

# How To Monitor Apache ActiveMQ with Nagios XI

## Purpose

This document describes how to use Apache ActiveMQ plugins to monitor your Apache ActiveMQ server with Nagios XI. Specifically, this document shows you how to set up Nagios XI to get up to date information on how many objects are in the ActiveMQ server queue.

## What Is Apache ActiveMQ?

“Apache ActiveMQ is an open-source message broker written in Java together with a full Java Message Service (JMS) client. It provides "Enterprise Features" which in this case means fostering communication from more than one client or server. Supported clients include Java via JMS 1.1 as well as several other "cross language" clients. The communication is managed with features such as computer clustering and ability to use any database as a JMS persistence provider besides virtual memory, cache, and journal persistence.” –



[http://en.wikipedia.org/wiki/Apache\\_ActiveMQ](http://en.wikipedia.org/wiki/Apache_ActiveMQ)

## Prerequisites

This document assumes you have the following prerequisites:

- Apache ActiveMQ 5.14.3 (may work with older releases)
- Access to a user who has access to read queues within **queues.jsp**
- The [activemq\\_watch plugin](#)
- A network route from your Nagios XI server to the Apache ActiveMQ server
- The NRPE agent configured on the Apache ActiveMQ server (explained below)

**Note:** If you need assistance adding a new user such as `nagios` or `nagiosadmin` to the ActiveMQ server with the correct permissions please reference: <http://activemq.apache.org/getting-started.html>

For this documentation, ApacheMQ is running on CentOS 7.x and hence some commands may be RHEL/CentOS oriented. You will need to adapt these commands to your environment.

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## Install NRPE

You will need to install the NRPE agent on the ActiveMQ server to execute a plugin that does the monitoring (you will download in the next step). For instructions on installing NRPE reference the following document:

[Monitoring Hosts Using NRPE](#)

## Download The Plugin to The ActiveMQ Server

In this example you will need to have already installed NRPE (the Nagios XI Linux Agent) on your ActiveMQ server.

Before you download the plugin, there are some pre-requisite Perl packages required by the plugin. Establish a terminal session to your ActiveMQ server as the root user and execute the following command:

```
yum install -y perl-Switch perl-XML-Simple
```

These commands are for RHEL/CentOS, if you have a different distribution, you'll need to ensure those Perl packages are installed.

Next you need to download the plugin to your ActiveMQ server, executing the following commands:

```
cd /usr/local/nagios/libexec/  
wget https://assets.nagios.com/downloads/nagiosxi/scripts/activemq_watch  
chmod +x /usr/local/nagios/libexec/activemq_watch
```

For this example, the default admin account (called **admin**) with the password of *admin* is used by the plugin to access ActiveMQ. In your environment you will need to define the correct account and password by editing the **activemq\_watch** file and change the following line:

```
my $page = get "http://admin:admin\@$address:$port/admin/xml/queues.jsp" or  
die "Cannot get XML file: $!\n";;
```

You will want to replace `admin:admin` with the `username:password` for your ActiveMQ server.

You will also need to set the port to what you have set up on your ActiveMQ server. Currently it defaults to 8161. Edit the **activemq\_watch** file and change the following line to reflect the port set up on your ActiveMQ server:

```
my $port = "8161";
```

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## Test The Plugin Locally On The ActiveMQ Server

Now that these lines have been changed, test the plugin locally by running the following command:

```
/usr/local/nagios/libexec/activemq_watch -w 10 -c 20
```

The output should be similar to:

```
OK - test holding: 0 msgs OK - nagios.test holding: 2 msgs OK - test2  
holding: 0 msgs
```

You should see the total number of messages in all your current queues on the ActiveMQ server. In our example it matches our data in ActiveMQ as shown here:



The screenshot shows the ActiveMQ web interface. At the top, there is a navigation bar with links: Home | Queues | Topics | Subscribers | Connections | Network | Scheduled | Send. Below the navigation bar, there is a form to create a new queue with a text input for 'Queue Name' and a 'Create' button. The main content area is titled 'Queues' and contains a table with the following data:

Name ↑	Number Of Pending Messages	Number Of Consumers	Messages Enqueued	Messages Dequeued	Views	Operations
nagios.test	2	0	2	0	Browse Active Consumers atom rss	Send To Purge Delete
test	0	0	0	0	Browse Active Consumers atom rss	Send To Purge Delete
test2	0	0	0	0	Browse Active Consumers atom rss	Send To Purge Delete

As with standard plugin thresholds, it will return a warning if there are more than 10, and a critical if more than 20.

