

Installing and Configuring Apache ActiveMQ With iWay Service Manager Version 8

This topic describes how to install and configure Apache ActiveMQ with iWay Service Manager (ISM) version 8.

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Prerequisites

Before continuing, ensure that you have the following components and settings available on your system:

- Apache ActiveMQ version 5.15.x, which you can download from the following website:
<http://activemq.apache.org/>
- iWay Service Manager (ISM) version 8.0 or higher.
- Java Development Kit (JDK) version 1.8 or higher.
- Set the *JAVA_HOME* and *ACTIVEMQ_HOME* environment variables as follows:
 - `JAVA_HOME = C:\Java\jdk1.8.0_xx`
 - `ACTIVEMQ_HOME = C:\env\apache-activemq-5.15.3`

Installing iWay Service Manager

Before continuing, iWay Service Manager (iSM) version 8.0 or higher must already be installed with support for Apache ActiveMQ. For more information on installing iSM, see the *iWay Installation and Configuration Guide*.

Installing Apache ActiveMQ

To install Apache ActiveMQ on your system:

1. Extract the Apache ActiveMQ files to a directory on your system. For example:

```
C:\env\apache_activemq-5.15.3
```

2. Copy the *activemq-all-5.xx-jar* file from C:\env\apache_activemq-5.15.3 and paste this file into the iWay classpath (*iway_home\lib*) directory. For example:

```
C:\iway8\lib
```

3. Open a command prompt window, navigate to the *activemq_home\bin* directory and type the *activemq start* command. For example:

```
C:\env\apache-activemq-5.15.3\bin>activemq start
```

4. Press *Enter*.

You should see a startup sequence that is similar to the following:

```
INFO | Apache ActiveMQ 5.13-SNAPSHOT (localhost, ID:INFORMA-PNUJOK8-57364-14399  
17421865-0:1) started  
INFO | For help or more information please see: http://activemq.apache.org  
INFO | ActiveMQ WebConsole available at http://0.0.0.0:8161/
```

Note: You may see other log information surrounding these lines, which is normal.

Configuring a Queue Using Apache ActiveMQ

To configure a queue using Apache ActiveMQ:

1. Navigate to the Apache ActiveMQ web console by entering the following URL in your browser:

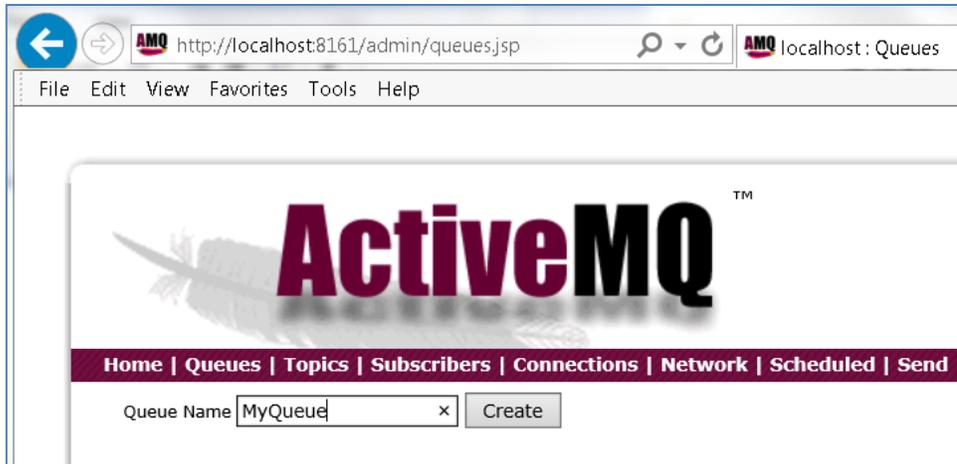
```
http://localhost:8161
```

2. Select *Manage ActiveMQ broker*.

If you are prompted, enter the following user credentials:

- User name: *admin*
- Password: *admin*

3. Click *Queues* in the menu bar, as shown in the following image.



4. In the Queue Name field, type *MyQueue* and then click *Create*.
5. Repeat the previous step to create the following additional queues:
 - replyto
 - pend
 - out

Configuring iWay Service Manager Components

To configure the required iWay Service Manager (iSM) components:

1. Navigate to the iSM Administration Console by entering the following URL in your browser:

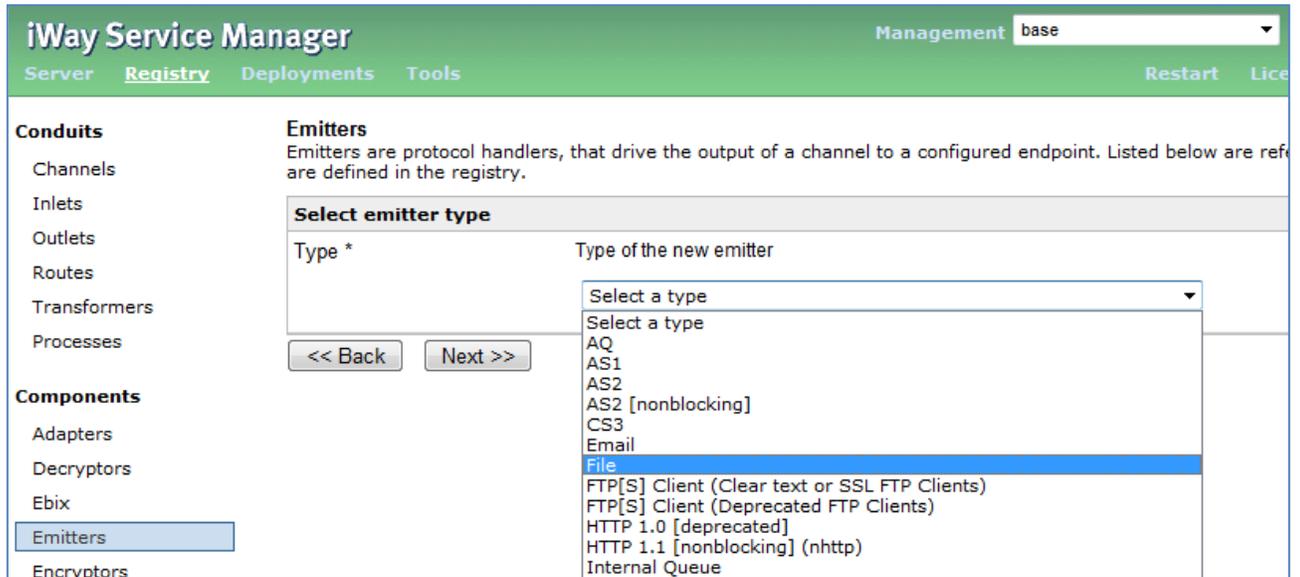
<http://localhost:9999>

2. Create a new *Java Message Service (jmsq)* listener and specify the following values for the configuration parameters:

- Name: **ActiveMQ_listener**
- Connection: **connectionFactory**
- JNDI Factory: **org.apache.activemq.jndi.ActiveMQInitialContextFactory**
- JNDI URL: **tcp://localhost:61616**
- Receiver Name: **MyQueue**
- Default Reply: **replyto**
- Userid: **admin**
- Password: **admin**
- JMSReply To: **out**
- Pending Queue: **pend**
- Input Format: **json** (or as appropriate)

Note: Leave default values for all of the remaining parameters.

3. Create a new *File* emitter, as shown in the following image.



4. Click *Next* to continue.
5. Type the following path in the Destination field:
`c:\tmp\ActiveMQ_*.txt`
6. Click *Next*.
7. Type *ActiveMQ_emitter_file* in the Name field.
8. Click *Finish*.
9. Create a new channel called *ActiveMQ_channel* and associate the following components (artifacts):
 - a. Add *ActiveMQ_listener* to *ActiveMQ_inlet*.
 - b. Add the *Move* route to *ActiveMQ_route* (ignore if you are already using the *Move* route).
 - c. Add *ActiveMQ_emitter_file* to *ActiveMQ_outlet*.
10. Build the channel (*ActiveMQ_channel*).

11. Use the *jndi.properties* file shown below.

```
# START SNIPPET: jndi

java.naming.factory.initial =
org.apache.activemq.jndi.ActiveMQInitialContextFactory

# use the following property to configure the default connector
java.naming.provider.url = tcp://localhost:61616

# use the following property to specify the JNDI name the connection factory
# should appear as.
connectionFactoryNames = QueueCF, connectionFactory, queueConnectionFactory,
topicConnectionFactory

# register some queues in JNDI using the form
# queue.[jndiName] = [physicalName]
queue.MyQueue = MyQueue
queue.reply = reply
queue.out = out
queue.pend = pend
queue.in = in

# register some topics in JNDI using the form
# topic.[jndiName] = [physicalName]
topic.MyTopic = ActiveMQ.Advisory.Consumer.Queue.in

# END SNIPPET: jndi
```

- a. The *jndi.properties* file must exist in the iWay Integration Application (iIA) working directory. For the BASE configuration in iSM, the *jndi.properties* file should be located in the following directory:

```
iway_home\config\base
```

- b. If the file is not available in this location, you will receive a Java error indicating *name not found* during channel start up.

12. Restart iSM.

13. Deploy and start the channel (ActiveMQ_channel).

Configuring a Topic

To configure a topic:

1. Edit the following line in your *jndi.properties* file to match your ActiveMQ topic name:

```
topic.MyTopic = ActiveMQ.Advisory.Consumer.Queue.in
```

The topic name must be the same name that you are using in the channel.

