



Sun Java™ System

# Message Queue 3.5 Installation Guide

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Service Pack 1

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# Preface

This book explains how to install Sun Java™ System Message Queue 3.5 SP1 (formerly Sun™ ONE Message Queue), and this preface contains the following sections:

- [Audience for This Guide](#)
- [Organization of This Guide](#)
- [Conventions](#)
- [Other Documentation Resources](#)

## Audience for This Guide

The audience for this guide is Sun Java System Message Queue developers and administrators.

# Organization of This Guide

All users should read the introduction and then the appropriate platform-specific chapter. The following table briefly describes the contents of each chapter:

**Table 1** Book Contents

Chapter	Description
<a href="#">Chapter 1, "Introduction"</a>	Explains the Message Queue editions, supported platforms and products, the Message Queue software modules, and the installed directory structure.
<a href="#">Chapter 2, "Solaris Installation"</a>	Explains the hardware and software requirements, defaults, and installation procedure for Solaris, as well as how to uninstall the product on this platform.
<a href="#">Chapter 3, "Linux Installation"</a>	Explains the hardware and software requirements, defaults, and installation procedure for Linux, as well as how to uninstall the product on this platform.
<a href="#">Chapter 4, "Windows Installation"</a>	Explains the hardware and software requirements, defaults, and installation procedure for Windows, as well as how to uninstall the product on this platform.

## Conventions

This section provides information about the conventions used in this document.

### Text Conventions

**Table 2** Document Conventions

Format	Description
<i>italics</i>	Italicized text represents a placeholder. Substitute an appropriate clause or value where you see italic text. Italicized text is also used to designate a document title, for emphasis, or for a word or phrase being introduced.
monospace	Monospace text represents example code, commands that you enter on the command line, directory, file, or path names, error message text, class names, method names (including all elements in the signature), package names, reserved words, and URLs.

**Table 2** Document Conventions (*Continued*)

Format	Description
[ ]	Square brackets to indicate optional values in a command line syntax statement.
ALL CAPS	Text in all capitals represents file system types (GIF, TXT, HTML and so forth), environment variables (IMQ_HOME), or acronyms (JDK, JSP).
Key+Key	Simultaneous keystrokes are joined with a plus sign: Ctrl+A means press both keys simultaneously.
Key-Key	Consecutive keystrokes are joined with a hyphen: Esc-S means press the Esc key, release it, then press the S key.

## Directory Variable Conventions

Message Queue makes use of three directory variables; how they are set varies from platform to platform. [Table 3](#) describes these variables and summarizes how they are used on the Solaris, Windows, and Linux platforms.

**Table 3** Message Queue Directory Variables

Variable	Description
IMQ_HOME	<p>This is generally used in Message Queue documentation to refer to the Message Queue base directory (root installation directory):</p> <ul style="list-style-type: none"> <li>• On Solaris, there is no root Message Queue installation directory. Therefore, IMQ_HOME is not used in Message Queue documentation to refer to file locations on Solaris.</li> <li>• On Windows, the root Message Queue installation directory is set by the Message Queue installer (by default, as C:\Program Files\Sun\MessageQueue3).</li> <li>• On Windows, for Sun Java System Application Server, the root Message Queue installation directory is /imq under the Application Server base directory.</li> <li>• On Linux, there is no root Message Queue installation directory. Therefore, IMQ_HOME is not used in Message Queue documentation to refer to file locations on Linux.</li> </ul>

**Table 3** Message Queue Directory Variables (*Continued*)

Variable	Description
<code>IMQ_VARHOME</code>	<p>This is the <code>/var</code> directory in which Message Queue temporary or dynamically-created configuration and data files are stored. It can be set as an environment variable to point to any directory.</p> <ul style="list-style-type: none"> <li>• On Solaris, <code>IMQ_VARHOME</code> defaults to the <code>/var/imq</code> directory.</li> <li>• On Solaris, for Sun Java System Application Server, Evaluation Edition, <code>IMQ_VARHOME</code> defaults to the <code>IMQ_HOME/var</code> directory.</li> <li>• On Windows <code>IMQ_VARHOME</code> defaults to the <code>IMQ_HOME\var</code> directory.</li> <li>• On Windows, for Sun Java System Application Server, <code>IMQ_VARHOME</code> defaults to the <code>IMQ_HOME\var</code> directory.</li> <li>• On Linux, <code>IMQ_VARHOME</code> defaults to the <code>/var/opt/imq</code> directory</li> </ul>
<code>IMQ_JAVAHOME</code>	<p>This is an environment variable that points to the location of the Java runtime (JRE) required by Message Queue executables:</p> <ul style="list-style-type: none"> <li>• On Solaris, <code>IMQ_JAVAHOME</code> defaults to the <code>/usr/j2se/jre</code> directory, but a user can optionally set the value to wherever the required JRE resides.</li> <li>• On Windows, <code>IMQ_JAVAHOME</code> defaults to <code>IMQ_HOME\jre</code>, but a user can optionally set the value to wherever the required JRE resides.</li> <li>• On Linux, Message Queue first looks for the java runtime in the <code>/usr/java/j2sdkVersion</code> directory, and then looks in the <code>/usr/java/j2reVersion</code> directory, but a user can optionally set the value of <code>IMQ_JAVAHOME</code> to wherever the required JRE resides.</li> </ul>

In this guide, `IMQ_HOME`, `IMQ_VARHOME`, and `IMQ_JAVAHOME` are shown *without* platform-specific environment variable notation or syntax (for example, `$IMQ_HOME` on UNIX). Path names generally use UNIX directory separator notation (`/`).

# Other Documentation Resources

In addition to this guide, Message Queue provides additional documentation resources.

## The Message Queue Documentation Set

The documents that comprise the Message Queue documentation set are listed in [Table 4](#) in the order in which you would normally use them.

**Table 4** Message Queue Documentation Set

<b>Document</b>	<b>Audience</b>	<b>Description</b>
<i>Message Queue Installation Guide</i>	Developers and administrators	Explains how to install Message Queue software on Solaris, Linux, and Windows platforms.
<i>Message Queue Release Notes</i>	Developers and administrators	Includes descriptions of new features, limitations, and known bugs, as well as technical notes.
<i>Message Queue Java Client Developer's Guide</i>	Developers	Provides a quick-start tutorial and programming information for developers of Java client programs using the Message Queue implementation of the JMS or SOAP/JAXM APIs.
<i>Message Queue Administration Guide</i>	Administrators, also recommended for developers	Provides background and information needed to perform administration tasks using Message Queue administration tools.
<i>Message Queue C Client Developer's Guide</i>	Developers	Provides programming and reference documentation for developers of C client programs using the Message Queue C implementation of the JMS API. (C-API).

## Example Client Applications

Message Queue provides a number of example client applications to assist developers.

### Example Java Client Applications

Example Java client applications are located in the following directories, depending on platform. See the `README` file located in these directories and in each of their subdirectories.

Platform	Location
Solaris	<code>/usr/demo/imq/</code>
Linux	<code>/opt/imq/demo/</code>
Windows	<code>IMQ_HOME\demo\</code>

### Example C Client Applications

Example C client applications are located in the following directories, depending on platform. See the `README` file located in these directories.

Platform	Location
Solaris	<code>/opt/SUNWimq/demo/C/</code>
Linux	<code>/opt/imq/demo/C/</code>
Windows	<code>IMQ_HOME\demo\C\</code>



# Introduction

This chapter provides an overall introduction to installing the Sun Java™ System Message Queue 3.5 SP1 (formerly Sun™ ONE Message Queue) product. The topics covered are the following:

- [Product Editions](#)
- [Supported Platforms and Products](#)
- [Message Queue Software Modules](#)
- [Installing from Web and CD-ROM](#)
- [Migration Issues](#)
- [Where To Go Next](#)

## Product Editions

The Sun Java System Message Queue product is available in two editions: Platform and Enterprise—each containing different features and corresponding to a different licensed capacity, as described below. (To upgrade Message Queue from one edition to another, see [“Migration Issues” on page 23](#) and the relevant instructions for each platform in this manual.)

## Platform Edition

This edition can be downloaded free from the Sun website and is also bundled with the Sun Java System Application Server product and Java Enterprise System. The Platform Edition places no limit on the number of JMS client connections supported by each Message Queue message server. It comes with two licenses, as described below:

- **a basic license.** This license provides basic JMS support (it's a fully compliant JMS provider), but does *not* include such enterprise features as load balancing (multi-broker message service), HTTP/HTTPS connections, secure connection services, scalable connection capability, queue delivery to more than three consumers, and C client support. The license has an unlimited duration, and can therefore be used in less demanding production environments.
- **a 90-day trial enterprise license.** This license includes all enterprise features (such as support for multi-broker message services, HTTP/HTTPS connections, secure connection services, scalable connection capability, queue delivery to more than three consumers, and C- client support) *not* included in the basic license. However, the license has a limited 90-day duration enforced by the software, making it suitable for evaluating the enterprise features available in the Enterprise Edition of the product (see "[Enterprise Edition](#)").

---

**NOTE** The 90-day trial license can be enabled by starting the Message Queue message service—a Message Queue broker instance—with the `-license` command line option (see the *Message Queue Administration Guide*) and passing “try” as the license to use:

```
imqbrokerd -license try
```

You must use this option each time you start the broker instance, otherwise it defaults back to the basic Platform Edition license.

The trial license usage period starts the first time you run the broker, regardless of which edition you start using. For example, if you enable the trial license sixty days after the first time you run the broker, you would only have thirty days left on the 90-day trial license. If you need additional time, you can do one of the following:

- Reinstall the product to establish a new starting date for your trial license.
- Send mail to [imq-feedback@sun.com](mailto:imq-feedback@sun.com) to extend your trial license.

---

## Enterprise Edition

This edition is for deploying and running messaging applications in a production environment. It includes support for multi-broker message services, HTTP/HTTPS connections, secure connection services, scalable connection capability, client connection failover, queue delivery to more than three consumers, and C client support. You can also use the Enterprise Edition for developing, debugging, and load testing messaging applications and components. The Enterprise Edition has an unlimited duration license that places no limit on the number of brokers in a multi-broker message service. Licenses are purchased based on the number of CPU's.

