



FUSE Message Broker

Installing FUSE Message Broker

Version 5.1
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Making Software Work Together™

Installing FUSE Message Broker

IONA Technologies

Version 5.1

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Preface

The FUSE Message Broker Library

The FUSE Message Broker documentation library consists of the following books:

- [Installing FUSE Message Broker on page 1](#) discusses the requirements and procedures for installing FUSE Message Broker
- [Getting Started with FUSE Message Broker](#) provides an overview of the central concepts behind FUSE Message Broker and walks you through a simple example.
- [Connectivity Guide](#) explains the different wire protocols and transports that FUSE Message Broker supports.
- [Using FUSE Message Broker's Persistence Features](#) describes how to enable message persistence using the AMQ Message Store or a relational database in FUSE Message Broker.

Open Source Project Resources

Apache CXF

Web site: <http://incubator.apache.org/cxf/>

User's list: <cxf-user@incubator.apache.org>

Apache Tomcat

Web site: <http://tomcat.apache.org/>

User's list: <users@tomcat.apache.org>

Apache ActiveMQ

Web site: <http://activemq.apache.org/>

User's list: <users@activemq.apache.org>

Apache Camel

Web site:
<http://activemq.apache.org/camel/enterprise-integration-patterns.html>

User's list: <camel-user@activemq.apache.org>

Apache ServiceMix

Web site: <http://servicemix.org/site/home.html>

User's list: <servicemix-users@geronimo.apache.org>

Document Conventions

Typographical conventions

This book uses the following typographical conventions:

<code>fixed width</code>	<p>Fixed width (Courier font) in normal text represents portions of code and literal names of items such as classes, functions, variables, and data structures. For example, text might refer to the <code>javax.xml.ws.Endpoint</code> class.</p> <p>Constant width paragraphs represent code examples or information a system displays on the screen. For example:</p> <pre>import java.util.logging.Logger;</pre>
<i>Fixed width italic</i>	<p>Fixed width italic words or characters in code and commands represent variable values you must supply, such as arguments to commands or path names for your particular system. For example:</p> <pre>% cd /users/YourUserName</pre>
<i>Italic</i>	<p>Italic words in normal text represent <i>emphasis</i> and introduce <i>new terms</i>.</p>
Bold	<p>Bold words in normal text represent graphical user interface components such as menu commands and dialog boxes. For example: the User Preferences dialog.</p>

Keying conventions






This book uses the following keying conventions:

No prompt	When a command's format is the same for multiple platforms, the command prompt is not shown.
%	A percent sign represents the UNIX command shell prompt for a command that does not require root privileges.
#	A number sign represents the UNIX command shell prompt for a command that requires root privileges.
>	The notation > represents the MS-DOS or Windows command prompt.
...	Horizontal or vertical ellipses in format and syntax descriptions indicate that material has been eliminated to simplify a discussion.
[]	Brackets enclose optional items in format and syntax descriptions.
{ }	Braces enclose a list from which you must choose an item in format and syntax descriptions.

	In format and syntax descriptions, a vertical bar separates items in a list of choices enclosed in {} (braces).
--	---

Admonition conventions

This book uses the following conventions for admonitions:

	Notes display information that may be useful, but not critical.
	Tips provide hints about completing a task or using a tool. They may also provide information about workarounds to possible problems.
	Important notes display information that is critical to the task at hand.
	Cautions display information about likely errors that can be encountered. These errors are unlikely to cause damage to your data or your systems.
	Warnings display information about errors that may cause damage to your systems. Possible damage from these errors include system failures and loss of data.

Installation Prerequisites

Before attempting to install and use FUSE Message Broker, make sure your system meets the minimum requirements.

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Before installing FUSE Message Broker, do the following:

1. Read this guide to understand the installation process.
2. Make sure your systems meet the minimum requirements for installing and using FUSE Message Broker.

Supported Platforms

IONA tests and supports FUSE products on the platforms listed in [Table 1 on page 16](#). Support for additional operating systems and versions is considered on a case-by-case basis.

