WebSphere MQ

Quick Beginnings for Windows

Version 7.0

GC34-6920-01

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Note
Before using this information and the product it supports, be sure to read the general information under notices at the back of this book.

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This edition of the book applies to the following:

- IBM WebSphere MQ for Windows, Version 7.0

and to any subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. Migrating to WebSphere MQ for Windows Version 7.0

Follow this information to migrate from previous versions of WebSphere® MQ for Windows® to WebSphere MQ for Windows Version 7.0.

Before you upgrade to WebSphere MQ Version 7.0, you must consider this information.

If you migrate from a previous level of this product without first backing up your system, you **cannot** revert to your previous level, so back up your system **before** you install WebSphere MQ Version 7.0. This enables you to back out the upgrade if necessary. If you back out the upgrade, however, you cannot recover any work, such as changes to messages and objects, for example, performed by WebSphere MQ Version 7.0. For distributed platforms, information about how to back up your system begins with Backing up and restoring WebSphere MQ in the WebSphere MQ *System Administration Guide*.

The installation process for WebSphere MQ for Windows detects whether this is a new installation or an update from a previous level of this product. If you migrate from a previous 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 uninstalls them.

You can also migrate to WebSphere MQ V7.0 on a system where a previous version has been uninstalled but where the queue manager data has been retained.

If an earlier version of WebSphere MQ is installed on the computer:

- Ensure that no queue managers, listeners, MQ applications or remote applications that use queue managers are running and that the WebSphere MQ Service is stopped. To stop the WebSphere MQ Service, right-click on the WebSphere MQ icon in the system tray, then click Stop WebSphere MQ.
- When the installation of WebSphere MQ Version 7.0 completes, the Prepare Websphere MQ Wizard launches automatically. Use this wizard to reenter domain, user ID and password information.

  You can subsequently use the DCOMCNFG.EXE tool, shipped with Windows systems, to change the domain, user ID, and password information.This tool is described in *WebSphere MQ System Administration Guide*

  For Windows Vista and Windows Server 2008 users with UAC enabled only: if you do not complete the Prepare WebSphere MQ Wizard directly after WebSphere MQ installs or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, ensure the wizard is run with Administrator privilege, otherwise the wizard might fail.
- WebSphere MQ Version 7.0 supports migration from WebSphere MQ Version 5.3 and WebSphere MQ Version 6.0 only.

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- WebSphere MQ Version 7.0 does not coexist with previous versions of WebSphere MQ. You must migrate from either WebSphere MQ Version 5.3 or WebSphere MQ Version 6.0 to WebSphere MQ Version 7.0.
- By default, a typical WebSphere MQ Version 6.0 to Version 7.0 migration installs only the same features that were installed in the previous version installation. For example, if WebSphere MQ Explorer was not installed in the Version 6.0 installation, it is not installed in a Version 7.0 installation. If you want WebSphere MQ Explorer, select a custom installation of WebSphere MQ Version 7.0 and select the MQ Explorer feature on the Features panel. If you are migrating from WebSphere Version 5.3 to Version 7.0, WebSphere MQ Explorer is installed by default. If you do not want WebSphere MQ Explorer, uninstall the WebSphere MQ Explorer feature by selecting a custom installation of WebSphere MQ Version 7.0. Then deselect the MQ Explorer feature on the Features panel. For more information on how to deselect features, see Launchpad instructions in *Quick Beginnings for Windows*.

Choosing not to install WebSphere MQ Explorer and WebSphere Eclipse Platform

You can choose not to install the WebSphere MQ Explorer feature, during a custom installation.

By default, a typical migration installation enables the WebSphere MQ Explorer feature. WebSphere MQ Explorer has a prerequisite of WebSphere Eclipse Platform V3.3.

If you do not want to install WebSphere Eclipse Platform V3.3, select a custom installation then deselect the WebSphere MQ Explorer feature from the Features panel.

If you installed WebSphere MQ Explorer on WebSphere MQ Version 6.0 but do not want to install it on WebSphere MQ Version 7.0, select a custom installation and then deselect the WebSphere MQ Explorer feature. The migration process removes the Version 6.0 WebSphere MQ Explorer feature.

For more information on how to deselect features, see Launchpad instructions in *Quick Beginnings for Windows*.

Migrating to WebSphere MQ Version 7.0 on Windows Vista or Windows Server 2008

You can migrate to WebSphere MQ Version 7.0 on Windows Vista or Windows Server 2008 using either of the following supported migration paths:

Table 1. WebSphere MQ Version 7.0 on Windows Vista or Windows Server 2008: supported migration paths

From:	To:
WebSphere MQ Version 6.0 Client plus FixPack 6.0.2.1 on Windows Vista or Windows Server 2008	WebSphere MQ Version 7.0 Client on Windows Vista or Windows Server 2008
WebSphere MQ Version 7.0 on Windows XP SP2	WebSphere MQ Version 7.0 on Windows Vista or Windows Server 2008

User Account Control (UAC) on Windows Vista and Windows Server 2008

Windows Vista and Windows Server 2008 introduce a User Account Control (UAC) feature, which restricts the actions users can perform on certain operating system facilities, even if they are members of the Administrators group.

UAC is enabled by default on Windows Vista and Windows Server 2008. This means installing WebSphere MQ on Windows Vista or Windows Server 2008 differs from installing WebSphere MQ on previous versions of Windows. At certain points during installation, migration, and uninstallation, you must manually accept the Windows UAC prompt to allow processes to run with elevated authority. During silent installation and uninstallation, you must invoke the process from an elevated command prompt. The points when you have to accept the Windows prompt for UAC or invoke processes from an elevated command prompt have been flagged in the specific topics affected.

Chapter 2. Migrating from WebSphere MQ Version 5.3 and 6.0

If you are migrating from a previous version of WebSphere MQ, you should consider the information given in the following section:

- "Launchpad migration instructions"

Launchpad migration instructions

About this task

These instructions cover migrating WebSphere MQ to Version 7.0 using the launchpad.

1. Stop all existing WebSphere MQ processes.
   a. Stop execution of all WebSphere MQ applications on the local machine, and on any connected remote machines.
   b. Stop execution of all queue managers
   c. Stop execution of all channels
   d. Stop execution of all listeners
   e. Right click WebSphere MQ on the system tray and select Stop WebSphere MQ. Wait for all services to stop.
   f. Right click WebSphere MQ on the system tray and select Exit. Some previous versions of WebSphere MQ might not have an Exit option. If there is not, use the task manager to end process *amqmsrvn.exe*.
2. Insert the WebSphere MQ Version 7.0 Server CD into the CD-ROM drive.
3. If autorun is enabled, the launchpad starts automatically. If not, run setup.exe from the CD-ROM.

   If you are migrating on Windows Vista or Windows Server 2008 and UAC is enabled, accept the Windows prompt to allow the launchpad to run as elevated. During migration you might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the migration to continue.
4. Click the **Software Requirements** option to check if prerequisites are met. You might need to install or upgrade to WebSphere Eclipse Platform Version 3.3 if you want to use WebSphere MQ Explorer in WebSphere MQ Version 7.0.
5. Click the **Network Configuration** option and select from the three choices. Click **More Information** to launch the relevant WebSphere MQ documentation.
6. Click the **Migrating SSL Certificates** option and select from the choices. This option will only appear if you are migrating from WebSphere MQ Version 5.3, otherwise it will not be shown.
7. Click the **WebSphere MQ Installation** option, check the pre-installation status, select language, and click Launch IBM WebSphere MQ Installer.
   a. Read and accept the license agreement to proceed.
   b. Select **update** or **custom**. Update installs WebSphere MQ Version 7.0 with the same features as the previous version. Custom allows you to add or remove components for the new version.

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c. If **custom** was selected, choose components. Unselecting a component will remove the component from the machine if it is already installed. WebSphere MQ Explorer requires WebSphere Eclipse Platform 3.3 to have been installed.

d. Confirm details and install. Follow any on-screen instructions.

e. Restart computer on completion of installation if you are prompted to do so.

f. WebSphere MQ will launch some final configuration steps, allowing you to review network configuration options, and select components to start up when finished.

8. WebSphere MQ Version 7.0 is now installed, and all persistent items have been migrated from the previous version of WebSphere MQ. You can use the launchpad to view the Quick Beginnings, Release Notes, or Product Tour before finishing.

Chapter 3. Migrating from WebSphere MQ Version 5.3

If you are migrating from WebSphere MQ Version 5.3, you should also consider the information given in the following sections:

- "Migrating SSL connections"
- "Migrating WebSphere MQ Services"
- "Publish/Subscribe users" on page 8
- "Saved views with WebSphere MQ Explorer" on page 8

Migrating SSL connections

WebSphere MQ for Windows, Version 7.0 provides the Global Security Toolkit (GSKit) for improved Secure Sockets Layer (SSL) support for queue manager and WebSphere MQ client channels. If you have WebSphere MQ Version 5.3 queue managers or clients set up to use SSL connections, or if you are unsure if your queue managers or clients have been set up in this way, refer to WebSphere MQ Migration Information.

Follow the guidance in WebSphere MQ Migration Information to determine whether WebSphere MQ Version 5.3 queue managers or clients have been set up to use SSL connections, and to ensure these channels continue to work with WebSphere MQ for Windows, Version 7.0 . The migration process causes a copy of the certificates stored in the WebSphere MQ Version 5.3 Certificate Stores used by WebSphere MQ Version 5.3 to be migrated to a GSKit Key database.

Migrating WebSphere MQ Services

WebSphere MQ services define one or more commands to be run when a queue manager is started or stopped. Examples of a service include:

- Listener
- Channel initiator
- Trigger monitor
- Command server
- Channel
- Queue manager custom service

When migrating from a version of WebSphere MQ earlier than Version 6, the WebSphere MQ services are automatically migrated into WebSphere MQ Objects. (For more information about WebSphere MQ Objects see the WebSphere MQ System Administration Guide.) These objects can then be administered in the WebSphere MQ Explorer.

Examples of the migration of services to WebSphere MQ Objects are:

- A listener is migrated to a WebSphere MQ listener object, equivalent to one defined by the `DEFINE LISTENER ...` MQSC command.
- A trigger monitor is migrated to a WebSphere MQ service object with `STARTCMD` set to `runmqtrm`.
- A channel is migrated to a WebSphere MQ service object with `STARTCMD` set to `runmqchl`.

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It is important to note that after migration all services will run **after** the queue manager with which they are associated starts. This is the case even if the service previously ran before the associated queue manager started.

Only services that are associated with queue managers will be migrated. ROOT custom services, which are services that are not associated with a particular queue manager, are not migrated and they will remain as they were.

Publish/Subscribe users

WebSphere MQ Version 7.0 contains components that provide Publish/Subscribe support that were previously shipped in SupportPac™ MA0C and included in Fix Pack 8 for WebSphere MQ Version 5.3. If you install WebSphere MQ Version 7.0, you no longer need the SupportPac and you should not install it. The files included with WebSphere MQ Version 7.0 supersede those in the SupportPac.

If you are using SupportPac MA0C with your previous version of WebSphere MQ, uninstall before you install WebSphere MQ Version 7.0. Uninstall by selecting **Start → Settings → Control Panel → Add or Remove Programs → IBM MQSeries Publish/Subscribe**, and then selecting **Remove**.

Saved views with WebSphere MQ Explorer

WebSphere MQ Version 5.3 uses Microsoft® Management Console (MMC) based snap-ins to provide the WebSphere MQ Explorer. MMC allows you to save the current configuration or 'view' as a .msc file.

WebSphere MQ Version 7.0 no longer uses MMC. Therefore, any views that you have previously saved will not work with the WebSphere MQ Explorer.

Chapter 4. Installing the WebSphere MQ Server

This topic describes how to install WebSphere MQ Version 7.0 directly from the WebSphere MQ Server CD.

This information covers topics such as preparing for installation and verifying your installation, as well as the installation process itself. If you already have an installation of WebSphere MQ, and are migrating to WebSphere MQ Version 7.0, see Chapter 1, "Migrating to WebSphere MQ for Windows Version 7.0," on page 1 or Chapter 2, "Migrating from WebSphere MQ Version 5.3 and 6.0," on page 5 before carrying out the installation process.

WebSphere MQ can be installed as a server or a client. A WebSphere MQ server is an installation of a queue manager that provides queueing services to zero or more clients and to zero or more queue managers. All the WebSphere MQ objects, for example queues, exist only on the queue manager machine (the WebSphere MQ server machine), and not the client. A WebSphere MQ server can also support local WebSphere MQ applications.

A WebSphere MQ client is a component that allows an application running on one system to communicate with a queue manager running on another system. The output from the call is sent back to the client, which passes it back to the application. A WebSphere MQ client can be installed on its own on a separate machine from the base product and server.

For an introduction to WebSphere MQ concepts and objects, see the WebSphere MQ System Administration Guide.

For information about client support in general, see *WebSphere MQ Clients*.

You can use the WebSphere MQ Server CD 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.

Note:

- You can also install the WebSphere MQ client by using the WebSphere MQ Client CD. The installation methods you use with this CD differ slightly. See WebSphere MQ Clients for more information.

This chapter describes how to install the WebSphere MQ Server using the WebSphere MQ for Windows CD. If you wish to install the WebSphere MQ Client see Chapter 5, "Installing the WebSphere MQ Client," on page 75.

This chapter is broken down into the following categories:

- Chapter 6, "Installing WebSphere MQ documentation," on page 89
- "Preparing for server installation" on page 12
- "WebSphere MQ Server installation methods" on page 22
- "Configuring a WebSphere MQ Server" on page 52

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General considerations

- Ensure that you set up default logging for the installation process. See "Creating a log file when you install WebSphere MQ" on page 11.

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).
- A WebSphere MQ for Windows server does not support the connection of a Windows client if the client is running under a user ID that contains the @ character, for example, abc@d.

Security considerations

- Are you installing WebSphere MQ on a network where the domain controller is on a Windows 2000 or Windows 2003 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 "Configuring WebSphere MQ accounts" on page 57.
- You **must** have local administrator authority when you are installing. 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.
- Windows Vista and Windows Server 2008 introduce a User Account Control (UAC) feature, which restricts the actions users can perform on certain operating system facilities, even if they are members of the Administrators group. See User Account Control (UAC) on Windows Vista and Windows Server 2008 for more information. If your userid is in the Administrators group but not the mqm group you must use an elevated command prompt to issue MQ admin commands such as crtmqm, otherwise the error "AMQ7077: You are not authorized to perform the requested operation" is generated. To open an elevated command prompt, right-click the start menu item, or icon, for the command prompt, and select "Run as administrator".
- Some commands can be run without being a member of the mqm group (see Authority to administer WebSphere MQ).
- 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 "Configuring WebSphere MQ accounts" on page 57.
- When an MQ client connects to a queue manager on the server, the username under which the client runs must not be same as the domain or machine name.

If the user has the same name as the domain or machine, the connection fails with return code 2035(MQRC_NOT_AUTHORIZED).

- As with other versions of Windows, the Object Authority Manager (OAM) gives members of the Administrators group the authority to access all MQ objects even when UAC is enabled on Windows Vista and Windows Server 2008.

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. If you install WebSphere MQ using the Launchpad, a log file will automatically be generated. For more information see, "Final Installation tasks" on page 56.

Default logging

About this task

To set up logging, use the following steps:

1. Launch the msiconfig snap-in to display the msiconfig window. If this is already set up on your machine, click **Start** → **Programs** → **Administrative Tools** → **msiconfig.msc**. The Start Menu properties might need to be changed to display Administrative Tools in it. Otherwise, use the following steps to set it up:
   a. From the Windows taskbar, click **Start** → **Run**.
   b. Type `mmc`, then click **OK** to display the Console window.
   c. Click **File** → **Add/Remove Snap-in** to display the Add/Remove Snap-in dialog.
   d. Click **Add** to display the Add Standalone Snap-in dialog.
   e. Select **Group policy Object Editor** from the list, then click **Add** to display the Select Group Policy Object dialog.
   f. Apply the Group Policy appropriate to your domain configuration. For example, if you are using a local computer, click **Finish**.
   g. In the Add Standalone Snap-in dialog, click **Close**.
   h. In the Add/Remove Snap-in dialog, click **OK**.

   Note: Step 1.d an 1.g do not apply to Windows Vista.
2. From the tree in the left-hand panel of the window, expand the following:

   Local Computer Policy → **Computer Configuration** → **Administrative Templates** → **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, type:

   ```
   microwaveup
   ```

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

Preparing for server installation

Before you start to install WebSphere MQ review the release notes file, which is on the product CD in the `\Readmes` folder for each national language. This file contains any additional information about the WebSphere MQ for Windows, Version 7.0 product and might update information in this book.

There is also a READADD.txt file for any changes made between translation and the manufacturing of the installation CD. The READADD.txt can be found in: *pathname*\READADD.txt where *pathname* is the path of the server installation CD.

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

For server hardware and software requirements see:

- "Server hardware for WebSphere MQ for Windows"
- "Prerequisite server software"
- "Optional server software" on page 18

Server hardware for WebSphere MQ for Windows

Hardware required to run WebSphere MQ for Windows in the server environment.

This information applies to the server environment only. For details of the WebSphere MQ for Windows client environment, see "Client hardware" on page 76.

Hardware requirements of WebSphere MQ server

- Any x86 or x86-64 technology-compatible PC hardware, capable of running the required level of a compatible operating system .
- Any communications hardware supporting SNA LU 6.2, TCP/IP, NetBIOS, or SPX is required for communication with other machines.
- The following disk space (for a typical installation):
  - 570 megabytes (MB) for product code and data (not including the Information Center)
  - 20 MB minimum working space
  - 30 MB of temporary space for the installation process

Hardware requirements of WebSphere MQ Explorer

If you want to use the WebSphere MQ Explorer, you will need a minimum of:

- 512 MB RAM
- 1 GHz processor
- 300 MB for Eclipse platform code and data
- A suitable monitor for the operating system with a screen size of at least 1024x768

Prerequisite server software

This information applies to the server environment only. For details of the WebSphere MQ for Windows client environment, see "Prerequisite client software" on page 76.

For details of the prerequisites for individual features of the product, see "Prerequisites for WebSphere MQ for Windows features" on page 20.

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 systems

Operating systems for WebSphere MQ for Windows in the server environment.