# Supported Platforms and Products

Message Queue 3.5 SP1 is supported on Solaris, Linux, and Windows operating systems and platforms. It also depends upon other technologies, as indicated in the following table. Other versions or vendor implementations can also be used but they are untested by Sun Microsystems and therefore not supported.

[Table 1-1](#) lists and describes the basic components that you must install in order to be able to develop and run Message Queue clients.

**Table 1-1** Message Queue 3.5 SP1 Basic Product Support Matrix

Platform/Product	Used For	Supported Platform/Product Version <sup>1</sup>
Java Runtime Environment (JRE) (Sun Microsystems versions only)	Message Queue broker (message server) and Message Queue administration tools	JRE 1.4.2_04: <ul style="list-style-type: none"> <li>Solaris 8 (SPARC), Solaris 9 (SPARC and X86). Platform-bundled JRE might need to be upgraded.</li> <li>Linux Red Hat Advanced Server 2.1 Update 2, 3.0. JRE 1.4.2 is bundled on Message Queue CD distribution, but not yet with Linux platform.</li> <li>Windows XP Professional SP3, 2000 all editions SP4, Windows Server 2003 Enterprise Edition. JRE 1.4.2 is bundled and installed with Message Queue.</li> </ul>
Java Software Development Kit (JDK), Standard Edition (Sun Microsystems production versions only)	Java client development and deployment  (Java SOAP/JAXM clients are supported only on JDK 1.4.0, 1.4.1, and 1.4.2)	JDK 1.4.0, 1.4.1, and 1.4.2_04: <ul style="list-style-type: none"> <li>Solaris (same platforms as JRE)</li> <li>Linux (same platforms as JRE)</li> <li>Windows (same platforms as JRE)</li> </ul> Version 1.3.1 <sup>2</sup> : <ul style="list-style-type: none"> <li>(SPARC only) Solaris 8 and Solaris 9</li> <li>Windows XP professional, 2000 Professional SP3, 2000 Advanced Server SP3</li> </ul> Version 1.2.2: Not supported, but should work (in case you cannot upgrade to a later version)

1. Check the *Message Queue Release Notes* for any updates to supported versions.

2. Download this JDK from: <http://java.sun.com/j2se/1.4>

[Table 1-2](#) lists and describes the components that you can install in order to provide additional support for a Message Queue client. You might just need some of the components listed. For example, if you are not writing a C client to Message Queue, you will not need any of the components required for C client support.

**Table 1-2** Message Queue 3.5 SP1 Optional Product Support Matrix

<b>Product</b>	<b>Used For</b>	<b>Supported Product Version</b>
LDAP Directory Server	Message Queue user repository and administered object support	Sun Java System Directory Server Version 5.2 Patch 2
Web Server	HTTP and HTTPS support	Sun Java System Web Server, Enterprise Edition 6.1 SP1
Application Server	HTTP and HTTPS support	Sun ONE Application Server 7.0, Update 3, Sun Java System Application Server 7.1, Sun Java System Application Server 8.0 (Note: Message Queue is the JMS provider for Application Server 7)
Database	Plugged-in persistence support	PointBase, Version 4.8 Oracle 9i, Version 9.2
JNDI (Java Naming and Directory Interface)	administered object support	<ul style="list-style-type: none"> <li>• JNDI Version 1.2.1</li> <li>• LDAP Service Provider Version 1.2.2</li> <li>• File System Service Provider Version 1.2 Beta 3 (supported for development and testing, but not for deployment in a production environment.)</li> </ul>
C Compiler and compatible C++ runtime library	Message Queue C client support	<ul style="list-style-type: none"> <li>• Solaris: Sun WorkShop 6, Update 2 or later C++ compiler with -compat=5, Sun WorkShop C compiler</li> <li>• Linux: gcc/g++ 2.96</li> <li>• Windows: Microsoft Windows Visual C++ 6.0, SP3</li> </ul>
NSPR (Netscape Portable Runtime)	Message Queue C client support	<ul style="list-style-type: none"> <li>• Solaris (SPARC) 4.1.2</li> <li>• Solaris (X86): 4.1.3</li> <li>• Linux: 4.1.6</li> <li>• Windows: 4.1.6</li> </ul>
NSS (Network Security Service)	Message Queue C client support	<ul style="list-style-type: none"> <li>• Solaris (SPARC): 3.3.2</li> <li>• Solaris (X86): 3.3.3</li> <li>• Linux: 3.3.7</li> <li>• Windows: 3.3.7</li> </ul>

# Message Queue Software Modules

The following table identifies the full set of software modules included with the Message Queue product (see [Table 1-3](#) for their installed location).

**Table 1-3** Message Queue Software Modules

Module	Contents
Broker	The server-side software used to route and deliver messages. This module requires the Java runtime module.
Administration tools	The command-line utilities and GUI tools used to administer a Message Queue messaging system. This module requires the client runtime and Java runtime modules.
Java client runtime	Libraries and header files needed to write and compile Java clients using the Message Queue Java API.
C client runtime	Libraries and header files needed to write and compile C clients using the Message Queue C API (Enterprise Edition only).
Documentation	API documentation needed by Java client application developers in JavaDoc format.
Example applications	Example client applications.
Java runtime	Java Runtime Environment (Windows only).
License	The software needed to enable the licensed capacity of a Message Queue messaging system.

## Installing from Web and CD-ROM

You have the option of either downloading Message Queue 3.5 SP1 from the product website:

[http://www.sun.com/software/message\\_queue/](http://www.sun.com/software/message_queue/)

or installing it from CD-ROM. For detailed instructions, see the platform-specific instructions in subsequent chapters. The installed directory structure is described for each platform in the chapter describing that platform.

# Migration Issues

This section covers issues you need to be aware of when migrating to Message Queue 3.5 SP1 from Message Queue 3.x versions. These issues fall into two general categories: platform issues and compatibility issues. This section presents two use cases: migrating from version 3.5 to 3.5 SP1 and migrating from version 3.0.x to 3.5 SP1.

## Migrating from 3.5 to 3.5 SP1

Message Queue 3.5 SP1 is fully backward compatible with Message Queue 3.5. Therefore this section describes platform issues only.

### Platform Issues

This section describes issues specific to the Solaris, Linux, and Windows platforms.

#### *Solaris*

On the Solaris platform, you can install Message Queue 3.5 SP1 on top of Message Queue 3.5 versions, and your previous instance data (configuration properties, flat-file persistent store, log files, flat-file user repository, and/or access control properties file) will be used by Message Queue.

#### *Windows*

On the Windows platform, you should un-install Message Queue 3.5 before installing Message Queue 3.5 SP1.

#### *Linux*

On the Linux platform, you should un-install Message Queue 3.5 before installing Message Queue 3.5 SP1.

## Migrating from 3.0.x to 3.5 SP1

This section describes platform and compatibility issues when migrating from Message Queue 3.0.x to Message Queue 3.5SP1.

### Platform Issues

This section describes issues and precautions to take when migrating to Message Queue 3.5 SP1 on the three supported platforms: Solaris, Linux, and Windows.

## Solaris

On the Solaris platform, you can install Message Queue 3.5 SP1 on top of Message Queue 3.0.x versions, and your previous instance data (configuration properties, flat-file persistent store, log files, flat-file user repository, and/or access control properties file) will be used by Message Queue 3.5 SP1 (see [“Compatibility Issues” on page 25](#)).

If you depended on jar files being in their 3.0.x locations, please note that these have been moved to the `/usr/share/lib` directory. This applies to the following .jar files: `jms.jar`, `imq.jar`, `imqxm.jar`, `activation.jar`, `saaj-api.jar`, `saaj-impl.jar`, `mail.jar`, `commons-logging.jar`, `jaxm-api.jar`, `fscontext.jar`.

- In Message Queue 3.0, these files were in the `/usr/share/lib/imq` directory
- In Message Queue 3.0.1, these files were in the `/usr/share/lib` directory, with sym links in the `/usr/share/lib/imq` directory

In Message Queue 3.5 SP1 there are no sym links files.

## Linux

On the Linux platform, you should un-install any prior Message Queue versions before installing Message Queue 3.5 SP1, and *not* try to install Message Queue 3.5 SP1 on top of them. This is due to the fact that the installed directory structure has been changed for Message Queue 3.5 SP1, and this complicates the migration of instance data (configuration properties, flat-file persistent store, log files, flat-file user repository, and/or access control properties file) from Message Queue 3.0 to Message Queue 3.5 SP1. A new utility, `mqmigrate`, is provided to ease the migration of this data (see [“Finding and Removing Earlier Message Queue Versions” on page 51](#)).

Users need to uninstall the 3.0.1 RPM's with `-e` (erase) and then to install the 3.5 SP1 RPM's using the `-i` (install) option as described in this guide.

## Windows

On the Windows platform, if you are upgrading from a prior Message Queue version product to Message Queue 3.5 SP1, it is likely that you will have to manually migrate any previous instance data (configuration properties, flat-file persistent store, log files, flat-file user repository, and/or access control properties file) from the Message Queue 3.0 location to the Message Queue 3.5 SP1 location.

This is because the default Message Queue installation directory (represented by the `IMQ_HOME` directory variable) has been changed on the Windows platform. The same issue arises if you installed Message Queue 3.x in a non-default location and are installing Message Queue 3.5 SP1 in a different location.



Instance data is stored in the following directory:

```
IMQ_VARHOME\instances\instanceName
```

where `IMQ_VARHOME` defaults to `IMQ_HOME\var`

When you install Message Queue 3.5 SP1 in a location different from Message Queue 3.0.x, you have to move any instance data you wish to preserve from the old location, corresponding to the old value of `IMQ_VARHOME`, to the new location, corresponding to the new value of `IMQ_VARHOME`.

## Compatibility Issues

Message Queue 3.5 SP1 is generally compatible with Message Queue 3.0.x. However, changes have been made in broker properties, administered objects, persistence schema, file locations, and administration tools that can impact a migration from Message Queue 3.0.x versions to Message Queue 3.5 SP1.

