation" on page 24.

Notes:

1. Check in advance whether you are installing WebSphere MQ on a network where the domain controller is on a Windows 2000 server, so that you can obtain a domain account if necessary. See "Security considerations" on page 19.
2. If the installation process is interrupted, go back to the beginning and start the installation again.

Installation — quick guide

1. Insert the WebSphere MQ for Windows Server CD-ROM into the CD-ROM drive.
2. If autorun is enabled, the installation process starts.

   Otherwise, double-click the **Setup** icon in the root folder of the CD-ROM to start the installation process.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Optionally, to change the national language of the installation, click the **Select Language** option, then select the language you require from the list.
4. Click **Software Prerequisites** and install any required software.
5. Click **Network Prerequisites** and follow the instructions that are presented to you.
6. After you complete the software and network prerequisites, click **WebSphere MQ Installation** to start the Windows Installation wizard.
7. Follow the instructions and actions in the WebSphere MQ Setup windows that are presented to you.
8. When the WebSphere MQ Setup window displays a message that the Installation wizard has completed successfully, click **Finish**.

   If you installed the Server feature, the Prepare WebSphere MQ wizard is launched.

   If you did not install the Server feature, go to step 12.
9. Follow the instructions and actions in the windows that are presented to you.
10. When the Prepare WebSphere MQ wizard completes, the window displays a list of one or more recommended tasks to complete the preparation of WebSphere MQ. This list depends on what already exists from any previous installation. If the previous installation is such that none of the tasks apply, this window is not displayed. Go to step 11.

    To launch a wizard to complete a task, select the relevant option and follow the instructions on the resulting windows.

    Note: It is possible to complete these tasks later; see "Using the Default Configuration wizard" on page 33 and "Using the Remote Administration wizard" on page 35.

    When the required tasks are completed, or to continue without completing any of these tasks, click **Next**.
11. The Prepare WebSphere MQ Wizard window displays the following message:

    Completing the Prepare WebSphere MQ Wizard

    Select the applications that you want to launch, then click **Finish**.
12. Verify the installation.

    If you installed the Server feature, you can use the Postcard application:

    - To verify that WebSphere MQ is working correctly on a single machine, you can run a local verification (see "Using the Postcard applications to verify a local installation" on page 59).
    - To verify that WebSphere MQ is communicating correctly between machines, see "Using the Postcard applications to verify a server-to-server installation" on page 62.

    Alternatively, see Chapter 7, "Verifying a client installation" on page 71.

Installation and verification are now complete.

Some of the WebSphere MQ icons might not appear in the Start menu until after the machine is restarted.

Installing WebSphere MQ - step-by-step

This section provides step-by-step guidance on how to install WebSphere MQ for Windows. The installation procedure should take approximately 30 minutes.

The following steps show how to perform a typical installation. The steps involved in compact and custom installations are in "Compact installation" on page 27 and "Custom installation" on page 27.

Note: Check in advance whether you are installing WebSphere MQ on a network where the domain controller is on a Windows 2000 server, so that you can obtain a domain account if necessary. See "Security considerations" on page 19.

Typical installation

There are three parts to the installation:

1. Installing WebSphere MQ
2. Configuring WebSphere MQ (required if you install the server)
3. Final installation and verification tasks

Note: If the installation process is interrupted at any stage, run the installation again from the beginning.

Installing WebSphere MQ

1. Insert the WebSphere MQ for Windows Server CD-ROM into the CD-ROM drive.
2. If autorun is enabled, the installation process starts.

   Otherwise, double-click the **Setup** icon in the root folder of the CD-ROM to start the installation process.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Optionally, to change the national language of the installation, click the **Select Language** option, then select the language you require from the list.
4. Click the **Software Prerequisites** option.

   The window lists the prerequisite software for a typical installation; see Figure 1 on page 25. To the right of each installation item there is a check symbol (the software is installed), or a cross (the software is not installed).

   If there is a cross:

   a. Click the + symbol to the left of the item to display installation links.
   b. Select the option for the installation source you want to use. Select from:
      - WebSphere MQ CD
      - Internet
      - Network

      Note: Some software prerequisites are not available from all sources.
   c. When installation is complete, click the – symbol to the left of the item.

   Note: For a custom installation, you might not need all the software prerequisites. Select the link **For details of WebSphere MQ setup types click here** to see further information. Details are also available in "Prerequisites for WebSphere MQ features" on page 6.

Figure 1. Example of WebSphere MQ Installation Launchpad on Windows 2000 - Software Prerequisites page

5. When all the required software is installed, click the **Network Prerequisites** option. This window describes the conditions under which WebSphere MQ needs a special domain account.

   If the conditions described in the window apply, click **Yes**. If you do not have details of the required special domain account, follow the link for instructions that will be useful to your domain administrator. Further information is also available in Chapter 11, "Configuring WebSphere MQ accounts" on page 97. You cannot continue to install WebSphere MQ until you have details of the special domain account.

   If the conditions described do not apply, click **No**.

   If you do not know, follow the **More Information** link for help to answer this question, or contact your domain administrator.
6. If you clicked **Yes** (and have details of the special domain account), or if you click **No**, click the **WebSphere MQ Installation** option.

   The WebSphere MQ Installation panel is displayed with a summary of the pre-installation status.
7. To continue, click **Launch WebSphere MQ Installer**, and wait until the WebSphere MQ Setup window is displayed with a welcome message.
8. Click **Next** to continue.

   If the current version of WebSphere MQ is already installed, the Program Maintenance panel is displayed with two options: Modify and Remove.

   a. If you select Modify, click **Next**, then see "Modifying the installation" on page 29.
   b. If you select Remove, click **Next**, then see "Uninstalling WebSphere MQ using the installation process" on page 77.

   If the current version of WebSphere MQ is not installed, the License Agreement panel is displayed.

9. Read the information and license terms on the panel.

   To change the language that the license agreement is displayed in, click **Change Language**, then select the language you require from the list provided.

   Note: Pay particular attention to the section that outlines the number of license units you need, because you will be asked in step 13 to confirm that you have purchased sufficient license units for the number of processors that you have in your computer.

   Select the option to accept the license terms, then click **Next**.

10. If there was no previous version of this product installed on the machine, the Setup Type panel is displayed.

    Select the type of installation you want, then click **Next**. Table 4 on page 21 shows the installation types and the features that are installed with each option.

    a. If you select Custom, go to the procedure "Custom installation" on page 27.
    b. If you select Typical or Compact, go to step 12.

11. If there was a version of MQSeries installed on the machine, the Type of Installation Process panel is displayed. Select one of the following options, then click **Next**:

    - Update. Installs the same features as the previous version. Go to the next step.
    - Custom. You can select which features to install.

      If you select this option, a Destination Folders panel for data files or log files might be displayed, followed by the Features panel. Follow the procedure "Custom installation" on page 27 from step 4, 5, or 6, as appropriate.

12. The WebSphere MQ Setup window displays the following message:

    ```
    Ready to Install WebSphere MQ
    ```

    The window also displays a summary of the installation that you selected.

    To continue, click **Install**.

13. You are asked if you have purchased sufficient license units for the number of processors you have on your computer.

    License units are used by IBM as the basis for product ordering as detailed in the license agreement.

    If you have enough license units, click **Yes**.

    If do not have enough license units, click **No**. You are informed that you must obtain enough license units to run this software on your computer. Click **Yes** to proceed or **No** to cancel the installation.

    If you click **Yes**, the Installing WebSphere MQ panel is displayed.

    If you are unsure whether you have enough license units, exit the installation and restart it to view the details in the license agreement. To do this, click **No**. You are informed that you must obtain enough license units to run this software on your computer. Click **No** to cancel the installation.

14. Wait until the progress bar is complete.

    When WebSphere MQ is successfully installed, the WebSphere MQ Setup window displays the following message:

```
Installation Wizard Completed Successfully
```

15. Click **Finish** to launch the Prepare WebSphere MQ wizard.
16. Follow the procedure described in "Configuring WebSphere MQ" on page 30.

Final installation and verification tasks

1. Check for messages in the following files:
   - `msi`*`nnnnn`*`.log`

     This file is in your user `Temp` folder. It is an application log that contains English messages written during installation. The log includes a message indicating whether the installation was successful and complete.

     This file is created if you have set up default logging. See "Creating a log file when you install WebSphere MQ" on page 20.
   - `amqmjpse.txt`

     This file is in the WebSphere MQ data files folder (default `c:\Program Files\IBM\WebSphere MQ`). It is an application log that contains English messages written during installation by the Prepare WebSphere MQ wizard.
2. Following installation, some of the WebSphere MQ icons might not appear in the Start menu until after the machine is restarted. To use these icons without restarting your machine, access them from the appropriate folder. By default the icons are in the folders `c:\Program Files\IBM\WebSphere MQ` and `c:\Program Files\IBM\WebSphere MQ\bin`.
3. You can now verify your installation using the Postcard application, as described in Chapter 5, "Verifying the installation" on page 57.

Compact installation

Follow the steps for a typical installation, as described in "Typical installation" on page 24. The only difference is that, at step 10 on page 26, you select **Compact** on the **Setup Type** window. This installs only the Server feature of WebSphere MQ for Windows.

Custom installation

During custom installation, you can choose the destination folders for program files, data files, and log files. However, after installation, you cannot change these (except by removing the product, then reinstalling). Therefore, plan and select your destination folders carefully.

1. Follow steps 1 to 10 of the "Typical installation" on page 24.
2. At step 10, click **Custom** on the **Setup Type** window.
3. The Destination Folder panel is displayed.

   To accept the default folder for the program files, click **Next**.

   To change the folder for the program files, click **Change**, select the required folder in the resulting dialog box, click **OK**, then click **Next**.
4. The next Destination Folder panel is displayed.

   To accept the default folder for the data files, click **Next**.

   To change the folder for the data files, click **Change**, select the required folder in the resulting dialog box, click **OK**, then click **Next**.

   If you want to install either the Server or the Client feature, you require a data files folder. Otherwise, you can ignore this panel (that is, accept the default).
5. The next Destination Folder panel is displayed.

   To accept the default folder for the log files, click **Next**.

To change the folder for the log files, click **Change**, select the required folder in the resulting dialog box, click **OK**, then click **Next**.

If you do not want to install the Server feature, you can ignore this panel (that is, accept the default).

6. The Features panel is displayed.

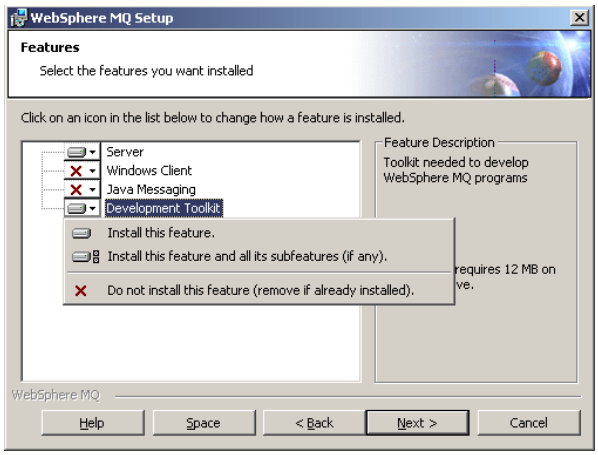

Figure 2. WebSphere MQ Setup window – Features panel

7. To change the installation of a feature:
   a. Click the symbol to the left of the feature name to display a drop-down menu.
   b. Select the required option from:
      - Install this feature
      - Install this feature and all its subfeatures (if any)
      - Do not install this feature (remove if already installed)

      The symbol to the left of the feature name changes to show the current installation option. For more information, click **Help** to display the Custom Setup Tips page, which explains the icons used in the feature list.
8. Optionally, to check that there is enough disk space, press the **Space bar**.

   The Disk Space Requirements panel is displayed. This shows the disk space available and the amount of disk space that your current selections will take. It highlights any volumes that do not have enough disk space.

   To close the panel and return to the Features panel, click **OK**.
9. When your selections are complete, click **Next**.
10. If you selected to install the Server feature:
    a. Follow from step 12 on page 26 to the final step of the procedure Installing WebSphere MQ.
    b. Follow the procedure "Configuring WebSphere MQ" on page 30.
    c. Follow the procedure "Final installation and verification tasks" on page 27.

    If you did not select to install the Server feature:
    a. Follow from step 12 on page 26 to the final step of the procedure Installing WebSphere MQ.
    b. Follow the procedure "Final installation and verification tasks" on page 27.

Modifying the installation

You modify the installation when WebSphere MQ for Windows, V5.3 is installed and you want to remove or install some WebSphere MQ features.

1. Insert the WebSphere MQ for Windows Server CD-ROM into the CD-ROM drive.
2. If autorun is installed, the installation process starts.

   Otherwise, double-click the **Setup** icon in the root folder of the CD-ROM to start the installation process.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Click the **WebSphere MQ Installation** option.
4. Click **Launch WebSphere MQ Installer**. Wait until the WebSphere MQ Setup window is displayed with a welcome message.
5. Click **Next** to continue.

   The Program Maintenance panel is displayed.
6. Select **Modify**, then click **Next**.

   The Features panel is displayed.

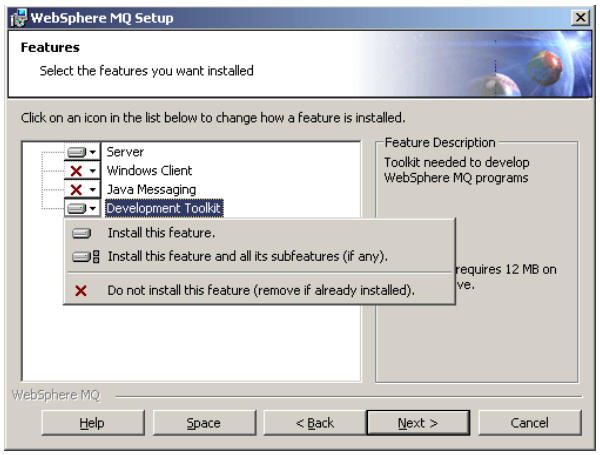

Figure 3. WebSphere MQ Setup window – Features panel

7. Click the + symbol to the left of a feature to show any dependent features (subfeatures).
8. To change the installation of a feature:
   a. Click the symbol to the left of the feature name to display a drop-down menu.
   b. Select the required option from:
      - Install this feature
      - Install this feature and all its subfeatures (if any)
      - Do not install this feature (remove if already installed)

      The symbol to the left of the feature name changes to show the current installation option.
9. When your selections are complete, click **Next**. WebSphere MQ installation begins.

Modifying the installation using Add/Remove Programs

1. From the Windows task bar, click **Start→ Settings→ Control Panel**.
2. Click **Add/Remove Programs**.
3. Click **IBM WebSphere MQ**.
4. For Windows 2000 and Windows XP, click **Change**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for modifying the installation using the process from step 6 on page 29 to the end.
5. For Windows NT, click**Add/Remove**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for modifying the installation using the process from step 6 on page 29 to the end.

Configuring WebSphere MQ

The Prepare WebSphere MQ wizard helps you to configure WebSphere MQ files and a user account for your network, and migrate any queue managers and data from a previous installation.

1. When WebSphere MQ installation completes, the Prepare WebSphere MQ Wizard window is displayed with a welcome message. To continue, click **Next**.
2. If you have not run the Prepare WebSphere MQ wizard before, the Prepare WebSphere MQ Wizard window displays a progress bar with the following message:

   Status: Setting up WebSphere MQ Configuration

   Wait until the progress bar completes.

   If you have run the Prepare WebSphere MQ wizard before, this step is skipped.
3. The Prepare WebSphere MQ Wizard window displays a progress bar with the following message:

   Status: Setting up the WebSphere MQ Service.

   Wait until the progress bar completes.
4. If WebSphere MQ detects that you need to configure WebSphere MQ for Windows 2000 domain users, the Prepare WebSphere MQ Wizard window displays a message that starts:

   ```
   WebSphere MQ does not have the authority to query information about your user account
   ```

   Optionally, to see online help about configuring the domain account, select **More Information**. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

   Click **Next**, and go to step 6 on page 31.
5. If WebSphere MQ cannot detect whether you need to configure WebSphere MQ for Windows 2000 domain users, the Prepare WebSphere MQ Wizard window displays the following message:`Are any of the domain controllers in your network running Windows 2000 server?`

   If you select Yes, click **Next**, then go to step 6.

   If you select No, click **Next**, then go to step 9.

   If you select Don’t know, you cannot continue. Either select one of the other options, or click **Cancel** and contact your domain administrator.

Note: At any time, you can click **More Information** to view online help about configuring the domain account. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

If WebSphere MQ cannot detect whether you need to configure WebSphere MQ for Windows 2000 domain users, but you are installing on a Windows 2000 domain controller, this window is not displayed. Go to the next step.

6. The Prepare WebSphere MQ Wizard window displays the following message:

   ```
   Do you need to configure WebSphere MQ for users defined on Windows 2000 domain
   controllers?
   ```

   If you select Yes, click **Next**, then go to step 7.

   If you select No, click **Next**, then go to step 9.

   If you select Don't know, you cannot continue. Either select one of the other options, or click **Cancel** and contact your domain administrator.