Table 1. Supported Platforms

Operating System	Hardware	OS Patches
Windows XP	x86	SP2
Windows Server 2003	x86	
Red Hat Enterprise Linux Advanced Server 4.0	x86, x86_64	
SuSE Linux Enterprise Server 9	x86_64	
Ubuntu Linux 7.04	x86_64	SP1
Solaris 8 (32-bit)	SPARC	108827-12; 108434-09 (32-bit C++ runtime); 108827-12 (libthread patch); 111685-01 patch
Solaris 9 (32-bit)	SPARC	111685-01 patch
Solaris 10 (32-bit)	SPARC	111685-01 patch
Solaris 8 (64-bit)	SPARC	
Solaris 9 (64-bit)	SPARC	
Solaris 10 (64-bit)	SPARC	
HP-UX 11i	PA-RISC	PHSS_24638 (aCC runtime); PHCO_24402 (1.0 libc cumulative header file patch 60); PHCO_25452 (1.0 libc cumulative patch 23632); PHSS_24304 (1.0 ld and linker tools cumulative patch 21234)
Macintosh OS X Tiger (10.4)	PowerPC, x86	

Java and Compiler Requirements

Java Runtime

To run applications developed with FUSE Message Broker, you must have JRE 1.5.0_11 or newer.

Java Development

To develop applications using FUSE Message Broker, you must have JDK 1.5.0_11 or newer.

It is also recommended that you have Apache Ant 1.6.5 or higher. The sample programs supplied with FUSE Message Broker are set up to build and run using Apache Ant. You can download Apache Ant from <http://ant.apache.org/bindownload.cgi>.



Important

Only JREs and JDKs distributed or OEMed from Sun Microsystems are supported. (That is, FUSE Message Broker is not guaranteed to run with `gcj`.) On Red Hat-derived Linux systems, `gcj` is the default Java distribution. In these cases, you must download and install a Sun JRE/JDK and set the `JAVA_HOME` environment variable. You can also integrate the Sun JRE/JDK into the `alternatives(1)` system. See the `alternatives(1)` man page for details.

Disk Space Requirements

Table 2 on page 18 shows the amount of disk space you will need to install FUSE Message Broker.

Table 2. Disk Space Requirements

Installation Type	Windows	Linux
As installed by the Java installer	34 MB	34 MB
Source installation, as installed	17 MB	20 MB
Source installation, after building	200 MB ^a	210 MB ^a

^aplus up to 600 MB placed in the Maven `$HOME/.m2` and `.maven` directories.

Installing FUSE Message Broker

The cross-platform FUSE Message Broker installer makes it easy to install the tools needed to build and deploy the FUSE Message Broker.

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Installer Files

Table 3 on page 20 lists the available installation files for FUSE Message Broker.

Table 3. *Installer Files*

File	Description
<code>fuse-message-broker-5.1-windows.exe</code>	Installer for Windows platforms.
<code>fuse-message-broker-5.1-unix.bin</code>	Installer for Linux, OS X, and all UNIX platforms.
<code>fuse-message-broker-5.1-src.zip</code>	Source code installation package for all platforms. If you prefer to build FUSE Message Broker from source, see Installing from Source Code on page 29 .

Running the Installer

The installer is a Java application that can run in one of three modes:

- [GUI on page 22](#)
- [Console on page 24](#)
- [Silent on page 26](#)



Warning

Under certain conditions, the UNIX installer might throw an `InvocationTargetException` exception.

This is the result of a known bug in InstallAnywhere when `gcj` is the default Java version. The workaround is to install a Sun JVM and make sure its `java` executable is before any others on your path.

Installing in GUI Mode

Overview

By default, the installer runs as a Java GUI. In this mode, you have full control over what is installed on your local machine.