The Message Queue 3.5 SP1 install operation does not remove or over-write the Message Queue 3.0.x `IMQ_VARHOME` directory. This directory contains configuration and security-related files (see [Table 1-4 on page 27](#)). Most of this data is compatible with Message Queue 3.5 SP1, and can be preserved using the instructions in the following sections.

The issues that you might need to address when migrating from Message Queue 3.0.x to Message Queue 3.5 SP1 include the following:

- [Broker Compatibility](#)
- [Administered Object Compatibility](#)
- [Administration Tool Compatibility](#)
- [Client Compatibility](#)

### *Broker Compatibility*

A Message Queue 3.5 SP1 broker will inter-operate with a Message Queue 3.0.x broker, however changes have been made in broker properties and the persistent store schema. Some Message Queue 3.0.x data is compatible with Message Queue 3.5 SP1, as shown in [Table 1-4 on page 27](#), and can be used after migrating to Message Queue 3.5 SP1.

When migrating from Message Queue 3.0.x to Message Queue 3.5 SP1, you should consider the following:

- You can use Message Queue 3.0.x `config.properties` files, or you can copy them to another location and consult the property settings they contain when you configure Message Queue 3.5 SP1 brokers.

- Any persistent Message Queue 3.0.x data—messages, destinations, durable subscriptions—is automatically converted to Message Queue 3.5 SP1 data when starting up a Message Queue 3.5 SP1 broker for the first time. For example, any existing Message Queue 3.0.x destinations will be converted to Message Queue 3.5 SP1 destinations, preserving existing attributes and using default values of new attributes.

The automatic migration of persistent data leaves the Message Queue 3.0.x data intact. You can delete this data by using the following option when starting up the Message Queue 3.5 SP1 broker for the first time:

```
imqbrokerd -upgrade-store-nobackup.
```

If you do *not* use this option, you should delete the old persistent store manually:

- For a built-in (flat file) data store, delete the old persistent store, located at `.../instances/instanceName/filestore/`
- For a plugged-in (JDBC-compliant) data store, delete the old tables using the following command:

```
imqdbmgr delete oldtbl
```

---

**NOTE** When you migrate persistent data from Message Queue 3.0.x to Message Queue 3.5 SP1, the migrated data can no longer be used by a Message Queue 3.0.x broker. If this is a concern, save the old persistent data to a secure location instead of deleting it as directed above.

---

- You can continue to use the Message Queue 3.0.x user repository and access control properties files after installing Message Queue 3.5 SP1, however these files have been made instance-specific and are now placed in the `.../instances/instanceName/etc` directories. The Message Queue 3.5 SP1 installer does not overwrite the Message Queue 3.0.x files. When you first start up a Message Queue 3.5 SP1 broker, copies of the Message Queue 3.x files are placed in the appropriate Message Queue 3.5 SP1 location (see the *Message Queue Administration Guide*, Appendix A). If Message Queue 3.0.x user repository and access control properties files are not found at the old location, new files will be created in the `.../instances/instanceName/etc` directory.
- If you mix Message Queue 3.0.x brokers and Message Queue 3.5 SP1 brokers in a cluster, the master broker must be a Message Queue 3.0.x broker, and the cluster will run as a Message Queue 3.0.x. cluster.

**Table 1-4** Compatibility of Message Queue 3.5 SP1 with Message Queue 3.0.x Data

Message Queue 3.0.x Data Category	Location of Message Queue 3.0.x Data	Compatibility with Message Queue 3.5 SP1
Broker properties	IMQ_VARHOME/instances/ <i>instanceName</i> /props/config.properties	New properties have been added, and some property names have changed. Old property names are still recognized.
Persistent store: messages, destinations, durable subscriptions	IMQ_VARHOME/instances/ <i>instanceName</i> /filestore/ or JDBC-accessible data store	Converted to Message Queue 3.5 SP1 format when Message Queue 3.5 SP1 broker is started for the first time.  The persistent store is at IMQ_VARHOME/ <i>instanceName</i> /fs350
Security: flat-file user repositories	/etc/imq/passwd (Solaris) IMQ_HOME/etc/passwd (other platforms)	Compatible. File automatically copied to following location at first broker startup: .../instances/ <i>instanceName</i> /etc/passwd
Security: access control file	/etc/imq/accesscontrol.properties (Solaris)  IMQ_HOME/etc/accesscontrol.properties (other platforms)	Compatible. File automatically copied to following location at first broker startup: .../instances/ <i>instanceName</i> /etc/accesscontrol.properties

### Administered Object Compatibility

Message Queue 3.5 SP1 administered objects have been enhanced with new attributes and some Message Queue 3.0.x attributes have been renamed. Therefore, when migrating from Message Queue 3.0.x to Message Queue 3.5 SP1, you should consider the following:

- You can use the same object store and administered objects that you created in Message Queue 3.0.x; however, it is best to upgrade your administered objects after installing Message Queue 3.5 SP1. The Administration Console (`imqadmin`) and the ObjectManager command line utility (`imqobjmgr`), when performing an update operation, will convert Message Queue 3.0.x administered objects into Message Queue 3.5 SP1 administered objects.
- The Message Queue 3.5 SP1 client runtime will look up and instantiate Message Queue 3.0.x administered objects and convert them for use by Message Queue 3.5 SP1 clients. However, this will *not* convert Message Queue 3.0.x administered objects residing in the object store from which the lookup was made.

- Existing Message Queue 3.0 clients (applications and/or components)—that is, clients that directly instantiate administered objects—are compatible with Message Queue 3.5 SP1. However, if they are to use the *new* administered object attributes (see Chapter 4 and Appendix A of the *Message Queue Java Client Developer's Guide* for information on administered object attributes), they will need to be rewritten. (Re-compiling Message Queue 3.0.x clients with Message Queue 3.5 SP1 will show which Message Queue 3.0.x attributes have been renamed in Message Queue 3.5 SP1. The old names will still work.)
- Scripts that start Java clients and which set administered object attribute values using command line options are compatible with Message Queue 3.5 SP1. However, if they are to use the *new* administered object attributes (see Chapter 4 and Appendix A of the *Message Queue Java Client Developer's Guide* for information on administered object attributes), they will need to be rewritten.

### *Administration Tool Compatibility*

Because of the addition of new commands and new administrative capabilities, the Message Queue 3.5 SP1 administration tools (the Administration Console and command line utilities) only work with Message Queue 3.5 SP1 brokers. However, all Message Queue 3.0 commands and command options remain supported.

### *Client Compatibility*

When upgrading from Message Queue 3.0.x to Message Queue 3.5 SP1, you should consider the following, regarding Java clients:

- A Message Queue 3.5 SP1 broker will support a Message Queue 3.0.x client (but without additional Message Queue 3.5 SP1 capabilities).
- A Message Queue 3.5 SP1 Java client can connect to a Message Queue 3.0.x broker (but without additional Message Queue 3.5 SP1 capabilities).
- Java clients built on JDK 1.3, or 1.4 can inter-operate with a broker running JRE 1.4. However, clients that use a secure (SSL-based) connection to a broker will require additional JSSE and JNDI libraries if they are not built on JDK 1.4 (which includes these libraries). These libraries are provided on each platform as follows:
  - on Solaris, in the `SUNWiqsup` package, which is not installed by default
  - on Linux, as part of the default Message Queue installation
  - on Windows, as part of a custom installation
- C clients programs cannot connect to a Message Queue 3.0.x broker; they are supported only by Message Queue 3.5 or 3.5 SP1 brokers running with a trial or enterprise license.

## Where To Go Next

When you are ready to install Message Queue on a specific platform, see the appropriate chapter for your platform (Solaris, Linux, or Windows). Each chapter contains hardware and software requirements, installation procedures, and other relevant instructions, such as how to upgrade editions and how to proceed after installation.

Where To Go Next

# Solaris Installation

This chapter explains the following topics as they apply to a Solaris installation:

- [Hardware and Software Requirements](#)
- [Installing Message Queue on Solaris](#)
- [Configuring Message Queue for Automatic Startup](#)
- [Configuring the Java Runtime for Message Queue](#)
- [Upgrading from Platform to Enterprise Edition](#)
- [Where To Go Next](#)
- [Uninstalling Message Queue on Solaris](#)

## Hardware and Software Requirements

At a minimum, your Solaris™ system (SPARC™ or X86) should satisfy the requirements indicated in the following table.

**Table 2-1** Hardware and Software Requirements for Solaris

Component	Requirements
Operating system	Solaris 8, Solaris 9, (SPARC platforms) Solaris 9 (X86 platform)  <b>Note:</b> To ensure proper operation of Message Queue, you should install all required Solaris Patches for Java 2. For the latest information about the patches and to download the recommended and required patches, see:  <a href="http://java.sun.com/j2se/1.4.2/download.html">http://java.sun.com/j2se/1.4.2/download.html</a>

**Table 2-1** Hardware and Software Requirements for Solaris (*Continued*)

Component	Requirements
CPU	Sun UltraSPARC™ Intel Pentium 2 (or compatible)
RAM	256 Mbytes
Disk space	The compressed installation file is approximately 9 Mbytes. The temporary working directory used for extracting the installation files requires an additional 9 Mbytes. The installed product requires approximately 9 Mbytes of hard drive space. Message Queue, however, may need more space if the broker stores persistent messages locally.
Java 2 Standard Edition (J2SE)	See <a href="#">Table 1-1 on page 20</a> for the supported versions of the Java Runtime Environment (JRE) and Java Software Development Kit (JDK) that are supported on Solaris. The Message Queue software distribution CD includes the required JRE version at the time of release.

## Installing Message Queue on Solaris

The Message Queue product can be downloaded from the Sun Java System website or installed from the product CD-ROM. See the appropriate section below for details.

