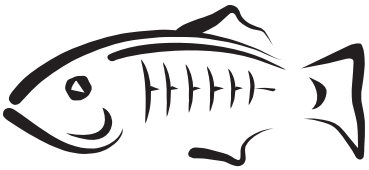

Open Message Queue

Installation Guide

Release 4.5.2

February 2012

This guide provides instructions and general information needed to install the Open Message Queue 4.5.2 product.

Open Message Queue Installation Guide, Release 4.5.2

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Preface

This *Installation Guide* provides instructions and general information needed to install the Message Queue 4.5.2 product.

This preface consists of the following sections:

- Who Should Use This Book
- Before You Read This Book
- How This Book Is Organized
- Documentation Conventions
- Related Documentation
- Documentation, Support, and Training

Who Should Use This Book

This manual is intended for Message Queue administrators and application developers.

Before You Read This Book

Before reading this manual, you should read the *Open Message Queue Technical Overview*, which describes the concepts, features, and components of Message Queue and the *Open Message Queue Release Notes*, which describe new features and enhancements, known issues and limitations, and other information related to the current Message Queue release.

How This Book Is Organized

The following table describes the contents of this manual. You should read Chapter 1, "Introduction", followed by the chapter pertaining to your own particular platform.

Chapter/Appendix	Description
Chapter 1, "Introduction"	Describes Message Queue product editions, software modules, and supported platforms and components, as well as migration issues for those upgrading from a previous Message Queue release.
Chapter 2, "Solaris Installation"	Provides detailed instructions for installing and uninstalling Message Queue 4.5.2 on the Solaris platform, along with information on hardware requirements, installed directory structure, and the use of Update Tool to get the latest product updates.

Chapter/Appendix	Description
Chapter 3, "Linux Installation"	Provides detailed instructions for installing and uninstalling Message Queue 4.5.2 on the Linux platform, along with information on hardware requirements, installed directory structure, and the use of Update Tool to get the latest product updates.
Chapter 4, "AIX Installation"	Provides detailed instructions for installing and uninstalling Message Queue 4.5.2 on the AIX platform, along with information on hardware requirements and installed directory structure.
Chapter 5, "Windows Installation"	Provides detailed instructions for installing and uninstalling Message Queue 4.5.2 on the Windows platform, along with information on hardware requirements and installed directory structure.
Appendix A, "Command Line Options"	Describes the command line options available for the Message Queue Installer.

Documentation Conventions

This section describes the following conventions used in Message Queue documentation:

- Typographic Conventions
- Symbol Conventions
- Shell Prompt Conventions
- Directory Variable Conventions

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

Typeface	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories, and onscreen computer output	Edit your `.login` file. Use `ls a` to list all files. `machine_name% you have mail.`
`AaBbCc123`	What you type, contrasted with onscreen computer output	`machine_name%` **`su`** `Password:`
aabbcc123	Placeholder: replace with a real name or value	The command to remove a file is `rm` *filename*.
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*. A *cache* is a copy that is stored locally. Do *not* save the file. **Note:** Some emphasized items appear bold online.

Symbol Conventions

The following table explains symbols that might be used in this book.

Symbol	Description	Example	Meaning
`[ ]`	Contains optional arguments and command options.	`ls [-l]`	The `-l` option is not required.

Symbol	Description	Example	Meaning
`{ | }`	Contains a set of choices for a required command option.	`-d {y|n}`	The `-d` option requires that you use either the `y` argument or the `n` argument.
`${ }`	Indicates a variable reference.	`${com.sun.javaRoot}`	References the value of the `com.sun.javaRoot` variable.
-	Joins simultaneous multiple keystrokes.	Control-A	Press the Control key while you press the A key.
+	Joins consecutive multiple keystrokes.	Ctrl+A+N	Press the Control key, release it, and then press the subsequent keys.
>	Indicates menu item selection in a graphical user interface.	File > New > Templates	From the File menu, choose New. From the New submenu, choose Templates.

Shell Prompt Conventions

The following table shows the conventions used in Message Queue documentation for the default UNIX system prompt and superuser prompt for the C shell, Bourne shell, Korn shell, and for the Windows operating system.

Shell	Prompt
C shell on UNIX, Linux, or AIX	*machine-name*`%`
C shell superuser on UNIX, Linux, or AIX	*machine-name*`#`
Bourne shell and Korn shell on UNIX, Linux, or AIX	`$`
Bourne shell and Korn shell superuser on UNIX, Linux, or AIX	`#`
Windows command line	`C:\>`

Directory Variable Conventions

Message Queue documentation makes use of three directory variables; two of which represent environment variables needed by Message Queue. (How you set the environment variables varies from platform to platform.)

The following table describes the directory variables that might be found in this book and how they are used. Some of these variables refer to the directory *mqInstallHome*, which is the directory where Message Queue is installed to when using the installer or unzipped to when using a zip-based distribution.

> **Note:** In this book, directory variables are shown without platform-specific environment variable notation or syntax (such as `$IMQ_HOME` on UNIX). Non-platform-specific path names use UNIX directory separator (`/`) notation.

Variable	Description
IMQ_HOME	The Message Queue home directory: ■ For installations of Message Queue bundled with GlassFish Server, IMQ_HOME is *as-install-parent*/mq, where *as-install-parent* is the parent directory of the GlassFish Server base installation directory, glassfish3 by default. ■ For installations of Open Message Queue, IMQ_HOME is *mqInstallHome*/mq.
IMQ_VARHOME	The directory in which Message Queue temporary or dynamically created configuration and data files are stored; IMQ_VARHOME can be explicitly set as an environment variable to point to any directory or will default as described below: ■ For installations of Message Queue bundled with GlassFish Server, IMQ_VARHOME defaults to *as-install-parent*/glassfish/domains/domain1/imq. ■ For installations of Open Message Queue, IMQ_HOME defaults to *mqInstallHome*/var/mq.
IMQ_JAVAHOME	An environment variable that points to the location of the Java runtime environment (JRE) required by Message Queue executable files. By default, Message Queue looks for and uses the latest JDK, but you can optionally set the value of IMQ_JAVAHOME to wherever the preferred JRE resides.

Related Documentation

The information resources listed in this section provide further information about Message Queue in addition to that contained in this manual. The section covers the following resources:

- Message Queue Documentation Set
- Java Message Service (JMS) Specification
- JavaDoc
- Example Client Applications
- Online Help

Message Queue Documentation Set

The documents that constitute the Message Queue documentation set are listed in the following table in the order in which you might normally use them. These documents are available through the Oracle GlassFish Server documentation web site at http://www.oracle.com/technetwork/indexes/documentation/index.html.

Document	Audience	Description
Technical Overview	Developers and administrators	Describes Message Queue concepts, features, and components.
Release Notes	Developers and administrators	Includes descriptions of new features, limitations, and known bugs, as well as technical notes.
Administration Guide	Administrators, also recommended for developers	Provides background and information needed to perform administration tasks using Message Queue administration tools.

Document	Audience	Description
Developer's Guide for Java Clients	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.
Developer's Guide for C Clients	Developers	Provides programming and reference documentation for developers of C client programs using the Message Queue C implementation of the JMS API (C-API).
Developer's Guide for JMX Clients	Administrators	Provides programming and reference documentation for developers of JMX client programs using the Message Queue JMX API.

Java Message Service (JMS) Specification

The Message Queue message service conforms to the Java Message Service (JMS) application programming interface, described in the *Java Message Service Specification.* This document can be found at the URL `http://www.oracle.com/technetwork/java/jms/index.html`.

JavaDoc

JMS and Message Queue API documentation in JavaDoc format is included in Message Queue installations at `IMQ_HOME/javadoc/index.html`. This documentation can be viewed in any HTML browser. It includes standard JMS API documentation as well as Message Queue-specific APIs.

Example Client Applications

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

Example Java Client Applications

Example Java client applications are included in Message Queue installations at `IMQ_HOME/examples`. See the `README` files located in this directory and its subdirectories for descriptive information about the example applications.

Example C Client Programs

Example C client applications are included in Message Queue installations at `IMQ_HOME/examples/C`. See the `README` files located in this directory and its subdirectories for descriptive information about the example applications.

Example JMX Client Programs

Example Java Management Extensions (JMX) client applications are included in Message Queue installations at `IMQ_HOME/examples/jmx`. See the `README` files located in this directory and its subdirectories for descriptive information about the example applications.

Online Help

Online help is available for the Message Queue command line utilities; for details, see "Command Line Reference" in *Open Message Queue Administration Guide*. The Message Queue graphical user interface (GUI) administration tool, the Administration Console, also includes a context-sensitive help facility; for details, see "Administration Console Online Help" in *Open Message Queue Administration Guide*.

Documentation, Support, and Training

The Oracle web site provides information about the following additional resources:

- Documentation (http://www.oracle.com/technetwork/indexes/documentation/index.html)
- Support (http://www.oracle.com/us/support/044752.html)
- Training (http://education.oracle.com/pls/web_prod-plq-dad/db_pages.getpage?page_id=315)

1 Introduction

This chapter provides an overall introduction to installing the Message Queue 4.5.2 product. It covers the following topics:

- IPS Packaging
- Product Editions
- Supported Platforms and Components
- Message Queue Software Modules
- Where to Go Next

IPS Packaging

Message Queue 4.5.2 is distributed as a set of IPS packages, which can be updated using the Update Tool. The installer installs IPS packages on Solaris, Linux, AIX, and Windows. For those platforms where Update Tool is not supported (AIX, other UNIX), the installer installs an IPS user image but updates are not be available through the Update Tool.

Note: Native SVR4 packages for Solaris and Linux RPMs are deprecated with the Message Queue 4.5.2 release.

Product Editions

Before the release of Version 3.7 UR1, the Message Queue product was available in two editions, Platform and Enterprise, each containing different features and corresponding to a different licensed capacity. Versions beginning with 3.7 UR1 combine the functionality of both editions. If you have an earlier version installed under a Platform Edition license, upgrading to Version 4.5.2 will give you access to the full range of Message Queue functionality, including the following features formerly available only under the Enterprise Edition license.

For the complete list of new features available to all users of Version 4.5.2, see "New Features in Previous Message Queue 4 Releases" in *Open Message Queue Release Notes*.

Supported Platforms and Components

Message Queue 4.5.2 is supported on Solaris, Linux, AIX, and Windows operating system platforms. Table 1–1 shows the supported versions of each of these platforms. The chapters that follow describe the hardware requirements for each of these platforms and provide platform-specific installation instructions.

Table 1–1 Supported Platform Versions

Platform	Supported Versions
Solaris	Solaris 9 (SunOS 5.9), all updates (SPARC, *x*86)
	Solaris 10 (SunOS 5.10), all updates (SPARC, *x*86, *x*64)
OpenSolaris	OpenSolaris 2008.11 (*x*86, *x*64)
	OpenSolaris 2009.06 (*x*86, *x*64)
Linux	Red Hat Enterprise Linux Advanced Server 4.0, 5.0, all updates, 32- and 64-bit versions (*x*86, *x*64)
	Red Hat Enterprise Linux Enterprise Server 4.0, 5.0, all updates, 32- and 64-bit versions (*x*86, *x*64)
AIX	AIX 6.1
Windows	Windows Vista
	Windows XP Professional, SP2 (*x*86)[1]
	Windows Server 2003 Standard and Enterprise Editions, SP2, 32- and 64-bit versions (*x*86, *x*64)[2]
	Windows Server 2008 Standard and Enterprise Editions, SP2, 32- and 64-bit versions (*x*86, *x*64)

[1] No Home, Tablet PC, or Media Center Edition support

[2] No Web or Small Business Server Edition support

In addition to platform-specific requirements, Message Queue 4.5.2 also depends on a number of required and optional software components. These components, which include the Java Runtime Environment (JRE) and Java Software Development Kit (JDK), are specified in "Optional Support Components" in *Open Message Queue Release Notes*. Please check these software dependencies before installing Message Queue 4.5.2.

Note: The Message Queue 4.5.2 Installer automatically installs the required JDK version as of the time of release.

Message Queue Software Modules

Table 1–2 shows the full set of software modules included with the Message Queue 4.5.2 product.

Table 1–2 Software Modules

Module	Contents
Broker	Server-side software for routing and delivering messages. Requires the Java runtime module
Administration tools	Command-line utilities and GUI tools for administering a Message Queue messaging system. Requires the client runtime and Java runtime modules
Java client runtime	`.jar` files needed to write and compile Java clients using the Message Queue Java application programming interface (API)
C client runtime	Libraries and header files needed to write and compile C clients using the Message Queue C application programming interface (API)
Documentation	API documentation needed by Java client application developers, in JavaDoc format

Table 1–2 (Cont.) Software Modules

Module	Contents
Example applications	Sample client applications

Where to Go Next

Before proceeding to install Message Queue 4.5.2, be sure to consult the section "Installation Issues" in *Open Message Queue Release Notes* for the latest information on issues and limitations affecting Message Queue 4.5.2 installation. The *Release Notes* are also an important general resource for up-to-date code and documentation changes, open bugs, and important technical notes relating to the current Message Queue release.

In addition, the following sources provide further useful information on Message Queue:

- For information on where to find documentation, news, and updates and how to send feedback, see the `README` file included in your Message Queue installation.
- For an introduction to Message Queue concepts, see the *Open Message Queue Technical Overview*.
- For details on configuring brokers and managing a Message Queue messaging system, see the *Open Message Queue Administration Guide.*
- For an introduction to writing and compiling Message Queue client applications, see the *Open Message Queue Developer's Guide for Java Clients* or the *Open Message Queue Developer's Guide for C Clients.*
- For information on the Message Queue Java Management Extensions (JMX) API, see the *Open Message Queue Developer's Guide for JMX Clients* .
- For class and member information useful when writing a client application, browse the API documentation in JavaDoc format included in your Message Queue installation.

2

Solaris Installation

This chapter covers the following topics as they apply to a Solaris installation of Message Queue 4.5.2:

- Hardware Requirements
- Upgrading from Previous Versions
- Installation Procedure
- Message Queue IPS Packages
- Installed Directory Structure
- Updating Message Queue 4.5.2
- Uninstallation Procedure

Hardware Requirements

In order to install Message Queue 4.5.2, your Solaris system should satisfy the minimum hardware requirements shown in Table 2–1. See Supported Platforms and Components for information on software requirements.

Table 2–1 Minimum Hardware Requirements for Solaris Installation

Component	Minimum Requirements
CPU	Sun UltraSPARC Intel Pentium 2 (or compatible)
RAM	256 MB (2 GB recommended for high-availability or high-volume deployments)

Table 2–1 (Cont.) Minimum Hardware Requirements for Solaris Installation

Component	Minimum Requirements
Disk space	**SPARC platform:** ▪ Compressed installation (`.zip`) file: approximately 32 MB ▪ Temporary working directory (for extracting installation files): approximately 37 MB ▪ Installed product: approximately 49 MB (Message Queue only, not including shared components). More space may be needed if broker stores persistent messages locally. **x86 platform:** ▪ Compressed installation (`.zip`) file: approximately 32 MB ▪ Temporary working directory (for extracting installation files): approximately 37 MB ▪ Installed product: approximately 55 MB (Message Queue only, not including shared components). More space may be needed if broker stores persistent messages locally.

Upgrading from Previous Versions

Because Message Queue is often installed with other products, you should check whether it has already been installed on your system. To do so, enter the command

```
imqbrokerd -version
```

If you have a version older than Message Queue 4.4, perform the procedures described in To Back Up and Restore Broker Instance Data and Configuration Details and To Upgrade From An Older Version to Message Queue 4.5.2

If you have Message Queue 4.4 or later, use the Update Tool to get the latest updates. See Updating Message Queue 4.5.2.

To Back Up and Restore Broker Instance Data and Configuration Details

To preserve broker instance data and configuration details from your previous Message Queue installation, perform the following procedure before you remove your previous installation.

1. Before you uninstall the previous installation of Message Queue, copy Message Queue data to a temporary location.

   ▪ For Message Queue 4.4 and above, run the following commands:

   `cp -r` *mqInstallHome*`/etc/mq/* MQ_SAVE/etc`

   `cp -r` *mqInstallHome*`/var/mq/* MQ_SAVE/var`

   ▪ For Message Queue versions older than 4.4, run the following commands:

   `cp -r` *mqInstallHome*`/mq/etc/* MQ_SAVE/etc`

   `cp -r` *mqInstallHome*`mq/var/* MQ_SAVE/var`

   where `MQ_SAVE` is a temporary directory.

   You can proceed to uninstall the older version of Message Queue.

2. After installing Message Queue 4.5.2, perform the following steps:

   `cp -r MQ_SAVE/etc/* to` *mqInstallHome*`/etc/mq`

   `cp -r MQ_SAVE/var/* to` *mqInstallHome*`/var/mq`

where MQ_SAVE is the temporary directory you used in Step 1.