## Configure NRPE To Execute the Plugin on The ActiveMQ Server

Next, you need to add a definition for this plugin to the nrpe.cfg on the ActiveMQ server by editing the NRPE configuration file:

```
vi /usr/local/nagios/etc/nrpe.cfg
```

When using the vi editor, to make changes press **i** on the keyboard first to enter insert mode. Press **Esc** to exit insert mode.

And add the following definition into the list of commands near the bottom:

```
command[activemq_watch]=/usr/local/nagios/libexec/activemq_watch $ARG1$
```

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When you have finished, save the changes in vi by typing:

```
:wq
```

And press **Enter**.

You now need to restart `xinetd` to make our changes to the NRPE config active:

```
systemctl restart xinetd
```

## Checking The Plugin from Nagios XI

It is always a good practice to test your plugins from the Nagios XI server command line prior to testing them from Nagios XI web interface. Since you now have the plugin working on the ActiveMQ server, you will test checking the plugin from the command line on the Nagios XI server. Establish a terminal session to your Nagios XI server and execute the following commands:

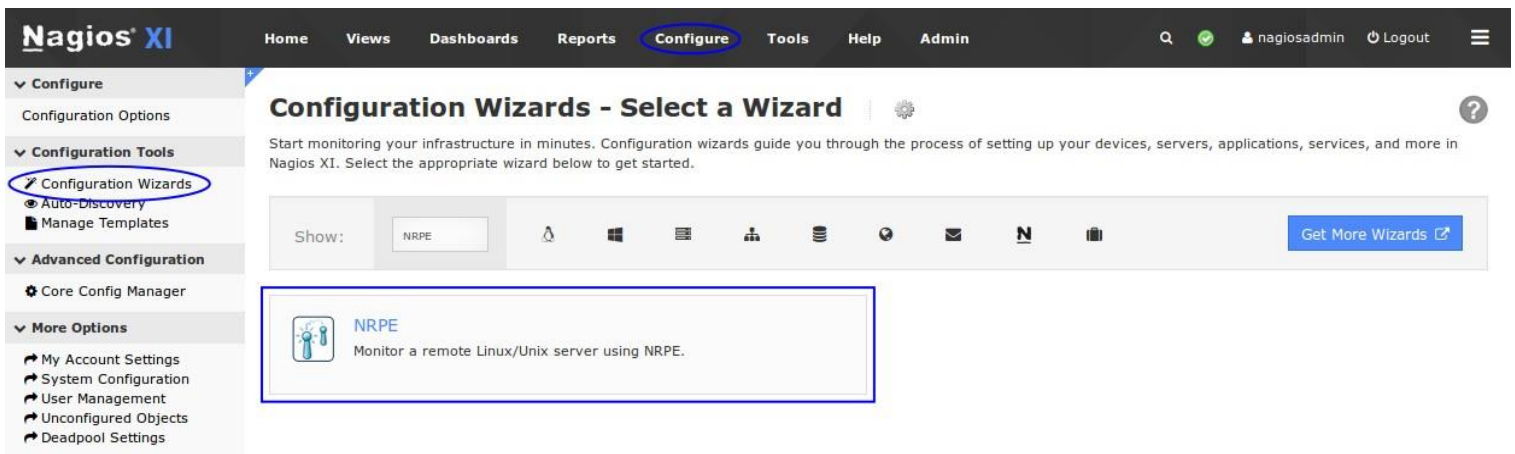
```
cd /usr/local/nagios/libexec/  
./check_nrpe -H addr.of.activemq.server -c activemq_watch -a '-w 10 -c 20'
```

Remember to replace `addr.of.activemq.server` with the IP Address of your ActiveMQ server. The output returned should be similar to what is shown here:

```
[root@xi-r7x-x64 ~]# cd /usr/local/nagios/libexec/  
[root@xi-r7x-x64 libexec]# ./check_nrpe -H 10.25.8.1 -c activemq_watch -a '-w 10 -c 20'  
OK - test holding: 0 msgs OK - nagios.test holding: 2 msgs OK - test2 holding: 0 msgs
```

All that is left to do now is to define a host for the ActiveMQ server and a service for this check within Nagios XI. Once you have all of this done, you will be able to get up to date information on how many objects are in the ActiveMQ server's queue.