### Finding Earlier Message Queue Versions

Because Message Queue is installed with other products (such as Solaris 9, Sun Java System Application Server, and possibly others), you should check whether Message Queue has already been installed on your system. To do so, enter the following command:

```
pkginfo | grep SUNWiq
```

If Message Queue packages are already installed, you can check the version by entering:

```
pkgparam -v packageName | grep PRODVERS
```

where *packageName* is any of the Message Queue packages. The package version is the value of SUNW\_PRODVERS.



If you find that a previous installation already exists on your system, see [“Upgrading from Previous Versions”](#) for information on upgrading to Message Queue 3.5 SP1.

## Upgrading from Previous Versions

To upgrade from Message Queue 3.0.x and 3.5 versions, you need not uninstall those versions—they will be over-written. However, if you are upgrading from Message Queue 2.0, it is recommended that you first uninstall Message Queue 2.0 software, as described in the Message Queue 2.0 *Installation Guide*, before installing Message Queue 3.5 SP1. Also check the Message Queue 3.0.1 *Release Notes* for information about migrating any existing Message Queue 2.0 data you wish to preserve

## Installed Directory Structure

The install image below reflects a full (all packages) Solaris installation. This image might vary if you perform a partial installation.

---

**NOTE** File locations for Message Queue bundled with Sun Java System Application Server, may differ from locations specified in [Table 2-2](#).

---

**Table 2-2** Installed Directory Structure: Solaris

Solaris	Contents
COPYRIGHT (not installed)	Copyright text file
LICENSE (not installed)	License text file
LICENSEREADME/THIRDPARTY- LICENSEREADME (not installed)	License for third party software distributed by Message Queue: DOM4J, Apache Commons Logging
README (not installed)	README text file

**Table 2-2** Installed Directory Structure: Solaris (*Continued*)

<b>Solaris</b>	<b>Contents</b>
/usr/bin/	Contains the executables for the broker ( <i>imqbrokerd</i> ) and the following Message Queue administration tools: <ul style="list-style-type: none"> <li>• Administration Console (<i>imqadmin</i>)</li> <li>• Command (<i>imqcmd</i>)</li> <li>• Object Manager (<i>imqobjmgr</i>)</li> <li>• User Manager (<i>imqusermgr</i>)</li> <li>• Database Manager (<i>imqdbmgr</i>)</li> <li>• Key Tool (<i>imqkeytool</i>)</li> </ul>
/usr/share/lib/	Contains files that support the Message Queue Java client runtime: <p><i>/*.jar</i> jar files used to build and run Java JMS client applications</p> <p><i>/*.war</i> war files used for HTTP servlet deployment</p> <p><i>/*.rar</i> rar files used for Message Queue resource adapter</p>
/usr/share/lib/imq/	Contains files used to support Message Queue tools and processes: <p><i>/ext</i> location for placing files needed for plug-in persistence capability</p> <p><i>/props</i> subdirectory contains the broker's default configuration files</p> <p><i>/help</i> subdirectory contains Message Queue help files</p> <p><i>/images</i></p>
/etc/imq/	Contains license files, instance template files, and rc script configuration files that can be used for automatic startup
/var/imq/	Working storage directory for Message Queue. <p><i>/instances</i> subdirectory which will contain configuration files, log files, access control files, flat-file user repository, and file-based persistent data stores for each broker instance</p>
/usr/share/javadoc/imq/	Contains the Message Queue and JMS API documentation distributed as Javadoc (HTML)
/usr/demo/imq/	Source code for and instructions on how to run Java client example applications:
/opt/SUNWimq/include/	Header files needed to support Message Queue C clients (Enterprise Edition only)

**Table 2-2** Installed Directory Structure: Solaris (*Continued*)

Solaris	Contents
/opt/SUNWimq/ lib/	Libraries needed to support Message Queue C clients (Enterprise Edition only) <sup>1</sup>
/opt/SUNWimq/ demo/C/	Examples for writing C clients (Enterprise Edition only)

1. See [Table 1-2 on page 21](#) for the versions of NSPR and NSS needed to support the C-API.

## Installing from the Web

The following instructions explain how to download and install the Message Queue product on Solaris from the Sun Java System website.

### ► To Install Message Queue on Solaris from the Web

1. Read the product license. Installation and use of the product is subject to acceptance of the license agreement.
2. Download the Message Queue product distribution file from the website into an empty, temporary working directory, *temp\_directory*.

The zipped distribution file name depends on the Message Queue edition and hardware platform:

**Table 2-3** Message Queue 3.5 SP1 Solaris Distribution Files

Edition	SPARC	X86
Platform	imq3_5-plt-solsparc.zip	imq3_5-plt-soli386.zip
Enterprise	imq3_5-ent-solsparc.zip	imq3_5-ent-soli386.zip

3. Change directories:  
`cd temp_directory`
4. Unzip the distribution file.

```
unzip imq3_5-edition-platform.zip
```

where *edition* is *plt* or *ent*, depending on the edition, and *platform* is *solsparc* or *soli386*, depending on the platform.

The `unzip` command creates a `mq3_5-edition` directory which contains the distribution files: `LICENSE`, `README`, `LICENSEREADME\THIRDPARTYLICENSEREADME`, and `COPYRIGHT` files; install and uninstall scripts; a `patches` directory; and a `pkgs` directory that contains the Message Queue packages.

[Table 2-4](#) describes the Message Queue packages, and [Table 2-5 on page 38](#) provides a guide to the packages you need for different use scenarios. In addition, if any of these files already exist on your system, you need to check whether the patch revision number is greater than that provided by Message Queue. If it is, you should do a custom install.

**Table 2-4** Packages in Solaris Bundle

#	Package	Description	Note
1	SUNwac1g <sup>1</sup>	Apache Commons Logging Framework: API and runtime	Required to support Java clients using SOAP/JAXM API.
2	SUNwiqcdv	C header files and demo files	Required for developing C client programs (Enterprise Edition only).
3	SUNwiqcrt	C client shared libraries	Required for running C client programs (Enterprise Edition only).
4	SUNwiqdoc	Message Queue Java client API javadoc and example applications	Needed only for Java client development.
5	SUNwiqfs	Message Queue JNDI File System Service Provider	Required only for client development and administration tools that use the JNDI File System Service Provider. The JNDI Service Provider is not supported for deployment.
6	SUNwiqjx	Message Queue Java API for XML Messaging (JAXM): API and runtime	Required to support Java clients using SOAP/JAXM API.
7	SUNwiqlpl or SUNwiqlen	Message Queue license files for Platform or Enterprise Edition message server	Depends on Message Queue edition.
8	SUNwiqr	Message Queue message server root package	Needed for Message Queue executables.

**Table 2-4** Packages in Solaris Bundle (*Continued*)

#	Package	Description	Note
9	SUNWiqsup	JNDI and JSSE jar files	Includes the JNDI and JSSE jar files needed for client development and deployment with JDK 1.2 and 1.3.
10	SUNWiqu	Message Queue message server and administration tools	
11	SUNWiquc	Message Queue Java API for JMS messaging and Java client runtime.	Required to support Java clients using JMS API.
12	SUNWiqum	Message Queue JMS/SOAP Message Transformer API and runtime	Required to perform conversions between SOAP messages and JMS messages.
13	SUNWjaf <sup>1</sup>	JavaBeans Activation Framework: API and runtime	Required to support Java clients using SOAP/JAXM API.
14	SUNWjhr <sup>1</sup>	JavaHelp API and runtime	Required if installing on Solaris 8. (Solaris 9 and above already have this package installed.) Will only install if a JVM 1.4 or greater has first been installed.
15	SUNWjmail <sup>1</sup>	JavaMail: API and runtime	Required to support Java clients using SOAP/JAXM API.
16	SUNWpr <sup>1</sup>	Netscape Portable Runtime (NSPR) libraries	Needed to support C clients (Enterprise Edition only).
17	SUNWt1s <sup>1</sup>	Network Security Services (NSS) libraries.	Needed to support C language clients (Enterprise Edition only).
18	SUNWxsrt <sup>1</sup>	SOAP with Attachments API for Java: API and runtime	Required to support Java clients using SOAP/JAXM API.

1. This package is shared by a number of Sun Java System products.

Table 2-5 provides a guide to the packages you need for different use scenarios:

**Table 2-5** Packages Required for Various Scenarios

Scenario	Packages Needed	Notes
Message Queue message server and administration tools	SUNwiqr SUNwiqu SUNwiqlpl or SUNwiqlen SUNwiquc SUNwjhrt SUNwiqfs (optional)	Required for a Message Queue message server to run on a host.
Developing and/or deploying Java clients using the JMS API	SUNwiquc SUNwiqdoc (optional) SUNwiqsup (JDK 1.2 and 1.3 only)	Can be installed on a system without a Message Queue message server.
Developing and/or deploying Java clients using the SOAP/JAXM API	SUNwac1g SUNwjaf SUNwjmail SUNwiqjx SUNWxsrt SUNwiqdoc (optional)	Can be installed on a system without a Message Queue message server. Note: SOAP clients require JDK1.4
Developing and/or deploying Java clients using the JMS/SOAP Message Transformer	SUNwiqum Plus all packages needed to support Java clients using both the JMS and SOAP/JAXM API	Can be installed on a system without a Message Queue message server. The Message Queue Message Transformer API depends on both the JMS and SOAP APIs.
Developing and/or deploying C clients	SUNwiqcert SUNwiqcadv SUNWpr SUNwt1s	Enterprise Edition only.

5. Change to the directory containing the Message Queue distribution files.

```
cd mq3_5-edition
```

**6.** Become root:

```
su root
```

When prompted, type your root password.

**7.** Check your system for patches to any of the non-Message-Queue-specific packages listed in [Table 2-4 on page 36](#) (packages which do not begin with SUNWiq and which might already be installed on your system). Enter the following command to check for patches:

```
showrev -a
```

Output indicating incompatible patches looks like this:

```
Patch: 114045-05 Obsoletes: Requires: Incompatibles:
      Packages: SUNWpr, SUNWtls
```

If patches are shown to packages listed in [Table 2-4 on page 36](#), you might not want to install those particular Message Queue packages, and you should pay close attention to [Step 8a](#).