To Upgrade From An Older Version to Message Queue 4.5.2

1. Use the uninstaller of the previous installation to remove Message Queue.
2. Use the Message Queue 4.5.2 Installer to install Message Queue 4.5.2

Installation Procedure

You can run the Message Queue Installer in one of the following modes:

- In GUI (graphical user interface) mode, the Installer presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI (or text) screens and responding to them interactively.

Note: Text mode installation is not supported in Message Queue 4.5.2.

The following sections describe each of the two modes of Installer operation.

Installing in GUI Mode

The following procedure shows how to use the Message Queue Installer in GUI mode to install the Message Queue 4.5.2 product on your Solaris system.

To Install Message Queue in GUI Mode

1. Create a temporary directory.

   From your system's command line, enter the command

   `% mkdir` *tempDir*

   where *tempDir* is any name you choose for your temporary directory.

2. Download the Message Queue Installer to the temporary directory.

   The Installer is available for download from the Message Queue product Web site at

   http://www.sun.com/software/products/message_queue

   It is distributed as a compressed archive (.zip) file named

   mq4_4-installer-SunOS.zip
   (for the SPARC platform) or

   mq4_4-installer-SunOS_X86.zip
   (for the *x*86 platform).

3. Go to the temporary directory.

   Enter the following command:

   `% cd` *tempDir*

where *tempDir* is the temporary directory to which you downloaded the Installer in step 3.

4. Decompress the Installer archive.

   Enter the following command:

   ```
   % unzip mq4_4-installer-SunOS.zip
   ```

   or

   ```
   % unzip mq4_4-installer-SunOS_X86.zip
   ```

   depending on your platform. This creates a subdirectory named

   `mq4_4-installer`
   containing the files needed for Message Queue 4.5.2 installation.

5. Switch to the Installer subdirectory.

   Enter the following command:

   ```
   % cd mq4_4-installer
   ```

6. Set the `JAVA_HOME` environment variable to point to a valid version of JRE. Alternatively, you can use the `-j` installer option to point to a valid JDK or JRE version.

7. Start the Installer.

   Enter the following command:

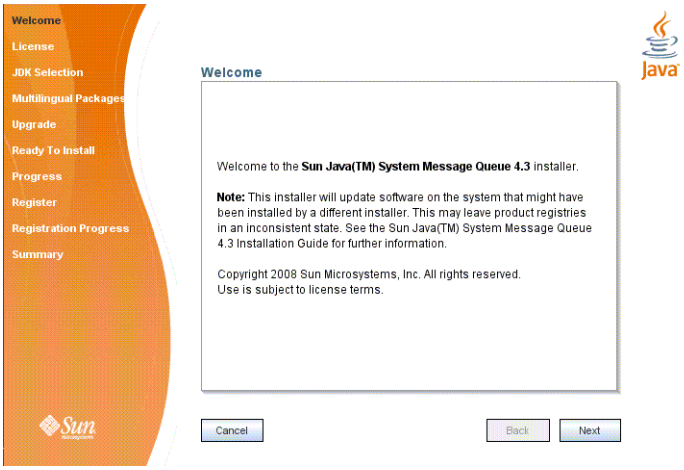
   ```
   % ./installer
   ```

   If you have not already set `JAVA_HOME` to point to a valid version of JRE or JDK, run the installer with the `-j` option as follows:

   `% ./installer -j` *path_to_JRE_installation*

   The Installer's Welcome screen (Figure 2–1) appears.

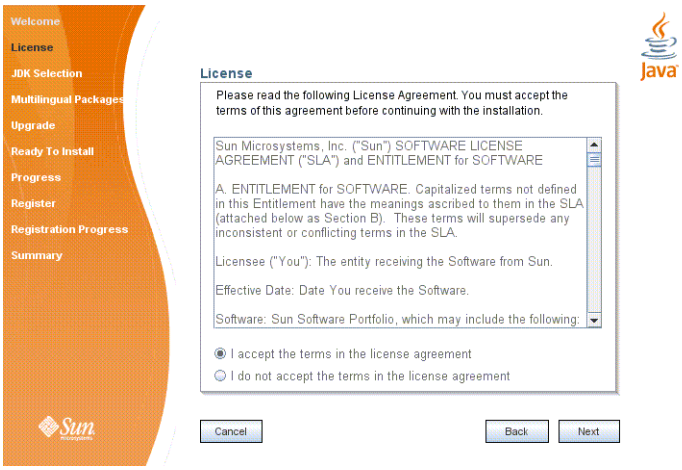
Figure 2–1 Installer Welcome Screen



8. Click the Next button.

   The Installer's License screen (Figure 2–2) appears.

Figure 2–2 Installer License Screen



9. Read and accept the product license agreement.

   Installation and use of the Message Queue product are subject to your acceptance of the license agreement. You must read and accept the terms of the license agreement before installing the product.

   a. Read the product license agreement.

   b. Make sure the radio button labeled "I accept the terms in the license agreement" is selected.

      If you instead select "I do not accept the terms in the license agreement," the Next button becomes disabled. You cannot proceed with installation without accepting the license terms.

   c. Click the Next button.

      The Install Home screen appears.

10. Specify the installation directory.

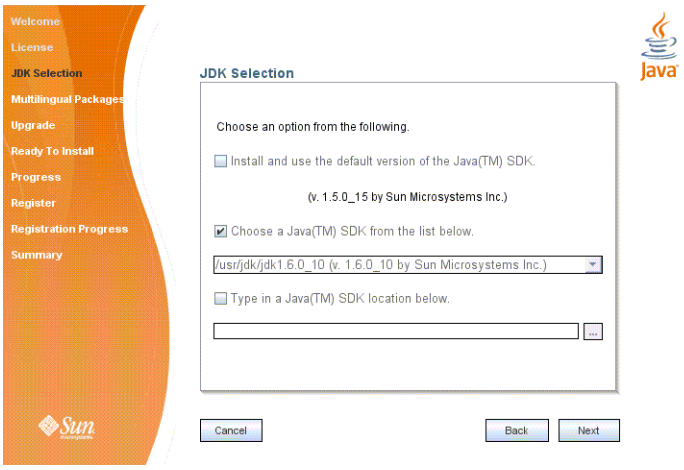
    Enter the path to the installation home directory in the text field, or use the button marked with an ellipsis (…) to browse to it interactively.

    Note: If you enter a path to a directory that does not exist on your system, the Installer will create the directory for you automatically.

11. Click Next.

    The Installer's JDK Selection screen (Figure 2–3) appears.

Figure 2–3 Installer JDK Selection Screen



12. Specify the version of the JDK for Message Queue to use.

a. Select a JDK.

You can do this in any of these ways:

– Choose a JDK installation that is already installed on your system.

The drop-down menu under the option "Choose a Java SDK from the list below" lists existing JDKs found in standard locations on your system. You can use this option to specify one of these JDKs for Message Queue to use.

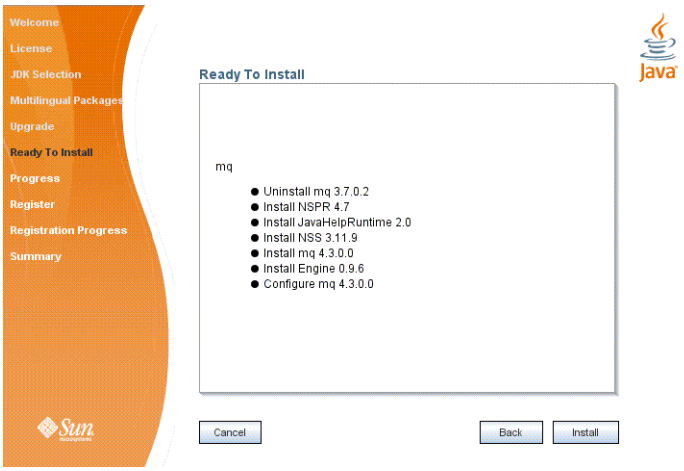
– Provide an explicit path to an existing JDK.

To use a JDK from a location other than the standard ones, enter its path in the text field under the option "Type in a Java SDK location below," or use the button marked with an ellipsis (…) to browse to it interactively.

b. Click the Next button.

The Installer's Ready screen (Figure 2–4) appears.

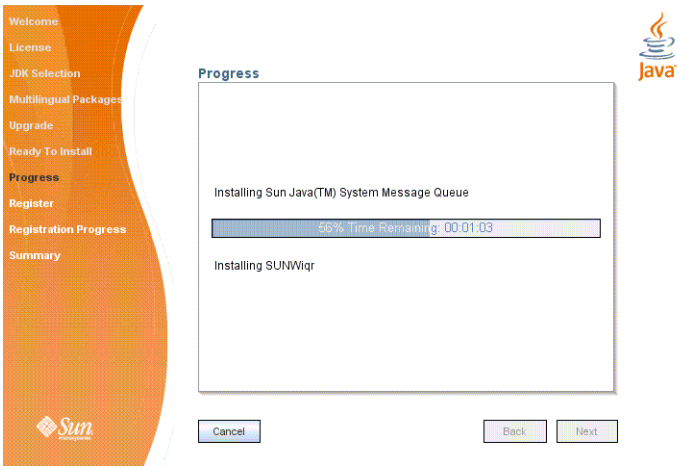
Figure 2–4 Installer Ready Screen



13. Click Install to begin the installation.

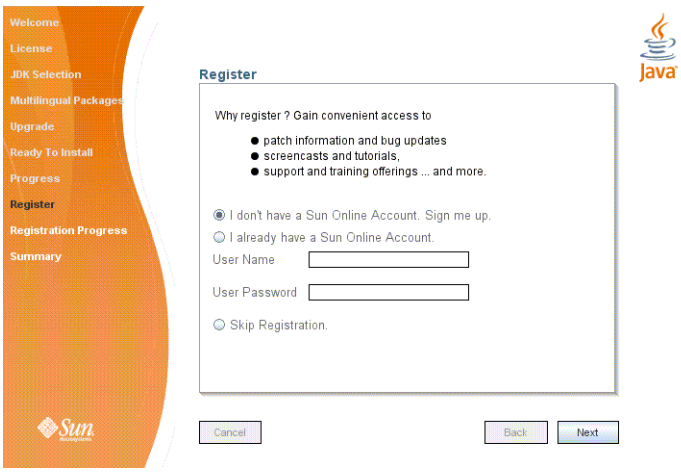
The Installer's Progress screen (Figure 2–5) appears, tracking the progress of the installation as it proceeds.

Figure 2–5 Installer Progress Screen



When installation is complete, the Installer's Sun Connection Registration screen (Figure 2–6) appears.

Figure 2–6 Sun Connection Registration Screen

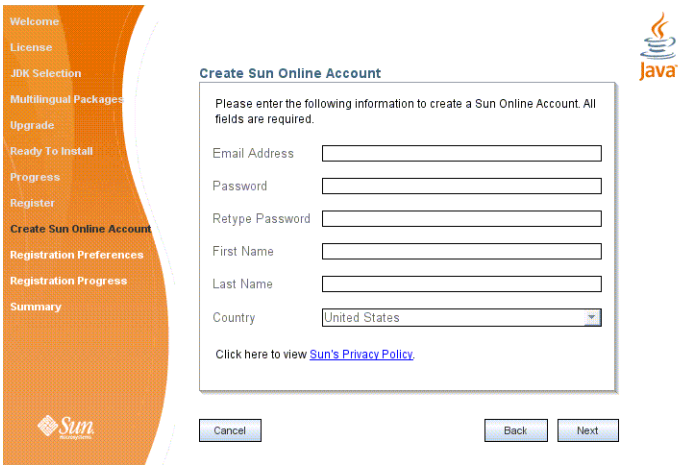


14. Register Message Queue with Sun Connection.

Sun Connection is a Sun-hosted service that helps you track, organize, and maintain Sun hardware and software. When you register a Message Queue installation with Sun Connection, information such as the release version, host name, operating system, installation date, and other such basic information is securely transmitted to the Sun Connection database. The Sun Connection inventory service can help you organize your Sun hardware and software, while the update service can inform you of the latest available security fixes, recommended updates, and feature enhancements.

Registration requires that you have a Sun Online account or create one. If you do not already have an account, the installer provides the following screen (Figure 2–7) for creating a Sun Online account:

Figure 2–7 Create Sun Online Account Screen



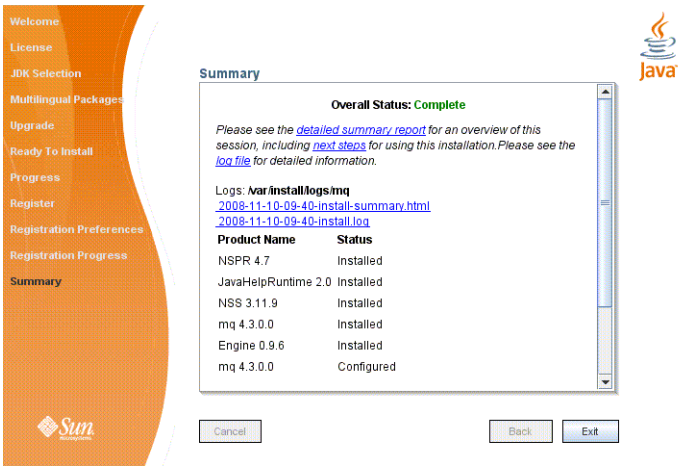
Note: If you choose not to register Message Queue during installation, you can subsequently register Message Queue by running the installer in register-only mode, as follows:

```
% ./installer -r
```

The register-only mode requires that Message Queue 4.5.2 already be installed and will display only the installer screens related to registration.

When Sun Connection registration is complete, the Installer's Summary screen (Figure 2–8) appears, summarizing the steps that were performed during installation.

Figure 2–8 Installer Summary Screen



You can click the links on this screen for a detailed summary report and a log file giving more details on the installation.

15. Click the Exit button to dismiss the Summary screen.

    Message Queue installation is now complete.

Tip: After installation is complete, you can check that the expected versions of Message Queue and the Java runtime have been installed by navigating to the *mqInstallHome*/mq/bin directory and executing the following command:

```
% ./imqbrokerd version
```

The output from this command identifies the versions of Message Queue and the JDK that are installed on your system.

Installing in Silent Mode

In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

To create an answer file, start the Installer with the -n option:

```
% ./installer n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Installer to execute a "dry run," presenting the sequence of GUI screens without actually performing the installation. Your input responses are recorded in the specified answer file. You can then perform the installation at a later time by starting the Installer with the -s ("silent") option, specifying the same answer file:

```
% ./installer s a answerFile
```

This performs a silent installation as defined by the answer file, without visibly displaying the GUI (or text) screens.

Manually Configuring the Java Runtime Environment

The Message Queue Installer's JDK Selection screen is not the only way to specify a version of the Java Runtime Environment for Message Queue to use. The JRE used by the Message Queue command line utilities (imqadmin, imqbrokerd, imqcmd, imqobjmgr, imqdbmgr, imqusermgr, imqkeytool) is determined by the following sources, in order of precedence:

1. The -jrehome or -javahome command line option to the imqbrokerd command. (If both are specified, the one occurring last on the command line takes precedence).
2. The J2SE file location specified in the jdk.env file. (This file is deprecated, but is still supported for backward compatibility. For historical reasons, it has higher priority than anything else except option 1.)
3. The IMQ_JAVAHOME environment variable.
4. The environment variable IMQ_DEFAULT_JAVAHOME in the imqenv.conf file.
5. The system default locations, as specified in the documentation for your platform.

To check which version of the Java runtime Message Queue will use, enter the command

```
% imqbrokerd version
```

The output from this command includes the version and pathname of the configured JRE: for example,

```
Java Runtime: 1.5.0_12 Sun Microsystems Inc. /usr/jdk/instances/jdk1.5.0/jre
```

When you specify a JRE location through the Installer's JDK Selection screen, the Installer saves that location as the value of `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file (option 4 in the list above). On Solaris, this file is located at

mqInstallHome`/etc/imq/imqenv.conf`

After a successful Message Queue installation, it should include something like the following:

```
IMQ_DEFAULT_JAVAHOME=/usr/jdk/jdk1.5.0_12
```

You can override this setting, however, either by editing the `imqenv.conf` file or by setting one of the other options higher in the list. This can be useful, for instance, for testing or reconfiguring the broker when a newer JRE version becomes available. Understanding how the JRE is determined can also help in troubleshooting problems. For instance, if the `imqbrokerd -version` command shows that Message Queue is using an unexpected JRE, it may be that one of the higher-precedence options has been set inadvertently (such as by an old `jdk.env` file that should have been deleted).

Configuring Message Queue for Automatic Startup

To configure the Message Queue message broker to start up automatically at boot time, edit the configuration file *mqInstallHome*`/etc/mq/imqbrokerd.conf`. Table 2–2 shows the startup properties you can set in this file.

Table 2–2 Configuration Properties for Automatic Startup

Property Name	Values	Default Value	Description
`AUTOSTART`	`YES` `NO`	`NO`	Start broker automatically at boot time?
`ARGS`	String	None	Command line options and arguments for broker startup command See the section "Broker Utility" in *Open Message Queue Administration Guide* for Broker Utility command line options.
`RESTART`	`YES` `NO`	`YES`	Restart broker automatically on abnormal exit?

Message Queue IPS Packages

Table 2–3 lists the IPS packages used by Message Queue.

Table 2–3 Message Queue IPS Packages

Name	Description
`mq-bin-sh`	Message Queue shell scripts for UNIX.
`mq-branding`	Turns on the Sun GlassFish Message Queue brand name.
`mq-capi`	Message Queue C-client development and C client runtime.
`mq-config`	Message Queue configuration.
`mq-core`	Message Queue Message Queue core/client runtime.
`mq-locale`	Message QueueMessage Queue examples and javadoc.
`mq-server`	Message Queue Message Queue broker.
`mq-server-native`	Message Queue broker native libraries.
`mq`	Message Queuemeta package (depends on all required MQ IPS packages). This package is not installed by the installer.

Table 2–3 (Cont.) Message Queue IPS Packages

Name	Description
nss-libs	NSS libraries.
nss-utils	NSS utilties.

Installed Directory Structure

Table 2–4 shows the installed directory structure for a full installation of Message Queue 4.5.2 on the Solaris platform.

Paths shown are relative to the Message Queue installation home directory, denoted by the directory variable *mqInstallHome*.

Table 2–4 Installed Directory Structure (Solaris)

Directory	Contents
mqInstallHome/mq/bin	Executable files for Message Queue administration tools: ■ Administration Console (imqadmin) ■ Broker utility (imqbrokerd) ■ Command utility (imqcmd) ■ Object Manager utility (imqobjmgr) ■ Database Manager utility (imqdbmgr) ■ User Manager utility (imqusermgr) ■ Key Tool utility (imqkeytool) ■ Key Tool utility (imqkeytool) ■ Bridge Manager(imqbridgemgr)
mqInstallHome/mq/lib	Support files for Message Queue Java client runtime: ■ .jar files for building and running Java Message Service (JMS) client applications ■ .rar files for JMS Resource Adapter ■ .war files for HTTP servlet and Universal Message Service (UMS) deployment ■ Support files for Message Queue tools and processes ■ Support libraries for C client applications **Note:** See "Optional Support Components" in *Open Message Queue Release Notes* for the versions of Netscape Portable Runtime (NSPR) and Network Security Services (NSS) needed to support the C API.
mqInstallHome/mq/lib/props	Broker's default configuration files
mqInstallHome/mq/lib/ext	.jar or .zip files to be added to broker's CLASSPATH environment variable Typically used for configuring JDBC-based persistence or Java Authentication and Authorization Service (JAAS) login modules.
mqInstallHome/mq/lib/images	Administration GUI image files
mqInstallHome/mq/lib/help	Administration GUI help files

Table 2–4 (Cont.) Installed Directory Structure (Solaris)

Directory	Contents
mqInstallHome/mq/javadoc	Message Queue and JMS API documentation in JavaDoc format
mqInstallHome/mq/examples	Example Java client applications
mqInstallHome/mq/examples/C(IMQ_HOME/examples/C)	Example C client applications
mqInstallHome/mq/include(IMQ_HOME/include)	Header files to support C client applications
mqInstallHome/var/mq	Message Queue working storage. This directory is created after the broker is started.
mqInstallHome/var/mq/instances	Configuration properties, file-based persistent data stores, log files, flat-file user repositories, and access control properties files for individual broker instances
mqInstallHome/etc/mq	Message Queue configuration files, instance template files, sample password file, and so forth
mqInstallHome/var/install	Message Queue installer implementation, required jar files, and installer log files
mqInstallHome/var/install/contents/mq	Message Queue uninstall script
mqInstallHome/install	Message Queue files needed by installer and uninstaller
mqInstallHome/var/install/logs/mq	Message Queue installation/uninstallation logs and summary file

Updating Message Queue 4.5.2

Add-on components and related applications that are available for Sun GlassFish Message Queue 4.5.2 can easily be added to an existing installation without installing the software again.

To Update an Existing Installation of Message Queue

1. Stop all Message Queue processes (broker and client).
2. Change your working directory to *mqInstallHome*/bin.
3. Run Update Tool.

   ```
   ./updatetool
   ```

   The first time you run the command, you will be asked if you want to install Update Tool. When prompted, choose to install Update Tool.
4. After successful installation, re-run Update Tool.

   ```
   ./updatetool
   ```
5. Expand the Message Queue 4.4 Update 1 node and click the Available Updates tab.

   The Available Updates page is displayed.
6. In the table of available updates, select the components that you are updating.

   If no updates are available, the table is empty.

   - To select an individual component, select the checkbox adjacent to the name of the component.

- To select all components, click the Select All icon in the table header.
- To deselect all components, click the Deselect All icon in the table header.

7. Click Install.
8. Accept the license agreement.

   Message Queue confirms that the installation is complete. The components are removed from the table of available updates.

Uninstallation Procedure

Like the Installer, the Message Queue Uninstaller can be run in any of the following modes of operation:

- In GUI (graphical user interface) mode, the Uninstaller presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

The following sections describe each of these three modes of Uninstaller operation.

Caution: The Message Queue installation includes several scripts and executables named `uninstaller`, both in the Installer `.zip` bundle and on your system after installation. To uninstall Message Queue 4.5.2, it is important that you run the correct `uninstaller` executable, located at

mqInstallHome`/var/install/contents/mq/uninstaller`

Be careful not to invoke some other uninstaller by mistake.

Uninstalling in GUI Mode

The following procedure shows how to use the Message Queue Uninstaller in GUI mode to uninstall Message Queue 4.5.2 from your Solaris system.

To Uninstall Message Queue in GUI Mode

1. Set your working directory to the directory containing the Uninstaller.

   From your system's command line, enter the following command:

   ```
   % cd mqInstallHome/var/install/contents/mq
   ```

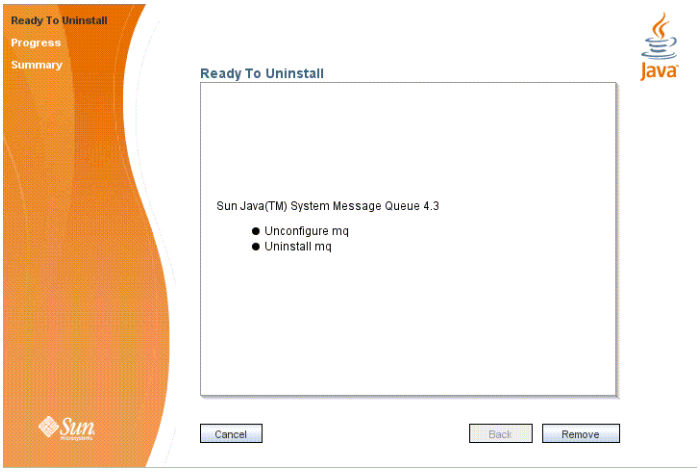
2. Start the Uninstaller.

   Enter the following command:

   ```
   % ./uninstaller
   ```

   The Uninstaller's Ready screen (Figure 2–9) appears.

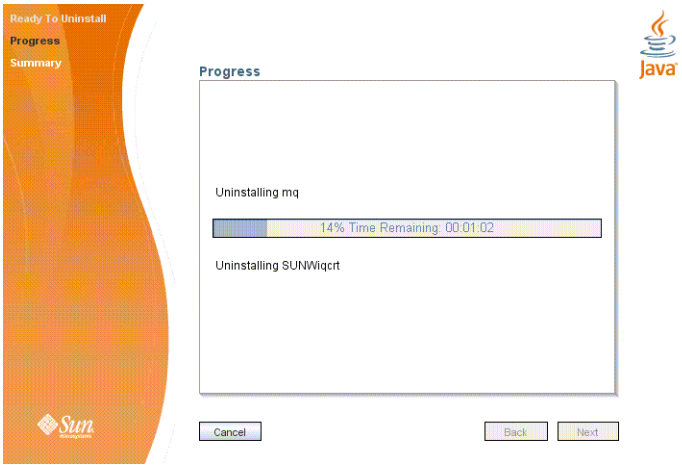
Figure 2–9 Uninstaller Ready Screen



3. Click the Remove button.

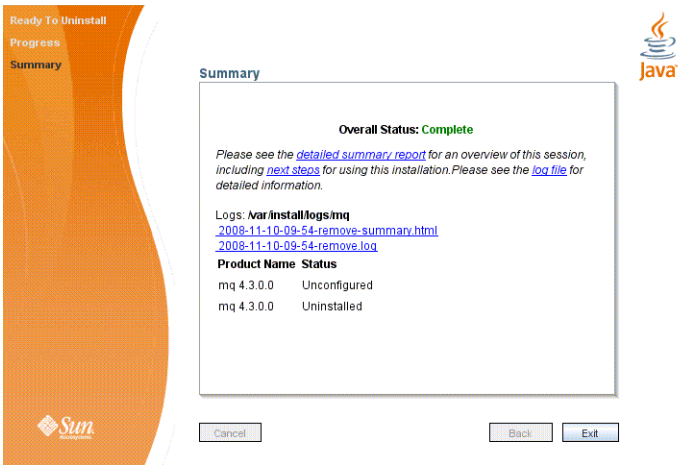
   The Uninstaller's Progress screen (Figure 2–10) appears.

Figure 2–10 Uninstaller Progress Screen



When uninstallation is complete, the Uninstaller's Summary screen (Figure 2–11) appears, summarizing the steps that were performed during uninstallation. You can click the links on this screen for a detailed summary report and a log file giving more details on the uninstallation.

Figure 2–11 Uninstaller Summary Screen



4. Click the Exit button to dismiss the Summary screen.

   Message Queue uninstallation is now complete.

Uninstalling in Silent Mode

In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively. To create an answer file, start the Uninstaller with the `-n` option:

```
% ./uninstaller n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Uninstaller to execute a "dry run," presenting the sequence of GUI screens without actually performing the uninstallation. Your input responses are recorded in the specified answer file. You can then perform the uninstallation at a later time by starting the Uninstaller with the `-s` ("silent") option, specifying the same answer file:

```
% ./uninstaller s a answerFile
```

This performs a silent uninstallation as defined by the answer file, without visibly displaying the GUI (or text) screens.

3

Linux Installation

This chapter covers the following topics as they apply to a Linux installation of Message Queue 4.5.2:

- Hardware Requirements
- Upgrading from Previous Versions
- Installation Procedure
- Message Queue Packages (RPMs)
- Installed Directory Structure
- Updating Message Queue 4.5.2
- Uninstallation Procedure

Hardware Requirements

In order to install Message Queue 4.5.2, your Linux system should satisfy the minimum hardware requirements shown in Table 3–1. See Supported Platforms and Components for information on software requirements.

Table 3–1 Minimum Hardware Requirements for Linux Installation

Component	Minimum Requirements
CPU	Intel Pentium 2 (or compatible)
RAM	256 MB (2 GB recommended for high-availability or high-volume deployments)
Disk space	Compressed installation (`.zip`) file: approximately 29 MB Temporary working directory (for extracting installation files): approximately 34 MB Installed product: approximately 42 MB (Message Queue only, not including shared components). More space may be needed if broker stores persistent messages locally.

Upgrading from Previous Versions

Because Message Queue is often installed with other products, you should check whether it has already been installed on your system. To do so, enter the command

```
imqbrokerd -version
```

If you have a version older than Message Queue 4.4, perform the procedures described in To Back Up and Restore Broker Instance Data and Configuration Details and To Upgrade From An Older Version to Message Queue 4.5.2

If you have Message Queue 4.4 or later, use the Update Tool to get the latest updates. See Updating Message Queue 4.5.2.

To Back Up and Restore Broker Instance Data and Configuration Details

To preserve broker instance data and configuration details from your previous Message Queue installation, perform the following procedure before you remove your previous installation.

1. Before you uninstall the previous installation of Message Queue, copy Message Queue data to a temporary location.
   - For Message Queue 4.4 and above, run the following commands:

     `cp -r` *mqInstallHome*`/etc/mq/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`/var/mq/* MQ_SAVE/var`
   - For Message Queue versions older than 4.4, run the following commands:

     `cp -r` *mqInstallHome*`/mq/etc/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`mq/var/* MQ_SAVE/var`

   where `MQ_SAVE` is a temporary directory.

   You can proceed to uninstall the older version of Message Queue.
2. After installing Message Queue 4.5.2, perform the following steps:

   `cp -r MQ_SAVE/etc/* to` *mqInstallHome*`/etc/mq`

   `cp -r MQ_SAVE/var/* to` *mqInstallHome*`/var/mq`

   where `MQ_SAVE` is the temporary directory you used in Step 1.

To Upgrade From An Older Version to Message Queue 4.5.2

1. Use the uninstaller of the previous installation to remove Message Queue.
2. Use the Message Queue 4.5.2 Installer to install Message Queue 4.5.2

Installation Procedure

You can run the Message Queue Installer in any of three modes:

- In GUI (graphical user interface) mode, the Installer presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI (or text) screens and responding to them interactively.

> **Note:** Text mode installation is not supported in Message Queue 4.5.2.

The following sections describe each of the two modes of Installer operation.

Installing in GUI Mode

The following procedure shows how to use the Message Queue Installer in GUI mode to install the Message Queue 4.5.2 product on your Linux system.

To Install Message Queue in GUI Mode

1. Create a temporary directory.

   From your system's command line, enter the command

   `% mkdir` *tempDir*

   where *tempDir* is any name you choose for your temporary directory.

2. Download the Message Queue Installer to the temporary directory.

   The Installer is available for download from the Message Queue product Web site at

   `http://www.sun.com/software/products/message_queue`

   It is distributed as a compressed archive (`.zip`) file named

   `mq4_4-installer-Linux_X86.zip`

3. Go to the temporary directory.

   Enter the following command:

   `% cd` *tempDir*

   where *tempDir* is the temporary directory to which you downloaded the Installer in step 3.

4. Decompress the Installer archive.

   Enter the following command:

   ```
   % unzip mq4_4-installer-Linux_X86.zip
   ```

   This creates a subdirectory named

   `mq4_4-installer`
   containing the files needed for Message Queue 4.5.2 installation.

5. Switch to the Installer subdirectory.

   Enter the following command:

   ```
   % cd mq4_4-installer
   ```

6. Set the `JAVA_HOME` environment variable to point to a valid version of JRE. Alternatively, you can use the `-j` installer option to point to a valid JRE version.

7. Start the Installer.

   Enter the following command:

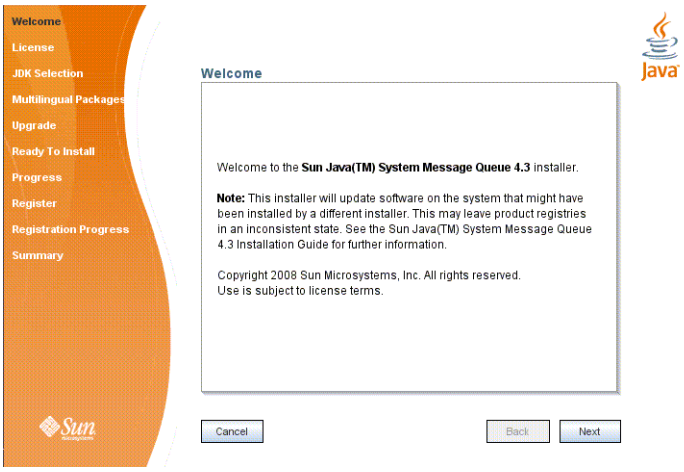
   ```
   % ./installer
   ```

   If you have not already set `JAVA_HOME` to point to a valid version of JRE, run the installer with the `-j` option as follows:

   `% ./installer -j` *path_to_JRE_installation*

   The Installer's Welcome screen (Figure 3–1) appears.

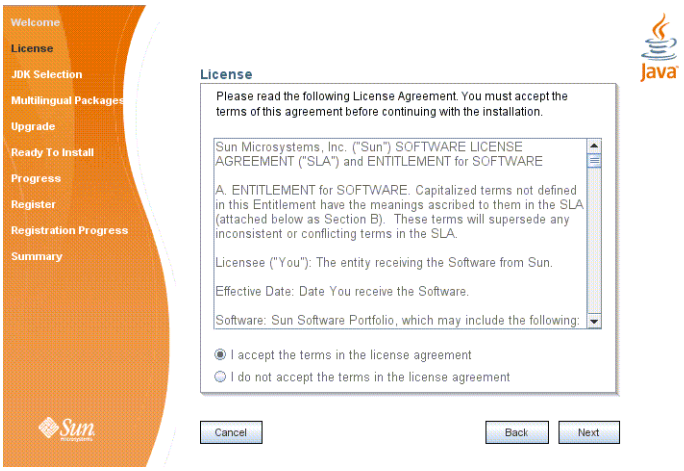
Figure 3–1 Installer Welcome Screen



8. Click the Next button.

   The Installer's License screen (Figure 3–2) appears.

