ActiveMQ Monitoring Agent

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Version 8.1.4

Description:

This package includes a monitoring agent to monitor ActiveMQ. It was developed and tested with Active MQ versions 5.14 and 5.15, but should work with other versions of ActiveMQ. JMX must be enabled on the ActiveMQ server. By default, JMX is disabled in an ActiveMQ deployment.

The agent provides monitoring of ActiveMQ via JMX. The monitoring agent provides detailed monitoring of the broker, queues, topics, memory pool, and more.   The agent provides the ability to monitor the Dead Letter Queue.

The Agent can be configured to monitor one or more ActiveMQ systems. ActiveMQ can be monitored locally or remotely via JMX.

This solution is unsupported.   However, if you need assistance, send an e-mail to Ben Stern at bstern@us.ibm.com

Prerequisites:

- This Agent requires IBM Cloud Application Performance Management version 8.1.4 or higher.
- This Agent was tested with ActiveMQ versions 5.14 and 5.15, but should work with other versions.
- Prior to installing the ActiveMQ monitoring Agent, you must install another APM v8 monitoring agent. For example, you can install the Operating System Agent for Windows or Linux.
- When configuring the Agent, you will be prompted for some Java information. The Agent requires a 1.6 JRE or above.
- The Agent is designed to run on the following platforms:
  - 64-bit Linux (x86_64)
  - 64-bit Windows
  - AIX
  - The specific versions of AIX, Linux and Windows that are supported will mirror the versions that are supported by the Operating System Agent.
- The Agent Builder Workspace definition has been provided in case you want to build the agent for other platforms. Import the Agent definition into the Workspace folder within the Agent Builder if you wish to enhance the

agent. The workspace folder is zipped up into the file named
AgentBuilderDefinition.zip.

Installation Instructions:

Prior to installing the Agent Builder monitoring agent for the ActiveMQ, install
another APM v8 monitoring agent. For example, install the operating system for
Windows, AIX or Linux. The Agent Builder agents will use the communications
configuration information and ssl keys from the previously installed agent. This is
a multi-instance Agent. When configuring the Agent, specify an instance name.
Each instance will monitor 1 local or remote ActiveMQ system.

AIX and Linux Installation Instructions:

- Copy the smai-activemq-01.00.00.00.tgz file to the system where you
  have an APM 8.1.4 agent installed.
- Extract the contents of the *.tgz file
  - tar -xhvf smai-activemq-01.00.00.00.tgz
- From within the extracted files, type "./installIraAgent.sh <APM agent
  installation home directory>
  - Example: ./ installIraAgent.sh /opt/ibm/apm/agent
- Configure the Agent using the steps that are detailed below.

AIX and Linux Agent Configuration Instructions:

- Change directory to the <APM Agent installation home>/bin directory
  - cd /opt/ibm/apm/agent/bin
- Configure the agent using the following command:
  - ./activemq-agent.sh config <instance name>
  - Example: ./activemq-agent.sh config inst1
- Follow the prompts as shown below.
- Note: In the prompts below, if you wish to specify the default value, you
  can simply press enter. Or, you can type in the desired value.
- Edit 'Monitoring Agent for ActiveMQ' settings? [1=Yes, 2=No] (default is:
  1): **1**
- Java home (default is:): **/opt/ibm/java-x86_64-80**
- Java trace level [1=Off, 2=Error, 3=Warning, 4=Information, 5=Minimum
  Debug, 6=Medium Debug, 7=Maximum Debug, 8=All] (default is: 2): **2**
- JVM arguments (default is:):
  - There is no need to specify JVM arguments
- JMX user ID (default is: admin): **admin**
- Enter JMX password (default is: *****): **admin**
- Re-type : JMX password (default is: *****): **admin**

- JMX service URL (default is: service:jmx:rmi:///jndi/rmi://localhost:1099/jmxrmi): **service:jmx:rmi:///jndi/rmi://localhost:1099/jmxrmi**
  - If you want to monitor a remote ActiveMQ server, change localhost to the hostname or IP address of the ActiveMQ server.
- JMX base paths (default is:):
  - There is no need to specify a JMX base path. Just press Enter.
- JMX class path (default is:):
 - There is no need to specify a JMX class path. Just press Enter.
- JMX JAR directories (default is:):