If you mistakenly downgrade your NSS or NSPR packages back to the unpatched versions, you can upgrade to the patched versions by installing the patches that are included in the Message Queue solaris bundle:

**a.** Remove the old patches:

```
//use actual patch # shown in showrev -a in place of XX
#patchrm 114045-XX (Solaris 8 sparc)

//or

#patchrm 114049-XX (Solaris 9 sparc)

//or

#patchrm 114046-XX (Solaris 8 i386)

//or

#patchrm 114050-XX (Solaris 9 i386)
```

- b. Install the patches back.

```
#cd mq3_5-<edition>/patches
#patchadd 114045-XX (Solaris 8 sparc)

//or

#patchadd 114049-XX (Solaris 9 sparc)

//or

#patchadd 114046-XX (Solaris 8 i386)
//or

#patchadd 114050-XX (Solaris 9 i386)
```

8. If you intend to install *all* the packages listed in [Table 2-4 on page 36](#), you will need to run the `mqinstall` script. Please note that this script will overwrite all the listed packages.

- a. Run the `mqinstall` script.

```
./mqinstall
```

The script lists the distribution packages, if any, that are already installed, and then lists the packages about to be installed.

---

**NOTE** If any of the patches found in [Step 7](#) are packages that are already installed, then you will probably not want to install the corresponding Message Queue packages. In that case, enter n (no) and continue with [Step 9](#).

---



---

**NOTE** The `mqinstall` utility does not install package #9 (SUNWiqsup) in [Table 2-4 on page 36](#). If you are doing client development using JDK 1.2 or 1.3, you will need to install the SUNWiqsup package as described in [Step 9](#).

---



- b. Enter `y` (yes) if you want to install all the packages, and skip to [Step 10](#). Otherwise, enter `n` (no) and continue with [Step 9](#).

If you run the script, it creates a log file in the following directory:

```
/var/sadm/install/logs/
```

- 9. If you do not want to install all of the packages listed in [Table 2-4 on page 36](#) (you want only a subset, or you don't want to over-write later versions of packages), do the following:

- a. Change to the `pkgs` directory

```
cd pkgs
```

- b. run the `pkgadd` command to install the packages you want:

```
pkgadd -d ./ -a admin.conf
```

The `pkgadd` utility lists the names of all packages in the directory available for installation (see [Table 2-4](#)). When prompted, indicate the packages you want to install. (The `-a admin.conf` option permits an over-write of any packages that are already installed on your system.)

The `pkgadd` utility installs the packages you specified, perhaps asking for additional information, and eventually returns to the original prompt, displaying the list of packages available for installation.

- c. Type `q` to quit.

- 10. Exit the root shell.

- 11. Back up the zip distribution file from your temporary working directory.

This is your logical media. It will be needed to uninstall or reinstall Message Queue. Treat this file as you would any other installation media and place a copy in a safe location.

- 12. Clean up all remaining files in your temporary working directory. For your convenience, you should save the `uninstall` script.

---

**NOTE** The instance data for any pre-existing broker instance (including the default broker instance, named `imqbroker`) is owned by whoever created that instance. Therefore, once installation is complete, be sure to run any Message Queue broker instance as the owner with privileges to the `/var/imq/instances/instanceName` directory. You become the owner by logging in as that user.

---

## Installing from CD-ROM

The following instructions explain how to install the Message Queue product on Solaris from CD-ROM.

### ► To Install Message Queue on Solaris from CD-ROM

1. Log in as root or change to superuser.

For example, type the following at a command prompt:

```
su root
```

Then type your superuser password.

2. Insert the Message Queue CD into your CD-ROM drive.

If the Volume Manager™ software is running on your machine, the CD-ROM is automatically mounted to the `/cdrom/messagequeue3_5` directory.

If the Volume Manager is not running on your machine:

- Create a directory called `/cdrom/messagequeue3_5` by typing:

```
mkdir -p /cdrom/messagequeue3_5
```

- Mount the CD-ROM manually:

```
mount -rF hfs cdrom-device /cdrom/messagequeue3_5
```

An example of *cdrom-device* is `/dev/dsk/c0t0d0s0`.

---

**NOTE** Volume Manager is a tool provided on Solaris that allows you to perform administrative tasks, such as mounting CD-ROMs, more easily. Volume Manager mounts a CD-ROM as `/cdrom/name_of_media`, where *name\_of\_media* is determined from the CD-ROM itself.

---

Open and read (using your preferred text editor) the `LICENSE` file located in the `solaris-sparc/` or `solaris-x86/` directory of the CD.

- If you choose NOT to accept the license agreement, discontinue installation and contact the place where you purchased the product to determine the return policy.
- If you choose to accept the agreement, continue with the installation steps below.

3. Change to the directory on the CD containing the installation packages. For example, type:

```
cd /cdrom/messagequeue3_5/solaris-sparc
```

or

```
cd /cdrom/messagequeue3_5/solaris-x86
```

The contents of this directory vary depending on the product edition.

4. Continue with [Step 6 on page 39](#) under “Installing from the Web.”

## Checking Your Installation

To check that the expected version of Message Queue is running on your system, navigate to the Message Queue directory and enter the command:

```
imqbrokerd -version
```

The output to this command specifies the version of the JDK and Message Queue that are installed on your system.

# Configuring Message Queue for Automatic Startup

If you wish to set the broker (the Message Queue message server) for automatic startup, you need to become root and edit the following configuration file:

```
/etc/imq/imqbrokerd.conf
```

The startup properties you can set in this configuration file are shown in [Table 2-6](#):

**Table 2-6** Broker Startup Configuration Properties

Property Name	Description
AUTOSTART	Specifies (YES/NO) if the broker is automatically started at boot time. Default: NO
ARGS	Specifies command line options and arguments to pass to the broker startup command. See the <i>Message Queue Administration Guide</i> for a listing and description of <code>imqbrokerd</code> command line options. (For example <code>-name instanceName</code> )

**Table 2-6** Broker Startup Configuration Properties (*Continued*)

Property Name	Description
RESTART	Specifies (YES/NO) if the broker is automatically re-started if it abnormally exits. Default: YES

To check that startup changes are correct (without booting the system), you can, as root, explicitly run the Message Queue initialization script (`S52imq`) in “debug” mode:

```
env DEBUG=1 /etc/rc3.d/S52imq start
```

## Configuring the Java Runtime for Message Queue

At startup time, a broker (the Message Queue message server) checks to make sure it has access to the required Java runtime version (JDK/JRE 1.4). There are a number of ways you can configure or set the JRE used by the broker. These are shown in the following list, in order of precedence:

1. Pass in the JDK or JRE using either the `imqbrokerd -javahome` or `-jrehome` command line options, respectively (if both are passed in, the last one on the command line will take precedence).
2. Set the JDK or JRE in the `IMQ_JAVAHOME` environment variable.
3. Let the broker use the installed JDK.

This is the JDK located in `/usr/j2se`

To figure out why a broker is picking up a specific JDK/JRE, you can start the broker with the following command:

```
imqbrokerd -verbose
```

# Upgrading from Platform to Enterprise Edition

Message Queue comes in two editions, as explained in [“Product Editions” on page 17](#). Upgrading from the Platform to Enterprise Edition must be done at the same version level; that is, you can upgrade from Platform Edition 3.5 SP1 to Enterprise Edition 3.5 SP1, but you cannot upgrade from Platform Edition 3.0.1 to Enterprise Edition 3.5 SP1.

To upgrade from the Platform Edition to the Enterprise Edition, you need to first purchase the Enterprise Edition, and then install, as described below, the Enterprise Edition license contained in the distribution, plus the C-API packages, if you wish to write C client programs. Installation of these packages does not overwrite the Message Queue 3.5 SP1 modules already installed and does not modify the configuration of your Message Queue messaging system.

To upgrade to the Enterprise Edition, you need only the following packages:

**Table 2-7** Upgrade Packages in Solaris Enterprise Bundle

#	Package	Description	Note
7	SUNWiqlen	Message Queue license file for Enterprise Edition message server	
3	SUNWiqcrt	C-API shared libraries	Required for running C client programs (Enterprise Edition only)
2	SUNWiqcdv	C-API header files and demo files	Required for developing C client programs (Enterprise Edition only)
16	SUNWpr <sup>1</sup>	Netscape Portable Runtime (NSPR) libraries.	Needed to support C client programs (Enterprise Edition only)
17	SUNWtls <sup>1</sup>	Network Security Services (NSS) libraries.	Needed to support C client programs (Enterprise Edition only)

1. This is a shared package.

## ► To Upgrade to Enterprise Edition on Solaris

1. Stop any running brokers. (You will be prompted for user name (admin user) and password.)

```
imqcmd shutdown bkr [-b hostName:port]
```

2. Follow the installation procedure in [“Installing from the Web” on page 35, Step 1 through Step 6](#) or in [“Installing from CD-ROM” on page 42, Step 1 through Step 3](#).

3. Add the Enterprise Edition packages:
  - a. Change to the `pkgs` directory

```
cd pkgs
```
  - b. Run the `pkgadd` command to install the packages in [Table 2-7](#) that you want; you might want only a subset, or you might not want to over-write later versions of packages. For example:

```
pkgadd -d . SUNWiqlen
```
  - c. Type `q` to quit.
4. Verify that the Enterprise Edition license is available by running the following command:

```
imqbrokerd -license
```

## Where To Go Next

Read the `README` and *Message Queue Release Notes* files.

- The `README` includes information on where to find documentation, news and updates, and how to send feedback.
- The *Message Queue Release Notes* contain information on code and documentation changes, open bugs, and important technical notes. This document is available on the Sun Java System website.

For an overview of Message Queue concepts, a brief introduction to writing and compiling a client application, see the *Message Queue Java Client Developer's Guide* or the *Message Queue C Client Developer's Guide*.

For details on configuring brokers and managing a Message Queue messaging system, see the *Message Queue Administration Guide*.

For class and member information used when writing a client application, browse the API documentation in the `/usr/share/javadoc/imq` directory.

To uninstall the product, see the following section.

# Uninstalling Message Queue on Solaris

The following instructions explain how to uninstall Message Queue.