WebSphere MQ requires one of the following operating systems:

- Microsoft Windows Server 2003. This can be one of the following products:
  - Microsoft Windows Server 2003 Standard Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Enterprise Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Standard x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Enterprise x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Standard Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Enterprise Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Standard x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Enterprise x64 Edition (Service Pack 1 or later)
- Microsoft Windows XP Professional. This can be either of the following products:
  - Microsoft Windows XP Professional (Service Pack 2 or later)
  - Microsoft Windows XP Professional x64 Edition
- Microsoft Windows Vista. This can be one of the following products:
  - Microsoft Windows Vista Business Edition
  - Microsoft Windows Vista Enterprise Edition
  - Microsoft Windows Vista Ultimate Edition
  - Microsoft Windows Vista Business x64 Edition
  - Microsoft Windows Vista Enterprise x64 Edition
  - Microsoft Windows Vista Ultimate x64 Edition
- Microsoft Windows Server 2008. This can be one of the following products:
  - Microsoft Windows Server 2008 Standard Edition
  - Microsoft Windows Server 2008 Enterprise Edition
  - Microsoft Windows Server 2008 Datacenter Edition
  - Microsoft Windows Server HPC 2008
  - Microsoft Windows Server Web 2008
  - Microsoft Windows Server Storage 2008
  - Microsoft Windows Server 2008 Standard x64 Edition
  - Microsoft Windows Server 2008 Enterprise x64 Edition
  - Microsoft Windows Server 2008 Datacenter x64 Edition
  - Microsoft Windows Server Web 2008 x64

- Microsoft Windows Server Storage 2008 x64
- Microsoft Windows Small Business Server 2008 x64 for small businesses
- Microsoft Windows Essential Business Server 2008 x64 for medium-sized businesses
- Microsoft Windows Server 2008 for Itanium-based Systems

Installing on 64-bit Windows operating systems

There are no 64-bit specific actions that need to be performed to install and use WebSphere MQ on a 64-bit Windows system.

Install directory used for 64-bit Windows operating systems

On 64-bit Windows, the default installation location is C:\Program Files (x86)\IBM\WebSphere MQ as opposed to C:\Program Files\IBM\WebSphere MQ. If you explicitly set the installation program to install WebSphere MQ in C:\Program Files\IBM\WebSphere MQ, an error dialog will appear with the text:

```
This is a 32 bit program and cannot be installed to the 64 bit program files
directory. Please either use 'C:\Program Files (x86)' or choose an
alternative location. (AMQ4765)
```

and you must select an alternative installation directory. In a silent install the error message will be written to the install log.

Wherever the default installation location occurs in the documentation or C:\Program Files\IBM\WebSphere MQ is specifically documented, for 64-bit operating systems the file path should be read C:\Program Files (x86)\IBM\WebSphere MQ.

Connectivity

Supported software products to enable connectivity for Websphere MQ for Windows

You require one of the following products:

- for SNA connectivity:
  - IBM Communications Server for Windows, Version 6.1.2
  - IBM Personal Communications for Windows Version 5.9, part of IBM Host Access Client Package (HACP) V4.0
  - Attachmate myEXTRA! Presentation Services, Version 7.11
  - Attachmate EXTRA! X-treme V9
  - Microsoft Host Integration Server 2006
- TCP/IP, NetBIOS, and SPX. These are part of the base operating system (SPX is part of Windows XP and Windows 2003 only).
- WebSphere MQ client applications are supported on the Citrix Presentation Server V4.5

Prerequisites for Windows XP and Windows Server 2003

Additional software required to run WebSphere MQ for Windows in the server environment on Windows XP or Windows Server 2003 .

Additional prerequisites for Windows XP and Windows Server 2003 are:

- For running .NET services, Microsoft Internet Information Services

Installing prerequisite software

This describes the two alternative methods for installing prerequisite software.

To install the prerequisite software provided on the WebSphere MQ Server CD (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, 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 "Launchpad instructions" on page 23.
- Use the Windows Explorer:
  1. Use the Windows Explorer to select the Prereqs folder on the WebSphere MQ Server CD.
  2. Select the folder for the software item to be installed.
  3. Start the installation program.

Installing and uninstalling IBM WebSphere Eclipse Platform

About this task

The WebSphere Eclipse Platform can be installed either from the WebSphere MQ installation launchpad or unattended (silently). To process an unattended installation, see: "Unattended (silent) install and uninstall of IBM WebSphere Eclipse Platform" on page 16. To install from the WebSphere MQ installation launchpad you must:

1. Insert the WebSphere MQ for Windows Server CD 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 to start the installation process.

   If you are installing on Windows Vista or Windows Server 2008 and UAC is enabled, accept the Windows prompt to allow the launchpad to run as elevated. During installation you might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the installation to continue.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Click the **Software Prerequisites** option.

   The window lists the prerequisite software for a typical installation. To the right of each installation item there is a green circle and the word "OK" if the software is installed, or a red circle with the words "Not Installed" if the software is not installed.

   If there is a red circle with the words "Not Installed" next to WebSphere Eclipse Platform:

   a. Click the + symbol to the left of WebSphere Eclipse Platform to display installation links.

   b. Select the option for the installation source you want to use. Select from:
      - CD-ROM
      - Network
4. The language selection panel is displayed. Select the language you want and click **OK**. The WebSphere Eclipse Platform setup wizard is displayed. Follow the instructions given in the wizard to install WebSphere Eclipse Platform.

If you are installing on Windows Vista or Windows Server 2008 and UAC is enabled, accept the Windows prompt to allow the wizard to run as elevated. During installation you might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the installation to continue.

What to do next

If you no longer need your previous version of WebSphere Eclipse Platform (for example Version 3.01), you can remove it after you have installed this newer version of WebSphere Eclipse Platform, Version 3.3.

WebSphere Eclipse Platform can be uninstalled using Add/Remove Programs or Programs and Features.

For Windows XP or Windows 2003, follow these steps:

1. From the Windows taskbar, click **Start** → **Settings** → **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click **IBM WebSphere Eclipse Platform V3.01** (or whatever your old version is).
4. Click **Remove**. When a confirmation prompt is displayed, click **Yes**. The uninstall program begins. All the IBM WebSphere Eclipse Platform files are removed.

For Windows Vista or Windows Server 2008, follow these steps:

1. From the Windows taskbar, click **Start >Control Panel** . The Programs window opens.
2. Double-click **Programs and Features**. The Programs and Features window opens.
3. Click **IBM WebSphere Eclipse Platform V3.01** (or whatever your old version is).
4. Click the **Uninstall** button. A window containing a confirmation prompt opens. Click **Yes**. If UAC is enabled, accept the Windows prompt to allow the uninstall to run as elevated. The uninstall program then begins and runs to completion. All the IBM WebSphere Eclipse Platform files are removed.

Unattended (silent) install and uninstall of IBM WebSphere Eclipse Platform

About this task

The WebSphere Eclipse Platform can be installed either from the WebSphere MQ installation launchpad or unattended (silently). To install from the WebSphere MQ installation launchpad, see:“Installing and uninstalling IBM WebSphere Eclipse Platform” on page 15.

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

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

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

There are two ways to invoke MSI without using the WebSphere MQ installation launchpad. These are:

- Using the `msiexec` command with command line parameters. See "Using command line parameters with msiexec" on page 30.
- Using 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 a response file with msiexec" on page 33.

1. Insert the WebSphere MQ for Windows Server CD into the CD-ROM drive.
2. If autorun is enabled, cancel it at the first opportunity.
3. At the command line, enter the msiexec command.

Example

An example of a possible msiexec command for the silent installation of the WebSphere Eclipse Platform is:

```
msiexec /q /i "D:\Prereqs\IES\MSI\IBM WebSphere Eclipse Platform V3.3.msi" /l*v
c:\install.log /m mif_file TRANSFORMS=1033.mst AGREETOLICENSE="yes" ADDLOCAL="All"
```

To install the WebSphere Eclipse Platform to a non-default directory, use the following parameter:

```
TARGETDIR="<dir>"
```

where *<dir>* is the name of the non-default directory where you need to install the WebSphere Eclipse Platform.

For further information on using the `msiexec` command for unattended installation, please see: "Installing using msiexec" on page 28

What to do next

If you no longer need WebSphere Eclipse Platform Version 3.01, you can remove it after you have installed WebSphere Eclipse Platform Version 3.3.

WebSphere Eclipse Platform can be uninstalled using Add/Remove Programs or Programs and Features.

An example of a possible msiexec command for the silent uninstallation of the WebSphere Eclipse Platform Version 3.01 is:

```
msiexec /x "D:\Prereqs\IES\MSI\IBM WebSphere Eclipse Platform V3.0.1.msi" /qn
```

where *D:\Prereqs\IES\MSI\IBM WebSphere Eclipse Platform V3.0.1.msi* is the name of the `.msi` file originally used to install the WebSphere Eclipse Platform Version 3.01.

Optional server software

The following are options, not prerequisites. Minimum supported levels are shown, later levels are supported unless otherwise stated.

- External transaction processing monitors
  - IBM TXSeries® V6.0
  - IBM TXSeries V6.1
  - WebSphere Application Server, V5.1
  - WebSphere Application Server, V6.0.2
  - WebSphere Application Server, V6.1
  - BEA Tuxedo, Version 9.1
  - BEA WebLogic Server 9.1
  - MTS/COM (at the same level as the operating system)
- Databases
  - IBM DB2® Version 9.1 for Linux®, Unix and Windows
  - IBM DB2 Version 9.5 for Linux, Unix and Windows
  - Informix® Dynamic Server (IDS) Version V10 with Client SDK V2.90
  - Informix Dynamic Server (IDS) Version V10.50 with Client SDK V2.91
  - Oracle 10g Release 2
  - Oracle 11g Release 1
  - Sybase Adaptive Server Enterprise (ASE) V15 with Sybase SDK V15

Compilers for WebSphere MQ applications

A list of supported compilers for WebSphere MQ for Windows

The following software compilers are supported:

- C and C++:
  - Microsoft Visual Studio C++ 2005 SP1
  - Microsoft Visual Studio C++ .NET 2003

  Note: If you compile your application using Microsoft Visual Studio on one system, and then copy the application to another system that does not have Microsoft Visual Studio installed, you must install Microsoft Visual Studio redistributable package (vcredist) on the target system.
- .NET
  - Microsoft Visual C++ .NET 2003
  - Microsoft Visual C++ .NET 2005
  - Microsoft Visual C# .NET 2003
  - Microsoft Visual C# .NET 2005
  - Microsoft Visual Basic .NET 2003
  - Microsoft Visual Basic .NET 2005
- COBOL:
  - IBM VisualAge® COBOL Enterprise V3.0.1
  - Micro Focus Net Express Version 4.0
  - Micro Focus Net Express Version 5.0
- Visual Basic:
  - Microsoft Visual Basic, Version 6.0

- JDK:
  - 32-bit
    - IBM Developer Kit for Windows, Java 2 Technology Edition V1.4.2.
    - IBM Developer Kit for Windows, Java 2 Technology Edition V5.0 (SR1 or above)
    - IBM Developer Kit for Windows, Java 2 Technology Edition
    - Java 2 Platform, Standard Edition V1.4.2 from Sun Microsystems, Inc.
    - Java 2 Platform, Standard Edition V5.0 (SR1 or above) from Sun Microsystems, Inc.
    - Java 2 Platform, Standard Edition V6.0 from Sun Microsystems, Inc.
  - 64-bit
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 1.4.2
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 5.0
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 6.0
    - Sun Java 2 Platform Standard Edition, Version 5.0

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

http://www.ibm.com/software/integration/mqfamily

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 79.

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

Server File Transfer
The Server File Transfer Application allows you to send and receive ordinary files in the form of WebSphere MQ messages. You can use the Server File Transfer Application to send and receive any type of file in any format, for example: ASCII Linux format (with line feed characters), ASCII file Windows format (with carriage return/line feed characters), binary (for example, image files, wordprocessor files, spreadsheet files, or zip files), also reports, letters, memos and charts. The Server File Transfer Application has both a graphical user interface and a command line interface.

MQ Explorer
The Explorer allows you to administer and monitor resources in WebSphere MQ.

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.

Client Extended Transaction Support
A WebSphere MQ extended transactional client is a WebSphere MQ client with some additional function. This function allows a client application, within the same unit of work:

- To put messages to, and get messages from, queues that are owned by the queue manager to which it is connected.
- To update the resources of a resource manager other than a WebSphere MQ queue manager.

Client File Transfer
The Client File Transfer Application allows you to send and receive ordinary files in the form of WebSphere MQ messages. You can use the Client File Transfer Application to send and receive any type of file in any format, for example: ASCII Linux format (with line feed characters), ASCII file Windows format (with carriage return/line feed characters), binary (for example, image files, wordprocessor files, spreadsheet files, or zip files), also reports, letters, memos and charts. The Client File Transfer Application only has a command line interface.

Java™ Messaging and Web Services
The files needed for messaging using Java (includes Java Message Service support) and WebSphere MQ Web Services.

Java Extended Transaction Support
Extended transaction support for Java Message Service.

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, and .NET (including C#). Java and Java Message Service support is included and samples are provided for MTS (COM+), and MQSC.

Prerequisites for WebSphere MQ for Windows features

Certain features of WebSphere MQ require specific software in order to run.

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 2. Prerequisites and installation options for WebSphere MQ features

WebSphere MQ feature	Interactive installation option	Prerequisites
Server	• Typical • Compact • Custom	• None
Server File Transfer	• Custom	• For the graphical user interface: WebSphere Eclipse Platform Version 3.3
MQ Explorer	• Typical • Custom	• WebSphere Eclipse Platform Version 3.3
Windows client	• Custom	• None

Table 2. Prerequisites and installation options for WebSphere MQ features (continued)

WebSphere MQ feature	Interactive installation option	Prerequisites
Client Extended Transaction Support	• Custom	• None
Client File Transfer	• Custom	• For the graphical user interface: WebSphere Eclipse Platform Version 3.3
Java Messaging and Web Services	• Typical • Custom	• None
Java Extended Transaction Support	• Custom	• None
Development Toolkit	• Typical • Custom	• None

Note: The File Transfer Application can be installed from the Server CD for either a Client or a Server.

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, Postcard, and Default Configuration 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 other effects 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.
- Explorer Object Status

  The Explorer component of WebSphere MQ uses icons to indicate the status of objects, such as queue managers. Screen readers cannot interpret these icons, so there is an option to show a textual description of the icon. To select this option, from within the Explorer click **Window → Preferences → WebSphere MQ Explorer** and select **Show status of objects after object name**.

WebSphere MQ Server installation methods

This section provides guidance on how to install WebSphere MQ for Windows. If you are migrating from an earlier version of WebSphere MQ, see Chapter 1, "Migrating to WebSphere MQ for Windows Version 7.0," on page 1. To modify an existing installation, see "Modifying your installation" on page 49. If you are installing a WebSphere MQ client see Chapter 5, "Installing the WebSphere MQ Client," on page 75

WebSphere MQ is typically installed interactively using the WebSphere MQ Installation Launchpad graphical user interface. For instructions for interactive installation using the Launchpad see "Installing using the launchpad"

Note: When installing using a Remote Desktop Connection, you might need to logoff, then re-logon to pick up the changes made to your environment by the installation process.

For all of the following installation methods, installing with a custom location such as C:\Users for Windows Vista or C:\Documents and Settings for Windows XP and Windows 2003 Server is not supported.

WebSphere MQ can also be installed using the following methods:

- From a LAN, see "Installing from a LAN" on page 27
- Unattended (silently), see "Unattended (silent) installation" on page 28
- Using msiexec, see "Installing using msiexec" on page 28
- Using Microsoft System Management Server (SMS), see "Installing with Microsoft System Management Server" on page 48

User Account Control (UAC) on Windows Vista and Windows Server 2008

Windows Vista and Windows Server 2008 introduce a User Account Control (UAC) feature, which restricts the actions users can perform on certain operating system facilities, even if they are members of the Administrators group.

UAC is enabled by default on Windows Vista and Windows Server 2008. This means installing WebSphere MQ on Windows Vista or Windows Server 2008 differs from installing WebSphere MQ on previous versions of Windows. At certain points during installation, migration, and uninstallation, you must manually accept the Windows UAC prompt to allow processes to run with elevated authority. During silent installation and uninstallation, you must invoke the process from an elevated command prompt. The points when you have to accept the Windows prompt for UAC or invoke processes from an elevated command prompt have been flagged in the specific topics affected.

Installing using the launchpad

Before you install, you must decide what type of installation you require. Table 3 on page 23 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 for Windows features" on page 20.

Table 3. Features installed with each type of installation

Installation type	Features installed	Comments
Typical	• Server • MQ Explorer • Development Toolkit • Java Messaging and Web Services	The default option. Features are installed to default locations.
Compact	• Server only	The server is installed to the default location.
Custom	By default, the following features are preselected: • Server • MQ Explorer • Development Toolkit • Java Messaging and Web Services A custom installation can also install: • Windows client • Server File Transfer • Client File Transfer • Client Extended Transaction Support • Java Extended Transaction Support	This method must be used if you want to install the Windows client.All the available features are listed and you can select which ones to install, and where to install them.

The installation types are:

- Typical installation
- Compact installation
- Custom Installation

For instructions on all these installation types see "Launchpad instructions."

After installation, WebSphere MQ must be configured, see "Configuring WebSphere MQ with the Prepare WebSphere MQ wizard" on page 52.

WebSphere MQ Installation Launchpad can also be used for modifying a current WebSphere MQ installation, to modify an installation using:

- WebSphere MQ Installation Launchpad, see "Modifying the installation using WebSphere MQ Installation Launchpad" on page 49.
- Add/Remove Programs, see "Modifying the installation using Add/Remove Programs" on page 50.

Launchpad instructions

About this task

These instructions cover using the launchpad to make a compact, typical or custom installation of the WebSphere MQ server. To view all the installation types and the features that are installed with each option consult Table 3.

1. Insert the WebSphere MQ for Windows Server CD 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 to start the installation process.

If you are installing on Windows Vista or Windows Server 2008 and UAC is enabled, accept the Windows prompt to allow the launchpad to run as elevated. During installation you might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the installation to continue.

The WebSphere MQ Installation Launchpad window is displayed.

3. Click the **Software Prerequisites** option.

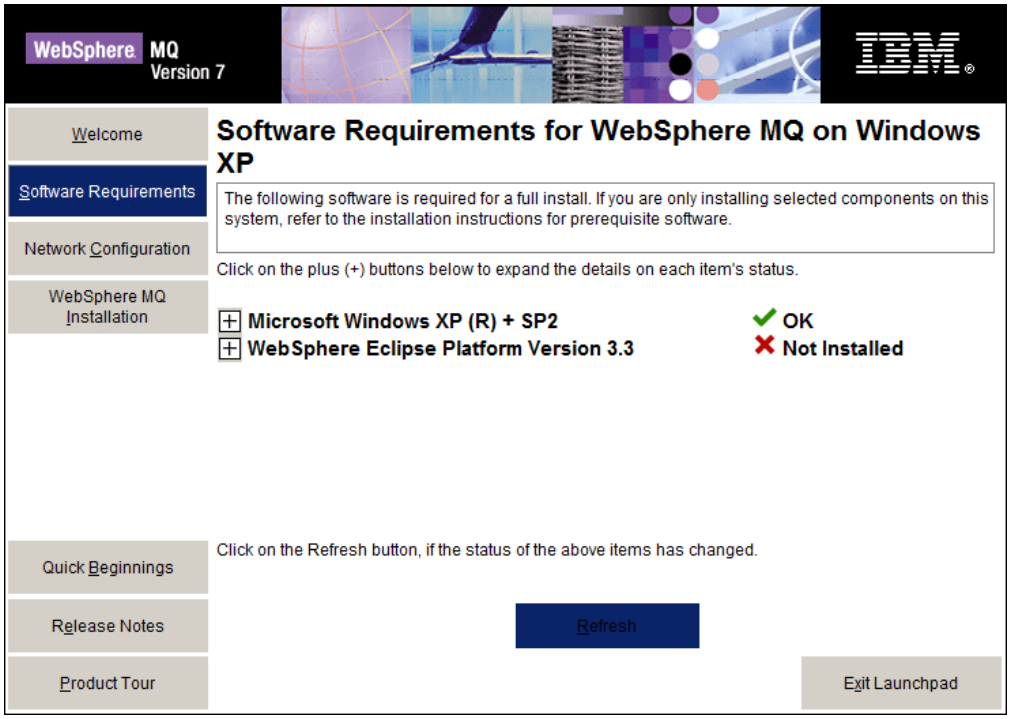

Figure 1. Launchpad Software Prerequisites page

The window (shown in Figure 1) lists the prerequisite software for a typical installation. To the right of each installation item there is either the word "OK" if the software is installed, or the words "Not Installed" if the software is not installed.