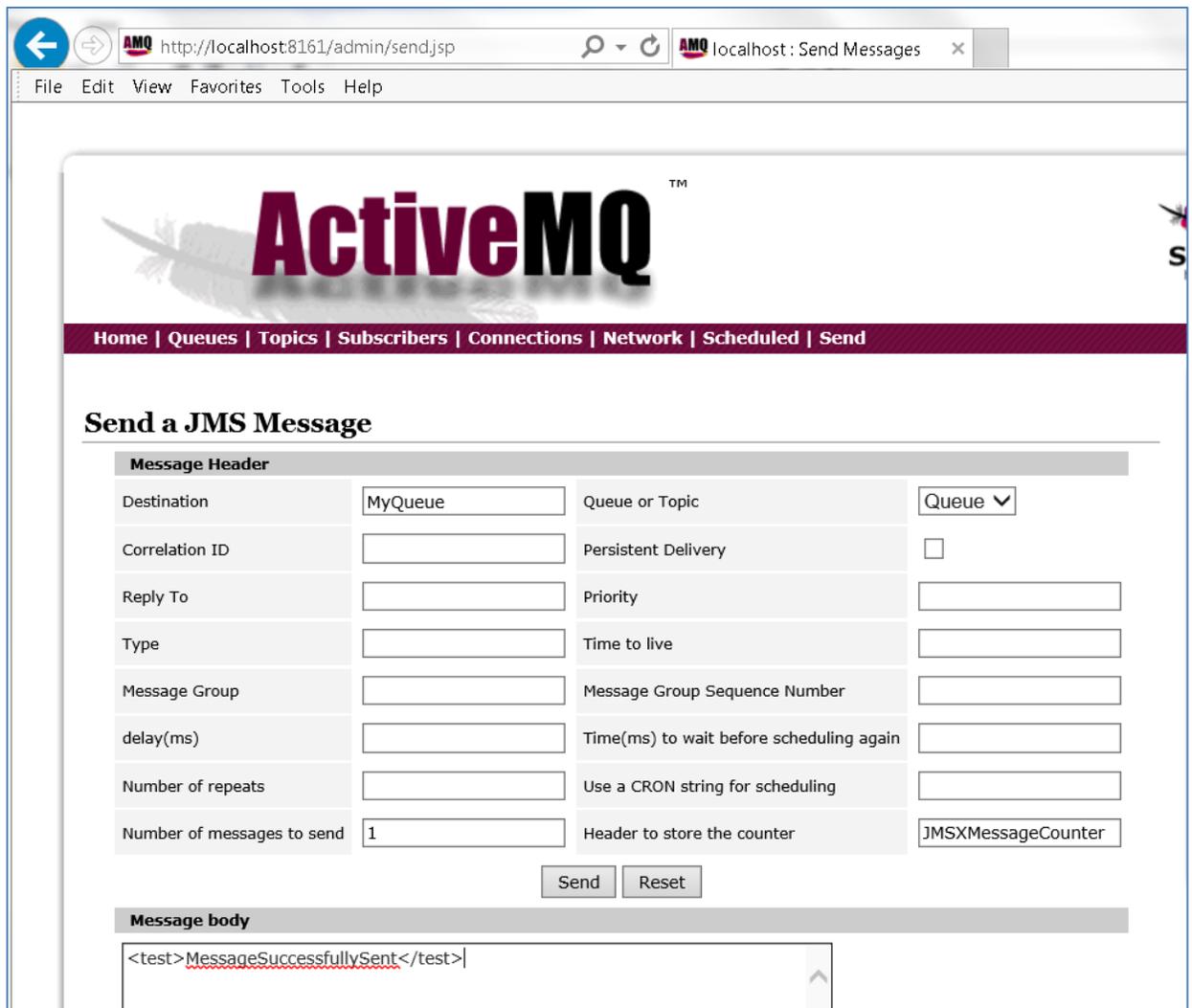
2. Specify the following values for your channel, under MAIN:
 - Connection Factory: **topicConnectionFactory**
 - Receiver Name: **(Use the topic name found in the jndi.properties file)**
 - Message Type: **topic**
3. Specify the following value for your channel, under OTHER:
 - Input Format: **json**
4. Click *Save* to save your changes.
5. Click *Run As* and then select *Application Deployment*.
6. Restart iSM.

Testing the Channel

To test your channel (ActiveMQ_channel) that you configured, you must PUT a message on the Receiver queue.

1. Navigate to the Apache ActiveMQ web console by entering the following URL in your browser:
<http://localhost:8161>
2. Click *Send* in the menu bar.

The Send a JMS Message page opens, as shown in the following image.



3. In the Destination field, type *MyQueue*.
4. In the Message body area, enter the following:

```
<test>MessageSuccessfullySent</test>
```

5. Click *Send*.

You will now have one message in the queue that is named *MyQueue*.

6. Start the channel (ActiveMQ_channel) that you previously configured.

The message is consumed and placed in the following directory:

```
c:\tmp
```

Troubleshooting

If you encounter a name not found context issue, perform the following steps:

1. Confirm that the *jndi.properties* file exists in the iWay Integration Application (iIA) working directory.

Note: If you delete your iIA, then the *jndi.properties* file is also deleted.

2. If you are using a topic, then this topic must be specified in your channel and the *jndi.properties* file.
3. If a subscriber is not shown, then you must check for the wrong IP and/or user ID and password.
4. If the message contains many XML escape entities (for example, & space placeholders), then you are configured for XML, but actually want to be using JSON.