



Fuse Message Broker Broker Administration Tutorials

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Chapter 1. Creating a Broker Instance

*This tutorial walks you through the process of creating a new Fuse Message Broker instance using the **activemq-admin** command.*

Goals

In this tutorial you will:

- Create a new Fuse Message Broker configuration file.
- Edit the default configuration for you broker.
- Create a new Fuse Message Broker instance using the configuration file.

Prerequisites

This tutorial requires that you have Fuse Message Broker installed into a folder that you have read/write access.

Procedure

To create a new broker instance:

1. Copy the default Fuse Message Broker configuration file from *InstallDir/conf/activemq.xml* to *InstallDir/conf/activemq-tutorial.xml*.
2. Open *InstallDir/conf/activemq-tutorial.xml* in an XML editor.
3. Locate the following line:

```
<transportConnector name="openwire" uri="tcp://0.0.0.0:61616"/>
```

4. Change the line as follows:

```
<transportConnector name="openwire" uri="tcp://0.0.0.0:61600"/>
```

5. Save the file.
6. Open a command prompt at *InstallDir*.
7. Enter the following command:

Windows

```
bin\activemq-admin.bat create --amqconf conf\activemq-tutorial.xml c:\tutorial
```

*nix

```
bin/activemq-admin create --amqconf conf/activemq-tutorial.xml ~/tutorial
```

Results

The **activemq-admin create** command creates a new instance of Fuse Message Broker in the specified location. To do this it creates a new directory containing the following:

- **bin**—scripts to start the broker
 - tutorial.bat
 - tutorial
- **conf**—configuration files for the broker
 - activemq.xml
 - broker.ts
 - credentials.properties
 - jetty.xml
 - broker.ks
 - camel.xml
 - jetty-realm.properties
 - log4j.properties

The `--amqconf` parameter specifies the Fuse Message Broker configuration file to use for the new broker instance.

More information

For details see:

Chapter 2. Starting a Broker

In this tutorial you will launch a Fuse Message Broker instance from the command line.

Goals

In this tutorial you will:

- add the Fuse Message Broker command line tools to your system path
- locate a Fuse Message Broker configuration file
- start a Fuse Message Broker instance using the configuration file

Prerequisites

This tutorial requires that you have Fuse Message Broker installed.

While you can use the default configuration for this tutorial it is recommended that you use an instance like the one created in ["Creating a Broker Instance" on page 9](#).

Procedure for Windows

To start a broker on Windows:

1. Locate the root folder for the broker instance you wish to start.

To use the default installation, the root folder is `InstallDir`.

To use the instance created in ["Creating a Broker Instance" on page 9](#), the root folder is `c:\tutorial`.

2. Open a command prompt at the instance's root folder.
3. Add the Fuse Message Broker command line tools your path by entering

```
c:\ set PATH=%PATH%;InstallDir\bin
```

4. Locate the configuration file for the broker instance.

The default location for the configuration file is `conf\activemq.xml`.

5. Start the broker instance by entering

```
c:\activemq xbean:conf/activemq.xml
```



Note

This assumes the default location of the configuration file.

A number of messages, similar to [Figure 2.1 on page 12](#), will appear on the console.

