

The logo for FuseSource, featuring the word "FuseSource" in a bold, yellow, sans-serif font. The text is positioned on a black background that has a jagged, torn-paper edge on the right side, revealing a red and white pattern underneath.

FuseSource

Fuse MQ Enterprise
Migrating Guide

Version 7.1
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Integration Everywhere

Migrating Guide

Version 7.1

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Chapter 1. Summary of Migration to Fuse MQ Enterprise 7.1

Overview

This section summarizes the issues you need to consider when migrating from Fuse Message Broker 5.5 to Fuse MQ Enterprise 7.1.

Product dependencies

Fuse MQ Enterprise 7.1 has upgraded the following dependencies:

- Jetty library is upgraded to version 7.6.7.
-

Migration procedure

To migrate an existing broker to Fuse MQ Enterprise 7.1, it is recommended that you follow these steps:

1. To use your existing `activemq.xml` file with the new MQ console, edit the settings in the following file:

```
MQInstallDir/etc/org.fusesource.mq.fabric.server-default.cfg
```

By default, the preceding configuration file contains the following property settings:

```
broker-name=default
openwire-port=${activemq.port}
standalone=true
data=${karaf.data}/activemq
config=${karaf.base}/etc/activemq.xml
```

The `broker-name` and `data` properties are not important: they define substitutable properties that are used by the default `activemq.xml` file (located in `MQInstallDir/etc/activemq.xml`). The important properties are as follows:

```
config
```

Set this property to the absolute pathname of your existing `activemq.xml` file. (If you are working on a Windows platform, remember to use the forward slash character, `/`, for the path separator, as is customary in Java property files.)

`standalone`

This property *must* be set to `true`. Do not change it.

`openwire-port`

Overrides the Openwire IP port value specified in your existing `activemq.xml` file. Delete this property setting, if you want to keep the port value specified in your `activemq.xml` file.

2. Ensure that any directories referenced in your existing `activemq.xml` file are specified as absolute pathnames.
3. To migrate KahaDB data files from earlier Fuse MQ Enterprise versions, please observe the following points:
 - Always make backup copies of your existing KahaDB data files, before upgrading the broker.
 - Upgrading from 5.4.x to 5.7—when you start the 5.7 broker instance for the first time, the KahaDB auto-upgrade feature automatically upgrades the KahaDB data files.
 - Upgrading from 5.3.x to 5.7—due to a recent change in the format of the KahaDB index file, `db.data`, the KahaDB auto-upgrade feature cannot upgrade 5.3 index files. To upgrade from 5.3, therefore, delete the index and redo files, `db.data` and `db.redo`, before starting the 5.7 broker. Now, when you start the 5.7 broker, it recreates the index file as it starts up (if your database is large, this could take a long time, for example 20 to 30 minutes).
4. Study the rest of this guide, to check whether there are any other issues that could affect your system.
5. If you are using Fuse HQ to monitor your systems:
 - a. See [????](#) for directions on installing JBoss Operational Network and the required plug-ins.
 - b. See ["Migrating from Fuse HQ to JBoss Operations Network" on page 21](#) for information about migrating alerts and other custom setting from Fuse HQ to JBoss Operational Network.

6. To start up the MQ console—which automatically launches your broker—enter the following command:

```
bin/fusemq
```


Chapter 2. Persistence Layer

Default persistence layer

Since Fuse Message Broker/Apache ActiveMQ 5.4.0, the KahaDB message store is the default message store used by the persistence layer. The KahaDB message store supersedes both the AMQ message store and the original Kaha message store.

If no configuration is specified for the KahaDB message store, an instance with default settings is automatically created for you.

Example KahaDB message store configuration

The KahaDB message store can be configured explicitly using the `kahaDB` element inside the `persistenceAdapter` element, as follows:

```
<broker brokerName="broker" persistent="true" useShutdownHook="false">
  ...
  <persistenceAdapter>
    <kahaDB directory="activemq-data"/>
  </persistenceAdapter>
</broker>
```

Reference

For more details about the KahaDB message store, see ["Using the KahaDB Message Store"](#) in *Configuring Broker Persistence*.

Chapter 3. API Changes

Removed classes

The following classes are no longer available in Fuse MQ Enterprise 7.1:

- `org.apache.activemq.thread.Valve`—the threading model has been refactored to use the `ThreadPoolUtils` API.
- `org.apache.activemq.util.xstream.XStreamMessageTransformer`—replaced by `org.apache.activemq.util.oxm.XStreamMessageTransformer`.
- `org.apache.activemq.transport.http.HttpTransport`
- `org.apache.activemq.transport.http.HttpsTransport`

Removed methods

The following methods have been removed from Fuse MQ Enterprise 7.1:

- `org.apache.activemq.console.filter.AndMessagesQueryFilter.createConnection(java.net.URI)`

Use `createConnection()` instead, and pass the URL to the `ConnectionFactory` when it is created.

- `org.apache.activemq.broker.TransportConnector.setBrokerName`

Use the `setBrokerService(BrokerService)` method instead.

- `org.apache.activemq.command.ConsumerInfo.getSubscriptionName`

Use the correctly spelled `getSubscriptionName` method instead.

- `org.apache.activemq.command.ConsumerInfo.setSubscriptionName`

Use the correctly spelled `setSubscriptionName` method instead.