Starting and Stopping Agent
- Each instance of the Agent can be started and stopped individually. Specify the following command for each instance that you want to start or stop.
- Starting the Agent instance:
  - ./activemq-agent.sh start <instance name>
  - Example: ./activemq-agent.sh start inst1
- Stopping the Agent instance:
  - ./activemq-agent.sh stop <instance name>
  - Example: ./activemq-agent.sh stop inst1

Windows Installation Instructions:
- Copy the smai-activemq-01.00.00.00.zip file to the system where you have an APM 8.1.4 agent installed.
- Extract the contents of the zip file
  - unzip smai-activemq-01.00.00.00.zip
- From within the extracted files, type "installIraAgent.bat <APM agent installation home directory>
  - Example: ./ installIraAgent.bat C:\IBM\APM
- Configure the Agent using the steps detailed below.

Windows Agent Configuration Instructions:
- Open the IBM Performance Management user interface by selecting "Start->IBM Monitoring agents ->IBM Performance Management (INSTANCE1)
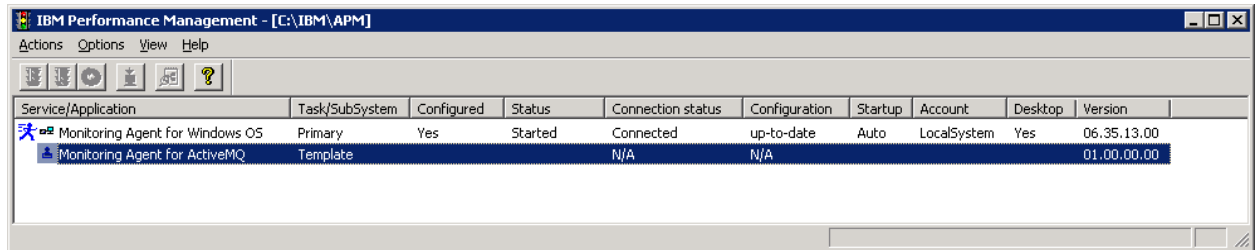
-
- In the dialog that opens, right click on the Monitoring Agent for ActiveMQ "Template and choose "configure agent"
- In the next dialog, specify an instance name:
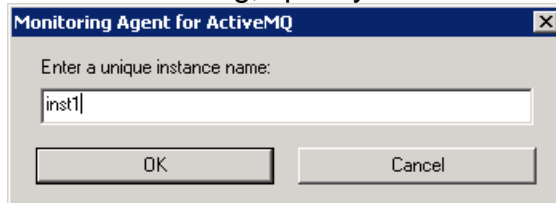
-
- Follow the prompts to configure the agent
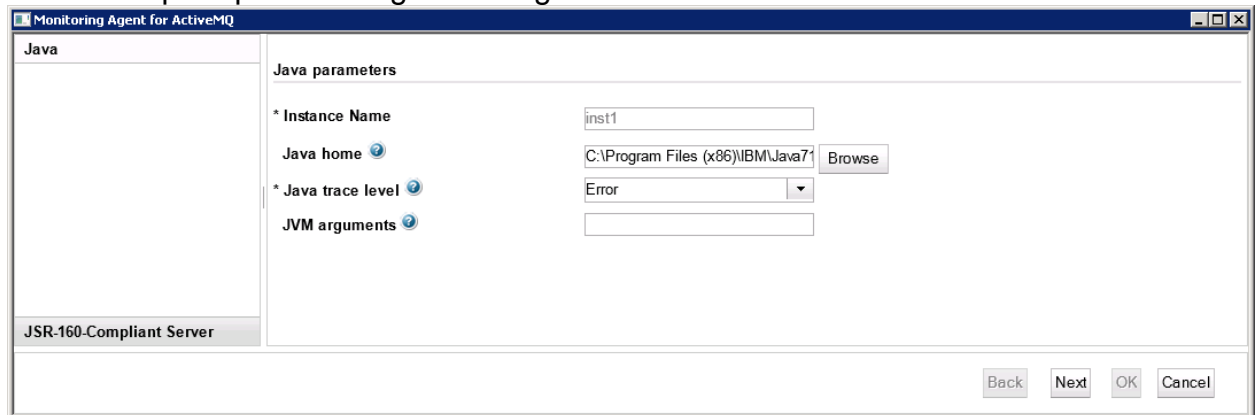
-
- In the first screen, specify the Java home directory, Java tracel level, and JVM arguments and click **Next**.
  - o For Java home, specify the path for a 1.6 JRE or above
  - o For the Java trace level, "Error" is appropriate for most environments
  - o In most cases, you can leave the "JVM arguments" blank.