Figure 2.1. Broker Output

```
Java Runtime: Sun Microsystems Inc. 1.6.0_16 C:\Program Files\Java\jdk1.6.0_16\jre
Heap sizes: current=260160k free=258524k max=1040512k
JVM args: -Dcom.sun.management.jmxremote -Xms256M -Xmx1G
-Dorg.apache.activemq.UseDedicatedTaskRunner=true
-Djava.util.logging.config.file=logging.properties
-Dactivemq.classpath=c:\apache-activemq-5.5.0-fuse-00-27\bin\..\conf;c:\apache-activemq-5.5.0-fuse-
00-27\bin\..\conf;
-Dactivemq.home=c:\apache-activemq-5.5.0-fuse-00-27\bin\..
-Dactivemq.base=c:\apache-activemq-5.5.0-fuse-00-27\bin\..
ACTIVEMQ_HOME: c:\apache-activemq-5.5.0-fuse-00-27\bin\..
ACTIVEMQ_BASE: c:\apache-activemq-5.5.0-fuse-00-27\bin\..
Loading message broker from: xbean:conf/activemq.xml
INFO | Refreshing org.apache.activemq.xbean.XBeanBrokerFactory$1@5a67c9: startup date
[Mon Sep 12 17:07:04 EDT 2011]; root of context hierarchy
INFO | PLISTore:[c:\apache-activemq-5.5.0-fuse-00-27\bin\..\data\tutorial\tmp_storage ] started
INFO | Using Persistence Adapter: KahaDBPersistenceAdapter[c:\apache-activemq-5.5.0-fuse-00-
27\bin\..\data\kahadb]
INFO | ActiveMQ 5.5.0-fuse-00-27 JMS Message Broker (tutorial) is starting
INFO | For help or more information please see: http://activemq.apache.org/
INFO | Listening for connections at: tcp://nbbodemjohnso1:61616
INFO | Connector openwire Started
INFO | ActiveMQ JMS Message Broker (tutorial, ID:nbbodemjohnso1-3192-1315861625337-0:1) started
INFO | jetty-7.1.6.v20100715
INFO | ActiveMQ WebConsole initialized.
INFO | Initializing Spring FrameworkServlet 'dispatcher'
INFO | ActiveMQ Console at http://0.0.0.0:8161/admin
INFO | Initializing Spring root WebApplicationContext
INFO | OSGi environment not detected.
INFO | Apache Camel 2.7.1-fuse-00-27 (CamelContext: camel) is starting
INFO | JMX enabled. Using ManagedManagementStrategy.
INFO | Found 5 packages with 16 @Converter classes to load
INFO | Loaded 152 type converters in 0.563 seconds
WARN | Broker localhost not started so using tutorial instead
INFO | Connector vm://localhost Started
INFO | Route: route1 started and consuming from: Endpoint[activemq://example.A]
```

```
INFO | Total 1 routes, of which 1 is started.
INFO | Apache Camel 2.7.1-fuse-00-27 (CamelContext: camel) started in 1.000 seconds
INFO | Camel Console at http://0.0.0.0:8161/camel
INFO | ActiveMQ Web Demos at http://0.0.0.0:8161/demo
INFO | RESTful file access application at http://0.0.0.0:8161/fileserver
INFO | FUSE Web Console at http://0.0.0.0:8161/console
INFO | Started SelectChannelConnector@0.0.0.0:8161
```

Procedure for Unix/Linux/OSX

To start a broker:

1. Locate the root folder for the broker instance you wish to start.

To use the default installation, the root folder is *InstallDir*.

To use the instance created in ["Creating a Broker Instance" on page 9](#), the root folder is `~/tutorial`.

2. Open a command prompt at the instance's root folder.
3. Add the Fuse Message Broker command line tools your path by entering

```
% set PATH=$PATH;InstallDir/bin
```

4. Locate the configuration file for the broker instance.

The default location for the configuration file is `conf/activemq.xml`.

5. Start the broker instance by entering

```
% activemq start xbean:conf/activemq.xml
```



Note

This assumes the default location of the configuration file.

The message `Running ActiveMQ Broker...` will appear and the command will return without error. The broker is now running as a daemon process.



Tip

To start the broker with a command console use **activemq console** in place of **activemq start**.

More information

For details see:

["Starting a Broker"](#) in *Managing and Monitoring a Broker*

Chapter 3. Installing a Broker as a Windows Service

In this tutorial you will install a Fuse Message Broker instance as a Windows service.

Goals

In this tutorial you will:

- configure the Java Wrapper Service for your system
- install a broker instance as a Windows service
- configure the broker's service to start up automatically

Prerequisites

This tutorial requires that you have Fuse Message Broker installed on a Windows computer to which you have administrative privileges.

Procedure

To install Fuse Message Broker as a Windows service:

1. Open `InstallDir\bin\win32\wrapper.conf` in a text editor.

The `wrapper.conf` file configures the Java Wrapper Service that Fuse Message Broker uses to create a Windows service.

2. Change the line containing `set.default.ACTIVEMQ_HOME=../..` to

```
set.default.ACTIVEMQ_HOME=InstallDir
```

This tells the wrapper where the Fuse Message Broker installation is located so it can find the required libraries.

3. Change the line containing `set.default.ACTIVEMQ_BASE=../..` to

```
set.default.ACTIVEMQ_BASE=InstallDir
```

This tells the wrapper where to find the configuration and data files for the broker instance being used for the service.

4. Save the file.
5. Open a command prompt.
6. Change to the *InstallDir*\bin\win32 directory.
7. Install the broker as a Windows service by executing the **InstallService** command.