   Note: At any time, you can click **More Information** to view online help about configuring the domain account. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

7. In the next window, enter the Domain and User name of the domain user account that you obtained from your domain administrator. Either enter the Password for this account, or select the option **This account does not have a password**. Click **Next**.
8. The Prepare WebSphere MQ Wizard window displays a progress bar with the following message:

   ```
   Status: Configuring WebSphere MQ with the special domain user account
   ```

   Wait until the progress bar completes.

   If there are any problems with the domain user account, a further window is displayed. Follow the advice on this window before you continue with this procedure.
9. The Prepare WebSphere MQ Wizard window displays a progress bar with the following message:

   ```
   Status: Starting WebSphere MQ services
   ```

   Wait until the progress bar completes.
10. If there are further tasks to complete, the Prepare WebSphere MQ Wizard window displays the following message:

    ```
    Recommended tasks to complete the preparation of WebSphere MQ
    ```

    It displays one or more of the following options, which depend on whether a default configuration or queue managers already exist from a previous installation:

    Note: If the previous installation is such that none of these tasks apply, this window is not displayed. Go to step 11.

    - **Setup the Default Configuration**. This option is displayed only if there are no queue managers and there is no Default Configuration already on the system. This action launches the Default Configuration wizard (see "Using the Default Configuration wizard" on page 33).

In this situation, to verify the installation by using the Postcard application (described in "Using the Postcard applications" on page 58), select this option and use the Default Configuration wizard to create the default queue manager for the Postcard application to use.

- **Migrate the existing Default Configuration**. This option is displayed if a Default Configuration already exists from MQSeries V5.1. This action launches the Default Configuration wizard (see "Using the Default Configuration wizard" on page 33).

  Note: If a Default Configuration already exists from MQSeries V5.2, you can use this without any migration.

- **Allow remote administration of existing queue managers**. This option is displayed only if queue managers, that are not enabled for remote administration exist from a previous installation. This action launches the Remote Administration wizard (see "Using the Remote Administration wizard" on page 35).

  Note: Existing queue managers are migrated automatically.

To launch a wizard to complete a task, select the required option. When all required tasks are complete and you return to this window, click **Next**.

To continue without completing any of these tasks, click **Next**. You can complete these tasks later:

- To set up the Default Configuration, or migrate an existing Default Configuration, select **Default Configuration** from the First Steps application (see "Using WebSphere MQ First Steps" on page 37).
- To allow remote administration of existing queue managers, use the WebSphere MQ Explorer (see the *WebSphere MQ System Administration Guide*).

11. The Prepare WebSphere MQ Wizard window displays the following message:

    ```
    Completing the Prepare WebSphere MQ Wizard
    ```

    Select the options that you require, then click **Finish**. Select one or more from:

    - **Remove the shortcut to this wizard from the desktop**

      This option is available only if you have previously attempted installation, but you cancelled the procedure from the Prepare WebSphere MQ wizard and you created a desktop shortcut to this wizard. Select this option to remove the shortcut. You do not need it now that you have completed the Prepare WebSphere MQ wizard.

    - **Launch WebSphere MQ Help Center**

      The Help Center gives you quick access to all task-oriented help information, the Web-based online books and home pages, and if you have installed WebSphere MQ from the WebSphere MQ Documentation CD, the Information Center.

    - **Launch WebSphere MQ First Steps**

      The First Steps application provides easy access to the key parts of WebSphere MQ, including:

      – Default Configuration
      – Quick Tour
      – Postcard
      – WebSphere MQ Explorer

- API Exerciser
- Help Center

For further information, see "Using WebSphere MQ First Steps" on page 37.

- **Launch WebSphere MQ Explorer**

  The WebSphere MQ Explorer allows you to view and administer your WebSphere MQ network.
- **Launch Notepad to view the release notes**

  The release notes contain information on installing WebSphere MQ and also late-breaking news that is available after the published documentation is produced.

12. Follow the procedure described in "Final installation and verification tasks" on page 27.

Using the Default Configuration wizard

You can use the Default Configuration wizard to add the first configured queue manager to this computer. This enables you to connect easily with other queue managers in the same WebSphere MQ cluster. You can use the Default Configuration wizard to create, view, or alter your default configuration. You can also use this wizard to alter or display details of an existing queue manager that was created by the default configuration.

For a new installation of WebSphere MQ, creating a default configuration enables you to explore features of WebSphere MQ using the Postcard application, the API Exerciser, and the WebSphere MQ Explorer.

The Postcard application provides a fast and simple way to verify that your WebSphere MQ installation completed successfully. It uses the default queue manager that is created during the default configuration. If you want to use the Postcard application for verification, and you do not have any existing queue managers, run the Default Configuration wizard first.

If you have migrated existing queue managers, or created any queue managers since installing WebSphere MQ, you might not want to run the Default Configuration wizard. This is because you cannot create the default configuration if other queue managers already exist. If you have previously created any other queue managers on this computer and you still want to set up a default configuration, you must delete them before you run the Default Configuration wizard.

To use the Default Configuration wizard:

1. Start the Default Configuration wizard in either of the following ways:
   - During WebSphere MQ installation, when the Prepare WebSphere MQ wizard completes, select the option **Setup the Default Configuration**.
   - After WebSphere MQ is installed, select **Default Configuration** from the **WebSphere MQ First Steps** application.

     The WebSphere MQ Default Configuration window is displayed.

     If the default configuration already exists, a message to say this is displayed, and you do not need to follow this procedure. Click **Close**.

     If the default configuration does not exist, select **Set up Default Configuration**.

2. The Default Configuration Wizard window is displayed with a welcome message.

   Click **Next** to display the Setup Default Configuration panel.
3. Click **Next** to display the Select Options panel.

   This panel shows the name of the default queue manager that will be created automatically. This name is based on the name of your computer.
4. Select the options that you require so that there is a check mark by each required option. You can select:
   - **Allow remote administration of the queue manager**

     This allows a user on a remote WebSphere MQ machine to administer this queue manager. We recommend that you select this.
   - **Join the queue manager to the default cluster called**

     This joins the default queue manager to the cluster DEFAULT_CLUSTER. We recommend that you select this, because it is then easy to verify the installation by using the Postcard application.
5. When your selections are complete, click **Next** to display the Join Default Cluster panel.
6. Select whether or not to make the default queue manager the repository for the cluster, then click **Next**. Select from:
   - **Yes, make it the repository for the cluster**

     Select this option if this is the first installation of WebSphere MQ on a computer in this cluster.
   - **No, another computer has already joined the cluster as a repository**

     Select this option if another queue manager (on this, or another, computer in the cluster) is already defined as the repository holder.
7. If you choose to make the default queue manager the repository for the cluster and the computer does not have a fixed IP address, the Repository Location panel is displayed with the message:

   ```
   Is there another computer available, with a fixed IP address, that can be used
   to hold the repository?
   ```

   If required, you can select **More Information** to display a dialog box with a longer explanation. To return to the original window, click **OK**.

   Click **Yes** or **No**, as appropriate, then click **Next**.

   Note: We recommend that the queue manager that hosts the repository for a cluster is on a machine that has a fixed IP address.

   Otherwise, go to the next step.
8. The Repository Location panel is displayed. The information it shows depends on the option you choose in step 6:
   - If you choose the default queue manager the repository for the cluster, this panel shows the location of the repository, that is, the name of this machine.
   - If another queue manager (on this or another computer in the cluster) is already defined as the repository holder, enter the name of the relevant machine (for example, `machine2.server.company.com`).

   Click **Next** to continue.
9. The Default Configuration summary panel is displayed, showing a summary of the configuration options that you selected.

Click **Finish** to continue.

10. Configuration starts and the WebSphere MQ - Set up Default Configuration window is displayed.

    Wait for the progress bar to complete.

11. When configuration is complete, the WebSphere MQ Default Configuration window is displayed.

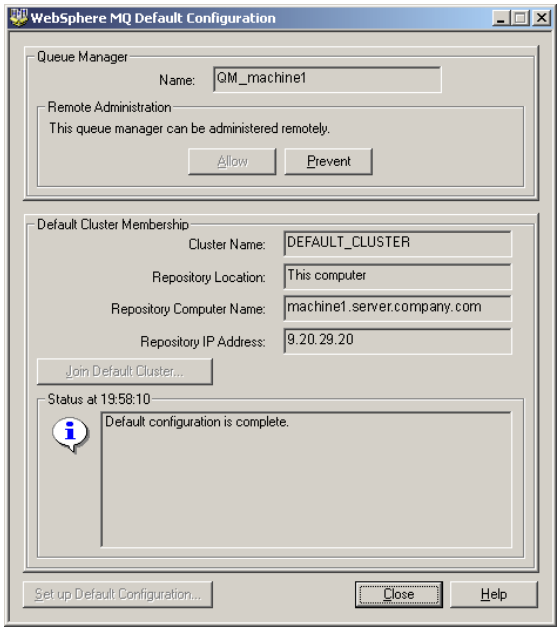

Figure 4. WebSphere MQ Default Configuration window - example configuration

12. Click **Close**.

Using the Remote Administration wizard

Use the Remote Administration wizard to make existing queue managers on the local machine enabled for remote administration.

1. During WebSphere MQ installation, after WebSphere MQ is configured, the Prepare WebSphere MQ wizard displays a list of recommended tasks to complete the preparation of WebSphere MQ. To start the Remote Administration wizard, select the option **Allow remote administration of existing queue managers** from this window.

   Note: To allow or prevent remote administration after installation is complete, you can use the WebSphere MQ Explorer (see the *WebSphere MQ System Administration Guide*).

2. The Remote Administration Wizard window is displayed with a welcome message.

   Click **Next** to continue.

3. The Select queue managers panel is displayed.

   If all the queue managers on the local machine are already enabled for remote administration, or if there are no queue managers defined on the local machine, one of the following messages is displayed:

   - `All queue managers on this computer already allow remote administration`

- `There are no queue managers defined on this computer`

You do not need to proceed and you can click **Cancel** to close the wizard.

Otherwise, this window displays a list of queue managers on the local machine that are not enabled for remote administration.

4. For each queue manager that you want to enable for remote administration, select it so that there is a check in the box to the left of the queue manager name.

   You can also use the following:

   - Click **Select none** to deselect all queue managers
   - Click **Select all** to select all queue managers
   - Ckick **Don't allow remote administration of any of these queue managers** if you do not want to enable any queue managers on this machine (that is, if you want to abandon the operation).

   You must either select at least one queue manager, or select the **Don't allow remote administration of any of these queue managers** option to continue.

   When your selections are complete, click **Next**.

5. If any of the selected queue managers do not have listeners, the Enter listener port numbers panel is displayed. The upper list on this window shows the queue managers on this machine that already have listeners. The lower list shows the queue managers that you selected in the previous step that do not have listeners. For each one, it shows whether a listener already exists on that queue manager, and if so, the TCP/IP port number that it uses.

   For each queue manager that does not have a listener:

   a. Click the queue manager name to select it.
   b. Enter the required port number in the field next to the **Set** button. This port number must be unique and must not be used by any other application on your computer.
   c. Click **Set**.

   When all your settings are complete, click **Next**.

   If all the selected queue managers already have listeners, this window is not displayed. Go to the next step.

6. The Allow remote administration panel is displayed. This window shows a summary of your selections.

   To continue, click **Next**.

7. The wizard enables remote administration of the selected queue managers. Wait for the progress bar to complete.
8. The Remote Administration Wizard window displays the following message:

   `Completing the Remote Administration Wizard`

   Click **Finish**.

After you complete this procedure, continue with the installation (step 11 on page 32).

Using WebSphere MQ First Steps

Figure 5. WebSphere MQ First Steps window

You can use the items in the WebSphere MQ First Steps window to explore the facilities in WebSphere MQ.

- **Default Configuration**

  Allows you to add a configured queue manager to this computer for connecting easily with other queue managers in the same WebSphere MQ cluster. You can also use it to alter or display details of an existing queue manager created by the default configuration. This feature is available only using TCP/IP.

  Note: If you migrated existing queue managers, or if you have created any queue managers after you installed WebSphere MQ, you might not want to use this facility. This is because you can only set up a default configuration if there are no queue managers already, and you might not want to delete your existing queue managers.

- **Quick Tour**

  Gives a brief overview of WebSphere MQ and helps you to learn more about the concepts and functions of the product.

- **Postcard**

  Allows you to try out WebSphere MQ messaging quickly and easily. You can send a message either to your own machine or to another named user's machine. It is described in detail in Chapter 5, "Verifying the installation" on page 57.

- **WebSphere MQ Explorer**

  Allows you to view and administer your WebSphere MQ network. For more information on using the WebSphere MQ Explorer, see the *WebSphere MQ System Administration Guide*.

- **API Exerciser**

First Steps window

Allows you to experiment with the API calls that are provided in the WebSphere MQ programming interface.

To use the API Exerciser:

1. Select the tab for the page with the button for the API call that you want to try.
2. Set the options that are relevant to that page.
3. Optionally, set the parameters or attributes that you want to use with the API call.
4. Select the required API button.

   The results of the call are displayed in the Status area of the window.

For further information about the API Exerciser, refer to the Information Center online help. To display this help, select the **Help** button on the WebSphere MQ API Exerciser window.

For further information about the API calls, refer to the *WebSphere MQ Application Programming Guide* and the *WebSphere MQ Application Programming Reference* manual. You can access these manuals from the Reference section of the Information Center.

- **Help Center**

  The Help Center gives you access to all task-oriented help, books on the IBM website, and a link to the WebSphere MQ Information Center if you have installed it from the WebSphere MQ Documentation CD.

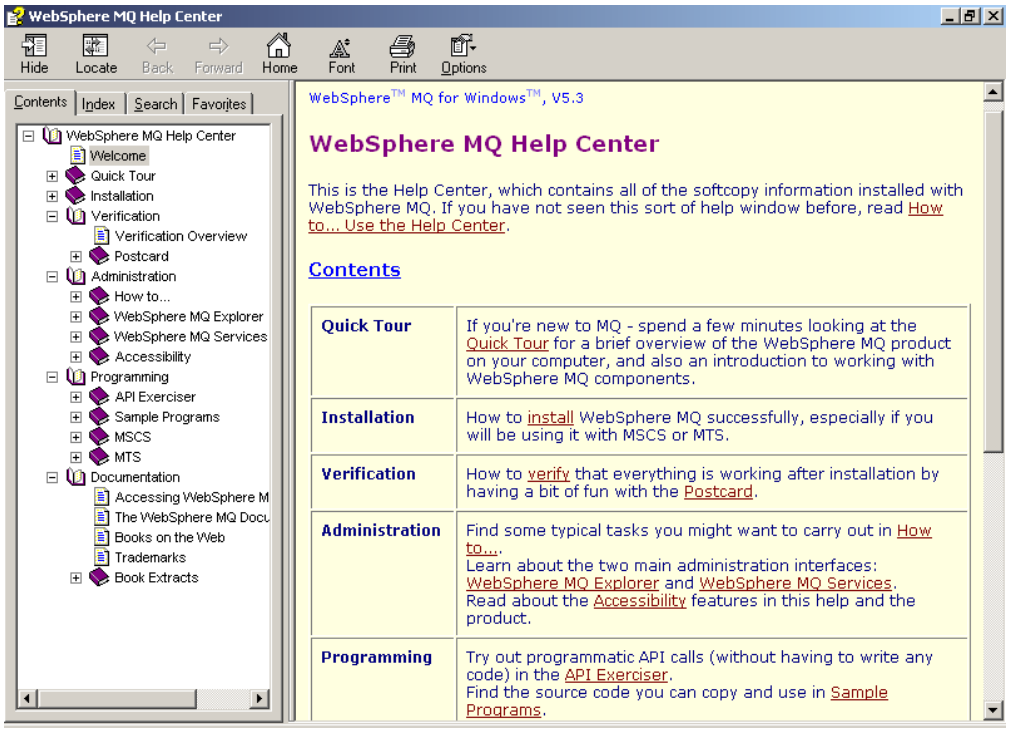

Figure 6. WebSphere MQ Help Center window

Chapter 4. Other methods of installing WebSphere MQ

Chapter 3, "Installing WebSphere MQ" on page 17 describes how to install WebSphere MQ interactively using the Server CD-ROM. However, there are other methods of installing WebSphere MQ for Windows:

- "Installing from a LAN"
- "Unattended (silent) installation" on page 40
- "Advanced installation methods" on page 44
  - "Using Msiexec with command line parameters" on page 44
  - "Using Msiexec with a response file" on page 48
  - "Using the MQParms command" on page 48
  - "Using Microsoft System Management Server" on page 54

Before starting to install WebSphere MQ, review the release notes file, which is on the product CD-ROM in the `\Readmes` folder for each national language. This file contains any additional information about the WebSphere MQ Version 5.3 product, and might update information in this book.

During installation, the release notes file is copied to the WebSphere MQ program files folder (default `c:\Program Files\IBM\WebSphere MQ`).

For all installation methods, ensure that you use the logging facility. You can set up default logging (see"Creating a log file when you install WebSphere MQ" on page 20), or set the appropriate installation parameter. When installation completes, check the log file to ensure that the installation is successful.