If the words "Not Installed" are displayed:

a. Click the + symbol to the left of the item to display installation links. For specific information on how to install WebSphere Eclipse Platform see "Installing and uninstalling IBM WebSphere Eclipse Platform" on page 15.

b. Select the option for the installation source you want to use. Select from:

- CD-ROM
- Network

Note: Some software prerequisites are not available from all sources.

c. When installation is complete, click the **Refresh** button.

4. Click **Network Configuration**. This panel describes the conditions under which WebSphere MQ needs a special domain account.

- If the conditions described in the window apply, select **Yes**. If you do not have details of the required special domain account, follow the **More Information** link or ask your domain administrator. Further information is

also available in "Configuring WebSphere MQ accounts" on page 57. 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, click the **Don't know** option, or contact your domain administrator.

5. When you have clicked **Yes** (and have details of the special domain account), or if you clicked **No**, click the **Migrating SSL certificates** option. This window describes the conditions under which you need to check the SSL certificate chain for your queue managers or clients. If you do not have WebSphere MQ Version 5.3 installed these options will not be available, go to step 6.
   - If the conditions described in the window apply, click **Yes**. You must now ensure that the SSL certificates used to authenticate queue managers or clients on this computer have full certificate chains in the WebSphere MQ certificate store. WebSphere MQ can check your stores for you. To do this, run the Check WebSphere MQ Certificate Stores Wizard.
   - If the conditions described do not apply, click **No**.
   - If you do not know, click the **Don't know** option, or follow the **More Information** link.
6. When you have clicked **Yes** (and have ensured you have full certificate chains), or if you clicked **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 IBM WebSphere MQ Installer**, and wait until the WebSphere MQ Setup window is displayed with a welcome message.
8. If the current version of WebSphere MQ is already installed, the Program Maintenance panel is displayed with two options: **Modify** and **Remove**.
   - If you select **Modify**, click **Next**, then see "Modifying the installation using WebSphere MQ Installation Launchpad" on page 49 from step 7 on page 49 onwards.
   - If you select **Remove**, click **Next**, then see "Uninstalling WebSphere MQ using the installation process" on page 99 from step 6 on page 99 onwards.

   If the current version of WebSphere MQ is not installed, the License Agreement panel is displayed.
9. Read the information on the panel. Click the **Licence Terms** button to read the license terms.

   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**.
10. If there is a previous version of this product installed on the machine, go to step 18 on page 27.

    If there is no previous version of this product installed the Setup Type panel is displayed. At this panel you can chose to perform a compact, typical, or custom installation. For more information about the features installed by each of these types of installation see Table 3 on page 23.
    - For a compact installation, select **Compact** on the **Setup Type** window, then click **Next**. Go to step 18 on page 27.
    - For a typical installation, select **Typical** on the **Setup Type** window, click **Next**. Go to step 18 on page 27.

- For a custom installation, Select **Custom** on the **Setup Type** window, click **Next**. Go to step 11.

11. The Destination Folder panel for program files 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 from the dialog box, click **OK**, then click **Next**.
12. Next the Destination Folder panel for data files 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 from the dialog box, click **OK**, then click **Next**.
13. Next the Destination Folder panel for the Global Security Kit is displayed. If the Global Security Kit is already installed this panel will not be displayed.
    - To accept the default folder for the Global Security Kit, click **Next**.
    - To change the folder for the Global Security Kit, click **Change**, select the required folder from the dialog box, click **OK**, then click **Next**.
14. Next the Destination Folder panel for log files 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 from the dialog box, click **OK**, then click **Next**.
15. The Features panel is displayed (see Figure 2). This is where you choose which features you wish to install (including the Client feature).

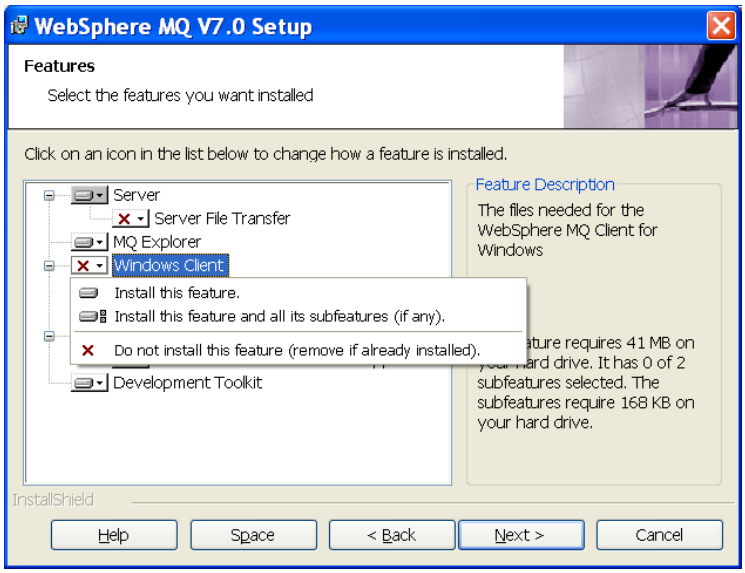

Figure 2. Setup features panel

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)

c. 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.

16. Optional: To check that there is enough disk space, click **Space**. 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**.

17. When your selections are complete, click **Next**.
18. 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**.

19. Wait until the progress bar is complete. This might take several minutes.

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

    `Installation Wizard Completed Successfully`

20. Click **Finish** to launch the Prepare WebSphere MQ wizard.
21. Follow the procedure described in "Configuring WebSphere MQ with the Prepare WebSphere MQ wizard" on page 52

    Note: When installing using a Remote Desktop Connection, you might need to logoff, then re-logon to pick up the changes made to your environment by the installation process.

Installing from a LAN

About this task

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 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. If autorun is enabled, the WebSphere MQ Installation Launchpad window is displayed. Select **Cancel** to close this window.
  3. Copy the entire CD 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 image. In this example, users need access to the `m:` drive.
  5. From a remote machine:
     a. Map the shared resource to a drive letter. You can use the net use command, or Windows Explorer.
     b. Change to the installation folder.
     c. Type `setup`, then press Enter.

Results

The WebSphere MQ Launchpad is now launched.

What to do next

Follow the installation instructions given in “Installing using the launchpad” on page 22 to install WebSphere MQ using the Launchpad.

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.

The machine on which you want to install must be able to share the WebSphere MQ Server CD, or a copy of the files on it, and you must be able to execute a command on that machine. The silent install methods assume that you have already installed any prerequisites for the features you plan to install. For a list of the prerequisites required for each feature, see Table 2 on page 20. The prerequisites can be installed in the setup panels of the Launchpad, see “Launchpad instructions” on page 23 for more information on how to do this.

If the prerequisite software is not installed and the silent installation includes the WebSphere MQ Explorer feature, installation will fail. If this happens, any failures or warnings are shown in the installation log files.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

There are several ways to invoke MSI without using the WebSphere MQ installation launchpad. These are:

- Using the `msiexec` command with command line parameters. See “Using command line parameters with msiexec” on page 30.
- Using 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 a response file with msiexec” on page 33.
- 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 41.

Also, you can use Microsoft System Management Server to install WebSphere MQ. See “Installing with Microsoft System Management Server” on page 48.

Installing using msiexec
About this task

The msiexec command uses parameters to give MSI some or all of the information that would normally be specified as part of an interactive installation using

WebSphere MQ Installation Launchpad. This means a user can create a reusable automated or semi-automated installation configuration. Parameters can be given through the command line, a transform file, a response file, or a combination of the three.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke a silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

To install using msiexec, follow the instructions below:

At the command line enter the msiexec command in the following format:
`msiexec` *`parameters`* `USEINI="`*`response-file`*`" TRANSFORM="`*`transform_file`*`"`
Where:

parameters
: are either command line parameters preceded by a / character, or property=value pairs (if using both forms of parameter always put the command line parameters first). For further information see "Using command line parameters with msiexec" on page 30.

  Note: You must include the **/i** parameter and the file location of the WebSphere MQ installer package.

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 C:\MyResponseFile.ini. An example response file, Response.ini, is supplied with WebSphere MQ. This file contains default installation parameters. For further information see "Using a response file with msiexec" on page 33.

transform_file
: is the full path and filename of a transform file. For further information see "Using transforms with msiexec" on page 39.

Results

After the command has been entered, the command prompt will immediately reappear. WebSphere MQ will be installing as a background process. If you have entered parameters to produce a log, check this file to see how the install is progressing. If the install completes successfully you will see the message `Installation operation completed successfully` in the log file.

You can also use the Windows Task Manager to see when the msiexec process has completed.

Note: If you install WebSphere MQ using msiexec you must first end any applications that are using Java. This is because if a Java application is running, WebSphere MQ will be unable to update the class path. If WebSphere MQ is unable to update the class path, your computer will restart to allow the update to happen.

Using command line parameters with msiexec

You can use the msiexec command with command line parameters to invoke installation or uninstallation. The msiexec command uses parameters to give MSI some or all of the information that would normally be specified as part of an interactive installation using the WebSphere MQ Installation Launchpad. To do this, enter the following command at a command line, followed by the parameters you require:

```
msiexec [parameters]
```

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke a silent installation or silent uninstallation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install or uninstall from a non-elevated command prompt, the install or uninstall fails with an error of AMQ4353 in the install log.

The msiexec command can accept two types of parameters on the command line, these are:

- Standard command line parameters, preceded by a / character.

  For an unattended (silent) installation, include the **/q** or **/qn** parameter in the command line, and set the **AGREETOLICENSE** parameter to "yes". For information on what an unattended installation is, see "Unattended (silent) installation" on page 28.

  For a table of the msiexec command line parameters, see Table 4 on page 31.
- Property=value pair parameters on the command line. All the parameters available for use in a response file can be used on the command line, for a list of these see Table 6 on page 34. In addition there are some extra property=value pair parameters that are only for use on the command line, for details of these see Table 5 on page 33.

  When using the property=value pair parameters note that:
  - Property strings must be in upper case.
  - Value strings are not case-sensitive, except for feature names. You can enclose value strings in double quotation marks. If a value string includes a blank, enclose the blank value string in double quotation marks.
  - For a property that can take more than one value, use the format:

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

When using property=value pair and command line parameters with the msiexec command, enter command line parameters first.

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

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.mst" AGREETOLICENSE="yes" ADDLOCAL="Server"
```

where:

/i "*path***\MSI\IBM WebSphere MQ.msi"**
: Install the product using the .msi specified.

/l*v c:\install.log
Produce a log file called install.log, containing all information in verbose format.

/m *mif_file*
Generate a Microsoft System Management Server (SMS) status .mif file called *mif_file*.

TRANSFORMS="1033.mst"
Specifies that the installation is in U.S. English. For further information about installing in different national languages, see "Using transforms with msiexec" on page 39.

AGREETOLICENSE="yes"
Accept the terms of the license.

ADDLOCAL="Server"
Install the server feature locally.

Parameters

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

Table 4. 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.
/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 *TransformList* | [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

Table 4. msiexec command line parameters (continued)

Parameter	Options	Description
/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** Recoverable warnings **e** All error messages **a** Startup of actions **r** Action-specific records **u** User requests **c** Initial user interface parameters **m** Out-of-memory or unrecoverable 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"
/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.
Note: 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 6 on page 34 and Table 5 on page 33 show the parameters that you can enter as property=value pairs on the msiexec command line (defaults are shown in bold). Use the parameters given in Table 5 on page 33 on the command line only,

and not in a response file.

Table 5. msiexec property=value parameters

Property	Values	Meaning
USEINI	*path\file_name*	Use the specified response file. See "Using a response file with msiexec."
SAVEINI	*path\file_name*	Generate a response file during installation. The file contains those parameters selected for this installation that a user might 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).
TRANSFORMS	*path\file_name*	Species what transform (.mst) files should be applied to the product. For example, `"1033.mst"` specifies the supplied U.S. English transform file.

Using a response file with msiexec

You can use the msiexec command with a parameter call that calls a response file. 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 command line parameters with msiexec" on page 30 with a 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.

Running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control enabled

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, there are some extra limitations:

- You must invoke a silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.
- If you choose to run the Prepare WebSphere MQ Wizard but you do not complete the wizard directly after WebSphere MQ installs, or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, ensure the wizard is run with Administrator privilege, otherwise the wizard might fail.
- During an interactive installation accept the Windows prompt to allow the launchpad to run as elevated. During installation you might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the installation to continue.

A response file is an ASCII text file, with a format similar to a Windows .ini file, that contains the stanza [Response]. The [Response] stanza contains some or all of the parameters that would normally be specified as part of an interactive installation using the WebSphere MQ Installation Launchpad. The parameters are given in a property=value pair format. Any other stanzas in the response file are

ignored by msiexec. An example response file, Response.ini, is supplied with WebSphere MQ. It contains the default installation parameters.

Using the msiexec command

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 any of the command line parameters listed in table Table 4 on page 31, or property=value pairs listed in tables Table 5 on page 33 and Table 6 on the command line. Command line parameters should always be entered before property=value pairs.

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 C:\MyResponseFile.ini.

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

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

For information on creating a response file see "Creating a response file" on page 37.

Parameters

Table 6 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 or a comma, 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 6. 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`.
GSKFOLDER	*path*	Folder for the Global Security Kit files. WebSphere MQ will append `IBM\gsk7` to the path given for this parameter. For example, if you set GSKFOLDER="`c:\Program Files`", the Global Security Kit files will be stored in `c:\Program Files\IBM\gsk7`.

Table 6. Response file parameters (continued)

Property	Values	Meaning
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.
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 WebSphere MQ, 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. The Prepare WebSphere MQ Wizard must be run to make your WebSphere MQ installation operational. If you choose not to launch it here, you must run it before using WebSphere MQ.
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] and [SSLMigration] stanzas. See Table 9 on page 40.

Table 6. Response file parameters (continued)

Property	Values	Meaning
ADDLOCAL	*feature*, *feature*, |*All*|""	A comma-separated list of features to install locally. For a list of valid feature names, see Table 7 on page 37. All installs all features "" installs the typical features. If you do not want a feature use REMOVE="*feature*" **Note:** If this is a new installation the typical features (Server, Explorer, Java Messaging and SOAP Transport, and Development Toolkit) are installed by default irrespective of the feature list provided in the ADDLOCAL property. If you do not want a feature use REMOVE="feature"
REMOVE	*feature*, *feature*, |All|""	A comma-separated list of features to remove. For a list of valid feature names, see Table 7 on page 37. 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.
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. If you do not start the WebSphere MQ Service, WebSphere MQ will not be operational and queue managers will not start. You must run the Prepare WebSphere MQ wizard for the service to be correctly configured.
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.

Table 6. Response file parameters (continued)

Property	Values	Meaning
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 2003 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.

Table 7 shows the features that can be values for the ADDLOCAL and REMOVE properties.

Table 7. Valid feature names

Feature Name	Description
Server	The WebSphere MQ for Windows server. This will install the files needed to create and run queue managers.
FTA_Server	The file transfer application for the server. This is a graphical application used to send and receive files.
Explorer	The WebSphere MQ Explorer. This feature is installed automatically if the server feature is installed. You can select to remove it.
Client	The WebSphere MQ for Windows client.
XA_Client	Extended transaction support for the Windows client.
FTA_Client	The file transfer application for the client. This is a graphical application used to send and receive files.
JavaMsg	The files needed for messaging using Java (includes Java Message Service and SOAP transport support).
XA_Java	Extended transaction support for Java Message Service.
Toolkit	Sample WebSphere MQ program source, sample executable code, headers, and bindings.

An example of a typical response file:

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

Creating a response file:

A response file is used with msiexec. You can create it in three ways.

About this task

A response file is used with the msiexec command, for further information see "Using a response file with msiexec" on page 33.

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 Windows Server CD, using an ASCII file editor.
- Create your own response file using an ASCII file editor.
- Use the msiexec command with the **SAVEINI** (and optionally, the **ONLYINI**) command line parameters to generate a response file that contains the same installation options. See Table 5 on page 33.

Example

A typical example of using msiexec with the **SAVEINI** parameter is here:

```
msiexec /i "path\IBM WebSphere MQ.msi" /q SAVEINI="response_file"
TRANSFORMS="1033.mst" AGREETOLICENSE="yes"
```

Installing silently using msiexec with a response file

How to install WebSphere MQ without interaction.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

For an unattended (silent) installation you must include the **/q** or **/qn** parameter when entering `msiexec` at the command line. You must also set the **AGREETOLICENSE** parameter to ″yes″ for a silent install. To install silently using the msiexec command, do the following:

At the command line enter the msiexec command in the following format:

```
msiexec /i "path\IBM WebSphere MQ.msi" /q USEINI="response_file"
TRANSFORMS="1033.mst"
```

where:

/q Specifies a silent installation.

response_file
Is the full path name of the file that contains the [Response] stanza and the required property=value pairs, for example C:\MyResponseFile.ini. An example response file, Response.ini, is supplied with WebSphere MQ. This file contains default installation parameters.

TRANSFORMS=″1033.mst″
Specifies that the installation is in U.S. English. For further information about installing in different national languages, see "Using transforms with msiexec" on page 39.

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

```
msiexec /i "path\IBM WebSphere MQ.msi" /q USEINI="C:\MyResponseFile.ini"
TRANSFORMS="1033.mst" 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.

Using transforms with msiexec

This lists the local identifier, language, and the transform file name to use in the msiexec command line, to support different national languages.

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. These files are also embedded in the WebSphere MQ Windows installer package, IBM WebSphere MQ.msi.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke a silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

On the msiexec command line, you can specify the required language by using the TRANSFORMS property in a property=value pair. The quotes surrounding the value are optional. For example:

```
TRANSFORMS="1033.mst"
```

You can also specify the full path and file name of the transform file. Again, the quotes surrounding the value are optional. For example:

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

Table 8 shows the locale identifier, language, and the transform file name to use in the msiexec command line. For a list of the msiexec property=value parameters, see Table 5 on page 33.

Note: When you use a property=value pair and command line parameters with the msiexec command, enter command line parameters first.

You can also specify the required language by using the MQLANGUAGE property with the MQParms command. For information about the msiexec property=value parameters, see Table 10 on page 44.

Parameters

Table 8. Supplied transform files. This table shows the supplied transform files, the resulting language, and the numerical value to use in the msiexec command line.

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

Table 8. Supplied transform files (continued). This table shows the supplied transform files, the resulting language, and the numerical value to use in the msiexec command line.