## ► To Remove Message Queue on Solaris

1. Stop any running client applications.
2. Stop any running brokers. (You will be prompted for user name (admin user) and password.)

```
imqcmd shutdown bkr [-b hostName:port]
```

3. If you want to delete dynamic data, the Message Queue flat-file user repository, and the Message Queue access control file associated with each broker instance, remove this data using the following command.

```
imqbrokerd -name instanceName -remove instance
```

4. Get the uninstall script from the distribution CD or follow [Step 5](#) through [Step 7](#). If you already have the uninstall script you can proceed to [Step 9](#).
5. Find the zipped distribution file used to install Message Queue (see [Step 11 on page 41](#)) and place it in a temporary directory, *temp\_directory*.
6. Change directories to *temp\_directory*:

```
cd temp_directory
```

7. Unzip the distribution file.

```
unzip imq3_5-edition-platform.zip
```

where *edition* is *plt* or *ent*, depending on the edition, and *platform* is *solsparc* or *sol386*, depending on the platform.

8. Change to the directory containing the Message Queue packages.

```
cd mq3_5-edition
```

9. Become root:

```
su root
```

When prompted, type your root password.

10. Run the un-install script.

```
./mquninstall
```

The installation script lists Message Queue packages that are not shared, if any, that are currently installed. (It does not list shared Message Queue packages installed with Message Queue, and which might be in use by other programs.)

11. If you want to un-install *all* the listed packages, enter *y* (yes), and skip to [Step 16](#). Otherwise, continue with [Step 12](#).
12. If you do not want to un-install all of the Message Queue packages, then enter *n* (no), and use the `pkgrm` command, as described in [Step 13](#), to un-install the specific packages you want to remove.
13. Remove the Message Queue packages, using the following command:

```
pkgrm packageName
```

where *packageName* is any of the Message Queue packages. To remove multiple packages, separate the package names by a space.

Because other products might be using Message Queue packages, be careful about removing them. The `pkgrm` command will warn you of any dependencies on a package before removing it.

14. When prompted, confirm your removal request by typing *y*.
15. Type *q* to quit.
16. Exit the root shell.



# Linux Installation

This chapter explains the following topics as they apply to a Linux installation:

- [Hardware and Software Requirements](#)
- [Installing Message Queue on Linux](#)
- [Configuring the Java Runtime for Message Queue](#)
- [Upgrading from Platform to Enterprise Edition](#)
- [Where To Go Next](#)
- [Uninstalling Message Queue on Linux](#)

## Hardware and Software Requirements

At a minimum, your Linux system should satisfy the minimum requirements indicated in the following table.

**Table 3-1** Hardware and Software Requirements for Linux

Component	Requirements
Operating system	Red Hat Advanced Server 2.1 Update 2, 3.0
CPU	Intel Pentium 2 (or compatible)
RAM	256 Mbytes
Disk space	The zip file containing the product is approximately 9 Mbytes. The installed product requires approximately 8 Mbytes of hard drive space. Message Queue, however, may need more space if the broker stores persistent messages locally.

**Table 3-1** Hardware and Software Requirements for Linux (*Continued*)

Component	Requirements
Java 2 Standard Edition (J2SE)	See <a href="#">Table 1-1 on page 20</a> for the supported versions of the Java Runtime Environment (JRE) and Java Software Development Kit (JDK) that are supported on Linux.  The Message Queue software distribution CD includes the required JRE version at the time of release.

When installing the Enterprise Edition RPM on Linux you may see the following error if Network Security Services (NSS) is not installed:

```
# rpm -i imq-ent-3_5-02.i386.rpm
error: Failed dependencies:
    libsoftokn3.so is needed by imq-ent-3_5-02
    Suggested resolutions:
    mozilla-nss-1.4-3.0.18.i386.rpm
```

In fact, there is no hard dependency on `mozilla-nss-1.4-3.0.18.i386.rpm` as specified in this error message.

To work around this issue do the following:

1. Make sure the Platform Edition is installed.
2. Install the Enterprise Edition RPM using the `--nodeps` option so that the RPM does not verify package dependencies. For example:

```
#rpm -i --nodeps imq-ent-3_5-02.i386.rpm
```

## Installing Message Queue on Linux

The Sun Java System Message Queue product can be downloaded from the Sun Java System website or installed from the product CD-ROM. See the appropriate section below for instructions.

---

**NOTE** If you are migrating from any prior Message Queue versions, you are required to first uninstall that version as described in the following section.

---

## Finding and Removing Earlier Message Queue Versions

Because Message Queue is installed with other products (Sun Java System Application Server, and possibly others), you should check whether Message Queue has already been installed on your system, and uninstall it before installing Message Queue 3.5 SP1.

If a 3.0.x version of Message Queue is already on your system, you need to decide if you want to preserve any security-related data (flat-file user repository, access control file, or passfile). If, so, you will need to use the `mqmigrate` utility, as explained in subsequent paragraphs, before uninstalling the earlier version of Message Queue. If you do not want to preserve your old data files, you do not have to run the `mqmigrate` utility.

Note that RPM's are now relocatable for all files in the `/opt` directory. You can use `--prefix=dir` with the `-i` option if you want to change the default `/opt` location. (*Dir* is the name of the directory where you want the files relocated.)

Depending on the version, Message Queue might have been installed using tar files or the Red Hat Package Manager (RPM). To check for installed versions, therefore, you need to check for both. It is recommended that you check first for RPM installations and then for tar file installations.

### Migrating Files from Non-Standard Locations

The `mqmigrate` utility has a new option that allows you to migrate data that has been installed in a non-standard location (only applies to Message Queue 3.0.x data). The syntax for the new option is as follows:

```
-basedir <baseDirectory>
```

Where *baseDirectory* specifies the non-standard directory where the files were installed. For example, if the old data was untar'ed in the `/export` directory, you should migrate the old data using the command

```
./mqmigrate -basedir /export
```

## Finding and Removing Message Queue RPM's (Version 3.0.1 SP1 or Later Only)

### ► To Find and Remove Earlier RPM-Installed Versions of Message Queue

1. Enter the following command:

```
rpm -qa | grep imq
```

If found, the version numbers of any RPM's are imbedded in the RPM name. If none are found, proceed to [“Finding and Removing a Message Queue Tar-Based Installation.”](#)

2. If you find Message Queue RPM's of a version earlier than 3.5 SP1, remove them as follows:
  - a. For 3.0.x versions only: If you wish to preserve existing broker instance data, run the `mqmigrate` utility (in the Message Queue 3.5 SP1 distribution) after completing [Step 5 on page 56](#)):

```
./mqmigrate
```

The `mqmigrate` utility moves existing broker instance data (broker configuration files and persistent data) and security-related files, to new Message Queue 3.5 SP1 locations.

- b. Remove the existing Message Queue installed software. Issue the following command(s) in the following order:

```
rpm -e imq-ent      (for Enterprise Editions only)
```

```
rpm -e imq         (for both editions)
```

To remove the Enterprise edition, run both commands.

## Finding and Removing a Message Queue Tar-Based Installation

### ► To Find and Remove Earlier Tar-Based Installed Message Queue

1. See if the default Message Queue installation directory (`/opt/imq/bin`) exists on your system.

If found, proceed to [Step 2](#).

If not found, Message Queue might have been installed in a non-default location. If you cannot remember the installation directory, search for the Message Queue `imqbrokerd` executable and note its root install directory. Proceed to [Step 2](#).

If there is no previous Message Queue installation, proceed to install Message Queue by following the directions in [“Installing from the Web” on page 55](#) or [“Installing from CD-ROM” on page 57](#).

2. If you find an earlier Message Queue installation in the default location (`/opt/imq/bin`), remove it as follows:
  - a. If you wish to preserve existing broker instance data, run the `mqmigrate` utility (in the Message Queue 3.5 SP1 distribution) after completing [Step 5 on page 56](#)):

```
./mqmigrate
```

The `mqmigrate` utility moves existing broker instance data (broker configuration files and persistent data) and security-related files, to new Message Queue 3.5 SP1 locations.

- b. Remove the `/opt/imq/` directory and all its contents.

```
rm -rf /opt/imq
```

## Installed Directory Structure

The install image below reflects a full (all RPM's) Linux installation. This image might vary if you perform a partial installation.

---

**NOTE** File locations for Message Queue bundled with Sun Java System Application Server, may differ from locations specified in [Table 3-2](#).

---

**Table 3-2** Installed Directory Structure: Linux

Linux	Contents
COPYRIGHT (not installed)	Copyright text file
LICENSE (not installed)	License text file
LICENSEREADME/THIRDPARTY- LICENSEREADME (not installed)	License for third party software distributed by Message Queue: DOM4J, Apache Commons Logging
README (not installed)	README text file
/opt/imq/bin/	Contains the executables for the broker ( <i>imqbrokerd</i> ) and the following Message Queue administration tools: <ul style="list-style-type: none"> <li>• Administration Console (<i>imqadmin</i>)</li> <li>• Command (<i>imqcmd</i>)</li> <li>• Object Manager (<i>imqobjmgr</i>)</li> <li>• User Manager (<i>imqusermgr</i>)</li> <li>• Database Manager (<i>imqdbmgr</i>)</li> <li>• Key Tool (<i>imqkeytool</i>)</li> </ul>
/opt/imq/lib/	Contains files that support the Message Queue Java client runtime: <ul style="list-style-type: none"> <li><i>/*.jar</i> jar files used to build and run Java JMS client applications</li> <li><i>/*.war</i> war files used for HTTP servlet deployment</li> <li><i>/*.rar</i> rar files used for Message Queue resource adapter</li> </ul>
/opt/imq/lib/	Contains files used to support Message Queue tools and processes: <ul style="list-style-type: none"> <li><i>/ext</i> location for placing files needed for plug-in persistence capability</li> <li><i>/props</i> subdirectory contains the broker's default configuration files</li> <li><i>/help</i> subdirectory contains Message Queue help files</li> <li><i>/images</i></li> </ul>
/etc/opt/imq/	Contains license files, instance template files, and rc script configuration files that can be used for automatic startup

**Table 3-2** Installed Directory Structure: Linux (*Continued*)

Linux	Contents
<code>/var/opt/imq/</code>	Working storage directory for Message Queue.  <code>/instances</code> subdirectory which will contain configuration files, log files, access control files, flat-file user repository, and file-based persistent data stores for each broker instance
<code>/opt/imq/</code> <code>javadoc/</code>	Contains the Message Queue and JMS API documentation distributed as Javadoc (HTML)
<code>/opt/imq/demo/</code>	Source code for and instructions on how to run Java client example applications:
<code>/opt/imq/</code> <code>include/</code>	Header files needed to support Message Queue C clients (Enterprise Edition only)
<code>/opt/imq/lib/</code>	Libraries needed to support Message Queue C clients (Enterprise Edition only) <sup>2</sup>
<code>/opt/imq/demo/C/</code>	Examples for writing C clients (Enterprise Edition only)  The JRE 1.4 files (on Windows only)

## Installing from the Web

The following instructions explain how to download and install the Message Queue product on Linux from the Sun Java System website.