Installing from a LAN

There are two ways to put WebSphere MQ installation files on a LAN server for easier access:

- You can make the WebSphere MQ Server CD-ROM drive shareable.
- You can copy the installation files from the CD-ROM to a server. To do this, use the following steps:
  1. Create a folder on the LAN server to store the installation files. For example:
     ```
     md m:\instmqs
     ```
  2. Load the WebSphere MQ Server CD-ROM. If autorun is enabled, the WebSphere MQ Installation Launchpad window is displayed. Select **Cancel** to close this window.
  3. Copy the entire CD-ROM to the installation folder. For example:
     ```
     xcopy e:\*.* m:\instmqs /e
     ```
  4. Give all licensed users access to the folder that now contains the CD-ROM image (in this example, the `m:` drive).
  5. From a command prompt on the target machine, type the following:
     ```
     \\servername\installation_folder\setup.exe
     ```

     where *servername* is the name of the server and *installation_folder* is the full path of the installation folder.

     Alternatively:

a. Map the shared resource to a drive letter. You can use the net use command, or the Windows Explorer.
b. Change to the installation folder.
c. Type `setup`, then press Enter.

6. Follow the prompts.

Unattended (silent) installation

WebSphere MQ for Windows is installed using the Microsoft Installer (MSI). You can invoke MSI directly, without using the WebSphere MQ Installation Launchpad.

This means that you can install WebSphere MQ on a machine without interaction. This process is called unattended (or silent) installation, and is particularly useful for installing WebSphere MQ over a network on a remote machine, because you can install from a shared drive on a LAN server.

To do this, you invoke MSI with a parameter that calls a response file. A response file is an ASCII text file that contains the parameter values you want to set for the installation.

The machine on which you want to install must be able to share the WebSphere MQ Server CD-ROM, or a copy of the files on it, and you must be able to execute a command on that machine.

Notes:

1. The response file you use to install WebSphere MQ for Windows using the WebSphere MQ Server CD-ROM is **not** the same as the one used with non-MSI versions of MQSeries. For details about the response file you use with the WebSphere MQ Client CD-ROM, see "Unattended (silent) installation" on page 85.
2. There are several other ways of invoking MSI without using the WebSphere MQ Installation Launchpad. For details, see "Advanced installation methods" on page 44.

To invoke a silent installation using a response file, use the `Msiexec` command.

The response file is an ASCII text file, with a format similar to a Windows .ini file, that contains the stanza **[Response]**. This stanza contains parameters that the `Msiexec` command can use, in the form of property=value pairs. The `Msiexec` command ignores any other stanzas in the file. An example response file, Response.ini, is supplied with WebSphere MQ. This file contains default installation parameters.

There are three ways to create a response file for installation:

- Copy and edit the file Response.ini that is supplied on the WebSphere MQ Server CD-ROM, using an ASCII file editor.
- Create your own response file using an ASCII file editor.
- Use an advanced method to invoke an installation and specify the SAVEINI property (and optionally, the ONLYINI property) to generate a response file that contains the same installation options. See "Using Msiexec with command line parameters" on page 44.

In the response file, all text is in English, and comments begin with a ; character.

Invoking a silent installation

To invoke a silent installation using a response file, enter the following command at a command line:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q USEINI="response_file"
TRANSFORMS=:1033
```

where:

/q Specifies a silent installation.

response_file Is the full path and file name of the file that contains the [Response] stanza and the required property=value pairs, for example Response.ini.

`TRANSFORMS=:1033` specifies that the installation is in U.S. English. For further information about installing in different national languages, see "Using transforms" on page 47.

You can also specify property=value pairs on the command line (the property must be in upper case), for example:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q USEINI="response_file"
TRANSFORMS=:1033 AGREETOLICENSE="yes"
```

If a parameter is specified both on the command line and in the response file, the setting on the command line takes precedence.

Table 5 shows the parameters that you can enter in the response file (defaults are shown in bold). Some properties or values are related to uninstallation, rather than installation. Note that:

- Property strings must be in upper case.
- Value strings are not case sensitive, except for feature names. They can be enclosed in double quotation marks. If a value string includes a blank, it must be enclosed in double quotation marks.
- For a property that can take more than one value, use the format:

  `ADDLOCAL="Server,Client"`

Table 5. Response file parameters

Property	Values	Meaning
PGMFOLDER	*path*	Folder for the WebSphere MQ program files. For example, `c:\mqm`.
DATFOLDER	*path*	Folder for the WebSphere MQ data files. For example, `c:\mqm\data`.
LOGFOLDER	*path*	Folder for the WebSphere MQ queue manager log files. For example, `c:\mqm\log`.
USERCHOICE	0|no	If the command line or response file specifies parameters to install features, a dialog can be displayed to prompt the user to accept the preselected options, or review and possibly change them. 0 or no. Suppresses display of the dialog. Anything else. Dialog is displayed. Not used for a silent installation.

Table 5. Response file parameters (continued)

Property	Values	Meaning
AGREETOLICENSE	yes	Accept the terms of the license. For a silent installation, this must be set to yes. If the installation is not silent, this parameter is ignored.
KEEPQMDATA	**keep** | delete	If the Server feature is to be uninstalled, whether to delete any existing queue managers. delete removes any existing queue managers. keep, or any other value, keeps them.
KEEPWEBDATA	**keep** | delete	If the WebAdmin feature is already installed from a previous version of MQSeries, it will be uninstalled. This property gives you the option to delete the existing Web Administration scripts. delete removes any existing Web Administration scripts. keep, or any other value, keeps them.
LAUNCHWIZ	0 | 1 | yes | no | **""**	0 or no. Do not launch the Prepare WebSphere MQ wizard after WebSphere MQ is installed. 1 or yes. Launch the Prepare WebSphere MQ wizard if the Server feature is installed. "". Launch the Prepare WebSphere MQ wizard if this installation will install the Server (the default). If this option will launch the Prepare WebSphere MQ wizard, you can specify the WIZPARMFILE, either in this file, or on the command line.
WIZPARMFILE	*path\file_name*	When specified, the file that contains the parameters to pass to the Prepare WebSphere MQ wizard when it is launched. These are in the [Services], [DefaultConfiguration] and [RemoteAdministration] stanzas. See "Parameter file" on page 49.
ADDLOCAL	*feature*, *feature*, ... | All | **""**	A comma-separated list of features to install locally.[1] All installs all features "" installs the typical features. If you do not want a feature use REMOVE="*feature*"
REMOVE	*feature*, *feature*, ... | All | **""**	A comma-separated list of features to remove.[1] All uninstalls all features "" uninstalls no features (the default).
REMOVEFEATURES	1 | yes	Must be set to 1 or yes for a silent installation if Internet Gateway, Web Administration Server, or SupportPac MA88 are installed, or the installation fails.

Table 5. Response file parameters (continued)

Property	Values	Meaning
HAVELICENSEUNITS	0 | 1 | yes | no	Must be set to 1, 0, yes, or no for a silent installation of the server feature. 1 or yes. You have purchased sufficient license units. 0 or no. You have not purchased sufficient license units. This status is recorded in the error log. Ignored if the server feature is not installed.
STARTSERVICE	0 | no | ""	0 or no. Do not start the WebSphere MQ Service at the end of installation. "". (The default) Start the WebSphere MQ Service at the end of installation if it was running at the start, or if this is a new installation. Anything else. Start the Service at the end of the installation. Ignored if the server feature is not installed.
STARTTASKBAR	0 | no | ""	0 or no. Do not start the WebSphere MQ taskbar application at the end of installation. "". (The default) Start the WebSphere MQ taskbar application at the end of installation if it was running at the start, or if this is a new installation. Anything else. Start the taskbar application at the end of the installation. Ignored if the server feature is not installed.
HIGHCONTRAST	0 | no | ""	0 or no. Do not set high-contrast mode for the installation. "" (The default). Set high-contrast mode for the installation if Windows 2000 or Windows XP high-contrast mode is set or if WebSphere MQ high-contrast mode is set. Anything else. Set high-contrast mode for the installation.
1. For a list of valid feature names, see Table 6.		

Table 6 shows the features that can be values for the ADDLOCAL and REMOVE properties.

Table 6. Valid feature names

Feature Name	Description
Server	The WebSphere MQ for Windows server.
GuiAdmin	GUI administration functions, that is, WebSphere MQ Services and WebSphere MQ Explorer. This feature is installed automatically if the server feature is installed. You can select to remove it. This might be of use on Windows NT if the system does not include the system upgrades that are required to run WebSphere MQ Services and WebSphere MQ Explorer.
Client	The WebSphere MQ for Windows client.

Table 6. Valid feature names (continued)

Feature Name	Description
JavaMsg	The files needed for messaging using Java (includes Java Message Service support).
Toolkit	Sample WebSphere MQ program source and sample executable code.

An example of a typical response file is:

```
[Response]
PGMFOLDER="c:\mqm"
DATFOLDER="c:\mqm\data"
LOGFOLDER="c:\mqm\log"
AGREETOLICENSE="yes"
LAUNCHWIZ=""
WIZPARMFILE="d:\MQParms.ini"
ADDLOCAL="Server,Client"
REMOVE="Toolkit"
HAVELICENSEUNITS="yes"
```

Advanced installation methods

WebSphere MQ for Windows is installed using the Microsoft Installer (MSI). You can install WebSphere MQ by invoking MSI directly, without using the WebSphere MQ Installation Launchpad. You can use this process for more complex unattended (or silent) installation, or for interactive installation, from a command line.

The machine on which you want to install must be able to share the Server CD-ROM, or a copy of the files on it, and you must be able to execute a command on that machine.

Also, you can use the Microsoft System Management Server to install WebSphere MQ. See “Creating a WebSphere MQ SMS software package” on page 54.

There are several ways to invoke MSI without using the WebSphere MQ Installation Launchpad:

- Use the `Msiexec` command with command line parameters. See “Using Msiexec with command line parameters”.
- Use the `Msiexec` command with a parameter that calls a response file. The response file contains the parameters that you normally specify during an interactive installation. See “Using Msiexec with a response file” on page 48.
- Use the `MQParms` command with command line parameters, a parameter file, or both. The parameter file can contain many more parameters than a response file. See “Using the MQParms command” on page 48.

The following sections describe how to invoke MSI from the command line in more detail. These sections also describe the parameters that you can use for such an installation.

Using Msiexec with command line parameters

You can use the `Msiexec` command with command line parameters to invoke installation or uninstallation. At a command line, enter the following command, followed by the parameters that you require:

```
Msiexec
```

Table 7 shows the parameters that you can use. For a silent installation, this must include the **/q** or **/qn** parameter.

Note: The `Msiexec` command can take further parameters that are not supported or listed here. If you need details of these, refer to the help file for the Windows Installer that is supplied with the MSI software development kit. See the Microsoft Web site at:

`http://www.microsoft.com`

A typical example of an `Msiexec` command is:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /l*v c:\install.log /m mif_file
TRANSFORMS=":1033" ADDLOCAL="Server" REMOVE="Toolkit"
   WIZPARMFILE="path\MQParms.ini"
```

Table 7. Msiexec command line parameters

Parameter	Options	Description
/a	*Package*	Installs a product on the network using administrative installation, that is, installs a source image of the application onto the network that is similar to a source image on a CD-ROM.
/i	*Package* | *ProductCode*	Installs or configures a product using the specified .msi file. The WebSphere MQ Windows Installer package is IBM WebSphere MQ.msi.
/j	[u | m]Package | [u | m]Package /t *Transform List* | [u | m]Package /g *LanguageID*	Advertises the product. This option ignores any property values entered on the command line. **u** Advertise to the current user **m** Advertise to all users of this machine **g** Language ID **t** Applies transform to advertised package
/l	[i | w | e | a | r | u | c | m | o | p | v | + | !]*Logfile*	Specifies path to log file, with flags to set which information to log. **i** Status messages **w** Non-fatal warnings **e** All error messages **a** Start up of actions **r** Action-specific records **u** User requests **c** Initial user interface parameters **m** Out-of-memory or fatal exit information **o** Out-of-disk-space messages **p** Terminal properties **v** Verbose output **+** Append to existing file **!** Flush each line to the log * Log all information except for the v option. To log all information including the v option, specify "/l*v"

Table 7. Msiexec command line parameters (continued)

Parameter	Options	Description
/m	*filename*	Generates a Microsoft System Management Server (SMS) status .mif file. Must be used with either the install (/i), remove (/x), administrative installation (/a), or reinstall (/f) options. The ISMIF32.DLL is installed as part of SMS and must be on the path. The fields of the status .mif file are filled with the following information: • Manufacturer - Author • Product - Revision Number • Version - Subject • Locale - Template • Serial Number - not set • Installation - set by ISMIF32.DLL to DateTime • InstallStatus - Success or Failed • Description - Error messages in the following order: 1. Error messages generated by installer. 2. Resource from msi.dll if install could not commence or user exit 3. System error message file. 4. Formatted message: `Installer error %i`, where %i is the error returned from msi.dll.
/q	n|b|r|f	Sets the level of user interface displayed during the install. **q, qn** No user interface. A silent installation that displays no user interface. **qb** Basic user interface. Displays the built-in dialog boxes that show progress messages **qr** Reduced user interface with a modal dialog box displayed at the end of the installation. **qf** Full user interface with a modal dialog box displayed at the end. **qn+** No user interface except for a modal dialog box displayed at the end of installation. **qb+** Basic user interface with a modal dialog box displayed at the end. The modal box is not displayed if the user cancels the installation. **qb-** Basic user interface with no modal dialog boxes. Note that /qb+- is not a supported UI level.
/x	*Package|ProductCode*	Uninstalls the product.

Notes:

1. Do not use the options /i, /x, /j[u|m], and /a together.
2. Use the options /t and /g only with /j.
3. Use the options /l and /q with /i, /x, /j[u|m], and /a.

Table 5 on page 41 and Table 8 on page 47 show the parameters that you can enter as property=value pairs on the `Msiexec` command line (defaults are shown in bold). Note that:

- Property strings must be in upper case.

- Value strings are case sensitive. They can be enclosed in double quotation marks. If a value string includes a blank, it must be enclosed in double quotation marks.
- For a property that can take more than one value, use the format:

```
ADDLOCAL="Server,Client"
```

Table 8. Msiexec PROPERTY= value parameters

Property	Values	Meaning
USEINI	*path**file_name*	Use the specified response file. See "Using Msiexec with a response file" on page 48.
SAVEINI	*path**file_name*	Generate a response file during installation. The file will contain those parameters selected for this installation that a user could make during an interactive installation.
ONLYINI	1|yes|""	1, yes or any value other than null. End the installation before updating the target system, but after generating a response file, if this is specified. "". Continue the installation and update the target machine (the default).

Using transforms

MSI can use transforms to modify an installation. During WebSphere MQ installation, transforms can be used to support different national languages. WebSphere MQ is supplied with transform files in the `\MSI` folder of the Server CD-ROM. These files are also embedded in the WebSphere MQ Windows Installer package, IBM WebSphere MQ.msi.

On the `Msiexec` command line, you can specify the required language by using the TRANSFORMS property in a property=value pair, for example:

```
TRANSFORMS=:1033
```

The `:` character means use the embedded transform. Otherwise, you must specify the full path and file name of the transform file, for example:

```
TRANSFORMS=D:\Msi\1033.mst
```

Table 9 shows the supplied transform files, the resulting language, and the numerical value to use in the `Msiexec` command line.

Table 9. Supplied transform files

Language	Transform File name	Value
U.S. English	1033.mst	1033
German	1031.mst	1031
French	1036.mst	1036
Spanish	1034.mst	1034
Italian	1040.mst	1040
Brazilian Portuguese	1046.mst	1046
Japanese	1041.mst	1041
Korean	1042.mst	1042
Simplified Chinese	2052.mst	2052

Table 9. Supplied transform files (continued)

Language	Transform File name	Value
Traditional Chinese	1028.mst	1028

You can also specify the required language by using the MQPLANGUAGE property with the MQParms command. See Table 10 on page 51.

Using Msiexec with a response file

You can use the Msiexec command with a parameter that calls a response file, as described in "Unattended (silent) installation" on page 40. The response file contains the parameters that you normally specify during an interactive installation.

You can combine the Msiexec command line parameters described in "Using Msiexec with command line parameters" on page 44 with the response file to invoke a complex installation or uninstallation. This could be silent or interactive. For a silent installation, this must include the **/q** or **/qn** parameter.

To invoke the Msiexec command using a response file, enter the following command at a command line:

```
Msiexec [parameters] USEINI="response_file"
```

where:

parameters are command line parameters listed in Table 7 on page 45, or property=value pairs on the command line (always put the command line parameters first).

response_file is the full path and file name of the file that contains the [Response] stanza and the required property=value pairs, for example, Response.ini.

If a parameter is specified both on the command line and in the response file, the setting on the command line takes precedence.

For example:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /l*v c:\install.log /q
   USERCHOICE="1" USEINI="c:\MyResponseFile.ini"
```

Using the MQParms command

You can use the MQParms command to invoke installation or uninstallation. This command can use parameters on a command line, or those specified in a parameter file. The parameter file is an ASCII text file that contains the parameter values that you want to set for the installation. The MQParms command takes the specified parameters and generates the corresponding Msiexec command line.

This means that you can save all the parameters that you want to use with the Msiexec command in a single file.

For a silent installation, this must include the **/q** or **/qn** parameter, either on the command line, or in the [MSI] stanza of the parameter file.