Language	Transform File name	Value
Simplified Chinese	2052.mst	2052
Traditional Chinese	1028.mst	1028
Czech	1029.mst	1029
Russian	1049.mst	1049
Hungarian	1038.mst	1038
Polish	1045.mst	1045

Startup parameters for Prepare WebSphere MQ wizard

Note: For Windows Vista and Windows Server 2008 users with UAC enabled only: if you do not complete the Prepare WebSphere MQ Wizard directly after WebSphere MQ installs or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, ensure the wizard is run with Administrator privilege, otherwise the wizard might fail. You might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the wizard to continue.

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

Table 9. Startup Parameters for Prepare WebSphere MQ Wizard

Parameter	Name	Description	Default action if parameter 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.
–r	Reset MQSeries®Service 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.

Table 9. Startup Parameters for Prepare WebSphere MQ Wizard (continued)

Parameter	Name	Description	Default action if parameter not supplied
–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 "MQParms parameter file" on page 43. The following stanzas are loaded: [Services] [SSLMigration]	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.

Using the MQParms command

Before you begin

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.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke a silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

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 must also set the AGREETOLICENSE parameter to "yes".

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.

You can also run the `MQParms` program directly from the Windows Explorer by clicking on the file icon in the list of file names. If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the installation with elevated privileges by using a right-click to start the program and selecting **Run as administrator**. If you try to run the `MQParms` program without using elevated privileges, the install fails with an error of AMQ4353 in the install log.

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled and you do not complete the Prepare WebSphere MQ Wizard directly after WebSphere MQ installs or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, ensure the wizard is run with Administrator privilege, otherwise the wizard might fail. You might also see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher. Click **Run** to allow the wizard to continue

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, using an ASCII file editor.
- Create your own parameter file using an ASCII file editor.

About this task

To invoke installation using the `MQParms` command:

1. From a command line, change to the root folder of the WebSphere MQ Server CD (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 "MQParms parameter file" on page 43.

   parameters
   : are one or more command line parameters, as listed in Table 4 on page 31.

Example

A typical example of an MQParms command is:

```
MQParms c:\MyParamsFile.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 47).

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"
```

MQParms 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 4 on page 31, Table 5 on page 33, Table 6 on page 34, and Table 10 on page 44.

[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 2003 server, you probably need details of a special domain account. For further information, see "Configuring WebSphere MQ accounts" on page 57 and "Configuring WebSphere MQ with the Prepare WebSphere MQ wizard" on page 52.

The properties that you can set in this stanza are listed in Table 12 on page 45.

[SSLMigration]
Contains properties relating to the scheduling of SSL resource migration.

The properties that you can set in this stanza are listed in Table 13 on page 46.

MQParms ignores any other stanzas in the file.

The stanza 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 6 on page 34, Table 4 on page 31, and Table 5 on page 33 for the properties used to install WebSphere MQ. Table 10 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* | existing	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. existing. If MQ already exists on the system, the same language will be used by default, otherwise system is used.
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.
MQPINUSE	**0** | 1	If MQPINUSE is set to 1, MQParams continues installing even if WebSphere MQ files are in use. If this option is used a reboot will be required to complete the installation.
MQPNOREBOOT	**0** | 1	If MQPNOREBOOT is set to 1, the reboot that is required if installation takes place while WebSphere MQ files are still in use will be suppressed.

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

Table 11. Valid values for the MQPLANGUAGE property (continued)

Language	Valid values		
Simplified Chinese	Simplified Chinese	zh_cn	2052
Traditional Chinese	Traditional Chinese	zh_tw	1028
Czech	Czech	cs_cz	1029
Russian	Russian	ru_ru	1049
Hungarian	Hungarian	hu_hu	1038
Polish	Polish	pl_pl	1045

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 47.

Table 12. Properties in the Services stanza

Property	Values	Description
USERTYPE	**local** | domain | onlydomain	The type of user account to use: **local** Creates a local user account. **domain** Creates a local user account. If this does not have the required security authorities, it uses the domain user account specified by DOMAINNAME, USERNAME, and PASSWORD. **onlydomain** Does not create a local user account, but immediately uses the domain user account specified by DOMAINNAME, USERNAME and PASSWORD. If any of these three properties are missing, a USERTYPE of local is assumed. The properties DOMAINNAME, USERNAME, and PASSWORD are required if USERTYPE is set to onlydomain.
DOMAINNAME	*domain_name*[1]	The domain for the domain user account. Required if USERTYPE is set to domain or onlydomain.
USERNAME	*user_name*[1]	The user name for the domain user account. Required if USERTYPE is set to domain or onlydomain..
PASSWORD	*password*[1]	The password for the domain user account. Required if USERTYPE is set to domain or onlydomain.

Table 12. Properties in the Services stanza (continued)

Property	Values	Description
1. Do not enclose this value in double quotation marks.		

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

Table 13. Properties in the SSLMigration stanza

Property	Values	Description
SCHEDULE	yes | **no**	This property specifies whether SSL migration is to be scheduled. If this property is omitted or set to no, all other properties in this stanza are ignored and no error is raised.
QMGRS	*qmgr_name*, *qmgr_name*, ...	A comma separated list of queue managers for which certificate transfer to GSKit key database files is scheduled.
QMGRPASSWORD	*password* | *password*, *password*, ...	Passwords to use for the GSKit key database files. This property is required if QMGRS is present. If this contains only one password that password will be used for all the queue managers. If it contains more than one password there must be the same number of passwords as there are queue managers specified in QMGRS.
QMGREXPIRY	*interval* | *interval*, *interval*, ...	Expiry intervals to set for the passwords used. If nothing is specified, the default value of 60 days is used. If this contains only one value, that value will be used for all queue managers. If it contains more than one value, there must be the same number of expiry intervals as there are queue managers specified in QMGRS..
CLIENTSTORES	*file_name*, *file_name*, ...	A comma separated list of the client SSL certificate stores to schedule for transfer to GSKit key database files.
CLIENTPASSWORD	*password* | *password*, *password*, ...	Passwords to use for GSKit key database files. This property is rerquired if CLIENTSTORES is present. If this contains only one password, the password will be used for all client stores. If it contains more than one password, there must be the same number of passwords as files given in CLIENTSTORES.

Table 13. Properties in the SSLMigration stanza (continued)

Property	Values	Description
CLIENTEXPIRY	*interval*|*interval*, *interval*, ...	Expiry intervals to set for the passwords used. If nothing is specified, the default value of 60 days is used. If this contains only one value, that value will be used for all queue managers. If it contains more than one value, there must be the same number of expiry intervals as there are queue managers specified in CLIENTSTORES.
IGNOREERRORS	yes|**no**	Whether to continue processing if an error is detected when scheduling the transfer of certificate stores to GSKit key database files.

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

[SSLMigration]
SCHEDULE=yes
QMGRS="qmgr1,qmgr2"
QMGRPASSWORD="password1,password2"
```

Encrypting a parameter file:
Before you begin

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.) `setmqipw` will also encrypt the QMGRPASSWORD and CLIENTPASSWORD values in the [SSLMigration] stanza of a parameter file.

This encryption means that, if you need a special domain account to configure WebSphere MQ (see “Configuring WebSphere MQ accounts” on page 57), or you need to keep key database passwords secret, details 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.

About this task

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*

Results

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
```

What to do next

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 41).

Installing with Microsoft System Management Server

WebSphere MQ is supplied with two sample definition files to create an System Management Server (SMS) Package (these can be found on the WebSphere MQ server CD). These are:

- WebSphere MQ.pdf

You will need to update the **CommandLine** parameter supplied in the definition files by stating the path to where you have the file **IBM WebSphere MQ.msi**. This file is supplied on the WebSphere MQ server CD by going to MSI\IBM WebSphere MQ.msi.

Please refer to the Microsoft System Management Server documentation for the version of SMS you are using to get full information on how to create and run a job.

Once the Package has been created, an SMS job can be configured to install WebSphere MQ.

Note:

1. You must be logged onto the target machine with Administrator authority to install WebSphere MQ.

Modifying your installation

Modifying the installation using WebSphere MQ Installation Launchpad

Before you begin

To modify an installation, some feature of WebSphere MQ Version 7.0 must already be installed.

About this task

To remove or install WebSphere MQ features follow the instructions below. This is the only method to remove or install WebSphere MQ features on Windows Vista and Windows Server 2008:

1. Insert the WebSphere MQ for Windows Server CD 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 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 (see Figure 3).

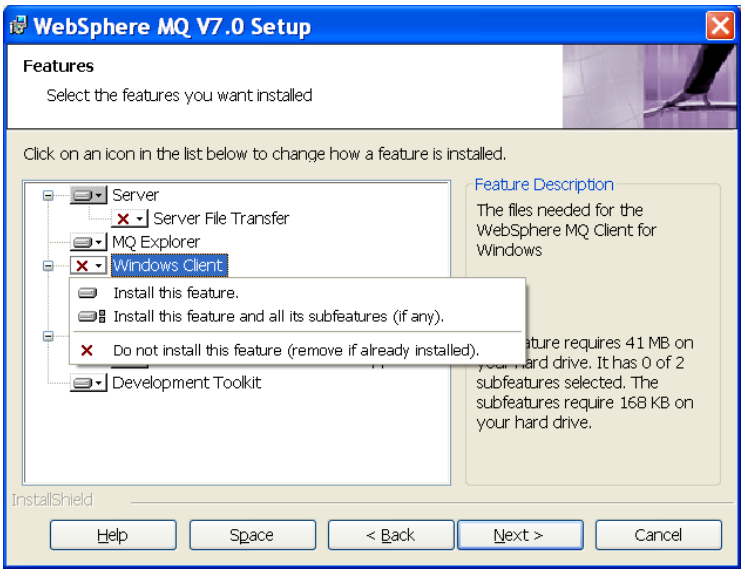

Figure 3. Setup features panel

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

Before you begin

To modify an installation, some feature of WebSphere MQ Version 7.0 must already be installed.

About this task

This method for modifying the installation applies only to Windows 2003 and Windows XP. You cannot use this method to modify an installation on Windows Vista or Windows Server 2008. Instead you should use the method described in: "Modifying the installation using WebSphere MQ Installation Launchpad" on page 49.

To remove or install WebSphere MQ features follow the instructions below:

1. From the Windows taskbar, click **Start** → **Settings** → **Control Panel**,
2. Click **Add/Remove Programs**.
3. Click **IBM WebSphere MQ**.
4. Click **Change**.

   The WebSphere MQ Setup window with the Program Maintenance panel is displayed.

5. Click **Next**.
6. Select **Modify**, then click **Next**.

   The Features panel is displayed (see Figure 4 on page 51).

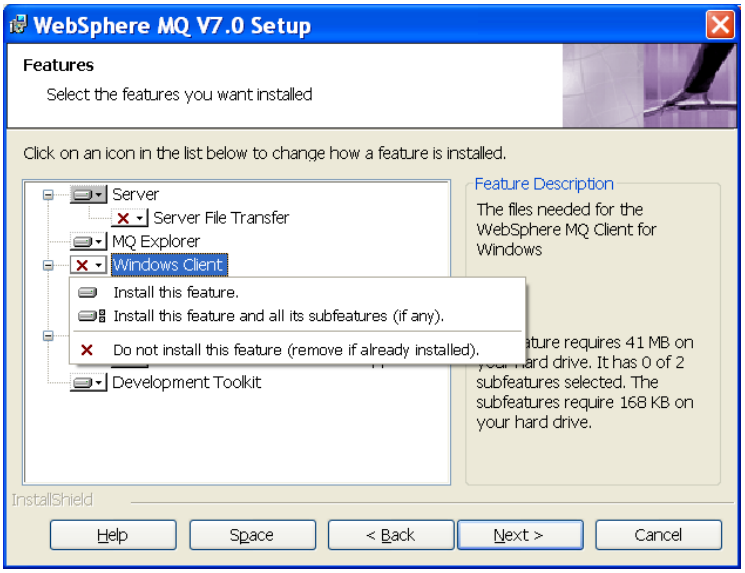

Figure 4. Setup features panel

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.

Silently modifying a WebSphere MQ server installation using msiexec

To silently modify an installation using msiexec, follow the instructions on the installation pages, but set the ADDLOCAL parameter to include the features you want to add, and set the REMOVE parameter to the features you want to remove.

For example if you used ADDLOCAL="JavaMsg" and REMOVE="" it would modify the installation to include the Java Messaging and Web Services feature.

The instructions for msiexec begin here: “Installing using msiexec” on page 28

Configuring a WebSphere MQ Server

After installing WebSphere MQ, it is necessary to configure it. The configuration described in this topic is for an environment that uses TCP/IP. The configuration 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 Postcard
- WebSphere MQ Explorer

If you are setting up WebSphere MQ for use with the Microsoft Cluster Service (MSCS), see WebSphere MQ System Administration Guide for more information.

Using WebSphere MQ Remotely

If you are connecting to a Windows machine using either Terminal Services or a Remote Desktop Connection and you have problems creating, starting or deleting a queue manager this might be because of the introduction of a new user right, "Create global objects".

The "Create global objects" user right limits the users authorized to create objects in the global namespace. In order for an application to create a global object, it must either be running in the global namespace, or the user under which the application is running must have the "Create global objects" user right applied to it.

When you connect remotely to a Windows machine using either Terminal Services or Remote Desktop Connection, applications run in their own local namespace. If you attempt to create or delete a queue manager using WebSphere MQ Explorer or the crtmqm or dltmqm command, or to start a queue manager using the strmqm command, it will result in an authorization failure. This will create a WebSphere MQ FDC with Probe ID XY132002.

Starting a queue manager using the WebSphere MQ Explorer, or using the amqmdain qmgr start command will work correctly because these commands do not directly start the queue manager. Instead the commands send the request to start the queue manager to a separate process running in the global namespace.

If you need to perform any of these operations on a queue manager when connected remotely to a Windows machine, you must have the "Create global objects" user right. For information on how to assign a user this right, see your operating system documentation.

Administrators have the "Create global objects" user right by default, so if you are an administrator you will be able to create and start queue managers when connected remotely without altering your user rights.

Configuring WebSphere MQ with the Prepare WebSphere MQ wizard

About this task

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

that have been set up to use Secure Sockets Layer (SSL).You must run the wizard to configure the WebSphere MQ Service before you can start any queue managers.

The Prepare WebSphere MQ wizard window will be displayed when WebSphere MQ installation completes. Follow the instructions given by the wizard to configure WebSphere MQ. At any time while the wizard is running you can click the **More Information** button in the wizard to view online help about the task you are doing.

1. When WebSphere MQ installation completes, the Prepare WebSphere MQ Wizard window is displayed with a welcome message.
   - **For Windows Vista and Windows Server 2008 users with UAC enabled only**: if you do not complete the Prepare WebSphere MQ Wizard directly after WebSphere MQ installs or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, accept the Windows prompt when it appears to allow the wizard to run as elevated.

   To continue, click **Next**
2. If you have run the Prepare WebSphere MQ wizard before, this step is skipped. 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.
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. WebSphere MQ will attempt to detect whether you need to configure WebSphere MQ for use with Windows 2000 or later domain users. Depending on the results of the detection, WebSphere MQ will do one of the following:
   - If WebSphere MQ detects that you need to configure WebSphere MQ for Windows 2000 or later 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 5.
   - If you are not installing on a Windows 2000 or later domain server and WebSphere MQ cannot detect whether you need to configure WebSphere MQ for Windows 2000 or later domain users, the Prepare WebSphere MQ Wizard window displays the following message:

     ```
     Are any of the domain controllers in your network running
     Windows 2000 or later domain server?
     ```

     If you select Yes, click **Next**, then go to step 5.

     If you select No, click **Next**, then go to step 8.

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

- If WebSphere MQ detects that you do not need to configure WebSphere MQ for Windows 2000 or later domain users, go to step 7.

Note: At any time, you can click **More Information** to view online help about configuring the domain account, or see "Configuring WebSphere MQ accounts" on page 57. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

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

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

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

   If you select No, click **Next**, then go to step 8.

   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, or see "Configuring WebSphere MQ accounts" on page 57. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

6. In the next window, enter the Domain and User ID 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**.

7. 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.

8. If you do not have any queue managers or WebSphere MQ clients on this computer that have been set up to use Secure Sockets Layer (SSL) connections, this step is missed, go to step 15.

   If you have queue managers or WebSphere MQ clients on this computer that have been set up to use SSL connections, the Migration of SSL connections window is displayed. The queue managers and clients with SSL connections were identified when you used the Check WebSphere MQ Certificate Stores wizard in the installation launchpad. Read the information then click **Next**.

   Note: At any time, you can click **More Information** to view online help about identifying if migration is required. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

9. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** A list of the certificate store files, which were validated earlier in the install process, is displayed. Select the certificate stores you want to schedule for migration and click **Next**. If you did not validate any certificate stores, or if you have not selected any, click **Next** then go to step 13.

10. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** The next panel asks you about passwords and password expiry intervals.

- If want to use a single password and expiry interval for all key databases files, select **Use a single password and expiry interval for all key database files**, enter a password and expiry interval, then click **Next**.
- If you want to use different passwords and expiry intervals for each database file, select **Prompt for individual passwords and expiry intervals**, then click **Next**.

11. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** A progress dialog is displayed while the certificate store files chosen in step 9 are scheduled for migration. If you selected "Prompt for individual passwords and expiry intervals" in step 10, a panel requesting this information will be displayed for each certificate store file you selected. Complete the information in each of the panels displayed, then click **Next**.
12. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** A panel is displayed showing a summary of the store files that have been scheduled for migration. Click **Next** to continue.
13. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** Now the wizard asks you to confirm that your Certificate Revocation Lists (CRLs) and Authority Revocation Lists (ARLs) are in a format supported by WebSphere MQ Version 7.0.
    - If CRLs and ARLs are not used, select **Not Used** and click **Next**.
    - If CRLs and ARLs are used, when you have them in a format supported by WebSphere MQ Version 7.0 select **Yes** and click **Next**.

    Note: At any time, you can click **More Information** to view online help about converting the CRLs and ARLs into a supported format. When you are finished, close the WebSphere MQ Help Center window to return to the current window.
14. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** Next you must ensure that SSL connections that use the SSLPEER channel parameter have any multiple Organizational Unit entries ordered correctly.
    - If the SSLPEER value is not used, or if the SSLPEER value is used but multiple Organizational Unit entries are **not** used, select **Not Used** and click **Next**.
    - If the SSLPEER value is used with multiple Organizational Unit entries, check the ordering of the SSLPEER fields and select **Yes** when they are correctly ordered. Click **Next**.

    Note: At any time, you can click **More Information** to view online help about how to check SSLPEER fields. When you are finished, close the WebSphere MQ Help Center window to return to the current window.
15. 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.
16. If there are further tasks to complete, the Prepare WebSphere MQ Wizard window displays the following message:

    ```
    It is recommended that the following tasks are completed now
    ```

    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. If the previous installation is such that none of these tasks apply, this window is not displayed. Go to step 17.

- **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 60).

  In this situation, to verify the installation by using the Postcard application (described in "Using the Postcard application" on page 63), 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 60).

  Note: If a Default Configuration already exists from a version of WebSphere MQ later than V5.1 you can use this without any migration.

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, use any of these methods:
  - Run the Prepare MQ Wizard again from the Start menu.
  - Open the Welcome Pages and select the link to Default Configuration (see "Using the WebSphere MQ Welcome pages" on page 61).
  - Use the command *amqmgse* at a command prompt.