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The screenshot shows the Nagios XI interface. The top navigation bar includes 'Home', 'Views', 'Dashboards', 'Reports', 'Configure' (circled in blue), 'Tools', 'Help', and 'Admin'. The left sidebar has a 'Configure' section with 'Configuration Wizards' (circled in blue) and 'Auto-Discovery' (circled in blue). The main content area is titled 'Configuration Wizards - Select a Wizard'. It features a search bar with 'NRPE' entered and a 'Get More Wizards' button. A list of wizards is shown, with 'NRPE' (Monitor a remote Linux/Unix server using NRPE) highlighted with a blue border.

## NRPE Monitoring Wizard

The NRPE wizard will create the host and service objects. Navigate via the top menu bar to **Configure** > **Run a configuring wizard** and select the **NRPE** wizard. In the following screenshot you can see how the search field allows you to quickly find a wizard.

On **Step 1** you will be asked to supply the **address** of the ActiveMQ server.

You will also have to select the **Operating System**; in this case it is **Linux - CentOS**.



### Configuration Wizard: NRPE - Step 1

#### Server Information

IP Address:

The IP address or FQDNS name of the server you'd like to monitor.

Operating System:

The operating system running on the server you'd like to monitor.

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Click **Next** to progress to **step 2**.

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On **Step 2** you will configure all the options for monitoring.

To start off with, make sure a valid **Host Name** has been entered.

The **NRPE Agent** section can be ignored because you have already installed it.

The NRPE wizard allows you to specify which NRPE commands should be executed and monitored and what display name (service description) should be associated with each command.

In the screenshot to the right you can see the **command** has been defined for the **activemq\_watch** check.

Click **Next** and then complete the wizard by choosing the required options in **Step 3 – Step 5**.

To finish up, click on **Finish** in the final step of the wizard.

This will create new hosts and services and begin monitoring.

Once the wizard applies the configuration, click the **View status details for <ActiveMQ Server>** link to see the new host and services that were created.

**Configuration Wizard: NRPE - Step 2**

**Server Details**

IP Address: 10.25.8.1

Operating System: CentOS

Host Name: ActiveMQ  
The name you'd like to have associated with this host.

**NRPE Agent**

Specify options that should be used to communicate with the remote NRPE agent.

Agent Download: [Download Agent](#)

Agent Install Instructions: [Agent Installation Instructions](#)

SSL Encryption: Enabled (Default)  
Determines whether or not data between the Nagios XI server and NRPE agent is encrypted.  
**Note:** Legacy NRPE installations may require that SSL support be disabled.

**Server Metrics**

Specify which services you'd like to monitor for the server.

Ping  
Monitors the server with an ICMP Ping. Useful for watching network latency and general uptime.

**NRPE Commands**

Specify any remote NRPE commands that should be monitored on the server. Multiple command arguments should be separated with a space.

Display Name	Remote NRPE Command	Command Args
<input type="checkbox"/> Current Users	check_users	
<input type="checkbox"/> Current Load	check_load	
<input type="checkbox"/> Total Processes	check_total_procs	
<input checked="" type="checkbox"/> Queue Number	activemq_watch	'-w 10 -c 20'
<input type="checkbox"/>		

[Add Row](#) | [Delete Row](#)

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Host	Service	Status	Duration	Attempt	Last Check	Status Information
ActiveMQ	Queue Number	Ok	4m 52s	1/5	2017-02-02 19:33:01	OK - test holding: 0 msgs OK - nagios.test holding: 2 msgs OK - test2 holding: 0 msgs

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You are now monitoring your ActiveMQ server queue, it's as simple as that.

## Common Issues

**Problem:** When testing the plugin from the command line of your Nagios XI server, you receive the following error:

```
CHECK_NRPE: Error - Could not complete SSL handshake.
```

**Solution:** On your ActiveMQ server edit the file `/etc/xinetd.d/nrpe` and add the IP address of your Nagios XI server on the **only\_from** line of the file. This is a space delimited list of IP addresses which can contact the ActiveMQ server using NRPE.

Save and quite the file and then restart the **xinetd** service with the following command.

```
systemctl restart xinetd
```

The [knowledgebase](#) has more detailed troubleshooting steps which can help resolve NRPE issues.

## Finishing Up

This completes the documentation on how to monitor Apache ActiveMQ in Nagios XI. If you have additional questions or other support-related questions, please visit us at our Nagios Support Forum, Nagios Knowledge Base, or Nagios Library:

[Visit Nagios Support Forum](#)

[Visit Nagios Knowledge Base](#)

[Visit Nagios Library](#)