You can specify many more parameters in the parameter file that you use with the MQParms command than you can in the response file that you use directly with the

Msiexec command. Also, as well as parameters that the WebSphere MQ installation uses, you can specify parameters that can be used by the Prepare WebSphere MQ wizard.

An example of the file MQParms.ini is supplied with WebSphere MQ. This file contains default installation parameters.

There are two ways to create a parameter file for installation:

- Copy and edit the file MQParms.ini that is supplied in the root folder of the WebSphere MQ Server CD-ROM, using an ASCII file editor.
- Create your own parameter file using an ASCII file editor.

To invoke installation using the MQParms command:

1. From a command line, change to the root folder of the WebSphere MQ Server CD-ROM (that is, the location of the file MQParms.exe).
2. Enter the following command:

   MQParms [*parameter_file*] [*parameters*]

   where:

   parameter_file is the file that contains the required parameter values. If this file is not in the same folder as MQParms.exe, specify the full path and file name. If you do not specify a parameter file, the default is MQParms.ini. For further details, see "Parameter file".

   parameters are one or more command line parameters, as listed in Table 7 on page 45.

A typical example of an MQParms command is:

```
MQParms MyParams.ini /l*v c:install.log
```

If you specify a parameter both on the command line and in the parameter file, the setting on the command line takes precedence.

If you specify a parameter file, you might want to run the encryption utility before you use the MQParms command (see "Encrypting a parameter file" on page 53).

If you do not specify /i, /x, /a, or /j, MQParms defaults to standard installation using the WebSphere MQ Windows Installer package, IBM WebSphere MQ.msi. That is, it generates the following part of the command line:

```
/i "current_folder\MSI\IBM WebSphere MQ.msi"
```

If you do not specify a WIZPARMFILE parameter, MQParms defaults to the current parameter file. That is, it generates the following part of the command:

```
WIZPARMFILE="current_folder\current_parameter_file"
```

Parameter file

A parameter file is an ASCII text file that contains sections (stanzas) with parameters that can be used by the MQParms command. Typically, this is an initialization file such as MQParms.ini.

The MQParms command takes parameters from the following stanzas in the file:

[MSI] Contains general properties related to how the MQParms command runs and to the installation of WebSphere MQ.

The properties that you can set in this stanza are listed in Table 5 on page 41, Table 7 on page 45, Table 8 on page 47, and Table 10 on page 51.

[Services]
Contains properties related to WebSphere MQ account configuration, in particular, the user account required for WebSphere MQ Services. If you are installing WebSphere MQ on a network where the domain controller is on a Windows 2000 server, you probably need details of a special domain account. For further information, see Chapter 11, "Configuring WebSphere MQ accounts" on page 97 and "Configuring WebSphere MQ" on page 30.

The properties that you can set in this stanza are listed in Table 12 on page 51.

[Default Configuration]
Contains properties related to the default configuration, that is, adding or configuring a default queue manager. For further information, see "Using the Default Configuration wizard" on page 33.

The properties that you can set in this stanza are listed in Table 13 on page 52.

[RemoteAdministration]
Contains properties related to enabling existing queue managers for remote administration. For further information, see "Using the Remote Administration wizard" on page 35.

The properties that you can set in this stanza are listed in Table 14 on page 52.

`MQParms` ignores any other stanzas in the file.

In the [MSI] stanza, the properties can be in command line format (for example, `/q`) or property=value format.

In all other stanzas, the parameters are in the form property=value, where property is always interpreted as upper case, but value is case sensitive. If a value string includes a blank, it must be enclosed in double quotation marks. Most other values can be enclosed in double quotation marks. Some properties can take more than one value, for example:

```
ADDLOCAL="Server,Client"
```

To clear a property, set its value to an empty string, for example:

```
REINSTALL=""
```

The following tables show the properties that you can set. The default is shown in bold.

For the [MSI] stanza, you can enter parameters in command line format (for example, `/q`) and parameters in property=value format (for example, `ADDLOCAL="Server"`). Refer to Table 5 on page 41, Table 7 on page 45, and Table 8 on page 47 for the properties used to install WebSphere MQ. Table 10 on page 51 shows additional properties in the stanza that affect how the `MQParms` command runs, but that do not affect the installation.

Table 10. Properties used by MQParms in the MSI stanza

Property	Values	Description
MQPLOG	*path\file_name*	MQParms generates a text log file with the specified name and location.
MQPLANGUAGE	**system** | user | *transform_value*	The installation language. system. Install using the language of the default system locale (the default). user. Install using the language of the default locale of the user. *transform_value*. Install using the language specified by this value. See Table 11.
MQPSMS	**0** | no	0 or no. MQParms does not wait for the `Msiexec` command to end (the default). Any other value. MQParms waits for the `Msiexec` command to end.

Table 11. Valid values for the MQPLANGUAGE property

Language	Valid values		
U.S. English	English	en_us	1033
German	German	de_de	1031
French	French	fr_fr	1036
Spanish	Spanish	es_es	1034
Italian	Italian	it_it	1040
Brazilian Portuguese	Brazilian Portuguese	pt_br	1046
Japanese	Japanese	ja_jp	1041
Korean	Korean	ko_kr	1042
Simplified Chinese	Simplified Chinese	zh_cn	2052
Traditional Chinese	Traditional Chinese	zh_tw	1028

For the [Services] stanza, you can enter parameters in property=value format. You might want to encrypt the values in this stanza. See "Encrypting a parameter file" on page 53.

Table 12. Properties in the Services stanza

Property	Values	Description
USERTYPE	**local** | domain	The type of user account to use. local. Creates a local user account. domain. Uses the domain user account specified by DOMAINNAME, USERNAME, and PASSWORD.
DOMAINNAME	*domain_name*[1]	The domain for the domain user account. Required if USERTYPE is set to domain.
USERNAME	*user_name*[1]	The user name for the domain user account. Required if USERTYPE is set to domain.

Table 12. Properties in the Services stanza (continued)

Property	Values	Description
PASSWORD	*password*[1]	The password for the domain user account. Required if USERTYPE is set to domain.
1. Do not enclose this value in double quotation marks.		

For the [DefaultConfiguration] stanza, you can enter parameters in property=value format.

Table 13. Properties in the DefaultConfiguration stanza

Property	Values	Description
CREATE	yes | **no**	Whether to create the default configuration. If this is set to yes and a default configuration already exists, there is no action. If this is set to yes and the default configuration cannot be created because other queue managers already exist, an error is raised.
MIGRATE	yes | **no**	Whether to migrate an existing default configuration from a previous version of MQSeries. If this is set to yes and a default configuration does not already exist, there is no action.
ALLOWREMOTEADMIN	**yes** | no	Whether to enable remote administration of the queue manager that is created as part of the default configuration.
JOINDEFAULTCLUSTER	**yes** | no	Whether the default queue manager joins the default cluster.
REPOSITORY	**local** | *computer_name* | *computer_ip_address*	The location of the default configuration cluster repository. Use *computer_name* or *computer_ip_address* if the repository is not on the local machine. If it is not possible to ping the remote machine, the default configuration is not joined to the cluster, and an error is raised.

For the [RemoteAdministration] stanza, you can enter parameters in property=value format.

Table 14. Properties in the RemoteAdministration stanza

Property	Values	Description
ALLOWFORQMGR	**none** | *qmgr_name*, *qmgr_name*, ...	none. Leaves any existing queue managers unchanged. *qmgr_name*. A list of existing queue managers to be enabled for remote administration.

Table 14. Properties in the RemoteAdministration stanza (continued)

Property	Values	Description
LISTENERPORTNUMBER	*port_number*, *port_number*, ...	The list of TCP/IP port numbers to be used for the corresponding list of queue managers, for each queue manager that does not already have a listener defined. If you do not specify enough port numbers, no queue managers are enabled for remote administration and an error is raised.

A typical example of a parameter file is:

```
[MSI]
MQPLANGUAGE=1033
MQPLOG=%temp%\MQParms.log
MQPSMS=no
ADDLOCAL=Server
/m miffile
REMOVE=""
/l*v c:\install.log

[Services]
USERTYPE=domain
DOMAINNAME=mqm*df349edfcab12
USERNAME=mqm*a087ed4b9e9c
PASSWORD=mqm*d7eba3463bd0a3

[DefaultConfiguration]
CREATE=yes
MIGRATE=""
ALLOWREMOTEADMIN=yes
JONDEFAULTCLUSTER=yes
REPOSITORY=machine1.server.company.com

[RemoteAdministration]
ALLOWFORQMGR="testqueue1,testqueue2"
LISTENERPORTNUMBER="1414,1822"
```

Encrypting a parameter file

Use the `setmqipw` utility to encrypt the DOMAINNAME, USERNAME, and PASSWORD values in the [Services] stanza of a parameter file, if they are not already encrypted. (These values might be encrypted if you have run the utility before.)

This encryption means that, if you need a special domain account to configure WebSphere MQ (see Chapter 11, "Configuring WebSphere MQ accounts" on page 97), details of that account are kept secure. Otherwise, these values, including the domain account password, flow across the network as clear text. You do not have to use this utility, but it is useful if security in your network is an issue.

To run the script:

1. From a command line, change to the folder that contains your parameter file.
2. Enter the following command:

   ```
   CD_drive:\setmqipw
   ```

   Note: You can run the command from a different folder, by entering the following command, where *parameter_file* is the full path and file name of the parameter file:

```
CD_drive:\setmqipw parameter_file
```

If you view the resulting parameter file, the encrypted values start with the string `mqm*`. Do not use this prefix for any other values; passwords or names that begin with this prefix are not supported.

The utility creates a log file, `setmqipw.log`, in the current directory. This file contains messages related to the encryption process. When encryption is successful, messages are similar to:

```
Encryption complete
Configuration file closed
Processing complete
```

After you encrypt the parameter file, you can use it in the normal way with the `MQParms` command (see "Using the MQParms command" on page 48).

Using Microsoft System Management Server

There are two steps to installing WebSphere MQ using the Microsoft System Management Server (SMS):

1. Create an SMS software package (see "Creating a WebSphere MQ SMS software package").
2. Create an SMS job to distribute and install the package (see "Creating a WebSphere MQ SMS job" on page 55).

For more detailed information on how to create a software package and a job, refer to the Microsoft System Management Server documentation.

Creating a WebSphere MQ SMS software package

To create the SMS software installation package:

1. From the Microsoft SMS Administrator application, open the **Packages** folder and create a new package.
2. In the SMS **Package Properties** dialog, click the **Import** button to create the software package by importing a Package Definition File (PDF).
3. In the **File Browser** dialog, select the drive where the WebSphere MQ Server CD-ROM is located.
4. Select the current root folder, which contains the package definition file `WebSphere MQ.pdf`.

   You can also find the `WebSphere MQ.pdf` file in the local drive, or shared network drive to where you copied the WebSphere MQ Installation software.
5. Select the **WebSphere MQ.pdf** file and click **OK**.
6. Click **Workstation**. In the **Source Directory** entry field, specify the fully qualified path name to the WebSphere MQ root folder that contains the WebSphere MQ installation software. See "Installing from a LAN" on page 39.
7. Select the appropriate Workstation Command Line:
   - **Automated Uninstallation of IBM WebSphere MQ**
   - **Automated Installation of IBM WebSphere MQ (US English)**
8. Click **Properties** for each process and review the **Command Line** entry field to ensure that the parameters are what you require.
9. Click **Close** to close the **Workstation Properties** dialog.

Note: If you specified a local path in the **Source Directory** entry field, you get a pop-up dialog warning you that the local path you specified might not be accessible to SMS components running on another machine. Click **OK** to continue.

10. Click **OK** to close the **Package Properties** window.

    A pop-up dialog appears indicating that SMS will update the software package at all sites. Click **OK** to continue.

The software package has been created and can be installed by creating an SMS job.

Creating a WebSphere MQ SMS job

You must now create an SMS job to distribute and install the software packages that you created, which contain the WebSphere MQ installation software.

Refer to the Microsoft System Management Server documentation for detailed information on how to create and run a job.

Notes:

1. You ***must*** be logged onto the target machine with Administrator authority to install WebSphere MQ.
2. When creating an SMS Job to distribute and install the software package, ensure that you select the appropriate workstation command. The workstation commands are displayed on the **Job Details** dialog in the **Run Phase** section and appear in a drop-down listbox.

Startup parameters for Prepare WebSphere MQ wizard

The Prepare WebSphere MQ wizard (AMQMJPSE.EXE) accepts the following optional parameters:

Table 15. Startup Parameters for Prepare WebSphere MQ Wizard

Parameter	Name	Description	Default action if not supplied
–l <file>	Create log file	The Prepare WebSphere MQ wizard appends to a log file with the program actions and results. This parameter specifies the filename to use for this log. If the path is not provided, the WebSphere MQ Data directory is assumed. If the filename is not provided, AMQMJPSE.LOG is assumed.	Append to log file AMQMJPSE.LOG in WebSphere MQ Data directory.

Table 15. Startup Parameters for Prepare WebSphere MQ Wizard (continued)

–r	Reset MQSeriesService user account	When the Prepare WebSphere MQ wizard is first run it creates a local user account MUSR_MQADMIN, with specific settings and permissions. The MQSeriesService component is configured to run under this account. Depending on the LAN configuration, the wizard might reconfigure the MQSeriesService component to run under a domain user account instead. When this parameter is specified, the local user account MUSR_MQADMIN is re-created with all the default settings and permissions. The MQSeriesService component is configured to run under this account.	User account not reset.
–s	silent install mode	Process silently. Nothing is displayed and there is no user input.	Not silent mode.
–p <file>	User parameters from file	Load and use parameters from the parameter file. If the path is not provided, the WebSphere MQ Data directory is assumed. If the filename is not provided, AMQMJPSE.INI is assumed. For more information about the format of this file see "Parameter file" on page 49. The following stanzas are loaded: [Services] [DefaultConfiguration] [RemoteAdministration]	When in silent mode, the parameter file AMQJPSE.INI is loaded from WebSphere MQ Data directory. When not in silent mode, a parameter file is not used.
–m <file>	Generate a Microsoft System Management Server (SMS) status .MIF file.	When the Prepare WebSphere MQ wizard closes, generate a status .MIF file with the specified name. If the path is not provided, the WebSphere MQ Data directory is assumed. If the filename is not provided, AMQMJPSE.MIF is assumed. The file ISMIF32.DLL (installed as part of SMS) must be in the path. The InstallStatus field in the file will contain either Success or Failed.	.MIF file not created.

Chapter 5. Verifying the installation

Before you can use WebSphere MQ for Windows, you need to verify that the product has installed correctly. You can verify a WebSphere MQ server installation at different levels:

- A local (stand-alone) installation that has no communication links with other WebSphere MQ installations.

  If both queue managers are in the same cluster, see "Using the Postcard applications to verify a local installation" on page 59.

  If both queue managers are not in the same cluster, see "Verifying a local installation" on page 63.
- A server-to-server installation that includes communication links to other WebSphere MQ installations.

  If both machines are in the same cluster, or channels are configured to communicate between the two machines, see "Using the Postcard applications to verify a server-to-server installation" on page 62.

  If the machines are not in the same cluster and channels are not configured to communicate between the two machines, see Chapter 6, "Setting up communications" on page 69, then "Verifying a server-to-server installation" on page 65.

For a client-to-server installation that includes communication links between a server machine and a WebSphere MQ client, see Chapter 7, "Verifying a client installation" on page 71.

Enabling accessibility features on Windows NT

On Windows NT, WebSphere MQ cannot query the operating system to find out whether you are using either of the two accessibility features:

- High Contrast mode
- Screen Reader mode

For more information on these features see "Accessibility" on page 9.

However, there is a way for you to tell WebSphere MQ that you want them enabled, and you do this in First Steps as follows:

1. In the First Steps window, open the system menu by pressing **Alt-Space**
2. In the menu that opens, select **Accessibility**

3. In the submenu that opens, select any of the following items so that a tick appears by it on the menu:
   - High Contrast mode
   - Screen Reader mode

Using the Postcard applications

You can verify a *local* installation (which does not have any communication links with other WebSphere MQ installations) by using the Postcard applications that are supplied with WebSphere MQ.

There are two Postcard applications. The MQI Postcard uses MQI (Message Queue Interface) to send and receive messages and the JMS Postcard uses JMS (Java Message Service) to send and receive messages. The Postcard applications look very similar and work in a similar way. They are used to verify different aspects of the WebSphere MQ installation.

- Use the **MQI Postcard** to verify that WebSphere MQ is successfully installed and the associated communication links are working properly.
- Use the **JMS Postcard** to verify that WebSphere MQ Java Messaging support is successfully installed.

Notes:

1. To use the JMS Postcard you must install the optional Java Messaging feature of WebSphere MQ. You must also have a working JRE (Java Runtime Environment). If you have not installed the Java Messaging feature, First Steps does not show a button to launch the JMS Postcard.
2. If you want the JMS Postcard to use font and color settings different from the Java Virtual Machine defaults, you need to change the postcard.ini file. For more information see *WebSphere MQ Using Java*.

For further information, see "Using the Postcard applications to verify a local installation" on page 59.