Running the installer

Use the following steps to install FUSE Message Broker in GUI mode:

1. For UNIX, log in as (or **su** to) the username that will own the FUSE Message Broker installation. The default installation path presumes you have root access, but you can specify any installation directory for which you have write rights.
2. Start the installer by entering the following command:

Table 4. Command for Running the Installer in GUI Mode

Platform	Command
Windows	<code>fuse-message-broker-5.1-windows.exe</code>
UNIX	<code>sh fuse-message-broker-5.1-unix.bin</code>

3. Click Next.
4. Read and accept the **License Agreement**, then click Next.
5. Specify the top-level directory for your installation.

Table 5. Default Installation Directory

Platform	Default Value
UNIX	<code>/opt/iona/fuse-message-broker-5.1</code>
Windows	<code>C:\IONA\fuse-message-broker-5.1</code>



Tip

Click Choose to select a path by navigating to it.

6. Click Next.

7. If you are installing on Windows you will need to specify where the installer will create program icons.



Tip

If you want to install the icons for all users check the Create Icons for All Users box.

8. Click Next.
9. Review the installation summary.

If you see something you need to correct, click the Previous button to go back through the installation steps.

If the summary is correct, click Install.
10. Choose whether you want the installer to save the selected options in a properties file.

The properties file is used to perform identical installations on other machines in a silent installation, as described in [Installing in Silent Mode on page 26](#).
11. Click Next.
12. If you choose to save the installer properties, enter a path name for the properties file and click Next.
13. Click Next.
14. Click Done to complete the installation.

Installing in Console Mode

Overview

The installer's console mode is provided for situations where you want to have control over what is installed, but cannot launch a Java GUI. In console mode, you are presented with the same options as in GUI mode.



Note

Console mode is only for UNIX and Linux systems. Do not use the `-i console` option when installing on Windows.

Running the Installer

Use the following steps to install FUSE Message Broker using console mode:

1. Start the installer:

```
sh fuse-message-broker-5.1-unix.bin -i console
```

2. Press **Enter** a number of times to page through the license agreement.
3. Accept the license agreement by entering **y**.



Note

Entering **n** exits the installer.

4. Press **Enter**.
5. Enter your the full path to a top-level directory to contain your installation.
6. Review the installation summary.
7. If the summary is correct, press **Enter**.



Tip

You can type **back** to step backwards through the installer if the summary is not correct.

8. Choose whether to create a properties file.

The properties file can be used to perform identical installations on other machines, as described in [Installing in Silent Mode on page 26](#).

9. If you choose to save the installer properties, enter a path name for the properties file.
10. Press **Enter** to exit the installer.

Installing in Silent Mode

Overview

The installer's silent mode is intended for use in installing on remote machines. It is also useful for administrators to set up installations in which the person installing cannot change any installation options. You can customize how FUSE Message Broker is installed by providing an `installer.properties` file specifying the options you wish to install.

Running the Installer

To install FUSE Message Broker using the silent installation mode, do the following:

1. If you do not want a default installation, create an `installer.properties` file that specifies how you want FUSE Message Broker installed.

You can create an `installer.properties` file in one of two ways:

- Save one when running the installer in GUI or console mode.
- Create a new one using a text editor. See [Table 7 on page 27](#) for the possible entries.

2. Run the installer using the following command:

Table 6. Command for Running the Installer in Silent Mode

Platform	Command
Windows	<code>fuse-message-broker-5.1-windows -i silent [-f installer.properties]</code>
UNIX	<code>sh fuse-message-broker-5.1-unix.bin -i silent [-f installer.properties]</code>

The `-f` argument instructs the installer to load the specified properties file. (If you specify `-i silent` without the `-f` argument, the installer silently performs a default installation.)

Silent Installation Properties

[Table 7 on page 27](#) shows the properties you can set and their possible values.



Note

When specifying Windows paths, escape the colon in drive letter specifications with a backslash, and double any backslash path separators. In your `JDK_HOME` entry, you can use the 8.3 version of space-containing directory names, but do not use space-containing path components in your `USER_INSTALL_DIR` entry. (Use `DIR /X` to determine the 8.3 version of file and directory names.)

