



FUSE ESB

Installing FUSE ESB

Version 2.0
July 2007

Making Software Work Together™

Installing FUSE ESB

IONA Technologies

Version 2.0

Published 10 Jul 2007

Copyright © 1999-2007 IONA Technologies PLC

Trademark and Disclaimer Notice

IONA Technologies PLC and/or its subsidiaries may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this publication. Except as expressly provided in any written license agreement from IONA Technologies PLC, the furnishing of this publication does not give you any license to these patents, trademarks, copyrights, or other intellectual property. Any rights not expressly granted herein are reserved.

IONA, IONA Technologies, the IONA logos, Orbix, Artix, FUSE, Making Software Work Together, Adaptive Runtime Technology, Orbacus, IONA University, and IONA XMLBus are trademarks or registered trademarks of IONA Technologies PLC and/or its subsidiaries.

Java and J2EE are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries. CORBA is a trademark or registered trademark of the Object Management Group, Inc. in the United States and other countries. All other trademarks that appear herein are the property of their respective owners.

While the information in this publication is believed to be accurate, IONA Technologies PLC makes no warranty of any kind to this material including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. IONA shall not be liable for errors contained herein, or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Copyright Notice

No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, photocopying, recording or otherwise, without prior written consent of IONA Technologies PLC. No third-party intellectual property right liability is assumed with respect to the use of the information contained herein. IONA Technologies PLC assumes no responsibility for errors or omissions contained in this publication. This publication and features described herein are subject to change without notice.

Table of Contents

Preface	vi
About This Book	vi
What is Covered in This Book	vi
Who Should Read This Book	vi
How to Use This Book	vi
Using the FUSE ESB Library	vi
Getting the Latest Version	vi
Searching the FUSE Library	vii
Additional Resources for Help	vii
Additional IONA Resources	vii
Open Source Project Resources	vii
Document Conventions	viii
1. Installation Prerequisites	1
Before You Begin	1
Supported Platforms	1
Java and Compiler Requirements	2
Disk Space Requirements	2
2. Installing FUSE ESB	4
Installer Files	4
Running the Installer	4
Installing FUSE ESB Using GUI Mode	5
Installing Using Console Mode	6
Installing FUSE ESB in Silent Mode	7
3. Installing from Source Code	10
Source Installation Prerequisites	10
Source Installation Requirements	10
Unpacking the Distribution	12
Building the Source	12
Distribution Files Built	13
4. Uninstalling FUSE ESB	14

List of Tables

1.1. Supported Platforms	1
1.2. Disk Space Requirements	2
2.1. Installer Files	4
2.2. Default Installation Directory	5
2.3. Installer Properties	8

List of Examples

2.1. Installer Properties File 9

Preface

About This Book

What is Covered in This Book

This book describes the prerequisites for installing FUSE ESB and the procedures for installing FUSE ESB on supported systems.

Who Should Read This Book

This guide is intended for all users of FUSE ESB.

How to Use This Book

This guide is divided into the following sections:

- Chapter 1, Installation Prerequisites details the supported operating systems and the required support tools.
- Chapter 2, Installing FUSE ESB describes the installation options and details the steps to install FUSE ESB.
- Chapter 3, Installing from Source Code describes the procedure to build FUSE ESB from its source distribution.
- Chapter 4, Uninstalling FUSE ESB describes how to uninstall FUSE ESB.

Using the FUSE ESB Library

Getting the Latest Version

The latest updates to the FUSE Services Framework documentation can be found at <http://open.iona.com/documentation>.

Compare the version dates on the web page for your product version with the date printed on the copyright page of the PDF edition of the book you are reading.

Searching the FUSE Library

You can search the online documentation by using the Search box at the top right of the documentation home page:

<http://open.iona.com/documentation/>

To search a particular library version, browse to the required index page, and use the Search box at the top right or the page.

You can also search within the PDF versions of each book. To search within a PDF, in Adobe Reader, select Edit → Find, and enter your search text.

Additional Resources for Help

Additional IONA Resources

The IONA Knowledge Base [<http://www.iona.com/support/kb>] (<http://www.iona.com/support/kb>) contains helpful articles written by IONA experts about Inferno and other products.

The IONA Update Center [<http://www.iona.com/support/updates/index.xml>] (<http://www.iona.com/support/updates/index.xml>) contains the latest releases and patches for IONA products.

If you need help with this or any other IONA product, go to IONA Online Support [<http://www.iona.com/support/index.xml>] (<http://www.iona.com/support/index.xml>).

Comments, corrections, and suggestions on IONA documentation can be sent to IONA using the Email Us button at the top of each HTML documentation page.

Open Source Project Resources

Apache Incubator 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 Incubator 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/<i>YourUserName</i></pre>

<i>Italic</i>	Italic words in normal text represent <i>emphasis</i> and introduce <i>new terms</i> .
Bold	Bold words in normal text represent graphical user interface components such as menu commands and dialog boxes. For example: the User Preferences dialog.





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.

Chapter 1. Installation Prerequisites

Summary

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

Before You Begin

Before installing FUSE ESB, 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 ESB.

Supported Platforms

IONA tests and supports FUSE products on the platforms listed in Table 1.1, “Supported Platforms”. Support for additional operating systems and versions is considered on a case-by-case basis.

