Progress FUSE

FUSE™ ESB

Using the Library

Version 4.1
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PROGRESS SOFTWARE

Using the Library

Version 4.1

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Legal Notices

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Chapter 1. Resources

Document Conventions

Typographical conventions This book uses the following typographical conventions:

Table 1.1. Typographical Conventions

`fixed width`	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 `javax.xml.ws.Endpoint` class. Constant width paragraphs represent code examples or information a system displays on the screen. For example: `import java.util.logging.Logger;`
`Fixed width italic`	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: `% cd /users/`*`YourUserName`*
Italic	Italic words in normal text represent *emphasis* and introduce *new terms*.
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:

Table 1.2. 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:

Table 1.3. 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.

Searching the Library

Overview

There are two ways you can search the FUSE ESB library:

- the FUSE source search field
- Google

FUSE source search

The FUSE source web site has an integrated search feature that will return hits from the entire Web site. Using it may return a number of non-documentation hits.

The FUSE source site search is acessed using the **Search** box that appears in the header of the main documentation site.

Google search

Use Google directly and narrow the search scope using `site:fusesource.com/docs/esb`.

This method will limit the search to the FUSE ESB documentation. You can limit the scope further by adding a version number to the `site:` string.

For example to search the documentation for references to polling the file system you could enter **`site:fusesource.com/docs/esb/4.0/ polling`** into the Google search field. Only results from the FUSE ESB version 4.0 library will be returned.

Required Reading

Overview

The books in this library assumes that the reader is familiar with a number of key technologies including:

- Apache Maven
- The Spring Framework
- Ant

Apache Maven

Apache Maven is a plug-in based build system. The FUSE products have extensive Maven tooling to that assists in developing solutions. It is used extensively throughout the documentation.

To get more information on using Maven see the following:

- *Maven: The Definitive Guide*[1]
- *Developing with Eclipse and Maven*[2]
- The Maven Website[3]

The Spring Framework

The Spring Framework is an open source Java platform that aims to simplify developing complex Java applications. The FUSE products use the Spring Framework for several purposes.

For more information see the Spring Framework Reference[4].

Ant

Apache Ant is a popular Java build tool. It is used to build a number of the samples provided with the FUSE products. The FUSE products also include Ant-based development tools.

For more information about using Ant see the *Apache Ant User Manual*[5].

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[1] http://www.sonatype.com/products/maven/documentation/book-defguide
[2] http://www.sonatype.com/books/m2eclipse-book/reference
[3] http://maven.apache.org/index.html
[4] http://static.springframework.org/spring/docs/2.0.x/reference/
[5] http://ant.apache.org/manual/index.html

Open Source Project Resources

Apache CXF	**Web site:** http://cxf.apache.org/ **User's list:** <users@cxf.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://camel.apache.org **User's list:** <users@camel.apache.org>
Apache ServiceMix	**Web site:** http://servicemix.apache.org **User's list:** <users@servicemix.apache.org>

Chapter 2. The FUSE ESB Library

Overview

FUSE ESB offers different approaches for implementing and packaging applications that are deployed using it. To accommodate developers using these different approaches the documentation library is organized into the following parts:

- Getting Started
- Installation
- Books on managing the container
- Books on service development
- Books on integration applications

Getting started

The following books are intended to help new users become familiar with FUSE ESB.

- Getting Started with the FUSE Product Family[1] provides an overview of the entire FUSE product family and explains how FUSE ESB fits into the picture.
- The Logisticx Tutorial Guide[2] contains tutorials that show how FUSE ESB can be used in conjunction with the other FUSE products to solve complex problems.
- The Glossary[3] provides definitions for commonly used terms relating to Web services and using FUSE ESB.

[1] http://fusesource.com/docs/getting_started/index.html
[2] http://fusesource.com/docs/logistix/index.html
[3] http://fusesource.com/docs/glossary/index.html

- *Getting Started with FUSE ESB* provides a good overview of the central concepts need to use FUSE ESB. It also provides a simple example of deploying a service using FUSE ESB.

Installation

The following books discuss how to install FUSE ESB and migrate from earlier versions:

- Release Notes[4]
- *Installation Guide* discusses the requirements and procedures for installing FUSE ESB.
- *Migrating to 4.1* describes the issues you will face in moving from earlier versions of FUSE ESB.

Configuring and running the container

The following books discuss using the runtime container:

- *Managing the Container* describes how to deploy FUSE ESB containers and manage them using the command console.
- *Using JBI to Develop Applications* provides an overview of JBI and how to use the JBI tooling provided by FUSE ESB.