Figure 3–2 Installer License Screen



9. Read and accept the product license agreement.

   Installation and use of the Message Queue product are subject to your acceptance of the license agreement. You must read and accept the terms of the license agreement before installing the product.

   a. Read the product license agreement.

   b. Make sure the radio button labeled "I accept the terms in the license agreement" is selected.

   If you instead select "I do not accept the terms in the license agreement," the Next button becomes disabled. You cannot proceed with installation without accepting the license terms.

   c. Click the Next button.

   The Install Home screen appears.

10. Specify the installation directory.

Enter the path to the installation home directory in the text field, or use the button marked with an ellipsis (…) to browse to it interactively.

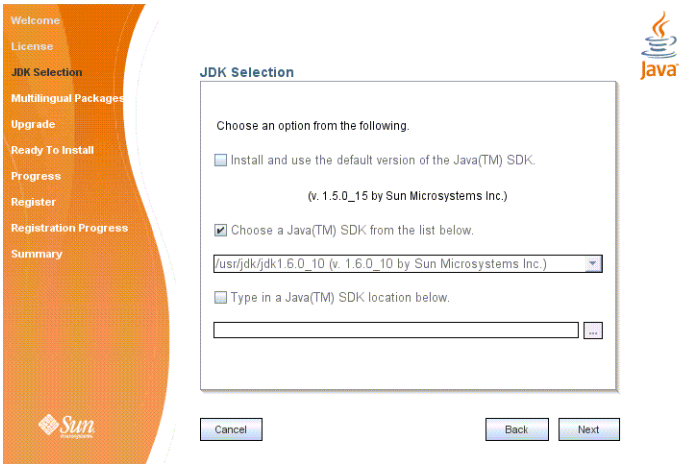
Note: If you enter a path to a directory that does not exist on your system, the Installer will create the directory for you automatically.

---

11. Click Next.

The Installer's JDK Selection screen (Figure 2–3) appears.

Figure 3–3 Installer JDK Selection Screen



12. Specify the version of the JDK for Message Queue to use.

a. Select a JDK.

You can do this in any of these ways:

– Choose a JDK installation that is already installed on your system.

The drop-down menu under the option "Choose a Java SDK from the list below" lists existing JDKs found in standard locations on your system. You can use this option to specify one of these JDKs for Message Queue to use.

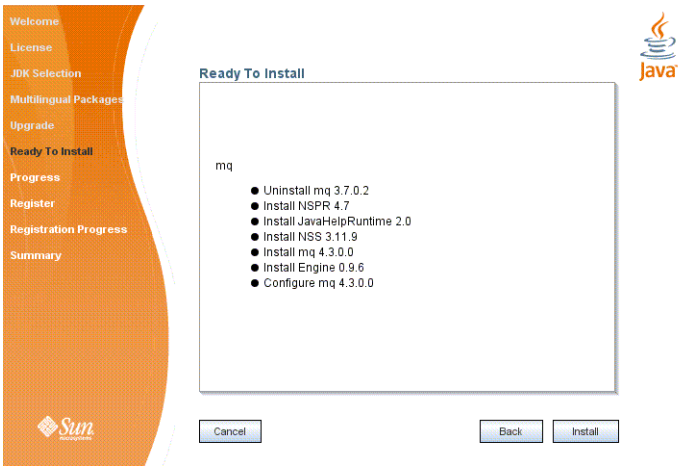
– Provide an explicit path to an existing JDK.

To use a JDK from a location other than the standard ones, enter its path in the text field under the option "Type in a Java SDK location below," or use the button marked with an ellipsis (…) to browse to it interactively.

b. Click the Next button.

The Installer's Ready screen (Figure 2–4) appears.

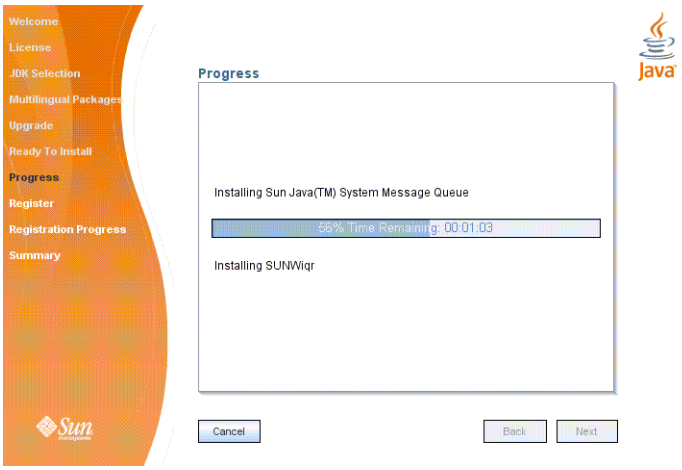
Figure 3–4 Installer Ready Screen



13. Click Install to begin the installation.

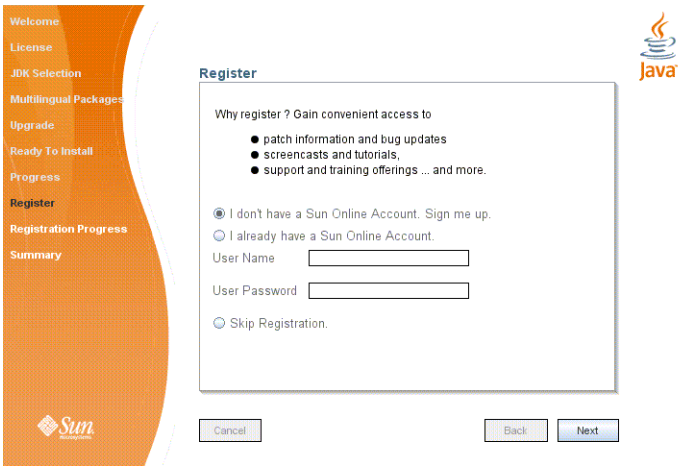
The Installer's Progress screen (Figure 3–5) appears, tracking the progress of the installation as it proceeds.

Figure 3–5 Installer Progress Screen



When installation is complete, the Installer's Sun Connection Registration screen (Figure 3–6) appears.

Figure 3–6 Sun Connection Registration Screen

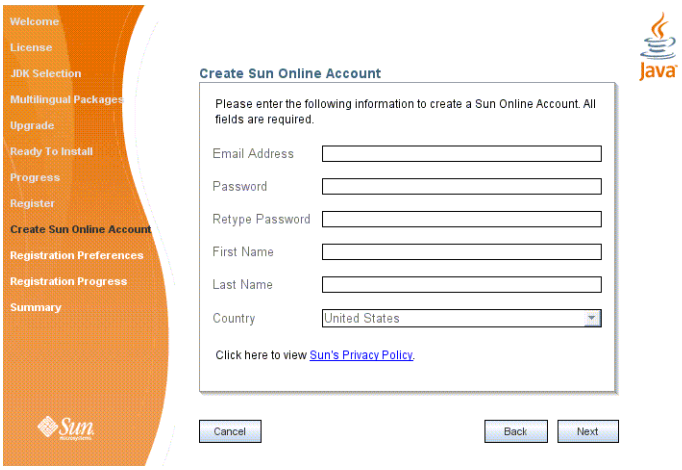


14. Register Message Queue with Sun Connection.

Sun Connection is a Sun-hosted service that helps you track, organize, and maintain Sun hardware and software. When you register a Message Queue installation with Sun Connection, information such as the release version, host name, operating system, installation date, and other such basic information is securely transmitted to the Sun Connection database. The Sun Connection inventory service can help you organize your Sun hardware and software, while the update service can inform you of the latest available security fixes, recommended updates, and feature enhancements.

Registration requires that you have a Sun Online account or create one. If you do not already have an account, the installer provides the following screen (Figure 3–7) for creating a Sun Online account:

Figure 3–7 Create Sun Online Account Screen



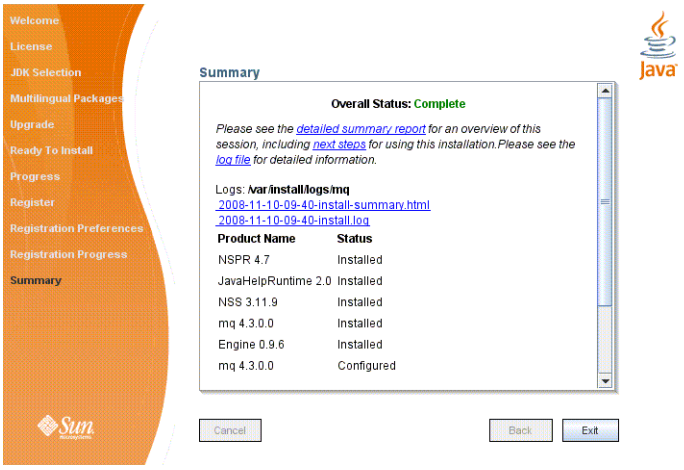
Note: If you choose not to register Message Queue during installation, you can subsequently register Message Queue by running the installer in register-only mode, as follows:

```
% ./installer -r
```

The register-only mode requires that Message Queue 4.5.2 already be installed and will display only the installer screens related to registration.

When Sun Connection registration is complete, the Installer's Summary screen (Figure 3–8) appears, summarizing the steps that were performed during installation.

Figure 3–8 Installer Summary Screen



You can click the links on this screen for a detailed summary report and a log file giving more details on the installation.

15. Click the Exit button to dismiss the Summary screen.

    Message Queue installation is now complete.

    Tip: After installation is complete, you can check that the expected versions of Message Queue and the Java runtime have been installed by navigating to the *mqInstallHome*`/mq/bin` directory and executing the following command:

    ```
    % imqbrokerd version
    ```

    The output from this command identifies the versions of Message Queue and the JDK that are installed on your system.

Installing in Silent Mode

In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

To create an answer file, start the Installer with the `-n` option:

```
% ./installer n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Installer to execute a "dry run," presenting the sequence of GUI screens without actually performing the installation. Your input responses are recorded in the specified answer file. You can then perform the installation at a later time by starting the Installer with the `-s` ("silent") option, specifying the same answer file:

```
% ./installer s a answerFile
```

This performs a silent installation as defined by the answer file, without visibly displaying the GUI (or text) screens.

Manually Configuring the Java Runtime Environment

The Message Queue Installer's JDK Selection screen is not the only way to specify a version of the Java Runtime Environment for Message Queue to use. The JRE used by the Message Queue command line utilities (`imqadmin`, `imqbrokerd`, `imqcmd`, `imqobjmgr`, `imqdbmgr`, `imqusermgr`, `imqkeytool`) is determined by the following sources, in order of precedence:

1. The `-jrehome` or `-javahome` command line option to the `imqbrokerd` command. (If both are specified, the one occurring last on the command line takes precedence).
2. The J2SE file location specified in the `jdk.env` file. (This file is deprecated, but is still supported for backward compatibility. For historical reasons, it has higher priority than anything else except option 1.)
3. The `IMQ_JAVAHOME` environment variable.
4. The environment variable `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file.
5. The system default locations, as specified in the documentation for your platform.

To check which version of the Java runtime Message Queue will use, enter the following command:

```
% imqbrokerd version
```

The output from this command includes the version and pathname of the configured JRE: for example,

```
Java Runtime: 1.5.0_12 Sun Microsystems Inc. /usr/java/jdk1.5.0_12/jre
```

When you specify a JRE location through the Installer's JDK Selection screen, the Installer saves that location as the value of `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file (option 4 in the list above). On Linux, this file is located at

mqInstallHome`/etc/mq/imqenv.conf`

After a successful Message Queue installation, it should include something like the following:

```
IMQ_DEFAULT_JAVAHOME=/usr/java/jdk1.5.0_12
```

You can override this setting, however, either by editing the `imqenv.conf` file or by setting one of the other options higher in the list. This can be useful, for instance, for testing or reconfiguring the broker when a newer JRE version becomes available. Understanding how the JRE is determined can also help in troubleshooting problems. For instance, if the `imqbrokerd -version` command shows that Message Queue is using an unexpected JRE, it may be that one of the higher-precedence options has been set inadvertently (such as by an old `jdk.env` file that should have been deleted).

Configuring Message Queue for Automatic Startup

To configure the Message Queue message broker to start up automatically at boot time, become the root user and edit the configuration file

mqInstallHome/etc/mq/imqbrokerd.conf. Table 3–2 shows the startup properties you can set in this file.

Table 3–2 Configuration Properties for Automatic Startup

Property Name	Values	Default Value	Description
AUTOSTART	YES NO	NO	Start broker automatically at boot time?
ARGS	String	None	Command line options and arguments for broker startup command See "Broker Utility" in *Open Message Queue Administration Guide* for Broker Utility command line options.
RESTART	YES NO	YES	Restart broker automatically on abnormal exit?

Message Queue Packages (RPMs)

Table 3–3 lists the IPS packages used by Message Queue.

Table 3–3 Message Queue IPS Packages

Name	Description
mq-bin-sh	Message Queue shell scripts for UNIX.
mq-branding	Turns on the Sun GlassFish Message Queue brand name.
mq-capi	Message Queue C-client development and C client runtime.
mq-config	Message Queue configuration.
mq-core	Message Queue Message Queue core/client runtime.
mq-locale	Message QueueMessage Queue examples and javadoc.
mq-server	Message Queue Message Queue broker.
mq-server-native	Message Queue broker native libraries.
mq	Message Queuemeta package (depends on all required MQ IPS packages). This package is not installed by the installer.
nss-libs	NSS libraries.
nss-utils	NSS utilties.

Installed Directory Structure

Table 3–4 shows the installed directory structure for a full (all RPMs) installation of Message Queue 4.5.2 on the Linux platform.

Paths shown are relative to the Message Queue installation home directory, denoted by the directory variable *mqInstallHome*.

Table 3–4 Installed Directory Structure (Linux)

Directory	Contents
mqInstallHome/mq/bin	Executable files for Message Queue administration tools: ■ Administration Console (imqadmin) ■ Broker utility (imqbrokerd) ■ Command utility (imqcmd) ■ Object Manager utility (imqobjmgr) ■ Database Manager utility (imqdbmgr) ■ User Manager utility (imqusermgr) ■ Key Tool utility (imqkeytool) ■ Key Tool utility (imqkeytool) ■ Bridge Manager(imqbridgemgr)
mqInstallHome/mq/lib	Support files for Message Queue Java client runtime: ■ .jar files for building and running Java Message Service (JMS) client applications ■ .rar files for JMS Resource Adapter ■ .war files for HTTP servlet and Universal Message Service (UMS) deployment ■ Support files for Message Queue tools and processes ■ Support libraries for C client applications **Note:** See "Optional Support Components" in *Open Message Queue Release Notes* for the versions of Netscape Portable Runtime (NSPR) and Network Security Services (NSS) needed to support the C API.
mqInstallHome/mq/lib/props	Broker's default configuration files
mqInstallHome/mq/lib/ext	.jar or .zip files to be added to broker's CLASSPATH environment variable Typically used for configuring JDBC-based persistence or Java Authentication and Authorization Service (JAAS) login modules.
mqInstallHome/mq/lib/images	Administration GUI image files
mqInstallHome/mq/lib/help	Administration GUI help files
mqInstallHome/mq/javadoc	Message Queue and JMS API documentation in JavaDoc format
mqInstallHome/mq/examples	Example Java client applications
mqInstallHome/mq/examples/C(IMQ_HOME/examples/C)	Example C client applications
mqInstallHome/mq/include(IMQ_HOME/include)	Header files to support C client applications
mqInstallHome/var/mq	Message Queue working storage. This directory is created after the broker is started.
mqInstallHome/var/mq/instances	Configuration properties, file-based persistent data stores, log files, flat-file user repositories, and access control properties files for individual broker instances

Table 3–4 (Cont.) Installed Directory Structure (Linux)

Directory	Contents
mqInstallHome/etc/mq	Message Queue configuration files, instance template files, sample password file, and so forth
mqInstallHome/var/install	Message Queue installer implementation, required jar files, and installer log files
mqInstallHome/var/install/contents/mq	Message Queue uninstall script
mqInstallHome/install	Message Queue files needed by installer and uninstaller
mqInstallHome/var/install/logs/mq	Message Queue installation/uninstallation logs and summary file

Updating Message Queue 4.5.2

Add-on components and related applications that are available for Sun GlassFish Message Queue 4.5.2 can easily be added to an existing installation without installing the software again.

To Update an Existing Installation of Message Queue

1. Stop all Message Queue processes (broker and client).
2. Change your working directory to *mqInstallHome*/bin.
3. Run Update Tool.

   ```
   ./updatetool
   ```

   The first time you run the command, you will be asked if you want to install Update Tool. When prompted, choose to install Update Tool.
4. After successful installation, re-run Update Tool.

   ```
   ./updatetool
   ```
5. Expand the Message Queue 4.4 Update 1 node and click the Available Updates tab.

   The Available Updates page is displayed.
6. In the table of available updates, select the components that you are updating.

   If no updates are available, the table is empty.

   - To select an individual component, select the checkbox adjacent to the name of the component.
   - To select all components, click the Select All icon in the table header.
   - To deselect all components, click the Deselect All icon in the table header.
7. Click Install.
8. Accept the license agreement.

   Message Queue confirms that the installation is complete. The components are removed from the table of available updates.

Uninstallation Procedure

Like the Installer, the Message Queue Uninstaller can be run in any of the following modes of operation:

- In GUI (graphical user interface) mode, the Uninstaller presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI (or text) screens and responding to them interactively.

The following sections describe each of these three modes of Uninstaller operation.

Caution: The Message Queue installation includes several scripts and executables named `uninstaller`, both in the Installer `.zip` bundle and on your system after installation. To uninstall Message Queue 4.5.2, it is important that you run the correct `uninstaller` executable, located at

mqInstallHome`/var/install/contents/mq/uninstaller`

Be careful not to invoke some other uninstaller by mistake.

Uninstalling in GUI Mode

The following procedure shows how to use the Message Queue Uninstaller in GUI mode to uninstall Message Queue 4.5.2 from your Linux system.

To Uninstall Message Queue in GUI Mode

1. Set your working directory to the directory containing the Uninstaller.

   From your system's command line, enter the following command:

   ```
   % cd mqInstallHome/var/install/contents/mq
   ```

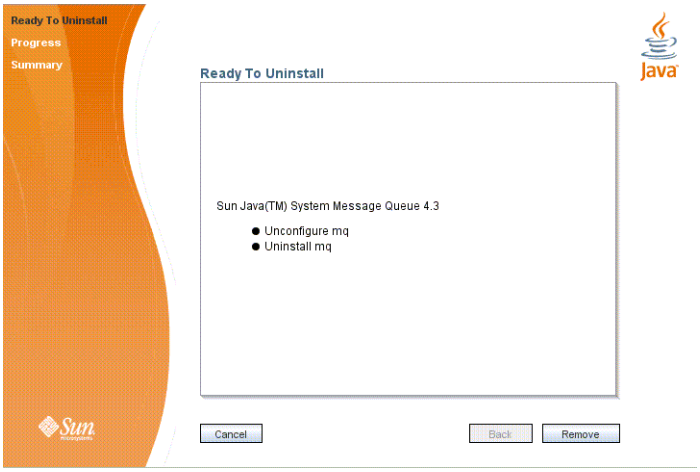
2. Start the Uninstaller.

   Enter the following command:

   ```
   % ./uninstaller
   ```

   The Uninstaller's Ready screen (Figure 3–9) appears.

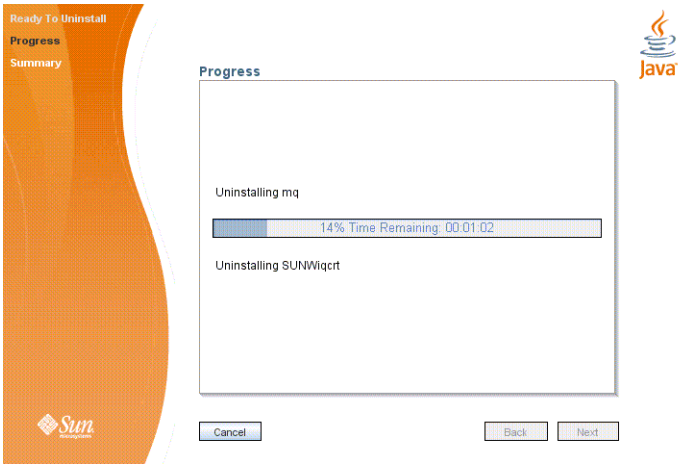
Figure 3–9 Uninstaller Ready Screen



3. Click the Remove button.

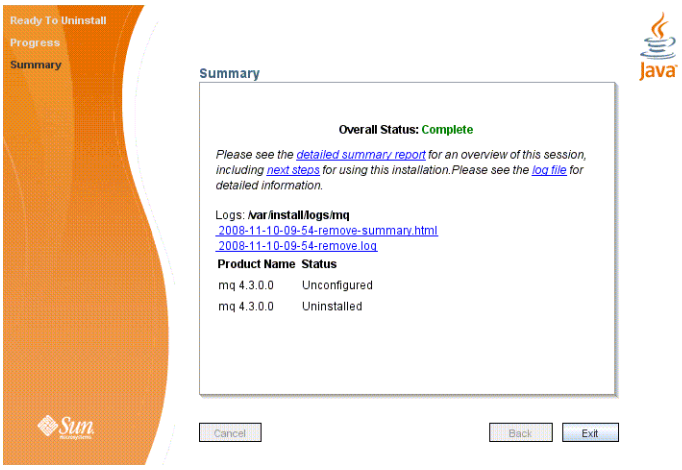
   The Uninstaller's Progress screen (Figure 3–10) appears.

Figure 3–10 Uninstaller Progress Screen



When uninstallation is complete, the Uninstaller's Summary screen (Figure 3–11) appears, summarizing the steps that were performed during uninstallation. You can click the links on this screen for a detailed summary report and a log file giving more details on the uninstallation.

Figure 3–11 Uninstaller Summary Screen



4. Click the Exit button to dismiss the Summary screen.

   Message Queue uninstallation is now complete.

Uninstalling in Silent Mode

In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively. To create an answer file, start the Uninstaller with the `-n` option:

```
% ./uninstaller n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Uninstaller to execute a "dry run," presenting the sequence of GUI screens without actually performing the uninstallation. Your input responses are recorded in the specified answer file. You can then perform the uninstallation at a later time by starting the Uninstaller with the `-s` ("silent") option, specifying the same answer file:

```
% ./uninstaller s a answerFile
```

This performs a silent uninstallation as defined by the answer file, without visibly displaying the GUI (or text) screens.

4

AIX Installation

This chapter covers the following topics as they apply to an AIX installation of Message Queue 4.5.2:

- Hardware Requirements
- Upgrading from Previous Versions
- Installation Procedure
- Message Queue IPS Packages
- Installed Directory Structure
- Updating Message Queue 4.5.2
- Uninstallation Procedure

Hardware Requirements

In order to install Message Queue 4.5.2, your AIX system should satisfy the minimum hardware requirements shown in Table 4–1. See Supported Platforms and Components for information on software requirements.

Table 4–1 Minimum Hardware Requirements for AIX Installation

Component	Minimum Requirements[1]
CPU	PowerPC_POWER5
RAM	256 MB (2 GB recommended for high-availability or high-volume deployments)
Disk space	Compressed installation (`.zip`) file: approximately 27 MB Temporary working directory (for extracting installation files): approximately 31 MB Installed product: approximately 37 MB. More space may be needed if broker stores persistent messages locally.

[1] This is the hardware configuration used for testing. A lesser system might also be adequate.

Upgrading from Previous Versions

Because Message Queue is often installed with other products, you should check whether it has already been installed on your system. To do so, enter the command

```
imqbrokerd  -version
```

If you have a version older than Message Queue 4.4, perform the procedures described in To Back Up and Restore Broker Instance Data and Configuration Details and To Upgrade From An Older Version to Message Queue 4.5.2

If you have Message Queue 4.4 or later, use the Update Tool to get the latest updates. See Uninstallation Procedure.

To Back Up and Restore Broker Instance Data and Configuration Details

To preserve broker instance data and configuration details from your previous Message Queue installation, perform the following procedure before you remove your previous installation.

1. Before you uninstall the previous installation of Message Queue, copy Message Queue data to a temporary location.
   - For Message Queue 4.4 and above, run the following commands:

     `cp -r` *mqInstallHome*`/etc/mq/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`/var/mq/* MQ_SAVE/var`
   - For Message Queue versions older than 4.4, run the following commands:

     `cp -r` *mqInstallHome*`/mq/etc/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`mq/var/* MQ_SAVE/var`

   where `MQ_SAVE` is a temporary directory.

   You can proceed to uninstall the older version of Message Queue.
2. After installing Message Queue 4.5.2, perform the following steps:

   `cp -r MQ_SAVE/etc/* to` *mqInstallHome*`/etc/mq`

   `cp -r MQ_SAVE/var/* to` *mqInstallHome*`/var/mq`

   where `MQ_SAVE` is the temporary directory you used in Step 1.

To Upgrade From An Older Version to Message Queue 4.5.2

1. Use the uninstaller of the previous installation to remove Message Queue.
2. Use the Message Queue 4.5.2 Installer to install Message Queue 4.5.2

Installation Procedure

You can run the Message Queue Installer in either of two modes:

- In GUI (graphical user interface) mode, the Installer presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

The following sections describe each of these two modes of Installer operation.

Installing in GUI Mode

The following procedure shows how to use the Message Queue Installer in GUI mode to install the Message Queue 4.5.2 product on your AIX system.

To Install Message Queue in GUI Mode

1. Create a temporary directory.

   From your system's command line, enter the command

   `$ mkdir` *tempDir*

   where *tempDir* is any name you choose for your temporary directory.

2. Download the Message Queue Installer to the temporary directory.

   The Installer is available for download from the Message Queue product Web site at

   `http://www.sun.com/software/products/message_queue`

   It is distributed as a compressed archive (`.zip`) file named

   `mq4_4-installer-AIX.zip`

3. Go to the temporary directory.

   Enter the following command:

   `$ cd` *tempDir*

   where *tempDir* is the temporary directory to which you downloaded the Installer in step 3.

4. Decompress the Installer archive.

   Enter the following command:

   ```
   $ unzip mq4_4-installer-AIX.zip
   ```

   This creates a subdirectory named

   `mq4_4-installer`
   containing the files needed for Message Queue 4.5.2 installation.

5. Switch to the Installer subdirectory.

   Enter the following command:

   ```
   $ cd mq4_4-installer
   ```

6. Start the Installer.

   Enter the following command:

   ```
   $ ./installer
   ```

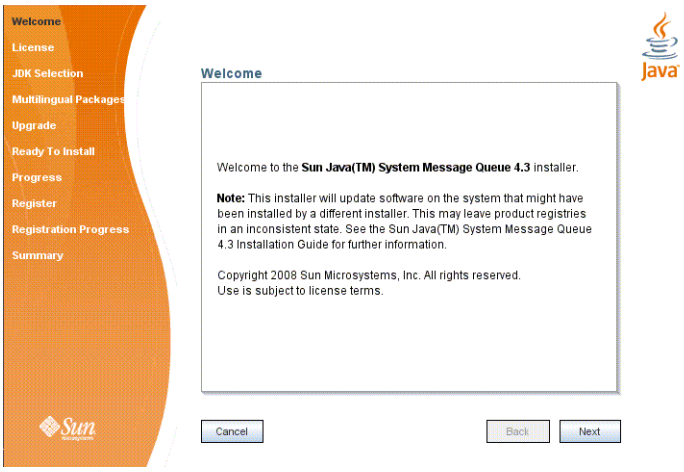
   Note: The `installer` command requires that a JDK or JRE be specified, either by using the `JAVA_HOME` environment variable or by using the `-j` option on the command line, as follows:

   `$ installer -j` *JDK/JRE-path*

   where *JDK/JRE-path* is the path of the specified JDK or JRE.

   The Installer's Welcome screen (Figure 4–1) appears.

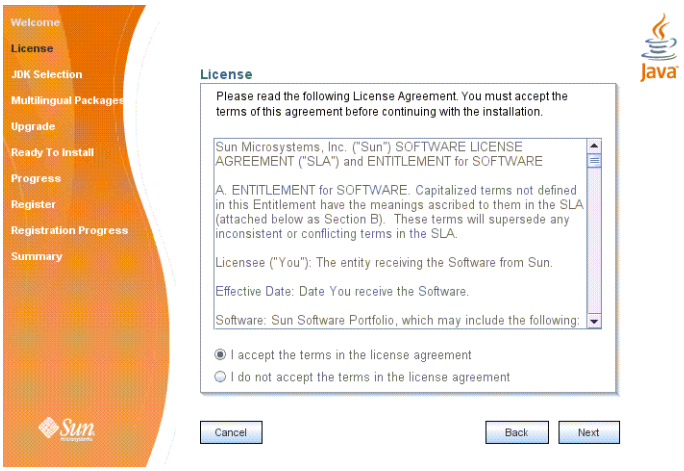
Figure 4–1 Installer Welcome Screen



7. Click the Next button.

   The Installer's License screen (Figure 4–2) appears.

Figure 4–2 Installer License Screen



8. Read and accept the product license agreement.

   Installation and use of the Message Queue product are subject to your acceptance of the license agreement. You must read and accept the terms of the license agreement before installing the product.

   a. Read the product license agreement.

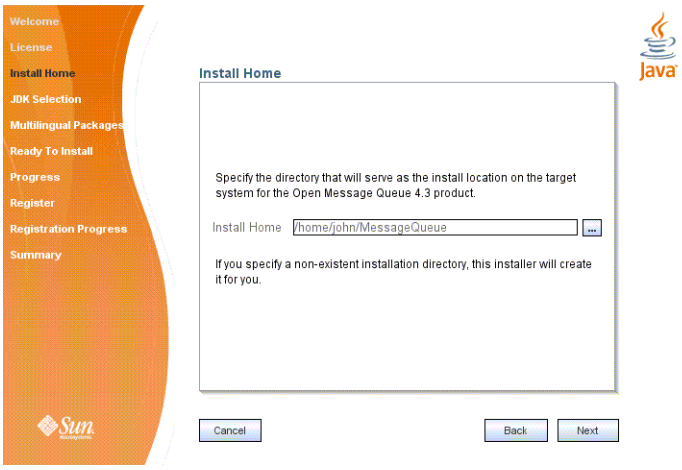
   b. Make sure the radio button labeled "I accept the terms in the license agreement" is selected.

   If you instead select "I do not accept the terms in the license agreement," the Next button becomes disabled. You cannot proceed with installation without accepting the license terms.

   c. Click the Next button.

   The Installer's Install Home screen (Figure 4–3) appears.

Figure 4–3 Installer Install Home Screen



9. Specify the directory in which to install Message Queue.

   a. Provide the location of the installation home directory.

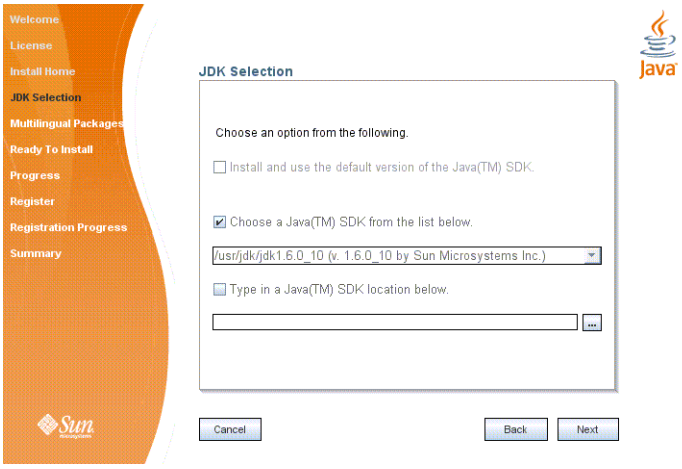
      Enter the path to the installation home directory in the text field, or use the button marked with an ellipsis (…) to browse to it interactively.

      Note: If you enter a path to a directory that does not exist on your system, the Installer will create the directory for you automatically.

   b. Click the Next button.

      The Installer's JDK Selection screen (Figure 4–4) appears.

Figure 4–4 Installer JDK Selection Screen



10. Specify the version of the JDK for Message Queue to use.

    a. Select a JDK.

       You can do this in any of these ways:

       – Choose a JDK installation that is already installed on your system.

The drop-down menu under the option "Choose a Java SDK from the list below" lists existing JDKs found in standard locations on your system. You can use this option to specify one of these JDKs for Message Queue to use.

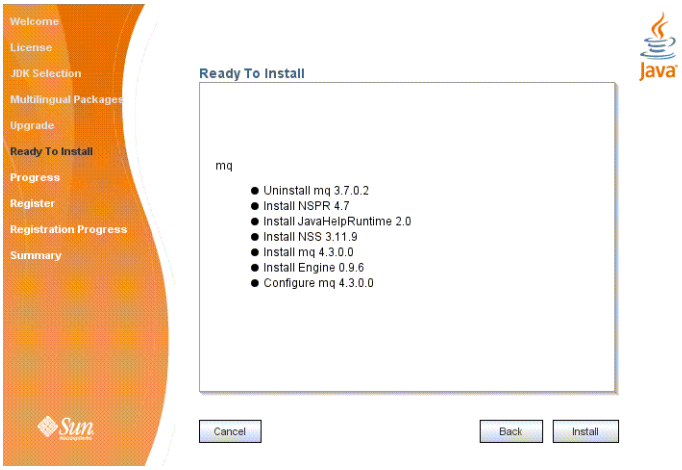
– Provide an explicit path to an existing JDK.

To use a JDK from a location other than the standard ones, enter its path in the text field under the option "Type in a Java SDK location below," or use the button marked with an ellipsis (...) to browse to it interactively.

b. Click the Next button.

The Installer's Ready screen (Figure 2–4) appears.