- In the next dialog, specify the connection information for JMX.
  - o Set the JMX user ID to "**admin**" or another user ID with JMX access.
  - o Specify and confirm the password for the JMX user ID. The default for the admin user is "**admin**"
  - o Specify the JMX service URL. This can be a local or remote ActiveMQ system. The default is:
    service:jmx:rmi:///jndi/rmi://localhost:1099/jmxrmi
  - o In the bottom half of the configuration panel, leave the entries blank.
- Click "**OK**" to complete the configuration.
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Starting and Stopping Agent

- Each instance of the Agent can be started and stopped individually

- To start the Agent instance, in the dialog, right click on the agent instance and select "start"
- To stop the Agent instance, in the dialog, right click on the agent instance and select "stop"

Using the ActiveMQ monitoring Agent:

Within the APM user interface, you'll initially see your Agent show up under "My Components".   Notice "ActiveMQ" in the screen capture below. You can also add the agent to a business application using the application composer.

Click on the summary group widget or the Agent in the left hand navigation to drill down for more details.

Topics

Name	EnqueueCount	DispatchCount	DequeueCount	ForwardCount	InFlightCount	ExpiredCount	ConsumerCo...	ProducerCount
ActiveMQ.A...	3	0	0	0	0	0	0	0
ActiveMQ.A...	2	0	0	0	0	0	0	0
ActiveMQ.A...	1001	0	0	0	0	0	0	0
ActiveMQ.A...	1	0	0	0	0	0	0	0
Topic2	0	0	0	0	0	0	0	0
ActiveMQ.A...	1	0	0	0	0	0	0	0
ActiveMQ.A...	1001	0	0	0	0	0	0	0
Topic1	0	0	0	0	0	0	1	0

Utilization

CPU and Process Utilization

Dead Letter Queue
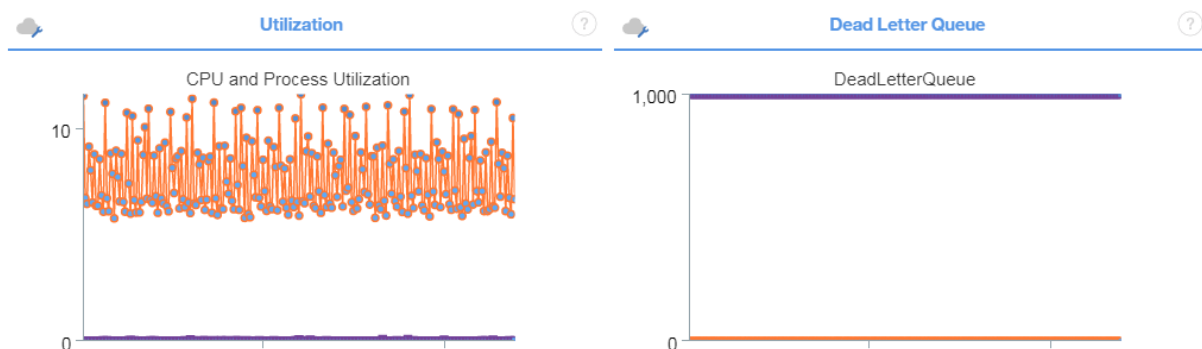
DeadLetterQueue

You will see a dashboard with summary information for the Broker, Queues, Topics, Dead Letter Queue, and more. You can select different areas of the screen to drill down into more details. For example, if you click on the Queues table, you will drill down to detailed queue information. If you click on the Topics table, you will drill down to detailed topic information.