You can also use the Postcard applications to verify communication between your machine and the machine of another named user, where that machine is running WebSphere MQ and using TCP/IP. Therefore, you can use the Postcard to verify that you can communicate with another server. To use the Postcard applications for this type of verification, either both machines must be in the same cluster or you must configure channels to communicate between the two machines (see Chapter 6, "Setting up communications" on page 69)

To ensure that both machines are part of the same cluster, you can do either of the following:

- Run the Default Configuration wizard on both machines to create or alter the default queue managers and link them to the default cluster (see "Using the Default Configuration wizard" on page 33).
- Create your own queue managers on both machines, create a cluster, and ensure that the queue managers that you create on each machine belong to the same cluster.

You can use the Postcard applications with existing queue managers, as long as both queue managers belong to the same cluster.

For further information, see "Using the Postcard applications to verify a server-to-server installation" on page 62.

Using the Postcard applications to verify a local installation

Note: TCP/IP must be already installed on the machine, and a queue manager that can be used as a mailbox must be already set up. This queue manager can be either the default queue manager, which is set up automatically during default configuration, or another queue manager that you have set up yourself.

To verify that the local installation is working, you can use the Postcard applications. These applications allow you to create two postcards on the same machine and send messages between them, verifying that WebSphere MQ messaging is working correctly on the machine.

Use the MQI Postcard as shown below to verify that WebSphere MQ is successfully installed and the associated communication links are working properly. If you intend to use the optional Java Messaging feature of WebSphere MQ, carry out the following instructions again, using the JMS Postcard.

1. Go to the WebSphere MQ First Steps folder.

   At the end of the installation, if you click **Launch WebSphere MQ First Steps** from the Completing the Prepare WebSphere MQ Wizard window, this window is already open.

   Alternatively, select **Start→Programs→IBM WebSphere MQ→First Steps**.

2. Click the **Postcard**.

Figure 7. WebSphere MQ First Steps window with the Postcard option selected

3. Launch your choice of Postcard application:
   - To launch the MQI Postcard, click **Launch MQI Postcard**.
   - To launch the JMS Postcard, click **Launch JMS Postcard**.
4. The **WebSphere MQ Postcard - Sign On** window is displayed.

   Type in a nickname to use to send messages within the postcard application (for example, `user1`).

   If the only queue manager on your machine is the default queue manager that you created by running the Default Configuration wizard, this queue manager is used as your mailbox for postcards.

   Click **OK** to display your first postcard, then go to step 6.
5. Select the queue manager to use as the mailbox:
   - If you have created one or more of your own queue managers, but you have not run the Default Configuration wizard, select the appropriate queue manager from the list displayed.
   - If you have run the Default Configuration wizard and you want to use the default queue manager, but there is more than one queue manager on your machine, click the **Advanced** checkbox, then click **Use Default Configuration as mailbox**.
   - If you have run the Default Configuration wizard and also created one or more of your own queue managers, and you do not want to use the default queue manager, click the **Advanced** checkbox, click **Choose queue manager as mailbox**, then select the appropriate queue manager from the list displayed.

   When your selection is complete, click **OK** to display your first postcard.

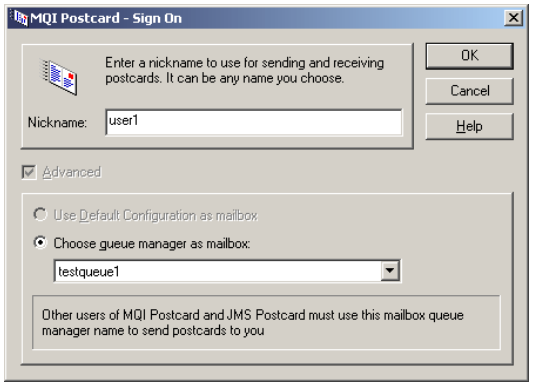

Figure 8. WebSphere MQ MQI Postcard - Sign On window with the Advanced options

6. From the First Steps folder, click **Postcard** again.
7. Launch the same Postcard application as you did earlier in step 3 on page 60, either:
   - **Launch MQI Postcard**
   - **Launch JMS Postcard**
8. The **WebSphere MQ Postcard - Sign On** panel is displayed again. Type in a second nickname to use to send messages within the Postcard application (for example, `user2`).
9. Repeat the selection of the queue manager that you want to use as the mailbox (as described earlier). The queue manager you select for this second postcard **must** be in the same cluster as the queue manager for the first postcard.

   You now have two postcards, one with the nickname `user1` and one with the nickname `user2`.
10. In one of the postcards (for example, `user1`), type some message text in the **Message:** field and the nickname of the other postcard (for example, `user2`) in the **To:** field.

    Note: Because the sender and receiver are on the same machine, you do not need to type anything in the **On:** field. If the receiver is on a different machine and is using the default queue manager as the mailbox, type the recipient's machine in the **On:** field. An example machine name is `machine2.server.company.com`.

    If the receiver is on a different machine and is not using the default queue manager as the mailbox, type the recipient's queue manager in the **On:** field.
11. Click **Send**.
12. The **Postcards sent and received** area of the postcard shows details of the message. In the sending postcard, the message is displayed as *sent*. In the receiving postcard, the message is displayed as *received*.
13. From the receiving postcard, double-click on the message in the **Postcards sent and received** area to view it.

If you complete this procedure successfully, it verifies that WebSphere MQ is correctly installed.

What next?

Depending on your situation, you might want to do the following:

- Install WebSphere MQ on other machines. Follow the same installation procedure that you used for the first machine. Ensure that you use the Join Default Cluster window to add the other machines to your first machine's cluster.
- Install the WebSphere MQ client on other machines. See Chapter 3, "Installing WebSphere MQ" on page 17 or Chapter 10, "Using the WebSphere MQ Client CD-ROM" on page 81.
- Continue with further administration tasks. See the *WebSphere MQ System Administration Guide*.

Using the Postcard applications to verify a server-to-server installation

You can use the Postcard applications to verify communication between your machine and the machine of another named user, where that machine uses TCP/IP. Therefore, you can use the Postcard applications to verify that you can communicate with another server. Before you start:

- Make sure that TCP/IP and WebSphere MQ are installed on both machines.
- Check that one of the following applies:
  - Both machines are in the same cluster (this is the simplest method).
  - You have configured channels to communicate between the two machines (see Chapter 6, "Setting up communications" on page 69).

To verify that the communication between two machines, the *sender* of the message and the *receiver*, are working correctly you can use the Postcard applications.

Use the MQI Postcard as explained below to verify that WebSphere MQ is successfully installed and the associated communication links are working properly. If you intend to use the optional Java Messaging support feature of WebSphere MQ, carry out the following instructions again, using the JMS Postcard.

On the sender machine:

1. Go to the WebSphere MQ First Steps folder.

   At the end of installation, if you selected **Launch WebSphere MQ First Steps** from the Completing the Prepare WebSphere MQ Wizard window, this window is already open.

   Alternatively, click **Start→Programs→IBM WebSphere MQ→First Steps**.
2. Click **Postcard**.
3. Launch your choice of the Postcard applications.
   - To launch the MQI Postcard, click **Launch MQI Postcard**.
   - To launch the JMS Postcard, click **Launch JMS Postcard**.
4. The WebSphere MQ Postcard - Sign On window is displayed.

   Type in a nickname to use to send messages within the postcard application (for example, `user1`).

   If the only queue manager on your machine is the default queue manager that you created by running the Default Configuration wizard, this queue manager is used as your mailbox for postcards.

Click **OK** to display your postcard, then go to step 6.

5. Select the queue manager to use as the mailbox:
   - If you have created one or more of your own queue managers, but you have not run the Default Configuration wizard, select the appropriate queue manager from the list displayed.
   - If you have run the Default Configuration wizard and you want to use the default queue manager, but there is more than one queue manager on your machine, click **Advanced**, then click **Use Default Configuration as mailbox**.
   - If you have run the Default Configuration wizard and also created one or more of your own queue managers, and you do not want to use the default queue manager, click **Advanced** , then click **Choose queue manager as mailbox**, then select the appropriate queue manager from the list displayed.

   When your selection is complete, click **OK** to display your postcard.
6. Type in the following:
   - Some message text in the **Message:** field.
   - The nickname of the recipient in the **To:** field.
   - If the receiver is using the default queue manager as the mailbox, the machine name of the recipient in the **On:** field (for example, `machine2.server.company.com`). If the receiver is not using the default queue manager, type the queue manager name in the **On:** field.
7. Click **Send**.

On the receiver machine:

1. To receive the message, select the Postcard option from the First Steps folder.
2. Launch the same Postcard application as you did earlier in step 3 on page 62, either
   - **Launch MQI Postcard**
   - **Launch JMS Postcard**
3. Type in the nickname of the recipient, then click **OK** to display the WebSphere MQ Postcard window.
4. In the **Postcards sent and received** area of the postcard, details of the new message are displayed. The message is displayed as *received*.

   When this message arrives, this verifies that WebSphere MQ is correctly installed and that your communication link between the two machines is working correctly.

When all installation and verification is complete, you are ready to start using WebSphere MQ (see the *WebSphere MQ System Administration Guide*).

Verifying a local installation

If you do not want to use the Postcard application, you can verify a local installation with a simple configuration of one queue manager and one queue. You use sample applications to put a message onto the queue and to read the message from the queue.

Setting up the installation

Use the following steps to install a queue manager and a queue:

1. Create a default queue manager called `venus.queue.manager`. At the command prompt in the window, enter the following command:

```
crtmqm -q venus.queue.manager
```

Messages tell you that the queue manager is created, and that the default WebSphere MQ objects are created.

2. Start the default queue manager. Enter the following command:

   ```
   strmqm
   ```

   A message tells you when the queue manager starts.

3. Enable MQSC commands. Enter the following command:

   ```
   runmqsc
   ```

   The message `Starting WebSphere MQ Commands` is displayed when the MQSC session starts. MQSC has no command prompt.

4. Define a local queue called `ORANGE.QUEUE`. Enter the following command:

   ```
   define qlocal (orange.queue)
   ```

   Any text entered in MQSC in lowercase is converted automatically to uppercase unless you enclose it in single quotation marks. This means that, if you create a queue with the name `orange.queue`, you must remember to refer to it in any commands outside MQSC as `ORANGE.QUEUE`.

   The message `WebSphere MQ queue created` is displayed when the queue is created.

5. Stop MQSC. Enter the following command:

   ```
   end
   ```

   The following messages are displayed, then the command prompt is displayed again:

   ```
   One MQSC commands read.
   No commands have a syntax error.
   All valid MQSC commands were processed.
   ```

You have now defined the following objects:

- A default queue manager called `venus.queue.manager`
- A queue called `ORANGE.QUEUE`

Testing the installation

To test the queue and queue manager, use the sample programs **amqsput** (to put a message on the queue) and **amqsget** (to get the message from the queue):

1. Change to the folder `c:\Program Files\IBM\WebSphere MQ\bin`.
2. To put a message on the queue, enter the following command:

   ```
   amqsput ORANGE.QUEUE
   ```

   The following message is displayed:

   ```
   Sample amqsput0 start
   target queue is ORANGE.QUEUE
   ```

3. Type some message text, then press Enter **twice**. The following message is displayed:

   ```
   Sample amqsput0 end
   ```

   Your message is now on the queue and the command prompt is displayed again.

4. To get the message from the queue, enter the following command:

   ```
   amqsget ORANGE.QUEUE
   ```

   The sample program starts, and your message is displayed. After a short pause, the sample ends and the command prompt is displayed again.

Verification of the local installation is now complete.

Verifying a server-to-server installation

If you do not want to use the Postcard application, you can use the following procedures to verify a server-to-server installation.

These procedures are more complex than for a local installation, because the communications link between the two machines must be checked. Before you can do this, you must ensure that the communications protocol is installed and configured on both systems. WebSphere MQ for Windows supports TCP, SNA, NetBios and SPX. This example explains how to verify your installation if you use TCP. If you use SNA, refer to *WebSphere MQ Intercommunication*.

To test the installation, you must set up two workstations, one as a sender and one as a receiver.

Setting up a sender workstation

Use the following steps to set up the sender machine:

1. Create a default queue manager called `saturn.queue.manager`. At a command prompt in a window, enter the following command:

   ```
   crtmqm -q saturn.queue.manager
   ```

   Messages tell you that the queue manager is created, and that the default WebSphere MQ objects are created.
2. Start the default queue manager. Enter the following command:

   ```
   strmqm
   ```

   A message tells you when the queue manager starts.
3. Enable MQSC commands. Enter the following command:

   ```
   runmqsc
   ```

   The message `Starting WebSphere MQ Commands` is displayed when MQSC has started. MQSC has no command prompt.
4. Define a local queue to use as a transmission queue called `TRANSMIT1.QUEUE`. Enter the following command:

   ```
   define qlocal (transmit1.queue) usage (xmitq)
   ```

   The message `WebSphere MQ queue created` is displayed when the queue is created.
5. Create a local definition of the remote queue. Enter the following command:

   ```
   define qremote (local.def.of.remote.queue) rname (orange.queue)
   rqmname ('venus.queue.manager') xmitq (transmit1.queue)
   ```

   The `rname` parameter specifies the name of the queue on the remote machine to which the message will be sent. Therefore, the name that the `rname` parameter

specifies must be the name of the queue to which you want to send the message (that is, ORANGE.QUEUE on the receiver workstation).

6. Define a sender channel. Enter the following command:

```
define channel (first.channel) chltype (sdr) conname (con-name)
xmitq (transmit1.queue) trptype (tcp)
```

   The value *con-name* is the TCP/IP address of the receiver workstation.

7. Stop MQSC. Enter the following command:

```
end
```

You have now defined the following objects:

- A default queue manager called saturn.queue.manager
- A transmission queue called TRANSMIT1.QUEUE
- A remote queue called LOCAL.DEF.OF.REMOTE.QUEUE
- A sender channel called FIRST.CHANNEL

Setting up a receiver workstation

Use the following steps to set up the receiver:

1. Create a default queue manager called venus.queue.manager. At the command prompt, enter the following command:

```
crtmqm -q venus.queue.manager
```

   Messages tell you that the queue manager is created, and that the default WebSphere MQ objects are created.

2. Start the queue manager. Enter the following command:

```
strmqm
```

   A message tells you when the queue manager starts.

3. Start a WebSphere MQ listener. Enter the following command:

```
runmqlsr -t tcp
```

   A message is displayed when the listener starts.

4. Open a new command prompt window and enable MQSC commands. Enter the following command:

```
runmqsc
```

   The message Starting WebSphere MQ Commands is displayed when MQSC starts. MQSC has no command prompt.

5. Define a local queue called ORANGE.QUEUE. Enter the following command:

```
define qlocal (orange.queue)
```

   The message WebSphere MQ queue created is displayed when the queue is created.

6. Create a receiver channel. Enter the following command:

```
define channel (first.channel) chltype (rcvr) trptype (tcp)
```

7. Stop MQSC. Enter the following command:

```
end
```

You have now defined the following objects:

- A default queue manager called venus.queue.manager

- A queue called ORANGE.QUEUE
- A receiver channel called FIRST.CHANNEL

Testing communication between the workstations

Finally, use the following steps to test the communication between the sender and receiver:

1. If the queue managers on the two workstations have stopped for any reason, restart them now using the **strmqm** command.
2. On the **sender** workstation, start the sender channel by entering the following command:

   ```
   runmqchl -c FIRST.CHANNEL -m saturn.queue.manager
   ```

   The receiver channel on the receiver workstation is started automatically when the sender channel starts.
3. On the **sender** workstation, open a new command prompt window and change to the c:\Program Files\IBM\WebSphere MQ\bin directory.
4. To put a message on the queue, enter the following command:

   ```
   amqsput LOCAL.DEF.OF.REMOTE.QUEUE
   ```

   This puts the message to the local definition of the remote queue, which in turn specifies the name of the remote queue.
5. Type the text of the message, then press Enter **twice**.
6. On the **receiver** workstation, change to the c:\Program Files\IBM\WebSphere MQ\bin folder.
7. To get the message from the queue, enter the following command:

   ```
   amqsget ORANGE.QUEUE
   ```

   The sample program starts, and your message is displayed. After a short pause, the sample ends and the command prompt is displayed again.

The verification of the server-to-server installation is now complete. You are ready to start using WebSphere MQ (see the *WebSphere MQ System Administration Guide*).

Verification — server-to-server

Chapter 6. Setting up communications

This chapter explains how to set up communications for the WebSphere MQ for Windows server.

Communications must be configured between the two machines if WebSphere MQ is to exchange messages with WebSphere MQ on another machine. You cannot run a server-to-server verification process until cross-server communication is enabled, unless you use the Postcard application (and both queue managers are members of the same cluster).

WebSphere MQ supports the TCP/IP, SNA LU 6.2, NetBIOS, and SPX protocols. The installation process automatically sets up a default TCP/IP configuration, if requested.

This chapter describes how to set up WebSphere MQ to enable it to communicate using TCP/IP. For more information and extensive examples of using other transmission protocols, see *WebSphere MQ Intercommunication*.

For information on setting up communications between WebSphere MQ servers and clients, see *WebSphere MQ Intercommunication*.

Defining a connection

To enable two machines to exchange messages, communication *channels* must be defined between the machines. The channels must be defined on each machine, with a *sender channel* defined on the sending machine, and a *receiver channel* defined on the receiving machine. The channel definition at the sending end specifies the address of the target (the receiving machine).