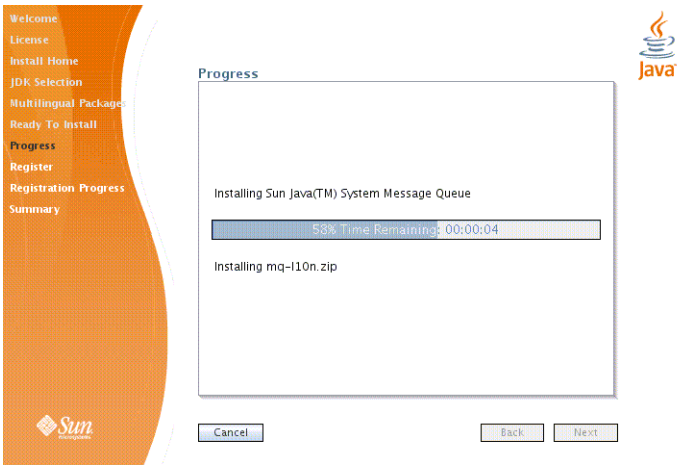
Figure 4–5 Installer Ready Screen



11. Click Install to begin the installation.

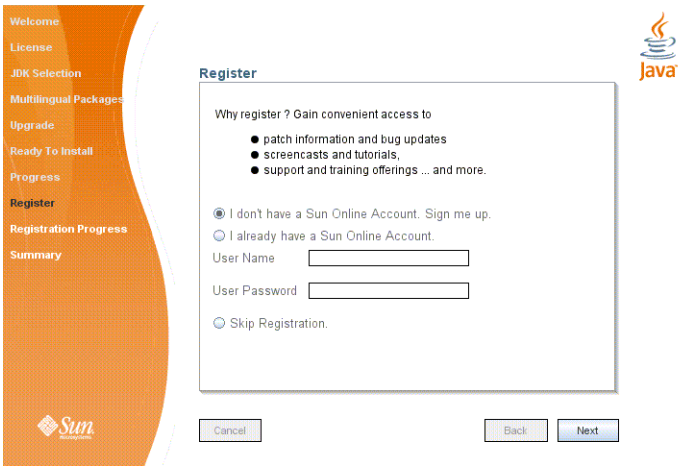
The Installer's Progress screen (Figure 4–6) appears, tracking the progress of the installation as it proceeds.

Figure 4–6 Installer Progress Screen



When installation is complete, the Installer's Sun Connection Registration screen (Figure 4–7) appears.

Figure 4–7 Sun Connection Registration Screen

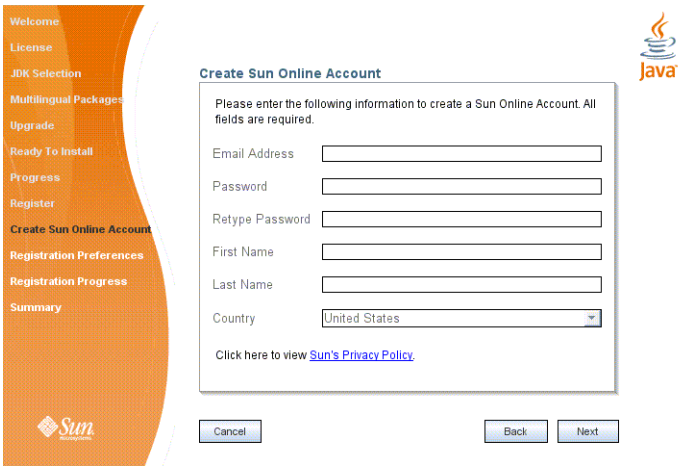


12. Register Message Queue with Sun Connection.

Sun Connection is a Sun-hosted service that helps you track, organize, and maintain Sun hardware and software. When you register a Message Queue installation with Sun Connection, information such as the release version, host name, operating system, installation date, and other such basic information is securely transmitted to the Sun Connection database. The Sun Connection inventory service can help you organize your Sun hardware and software, while the update service can inform you of the latest available security fixes, recommended updates, and feature enhancements.

Registration requires that you have a Sun Online account or create one. If you do not already have an account, the installer provides the following screen (Figure 4–8) for creating a Sun Online account:

Figure 4–8 Create Sun Online Account Screen



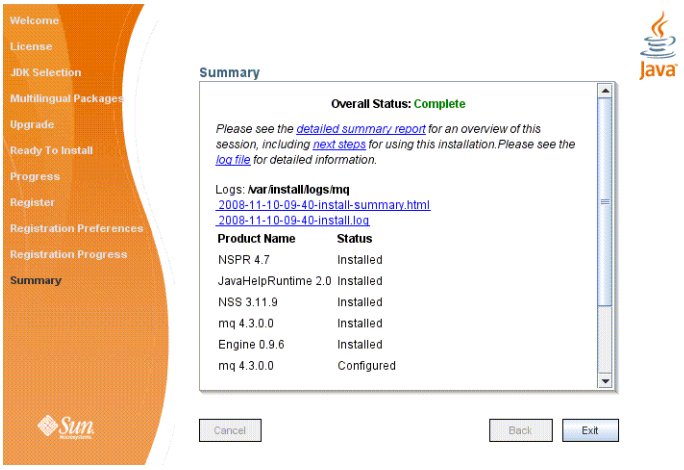
Note: If you choose not to register Message Queue during installation, you can subsequently register Message Queue by running the installer in register-only mode, as follows:

```
$ ./installer -r
```

The register-only mode requires that Message Queue 4.5.2 already be installed and will display only the installer screens related to registration.

When Sun Connection registration is complete, the Installer's Summary screen (Figure 4–9) appears, summarizing the steps that were performed during installation.

Figure 4–9 Installer Summary Screen



You can click the links on this screen for a detailed summary report and a log file giving more details on the installation.

13. Click the Exit button to dismiss the Summary screen.

    Message Queue installation is now complete.

    Tip: After installation is complete, you can check that the expected version of Message Queue has been installed by navigating to the *mqInstallHome*`/mq/bin` directory and executing the command

    ```
    $ imqbrokerd version
    ```

    The output from this command identifies the versions of Message Queue and the Java SDK that are installed on your system.

Installing in Silent Mode

In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

To create an answer file, start the Installer with the `-n` option:

```
$ ./installer n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Installer to execute a "dry run," presenting the sequence of GUI screens without actually performing the installation. Your input responses are recorded in the specified answer file. You can then perform the installation at a later time by starting the Installer with the `-s` ("silent") option, specifying the same answer file:

```
$ ./installer s a answerFile
```

This performs a silent installation as defined by the answer file, without visibly displaying the GUI screens.

Manually Configuring the Java Runtime Environment

The Message Queue Installer's JDK Selection screen is not the only way to specify a version of the Java Runtime Environment for Message Queue to use. The JRE used by the Message Queue command line utilities (`imqadmin`, `imqbrokerd`, `imqcmd`, `imqobjmgr`, `imqdbmgr`, `imqusermgr`, `imqkeytool`) is determined by the following sources, in order of precedence:

1. The `-jrehome` or `-javahome` command line option to the `imqbrokerd` command. (If both are specified, the one occurring last on the command line takes precedence).
2. The J2SE file location specified in the `jdk.env` file. (This file is deprecated, but is still supported for backward compatibility. For historical reasons, it has higher priority than anything else except option 1.)
3. The `IMQ_JAVAHOME` environment variable.
4. The environment variable `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file.
5. The system default locations, as specified in the documentation for your platform.

To check which version of the Java runtime Message Queue will use, enter the following command:

```
$ imqbrokerd version
```

The output from this command includes the version and pathname of the configured JRE: for example,

```
Java Runtime: 1.5.0_12 Sun Microsystems Inc. C:\Program Files\Java\jdk1.5.0\jre
```

When you specify a JRE location through the Installer's JDK Selection screen, the Installer saves that location as the value of `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file (option 4 in the list above). On AIX, this file is located by default at

mqInstallHome`/etc/mq/imqenv.conf`

After a successful Message Queue installation, it should include something like the following:

```
IMQ_DEFAULT_JAVAHOME=/usr/java5
```

You can override this setting, however, either by editing the `imqenv.conf` file or by setting one of the other options higher in the list. This can be useful, for instance, for testing or reconfiguring the broker when a newer JRE version becomes available. Understanding how the JRE is determined can also help in troubleshooting problems. For instance, if the `imqbrokerd -version` command shows that Message Queue is using an unexpected JRE, it may be that one of the higher-precedence options has been set inadvertently (such as by an old `jdk.env` file that should have been deleted).

Message Queue IPS Packages

Table 2–3 lists the IPS packages used by Message Queue.

Table 4–2 Message Queue IPS Packages

Name	Description
mq-bin-sh	Message Queue shell scripts for UNIX.
mq-branding	Turns on the Sun GlassFish Message Queue brand name.
mq-capi	Message Queue C-client development and C client runtime.
mq-config	Message Queue configuration.
mq-core	Message Queue Message Queue core/client runtime.
mq-locale	Message QueueMessage Queue examples and javadoc.
mq-server	Message Queue Message Queue broker.
mq-server-native	Message Queue broker native libraries.
mq	Message Queuemeta package (depends on all required MQ IPS packages). This package is not installed by the installer.
nss-libs	NSS libraries.
nss-utils	NSS utilties.

Installed Directory Structure

Table 4–3 shows the installed directory structure for Message Queue 4.5.2 on the AIX platform. Paths shown are relative to the Message Queue installation home directory, denoted by the directory variable *mqInstallHome*. This is the directory you specify to the Message Queue Installer in step 9 of the procedure To Install Message Queue in GUI Mode (by default, *home-directory*/MessageQueue).

Table 4–3 Installed Directory Structure (Solaris)

Directory	Contents
mqInstallHome/mq/bin	Executable files for Message Queue administration tools: ■ Administration Console (imqadmin) ■ Broker utility (imqbrokerd) ■ Command utility (imqcmd) ■ Object Manager utility (imqobjmgr) ■ Database Manager utility (imqdbmgr) ■ User Manager utility (imqusermgr) ■ Key Tool utility (imqkeytool) ■ Key Tool utility (imqkeytool) ■ Bridge Manager(imqbridgemgr)
mqInstallHome/mq/lib	Support files for Message Queue Java client runtime: ■ .jar files for building and running Java Message Service (JMS) client applications ■ .rar files for JMS Resource Adapter ■ .war files for HTTP servlet and Universal Message Service (UMS) deployment ■ Support files for Message Queue tools and processes ■ Support libraries for C client applications **Note:** See "Optional Support Components" in *Open Message Queue Release Notes* for the versions of Netscape Portable Runtime (NSPR) and Network Security Services (NSS) needed to support the C API.
mqInstallHome/mq/lib/props	Broker's default configuration files
mqInstallHome/mq/lib/ext	.jar or .zip files to be added to broker's CLASSPATH environment variable Typically used for configuring JDBC-based persistence or Java Authentication and Authorization Service (JAAS) login modules.
mqInstallHome/mq/lib/images	Administration GUI image files
mqInstallHome/mq/lib/help	Administration GUI help files
mqInstallHome/mq/javadoc	Message Queue and JMS API documentation in JavaDoc format
mqInstallHome/mq/examples	Example Java client applications
mqInstallHome/mq/examples/C(IMQ_HOME/examples/C)	Example C client applications
mqInstallHome/mq/include(IMQ_HOME/include)	Header files to support C client applications
mqInstallHome/var/mq	Message Queue working storage. This directory is created after the broker is started.
mqInstallHome/var/mq/instances	Configuration properties, file-based persistent data stores, log files, flat-file user repositories, and access control properties files for individual broker instances

Table 4–3 (Cont.) Installed Directory Structure (Solaris)

Directory	Contents
mqInstallHome/etc/mq	Message Queue configuration files, instance template files, sample password file, and so forth
mqInstallHome/var/install	Message Queue installer implementation, required jar files, and installer log files
mqInstallHome/var/install/contents/mq	Message Queue uninstall script
mqInstallHome/install	Message Queue files needed by installer and uninstaller
mqInstallHome/var/install/logs/mq	Message Queue installation/uninstallation logs and summary file

Updating Message Queue 4.5.2

Add-on components and related applications that are available for Sun GlassFish Message Queue 4.5.2 can easily be added to an existing installation without installing the software again.

To Update an Existing Installation of Message Queue

1. Stop all Message Queue processes (broker and client).
2. Change your working directory to *mqInstallHome*/bin.
3. Run Update Tool.

   ```
   ./updatetool
   ```

   The first time you run the command, you will be asked if you want to install Update Tool. When prompted, choose to install Update Tool.
4. After successful installation, re-run Update Tool.

   ```
   ./updatetool
   ```
5. Expand the Message Queue 4.4 Update 1 node and click the Available Updates tab.

   The Available Updates page is displayed.
6. In the table of available updates, select the components that you are updating.

   If no updates are available, the table is empty.

   - To select an individual component, select the checkbox adjacent to the name of the component.
   - To select all components, click the Select All icon in the table header.
   - To deselect all components, click the Deselect All icon in the table header.
7. Click Install.
8. Accept the license agreement.

   Message Queue confirms that the installation is complete. The components are removed from the table of available updates.

Uninstallation Procedure

Like the Installer, the Message Queue Uninstaller can be run in any of three modes of operation:

- In GUI (graphical user interface) mode, the Uninstaller presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI (or text) screens and responding to them interactively.

The following sections describe each of these three modes of Uninstaller operation.

Caution: The Message Queue installation includes several scripts and executables named `uninstaller`, both in the Installer `.zip` bundle and on your system after installation. To uninstall Message Queue 4.5.2, it is important that you run the correct `uninstaller` executable, located at

mqInstallHome`/var/opt/sun/install/contents/mq/uninstaller`

where *mqInstallHome* is the installation home directory you specified when you installed Message Queue (by default, *home-dir*`/Message Queue`). Be careful not to invoke some other uninstaller by mistake.

Uninstalling in GUI Mode

The following procedure shows how to use the Message Queue Uninstaller in GUI mode to uninstall Message Queue 4.5.2 from your AIX system.

To Uninstall Message Queue in GUI Mode

1. Set your working directory to the directory containing the Uninstaller.

   From your system's command line, enter the command

   `$ cd` *mqInstallHome*`/var/opt/sun/install/contents/mq`

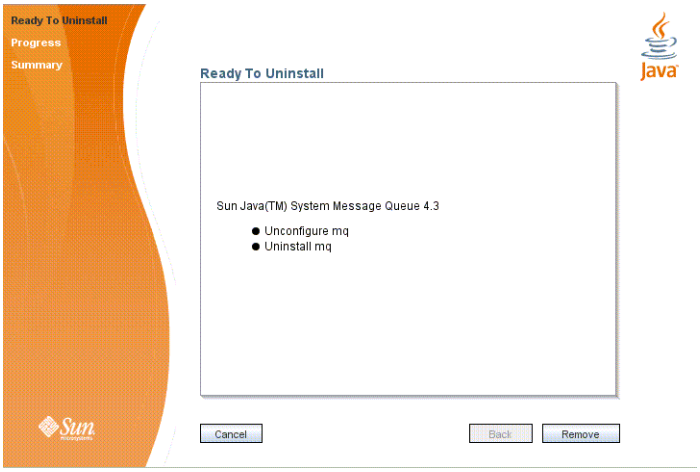
2. Start the Uninstaller.

   Enter the command

   ```
   $ uninstaller_bookmark Command="[Quick Mark]"
   ```

   The Uninstaller's Ready screen (Figure 4–10) appears.

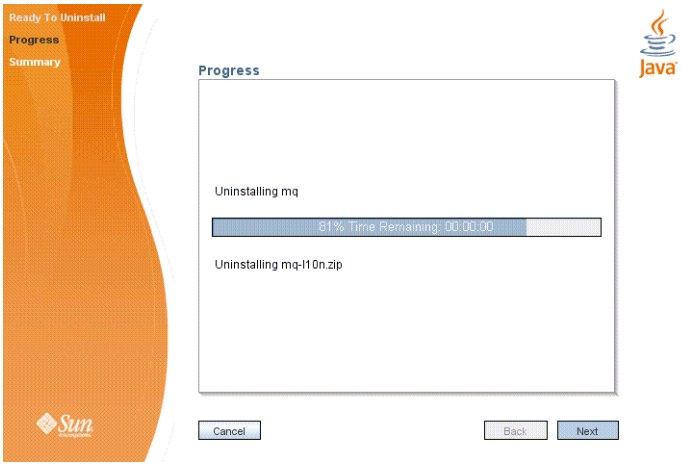
Figure 4–10 Uninstaller Ready Screen



3. Click the Remove button.

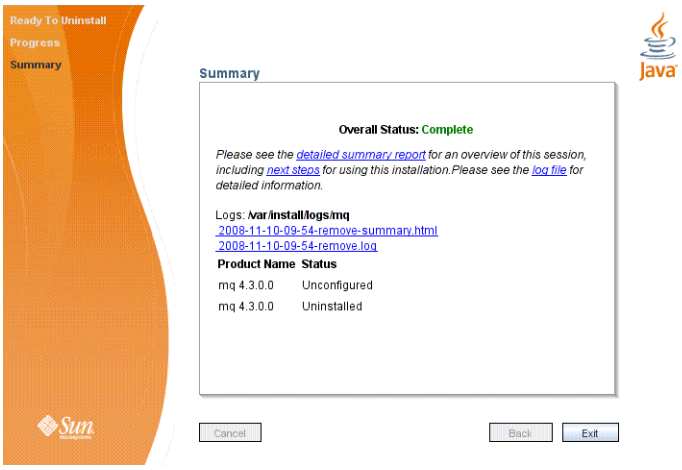
   The Uninstaller's Progress screen (Figure 4–11) appears.

Figure 4–11 Uninstaller Progress Screen



When uninstallation is complete, the Uninstaller's Summary screen (Figure 4–12) appears, summarizing the steps that were performed during uninstallation. You can click the links on this screen for a detailed summary report and a log file giving more details on the uninstallation.

Figure 4–12 Uninstaller Summary Screen



4. Click the Exit button to dismiss the Summary screen.

   Message Queue uninstallation is now complete.

Uninstalling in Silent Mode

In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively. To create an answer file, start the Uninstaller with the `-n` option:

```
$ uninstaller n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Uninstaller to execute a "dry run," presenting the sequence of GUI screens without actually performing the uninstallation. Your input responses are recorded in the specified answer file. You can then perform the uninstallation at a later time by starting the Uninstaller with the `-s` ("silent") option, specifying the same answer file:

```
$ uninstaller s a answerFile
```

This performs a silent uninstallation as defined by the answer file, without visibly displaying the GUI (or text) screens.