Table 1.1. 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	

Operating System	Hardware	OS Patches
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 ESB, you must have JRE 1.5.0_11 or newer.

Java Development

To develop applications using FUSE ESB, 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 ESB are set up to build and run using Apache Ant. You can download Apache Ant from <http://ant.apache.org/bindownload.cgi>.



Note

Only JREs and JDKs distributed or OEMed from Sun Microsystems are supported. (That is, FUSE ESB 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 1.2, “Disk Space Requirements” shows the amount of disk space you will need to install FUSE ESB.

Table 1.2. Disk Space Requirements

Installation Type	Windows	Linux
As installed by the Java installer	66 MB	66 MB

Installation Prerequisites

Installation Type	Windows	Linux
Source installation, as installed	15 MB	20 MB
Source installation, after building	248 MB ^a	456 MB ^a

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

Chapter 2. Installing FUSE ESB

Summary

The cross-platform FUSE ESB installer makes it easy to install the tools needed to build and deploy a SOA.

Installer Files

Table 2.1, “Installer Files” lists the available installation files for FUSE ESB.

Table 2.1. Installer Files

File	Description
<code>fuse-esb-<i>version</i>-windows.exe</code>	Installer for Windows platforms.
<code>fuse-esb-<i>version</i>-unix.bin</code>	Installer for Linux, OS X, and all UNIX platforms.
<code>fuse-esb-<i>version</i>-src.zip</code>	Source code installation package for all platforms. If you prefer to build FUSE ESB from source, see Chapter 3, Installing from Source Code.

Running the Installer

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

- GUI
- Console
- Silent



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 FUSE ESB Using 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 ESB in GUI mode:

1. For UNIX, log in as (or su to) the username that will own the FUSE ESB 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:

Windows

```
fuse-esb-version-windows.exe
```

UNIX

```
sh fuse-esb-version-unix.bin
```

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

Table 2.2. Default Installation Directory

Platform	Default Value
UNIX	<code>/opt/iona/fuse-esb-version</code>
Windows	<code>C:\IONA\fuse-esb-version</code>



Tip

Click Choose to select a path by navigating to it.

6. Click Next.

7. 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.

8. 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 FUSE ESB in Silent Mode.

9. Click Next.

10. If you choose to save the installer properties, enter a path name for the properties file and click Next.

11. Click Next.

12. Click Done to complete the installation.

Installing Using 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 ESB using console mode:

1. Start the installer:

```
sh fuse-esb-version-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 FUSE ESB in Silent Mode](#).

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 FUSE ESB 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 ESB is installed by providing an `installer.properties` file specifying the options you wish to install.

Running the Installer

To install FUSE ESB 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 ESB 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 2.3, “Installer Properties” for the possible entries.

2. Run the installer using the following command:

Windows

```
fuse-esb-version-windows -i silent [-f installer.properties]
```

UNIX

```
sh fuse-esb-version-unix.bin -i silent [-f installer.properties]
```

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 2.3, “Installer Properties” 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 2.3. 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 ESB, <code>SMX</code> .	

Property	Values	Description
SILENT_ACCEPT_LICENSE_AGREEMENT	true (default) or false	Specifies whether the installer accepts the license agreement without prompting.
JDK_HOME	The full absolute path to the JDK that FUSE ESB will use.	This is the same path that should be set in the <code>JAVA_HOME</code> environment variable.
INSTALLER_UI	silent, gui (default), or console	Specifies the mode in which the installer runs.
USER_INPUT_SAVE_PROPERTIES_YES_NO	Yes (default) or No	Specifies whether you want to save a properties file that describes the current run of the installer.
SET_PATH	This entry is not used by the FUSE ESB installer.	

Example Installer Properties File

Example 2.1, “Installer Properties File” shows a sample `installer.properties` file for a Windows system.

Example 2.1. Installer Properties File

```

❶ USER_INSTALL_DIR=C:\\iona\\fuse-esb-3.2
   CHOSEN_INSTALL_FEATURE_LIST=SMX
❷ SILENT_ACCEPT_LICENSE_AGREEMENT=true
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 2.1, “Installer Properties File” tells the installer to do the following:

- ❶ Install FUSE ESB into `C:\\iona\\fuse-esb-3.2`.
- 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.

Chapter 3. Installing from Source Code

Summary

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

Source Installation Prerequisites

Before installing a FUSE product 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_version`. When specifying this path in your `JAVA_HOME` environment variable, you can use `Progra~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 2.0.4 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-2.0.7`. 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-2.0.7`, then create a symbolic link from `/opt/maven` to `/opt/maven-2.0.7`. 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.

Windows

```
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
```

UNIX

```
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 ESB 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 ESB 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 ESB distribution `.zip` and `.tar.gz` files are found in the `distribution/target` folder of the source installation directory.

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

Chapter 4. Uninstalling FUSE ESB

Summary

This chapter describes how to uninstall FUSE ESB.

Uninstalling On Windows Systems

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

1. From the Windows Start menu, select (All) Programs → IONA → FUSE ESB 2.0 → Uninstall FUSE ESB 2.0.
2. Click Uninstall.

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

```
InstallDir\uninstall\uninstall-fuse-esb.exe
```

Uninstalling on UNIX Systems

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

```
InstallDir/uninstall/uninstall-fuse-esb
```



Important

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