Before the receiving machine can receive any messages from the sending machine, a *listener* must be running on this receiving machine.

The following sections describe how to create the channels on the sending and receiving machines.

Sending end

To define a sender channel:

1. Do one of the following to start the WebSphere MQ Explorer.
   - From the Windows task bar, click **Start→Programs→IBM WebSphere MQ→WebSphere MQ Explorer**.
   - From the WebSphere MQ First Steps window, click **WebSphere MQ Explorer**.
   - From the WebSphere MQ folder (default `c:\Program Files\IBM\WebSphere MQ`), double click the **WebSphere MQ.msc** icon.
2. Click the plus sign (+) to the left of **Queue Managers** item in the list.
3. Click the plus sign (+) to the left of your default queue manager in the list.
4. Click the plus sign (+) to the left of **Advanced.**
5. Click **Channels** (so that it is highlighted).
6. Click the **Action** menu, then click **New**, and then **Sender channel.**

7. Use the online help to guide you in filling in the details of the **Create Sender Channel** panel.
8. When this is complete, create the receiver channel on the receiver machine as shown in the next section.

Receiving end

To define a receiver channel:

1. Start the WebSphere MQ Explorer, as described in "Sending end" on page 69.
2. Click the plus sign (+) to the left of **Queue Managers** item in the list.
3. Click the plus sign (+) to the left of your default queue manager in the list.
4. Click the plus sign (+) to the left of **Advanced.**
5. Click **Channels** (so that it is highlighted).
6. Click the **Action** menu, then click **New**, and then **Receiver channel.**
7. Use the online help to guide you in filling in the details of the **Create Receiver Channel** panel.

Starting the listener program

Receiving channel programs are started in response to a startup request from the sending channel. To enable this to happen, a listener program must be started to detect incoming network requests and start the associated channel.

A TCP/IP listener is started automatically for port 1414 when you start the default queue manager.

To listen on a different port, or to use a different queue manager, use the runmqlsr command to start the WebSphere MQ listener:

```
runmqlsr -t tcp [-m QMNAME] [-p port_number]
```

where:

QMNAME is the name of the queue manager.

port_number is the number of the port to listen on.

What next?

- To verify the communication links, follow the steps in "Verifying a server-to-server installation" on page 65.
- To find out more about how to use WebSphere MQ, see the *WebSphere MQ System Administration Guide*.

Chapter 7. Verifying a client installation

You can verify your WebSphere MQ client and server installation using the supplied sample *put* and *get* programs. These verify that your installation has been completed successfully and that the client and server can communicate.

This chapter explains how to use the supplied sample *put* and *get* programs to verify that a WebSphere MQ client has been installed correctly, by guiding you through the following tasks:

1. "Setting up the WebSphere MQ server"
2. "Setting up the WebSphere MQ client" on page 72
3. "Putting a message on the queue" on page 73
4. "Getting a message from the queue" on page 73
5. "Post verification tasks" on page 74

These instructions assume that the WebSphere MQ Server feature is installed on a server machine, and that the WebSphere MQ client feature is installed on a client machine.

The transmission protocol used in the example is TCP/IP. It is assumed that you have TCP/IP configured on the server and the WebSphere MQ client machines, and that it is initialized on both the machines.

If you are not using TCP/IP, refer to the information about configuring communication links in *WebSphere MQ Clients*.

Compiled samples amqsputc and amqsgetc are included in the WebSphere MQ client directories that you installed.

The following sections provide step-by-step instructions for creating a queue manager called *queue.manager.1*, a local queue called *QUEUE1*, and a server-connection channel called *CHANNEL1* on the server. They show how to create the client-connection channel on the WebSphere MQ client workstation, and how to use the sample programs to put a message onto a queue, and then get the message from the queue.

Note: WebSphere MQ object definitions are case-sensitive. You must type the examples ***exactly*** as shown.

Setting up the WebSphere MQ server

Create a folder to hold working files, for example `mqverify`, and make this the current folder. Then follow the steps below to set up the server workstation. Before you can verify the client installation, you need to:

1. Create a default queue manager (called *queue.manager.1*) by entering the following command at the command prompt:

   ```
   crtmqm -q queue.manager.1
   ```

2. Start the queue manager by entering the following command:

   ```
   strmqm
   ```

3. Start MQSC commands by entering the following command:

   ```
   runmqsc
   ```

MQSC does not provide a prompt, but responds with the message `Starting WebSphere MQ Commands.`

4. Create a server-connection channel by entering the following command:
   ```
   DEFINE CHANNEL(CHANNEL1) CHLTYPE(SVRCONN) TRPTYPE(TCP) MCAUSER(' ')
   ```
5. Create a client-connection channel that matches the server-connection channel by entering the following command:
   ```
   DEFINE CHANNEL(CHANNEL1) CHLTYPE(CLNTCONN) TRPTYPE(TCP)
   QMNAME('queue.manager.1') CONNAME('server_address(port)')
   ```

   where:

   server_address is the is the TCP/IP hostname, or the network address (in the format *n.n.n.n*), of the server.

   port is the TCP/IP port number on which the server is listening, for example, 1414.
6. Stop MQSC by typing `end` and then pressing Enter.
7. Start a listener by entering the following command at the command prompt:
   ```
   runmqlsr -t tcp -m queue.manager.1
   ```

   Note that this command does not specify a port number for the listener. Therefore, the default, 1414, is used.
8. The server is now ready to communicate with the client.

Setting up the WebSphere MQ client

When a WebSphere MQ application is run on the WebSphere MQ client, the binding information that it requires to connect to a specific queue manager is defined in a client-connection channel. A client-connection channel can be defined in one of the following three ways:

- Define the MQSERVER variable on the client. See "Defining a client-connection channel using MQSERVER" on page 73.
- Give the client access to the generated client channel definition table (that is, the amqclchl.tab file). See the chapter about running applications on WebSphere MQ clients in *WebSphere MQ Clients*.
- If Active Directory support is enabled, the client discovers the client-connection information dynamically from the Active Directory. See *WebSphere MQ Intercommunication*.

When a WebSphere MQ application is run on the WebSphere MQ client, the information it requires is the name of the MQI channel, the communication type, and the address of the server to be used. You provide this by defining a client-connection channel. The name used must be same as the name used for the server-connection channel defined on the server. In this example, the MQSERVER environment variable is used to define the client-connection channel. This is the simplest method (but not the only one).

Before starting, confirm that your WebSphere MQ client and server TCP/IP sessions are initialized. To do this, type the following command:

```
ping server_address
```

server_address is the TCP/IP hostname, or the network address (in the format *n.n.n.n*), of the server.

If the ping command fails, check that your TCP/IP software is correctly configured and has been started.

Defining a client-connection channel using MQSERVER

This section applies only if you are not using Active Directory Services support. If you are using Active Directory Services support, you can omit the step in this section.

Create a client-connection channel by setting the MQSERVER environment variable. Use the following command:

```
SET MQSERVER=CHANNEL1/TCP/server_address(port)
```

where:

server_address is the TCP/IP hostname of the server.

(*port***)** is optional, and is the TCP/IP port number on which the server is listening.

If you do not give a port number, WebSphere MQ uses the one specified in the Windows registry. If no value is specified in the registry, WebSphere MQ uses the port number identified in the TCP/IP services file for the service name MQSeries. If this entry in the services file does not exist, a default value of 1414 is used.

It is important that the client and the server listener program both use the same port number.

Putting a message on the queue

On the WebSphere MQ client workstation, put a message on the queue using the amqsputc sample program:

1. From a command prompt, change to the folder that contains the sample program amqsputc.exe. This is in the \bin folder. Then enter the following command:

   ```
   amqsputc SYSTEM.DEFAULT.LOCAL.QUEUE queue.manager.1
   ```

2. The following message is displayed:

   ```
   Sample AMQSPUT0 start
   target queue is SYSTEM.DEFAULT.LOCAL.QUEUE
   ```

3. Type some message text, then press Enter twice.
4. The following message is displayed:

   ```
   Sample AMQSPUT0 end
   ```

5. The message is now on the queue on the server queue manager.

Getting a message from the queue

On the WebSphere MQ client workstation, get a message from the queue using the amqsgetc sample program:

1. Ensure that you are in the folder that contains the sample programs (the \bin folder).
2. Enter the following command:

   ```
   amqsgetc SYSTEM.DEFAULT.LOCAL.QUEUE queue.manager.1
   ```

The message on the queue is removed from the queue and displayed.

Post verification tasks

The verification process is now complete.

If you want to stop the queue manager on the server, type the following command on the server machine:

```
endmqm queue.manager.1
```

If you want to delete the queue manager on the server, type:

```
dltmqm queue.manager.1
```

Now that verification is complete, see the *WebSphere MQ System Administration Guide*.

Chapter 8. Applying maintenance

Maintenance updates in the form of a Program Temporary Fix (PTF) are supplied on CD-ROM. They can also be downloaded from:

```
http://www.ibm.com/software/mqseries
```

Attention

- There should be no queue managers running when you install maintenance on WebSphere MQ. End each queue manager that is running by issuing the command:

  ```
  endmqm -i QMgrName
  ```

  and check that the queue manager has stopped running before you try to install the PTF.
- There should be no channel listeners running when you install maintenance on WebSphere MQ. To end all running listener processes for a queue manager:
  1. Check that the queue manager is stopped.
  2. End all listener processes by issuing the command:

     ```
     endmqlsr -m QMgrName
     ```
- You must stop the WebSphere MQ service. To do this, right-click the **WebSphere MQ** icon in the task bar, then click **Stop WebSphere MQ**.

Applying the maintenance information

To apply maintenance updates to your WebSphere MQ product, you must ensure that you are logged on with Administrator authority. You can install the updates either from the WebSphere MQ Web site (see "Installing updates from the WebSphere MQ Web site"), or from CD-ROM (see "Installing updates from CD-ROM" on page 76).

Installing updates from the WebSphere MQ Web site

To install maintenance updates from the WebSphere MQ Web site:

1. Select a destination folder for the supplied executable file.
2. When the file has been downloaded, change to the destination folder and run the executable file.

   Running this file presents you with a dialog screen on which you can choose to use the default folder, or specify your own folder into which to unpack the executable file.
3. Select the default folder, or change it if required, and click **Install**.
4. Click **Finish** when the file has been unpacked into the temporary folder to end the dialog.

   The installation program AMQICSDN.EXE file now runs and presents you with a dialog screen on which you can choose a folder in which to back up any files that are to be changed by the maintenance process.

   Note: Use the default folder for the backup operation.

Applying maintenance

The MEMO.PTF file contains details of the maintenance applied. To view this file, locate it in the appropriate language sub folder of the WebSphere MQ program files folder (default `c:\Program Files\IBM\WebSphere MQ\PTF`), then open it using a suitable text editor.

Installing updates from CD-ROM

To install maintenance updates from a CD-ROM:

1. Insert the WebSphere MQ maintenance CD-ROM into the CD drive.

   The program AMQICSDN.EXE runs
2. Proceed as described in "Installing updates from the WebSphere MQ Web site" on page 75.

Restoring the previous backup version

If you need to restore WebSphere MQ to a previous level of maintenance:

1. Ensure that you are logged on as an Administrator.
2. Ensure that all queue managers are stopped.
3. Ensure that all channel listeners are stopped.
4. Ensure that the IBM WebSphere MQ Service has stopped.
5. Click **Start → Programs → IBM WebSphere MQ → Remove Latest CSD**.
6. Click **Remove** to start the process.

   This returns the installation to the state it was in before the CSD was applied.

Querying the service level

After one or more updates to the initial installation, the service level indicates from which CSD the product was most recently updated. The service level is expressed in terms of the PTF number for a particular CSD. To view the service level, do one of the following:

- Use the `mqver` command. At a command prompt, enter the following command:

  ```
  mqver
  ```

  The resulting messages include the WebSphere MQ version number, which shows the service level.
- Locate the file MEMO.PTF in the appropriate language subfolder of the WebSphere MQ program files folder (default `c:\Program Files\IBM\WebSphere MQ\PTF`), then open it using a suitable text editor.

  The file contains the service level and details of the maintenance applied (PTF number).

Chapter 9. Uninstalling WebSphere MQ

This chapter describes how to uninstall (remove) WebSphere MQ if you installed it by using the WebSphere MQ Server CD-ROM.

If you installed the WebSphere MQ client using the WebSphere MQ Client CD-ROM, use one of the methods described in "Uninstalling WebSphere MQ client from Windows" on page 94.

You can uninstall (remove) WebSphere MQ in attended mode or unattended (silent) mode.

Before you uninstall WebSphere MQ, ensure that there are no WebSphere MQ programs running. To do this:

1. Stop WebSphere MQ (right click the **WebSphere MQ** icon in the task bar, then select **Stop WebSphere MQ**).
2. Close all WebSphere MQ windows.
3. Stop any monitoring service.

Uninstalling WebSphere MQ from Windows

There are three ways to uninstall WebSphere MQ from your machine:

- Start the installation process, then select the appropriate option.
- Use the Add/Remove Programs facility in the Windows Control Panel.
- Perform a removal from the command line.

You can use these methods to uninstall the WebSphere MQ server or the WebSphere MQ client, as long as the original installation used the WebSphere MQ Server CD (that is, not the WebSphere MQ Client CD).

You can also uninstall WebSphere MQ by using the appropriate parameters with advanced installation methods, or by using Microsoft System Management Server (SMS). See "Advanced installation methods" on page 44.

Uninstalling WebSphere MQ using the installation process

This procedure uninstalls WebSphere MQ from your machine in attended mode. It removes all the currently installed features, although you have the option to keep existing queue managers and their objects.

1. Insert the WebSphere MQ for Windows Server CD-ROM into the CD-ROM drive.
2. If autorun is enabled, the installation process starts.

   Otherwise, double-click the **Setup** icon in the root folder of the CD-ROM to start the installation process.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Click the **WebSphere MQ Installation**.
4. Click **Launch WebSphere MQ Installer**. Wait until the WebSphere MQ Setup window is displayed with a welcome message.
5. Click **Next** to continue.

   The Program Maintenance panel is displayed.

If this panel is not displayed, WebSphere MQ for Windows, V5.3 is not installed on this machine.

6. Click **Remove**, then click **Next**.
7. If there are any existing queue managers, the Removing Server feature panel is displayed.

   Click one of the following options, then click **Next**:

   - **Keep** – keep existing queue managers and their objects.
   - **Remove** – remove existing queue managers and their objects.
8. The Remove WebSphere MQ panel is displayed, with a summary of the installation to be removed.

   Click **Remove** to continue.
9. The Removing WebSphere MQ panel is displayed.

   Wait for the progress bar to complete.

   If there are any messages that state that locked files are found, ensure that there are no WebSphere MQ programs running, as described at the start of this chapter.

   Uninstallation should then continue.
10. The WebSphere MQ Setup window displays the following message:

    Uninstallation Completed Successfully

    Click **Finish**.

Uninstalling WebSphere MQ using Add/Remove Programs

1. From the Windows task bar, click **Start→ Settings→ Control Panel**.
2. Click **Add/Remove Programs**.
3. Click **IBM WebSphere MQ**.
4. For Windows 2000 or Windows XP, do one of the following:
   - Click **Remove**. When a confirmation prompt is displayed, click **Yes**.

     The uninstall program begins. All the WebSphere MQ files are removed, but not your queue managers.
   - Click **Change**. The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for uninstalling WebSphere MQ using the process from step 6 to the end.
5. For Windows NT, click **Add/Remove**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for uninstalling WebSphere MQ using the process from step 6 to the end.

Uninstalling WebSphere MQ using the command line

This procedure can be used for removing the WebSphere MQ files in unattended (silent) mode or interactively.

To invoke an uninstallation, you use the `Msiexec` command.

To uninstall all WebSphere MQ features, enter one of the following commands:

- `Msiexec /i "`*path*`\MSI\IBM WebSphere MQ.msi" REMOVE="All"`

  This command invokes an interactive installation giving you the option to remove queue manager data.
- `Msiexec /i "`*path*`\MSI\IBM WebSphere MQ.msi" /q REMOVE="All"`

This command invokes a silent uninstall and does not remove any queue manager data.

- `Msiexec /x "path\MSI\IBM WebSphere MQ.msi"`

  This command displays only a progress dialog while uninstalling and does not remove any queue manager data.

- `Msiexec /x "path\MSI\IBM WebSphere MQ.msi" /q`

  This command invokes a silent uninstall and does not remove any queue manager data.

Alternatively, you can the `Msiexec` command with a parameter that calls a response file. A response file is an ASCII text file that contains the parameter values that you want to set for the uninstallation. The response file has a format similar to a Windows .ini file, and contains the stanza **[Response]**. This stanza contains parameters that the `Msiexec` command can use, in the form of property=value pairs. The `Msiexec` command ignores any other stanzas in the file.

You can set which features to uninstall, and set whether to keep existing queue managers.

Note: The response file you use to uninstall WebSphere MQ for Windows, V5.3 when it was installed using the WebSphere MQ Server CD-ROM is **not** the same as the one used with earlier non-MSI versions of MQSeries. For details about the response file you use with the WebSphere MQ Client CD-ROM, see "Unattended (silent) installation" on page 85.