You will see a message similar to:

```
C:\fmq\bin\win32> InstallService  
wrapper | ActiveMQ installed.
```

8. From the Windows **Start** menu select **Start** → **Control Panel** → **Administrative Tools** → **Services**.
The **Services** window opens.
9. Double click **ActiveMQ** from the list of services.
The **ActiveMQ Properties** window opens.
10. Specify that the service will start up when you login by selecting **Automatic** from the **Startup Type** drop-down list.
11. Click **OK**.
12. Open the context menu for the **ActiveMQ** entry in the service list.
13. Select **Start** to start the broker.

Further steps

You can stop the broker service by selecting **Stop** in the **Service** window's context menu.

To uninstall the broker as a Windows service use the **UninstallService** in the *InstallDir*\bin\win32 directory.

More information

For details see:

["Installing Fuse Message Broker as a Windows Service"](#) in *Managing and Monitoring a Broker*

Chapter 4. Shutting Down a Broker

This tutorial demonstrates how to shutdown a running message broker.

Goals

In this tutorial you will:

- add the Fuse Message Broker command line tools to your system path
- use a Fuse Message Broker configuration file to determine the broker's name
- stop a Fuse Message Broker instance using it's name

Prerequisites

To complete this tutorial you will need to have a broker instance running in the default JMX context (service:jmx:rmi:///jndi/rmi://localhost:1099/jmxrmi).

While you can use the default configuration for this tutorial it is recommended that you use an instance like the one created in ["Creating a Broker Instance" on page 9](#).

Procedure for Windows

To shutdown a broker on Windows:

1. Locate the root folder for the broker instance you wish to start.

To use the default installation, the root folder is `InstallDir`.

To use the instance created in ["Creating a Broker Instance" on page 9](#), the root folder is `c:\tutorial`.

2. Open a command prompt at the instance's root folder.
3. Add the Fuse Message Broker command line tools your path by entering

```
c:\ set PATH=%PATH%;InstallDir\bin
```

4. Open the configuration file for the broker instance.

The default location for the configuration file is `conf\activemq.xml`.

5. Locate the broker element.

6. Write down the value of the `brokerName` attribute.

This is the name of the broker and is used to by the administration tool to determine which broker to shutdown.

The value for the broker created in ["Creating a Broker Instance" on page 9](#) is `tutorial`.

7. Shutdown the broker instance by entering

```
c:\activemq-admin stop brokerName
```

A number of messages, similar to [Figure 4.1 on page 18](#), will appear on the console.

Figure 4.1. Broker Shutdown

```
Java Runtime: Sun Microsystems Inc. 1.6.0_16
C:\Program Files\Java\jdk1.6.0_16\jre
Heap sizes: current=5056k free=4761k max=65088k
JVM args: -Dactivemq.classpath=C:\apache-activemq-5.5.0-fuse-00-27\bin\..\conf;
          -Dactivemq.home=C:\apache-activemq-5.5.0-fuse-00-27\bin\..
          -Dactivemq.base=C:\apache-activemq-5.5.0-fuse-00-27\bin\..
ACTIVEMQ_HOME: C:\apache-activemq-5.5.0-fuse-00-27\bin\..
ACTIVEMQ_BASE: C:\apache-activemq-5.5.0-fuse-00-27\bin\..
Connecting to pid: 4076
Stopping broker: tutorial
```

Procedure for Unix/Linux/OSX

To start a broker:

1. Locate the root folder for the broker instance you wish to start.

To use the default installation, the root folder is `InstallDir`.

To use the instance created in ["Creating a Broker Instance" on page 9](#), the root folder is `~/tutorial`.

2. Open a command prompt at the instance's root folder.
3. Add the Fuse Message Broker command line tools your path by entering

```
% set PATH=$PATH;InstallDir/bin
```

4. Open the configuration file for the broker instance.

The default location for the configuration file is `conf/activemq.xml`.

5. Locate the broker element.
6. Write down the value of the brokerName attribute.

This is the name of the broker and is used to by the administration tool to determine which broker to shutdown.

The value for the broker created in ["Creating a Broker Instance" on page 9](#) is tutorial1.

7. Shutdown the broker by entering

```
% activemq stop brokerName
```

More information

For details see:

["Shutting Down a Broker"](#) in *Managing and Monitoring a Broker*