Table 7. Installer Properties

Property	Values	Description
<code>USER_INSTALL_DIR</code>	The full path to the top-level directory where you want the product installed.	Specify a full absolute path, making sure no path component has a space in its name.
<code>CHOSEN_INSTALL_FEATURE_LIST</code>	There is only one feature component for FUSE Message Broker, <code>AMQ</code> .	
<code>SILENT_ACCEPT_LICENSE_AGREEMENT</code>	<code>true</code> (default) or <code>false</code>	Specifies whether the installer accepts the license agreement without prompting.
<code>JDK_HOME</code>	The full absolute path to the JDK that FUSE Message Broker will use.	This is the same path that should be set in the <code>JAVA_HOME</code> environment variable.
<code>INSTALLER_UI</code>	<code>silent</code> , <code>gui</code> (default), or <code>console</code>	Specifies the mode in which the installer runs.
<code>USER_INPUT_SAVE_PROPERTIES_YES_NO</code>	<code>Yes</code> (default) or <code>No</code>	Specifies whether you want to save a properties file that describes the current run of the installer.
<code>SET_PATH</code>	This entry is not used by the FUSE Message Broker installer.	

Example Installer Properties File

[Example 1 on page 27](#) shows a sample `installer.properties` file for a Windows system.

Example 1. Installer Properties File

```
❶ USER_INSTALL_DIR=C:\\iona\\fuse-message-broker-4.1
   CHOSEN_INSTALL_FEATURE_LIST=AMQ
❷ SILENT_ACCEPT_LICENSE_AGREEMENT=true
```

Installing FUSE Message Broker

```
❸ JDK_HOME=C:\\Progra~1\\Java\\jdk1.5.0_11
❹ INSTALLER_UI=silent
❺ USER_INPUT_SAVE_PROPERTIES_YES_NO=No
```

The properties file shown in [Example 1 on page 27](#) tells the installer to do the following:

- ❶ Install FUSE Message Broker into
C:\\iona\\fuse-message-broker-4.1.
- ❷ Accept the license agreement without prompting.
- ❸ Use the specified JDK.
- ❹ Run the installer silently.
- ❺ Do not save an `installer.properties` file.

Installing from Source Code

The FUSE Message Broker source distribution includes the source code and tools for building a number of the components included in FUSE Message Broker. Once built, you can use them to create an installation of FUSE Message Broker.

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Before installing FUSE Message Broker from source code, do the following:

1. Read this chapter to make sure you understand the build process.
2. Make sure your system has the required tools for building from source.
3. Make sure your system meets the minimum requirements for using FUSE.

Source Installation Requirements

You must have the following in order to build a FUSE product from its source distribution:

- An active connection to the Internet. The build system uses the Maven build engine, which connects to one or more Maven repositories on the Internet to download JAR files that are determined to be dependencies of the current build.
- [A Java 5 JDK](#)
- [Apache Maven 2](#)
- [Apache Ant](#)

Java 5 JDK

You must have installed a Java Development Kit (JDK), version 1.5.0_11 or later. You can download the JDK from <http://java.sun.com/javase/downloads/previous.jsp>.

Once you have installed the JDK you must:

1. Set the `JAVA_HOME` environment variable to point to the top-level directory containing your JDK.
2. Add the JDK's `bin` directory to the `PATH`.

On Windows, the Sun JDK installs by default into `C:\Program Files\Java\jdk1.5.0_11`. When specifying this path in your `JAVA_HOME` environment variable, you can use `Program~1` instead of `Program Files`, as shown in the [example scripts](#) below.

Apache Maven

Apache Maven is a popular build management tool. FUSE source builds require Apache Maven 2.0.9 or later; you can download Apache Maven from <http://maven.apache.org/download.html>.

Once you have installed Apache Maven, you must:

1. Set the `M2_HOME` environment variable to point to the top-level directory containing your Maven installation.

2. Add Maven's `bin` directory to the `PATH`.
3. Set the `MAVEN_OPTS` environment variable to `-Xmx512M` to give the Maven build more memory in which to run.

Apache Ant

Building FUSE source and sample code also requires Apache Ant. The source build requires Apache Ant 1.6.5 or later; you can download it from <http://ant.apache.org/bindownload.cgi>.