- `org.apache.activemq.transport.TransportFactory.bind(String, java.net.URI)`

Use `bind(BrokerService, java.net.URI)` instead.

- `org.apache.activemq.transport.tcp.SslTransportFactory.setKeyAndTrustManagers`
- `org.apache.activemq.xbean.XBeanBrokerService.setDestroyApplicationContextOnShutdown`
- `org.apache.activemq.xbean.XBeanBrokerService.setDestroyApplicationContextOnStop`

Deprecated classes and interfaces

The following classes and interfaces are deprecated in Fuse MQ Enterprise 7.1:

- `org.apache.activemq.store.jdbc.DatabaseLocker`

Use `org.apache.activemq.broker.Locker` instead.

- `org.apache.activemq.thread.DefaultThreadPools`

Use the `org.apache.activemq.thread.TaskRunnerFactory` instead.

Deprecated methods

The following methods are deprecated in Fuse MQ Enterprise 7.1:

- `org.apache.activemq.broker.jmx.BrokerViewMBean.getOpenWireURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerViewMBean.getSslURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerViewMBean.getStompURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerViewMBean.getStompSslURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerView.getOpenWireURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerView.getSslURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerView.getStompURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.broker.jmx.BrokerView.getStompSslURL`

Use `BrokerViewMBean.getTransportConnectors()` or `BrokerViewMBean.getTransportConnectorByType(String)` instead.

- `org.apache.activemq.selector.SimpleCharStream.getColumn`
- `org.apache.activemq.store.jdbc.JDBCPersistenceAdapter.getDatabaseLocker`

Use the `LockableServiceSupport.getLocker()` method instead.

- `org.apache.activemq.thread.DefaultThreadPools.getDefaultTaskRunnerFactory`
- `org.apache.activemq.selector.SimpleCharStream.getLine`
- `org.apache.activemq.store.kaha.kaha.persistence.adapter.KahaJDBCPersistenceAdapter.setDatabaseLockerWaitDelay(int)`

Use `Locker.setLockAcquireSleepInterval(long)` instead.

- `org.apache.activemq.store.jdbc.JDBCPersistenceAdapter.setDatabaseLocker(Locker)`

Use

`LockableServiceSupport.setLocker(org.apache.activemq.broker.Locker)` instead.

- `org.apache.activemq.store.jdbc.JDBCPersistenceAdapter.setLockAcquireSleepInterval(long)`

Use `Locker.setLockAcquireSleepInterval(long)` instead.

- `org.apache.activemq.store.jdbc.JDBCPersistenceAdapter.setUseDatabaseLock(boolean)`

Use `LockableServiceSupport.setUseLock(boolean)` instead.

Chapter 4. Migrating Clients

Apache ActiveMQ clients are compatible with later versions of the broker, as long as the client version and the broker version have the same major version number. For example, if you update an Apache ActiveMQ broker to version 5.5.1, it will be compatible with clients on version 5.4.2.

Fuse MQ Enterprise is compatible with clients built using the following:

- Fuse MQ Enterprise 7.0 or later
- Fuse Message Broker 5.0 or later
- Apache ActiveMQ 5.0 or later

If your clients are built using older libraries, they will, at a minimum, need to be recompiled.

Chapter 5. Migrating from Fuse HQ to JBoss Operations Network

While Fuse HQ and JBoss Operations Network share the same heritage, they have some important differences.

Overview

The major differences between Fuse HQ and JBoss Operations Network(JBoss ON) include:

- The resource tree is flatter
 - JBoss ON server and agent installations are separate
 - Database support
 - JBoss ON has better automatic discovery
 - Different Java APIs
 - Different scripting languages
-

Database support

Regardless of the database you are currently using, JBoss ON will require you to create all new tables for the monitoring data as part of the server installation process.

JBoss ON supports the following databases:

Database	Version
Oracle	11g R2 RA
	11g R2
	11g R1 RAC
	11g R1
	10g R2 (<i>deprecated</i>)
	10g R1 (<i>deprecated</i>)
PostgreSQL	9.1.x

Database	Version
	9.0.x
	8.4.x
	8.3.x

Installing

To install JBoss ON, download the server from the [Red Hat Customer Portal](#)¹ and follow the instructions for installing on your platform. See the [Installation Guide](#)².

JBoss ON agents and monitoring plug-ins are installed from the JBoss ON Web UI.

Configuration

JBoss ON agents and servers are configured differently from Fuse HQ agents and servers. For details see the [Configuring JBoss ON Servers and Agents](#)³.

Scripting

JON scripting is different from Fuse HQ scripting. To update your scripts see the [Writing JBoss ON Command-Line Scripts](#)⁴.

More information

For more information see the JBoss ON [Documentation](#)⁵.

¹ <https://access.redhat.com/downloads/>

² https://access.redhat.com/knowledge/docs/en-US/JBoss_Operations_Network/3.1/html/Installation_Guide/index.html

³ https://access.redhat.com/knowledge/docs/en-US/JBoss_Operations_Network/3.1/html/Admin_Configuring_JON_Servers_and_Agents/index.html

⁴ https://access.redhat.com/knowledge/docs/en-US/JBoss_Operations_Network/3.1/html/Dev_Writing_JON_Command-Line_Scripts/index.html

⁵ https://access.redhat.com/knowledge/docs/JBoss_Operations_Network/