5

Windows Installation

This chapter covers the following topics as they apply to a Windows installation of Message Queue 4.5.2:

- Hardware Requirements
- Upgrading from Previous Versions
- Installation Procedure
- Message Queue IPS Packages
- Installed Directory Structure
- Updating Message Queue 4.5.2
- Uninstallation Procedure

Hardware Requirements

In order to install Message Queue 4.5.2, your Windows system should satisfy the minimum hardware requirements shown in Table 5–1. See Supported Platforms and Components for information on software requirements.

Table 5–1 Minimum Hardware Requirements for Windows Installation

Component	Minimum Requirements
CPU	Intel Pentium 3
RAM	256 MB (2 GB recommended for high-availability or high-volume deployments)
Disk space	Compressed installation (`.zip`) file: approximately 26 MB Temporary working directory (for extracting installation files): approximately 29 MB Installed product: approximately 31 MB. More space may be needed if broker stores persistent messages locally.

Upgrading from Previous Versions

Because Message Queue is often installed with other products, you should check whether it has already been installed on your system. To do so, enter the command

```
imqbrokerd -version
```

If you have a version older than Message Queue 4.4, perform the procedures described in To Back Up and Restore Broker Instance Data and Configuration Details and To Upgrade From An Older Version to Message Queue 4.5.2.

If you have Message Queue 4.4 or later, use the Update Tool to get the latest updates. See Updating Message Queue 4.5.2.

To Back Up and Restore Broker Instance Data and Configuration Details

To preserve broker instance data and configuration details from your previous Message Queue installation, perform the following procedure before you remove your previous installation.

1. Before you uninstall the previous installation of Message Queue, copy Message Queue data to a temporary location.
   - For Message Queue 4.4 and above, run the following commands:

     `cp -r` *mqInstallHome*`/etc/mq/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`/var/mq/* MQ_SAVE/var`
   - For Message Queue versions older than 4.4, run the following commands:

     `cp -r` *mqInstallHome*`/mq/etc/* MQ_SAVE/etc`

     `cp -r` *mqInstallHome*`mq/var/* MQ_SAVE/var`

   where `MQ_SAVE` is a temporary directory.

   You can proceed to uninstall the older version of Message Queue.
2. After installing Message Queue 4.5.2, perform the following steps:

   Copy the `MQ_SAVE\etc` folder to*mqInstallHome*`\etc\mq`.

   Copy the `MQ_SAVE\var` folder to *mqInstallHome*`\var\mq`.

   where `MQ_SAVE` is the temporary directory you used in Step 1.

To Upgrade From An Older Version to Message Queue 4.5.2

1. Use the uninstaller of the previous installation to remove Message Queue.
2. Use the Message Queue 4.5.2 Installer to install Message Queue 4.5.2

Installation Procedure

You can run the Message Queue Installer in either of two modes:

- In GUI (graphical user interface) mode, the Installer presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

The following sections describe each of these two modes of Installer operation.

Installing in GUI Mode

The following procedure shows how to use the Message Queue Installer in GUI mode to install the Message Queue 4.5.2 product on your Windows system.

To Install Message Queue in GUI Mode

1. Download the Message Queue Installer.

The Installer is available for download from the Message Queue product Web site at

http://www.sun.com/software/products/message_queue

It is distributed as a compressed archive (.zip) file named

mq4_4-installer-WINNT.zip

2. Decompress the Installer archive.

   a. Right-click on the mq4_4-installer-WINNT.zip file and choose Extract All from the context menu.

      The Windows Extraction Wizard opens.

   b. Follow the steps in the Extraction Wizard.

      This creates a folder named

      mq4_4-installer

      containing the files needed for Message Queue 4.5.2 installation.

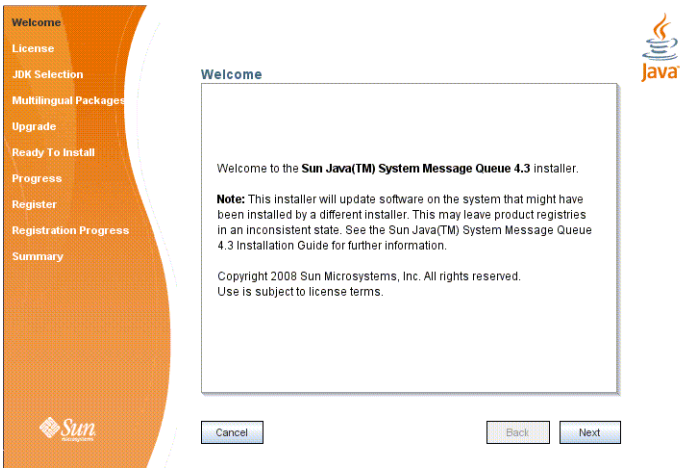
3. Open the Installer folder.

   Double-click on the mq4_4-installer folder to open it in Windows Explorer.

4. Start the Installer.

   Locate the Installer executable (a VBS script) and double-click to launch it. The Installer's Welcome screen (Figure 5–1) appears.

Figure 5–1 Installer Welcome Screen



On Windows Vista, Windows 2008, or Windows 7, yo install Message Queue on a directory that requires you to have Administrative Privileges, perform the following steps.

   a. Click the Windows Start button.

   b. Locate the Command Prompt in the list of programs.

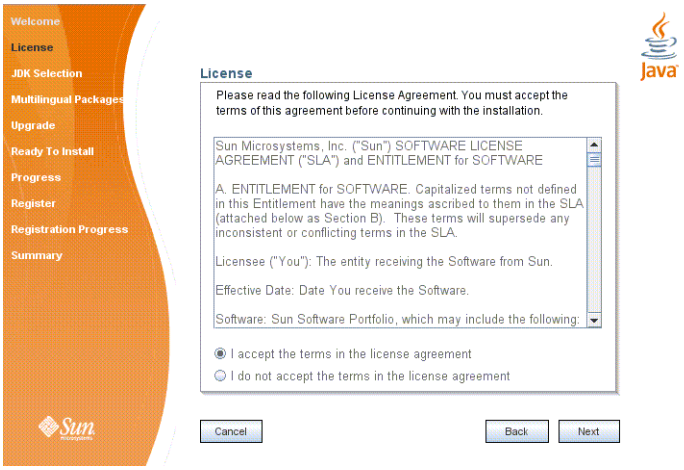
   c. Right-click the Command Prompt menu item and choose the Run as Administrator option.

   d. From the Command Prompt, change to the Directory where you have unzipped the Installer Archive, type the name of the Installer Executable (the VBS script file) and press Enter to launch the installer's Welcome Screen.

5. Click the Next button.

   The Installer's License screen (Figure 5–2) appears.

Figure 5–2 Installer License Screen



6. Read and accept the product license agreement.

   Installation and use of the Message Queue product are subject to your acceptance of the license agreement. You must read and accept the terms of the license agreement before installing the product.

   a. Read the product license agreement.

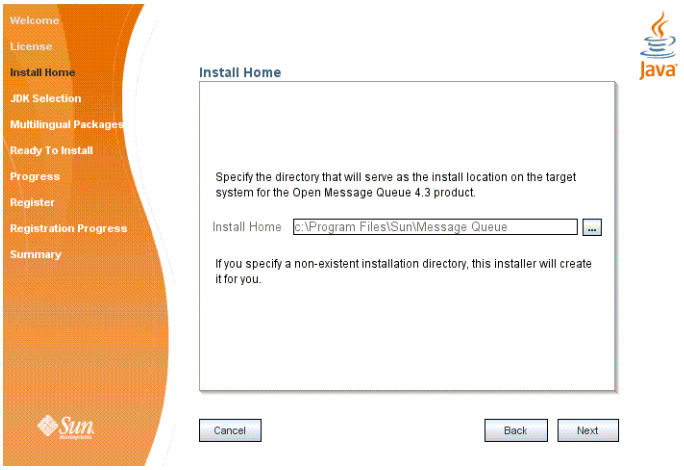
   b. Make sure the radio button labeled "I accept the terms in the license agreement" is selected.

   If you instead select "I do not accept the terms in the license agreement," the Next button becomes disabled. You cannot proceed with installation without accepting the license terms.

   c. Click the Next button.

   The Installer's Install Home screen (Figure 5–3) appears.

Figure 5–3 Installer Install Home Screen



7. Specify the home directory in which to install Message Queue.

a. Provide the location of the installation home directory.

Enter the path to the installation home directory in the text field, or use the button marked with an ellipsis (...) to browse to it interactively.

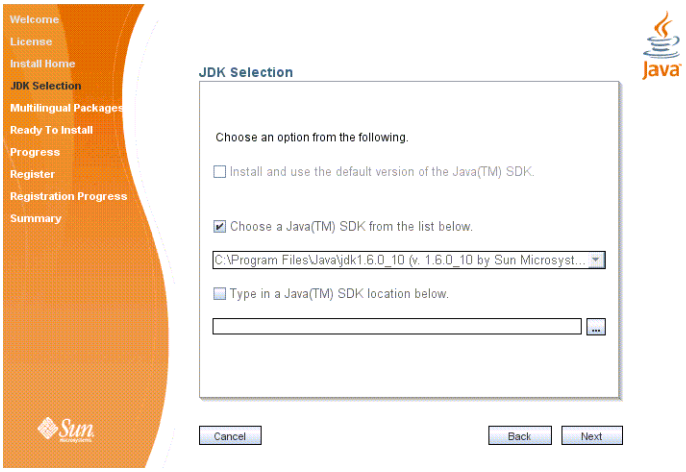
Note: If you enter a path to a directory that does not exist on your system, the Installer will create the directory for you automatically.

---

b. Click the Next button.

The Installer's JDK Selection screen (Figure 5–4) appears.

Figure 5–4 Installer JDK Selection Screen



8. Specify the version of the JDK for Message Queue to use.

a. Select a JDK.

You can do this in any of these ways:

– Choose a JDK installation that is already installed on your system.

The drop-down menu under the option "Choose a Java SDK from the list below" lists existing JDKs found in standard locations on your system. You can use this option to specify one of these JDKs for Message Queue to use.

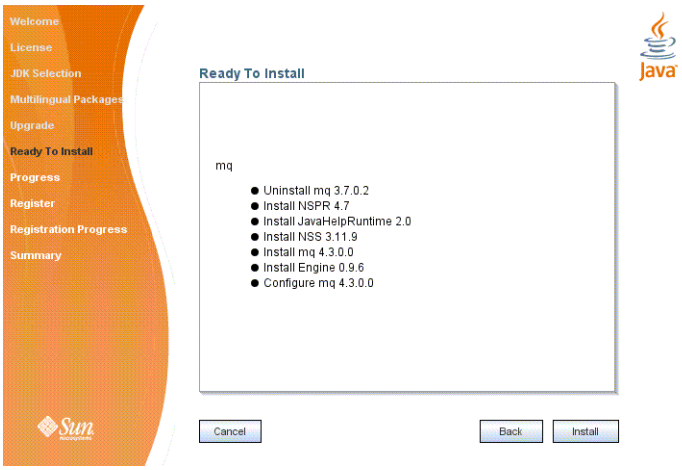
– Provide an explicit path to an existing JDK.

To use a JDK from a location other than the standard ones, enter its path in the text field under the option "Type in a Java SDK location below," or use the button marked with an ellipsis (...) to browse to it interactively.

b. Click the Next button.

The Installer's Ready screen (Figure 2–4) appears.

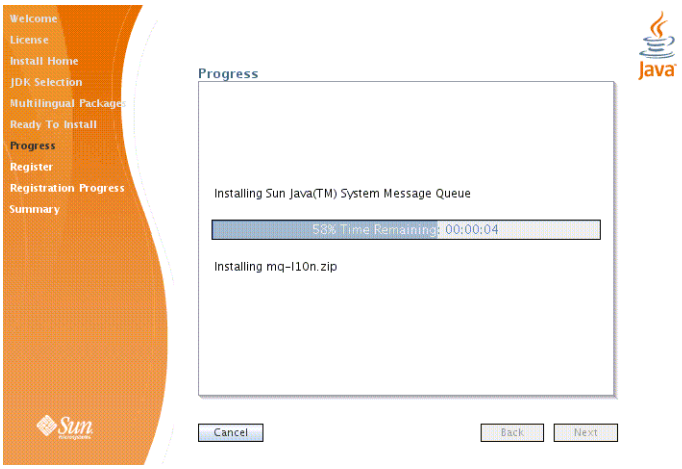
Figure 5–5 Installer Ready Screen



9. Click Install to begin the installation.

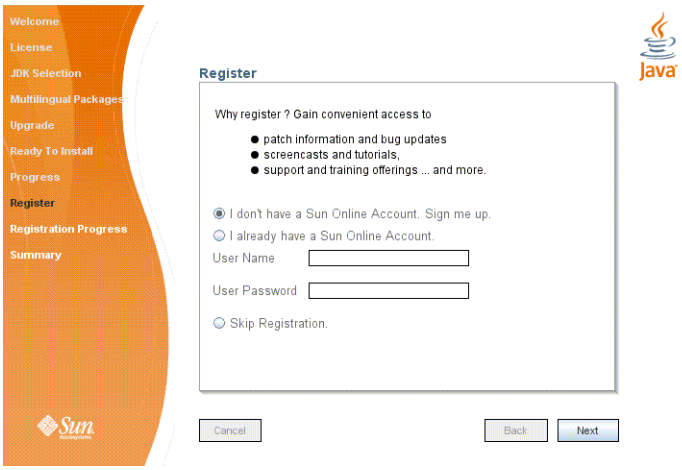
   The Installer's Progress screen (Figure 5–6) appears, tracking the progress of the installation as it proceeds.

Figure 5–6 Installer Progress Screen



   When installation is complete, the Installer's Sun Connection Registration screen (Figure 5–7) appears.

Figure 5–7 Sun Connection Registration Screen

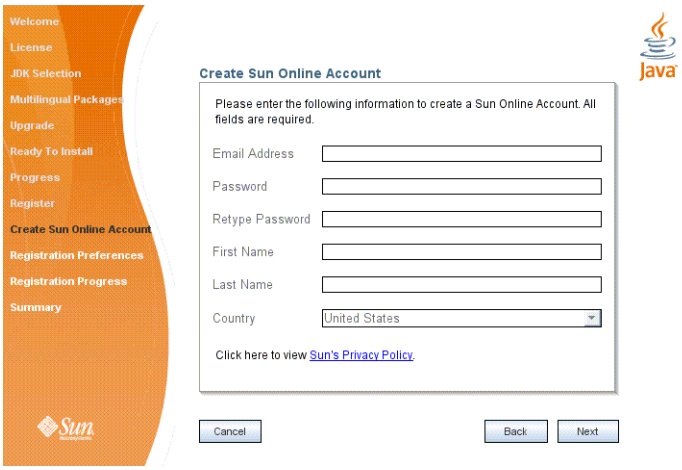


10. Register Message Queue with Sun Connection.

Sun Connection is a Sun-hosted service that helps you track, organize, and maintain Sun hardware and software. When you register a Message Queue installation with Sun Connection, information such as the release version, host name, operating system, installation date, and other such basic information is securely transmitted to the Sun Connection database. The Sun Connection inventory service can help you organize your Sun hardware and software, while the update service can inform you of the latest available security fixes, recommended updates, and feature enhancements.