To silently uninstall WebSphere MQ using a response file, enter the following command:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q USEINI="response_file"
```

where *response_file* is the file that contains the [Response] stanza and the required property=value pairs. For details about how to create a response file, see "Unattended (silent) installation" on page 40. For details of the parameters you can specify in a response file, see Table 5 on page 41.

An example of a typical uninstallation response file is:

```
[Response]
KEEPQMDATA="delete"
REMOVE="Server,Client"
```

Uninstalling WebSphere MQ

Chapter 10. Using the WebSphere MQ Client CD-ROM

You can use the WebSphere MQ Client CD-ROM to install the WebSphere MQ for Windows client on a client machine.

Do not use this CD-ROM for installation if you plan to install the WebSphere MQ server software on the same machine. For details, see "Installation methods" on page 16.

You can use the WebSphere MQ Client CD-ROM to install:

- Interactively (see "Installing the WebSphere MQ client")
- From a LAN (see "Installing from a LAN" on page 85)
- Without interaction (see "Unattended (silent) installation" on page 85)
- Using advanced methods (see "Advanced installation methods" on page 87)

After you install the WebSphere MQ client, you need to:

- Set up communication between the client and server. See *WebSphere MQ Intercommunication*.
- Verify that the client and server are installed and communicating successfully (see Chapter 7, "Verifying a client installation" on page 71).

See the *WebSphere MQ Clients* manual for information about Windows clients.

If you install the WebSphere MQ client using the WebSphere MQ Server CD-ROM, you **must** use one of the methods described in "Uninstalling WebSphere MQ client" on page 94 to uninstall it.

Preparing to install the WebSphere MQ client

Before you install, you can decide what type of installation you require. Table 16 shows the installation types available, and the features that are installed with each option. For the prerequisites required for each feature, see "Prerequisites for WebSphere MQ features" on page 6.

Table 16. Features installed with each type of installation

Installation type	Features installed	Comments
Typical	• Windows Client • Development Toolkit	The default option. Features are installed to default locations.
Compact	• Windows Client only	The feature is installed to the default location.
Custom	By default, the following features are preselected: • Windows Client • Development Toolkit	All the available features are listed and you can select which ones to install, and where to install them.

Installing the WebSphere MQ client

To install a WebSphere MQ for Windows client, you must be logged on to Windows as an administrator.

WebSphere MQ checks for any existing MQSeries configuration files (MQS.INI). If it finds any, it automatically migrates configuration information to the Windows registry. Otherwise, WebSphere MQ automatically puts its configuration information directly into the Windows registry.

Typical client installation

The following instructions assume that you are installing a WebSphere MQ client using the WebSphere MQ Client CD-ROM supplied as part of the WebSphere MQ product. If you plan to install a WebSphere MQ client and server on the same machine, you must use the WebSphere MQ Server CD-ROM, see Chapter 3, "Installing WebSphere MQ" on page 17.

1. Insert the WebSphere MQ Client CD-ROM into the CD-ROM drive.

   If autorun is enabled, the installation process starts. If it is not, double-click the **Setup** icon in the root folder on the CD-ROM to start the process.

   The Select Setup Language window is displayed.
2. On the Select Setup Language window, select the national language of your choice from the list, then click **OK**.

   The WebSphere MQ Client Setup window is displayed.
3. Click **Next** to continue.

   If the current version of WebSphere MQ client is already installed, the Program Maintenance panel is displayed with two options: Modify or Remove.

   a. If you select Modify, see "Modifying the client installation" on page 84.
   b. If you select Remove, see "Uninstalling WebSphere MQ client using the installation process" on page 94.

   If the current version of WebSphere MQ client is not installed, the License Agreement panel is displayed.
4. Read the information and license terms on the panel.

   To change the language that the license agreement is displayed in, click **Change Language** then select the language you require from the list provided.

   Select the option to accept the license terms, then click **Next**.
5. If there was no previous version of this product installed on the machine, the Setup Type panel is displayed.

   Select the type of installation that you want, then click **Next**. Table 16 on page 81 shows the installation types and the features that are installed with each option.

   a. If you select Custom, go to the procedure "Custom client installation" on page 83.
   b. If you select Typical or Compact, go to step 7.
6. If there was a previous version of MQSeries installed on the machine, the Type of Installation Process panel is displayed. Select one of the following options, then click **Next**:

   - **Update**. Installs the same features as the previous version. Go to the next step.
   - **Custom**. You can select which features to install.

     If you select this option, a Destination Folders panel for data files is displayed, then the Features panel is displayed. Follow the procedure "Custom client installation" on page 83 from step 3 or 4 as appropriate.

7. The WebSphere MQ Client Setup window displays a summary of the installation you selected.

   To continue, click **Install**.
8. Wait until the progress bar is complete.

   When the WebSphere MQ client is successfully installed, the WebSphere MQ Client Setup window displays the following message:

   Installation Wizard Completed Successfully

   Click **Finish** to close the window.
9. The installation of the WebSphere MQ client is now complete. Note that WebSphere MQ clients are sets of services and do not have to be explicitly run.
10. You now need to verify that the client was installed successfully (see Chapter 7, "Verifying a client installation" on page 71).

Compact client installation

Follow the steps for a typical client installation, as described in "Typical client installation" on page 82. The only difference is that, at step 5 on page 82, you select **Compact** on the **Setup Type** window. This installs only the Client feature of WebSphere MQ for Windows.

Custom client installation

During custom installation, you can choose the destination folders for program files and data files. However, after installation, you cannot change these (except by removing the product, then reinstalling). Therefore, plan and select your destination folders carefully.

1. Follow steps 1 to 5 of the "Typical client installation" on page 82.
2. At step 5, click **Custom** on the **Setup Type** window.
3. The Destination Folder panel is displayed.

   To accept the default folder for the program files, click **Next**.

   To change the folder for the program files, click **Change**, click the required folder in the resulting dialog box, click **OK**, then click **Next**.
4. The Destination Folders panel is displayed.

   To accept the default folder for the data files, click **Next**.

   To change the folder for the data files, click **Change**, click the required folder in the resulting dialog box, click **OK**, then click **Next**.

   If you want to install either the Client or the Java Messaging feature, you require a data files folder. Otherwise, you can ignore this panel (that is, accept the default).
5. The Features panel is displayed.
6. To change the installation of a feature:
   a. Click the symbol to the left of the feature name to display a drop-down menu.
   b. Click the required option from:
      - Install this feature
      - Install this feature and all its subfeatures (if any)
      - Do not install this feature (remove if already installed)

      The symbol to the left of the feature name changes to show the current installation option. For more information, click **Help** to display the Custom Setup Tips page, which explains the icons used in the feature list.

7. Optionally, to check that there is enough disk space, press the **Space bar**.

   The Disk Space Requirements panel is displayed. This shows the disk space available and the amount of disk space that your current selections will take. It highlights any volumes that do not have enough disk space.

   To close the panel and return to the Features panel, click **OK**.
8. When your selections are complete, click **Next**.
9. Follow from step 7 on page 83 to the final step of the procedure.

Modifying the client installation

You modify the installation when WebSphere MQ for Windows, V5.3 client is installed and you want to remove or install some WebSphere MQ client features.

1. Insert the WebSphere MQ for Windows Client CD-ROM into the CD-ROM drive.
2. If autorun is installed, the installation process starts.

   Otherwise, double-click on the Setup icon in the root folder of the CD-ROM to start the installation process.

   The WebSphere MQ Client Setup window is displayed.
3. Click **Next** to continue.

   The Program Maintenance panel is displayed.
4. Click **Modify**, then click **Next**.

   The Features panel is displayed.
5. To change the installation of a feature:
   a. Click on the symbol to the left of the feature name to display a drop-down menu.
   b. Select the required option from:
      - Install this feature
      - Install this feature and all its subfeatures (if any)
      - Do not install this feature (remove if already installed).

      The symbol to the left of the feature name changes to show the current installation option.
6. When your selections are complete, click **Next**.
7. The WebSphere MQ Client Setup window displays a summary of the installation you selected.

   To continue, click **Modify**.
8. Wait until the progress bar is complete.

   When the WebSphere MQ client is successfully installed, the WebSphere MQ Client Setup window displays the following message:

   ```
   Installation Wizard Completed Successfully
   ```

   Click **Finish** to close the window.

Modifying the client installation using Add/Remove Programs

1. From the Windows task bar, click **Start→ Settings→ Control Panel**.
2. Click **Add/Remove Programs**.
3. Click **IBM WebSphere MQ**.
4. For Windows 2000 or Windows XP, click **Change**.

The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for modifying the installation using the process from step 4 on page 84 to the end.

5. For Windows 98 or Windows NT, click **Add/Remove**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for modifying WebSphere MQ using the process from step 4 on page 84 to the end.

Other methods of installing the WebSphere MQ client

This section tell you how to install the WebSphere MQ client from a LAN or using SMS.

Installing from a LAN

There are two ways to put WebSphere MQ installation files on a LAN server for easier access:

- You can make the WebSphere MQ Client CD-ROM drive shareable.
- You can copy the installation files from the CD-ROM to a server. To do this, use the following steps:
  1. Create a folder on the LAN server to store the installation files. For example:

     ```
     md m:\instmqc
     ```

  2. Load the WebSphere MQ Client CD-ROM. If autorun is enabled, the WebSphere MQ language_selection window is displayed. Click **Cancel** to close this window.
  3. Copy the entire CD-ROM to the installation folder. For example:

     ```
     xcopy e:\*.* m:\instmqc /e
     ```

  4. Give all licensed users access to the folder that now contains the CD-ROM image (in this example, the `m:` drive).
  5. From a command prompt on the target machine, type the following:

     ```
     \\servername\installation_folder\setup.exe
     ```

     where *servername* is the name of the server and *installation_folder* is the full path of the installation folder.

     Alternatively:

     a. Map the shared resource to a drive letter. You can use the `net use` command, or the Windows Explorer.
     b. Change to the installation folder.
     c. Type `setup`, then press Enter.
  6. Follow the prompts.

Unattended (silent) installation

WebSphere MQ for Windows client is installed using the Microsoft Installer (MSI). You can invoke MSI directly, without using setup.exe.

This means that you can install WebSphere MQ on a machine without interaction. This process is called unattended (or silent) installation, and is particularly useful for installing WebSphere MQ over a network on a remote machine, because you can install from a shared drive on a LAN server.

To do this, you invoke MSI with a parameter that calls a response file. A *response file* is an ASCII text file that contains the parameter values that you want to set for the installation.

The machine on which you want to install must be able to share the WebSphere MQ Server CD-ROM, or a copy of the files on it, and you must be able to execute a command on that machine.

Notes:

1. The response file that you use to install WebSphere MQ for Windows using the WebSphere MQ Client CD-ROM is **not** the same as the one used with earlier non-MSI versions of MQSeries. For details about the response file you use with the WebSphere MQ Client CD-ROM, see "Unattended (silent) installation" on page 85.
2. There are several other methods to invoke MSI without setup.exe. For details, see "Advanced installation methods" on page 87.

To invoke a silent installation using a response file, you use the `Msiexec` command.

The response file is an ASCII text file, with a format similar to a Windows .ini file, that contains the stanza **[Response]**. This stanza contains parameters that the `Msiexec` command can use, in the form of property=value pairs. The `Msiexec` command ignores any other stanzas in the file. An example response file, Response.ini, is supplied with WebSphere MQ. This file contains default installation parameters.

There are three ways to create a response file for installation:

- Copy and edit the file Response.ini that is supplied on the WebSphere MQ Client CD-ROM, using an ASCII file editor.
- Create your own response file using an ASCII file editor.
- Use an advanced method to invoke an installation and specify the SAVEINI property (and optionally, the ONLYINI property) to generate a response file that contains the same installation options. See "Using Msiexec with command line parameters" on page 44.

In the response file, all text is in English, and comments begin with a ; character.

Invoking a silent installation

To invoke a typical silent installation, enter the following command at a command line:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q
TRANSFORMS=:1033
```

where:

/q Specifies a silent installation.

`TRANSFORMS=:1033` specifies that the installation is in U.S. English. For further information about installing in different national languages, see "Using transforms" on page 47.

You can also specify property=value pairs on the command line (the property must be in upper case), for example:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q ADDLOCAL="JavaMsg""
TRANSFORMS=:1033 AGREETOLICENSE="yes"
```

- Property strings must be in upper case.

- Value strings are not case sensitive, except for feature names. They can be enclosed in double quotation marks. If a value string includes a blank, it must be enclosed in double quotation marks.
- For a property that can take more than one value, use the format:

```
ADDLOCAL="Client,JavaMsg"
```

Table 17 shows the features that can be values for the ADDLOCAL and REMOVE properties.

Table 17. Valid feature names

Feature Name	Description
Client	The WebSphere MQ for Windows client.
JavaMsg	The files needed for messaging using Java (includes Java Message Service support).
Toolkit	Sample WebSphere MQ program source and sample executable code.

An example of a typical response file is:

```
[Response]
PGMFOLDER="c:\mqm"
DATFOLDER="c:\mqm\data"
AGREETOLICENSE="yes"
ADDLOCAL="Client"
REMOVE="JavaMsg,Toolkit"
```

Advanced installation methods

WebSphere MQ for Windows is installed using the Microsoft Installer (MSI). It is possible to install WebSphere MQ by invoking MSI directly, without using setup.exe. You can use this process for more complex unattended (or silent) installation, or for interactive installation, from a command line.

The machine on which you want to install must be able to share the Client CD-ROM, or a copy of the files on it, and you must be able to execute a command on that machine.

Also, you can use the Microsoft System Management client to install WebSphere MQ. See “Creating the WebSphere MQ SMS software package” on page 92.

There are several ways to invoke MSI without using setup.exe:

- Use the `Msiexec` command with command line parameters. See “Using Msiexec with command line parameters” on page 88.
- Use the `Msiexec` command with a parameter that calls a response file. The response file contains the parameters that a user normally specifies during an interactive installation. See “Using Msiexec with a response file” on page 88.
- Use the `MQParms` command with command line parameters, a parameter file, or both. The parameter file can contain many more parameters than a response file. See “Using the MQParms command” on page 90.

The following sections describe how to invoke MSI from the command line in more detail. These sections also describe the parameters you can use for such an installation.

Using Msiexec with command line parameters

You can use the `Msiexec` command with command line parameters to invoke installation or uninstallation. At a command line, enter the following command, followed by the parameters you require:

```
Msiexec
```

Table 7 on page 45 shows the parameters you can use. For a silent installation, this must include the **/q** or **/qn** parameter.

Note: The `Msiexec` command can take further parameters that are not supported or listed here. If you need details of these, refer to the help file for the Windows Installer that is supplied with the MSI software development kit. See the Microsoft Web site at:

```
http://www.microsoft.com
```

A typical example of an `Msiexec` command is:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /l*v c:\install.log /m mif_file
TRANSFORMS=":1033" ADDLOCAL="Client" REMOVE=""
```

Table 5 on page 41 and Table 8 on page 47 show the parameters that you can enter as property=value pairs on the `Msiexec` command line (defaults are shown in bold). Note that:

- Property strings must be in upper case.
- Value strings are case sensitive. They can be enclosed in double quotation marks. If a value string includes a blank, it must be enclosed in double quotation marks.
- For a property that can take more than one value, use the format:

  ```
  ADDLOCAL="Client,JavaMsg"
  ```

Using transforms: MSI can use transforms to modify an installation. During WebSphere MQ installation, transforms can be used to support different national languages. WebSphere MQ is supplied with transform files in the `\MSI` folder of the WebSphere MQ client CD-ROM. These files are also embedded in the WebSphere MQ Windows Installer package, WebSphere MQ.msi.

On the `Msiexec` command line, you can specify the required language by using the TRANSFORMS property in a property=value pair, for example:

```
TRANSFORMS=:1033
```

The **:** character means use the embedded transform. Otherwise, you must specify the full path and file name of the transform file, for example:

```
TRANSFORMS=D:\Msi\1033.mst
```

Table 9 on page 47 shows the supplied transform files, the resulting language, and the numerical value to use in the `Msiexec` command line.

You can also specify the required language by using the MQPLANGUAGE property with the `MQParms` command. See Table 10 on page 51.

Using Msiexec with a response file

You can use the `Msiexec` command with a parameter that calls a response file, as described in "Unattended (silent) installation" on page 40. The response file contains the parameters that a user normally specifies during an interactive installation.

You can combine the `Msiexec` command line parameters described in "Using Msiexec with command line parameters" on page 44 with the response file to invoke a complex installation or uninstallation. This could be silent or interactive. For a silent installation, this must include the **/q** or **/qn** parameter.

To invoke the `Msiexec` command using a response file, enter the following command at a command line:

```
Msiexec [parameters] USEINI="response_file"
```

where:

parameters are command line parameters listed in Table 7 on page 45, or property=value pairs on the command line (always put the command line parameters first).

response_file is the full path and file name of the file that contains the [Response] stanza and the required property=value pairs, for example, Response.ini.

If a parameter is specified both on the command line and in the response file, the setting on the command line takes precedence.