17. Next you need to select the options that you require. The Prepare WebSphere MQ Wizard window displays the following message:

    ```
    You have completed 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 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.
18. Follow the procedure described in "Final Installation tasks."

Final Installation tasks

These are optional tasks that you can use to check the installation if you believe there was a problem, or to verify installation messages after an unattended (silent) installation for example.

1. Check for messages in the following files:

a. 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 11.

b. If you used the launchpad to install WebSphere MQ, check MQv7_Install_YYYY-MM-DDTHH-MM-SS.log in your user Temp folder, where:

   YYYY This is the year that you installed WebSphere MQ Version 7.0

   MM This is the month that you installed WebSphere MQ, for example this would be 09 if you installed in September

   DD This is the day that you installed WebSphere MQ

   HH-MM-SS
   This is the time at which WebSphere MQ was installed

   You can get to your user Temp directory by entering the following command at the command prompt:

   ```
   cd %TEMP%
   ```

c. 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.

d. amqmsccw.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 by the Check WebSphere MQ Certificate Stores wizard.

2. Verify your installation, as described in "Using the Postcard application" on page 63.

What to do next

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 or later, 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 or later
- Local user accounts are not authorized to query the group membership of the 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 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 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.

For information about user accounts and access permissions, see WebSphere MQ System Administration Guide.

Information for domain administrators

WebSphere MQ has a component, running as a Windows DCOM process, that checks that any user account attempting to access WebSphere MQ is authorized. As part of the check, the component must confirm that the account belongs to a group that is a member of the local mqm group, such as `DOMAIN\domain mqm`. The component 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 or later, 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 "Creating and setting up domain accounts for WebSphere MQ" for instructions on creating a suitable domain account.

Note: If an installer carries on anyway and configures WebSphere MQ without a special account, many or all parts of WebSphere MQ will not work, depending upon the particular user accounts involved, as follows:

- An installer currently logged on with a domain user account will not be able to complete the Default Configuration, and the Postcard and API Exerciser will not work.
- WebSphere MQ connections to queue managers running under domain accounts on other computers might fail.
- Typical errors include "AMQ8066: Local mqm group not found" and "AMQ8079: Access was denied when attempting to retrieve group membership information for user 'abc@xyz'".

Creating and setting up domain accounts for WebSphere MQ

About this task

The following information is aimed at Domain Administrators. Repeat Steps 1 and 2 on page 59 below for each domain that has user names that will install WebSphere MQ, to create an account for WebSphere MQ on each domain:

1. Create a domain group with a special name that is known to WebSphere MQ and give members of this group the authority to query the group membership of any account:
   a. Log on to the domain controller as an account with domain administrator authority.
   b. From the Start menu, open Active Directory Users and Computers.

c. Find the domain name in the navigation pane on the left, right-click it and select **New Group**.
d. Type `domain mqm`, or the name of a group that is a member of the local "mqm" group. (If you are using `domain mqm`, this exact string should be used because it is understood and used by WebSphere MQ).
e. In **Group scope** select either **Global** or **Universal**.
f. In **Group type** select **Security**, and click **OK**.
g. View Active Directory Users and Computers in **Advanced Features** mode.
h. Find the domain name in the left panel, right-click the domain name, then click **Properties**.
i. Click the **Security** tab.
j. Click **Advanced**.
k. Click **Add**, then type `domain mqm` (or a group that is a member of the local "mqm" group) and click **OK**. A new dialog is displayed.
l. Click the **Properties** tab.
m. In the **Apply onto** box, change the view to **User objects**.
n. Select the **allow** check box for the following options:
   - **Read Group Membership**
   - **Read Group MembershipSAM**
o. Click **OK** to close each window.

2. Create one or more accounts, and add them to the group:
   a. In **Active Directory Users and Computers**, create a user account with a name of your choosing and add it to group "domain mqm" (or a group that is a member of the local "mqm" group).
   b. Repeat for all the accounts you want to create.
3. Repeat Steps 1 on page 58 and 2 for each domain that has user names that will install WebSphere MQ, to create an account for WebSphere MQ on each domain.
4. Use the accounts to configure each installation of WebSphere MQ:
   a. Either use the same domain user account (as created in Step 1 on page 58) for each installation of WebSphere MQ, or create a separate account for each one, adding each to the "domain mqm" group (or a group that is a member of the local "mqm" group).
   b. When you have created the account or accounts, give one to each person configuring an installation of WebSphere MQ. They should enter the account details (domain name, user name and password) into the Prepare WebSphere MQ Wizard. Give them the account that exists on the same domain as their installing userid.
   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 manage WebSphere MQ). Thus all members of the "domain mqm" group will have authority to manage WebSphere MQ on this computer.
   d. However, you do still need to provide a domain user account (as created in Step 1 on page 58) for each installation, and configure WebSphere MQ to use it when making its queries. The account details should be entered into the Prepare WebSphere MQ Wizard that runs automatically at the end of installation (the wizard can also be run at any time from the **start** menu).

5. Set the password expiry periods:
   - If you use just one account for all users of WebSphere MQ, consider making the password of the account never expire, otherwise all instances of WebSphere MQ will stop working at the same time when the password expires.
   - If you give each user of WebSphere MQ their own user account you will have more user accounts to create and manage, but only one instance of WebSphere MQ will stop working at a time when the password expires.

   If you set the password to expire, warn the users that they will see a message from WebSphere MQ each time it expires - the message warns that the password has expired, and describes how to reset it.

What to do next

For more information, see the WebSphere MQ System Administration Guide.

Using the Default Configuration wizard

Before you begin

About this task

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.

Start the Default Configuration wizard by selecting the option **Setup the Default Configuration** when the Prepare WebSphere MQ wizard completes during WebSphere MQ installation. The Prepare WebSphere MQ wizard can be run at any time after installation by selecting **Start → Programs → IBM WebSphere MQ → Prepare WebSphere MQ wizard**.

Using the WebSphere MQ Welcome pages

The WebSphere MQ Explorer Welcomes pages are a collection of resources that are displayed over the Eclipse workbench the first time you launch WebSphere MQ Explorer. They are intended to ease you into WebSphere MQ by pointing to relevant applications, documentation, tutorials, and education.

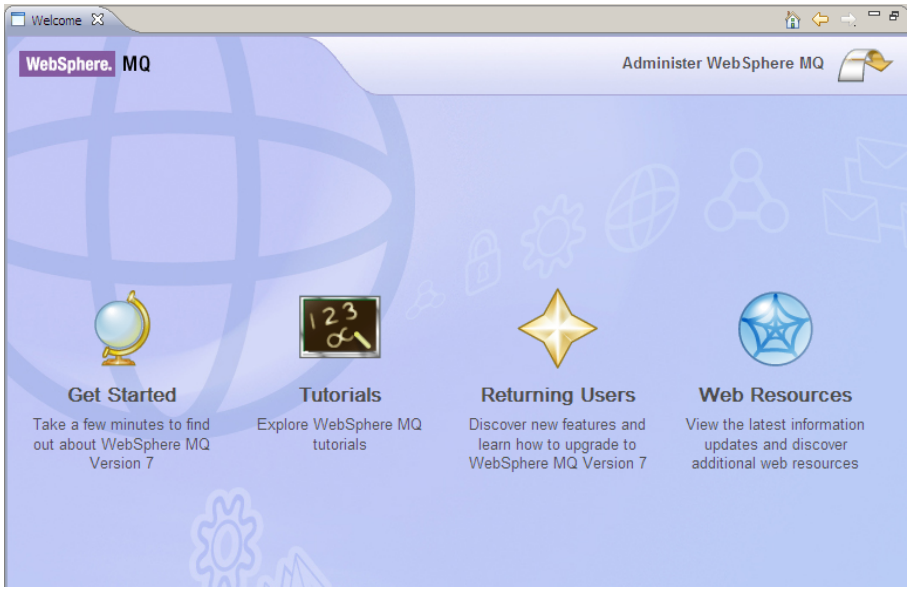

Figure 5. Welcome pages

You can use the items in the WebSphere MQ Welcome pages (see Figure 5) to explore the facilities in WebSphere MQ. The Welcome pages are launched the first time the WebSphere MQ Explorer is launched. The Welcome pages can be viewed at any time from the WebSphere MQ Explorer by selecting **Help** → **Welcome**. There are links to the following subjects from the Welcome pages:

Product Tour

Gives a brief overview of WebSphere MQ and helps you to learn more about the concepts, functions, and interfaces that WebSphere MQ uses. The Product Tour can also be run from the Installation Launchpad. A text-only version of the Product Tour can also be opened from here.

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.

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 "Using the Postcard application" on page 63.

API Exerciser

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

To use the API Exerciser:

1. Open the Get Started page of the Welcome pages.
2. Click **Launch the MQ API Exerciser** to launch the API Exerciser.
3. Use the tabs to select a page which has the API calls that you want to try.
4. Set the options that are relevant to that page.
5. Optionally, set the parameters or attributes that you want to use with the API call.
6. 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 Guide manual. You can access these manuals from the Reference section of the Information Center.

Tutorials

The tutorials show you how to perform basic tasks in WebSphere MQ. Using the tutorials, you can perform the following tasks:

- Create a queue manager
- Create a queue
- Create a channel
- Put a message on a queue
- Get a message from a queue

Each tutorial builds upon WebSphere MQ objects that have been set up during previous tutorials and so increase in complexity.

Using the Help Center

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

The WebSphere MQ Help Center can be accessed from the WebSphere MQ Explorer by selecting **Help → Help Contents**. See Figure 6 on page 63 for an example of the help center.

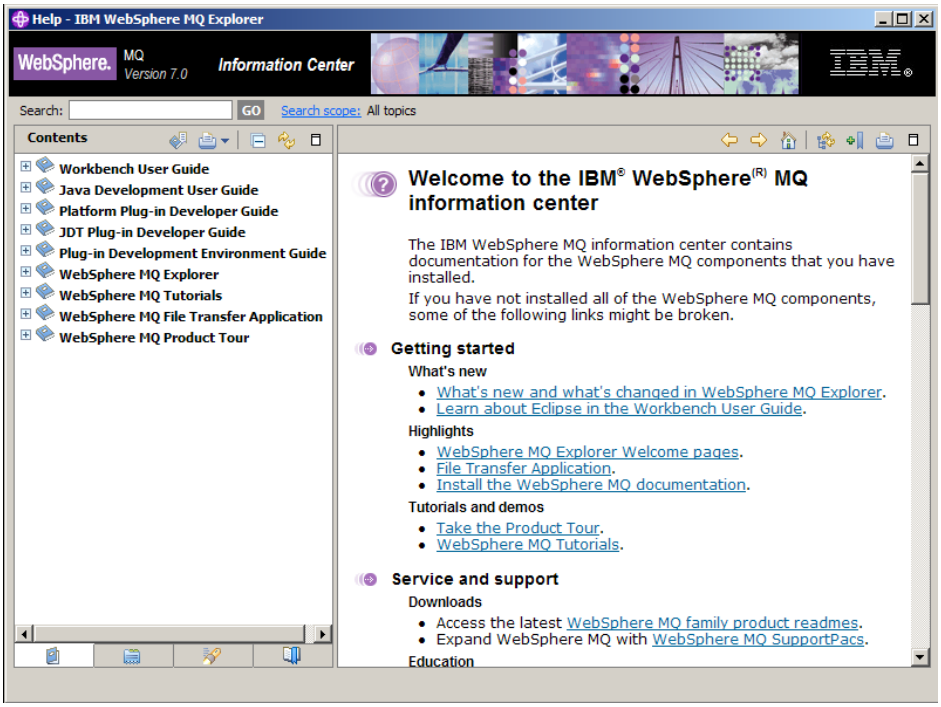

Figure 6. Help Center window

Verifying a server installation

Before you can use WebSphere MQ for Windows, you need to verify that the product has correctly installed. 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 application to verify a local installation" on page 64.

  If both queue managers are not in the same cluster, see "Setting up the installation" on page 68.
- A server-to-server installation that includes communication links to other WebSphere MQ installations.

  If both queue managers are in the same cluster, or channels are configured to communicate between the two machines, see "Using the Postcard application to verify a server-to-server installation" on page 66.

  If both queue managers are not in the same cluster, and channels are not configured to communicate between the two machines, see "Verifying a server-to-server installation" on page 69.

For a client-to-server installation that includes communication links between a server machine and a WebSphere MQ client, see "Verifying a WebSphere MQ Client" on page 83.

Using the Postcard application

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

You can also use the Postcard application to verify communication between your server and the server of another named user that is running the Postcard application, where that server is running WebSphere MQ and using TCP/IP. Therefore, you can use the Postcard application to verify that you can communicate with another server. To use the Postcard application for this type of verification, either both servers must be in the same cluster or you must configure channels to communicate between the two servers. You can use the Postcard application with existing queue managers, if both queue managers belong to the same cluster.

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

- Run the Default Configuration wizard on both servers to create or alter the default queue managers and link them to the default cluster (see "Using the Default Configuration wizard" on page 60).
- Create your own queue managers on both servers, and either create a cluster and ensure that the queue managers that you create on each server belong to the same cluster, or configure channels to communicate between the two queue managers.

To use the Postcard application to verify a local installation, see "Using the Postcard application to verify a local installation."

To use the Postcard application to verify a server-to-server installation, see "Using the Postcard application to verify a server-to-server installation" on page 66.

Using the Postcard application to verify a local installation

You can use two instances of the Postcard application to verify that the local installation is working.

Before you begin

To verify that the local installation is working, you can run two instances of the Postcard application on the same server and send messages between the applications. Successful sending and receiving of messages verifies that WebSphere MQ is installed and working correctly on the server.

TCP/IP must be already installed on the server, 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.

From WebSphere MQ Explorer:

1. Click **Help** → **Welcome** to open the welcome pages.
2. Click the **Get Started** icon to open the Get Started page.
3. Click **Launch the Postcard Application** to launch an instance of the Postcard application.
4. The Postcard - Sign On window is displayed.

   Type a nickname to use to send messages within the Postcard application (for example, `User1`).

- If the only queue manager on your server 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.
- If you do not have a default queue manager, or if you want to use a queue manager you have created yourself, then go to step 5.

5. Optional: To select the queue manager to use as the mailbox, click the **Advanced** checkbox, as shown in Figure 7. Then do one of the following:
   - 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 server, select **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, select **Choose queue manager as mailbox**, then select the appropriate queue manager from the list displayed.

   When your selection is complete, click **OK**.

Figure 7. Postcard - Sign On window with the Advanced options

6. From the Welcome pages, launch a second instance of the Postcard application that you launched earlier in step 3.
7. The **Postcard - Sign On** panel is displayed again.

   Type in a second nickname to use to send messages within the Postcard application (for example, `User2`).
8. Repeat the selection of the queue manager that you want to use as the mailbox (as described earlier in step 5).

The queue manager that you select for this second postcard **must** either be in the same cluster as the queue manager for the first postcard or you must have configured channels to communicate between the two servers.

You now have two Postcard applications running, one with the nickname `User1` and one with the nickname `User2`.

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

   If the receiver is on a different server and is not using the default queue manager as the mailbox, type the recipient's queue manager in the **On:** field.
10. Click **Send**.
11. 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*.
12. From the receiving postcard, double-click on the message in the **Postcards sent and received** area to view it. When this message arrives, this verifies that WebSphere MQ is correctly installed.

Results

What to do next

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

- Install WebSphere MQ on other servers. Follow the same installation procedure that you used for the first server. Ensure that you use the Join Default Cluster window in the Default Configuration application to add the other servers to your first server's cluster.
- Install the WebSphere MQ client on other servers. See Chapter 5, "Installing the WebSphere MQ Client," on page 75 or, if you are using the client CD see WebSphere MQ Clients.
- Continue with further administration tasks. See the WebSphere MQ System Administration Guide.

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

You can use two instances of the Postcard application to verify that a server-to-server installation is working.

Before you begin

To verify that a server-to-server installation is working on two servers, the sender of the message and the receiver, you can use an instance of the Postcard application on the sender server, and an instance of the Postcard application on the receiver server, and send messages between the two Postcard applications.

Successful sending and receiving of messages verifies that WebSphere MQ is successfully installed, and that communication between the two servers is working correctly. Before you start:

- Make sure that TCP/IP and WebSphere MQ are installed on both servers.
- Check that one of the following applies:
  - Both servers are in the same cluster (this is the simplest method).
  - You have configured channels to communicate between the two servers.

If the servers are not in the same cluster, and you do not have channels configured to communicate between the two servers, follow the verification procedure given in "Verifying a server-to-server installation" on page 69. This will verify the communications between your server and another server without using the Postcard application. During this verification you will configure channels to communicate between the two servers. Therefore, you will be able to use the Postcard application after running this verification if you wish to.

About this task

To verify that WebSphere MQ is successfully installed, and the communication between two servers, the *sender* of the message and the *receiver*, is working correctly you can use the Postcard application, as explained below.

From WebSphere MQ Explorer on the sender server:

1. Click **Help** → **Welcome** to open the welcome pages.
2. Click **Get Started** → **Launch the Postcard Application** to launch an instance of the Postcard application.
3. The Postcard - Sign On window is displayed.

   Type a nickname to use to send messages within the Postcard application (for example, `User1`).

   - If the only queue manager on your server 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 5.
   - If you do not have a default queue manager, or if you want to use a queue manager you have created yourself, then go to step 4.
4. Optional: To select the queue manager to use as the mailbox, click the **Advanced** checkbox, then do one of the following:
   - 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 server, select **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, select **Choose queue manager as mailbox**, then select the appropriate queue manager from the list displayed.

   When your selection is complete, click **OK**.
5. Type the following:
   - Some message text in the **Message:** field.
   - The nickname of the recipient in the **To:** field (for example, `User2`).
   - The name of the queue manager that the recipient is using in the **On:** field.

6. Click **Send**.

What to do next

From WebSphere MQ Explorer on the receiver server:

1. From Get Started on the Welcome pages, launch another instance of the Postcard application.
2. Type the nickname of the recipient (for example, `User2`), then click **OK** to display the Postcard window.
3. 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 servers 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).

Setting up the 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.

About this task

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

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

   ```
   crtmqm -q mercury.queue.manager
   ```

   The **-q** option specifies that this queue manager is the default 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 by entering the following command:

   ```
   runmqsc
   ```

   The message `Starting MQSC for queue manager mercury.queue.manager` is displayed when the MQSC session starts. MQSC has no command prompt.
4. Define a local queue called `ORANGE.QUEUE`. Enter the following command in the MQSC commands window:

   ```
   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 in the MQSC commands window:

```
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.
```

Results

You have now defined the following objects:

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

Testing the installation

About this task

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. 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
   ```

2. 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.

3. 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.

Results

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

Set up a sender workstation with a queue manager, a transmission queue, a remote queue, and a sender channel.