Registration requires that you have a Sun Online account or create one. If you do not already have an account, the installer provides the following screen (Figure 5–8) for creating a Sun Online account:

Figure 5–8 Create Sun Online Account Screen



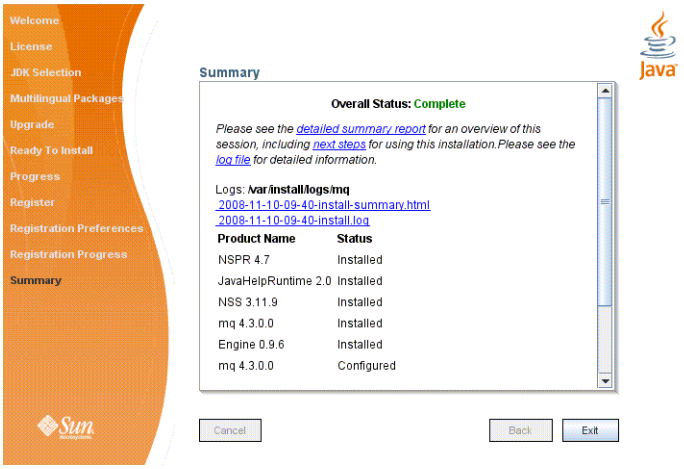
Note: If you choose not to register Message Queue during installation, you can subsequently register Message Queue by running the installer in register-only mode, as follows:

```
% installer -r
```

The register-only mode requires that Message Queue 4.5.2 already be installed and will display only the installer screens related to registration.

When Sun Connection registration is complete, the Installer's Summary screen (Figure 5–9) appears, summarizing the steps that were performed during installation.

Figure 5–9 Installer Summary Screen



You can click the links on this screen for a detailed summary report and a log file giving more details on the installation.

11. Click the Exit button to dismiss the Summary screen.

    Message Queue installation is now complete.

    Tip: After installation is complete, you can check that the expected version of Message Queue has been installed by navigating to the *mqInstallHome*`\mq\bin` directory and executing the following command:

    ```
    imqbrokerd -version
    ```

    The output from this command identifies the versions of Message Queue and the Java SDK that are installed on your system.

Installing in Silent Mode

In silent mode, the Installer operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the installation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

To create an answer file, start the Installer with the `-n` option:

```
installer -n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Installer to execute a "dry run," presenting the sequence of GUI screens without actually performing the installation. Your input responses are recorded in the specified answer file. You can then perform the installation at a later time by starting the Installer with the `-s` ("silent") option, specifying the same answer file:

```
installer -s -a answerFile
```

This performs a silent installation as defined by the answer file, without visibly displaying the GUI screens.

Manually Configuring the Java Runtime Environment

The Message Queue Installer's JDK Selection screen is not the only way to specify a version of the Java Runtime Environment for Message Queue to use. The JRE used by the Message Queue command line utilities (`imqadmin`, `imqbrokerd`, `imqcmd`, `imqobjmgr`, `imqdbmgr`, `imqusermgr`, `imqkeytool`) is determined by the following sources, in order of precedence:

1. The `-jrehome` or `-javahome` command line option to the `imqbrokerd` command. (If both are specified, the one occurring last on the command line takes precedence).
2. The J2SE file location specified in the `jdk.env` file. (This file is deprecated, but is still supported for backward compatibility. For historical reasons, it has higher priority than anything else except option 1.)
3. The `IMQ_JAVAHOME` environment variable.
4. The environment variable `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file.
5. The system default locations, as specified in the documentation for your platform.

To check which version of the Java runtime Message Queue will use, enter the command

```
imqbrokerd -version
```

The output from this command includes the version and pathname of the configured JRE: for example,

```
Java Runtime: 1.5.0_12 Sun Microsystems Inc. C:\Program Files\Java\jdk1.5.0\jre
```

When you specify a JRE location through the Installer's JDK Selection screen, the Installer saves that location as the value of `IMQ_DEFAULT_JAVAHOME` in the `imqenv.conf` file (option 4 in the list above). On Windows, this file is located by default at

```
C:\Program Files\Sun\MessageQueue\etc\mq\imqenv.conf
```

After a successful Message Queue installation, it should include something like the following:

```
set IMQ_DEFAULT_JAVAHOME =C:\Program Files\Java\jdk1.5.0_12
```

You can override this setting, however, either by editing the `imqenv.conf` file or by setting one of the other options higher in the list. This can be useful, for instance, for testing or reconfiguring the broker when a newer JRE version becomes available. Understanding how the JRE is determined can also help in troubleshooting problems. For instance, if the `imqbrokerd -version` command shows that Message Queue is using an unexpected JRE, it may be that one of the higher-precedence options has been set inadvertently (such as by an old `jdk.env` file that should have been deleted).

Configuring Message Queue for Automatic Startup

To start a Message Queue message broker automatically at Windows system startup, you must define the broker as a Windows service. The broker will then start at system startup time and run in the background until system shutdown. Consequently, you

will not need to use the Message Queue Broker utility (`imqbrokerd`) unless you want to start an additional broker.

To install a broker as a Windows service, use the Message Queue Service Administrator utility:

```
imqsvcadmin install
```

You can use the `imqsvcadmin` command's `-args` option to pass startup arguments to the broker. For more information, see the following sections:

- "Automatic Broker Startup on Windows" in *Open Message Queue Administration Guide*
- "Service Administrator Utility" in *Open Message Queue Administration Guide*

Message Queue IPS Packages

Table 2–3 lists the IPS packages used by Message Queue.

Table 5–2 Message Queue IPS Packages

Name	Description
`mq-bin-exe`	Message Queue shell scripts for Windows.
`mq-branding`	Turns on the Sun GlassFish Message Queue brand name.
`mq-capi`	Message Queue C-client development and C client runtime.
`mq-config`	Message Queue configuration.
`mq-core`	Message Queue Message Queue core/client runtime.
`mq-locale`	Message QueueMessage Queue examples and javadoc.
`mq-server`	Message Queue Message Queue broker.
`mq-server-native`	Message Queue broker native libraries.
`mq`	Message Queuemeta package (depends on all required MQ IPS packages). This package is not installed by the installer.
`nss-libs`	NSS libraries.
`nss-utils`	NSS utilties.

Installed Directory Structure

Table 5–3 shows the installed directory structure for Message Queue 4.5.2 on the Windows platform. Paths shown are relative to the Message Queue installation home directory, denoted by the directory variable *mqInstallHome*. This is the directory you specify to the Message Queue Installer in step 7 of the procedure To Install Message Queue in GUI Mode, above (by default, `C:\Program Files\Sun\MessageQueue`).

Table 5–3 Installed Directory Structure (Windows)

Directory	Contents
mqInstallHome\mq\bin(IMQ_HOME\bin)	Executable files for Message Queue administration tools: ■ Administration Console (imqadmin) ■ Broker utility (imqbrokerd) ■ Command utility (imqcmd) ■ Object Manager utility (imqobjmgr) ■ Database Manager utility (imqdbmgr) ■ User Manager utility (imqusermgr) ■ Key Tool utility (imqkeytool) ■ Message Queue uninstall script (nquninstall) All executable files have the filename extension .exe. This directory also includes other executables (imqbrokersvc).
mqInstallHome\mq\lib(IMQ_HOME\lib)	Support files for Message Queue Java client runtime: ■ .jar files for building and running Java Message Service (JMS) client applications ■ .rar files for JMS Resource Adapter ■ .war files for HTTP servlet and Universal Message Service (UMS) deployment ■ Support files for Message Queue tools and processes ■ Support libraries for C client applications **Note:** See "Optional Support Components" in *Open Message Queue Release Notes* for the versions of Netscape Portable Runtime (NSPR) and Network Security Services (NSS) needed to support the C API.
mqInstallHome\mq\lib\props(IMQ_HOME\lib\props)	Broker's default configuration files
mqInstallHome\mq\lib\ext(IMQ_HOME\lib\ext)	.jar or .zip files to be added to broker's CLASSPATH environment variable Typically used for configuring JDBC-based persistence or Java Authentication and Authorization Service (JAAS) login modules.
mqInstallHome\mq\lib\images(IMQ_HOME\lib\images)	Administration GUI image files
mqInstallHome\mq\lib\help(IMQ_HOME\lib\help)	Administration GUI help files
mqInstallHome\mq\javadoc(IMQ_HOME\javadoc)	Message Queue and JMS API documentation in JavaDoc format
mqInstallHome\mq\examples(IMQ_HOME\examples)	Example Java client applications
mqInstallHome\mq\examples\C(IMQ_HOME\examples\C)	Example C client applications
mqInstallHome\mq\include(IMQ_HOME\include)	Header files to support C client applications
mqInstallHome\var\mq(IMQ_VARHOME)	Message Queue working storage

Table 5–3 (Cont.) Installed Directory Structure (Windows)

Directory	Contents
mqInstallHome\var\mq\instances(IMQ_VARHOME\instances)	Configuration properties, file-based persistent data stores, log files, flat-file user repositories, and access control properties files for individual broker instances
mqInstallHome\etc\mq	Message Queue configuration files, instance template files, sample password file, and so forth
mqInstallHome\var\install	Message Queue installer implementation, required jar files, and installer log files
mqInstallHome\var\install\contents\mq	Message Queue uninstall script
mqInstallHome\install	Message Queue files needed by installer and uninstaller

Updating Message Queue 4.5.2

Add-on components and related applications that are available for Sun GlassFish Message Queue 4.5.2 can easily be added to an existing installation without installing the software again.

To Update an Existing Installation of Message Queue

1. Stop all Message Queue processes (broker and client).
2. Change your working directory to *mqInstallHome*/bin.
3. Run Update Tool.

   ```
   ./updatetool
   ```

   The first time you run the command, you will be asked if you want to install Update Tool. When prompted, choose to install Update Tool.
4. After successful installation, re-run Update Tool.

   ```
   ./updatetool
   ```
5. Expand the Message Queue 4.4 Update 1 node and click the Available Updates tab.

   The Available Updates page is displayed.
6. In the table of available updates, select the components that you are updating.

   If no updates are available, the table is empty.

   - To select an individual component, select the checkbox adjacent to the name of the component.
   - To select all components, click the Select All icon in the table header.
   - To deselect all components, click the Deselect All icon in the table header.
7. Click Install.
8. Accept the license agreement.

   Message Queue confirms that the installation is complete. The components are removed from the table of available updates.

Uninstallation Procedure

Like the Installer, the Message Queue Uninstaller can be run in either of two modes of operation:

- In GUI (graphical user interface) mode, the Uninstaller presents a series of graphical screens with which you interact using mouse clicks and keyboard text entry.
- In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively.

The following sections describe each of these three modes of Uninstaller operation.

Caution: The Message Queue installation includes several scripts and executables named `uninstaller`, both in the Installer `.zip` bundle and on your system after installation. To uninstall Message Queue 4.5.2, it is important that you run the correct `uninstaller` executable, located at

`mqInstallHome\var\install\contents\mq\uninstaller`

where *mqInstallHome* is the installation home directory you specified when you installed Message Queue 4.5.2 (by default, `C:\Program Files\Sun\MessageQueue`). Be careful not to invoke some other uninstaller by mistake.

Uninstalling in GUI Mode

The following procedure shows how to use the Message Queue Uninstaller in GUI mode to uninstall Message Queue 4.5.2 from your Windows system.

To Uninstall Message Queue in GUI Mode

1. Start the Windows Command Prompt utility.

   Choose Command Prompt from the Programs submenu of the Windows Start menu.

2. Set your working directory to the directory containing the Uninstaller.

   Enter the command

   `cd mqInstallHome\var\install\contents\mq`

   where *mqInstallHome* is the installation home directory you specified to the Message Queue Installer's Install Home screen in step 7 of the procedure To Install Message Queue in GUI Mode, above.

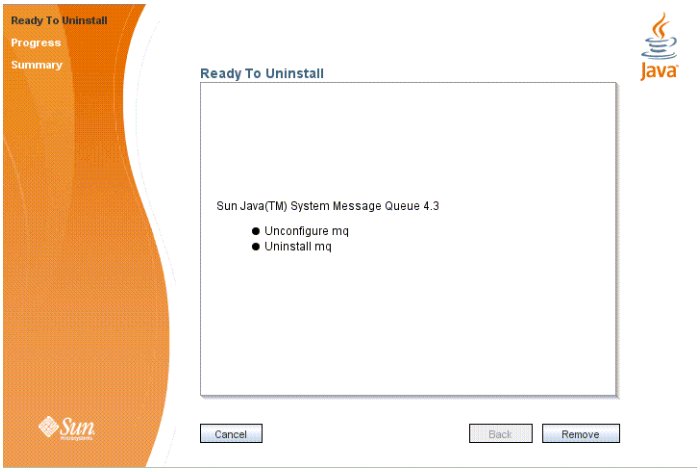
3. Start the Uninstaller.

   Enter the command

   `uninstaller`

   The Uninstaller's Ready screen (Figure 5–10) appears.

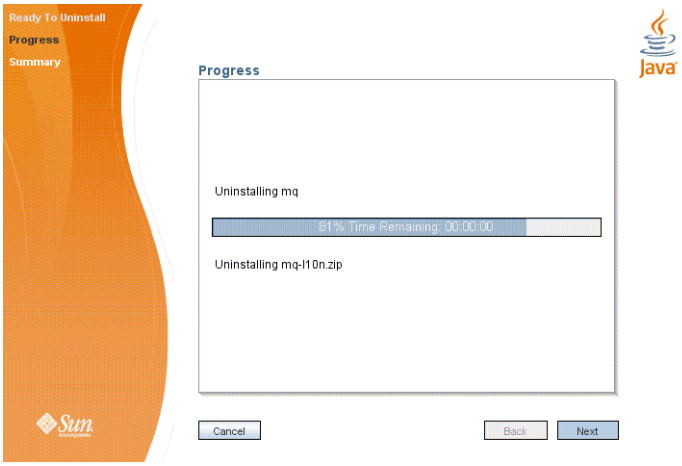
Figure 5–10 Uninstaller Ready Screen



4. Click the Remove button.

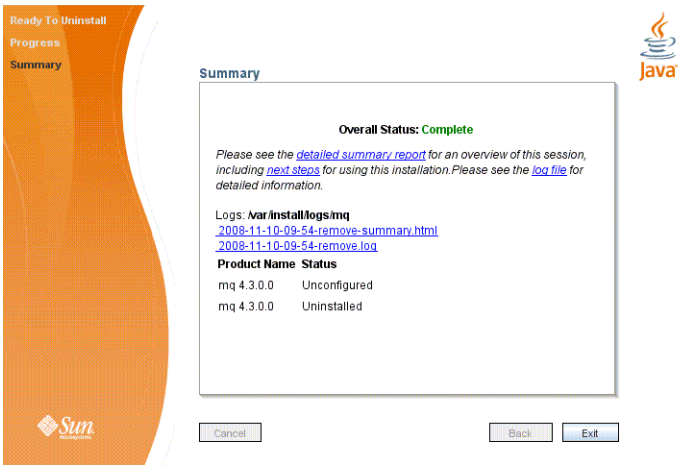
   The Uninstaller's Progress screen (Figure 5–11) appears.

Figure 5–11 Uninstaller Progress Screen



When uninstallation is complete, the Uninstaller's Summary screen (Figure 5–12) appears, summarizing the steps that were performed during uninstallation. You can click the links on this screen for a detailed summary report and a log file giving more details on the uninstallation.

Figure 5–12 Uninstaller Summary Screen



5. Click the Exit button to dismiss the Summary screen.

   Message Queue uninstallation is now complete.

Uninstalling in Silent Mode

In silent mode, the Uninstaller operates from a predefined answer file representing your responses to the GUI screens. This allows you to script the uninstallation process in advance and then perform it in batch mode without actually displaying the GUI screens and responding to them interactively. To create an answer file, start the Uninstaller with the `-n` option:

```
uninstaller -n answerFile
```

where *answerFile* identifies the file in which to record your responses. This causes the Uninstaller to execute a "dry run," presenting the sequence of GUI screens without actually performing the uninstallation. Your input responses are recorded in the specified answer file. You can then perform the uninstallation at a later time by starting the Uninstaller with the `-s` ("silent") option, specifying the same answer file:

```
uninstaller -s -a answerFile
```

This performs a silent uninstallation as defined by the answer file, without visibly displaying the GUI screens.

A

Command Line Options

Table A–1 shows the command line options that can be specified to the Message Queue 4.5.2 Installer and Uninstaller.

Table A–1 Installer and Uninstaller Options

Option	Description
`-j`	The Installer uses the JRE available at the location specified by this option.
`-n` *answerFile*	Dry run The Installer or Uninstaller will present its sequence of GUI screens (or text screens if the `-t` option is specified) without performing an actual installation or uninstallation. The user's actions will be recorded in the specified answer file for later use.
`-s`	Silent mode The Installer or Uninstaller will perform its operations without direct user interaction, under the control of an answer file (specified with the `-a` option).
`-a` *answerFile*	Answer file In silent mode (`-s` option), the contents of the specified answer file will be used to control the operation of the Installer or Uninstaller.
`-h`	Display usage help