After unzipping the Apache Ant distribution, you must:

1. Set the `ANT_HOME` environment variable to the top-level directory where you unzipped Apache Ant.
2. Add Apache Ant's `bin` directory to your `PATH`.



Tip

The archive file containing Maven unpacks into a directory named with the Maven version number, such as `maven-2.0.9`. Likewise, the Ant distribution unpacks by default into a directory such as `apache-ant-1.7.0`. You can plan ahead for future releases by unpacking these distributions to a temporary location, then copying their contents into unversioned directory names, such as (for Windows) `C:\Maven` and `C:\Ant`. On UNIX, you can unpack the distribution to `/opt/maven-2.0.9`, then create a symbolic link from `/opt/maven` to `/opt/maven-2.0.9`. That way, when you decide to download a newer release, you can repeat this process to copy or link to the latest release, without having to change your environment settings.

Example Scripts

You can make all settings for the required programs with a script like the following examples. Adjust the paths in these examples to reflect your actual installed locations of Ant, Maven, and the JDK.

Example 2. Windows Environment Script

```
set JAVA_HOME=C:\Progra~1\Java\jdk1.5.0_11
set ANT_HOME=C:\Ant
set M2_HOME=C:\Maven
```

```
set PATH=%JAVA_HOME%\bin;%PATH%
set PATH=%ANT_HOME%\bin;%PATH%
set PATH=%M2_HOME%\bin;%PATH%
set MAVEN_OPTS=-Xmx512M
```

Example 3. UNIX and Linux Environment Script

```
export JAVA_HOME=/usr/lib/jvm/java-1.5.0-sun
export ANT_HOME=/opt/ant
export M2_HOME=/opt/maven
export PATH=$JAVA_HOME/bin:$PATH
export PATH=$ANT_HOME/bin:$PATH
export PATH=$M2_HOME/bin:$PATH
export MAVEN_OPTS=-Xmx512M
```


Unpacking the Distribution

The source distribution is packaged as a `.zip` file that must be unpacked before you can build the FUSE Message Broker installation. Unpack the distribution into a directory to which you have full access.



Warning

Do not unpack the archive file into a folder that has spaces in its path name. For example, do not unpack into `C:\Documents and Settings\Greco Roman\Desktop\fusesrc`.

Building the Source

Build the FUSE Message Broker distribution using the instructions in this section.

Build Commands

Follow these steps to build the entire distribution.

1. Change to the `src` subdirectory of the folder into which you unpacked the source distribution.
2. Run the following command:

```
mvn install -Dmaven.test.skip=true
```



Tip

If you have errors building the source distribution, try removing your private Maven repository (`$HOME/.m2/repository/*`), then running

```
mvn -U install.
```

You can run the same build including all unit tests by removing the `-Dmaven.test.skip=true` argument from the above command. Note that building with tests enabled takes much longer.

Distribution Files Built

When the build runs successfully, FUSE Message Broker distribution `.zip` and `.tar.gz` files are found in the `apache-servicemix-fuse/src/distribution/apache-servicemix/target` folder of the source installation directory.

To install FUSE Message Broker from the a newly built distribution file, unzip its contents into the directory of your choice.

Uninstalling FUSE Message Broker

This chapter describes how to uninstall FUSE Message Broker.

Uninstalling On Windows Systems

To uninstall FUSE Message Broker on a Windows system, do the following:

1. From the Windows Start menu, select (All) Programs → IONA → FUSE Message Broker 5.1 → Uninstall FUSE Message Broker 5.1.
2. Click Uninstall.

As an alternative, you can run the following from a command prompt:

```
InstallDir\uninstall\uninstall-fuse-message-broker.exe
```

Uninstalling on UNIX Systems

To uninstall FUSE Message Broker on Linux and UNIX systems, run the following script:

```
InstallDir/uninstall/uninstall-fuse-message-broker
```



Important

Remember that after a silent installation, the next uninstallation is also run silently.