About this task

Use the following steps to set up the sender machine:

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

   ```
   crtmqm -q QMA
   ```

   The **-q** option specifies that this queue manager is the default 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. In the MQSC command window, define a local queue called QMB to use as a transmission queue. Enter the following command:

   ```
   define qlocal(QMB) usage(xmitq)
   ```

   The message WebSphere MQ queue created is displayed when the queue is created.
5. In the MQSC command window, create a local definition of the remote queue. Enter the following command:

   ```
   define qremote(local.def.of.remote.queue) rname(apple.queue)
   rqmname('QMB') xmitq(QMB)
   ```

   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, APPLE.QUEUE on the receiver workstation).
6. On the **receiver** workstation, open a new command window and check which ports are free. Enter the following command:

   ```
   netstat -an
   ```

   This shows you a list of running processes. Check the port number of each of the processes to see if port 1414 is in use; you can find this by looking in the Local Address column. The information is given in the form *ip_address*:*port_being _used*.

   If port 1414 is not in use, use 1414 as the port number in step 7, and as the port for your listener later in the verification. If it is in use, select an alternative port that is not in use; for example 1415 if this is not being used by another process.
7. On the **sender** workstation, in the MQSC command window, define a sender channel. Enter the following command:

   ```
   define channel(QMA.QMB) chltype(sdr) conname('con-name(port)')
   xmitq(QMB) trptype(tcp) mcauser(MUSR_MQADMIN)
   ```

Where:

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

port is the port on which the listener will be running on the receiver machine, the default value is 1414.

Note: Once you have set the **mcauser** attribute to MUSR_MQADMIN, you MUST set the attribute back to its default value after you have verified the installation to prevent any security vulnerabilities, as described in: "Post verification tasks" on page 73

8. In the MQSC command window, stop MQSC. Enter the following command:
   ```
   end
   ```

Results

You have now defined the following objects:

- A default queue manager called QMA
- A transmission queue called QMB
- A remote queue called LOCAL.DEF.OF.REMOTE.QUEUE
- A sender channel called QMA.QMB

Setting up a receiver workstation

About this task

Use the following steps to set up the receiver:

1. Create a default queue manager called QMB. At the command prompt, enter the following command:
   ```
   crtmqm -q QMB
   ```
   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. 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.
4. In the MQSC window, define a local queue called APPLE.QUEUE. Enter the following command:
   ```
   define qlocal(apple.queue)
   ```
   The message WebSphere MQ queue created is displayed when the queue is created.
5. In the MQSC window, create a receiver channel. Enter the following command:
   ```
   define channel(QMA.QMB) chltype(rcvr) trptype(tcp)
   ```
6. Verification requires you to start the default WebSphere MQ listener on the port number that you specified when setting up the sender workstation in step 7 on page 70

page 70. By default the listener will listen on port 1414. If you did not change the default port whilst defining the sender channel on the sender workstation, no action is required, proceed to the next step. If you specified a port other than 1414 whilst setting up the sender workstation, alter the definition of the SYSTEM.DEFAULT.LISTENER.TCP. For example, to use port 1415, enter the following command in the MQSC window:

```
alter listener(system.default.listener.tcp) trptype(tcp)
port(port_number)
```

Where:

port_number
is the number of the port the listener should run on. This must be the same as the number used when defining your sender channel.

7. In the MQSC window, start the default WebSphere MQ listener by entering the following command:

```
start listener(system.default.listener.tcp)
```

8. In the MQSC window, verify the listener process has started by executing the command:

```
display lsstatus(*)
```

9. In the MQSC window, stop MQSC. Enter the following command:

```
end
```

Results

You have now defined the following objects:

- A default queue manager called `QMB`
- A queue called `APPLE.QUEUE`
- A receiver channel called `QMA.QMB`

Starting the channels

About this task

Use the following steps to start the channels:

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, enable MQSC commands. Enter the following:

```
runmqsc
```

3. Using the MQSC window, start the sender channel. Enter the following command:

```
start channel(QMA.QMB)
```

The receiver channel on the receiver workstation is started automatically when the sender channel starts.

4. Using the MQSC window, stop MQSC. Enter the following command:

```
end
```

Testing communication between the workstations

About this task

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

1. On the **sender** workstation, in a new command window, put a message on the queue by entering 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.
2. Type the text of the message, then press Enter **twice**.
3. On the **receiver** workstation, get the message from the queue by entering the following command:

   ```
   amqsget APPLE.QUEUE
   ```

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

Results

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).

Post verification tasks

About this task

The verification process is now complete. To set the **mcauser** attribute back to its default value:

1. Start MQSC commands if you have not already done so, by entering the following command:

   ```
   runmqsc
   ```

   MQSC does not provide a prompt, but responds with the message:

   ```
   Starting MQSC for queue manager queue.manager.1
   ```
2. In the MQSC window, set the **mcauser** attribute to its default value by entering the following command:

   ```
   alter channel(channel1) chltype(svrconn) mcauser(' ')
   ```
3. Optional: If you want to stop the queue manager on the server, type the following command on the server machine:

   ```
   endmqm queue.manager.1
   ```
4. Optional: If you want to delete the queue manager on the server, type:

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

What to do next

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

Chapter 5. Installing the WebSphere MQ Client

This chapter describes how to install the WebSphere MQ Client using the WebSphere MQ for Windows server CD. If you wish to install the WebSphere MQ server, or for more information about WebSphere MQ clients and servers, see Chapter 4, "Installing the WebSphere MQ Server," on page 9.

You can install WebSphere MQ client using either the server or the client CD provided with the product. The table below shows which CD to use for your required installation

Table 14. Installation CD guide

Installation Feature required	Install from Server CD	Install from Client CD
Server Only	X	
Client Only On Windows	Either CD may be used	
Server and Client	X	
Client Extended Transaction Support	X	
Client File Transfer Application	X (includes FTA GUI)	X

Note: If you want to install the WebSphere MQ Client on a machine that does not run a WebSphere MQ Server you can also install the WebSphere MQ Client using the WebSphere MQ Client CD. The installation methods you use with this CD differ slightly. To install using the Client CD see installation instructions in the *WebSphere MQ Clients* book.

User Account Control (UAC) on Windows Vista and Windows Server 2008

Windows Vista and Windows Server 2008 introduce a User Account Control (UAC) feature, which restricts the actions users can perform on certain operating system facilities, even if they are members of the Administrators group.

UAC is enabled by default on Windows Vista and Windows Server 2008. This means installing WebSphere MQ on Windows Vista or Windows Server 2008 differs from installing WebSphere MQ on previous versions of Windows. At certain points during installation, migration, and uninstallation, you must manually accept the Windows UAC prompt to allow processes to run with elevated authority. During silent installation and uninstallation, you must invoke the process from an elevated command prompt. The points when you have to accept the Windows prompt for UAC or invoke processes from an elevated command prompt have been flagged in the specific topics affected.

Preparing for client installation

Client installation considerations

For information about things to consider before installing a client, see:

- Chapter 6, "Installing WebSphere MQ documentation," on page 89

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- "General considerations" on page 10
- "Naming considerations" on page 10
- "Security considerations" on page 10
- "Creating a log file when you install WebSphere MQ" on page 11
- "Default logging" on page 11

Client hardware and software requirements

For client hardware and software requirements see:

- "Client hardware"
- "Prerequisite client software"
- "Optional client software" on page 78

Client hardware

Hardware required to run WebSphere MQ for Windows in the client environment.

This section outlines the hardware requirements for a WebSphere MQ for Windows client only. For details of the WebSphere MQ for Windows server environment, see "Server hardware for WebSphere MQ for Windows" on page 12.

The client can run on any x86 or x86-64 technology-compatible PC hardware, capable of running the required level of a compatible operating system. There must be enough random access memory (RAM) and disk storage for the programming prerequisites, the WebSphere MQ client, the access methods, and the application programs.

Hardware requirements of WebSphere MQ client

- Any x86 or x86-64 technology-compatible PC hardware, capable of running the required level of a compatible operating system .
- Any communications hardware supporting SNA LU 6.2, TCP/IP, NetBIOS, or SPX is required for communication with other machines.
- The following disk space (for a typical installation):
  - 570 megabytes (MB) for product code and data (not including the Information Center)
  - 20 MB minimum working space
  - 30 MB of temporary space for the installation process

Hardware requirements of WebSphere MQ Explorer

If you want to use the WebSphere MQ Explorer, you will need a minimum of:

- 512 MB RAM
- 1 GHz processor
- 300 MB for Eclipse platform code and data
- A suitable monitor for the operating system with a screen size of at least 1024x768

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 12.

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 systems

Operating systems for WebSphere MQ for Windows in the client environment.

WebSphere MQ client requires one of the following:

- Microsoft Windows Server 2003. This can be one of the following products:
  - Microsoft Windows Server 2003 Standard Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Enterprise Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Standard x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 Enterprise x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Standard Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Enterprise Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Standard x64 Edition (Service Pack 1 or later)
  - Microsoft Windows Server 2003 R2 Enterprise x64 Edition (Service Pack 1 or later)
- Microsoft Windows XP Professional. This can be either of the following products:
  - Microsoft Windows XP Professional (Service Pack 2 or later)
  - Microsoft Windows XP Professional x64 Edition
- Microsoft Windows Vista. This can be one of the following products:
  - Microsoft Windows Vista Business Edition
  - Microsoft Windows Vista Enterprise Edition
  - Microsoft Windows Vista Ultimate Edition
  - Microsoft Windows Vista Business x64 Edition
  - Microsoft Windows Vista Enterprise x64 Edition
  - Microsoft Windows Vista Ultimate x64 Edition
- Microsoft Windows Server 2008. This can be one of the following products:
  - Microsoft Windows Server 2008 Standard Edition
  - Microsoft Windows Server 2008 Enterprise Edition
  - Microsoft Windows Server 2008 Datacenter Edition
  - Microsoft Windows Server HPC 2008
  - Microsoft Windows Server Web 2008
  - Microsoft Windows Server Storage 2008
  - Microsoft Windows Server 2008 Standard x64 Edition
  - Microsoft Windows Server 2008 Enterprise x64 Edition
  - Microsoft Windows Server 2008 Datacenter x64 Edition
  - Microsoft Windows Server Web 2008 x64
  - Microsoft Windows Server Storage 2008 x64
  - Microsoft Windows Small Business Server 2008 x64 for small businesses

  - Microsoft Windows Essential Business Server 2008 x64 for medium-sized businesses
  - Microsoft Windows Server 2008 for Itanium-based Systems

Connectivity

Supported software products to enable connectivity for Websphere MQ for Windows

You require one of the following products:

- for SNA connectivity:
  - IBM Communications Server for Windows, Version 6.1.2
  - IBM Personal Communications for Windows Version 5.9, part of IBM Host Access Client Package (HACP) V4.0
  - Attachmate myEXTRA! Presentation Services, Version 7.11
  - Attachmate EXTRA! X-treme V9
  - Microsoft Host Integration Server 2006
- TCP/IP, NetBIOS, and SPX. These are part of the base operating system (SPX is part of Windows XP and Windows 2003 only).
- WebSphere MQ client applications are supported on the Citrix Presentation Server V4.5

Prerequisites for Windows XP and Windows Server 2003

Additional software required to run WebSphere MQ for Windows in the client environment on Windows XP or Windows Server 2003.

Additional prerequisites for Windows XP and Windows Server 2003 are:

- For running .NET services, Microsoft Internet Information Services

Optional client software

The following are options, not prerequisites.

- Microsoft Windows Terminal Server feature

Compilers for WebSphere MQ applications (clients)

A list of supported compilers for WebSphere MQ for Windows

The following software compilers are supported:

- C and C++:
  - Microsoft Visual Studio C++ 2005 SP1
  - Microsoft Visual Studio C++ .NET 2003

  Note: If you compile your application using Microsoft Visual Studio on one system, and then copy the application to another system that does not have Microsoft Visual Studio installed, you must install Microsoft Visual Studio redistributable package (vcredist) on the target system.
- .NET
  - Microsoft Visual C++ .NET 2003
  - Microsoft Visual C++ .NET 2005
  - Microsoft Visual C# .NET 2003
  - Microsoft Visual C# .NET 2005
  - Microsoft Visual Basic .NET 2003

  - Microsoft Visual Basic .NET 2005
- COBOL:
  - IBM VisualAge COBOL Enterprise V3.0.1
  - Micro Focus Net Express Version 4.0
  - Micro Focus Net Express Version 5.0
- Visual Basic:
  - Microsoft Visual Basic, Version 6.0
- JDK:
  - 32-bit
    - IBM Developer Kit for Windows, Java 2 Technology Edition V1.4.2.
    - IBM Developer Kit for Windows, Java 2 Technology Edition V5.0 (SR1 or above)
    - IBM Developer Kit for Windows, Java 2 Technology Edition
    - Java 2 Platform, Standard Edition V1.4.2 from Sun Microsystems, Inc.
    - Java 2 Platform, Standard Edition V5.0 (SR1 or above) from Sun Microsystems, Inc.
    - Java 2 Platform, Standard Edition V6.0 from Sun Microsystems, Inc.
  - 64-bit
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 1.4.2
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 5.0
    - IBM 64-bit SDK for Windows AMD64/EM64T architecture, Java 2 Technology Edition, Version 6.0
    - Sun Java 2 Platform Standard Edition, Version 5.0

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

http://www.ibm.com/software/integration/mqfamily

WebSphere MQ client features

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

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 and Web Services
The files needed for messaging using Java (includes Java Message Service support) and WebSphere MQ Web Services.

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, and .NET (including C#).

Java and Java Message Service support is included and samples are provided for MTS (COM+), and MQSC.

The following three features for the WebSphere MQ for Windows client environment can be installed from the WebSphere MQ Server CD only:

Client File Transfer
The Client File Transfer Application allows you to send and receive ordinary files in the form of WebSphere MQ messages. You can use the Client File Transfer Application to send and receive any type of file in any format, for example: ASCII Linux format (with line feed characters), ASCII file Windows format (with carriage return/line feed characters), binary (for example, image files, wordprocessor files, spreadsheet files, or zip files), also reports, letters, memos and charts. The Client File Transfer Application only has a command line interface.

Client Extended Transaction Support
A WebSphere MQ extended transactional client is a WebSphere MQ client with some additional function. This function allows a client application, within the same unit of work:

- To put messages to, and get messages from, queues that are owned by the queue manager to which it is connected.
- To update the resources of a resource manager other than a WebSphere MQ queue manager.

Java Extended Transaction Support
Extended transaction support for Java Message Service.

For information on WebSphere MQ feature prerequisites, see "Prerequisites for WebSphere MQ for Windows features" on page 20.

Methods of Installing the WebSphere MQ client

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

You can use the WebSphere MQ Server CD to install the WebSphere MQ client on any client machine.

You can use the WebSphere MQ Client CD 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 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 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. See "WebSphere MQ Server installation methods" on page 22

  For the interactive installation, select the **Custom** installation type ("Launchpad instructions" on page 23), and select the **Windows client** feature. No other interactive method will install the client.
- Methods that use the WebSphere MQ Client CD:

– See the WebSphere MQ Clients book.

During the installation of the runtime package on the Windows platform, a new environment variable called MQ_FILE_PATH is configured.

This contains the same data as the following key in the Windows Registry:
`HKEY_LOCAL_MACHINE\SOFTWARE\IBM\MQSeries\CurrentVersion\FilePath`

A new sample WebSphere MQ client configuration file is created in the `var/mqm` directory, by the C client package, during installation, but only if this file does not already exist. This file contains the `ClientExitPath` stanza. An example mqclient.ini file is shown in WebSphere MQ client configuration file the *WebSphere MQ System Administration Guide*.

Note that if you are using a common configuration file for multiple clients, either in the WebSphere MQ installation directory or in another location using the MQCLNTCF environment variable, you should grant read access to all user identifiers under which the WebSphere MQ client applications run. If, for any reason, the file cannot be read, the failure is traced and the search logic continues as if the file had not existed.

Configuring a WebSphere MQ Client using the Prepare WebSphere MQ wizard

About this task

The Prepare WebSphere MQ wizard helps you to migrate any Secure Socket Layer connections from a previous installation.

The Prepare WebSphere MQ wizard window will be displayed when WebSphere MQ installation completes. Follow the instructions given by the wizard to configure WebSphere MQ. At any time while the wizard is running you can click the **More Information** button in the wizard to view online help about the task you are doing.

1. When WebSphere MQ installation completes, the Prepare WebSphere MQ Wizard window is displayed with a welcome message.
   - **For Windows Vista and Windows Server 2008 users with UAC enabled only**: if you do not complete the Prepare WebSphere MQ Wizard directly after WebSphere MQ installs or if for any reason your machine is rebooted between completing WebSphere MQ installation and completing the Prepare WebSphere MQ Wizard, accept the Windows prompt when it appears to allow the wizard to run as elevated.

   To continue, click **Next**
2. If you do not have any WebSphere MQ clients on this computer that have been set up to use Secure Sockets Layer (SSL) connections, this step is missed, go to step 9 on page 82.

   If you have WebSphere MQ clients on this computer that have been set up to use SSL connections, the Migration of SSL connections window is displayed. The clients with SSL connections were identified when you used the Check WebSphere MQ Certificate Stores wizard in the installation launchpad. Read the information then click **Next**.

Note: At any time, you can click **More Information** to view online help about identifying if migration is required. When you are finished, close the WebSphere MQ Help Center window to return to the current window.

3. A list of the certificate store files, which were validated earlier in the install process, is displayed. Select the certificate stores you want to schedule for migration and click **Next**. If you did not validate any certificate stores, or if you have not selected any, click **Next** then go to step 7.
4. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** The next panel asks you about passwords and password expiry intervals.
   - If want to use a single password and expiry interval for all key databases files, select **Use a single password and expiry interval for all key database files**, enter a password and expiry interval, then click **Next**.
   - If you want to use different passwords and expiry intervals for each database file, select **Prompt for individual passwords and expiry intervals**, then click **Next**.
5. A progress dialog is displayed while the certificate store files chosen in step 3 are scheduled for migration. If you selected "Prompt for individual passwords and expiry intervals" in step 4, a panel requesting this information will be displayed for each certificate store file you selected. Complete the information in each of the panels displayed, then click **Next**.
6. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** A panel is displayed showing a summary of the store files that have been scheduled for migration. Click **Next** to continue.
7. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** Now the wizard asks you to confirm that your Certificate Revocation Lists (CRLs) and Authority Revocation Lists (ARLs) are in a format supported by WebSphere MQ Version 7.0.
   - If CRLs and ARLs are not used, select **Not Used** and click **Next**.
   - If CRLs and ARLs are used, when you have them in a format supported by WebSphere MQ Version 7.0 select **Yes** and click **Next**.

   Note: At any time, you can click **More Information** to view online help about converting the CRLs and ARLs into a supported format. When you are finished, close the WebSphere MQ Help Center window to return to the current window.
8. **This step is applicable only if you are migrating from WebSphere MQ Version 5.3.** Next you must ensure that SSL connections that use the SSLPEER channel parameter have any multiple Organizational Unit entries ordered correctly.
   - If the SSLPEER value is not used, or if the SSLPEER value is used but multiple Organizational Unit entries are **not** used, select **Not Used** and click **Next**.
   - If the SSLPEER value is used with multiple Organizational Unit entries, check the ordering of the SSLPEER fields and select **Yes** when they are correctly ordered. Click **Next**.