For example:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /l*v c:\install.log /q
        AGREETOLICENSE="yes" USEINI="c:\MyResponseFile.ini"
```

Table 18. Response file parameters

Property	Values	Meaning
PGMFOLDER	*path*	Folder for the WebSphere MQ program files. For example, `c:\mqm`.
DATFOLDER	*path*	Folder for the WebSphere MQ data files. For example, `c:\mqm\data`.
USERCHOICE	0 | no	Not used for a silent installation. If the installation is not silent, for any other value (including null), if the command line or response file specifies parameters to install features, a dialog is displayed. This dialog prompts the user to accept the preselected options, or review and possibly change them. For other types of installation, when set to 0 or no, suppresses display of the dialog.
AGREETOLICENSE	yes	Accept the terms of the license. For a silent installation, this must be set to yes. If the installation is not silent, this parameter is ignored.
ADDLOCAL	*feature*, *feature*, ... | All | **""**	A comma-separated list of features to install locally.[1] All installs all features "" installs the typical features. If you do not want a feature use REMOVE="*feature name*"

Table 18. Response file parameters (continued)

Property	Values	Meaning
REMOVE	*feature*, *feature*, ... | All | ""	A comma-separated list of features to remove.[1] All uninstalls all features "" uninstalls no features (the default).
HIGHCONTRAST	0 | no | ""	0 or no. Do not set high-contrast mode for the installation. "". (The default) Set high-contrast mode for the installation if Windows 2000 or Windows XP high-contrast mode is set or if WebSphere MQ high-contrast mode is set. Anything else. Set high-contrast mode for the installation.

1. For a list of valid feature names, see Table 17 on page 87.

Using the MQParms command

You can use the `MQParms` command to invoke installation or uninstallation. This command can use parameters on a command line, or those specified in a parameter file. The parameter file is an ASCII text file that contains the parameter values that you want to set for the installation. The `MQParms` command takes the specified parameters and generates the corresponding `Msiexec` command line.

This means that you can save all the parameters that you want to use with the `Msiexec` command in a single file.

For a silent installation, this must include the **/q** or **/qn** parameter, either on the command line, or in the [MSI] stanza of the parameter file.

You can specify many more parameters in the parameter file that you use with the `MQParms` command than you can in the response file that you use directly with the `Msiexec` command.

An example of the file MQParms.ini is supplied with WebSphere MQ. This file contains default installation parameters.

There are two ways to create a parameter file for installation:

- Copy and edit the file MQParms.ini that is supplied in the root folder of the WebSphere MQ Client CD-ROM, using an ASCII file editor.
- Create your own parameter file using an ASCII file editor.

To invoke installation using the `MQParms` command:

1. From a command line, change to the root folder of the WebSphere MQ Client CD-ROM (that is, the location of the file MQParms.exe).
2. Enter the following command:

   `MQParms [parameter_file] [parameters]`

   where:

   parameter_file is the file that contains the required parameter values. If this file is not in the same folder as MQParms.exe, specify the full

path and file name. If you do not specify a parameter file, the default is MQParms.ini. For further details, see "Parameter file" on page 49.

parameters are one or more command line parameters, as listed in Table 7 on page 45.

A typical example of an MQParms command is:

```
MQParms MyParams.ini /l*v c:install.log
```

If you specify a parameter both on the command line and in the parameter file, the setting on the command line takes precedence.

If you do not specify `/i`, `/x`, `/a`, or `/j`, MQParms defaults to standard installation using the WebSphere MQ Windows Installer package, WebSphere MQ.msi. That is, it generates the following part of the command line:

```
/i current_folder\MSI\IBM WebSphere MQ.msi
```

Parameter file: A parameter file is an ASCII text file that contains sections (stanzas) with parameters that can be used by the `MQParms` command. Typically, this is an initialization file such as MQParms.ini.

The `MQParms` command takes parameters from the following stanza in the file:

[MSI] Contains general properties related to how the `MQParms` command runs and to the installation of WebSphere MQ.

The properties that you can set in this stanza are listed in Table 5 on page 41, Table 7 on page 45, Table 8 on page 47, and Table 10 on page 51.

`MQParms` ignores any other stanzas in the file.

In the [MSI] stanza, the properties can be in command line format (for example, `/q`) or property=value format.

Some properties can take more than one value, for example:

```
ADDLOCAL="Client,JavaMsg"
```

To clear a property, set its value to an empty string, for example:

```
REMOVE=""
```

You can enter parameters in command line format (for example, `/q`) and in property=value format (for example, `ADDLOCAL="Client"`). Refer to Table 5 on page 41, Table 7 on page 45, and Table 8 on page 47 for the properties used to install WebSphere MQ.

Table 10 on page 51 shows additional properties in the stanza that affect how the `MQParms` command runs, but that do not affect the installation.

A typical example of a parameter file is:

```
[MSI]
MQPLANGUAGE=1033
MQPLOG=%temp%\MQParms.log
MQPSMS=1
ADDLOCAL=Client
```

```
/m miffile
REMOVE=""
/l*v c:\install.log
```

Using Microsoft System Management Server

There are two major steps to install WebSphere MQ using the Microsoft System Management Server (SMS):

1. Create an SMS software package (see "Creating the WebSphere MQ SMS software package").
2. Create an SMS job to distribute and install the package (see "Creating a WebSphere MQ SMS job" on page 55).

For more detailed information on how to create a software package and a job, refer to the Microsoft System Management Server documentation.

Creating the WebSphere MQ SMS software package: To create the SMS software installation package:

1. From the Microsoft SMS Administrator application, open the **Packages** folder and create a new package.
2. In the SMS **Package Properties** dialog, click the **Import** button to create the software package by importing a Package Definition File (PDF).
3. In the **File Browser** dialog, select the drive where the IBM WebSphere MQ CD-ROM is located.
4. Select the current root folder, which contains the package definition file `WebSphere MQ.pdf`.

   You can also find the `WebSphere MQ.pdf` file in the local drive, or shared network drive to where you copied the WebSphere MQ Installation software.
5. Select the **WebSphere MQ.pdf** file and click the **OK** button.
6. Click the **Workstation** button. In the **Source Directory** entry field, specify the fully-qualified path name to the WebSphere MQ root folder that contains the WebSphere MQ installation software. See "Installing from a LAN" on page 39.
7. Select the appropriate Workstation Command Line:
   - **Automated Uninstallation of IBM WebSphere MQ client**
   - **Automated Installation of IBM WebSphere MQ client (US English)**
8. Click the **Properties** button for each process and review the **Command Line** entry field to ensure that the parameters are what you require.
9. Click the **Close** button to close the **Workstation Properties** dialog.

   Note: If you specify a local path in the **Source Directory** entry field, you get a pop-up dialog warning you that the local path you specified might not be accessible to SMS components running on another machine. Click **OK** to continue.
10. Click **OK** to close the **Package Properties** window.

    A pop-up dialog appears indicating that SMS will update the software package at all sites. Click the **OK** button to continue.

The software package has been created and can be installed by creating an SMS job.

Creating the WebSphere MQ SMS job: You must now create an SMS job to distribute and install the software packages that you created, which contain the WebSphere MQ installation software.

Refer to the Microsoft System Management Server documentation for detailed information on how to create and run a job.

Notes:

1. You ***must*** be logged onto the target machine with Administrator authority to install WebSphere MQ.
2. When creating an SMS Job to distribute and install the software package, ensure that you select the appropriate workstation command. The workstation commands are displayed on the **Job Details** dialog in the **Run Phase** section and appear in a drop-down listbox.

Uninstalling WebSphere MQ client

This section describes how to uninstall (remove) WebSphere MQ client if you installed it using the WebSphere MQ Client CD-ROM.

If you installed the WebSphere MQ client using the WebSphere MQ Server CD-ROM, use one of the methods described in Chapter 3, "Installing WebSphere MQ" on page 17.

You can uninstall (remove) WebSphere MQ client in attended mode or unattended (silent) mode.

Before you uninstall WebSphere MQ client, ensure that there are no WebSphere MQ client programs running.

Uninstalling WebSphere MQ client from Windows

There are three ways to uninstall WebSphere MQ from your machine:

- Start the installation process, then select the appropriate option.
- Use the Add/Remove Programs facility in the Windows Control Panel.
- Perform a removal from the command line.

You can use these methods to uninstall the WebSphere MQ client, as long as the original installation used the WebSphere MQ Client CD.

You can also uninstall WebSphere MQ client by using the appropriate parameters with advanced installation methods, or by using Microsoft System Management Server (SMS). See "Advanced installation methods" on page 87.

Uninstalling WebSphere MQ client using the installation process

This procedure uninstalls WebSphere MQ from your machine in attended mode. It removes all the currently installed features.

1. Insert the WebSphere MQ for Windows Client CD-ROM into the CD-ROM drive.
2. If autorun is installed, the installation process starts.

   Otherwise, double-click the **Setup** icon in the root folder of the CD-ROM to start the installation process.

   The Program Maintenance panel is displayed.

   If this panel is not displayed, WebSphere MQ for Windows, V5.3 is not installed on this machine.
3. Click **Remove**, then click **Next**.
4. The Remove WebSphere MQ panel is displayed, with a summary of the installation to be removed.

   Click **Remove** to continue.
5. The Removing WebSphere MQ panel is displayed.

   Wait for the progress bar to complete.

   If there are any messages that state that locked files are found, ensure that there are no WebSphere MQ client programs running.

   Uninstallation should then continue.
6. The WebSphere MQ Setup window displays the following message:

   ```
   Uninstallation Completed Successfully
   ```

Click **Finish**.

Uninstalling WebSphere MQ client using Add/Remove Programs

1. From the Windows task bar, click **Start→ Settings→ Control Panel**.
2. Select **Add/Remove Programs**.
3. Select **IBM WebSphere MQ**.
4. For Windows 2000 or Windows XP, do one of the following:
   - Click **Remove**. When a confirmation prompt is displayed, click **Yes**.

     The uninstall program begins. All the WebSphere MQ files are removed.
   - Click **Change**. The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for uninstalling WebSphere MQ using the process from step 3 on page 94 to the end.
5. For Windows 98 or Windows NT, click **Add/Remove**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed. Follow the procedure for uninstalling WebSphere MQ using the process from step 3 on page 94 to the end.

Uninstalling WebSphere MQ using the command line

This procedure can be used for removing the WebSphere MQ files in unattended (silent) mode.

To invoke an uninstallation, use the `Msiexec` command.

To uninstall all WebSphere MQ client features, enter one of the following commands:

- `Msiexec /i "path\MSI\IBM WebSphere MQ.msi" REMOVE="All"`

  This command gives you an interactive uninstallation of all features.
- `Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q REMOVE="All"`

  This command invokes a silent uninstall of all features.
- `Msiexec /x "path\MSI\IBM WebSphere MQ.msi"`

  This command displays only a progress dialog while uninstalling all features.
- `Msiexec /x "path\MSI\IBM WebSphere MQ.msi" /q`

  This command invokes a silent uninstall of all features.

Alternatively, you can the `Msiexec` command with a parameter that calls a response file. A response file is an ASCII text file that contains the parameter values that you want to set for the uninstallation. The response file has a format similar to a Windows .ini file, and contains the stanza **[Response]**. This stanza contains parameters that the `Msiexec` command can use, in the form of property=value pairs. The `Msiexec` command ignores any other stanzas in the file.

You can set which features to uninstall.

Note: The response file you use to uninstall WebSphere MQ for Windows, V5.3 when it was installed using the WebSphere MQ Client CD-ROM is **not** the same as the one used with non-MSI versions of MQSeries. For details about the response file you use with the WebSphere MQ Client CD-ROM, see "Unattended (silent) installation" on page 85.

To uninstall WebSphere MQ using a response file, enter the following command:

```
Msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q USEINI="response_file"
```

where *response_file* is the file that contains the [Response] stanza and the required property=value pairs. For details about how to create a response file, see "Unattended (silent) installation" on page 40. For details of the parameters you can specify in a response file, see Table 5 on page 41.

An example of a typical uninstallation response file is:

```
[Response]
REMOVE="Client,JavaMsg"
```

Chapter 11. Configuring WebSphere MQ accounts

WebSphere MQ checks that only authorized users can access queue managers or queues. Whenever a user attempts such access, WebSphere MQ uses its own local account to query information about the user. However, if a domain controller runs on Windows 2000, it can be set up so that local accounts cannot be used to make these queries. In this situation, you must provide WebSphere MQ with a special account to use. This is necessary when both of the following conditions apply:

- Any domain controller on your network is running on Windows 2000
- Local user accounts are not authorized to query the group membership of the Windows 2000 domain user accounts

If these conditions apply (or if you are not sure), give the information described in the following section to your domain administrator, and ask for one of the special accounts it describes. When you install the product, towards the end of the installation procedure, in the Prepare WebSphere MQ wizard, you are asked to enter details of this account (domain, user name, and password).

If these conditions apply and you install WebSphere MQ without a special account (or without entering its details), many or all parts of WebSphere MQ will not work, depending upon the particular user accounts involved. In particular, if you are currently logged on with a Windows 2000 domain user account, you cannot complete the Default Configuration, and the Postcard and API Exerciser applications will not work. Also, WebSphere MQ connections to queue managers that run under Windows 2000 domain accounts on other computers might fail.

For information about the user rights required to take advantage of the Kerberos authentication support, see *WebSphere MQ Security*.

For information about the user rights required to take advantage of the Active Directory support, see *WebSphere MQ Intercommunication*.

Information for domain administrators

WebSphere MQ has a component, running as a Windows service, that checks that any user account attempting to access WebSphere MQ is authorized. As part of the check, the service must confirm that the account belongs to the group `DOMAIN\domain mqm`. The service itself by default runs under a local user account (MUSR_MQADMIN) that WebSphere MQ creates at installation.

If any domain controller on your network is running on Windows 2000, that domain can be set up so that local user accounts do not have authority to query the group membership of its domain user accounts. Such a setup prevents WebSphere MQ from completing its check, and access fails. To resolve this, each installation of WebSphere MQ on the network must be configured to run its service under a domain user account that has the required authority. See the following section for instructions on creating a suitable domain account.

Creating and setting up Windows 2000 domain accounts for WebSphere MQ

The step-by-step instructions below show how to:

- Create a domain group (a global or universal group)

- Give members of this group the authority to query the group membership of any account
- Create one or more user accounts, and add them to the group
- Use the accounts to configure each installation of WebSphere MQ
- Set the password expiry periods

Step-by-step instructions

1. Log on to the domain controller as an account with domain administrator authority.
2. Create a domain group with a special name that is known to WebSphere MQ:
   a. From the Start menu, open **Active Directory Users and Computers**.
   b. Find your domain name in the navigation pane on the left (typically something like `mqdev.server.company.com`), right-click it and select **New Group**.
   c. Enter the name `domain mqm` (use this exact string, because it is understood and used by WebSphere MQ).
   d. Make any specific changes you want to the other defaults, then click **OK**.
3. Give members of this group the authority to query the group membership of any account:
   a. If it is not already open, from the Start menu, open **Active Directory Users and Computers**
   b. Find your domain name in the navigation pane on the left (typically something like `mqdev.server.company.com`), right-click it, select **Delegate Control...**, then click **Next**.

      If there is more than one domain available, choose the domain that contains the accounts of the users that want to install the product. If you require WebSphere MQ to authenticate users from more than one domain, perform this step for each relevant domain.
   c. At Selected Groups and Users, click **Add**, click **domain mqm** and click **Add**, then click **OK**.
   d. Click **domain mqm** and click **Next**.
   e. Click **Create a custom task to delegate** and click **Next**.
   f. Click **Only the following objects in the folder**, check **User Objects** in the alphabetical list, then click **Next**.
   g. Check **Property-specific**, then search down the list (it is in alphabetical order on the second word) to find:
      1) Read Group Membership
      2) Read groupMembershipSAM
   h. Check both of these options, then click **Next**.
   i. Click **Finish**.
4. Create one or more accounts, and add them to the group:
   a. In a similar manner to step 3, create a user account with a name of your choosing and add it to group `domain mqm`.
   b. Repeat this for all the accounts that you want to create.
5. Use the accounts to configure each installation of WebSphere MQ:
   a. Either use the same domain user account for each computer on which WebSphere MQ is installed, or create a separate account for each one and add each account to the `domain mqm` group.

b. When you have created the required accounts, provide each installer of WebSphere MQ with details of the account that you want them to use for configuration (domain name, user name, and password). During installation, the Prepare WebSphere MQ wizard prompts them for this information.

c. When you install WebSphere MQ on any computer on the domain, the WebSphere MQ install program detects the existence of the `domain mqm` group on the LAN, and automatically adds it to the local `mqm` group. (The local `mqm` group is created during installation; all user accounts in it have authority to use WebSphere MQ.) All members of the `domain mqm` group have authority to use WebSphere MQ on this computer. However, for every installation, you must still provide a domain user account to the Prepare WebSphere MQ wizard, so that WebSphere MQ is reconfigured to use that account when it makes queries.

6. Set the password expiry periods:

a. If you use only one account for all WebSphere MQ users, consider setting the password of the account so that it never expires. Otherwise, when the password expires, all instances of WebSphere MQ stop working at the same time.

b. If you give all WebSphere MQ users their own user accounts, there will be more user accounts to create and manage, but when a password expires, only one instance of WebSphere MQ will stop working.

c. If you set the password so that it expires, tell users that sometimes WebSphere MQ might stop working, and entries in the event log warn that the password has expired, and explain how to reset the password.

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