### ► To Install Message Queue on Linux from the Web

1. Accept the license agreement on the Message Queue product download site.
2. Download the Message Queue product distribution file from the website into an empty, temporary download directory, *temp\_directory*.

The download file is: `imq3_5-edition-linx86.zip`

where *edition* takes one of the following values: `plt` or `ent`, depending on whether you are installing the Platform Edition or Enterprise Edition, respectively.

3. Change to the *temp\_directory* and uncompress the distribution file.

```
unzip imq3_5-edition-linx86.zip
```

The `unzip` command creates a `imq3_5-edition` directory which contains the distribution files: `LICENSE`, `README`, `THIRDPARTYLICENSEREADME`, and `COPYRIGHT` files; `mqmigrate` utility; and an `rpms` directory that contains the following RPM's:

```
imq-3_5-releaseVersion.i386.rpm  
(included in both Platform and Enterprise Editions)
```

```
imq-ent-3_5-releaseVersion.i386.rpm  
(included in Enterprise Edition only)
```

4. Change to the directory containing the Message Queue distribution files.

```
cd mq3_5-edition
```

5. Log in as root or change to superuser.

For example, type the following at a command prompt:

```
su root
```

When prompted, type your root password.

6. Install the appropriate RPM's. Note that the Enterprise Edition requires Platform Edition to be installed.

```
rpm -ivh rpms/imq-3_5-releaseVersion.i386.rpm  
(Platform Edition)
```

```
rpm -ivh rpms/imq-ent-3_5-releaseVersion.i386.rpm  
(Enterprise Edition )
```

The `/opt/imq` directory and its contents are created, and files are placed in other locations as well (see [“Migration Issues” on page 23](#)).

7. Back up the `imq3_5-edition-linx86.zip` file from your temporary working directory.

This is your logical media. Treat this file as you would any other installation media. Place a copy in a safe location in case you encounter a situation (such as a system failure) that requires reinstallation of the product.

8. Clean up all remaining files in your temporary working directory.



---

**NOTE** The instance data for any pre-existing broker instance is owned by whoever created that instance. Therefore, once installation is complete, be sure to run any Message Queue broker instance (using the `-name instanceName` option) as the owner with privileges to the `/var/imq/instances/instanceName` directory. This applies to the default broker instance (named `imqbroker`), as well.

*same correction*

---

## Installing from CD-ROM

The following instructions explain how to install the Message Queue product on Linux from CD-ROM.

➤ **To Install Message Queue on Linux from CD-ROM**

1. Insert the Sun Java System Message Queue CD into your CD-ROM drive and mount it.

```
mount /mnt/cdrom
```

This command may vary depending on the version of Linux being used. Check the `mount` man page on the system.

2. Change to the directory on the CD containing the Message Queue distribution:

```
cd /mnt/cdrom/linux
```

The contents of this directory vary depending on the Message Queue product edition.

3. Continue with [Step 5](#) under “[Installing from the Web](#)” on page 55.

# Configuring the Java Runtime for Message Queue

At startup time, a broker (the Message Queue message server) checks to make sure it has access to the required Java runtime version (JDK/JRE 1.4). There are a number of ways you can configure or set the JRE used by the broker. These are shown in the following list, in order of precedence:

1. Pass in the JDK or JRE using either the `imqbrokerd -javahome` or `-jrehome` command line options, respectively (if both are passed in, the last one on the command line will take precedence).
2. Set the JDK or JRE in the `IMQ_JAVAHOME` environment variable.
3. Let the broker use the installed JDK/JRE. The broker will pick up the latest version JDK/JRE installed on the system (greater than 1.4 and less than 2.0).

The JDK is located in `/usr/java/j2sdk1.x.x`, and

the JRE is located in `/usr/java/j2re1.x.x`

To find out why a broker is picking up a specific JDK/JRE, you can start the broker with the following command:

```
imqbrokerd -verbose
```

## Upgrading from Platform to Enterprise Edition

Message Queue comes in two editions, as explained in [“Product Editions” on page 17](#).

To upgrade from the Platform Edition to the Enterprise Edition, you need to first purchase the Enterprise Edition, and then install, as described below, only the Enterprise Edition license contained in the distribution. Installation of the license does not overwrite the Message Queue 3.5 SP1 modules already installed and does not modify the configuration of your Message Queue messaging system.

### ➤ To Upgrade to Enterprise Edition on Linux

1. Stop any running brokers. (You will be prompted for the admin user name and password.)

```
imqcmd shutdown bkr [-b hostName:port]
```

2. Follow the installation procedure in “Installing from the Web” on page 55, Step 1 through Step 5 or in “Installing from CD-ROM” on page 57, Step 1 through Step 3.

3. Install the Message Queue Enterprise Edition RPM.

```
rpm -ivh rpms/imq-ent-3_5-01.i386.rpm
```

This installs the Enterprise Edition license and C-API support files into the appropriate Message Queue directories.

4. Verify that the Enterprise Edition license is available by running

```
imqbrokerd -license
```

## Where To Go Next

Read the README and *Message Queue Release Notes* files.

- The README includes information on where to find documentation, news and updates, and how to send feedback.
- The *Message Queue Release Notes* contain information on code and documentation changes, open bugs, and important technical notes. This document is available on the Sun Java System website.

For an overview of Sun Java System Message Queue concepts, a brief introduction to writing and compiling a client application, see the *Message Queue Java Client Developer's Guide* or the *Message Queue C Client Developer's Guide*.

For details on configuring brokers and managing a Message Queue messaging system, see the *Message Queue Administration Guide*.

For class and member information used when writing a client application, browse the API documentation in the `/opt/imq/javadoc` directory.

To uninstall the product, see the following section.

# Uninstalling Message Queue on Linux

The following instructions explain how to uninstall Message Queue on Linux.

► **To Remove Message Queue on Linux**

1. Stop any running client applications.
2. Stop any running brokers. (You will be prompted for the admin user name and password.

```
imqcmd shutdown bkr [-b hostName:port]
```

3. Unless you want to retain dynamic data, the Message Queue flat file user repository, and the Message Queue access control file associated with each broker instance, remove this data using the following command.

```
imqbrokerd -name instanceName -remove instance
```

4. Become root:
5. Remove the Message Queue product.

```
su root
```

Issue the following command(s) in the following order:

```
rpm -e imq-ent      (for Enterprise Editions only)
```

```
rpm -e imq         (for both editions)
```

To remove the Enterprise edition, run both commands.

# Windows Installation

This chapter explains the following topics as they apply to a Windows installation:

- [Hardware and Software Requirements](#)
- [Installing Message Queue on Windows](#)
- [Installation Defaults](#)
- [Troubleshooting Installation Problems](#)
- [Upgrading from Platform to Enterprise Edition](#)
- [Where To Go Next](#)
- [Uninstalling Message Queue on Windows](#)

## Hardware and Software Requirements

At a minimum, your Windows system should satisfy the requirements indicated in the following table.

**Table 4-1** Hardware and Software Requirements for Windows

<b>Component</b>	<b>Requirements</b>
Operating system	Windows XP Professional SP3; Windows 2000 all editions, SP4; Windows Server 2003 Enterprise Edition
CPU	Intel Pentium 2
RAM	256 Mbytes

**Table 4-1** Hardware and Software Requirements for Windows (*Continued*)

Component	Requirements
Disk space	<p>The self-extracting installation file is approximately 25 Mbytes.</p> <p>The temporary directory used for extracting the installation files requires an additional 45 Mbytes.</p> <p>The installed product requires approximately 45 Mbytes. Message Queue, however, may need more space if the broker stores persistent messages locally.</p>
Java 2 Standard Edition (J2SE)	<p>See <a href="#">Table 1-1 on page 20</a> for the supported versions of the Java Runtime Environment (JRE) and Java Software Development Kit (JDK) that are supported on Windows.</p> <p>The Message Queue installation program will (optionally) install the required JRE version in <code>IMQ_HOME\jre</code>.</p>

## Installing Message Queue on Windows

The Sun Java System Message Queue product can be downloaded from the Sun Java System website or installed from the product CD-ROM.

The following instructions explain how to install the Message Queue product either by downloading from the Sun Java System website or using the CD-ROM.

## Upgrading from Previous Versions

To upgrade from prior Message Queue versions, it is recommended that you first uninstall Message Queue software as described in the *Message Queue Installation Guide* of the appropriate version, before installing Message Queue 3.5 SP1.

If you are upgrading from Message Queue 2.0, check the Message Queue 3.0.1 *Release Notes* for information about migrating any existing Message Queue 2.0 data you wish to preserve.

If you are installing Message Queue after a previous uninstall, check that any references to the previous Message Queue installation have been removed from the system's `PATH` environment variable

## Installed Directory Structure

The install image below reflects a full (“Typical”) Windows installation. This image might vary if you perform a partial installation.

---

**NOTE** File locations for Message Queue bundled with Sun Java System Application Server, may differ from locations specified in [Table 4-2](#).