   Note: At any time, you can click **More Information** to view online help about how to check SSLPEER fields. When you are finished, close the WebSphere MQ Help Center window to return to the current window.
9. The Prepare WebSphere MQ Wizard window displays the following message:

   ```
   You have completed the Prepare WebSphere MQ Wizard
   ```

Select **Launch Notepad to view the release notes** 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.

Click **Finish**.

Verifying a WebSphere MQ Client

About this task

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 section 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 though the following tasks:

1. "Setting up the WebSphere MQ server"
2. "Setting up the WebSphere MQ client" on page 85
3. "Putting a message on the queue" on page 86
4. "Getting a message from the queue" on page 86
5. "Post verification tasks" on page 73

These instructions assume that the WebSphere MQ Server feature is installed on a server machine, and that the WebSphere MQ client feature in 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 sample 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-sever 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

Before you begin

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
```

The **-q** option specifies that this queue manager is the default queue manager.

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 MQSC for queue manager queue.manager.1
   ```

4. In the MQSC window, create a local queue called QUEUE1 by entering the following command:

   ```
   define qlocal(QUEUE1)
   ```

5. In the MQSC window, create a server-connection channel by entering the following command:

   ```
   define channel(channel1) chltype(svrconn) trptype(tcp) mcauser('MUSR_MQADMIN')
   ```

   Note: Once you have set the **mcauser** attribute to MUSR_MQADMIN, you MUST set the attribute back to its default value after you have verified the installation to prevent any security vulnerabilities, as described in: "Post verification tasks" on page 73

6. Verification requires you to start the default WebSphere MQ listener on the port number that you specify when setting up the client-connection channel.

   By default the listener will listen on port 1414. If you are not going to change the default port when setting up the client workstation, no action is required, proceed to the next step. If you are going to use a different port when setting up the client workstation, alter the definition of the system.default.listener. For example, to use port 2001, enter the command in the MQSC window:

   ```
   alter listener(system.default.listener.tcp) trptype(tcp) port(2001)
   ```

   Note: To check which ports are free enter the following command:

   ```
   netstat -an
   ```

   This will show you a list of running processes. Check the port number of each of the processes to see if the port you plan to use is already in use. The port number is in the Local Address column. The information is given in the form *computer_name*:*port_being _used*

7. In the MQSC window, start the default WebSphere MQ listener by entering the following command:

   ```
   start listener(system.default.listener.tcp)
   ```

8. In the MQSC window, verify the listener process has started by executing the command:

   ```
   display lsstatus(*)
   ```

9. Stop MQSC by typing in the MQSC window:

   ```
   end
   ```

   and then pressing Enter.

Results

The following objects are now defined:

- A default queue manager called `queue.manager.1`

- A local queue called QUEUE1
- A server-connection channel called CHANNEL1

Setting up the WebSphere MQ client

About this task

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. This information 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 the same as the name used for the server-connection channel defined on the server.

A client-connection channel can be defined in one of the following three ways:

- Define the environment MQSERVER variable on the client. See "Defining a client-connection channel using MQSERVER."
- 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 the *WebSphere MQ Intercommunications* book.

Example

In this example, the MQSERVER environment variable is used to define the client-connection channel. This is the simplest method.

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

Before you begin

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.

About this task

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. This is the port number specified in step 6 on page 84 of "Setting up the WebSphere MQ server" on page 83.

If you do not give a port number, WebSphere MQ uses the one specified in the queue manager configuration information. If no value is specified in the queue manager configuration information, 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

1. Enter the following command on the client machine:

   ```
   amqsputc QUEUE1 queue.manager.1
   ```

   The following message is displayed:

   ```
   Sample AMQSPUT0 start
   target queue is QUEUE1
   ```

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

   ```
   Sample AMQSPUT0 end
   ```

Results

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

Getting a message from the queue

About this task

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

Enter the following command:

```
amqsgetc QUEUE1 queue.manager.1
```

Results

The sample program starts, and your message is displayed. After a short pause (Approximately 30 seconds), the sample ends and the command prompt is displayed again. Alternatively you can press Ctrl-C to end the sample program.

Post verification tasks

About this task

The verification process is now complete. To set the **mcauser** attribute back to its default value:

1. Start MQSC commands if you have not already done so, by entering the following command:

   ```
   runmqsc
   ```

MQSC does not provide a prompt, but responds with the message:

```
Starting MQSC for queue manager queue.manager.1
```

2. In the MQSC window, set the **mcauser** attribute to its default value by entering the following command:

   ```
   alter channel(channel1) chltype(svrconn) mcauser(' ')
   ```

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

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

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

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

What to do next

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

Chapter 6. Installing WebSphere MQ documentation

Install the Infocenter WebSphere MQ documentation on your computer, read the documentation directly from the installation image, or prepare to install the documentation on other machines silently.

About this task

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).

To install the documentation, see "WebSphere MQ Information Center" on page 106.

What to do next

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

Unattended (Silent) installation of WebSphere MQ documentation

About this task

The WebSphere MQ documentation can be installed silently using InstallShield. First, run the installation manually from a command window opened in the installation directory, automatically saving the installation options you choose in a file. Next, use the file to run InstallShield silently on other machines to create identical installations.

Note: You cannot select the language to install silently: all languages are installed.

1. Save your installation options using the command shown in Figure 8.
2. Replay the installation silently on other machines using the command shown in Figure 9.

Example

```
win32.exe -options-record drive-path\response-file.ini
```

Figure 8. Saving installation options

```
win32.exe -options drive-path\response-file.ini -silent
```

Figure 9. Replay installation silently

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Chapter 7. Applying maintenance

This topic explains how to maintain your installation of WebSphere MQ Version 7.0. You can download maintenance packages from:

http://www.ibm.com/software/integration/mqfamily/support/summary/

Attention

- There should be no WebSphere MQ applications running when you install maintenance on WebSphere MQ.
- There should be no applications accessing remote WebSphere MQ machines running when you install maintenance on WebSphere MQ.
- Stop all WebSphere MQ applications on the machine and the applications accessing remote machines
- 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 maintenance package.
- 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 taskbar, then click **Stop WebSphere MQ**.

Querying the service level

After an update to the initial installation, the version indicates the service level to which the product has been updated. Prior to applying any service the version is 7.0.0.0. As service is applied the last two digits will be updated, for example to 7.0.0.1 or 7.0.2.1. To view the version, do one of the following:

- Use the `dspmqver` command. At a command prompt, enter the following command: `dspmqver`. The resulting messages include the WebSphere MQ version number, which shows the service level.
- Locate the file README.TXT in the appropriate language subfolder of the WebSphere MQ program files folder (default C:\Program Files\IBM\WebSphere MQ\), then open it using a suitable text editor. The file contains the service level and details of the maintenance applied.

Applying the maintenance information

You can install the updates from the WebSphere MQ Web site (see “Installing updates from the WebSphere MQ Web site” on page 92). Windows Vista and Windows Server 2008 users with UAC enabled must apply maintenance packages to WebSphere MQ with Administrator authority.

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Installing updates from the WebSphere MQ Web site

About this task

To install maintenance packages 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 either run the executable file or see "Silently installing maintenance updates" for information on silently installing a maintenance pack. Windows Vista and Windows Server 2008 users with UAC enabled must install the update with Administrator authority: Right-click on the executable file and select **Run as administrator**.
3. Running this file presents you with a dialog screen on which you can choose to temporarily unpack or save the executable file. Select the appropriate option (and if saving 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.

Results

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.

Silently installing maintenance updates

About this task

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

To apply maintenance updates to WebSphere MQ:

1. Stop all existing WebSphere MQ processes.
   a. Stop execution of all WebSphere MQ applications on the local machine, and on any connected remote machines.
   b. Stop execution of all queue managers by issuing the following command for each queue manager:

      ```
      endmqm -i QMgrName
      ```

      where *QMgrName* is the name of an active queue manager.
   c. Stop execution of all channels
   d. Stop execution of all listeners
   e. Right click WebSphere MQ on the system tray and select Stop WebSphere MQ. Wait for all services to stop.
   f. Right click WebSphere MQ on the system tray and select Exit.
2. Change to the directory into which you downloaded the refresh pack or fix pack file.

3. In Windows Explorer, right-click the fix pack file and select **Open**. Alternatively, enter the following command at a command prompt:
   `MaintenanceLauncher [-s] -a install_arguments`

   where:

   MaintenanceLauncher
   is the full path to the fix pack or refresh pack executable file, for example: WebSphereMQMDV7.0.1.0EnUs.exe.

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

   -a means 'read in the following install arguments'

   install_arguments
   are the arguments that determine how the installer runs. These are specified in PROPERTY=value pairs. Table 15 shows the properties that can be used as *install_arguments*.

Table 15. Properties used to install a maintenance update

Property	Values	Description
MQPLOG	*path\file_name*	Pass a valid path to specify the log to be used during install/uninstall, for example `MQPLOG="C:\TEMP\UPDATEINSTALL.LOG"`
MQPBACKUPPATH	*path*	Specifies the directory to backup into during install, for example `MQPBACKUPPATH="C:\BACKUP"`
MQPREBOOT	0 | 1	Specifies what to do when a reboot is required, for example `MQPREBOOT=1`. If no value is supplied, you will be prompted for what to do. If MQPREBOOT is set to 0, a reboot will be supressed If MQPREBOOT is set to 1, the reboots will go ahead without prompting.
MQPSILENT	0 | 1	Specifies whether to do a silent install or not, for example `MQPSILENT=1`. If no value is supplied, or if MQPSILENT is set to 0, the install is interactive. If MQPSILENT is set to 1, the install is silent.
MQPINUSEOK	0 | 1	Specifies whether to continue even if a file is found to be currently locked by another application. If you choose to continue even if a file is currently locked by another application, then you will need to reboot to complete fixpack installation. If no value is supplied, or if MQPINUSEOK is set to 0, the installation will fail if files are found to be in use by other applications. If MQPINUSEOK is set to 1, the installation will be deferred until you reboot.
MQPUNINST	0 | 1	Specifies the removal of the last fixpack. If no value is supplied, or if MQPUNINST is set to 0, the fixpack will be installed. If MQPUNINST is set to 1, the latest fixpack will be uninstalled.

An example of a command to install a maintenance update silently is:

```
WebSphereMQMDV7.0.1.0EnUs.exe -s -a MQPLOG="C:\TEMP\UPDATEINSTALL.LOG"
MQPBACKUPPATH="C:\BACKUP" MQPSILENT=1
```

Results

After successful extraction the installer runs automatically according to the chosen arguments. If the install completes successfully, you will see the message `Installation operation completed successfully` in the log file you specified in your command. You can also use the Windows Task Manager to see when the process has completed.

What to do next

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

Restoring the previous backup version

About this task

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 either
   - **Start** → **Programs** → **IBM WebSphere MQ** → **Remove Refresh Pack**
   - **Start** → **Programs** → **IBM WebSphere MQ** → **Remove Fix Pack**
6. Click **Remove** to start the process. This returns the installation to the state it was in before the maintenance package was applied.

Silently restoring the previous backup version

About this task

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

If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent installation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**. If you try to silently install from a non-elevated command prompt, the install fails with an error of AMQ4353 in the install log.

To apply maintenance updates to WebSphere MQ:

1. Ensure that all WebSphere MQ function is stopped. You must:
   a. Stop execution of all queue managers
   b. Stop execution of all channels
   c. Stop execution of all listeners
   d. Ensure the WebSphere MQ service has stopped
2. Exit all Windows programs before uninstalling maintenance to WebSphere MQ.

3. Change to the directory into which you downloaded the refresh pack or fix pack file.
4. Enter the following command at a command prompt: *MaintenanceLauncher* [-s] -a *uninstall_arguments*

   where:

   MaintenanceLauncher
   is the full path to the fix pack or refresh pack executable file, for example: WebSphereMQMDV7.0.1.0EnUs.exe.

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

   -a means 'read in the following arguments'

   uninstall_arguments
   are the arguments that determine how the installer runs. These are specified in PROPERTY=value pairs. Table 16 shows the properties that can be used as *uninstall_arguments*.

Table 16. Properties used to uninstall a maintenance update

Property	Values	Description
MQPLOG	*path\file_name*	Pass a valid path to specify the log to be used during install/uninstall, for example `MQPLOG="C:\TEMP\UPDATEINSTALL.LOG"`
MQPREBOOT	0|1	Specifies what to do when a reboot is required, for example `MQPREBOOT=1`. If no value is supplied, you will be prompted for what to do. If MQPREBOOT is set to 0, a reboot will be supressed If MQPREBOOT is set to 1, the reboots will go ahead without prompting.
MQPSILENT	0|1	Specifies whether to do a silent install or not, for example `MQPSILENT=1`. If no value is supplied, or if MQPSILENT is set to 0, the install is interactive. If MQPSILENT is set to 1, the install is silent.
MQPINUSEOK	0|1	Specifies whether to continue even if a file is found to be currently locked by another application. If you choose to continue even if a file is currently locked by another application, then you will need to reboot to complete fixpack uninstallation. If no value is supplied, or if MQPINUSEOK is set to 0, the uninstallation will fail if files are found to be in use by other applications. If MQPINUSEOK is set to 1, the uninstallation will be deferred until you reboot.
MQPUNINST	0|1	Specifies the removal of the last fixpack. If no value is supplied, or if MQPUNINST is set to 0, the fixpack will be installed. If MQPUNINST is set to 1, the latest fixpack will be uninstalled.

An example of a command to uninstall a maintenance update silently is:

```
WebSphereMQMDV7.0.1.0EnUs.exe -s -a MQPLOG="C:\TEMP\UPDATEINSTALL.LOG"
MQPSILENT=1 MQPUNINST=1
```

Results

The uninstaller runs automatically according to the chosen arguments. If the uninstall completes successfully, you will see the message `Installation operation completed successfully` in the log file you specified in your command. The WebSphere MQ installation returns to the state is was in before the maintenance package was applied. You can also use the Windows Task Manager to see when the process has completed.

What to do next

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

Chapter 8. Uninstalling WebSphere MQ

This topic describes how to uninstall WebSphere MQ if you installed it by using the WebSphere MQ Server CD.

If you installed the WebSphere MQ client using the WebSphere MQ Client CD, use one of the methods described in the *WebSphere MQ Clients* book.

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

If you are uninstalling the WebSphere MQ server, see "Uninstalling WebSphere MQ Server" on page 98.

If you are uninstalling the WebSphere MQ client, see "Uninstalling WebSphere MQ Client" on page 102.

Note: If you are uninstalling WebSphere MQ Version 7.0 in order to reinstall WebSphere MQ Version 6.0, and your installation included the WebSphere MQ Explorer, you must also uninstall the WebSphere Eclipse Platform, Version 3.3, because the Version 6.0 WebSphere MQ Explorer does not run with the WebSphere Eclipse Platform, Version 3.3. For instructions on uninstalling WebSphere Eclipse Platform, see "Installing and uninstalling IBM WebSphere Eclipse Platform" on page 15.

Uninstalling WebSphere MQ Explorer

If you uninstall the WebSphere MQ Explorer, you must first remove some configuration files.

About this task

For **each** of the users whom have logged into WebSphere MQ Explorer:

1. Optional: Save a copy of any WebSphere MQ Explorer settings you want to keep (such as column schemes, remote queue manager definitions, and user preferences). To do this:
   a. Right-click **IBM WebSphere MQ** in the WebSphere MQ Explorer navigator pane.
   b. Select **Export MQ Explorer settings**.
   c. Select the types of settings you want to export from the list.
   d. Select a file to save your exported settings in.
   e. Click **OK**.
   f. Close the WebSphere MQ Explorer.
2. Optional: Save a copy of any data that user-defined plug-ins are saving in C:\Documents and Settings*username*\Application Data\IBM\MQ Explorer\.metadata\.plugins\com.ibm.mq.explorer.ui, where *username* is your user name.
3. Delete the following directory:

   ```
   C:\Documents and Settings\username\Application Data\IBM\MQ Explorer\.metadata
   ```

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where *username* is your user name.

4. Delete the following directory:

   `C:\Documents and Settings\`*`username`*`\.eclipse`

   where *username* is your user name.

5. In the following directory, delete any subdirectories. **Do not** delete the file `config.ini`:

   `path``\eclipse\configuration`

   where *path* is the full path to the directory where you installed WebSphere Eclipse Platform. By default this is C:\Program Files\IBM\Websphere MQ\eclipseSDK33.

6. Repeat steps 1 on page 97 to 4 for **each** of the users whom have logged into WebSphere MQ Explorer.

Uninstalling WebSphere MQ Server

About this task

If you are going to uninstall the WebSphere MQ Explorer, see "Uninstalling WebSphere MQ Explorer" on page 97 before uninstalling WebSphere MQ.

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

1. Ensure that all WebSphere MQ function is stopped. You must:
   a. Stop execution of all WebSphere MQ applications on the local machine, and on any connected remote machines.
   b. Stop execution of all queue managers
   c. Stop execution of all channels
   d. Stop execution of all listeners
2. Stop WebSphere MQ. To do this right click the **WebSphere MQ** icon in the system tray, then select **Stop WebSphere MQ**.
3. Exit WebSphere MQ. To do this right click the **WebSphere MQ** icon in the system tray, then select **Exit**.
4. Close all WebSphere MQ windows.
5. Stop any monitoring service.

What to do next

If you are running WebSphere MQ with the Microsoft Cluster Service (MSCS), remove the queue managers from MSCS control before uninstalling WebSphere MQ. Perform the following steps for each queue manager currently under MSCS control :

1. Take the queue manager resource offline.
2. Destroy the resource instance.
3. Migrate the queue manager files back from shared drives. (This step is shown as optional in the WebSphere MQ System Administration Guide. However, it is mandatory in this case.)

For instructions on removing a queue manager from MSCS control, see the WebSphere MQ System Administration Guide. When you have done this for all queue managers in the cluster, uninstall WebSphere MQ as described in this section.

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

- Start the installation process, then select the appropriate option as described in: "Uninstalling WebSphere MQ using the installation process"
- On Windows 2003 and Windows XP, use the Add/Remove Programs facility in the Windows Control Panel. On Windows Vista and Windows Server 2008, use the **Uninstall** button in the Programs and Features facility in the Windows Control Panel. This process is described in: "Uninstalling WebSphere MQ using Add/Remove Programs or Programs and Features" on page 100
- Perform a removal from the command line as described in: "Uninstalling WebSphere MQ using msiexec" on page 101

You can use these methods to uninstall the WebSphere MQ server or the WebSphere MQ client, provided that 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 msiexec or MQParms, or by using Microsoft System Management Server (SMS). See "Uninstalling WebSphere MQ using msiexec" on page 101 for more information about msiexec.

Uninstalling WebSphere MQ using the installation process

About this task

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 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 to start the installation process.

   The WebSphere MQ Installation Launchpad window is displayed.
3. Click the **WebSphere MQ Installation**.
4. Click **Launch IBM WebSphere MQ Installer**. Wait until the WebSphere MQ Program Maintenance panel is displayed with a welcome message.

   If this panel is not displayed, WebSphere MQ for Windows, Version 7.0 is not installed on this machine.
5. Select **Remove**, then click **Next**.
6. 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.
7. The Remove WebSphere MQ panel is displayed, with a summary of the installation to be removed.

   Click **Remove** to continue.
8. 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 topic.

Uninstallation should then continue.