Service development

Developing and Deploying JAX-WS Services describes how to use the native FUSE Services Framework integration to develop and deploy JAX-WS services.

Integrating services

The following books describe the tools available for building integration applications:

- *Enterprise Integration Patterns* describes how to use the native FUSE Mediation Router integration to deploy EIP-based integration solutions.
- *Using the JMS Binding Component* describes how to use the FUSE ESB's JMS component.
- *Using the FUSE™ Services Framework Binding Component* describes how to use the FUSE Services Framework binding component to expose SOAP endpoints from the FUSE ESB container.

[4] http://fusesource.com/wiki/display/ProdInfo/FUSE+ESB+v4.0+Release+Notes

- *Using the File Binding Component* describes how to use the FUSE ESB's file binding component. The file binding component allows services running in the ESB to read and write to a file system.

Other resources

For doing advanced development with the FUSE Services Framework components you may want to read the guides in the FUSE Services Framework library[5].

For doing advanced development with the FUSE Mediation Router component you may want to read the guides in the FUSE Mediation Router library[6].

In addition to the above books, you may also want to read the documentation for each of the components that FUSE ESB bundles. This documentation is available from the projects responsible for developing the component.

[5] http://fusesource.com/documentation/fuse-service-framework-documentation
[6] http://fusesource.com/documentation/fuse-mediation-router-documentation

Chapter 3. Reading Paths

New Users

Overview

FUSE ESB can seem overwhelming at a quick glance. If you are new to using it, you should take some time to read the introductory material that explains the different technologies involved. This reading path will help familiarize you with the basics of using FUSE ESB.

Path

For a quick introduction to FUSE ESB you should read the following:

1. *Getting Started with FUSE ESB* provides a good overview of the central concepts need to use FUSE ESB. It also provides a simple example of deploying a service using FUSE ESB.
2. Part I in *Using JBI to Develop Applications* provides an introduction to using JBI to package and deploy applications.

Next Steps

Once you are ready to start developing applications using FUSE ESB you can dig deeper into *Using JBI to Develop Applications*. In addition you will likely want to read the component specific guides for information about how to work with individual pieces of functionality.

For information on managing the FUSE ESB runtime read *Managing the Container*.

Migrating from a Previous Version

Overview

Version 4.1 of FUSE ESB brings many exciting new capabilities to the product. However, it also deprecates some of the functionality users of previous version are used to having. It also has a number of minor differences in set up and configuration.

Path

To understand the differences between version 4.1 and previous versions of FUSE ESB read the following:

1. *Getting Started with FUSE ESB* provides a good overview of the central concepts need to use FUSE ESB. It also provides a simple example of deploying a service using FUSE ESB.
2. *Migrating to 4.1* discusses the issues you will encounter when moving from a previous version of FUSE ESB. It also provides pointers to how to work around these issues.
3. Part II in *Using JBI to Develop Applications* discusses the JBI tooling included with 4.1 of FUSE ESB.
4. *Managing the Container* discusses how to deploy, configure, and manage the FUSE ESB runtime.

Next Steps

Many of the JBI components shipped with FUSE ESB have guides that cover their use in detail.

When you are ready to begin migrating some of your applications to the newer packaging mechanisms, you should look at *Enterprise Integration Patterns* and *Developing and Deploying JAX-WS Services*.

Using JBI to Package Applications

Overview

JBI is a standardized packaging and deployment system. It defines a set of package types that any container with JBI support can use.

Path

To become familiar with using the JBI functionality provided by FUSE ESB you should read the following:

1. *Getting Started with FUSE ESB* provides a good overview of the central concepts need to use FUSE ESB. It also provides a simple example of deploying a service using FUSE ESB.
2. Part I in *Using JBI to Develop Applications* provides a good overview of JBI and the central concepts needed to understand how to use it.
3. Part II in *Using JBI to Develop Applications* discusses the JBI tooling included with 4.1 of FUSE ESB.

Next steps

Once you are ready to start using the JBI components, you will want to look at the guides for the specific components you are going to use.

Using OSGi to Package Applications

Overview

OSGi is a standardized packaging and deployment system. It defines a lightweight set of packaging requirements that can be used to modularize complex applications.

Path

To become familiar with using the OSGi functionality provided by FUSE ESB you should read the following:

- *Getting Started with FUSE ESB* provides a good overview of the central concepts need to use FUSE ESB. It also provides a simple example of deploying a service using FUSE ESB.

Next steps

When you are ready start developing and deploying applications you should look at *Enterprise Integration Patterns* and *Developing and Deploying JAX-WS Services*.