---

**Table 4-2** Installed Directory Structure: Windows

Windows <sup>1</sup>	Contents
. \COPYRIGHT.TXT	Copyright text file
. \LICENSE.TXT	License text file
. \LICENSEREADME\THIRDPARTY-LICENSEREADME.TXT	License for third party software distributed by Message Queue: DOM4J, Apache Commons Logging
. \README.TXT	README text file
. \bin\ On Windows, the executable files have a .exe filename extension. This directory also includes the utility to install and uninstall the broker as a Windows Service (imgsvcadm) as well other executables (imgbrokersvc).	Contains the executables for the broker (imgbrokerd) and the following Message Queue administration tools: <ul style="list-style-type: none"> <li>• Administration Console (imgadmin)</li> <li>• Command (imgcmd)</li> <li>• Object Manager (imgobjmgr)</li> <li>• User Manager (imgusermgr)</li> <li>• Database Manager (imgdbmgr)</li> <li>• Key Tool (imgkeytool)</li> </ul>
. \lib\ Contains files that support the Message Queue Java client runtime:	<ul style="list-style-type: none"> <li>/* .jar jar files used to build and run Java JMS client applications</li> <li>/* .war war files used for HTTP servlet deployment</li> <li>/* .rar rar files used for Message Queue resource adapter</li> </ul>

1. Paths are relative to `IMQ_HOME` (see “[Directory Variable Conventions](#)” on page 13).

2. See [Table 1-2 on page 21](#) for the versions of NSPR and NSS needed to support the C-API.

---

**Table 4-2** Installed Directory Structure: Windows (*Continued*)

<b>Windows<sup>1</sup></b>	<b>Contents</b>
. \lib\	Contains files used to support Message Queue tools and processes:  /ext location for placing files needed for plug-in persistence capability  /props subdirectory contains the broker's default configuration files  /help subdirectory contains Message Queue help files  /images
. \etc\	Contains license files and instance template files.
. \var\	Working storage directory for Message Queue.  /instances subdirectory which will contain configuration files, log files, access control files, flat-file user repository, and file-based persistent data stores for each broker instance
. \javadoc\	Contains the Message Queue and JMS API documentation distributed as Javadoc (HTML)
. \demo\	Source code for and instructions on how to run Java client example applications:
. \include\	Header files needed to support Message Queue C clients (Enterprise Edition only)
. \lib\	Libraries needed to support Message Queue C clients (Enterprise Edition only) <sup>2</sup>
. \demo\C\	Examples for writing C clients (Enterprise Edition only)
. \jre\	The JRE 1.4 files (on Windows only)

1. Paths are relative to `IMQ_HOME` (see "Directory Variable Conventions" on page 13).

2. See Table 1-2 on page 21 for the versions of NSPR and NSS needed to support the C-API.

## Installing From CD-ROM or the Web

Follow these steps to install Message Queue 3.5 on Windows.

### ► To Install Message Queue on Windows

1. Quit any other programs you are running.
2. Download the distribution into a temporary working directory.

If you are installing from CD-ROM, insert the CD into the CD-ROM drive.



3. In the Windows Explorer, double-click the `imq3_5-edition-win.exe` file where *edition* takes one of the following values: `plt` or `ent`, depending on whether you are installing the Platform Edition or Enterprise Edition, respectively.  
  
The installation file is extracted and setup is launched. If you are installing from CD-ROM, the setup program is started automatically.
4. Read the license agreement. Installation and use of the product is subject to acceptance of the license agreement.
5. Follow the setup program's instruction to select installation options.
  - a. Select the type of installation.
    - **Compact** Includes only the files necessary to run the broker, administration, and client applications. No documentation or example client applications are installed.
    - **Custom** Lets you specify which Message Queue modules you want to install. Your options include the broker, Java client runtime, administration tools, Message Queue resource adapter, documentation, example client applications, Java runtime, and C client runtime (Enterprise Edition).
    - **Typical** Installs all files, including broker, client runtime, administration tools, documentation, example client applications, and Java runtime.
    - **Upgrade Platform Edition (Enterprise Only)** Installs only the files necessary to enable Enterprise Edition features. This option does not overwrite the Message Queue files already installed, and does not modify the configuration of your messaging system.
  - b. Select a location for the installation.
  - c. Select or create a folder for the Windows Start > Programs menu.
  - d. Choose whether or not to install the broker as a Windows service. If you choose to install the broker as a Windows service, the broker will be started automatically at system startup and run in the background. This option requires Windows Administrator Group privileges.

If you choose not to install the broker as a Windows service now but later change your mind, you can use the `imqsvcadm` utility to do so. See the *Message Queue Administration Guide* for information on using the `imqsvcadm` utility.

6. Verify installation by choosing Start > Programs > Sun Java System Message Queue 3.5 > Message Broker to run the broker.

You can also compile and run example applications located in the `c:\Program Files\Sun\MessageQueue3\demo` directory. See the *Message Queue Java Client Developer's Guide*.

## Installation Defaults

The following table indicates the installation defaults for Windows.

**Table 4-3** Windows Installation Defaults

Installation directory	The product is installed, by default, into the following directory: C:\Program Files\Sun\MessageQueue3
Environment Variables	<p><b>IMQ_HOME:</b> The installer automatically sets the <code>IMQ_HOME</code> environment variable to the installation directory.</p> <p><b>IMQ_VARHOME:</b> The <code>IMQ_VARHOME</code> environment variable defaults to <code>IMQ_HOME\var</code>.</p> <p><b>IMQ_JAVAHOME:</b> The <code>IMQ_JAVAHOME</code> environment variable defaults to <code>IMQ_HOME\jre</code>.</p> <p><b>PATH:</b> The installer automatically sets <code>PATH</code> to <code>%PATH%;%IMQ_HOME%\bin</code>. This enables you to run utilities, such as <code>imqbrokerd</code>, <code>imqcmd</code>, and <code>imqobjmgr</code> without specifying the entire path.</p>

## Troubleshooting Installation Problems

If the Message Queue installation program does not complete successfully on your Windows platform, try the following remedies. These apply regardless of whether you installed the product from CD-ROM or downloaded it from the Web.

- **To Troubleshoot Installation Problems on Windows**
  1. Use the Windows Task Manager to end the Message Queue installation program.
  2. Clear any temporary directories (for example, `temp` or `tmp`).
  3. Start the Message Queue installation again, being certain to install to the same directory as the initial installation attempt.

If your Windows installation of the Message Queue product is still not successful, try this more comprehensive procedure:

1. Use the Windows Task Manager to end the Message Queue installation program.
2. Clear any temporary directories (for example, `temp` or `tmp`).
3. In the Services control panel, temporarily stop any non-Windows network-related services (for example, a Solstice NFS Server service).
4. Delete the Message Queue 3.0 directory and all its contents.
5. In your Systems control panel, remove all references to Message Queue 3.0 from your environment settings.
6. Restart your Windows operating system.
7. Reinstall Message Queue in the same directory location as the initial failed installation.
8. Reset any services in the Services (Control Panel) that you stopped in [Step 3](#).

## Upgrading from Platform to Enterprise Edition

Message Queue comes in two editions, as explained in “[Product Editions](#)” on [page 17](#).

To upgrade from the Platform Edition to the Enterprise Edition, you need to first purchase the Enterprise Edition, and then install, as described below, the Enterprise Edition license contained in the distribution, plus the C-API packages, if you wish to write C client programs. Installation of this software does not overwrite the Message Queue 3.5 SP1 modules already installed and does not modify the configuration of your Message Queue messaging system.

You can upgrade from the Platform Edition to the Enterprise Edition by installing the Enterprise Edition.

### ► To Upgrade to Enterprise Edition on Windows

1. Stop any running brokers. (You will be prompted for the admin user name and password.)

```
imqcmd shutdown bkr [-b hostName:port]
```

2. Follow the installation procedure explained in [“Installing Message Queue on Windows.”](#) Choose the Upgrade Platform Edition option when it appears on your screen.

This setup does not overwrite the Message Queue modules installed, and does not modify the configuration of your Message Queue messaging system.

## Where To Go Next

Read the `README` and *Message Queue Release Notes* files.

- The `README` includes information on where to find documentation, news and updates, and how to send feedback.
- The *Message Queue Release Notes* contain information on code and documentation changes, open bugs, and important technical notes. This document is available on the Sun Java System website.

For an overview of Sun Java System Message Queue concepts, a brief introduction to writing and compiling a client application, see the *Message Queue Java Client Developer's Guide* or the *Message Queue C Client Developer's Guide*.

For details on configuring brokers and managing a Message Queue messaging system, see the *Message Queue Administration Guide*.

For class and member information used when writing a client application, browse the API documentation in the `IMQ_HOME/javadoc` directory.

To uninstall the product, see the following section.

## Uninstalling Message Queue on Windows

The following instructions explain how to uninstall Message Queue on Windows.

### ► To Remove Message Queue on Windows

1. Stop any running client applications.
2. Stop any running brokers. (You will be prompted for the admin user name and password.)

```
imqcmd shutdown bkr [-b hostName:port]
```

If you had installed the broker as a Windows service, you can stop it as follows:

- From the Windows Start menu, choose Settings, then Control Panel.
  - Double-click the Administrative Tools icon, then the Services icon.
  - In the Services panel, select the Message Queue Broker entry, then click Stop.
  - Close the Services panel.
- 3.** Unless you want to retain dynamic data, the Message Queue flat file user repository, and the Message Queue access control file associated with each broker instance, remove this data using the following command.

```
mqbrokerd -name instanceName -remove instance
```

- 4.** Remove the Sun Java System Message Queue product by choosing Start > Programs > Sun Java System Message Queue 3.5 > Uninstall.
- 5.** After Uninstall completes, remove any leftover files.

The Windows Uninstall utility does not remove files or directories created as a result of using Message Queue, such as instance configuration files or a flat-file data store.

- 6.** Manually remove Message Queue references from your environment.
- From the Windows Start menu, choose Settings.
  - In the Control Panel, double-click the System icon.
  - On the Environment page, select the PATH environment variable and remove the Message Queue 3.5 SP1 reference from the value.
  - Click Set then OK.