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

   Uninstallation Completed Successfully

   Click **Finish**.

Uninstalling WebSphere MQ using Add/Remove Programs or Programs and Features

1. For Windows XP and Windows 2003, use the following procedure:
   a. From the Windows taskbar, click **Start** → **Settings** → **Control Panel**
   b. Click **Add/Remove Programs**. The Add/Remove Programs window opens.
   c. Click **IBM WebSphere MQ**.
   d. 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.

        You have uninstalled WebSphere MQ - proceed to Step 3.
      - Click **Change**. The WebSphere MQ Setup window with the Program Maintenance panel is displayed.

        Follow the procedure from the next step:
   e. Select **Remove**, then click **Next**.
   f. 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.
   g. The Remove WebSphere MQ panel is displayed, with a summary of the installation to be removed.

      Click **Remove** to continue.
   h. 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 topic.

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

      Uninstallation Completed Successfully

      Click **Finish**.
2. For Windows Vista and Windows Server 2008, use the following procedure:
   a. From the Windows taskbar, click **Start** → **Control Panel**. The Programs window opens.
   b. Double-click **Programs and Features**. The Programs and Features window opens.
   c. Click **IBM WebSphere MQ**.

d. Click the **Uninstall** button. A window containing a confirmation prompt opens. Click **Yes**. If UAC is enabled, accept the Windows prompt to allow the uninstall to run as elevated. The uninstall program then begins and runs to completion.

3. To uninstall the WebSphere Eclipse Platform see "Installing and uninstalling IBM WebSphere Eclipse Platform" on page 15.

Uninstalling WebSphere MQ using msiexec

About this task

To invoke an uninstallation, you use the `msiexec` command. The file used for both installation and uninstallation, `IBM WebSphere MQ.msi`, is available on the Server CD that was used to install WebSphere MQ.

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.

  If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you might see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher during uninstallation. Click **Run** to allow the uninstallation to continue.

- `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. If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent uninstallation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**.

- `msiexec /i "path\MSI\IBM WebSphere MQ.msi" /q REMOVE="All" KEEPQMDATA="delete"`

  This command invokes a silent uninstall and removes any queue manager data. If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must invoke the silent uninstallation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**.

- `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.

  If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you might see Open File - Security Warning dialog boxes that list International Business Machines Limited as the publisher during uninstallation. Click **Run** to allow the uninstallation to continue.

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

  This command invokes a silent uninstall and does not remove any queue manager data. If you are running WebSphere MQ on Windows Vista or Windows Server 2008 with User Account Control (UAC) enabled, you must

invoke the silent uninstallation from an elevated command prompt. Elevate a command prompt by using a right-click to start the command prompt and choose **Run as administrator**.

Note: *path* refers to the path to the file `IBM WebSphere MQ.msi`. This file can be found on the Server CD.

Results

Alternatively, you can use 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, Version 7.0 when it was installed using the WebSphere MQ Server CD is **not** the same as the one used with earlier non-MSI versions of MQSeries such as versions earlier then 5.3. For details about the response file you use with the WebSphere MQ Client CD, see the *WebSphere MQ Clients* book.

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 28. For details of the parameters you can specify in a response file, see Table 6 on page 34.

An example of a typical uninstallation response file is:

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

Uninstalling WebSphere MQ server using MQParms

To silently uninstall using MQParms, follow the instructions on the installation pages, but set the ADDLOCAL parameter to empty, and set the REMOVE parameter to "ALL".

For example ADDLOCAL="" and REMOVE="ALL".

The instructions for MQParms begin here: "Using the MQParms command" on page 41

Uninstalling WebSphere MQ Client

This section describes how to uninstall WebSphere MQ client. There are two cases for this:

- If you installed the WebSphere MQ client using the WebSphere MQ Client CD, use one of the methods described in the *WebSphere MQ Clients* book.
- If you installed the WebSphere MQ client using the WebSphere MQ Server CD, use one of the methods described in "Uninstalling WebSphere MQ Server" on page 98.

Chapter 9. WebSphere MQ documentation

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

- "WebSphere MQ Information Center" on page 106
- "Hardcopy books" on page 113
- "Online information" on page 113

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 17. WebSphere MQ Quick Beginnings books

PDF file name	Order Number	Title
AMQAAC10	GC34-6922	*WebSphere MQ for AIX® Quick Beginnings*
AMQCAC09	GC34-6923	*WebSphere MQ for HP-UX Quick Beginnings*
AMQWAC04	GC34-6925	*WebSphere MQ for i5/OS® Quick Beginnings*
AMQ1AC07	GC34-6924	*WebSphere MQ for Linux Quick Beginnings*
AMQTAC07	GC34-6920	*WebSphere MQ for Windows Quick Beginnings*
AMQDAC10	GC34-6921	*WebSphere MQ for Solaris Quick Beginnings*

Table 18. WebSphere MQ family books

PDF file name	Order Number	Title
CSQZAL12	SC34-6939	*WebSphere MQ Application Programming Guide*
CSQZAK11	SC34-6940	*WebSphere MQ Application Programming Reference*
CSQZAY04	SC34-6947	*WebSphere MQ Bibliography and Glossary*
CSQZAF10	GC34-6934	*WebSphere MQ Clients*
CSQZAQ01	SC34-6951	*WebSphere MQ Constants*
CSQZAE10	SC34-6931	*WebSphere MQ Intercommunications*
AMQZAO06	GC34-6945	*WebSphere MQ Messages*
CSQZAO01	GC34-6948	*WebSphere MQ Migration Information*
CSQZAX06	SC34-6937	*WebSphere MQ Monitoring*
CSQZAC06	SC34-6942	*WebSphere MQ Programmable Command Formats and Administration Interface*
AMQNAR11	SC34-6950	*WebSphere MQ Publish/Subscribe User's Guide*
CSQZAH08	SC34-6933	*WebSphere MQ Queue Manager Clusters*
CSQZAS04	SC34-6932	*WebSphere MQ Security*
CSQZAJ11	SC34-6941	*WebSphere MQ Script (MQSC) Command Reference*
AMQZAG10	SC34-6928	*WebSphere MQ System Administration Guide*
AMQZAN10	SC34-6936	*WebSphere MQ Using C++*
CSQZAW16	SC34-6935	*WebSphere MQ Using Java*
CSQZAV06	GC34-6949	*WebSphere MQ Using .NET*

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Table 18. WebSphere MQ family books (continued)

PDF file name	Order Number	Title
CSQSAT04	GC34-6926	*WebSphere MQ for z/OS® Concepts and Planning Guide*
CSQSAV05	SC34-6927	*WebSphere MQ for z/OS System Setup Guide*
CSQSAW04	SC34-6929	*WebSphere MQ for z/OS System Administration Guide*
CSQSAQ04	GC34-6944	*WebSphere MQ for z/OS Problem Determination Guide*
CSQSAO06	GC34-6946	*WebSphere MQ for z/OS Messages and Codes*
CSQSAD05	GI10-2584	*Program Directory for WebSphere MQ for z/OS*

Table 19. WebSphere MQ for Windows books

PDF file name	Order Number	Title
AMQTAN04	SC34-6938	*WebSphere MQ Using the Component Object Model Interface*
AMQZAV06	SC34-6949	*WebSphere MQ Using .NET*

Table 20. Additional WebSphere MQ books for i5/OS

PDF file name	Order Number	Title
AMQWAK02	SC34-6943	*WebSphere MQ for i5/OS Application Programming Reference*
AMQWAG04	SC34-6930	*WebSphere MQ for i5/OS System Administration Guide*

WebSphere MQ Information Center

The WebSphere MQ Information Center is supplied separately on a CD alongside the product. You can either view the Information Center directly from CD, or you can install it on your computer (either before or after installing the WebSphere MQ product).

Viewing the Information Center

You can view the Information Center on any Windows system supported by the WebSphere MQ product.

When you insert the Documentation CD, the welcome panel opens. If it does not appear when you insert the Documentation CD, you can run the CD from Windows Explorer.

To open and view the Information Center without installing it, click the View Information Center icon:

The Information Center launches in a browser window.

To close the Information Center, click the Close Information Center icon:

Installing the WebSphere MQ Information Center

You can install the Information Center on any Windows operating system supported by the WebSphere MQ product.

To install the Information Center:

1. Insert the Documentation CD. The welcome panel opens. If it does not appear when you insert the Documentation CD, you can run the CD from Windows Explorer.
2. Click the Install icon to install the Information Center:

3. Click **Next** to start the InstallShield Wizard for the WebSphere MQ Version 7 Information Center.
4. Accept the license agreement terms and work through the panels in the InstallShield Wizard for the WebSphere MQ Version 7 Information Center wizard.
5. Choose a directory to install the Information Center to.
6. Select which languages to install. English is always installed.

The Information Center is installed as an Eclipse plugin to the directory you specified in the Wizard. The default installation location for the English language version is:

C:\Program Files\IBM\Websphere MQ\eclipse\plugins\
com.ibm.mq.explorer.doc_7.0.0.0

Different languages are installed to different default locations, for example:

C:\Program Files\IBM\Websphere MQ\eclipse\plugins\
com.ibm.mq.explorer.doc.nl1.**_7.0.0.0

where ** is the relevant language code.

When the installation is complete you can choose any or all of the following options:

- View the readme file
- See how to request updated documents
- Start the Information Center

Alternatively, click **Close** to close the Wizard.

Running the WebSphere MQ Information Center

When you have installed the Information Center you can run it from Windows Explorer:

1. Open Windows Explorer
2. Navigate to the directory you installed the Information Center in.
3. You can run the Information Center in two modes:

   Standalone mode
   In standalone mode, the Information Center is available only to the user who is logged in to the machine that is running the Information Center.

   To run the Information Center in standalone mode, double-click start.exe

   Alternatively, you can select **Start** -> **All Programs** -> **WebSphere MQ 7 Information Center** -> **Start Help**

   Information Center mode
   In Information Center mode, the Information Center is available to users on other machines in the same network as the machine that is running the Information Center. Using this mode, you can have an Information Center that is installed on one machine, and make it available to many users.

   To run the Information Center in Information Center mode, double-click IC_start.bat

   Alternatively, you can select **Start** -> **All Programs** -> **WebSphere MQ 7 Information Center** -> **Start Information Center**

   The Information Center uses a web server that is included with the system. The web server uses a random port to avoid port conflicts among applications, and by default the listener is disabled. The default port used is 8888.

Stopping the Information Center

To stop the Information Center when it is running in standalone mode, double-click <Information_Center_Install_Dir>/stop.exe, or select **Start** -> **All Programs** -> **WebSphere MQ 7 Information Center** -> **Stop Help**.

To stop the Information Center when it is running in Information Center mode, double-click <Information_Center_Install_Dir>/IC_end.bat, or select **Start** -> **All Programs** -> **WebSphere MQ 7 Information Center** -> **Stop Information Center**.

Updating the Information Center

When newer versions of the documentation in the Information Center are available, you can download the updated content from within the help system.

To check whether there are any updates available and download them to your local system:

- Click **Update**

  on the tool bar. A list of installed document sets is displayed.

- Click **Find Updates** on the bottom of the list to start finding available updates. The help system searches for updates at a server location. A progress bar is displayed while updates are being located.
- When updates have been located, in the search results for the latest updates, two lists are displayed:
  - Updates for existing documentation
  - New documentation

  Select the check boxes corresponding to the documentation sets you want to install.
- Click **Install Updates** to install the documentation sets you have selected.
- Click **Finish** when the installation is done.

You do not need to restart the help system. It will refresh automatically to show the updated content.

Using the WebSphere MQ information center

The WebSphere MQ information center is built on the IBM Eclipse Help System. The WebSphere MQ information center can be launched in two modes: Standalone mode and Information Center mode. During the information center installation, chose whether the information center will run in either one, or both of these modes.

Viewing the information center in Standalone mode

In Standalone mode, only the user that launched the help system can view the help.

About this task

When the IBM Eclipse Help System is launched in Standalone mode, the help system's embedded web application server uses a random port to avoid port conflicts between applications, and a new browser window or tab is automatically opened, with the information center home page displayed. There might be a slight delay before the browser window or tab opens, while the application server initializes.

Launching the information center in Standalone mode

About this task

To launch the Help System in Standalone mode from the Start Menu select **Start → All Programs → IBM WebSphere 7.0.0 Information Center → Start Help**.

Stopping the information center in Standalone mode

To stop the information center when it is running in Standalone mode, from the Start Menu select **Start → All Programs → IBM WebSphere 7.0.0 Information Center → Stop Help**.

Displaying the documentation in different languages

To view the information center in another language in Standalone mode, change the regional settings of your operating system to the locale and language of your choice. When you are viewing documentation in your chosen language, topics that have not been translated into your chosen language are displayed in English.

Viewing the information center in Information Center mode

In Information Center mode, the information center is available from other machines on the same network as the machine on which the help system is running.

About this task

When the information center is launched in Information Center mode, the IBM Eclipse Help System's embedded web application server uses port 8888, unless the installation wizard detected that port was already in use by another application, in which case it uses the port that was specified when the help system was installed. A new browser tab or window is not automatically opened.

When you launch the information center in Information Center mode from the Start Menu, a Windows service is started. You can use this service to make the information center available across a network: when the service is started, you do not need to be logged into the machine that is running the help system.

Launching the information center in Information Center mode

About this task

To launch the information center in Information Center mode from the Start Menu select **Start → All Programs → IBM WebSphere 7.0.0 Information Center → Start Information Center**.

Results

In Information Center mode, the information center is available from the local machine at the following URL:

http://127.0.0.1:<*port*>/help/index.jsp

For example, if the default port is used, the URL is http://127.0.0.1:8888/help/index.jsp.

In Information Center mode, the information center is available from other machines on the same network as the machine on which the information center is running, at the following URL:

http://<*ip address*>:<*port*>/help/index.jsp

Where <*ip address*> is the IP address of the machine on which the information center is running.

Stopping the information center in Information Center mode

To stop the information center when it is running in Information Center mode, from the Start Menu select **Start → All Programs → IBM WebSphere 7.0.0 Information Center → Stop Information Center**.

Displaying the documentation in different languages

To view the information center in another language in Information Center mode, set the language option in your browser so that your desired language is the first one that is specified, clear the browser cache, and refresh your browser view.

When you are viewing documentation in your chosen language, topics that have not been translated into your chosen language are displayed in English.

Configuring to allow all users to launch the information center

When an administrator installs the IBM WebSphere MQ Version 7.0.0 Information Center from the WebSphere MQ 7 Information Center CD on Windows or Linux, only users with administrator privileges on Windows and the root user on Linux are initially able to launch the information center.

About this task

When the information center is launched, it attempts to create or update the following folders, or files and subfolders of these folders:

- *<install directory>*/eclipse/configuration
- *<install directory>*/eclipse/workspace

These folders contain information specific to the installed instance of the information center, such as search indexes, and information that the IBM Eclipse Help System uses to identify the help plug-ins that are installed. To allow users who do not have administrator authority on Windows, or root access on Linux, to launch the information center, allow write access to these folders (on Windows), or change the location of these folders (on Linux).

Use the following instructions to configure the information center for use by all users on both Windows and Linux.

Configuring to allow all users to launch the information center on Windows

About this task

To allow all users to launch the information center on Windows systems, you need to allow users write access to the *<install directory>*/eclipse directory. To do this:

1. Log in as a member of the administrators group.
2. In Windows Explorer, navigate to *<install directory>*.
3. Right-click the 'eclipse' directory, and select 'Properties'.
4. Select the Security tab.
5. In the Group or User Names panel, Select the 'Users' group.
6. In the Permissions for Users panel, make sure the checkbox in the 'Allow' column and the 'Write' row is selected.
7. Click OK.

Results

The information center is now set up so that all users can run the information center in Standalone mode.

Only a member of the administrators group can launch the information center in Information Center mode from the Start Menu, because launching the information center in this way starts a Windows service, which a user who is not a member of the administrators group does not have sufficient authority to do.

Configuring to allow all users to launch the information center on Linux

About this task

On Linux systems you can allow all users to launch the information center in both modes by carrying out the following steps:

1. Install the IBM WebSphere MQ Version 7.0.0 Information Center from the WebSphere MQ 7 Documentation CD to the default installation path.
2. Modify the scripts used to start and stop the information center.
   - <install directory>/Help_start.sh
   - <install directory>Help_end.sh
   - <install directory>IC_start.sh
   - <install directory>IC_end.sh

   Add the following text to each file before '-command...':

   ```
   -data $HOME/.mqdata/MQ70Info/workspace
   -configuration $HOME/.mqdata/MQ70Info/configuration
   ```

   These parameters instruct the information center to use configuration and workspace folders in the user's home directory. Each user will have a separate configuration and workspace folder.

PDF

A PDF (Portable Document Format), corresponding to each book, is available on the documentation CD. You can read PDFs using Adobe® Acrobat Reader. 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 \docs\pdf*en_US* directory on the Documentation CD, and also in some or all of the following national languages. After you have installed the PDFs, you can find the files in the directory in which you installed the Information Center. To find out which ones are available in your language, look for the appropriate directory on the CD in the form \docs\pdf*ll_LL*, where *ll_LL* is one of the following:

- cs_CZ (Czech)
- de_DE (German)
- es_ES (Spanish)
- fr_FR (French)
- hu_HU (Hungarian)
- it_IT (Italian)
- ja_JP (Japanese)
- ko_KR (Korean)
- pl_PL (Polish)
- pt_BR (Brazilian Portuguese)
- ru_RU (Russian)
- zh_CN (Simplified Chinese)
- zh_TW (Traditional Chinese)

Within these directories, you can find the complete set of PDFs that are available. Table 17 on page 105 shows the file names used for the PDF files.

Infopops in the WebSphere MQ Explorer

Infopops are provided in the WebSphere MQ Explorer for Windows and Linux. They provide context-sensitive help from any part of the GUI.

You can:

- Click a folder
- Click a properties page
- Click a view
- Click a dialog

then press F1 on Windows installations or Ctrl+F1 on Linux installations. By default, help information that typically contains one or more links to more detailed information, is displayed in a new panel in WebSphere MQ Explorer. Alternatively, the infopops can be set to display as a small yellow box that hovers over the cursor.

Hardcopy books

This book, and all the books listed in Table 17 on page 105 and Table 18 on page 105, are available for you to order or print.

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

https://www.ibm.com/ibmlink/link2/logon/logonPage.jsp

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 “WebSphere MQ Information Center” on page 106.

Online information

This section describes the sources of information available online about WebSphere MQ Version 7.0:

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. They are available in PDF format. The WebSphere MQ product family Web site is at:

http://www.ibm.com/software/integration/wmqfamily

By following links from this Web site you can:

- Obtain latest information about the WebSphere MQ product family.
- Access the WebSphere MQ books in PDF format.

Online help

WebSphere MQ Support

Information about the support available for WebSphere MQ can be found from the following Web site:

http://www.ibm.com/software/integration/wmq/support/

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/integration/support/supportpacs

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 on the following Web page by following the link to discussion groups:

http://www.ibm.com/software/integration/wmq/support/community.html

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/integration/websphere/library/whitepapers

Service support summary (Maintenance readmes)

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

http://www.ibm.com/software/integration/mqfamily/support/summary/

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