How To Monitor GlassFish in Nagios XI 2024

Purpose

This document will cover how to monitor GlassFish servers using the GlassFish wizard and `check_jvm.jar` plugin within Nagios XI, so that users may be notified when GlassFish applications are behaving unexpectedly.

Prerequisites

This document assumes you have the following:

- A remote GlassFish server
- A Nagios XI server with a network route to the GlassFish server

The `check_jvm.jar` monitoring plugin is executed either on the Nagios XI server or the GlassFish server. Either method requires some prerequisite steps to be followed first which are outlined below.

Plugin Executed from Nagios XI Server

If you intend to run the plugin from the XI server, you'll need to install Java on the Nagios XI server. At the time of this writing, any Java 7+ implementation should work with the `check_ jvm.jar` plugin, but only Oracle Java and OpenJDK have been tested. The following commands require you to establish a terminal session to your Nagios XI server as the root user.

CentOS / RHEL / Oracle Linux

To install OpenJDK 8 on CentOS / RHEL / Oracle Linux execute the following command:

```
yum install -y java-1.8.0-openjdk-devel
```

Debian / Ubuntu

To install OpenJDK 8 on Debian 9 / Ubuntu 16,18, 20 execute the following commands:

```
apt-get update
apt-get install -y openjdk-8-jdk
```

OpenJDK 8 is not included in Debain 10 packages. To install OpenJDK 8 on Debian 10, input these commands:

```
sudo apt-get update
```

```
sudo apt-get install software-properties-common
```

```
sudo apt update
```

```
sudo apt install apt-transport-https ca-certificates wget
dirmngr gnupg software-properties-common
```

```
wget -qO - https://ad-
optopenjdk.jfrog.io/adoptopenjdk/api/gpg/key/public | sudo apt-
key add -
```

```
sudo add-apt-repository --yes https://ad-
optopenjdk.jfrog.io/adoptopenjdk/deb/
```

```
sudo apt update
```

```
sudo apt install adoptopenjdk-8-hotspot
```

Once these steps have been performed, please proceed to the Configuration Wizard section of this document.

Plugin Executed from Remote GlassFish Server

If the plugin is to be remotely executed on the GlassFish server, NCPA will need to be installed on the GlassFish server as per the Installing NCPA documentation.

Once installed you will need to download the `check_jvm.jar` plugin to the NCPA's plugins folder. The plugin can be downloaded directly from the Nagios XI server, in the following commands replace xi_address with the IP address of your Nagios XI server. In a terminal session on the GlassFish server execute the following commands:

```
cd /usr/local/ncpa/plugins/
wget http://xi_address/nagiosxi/includes/configwizards/java-as/plugins/check_jvm.jar
```

The `check_jvm.jar` is a Java file that NCPA cannot run by default. To have NCPA associate .jar files with Java you will need to add a line to the `/usr/local/ncpa/etc/ncpa.cfg` file.

To edit the `ncpa.cfg` file execute the following command:

```
sudo vi /usr/local/ncpa/etc/ncpa.cfg
```

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

Locate the [plugin directives] section by typing this command in:

```
/[plugin
```

Scroll down a few lines and find the following line:

```
.py = python $plugin_name $plugin_args
```

Insert the following line after the .py line:

```
.jar = java -jar $plugin_name $plugin_args
```

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

```
:wq
```

and press **Enter**.

The last step required is to restart the ncpa_listener service. The command to do this may vary depending on your operating system (full details can be found in the Installing NCPA documentation). In this example to restart the service on CentOS 7 would be:

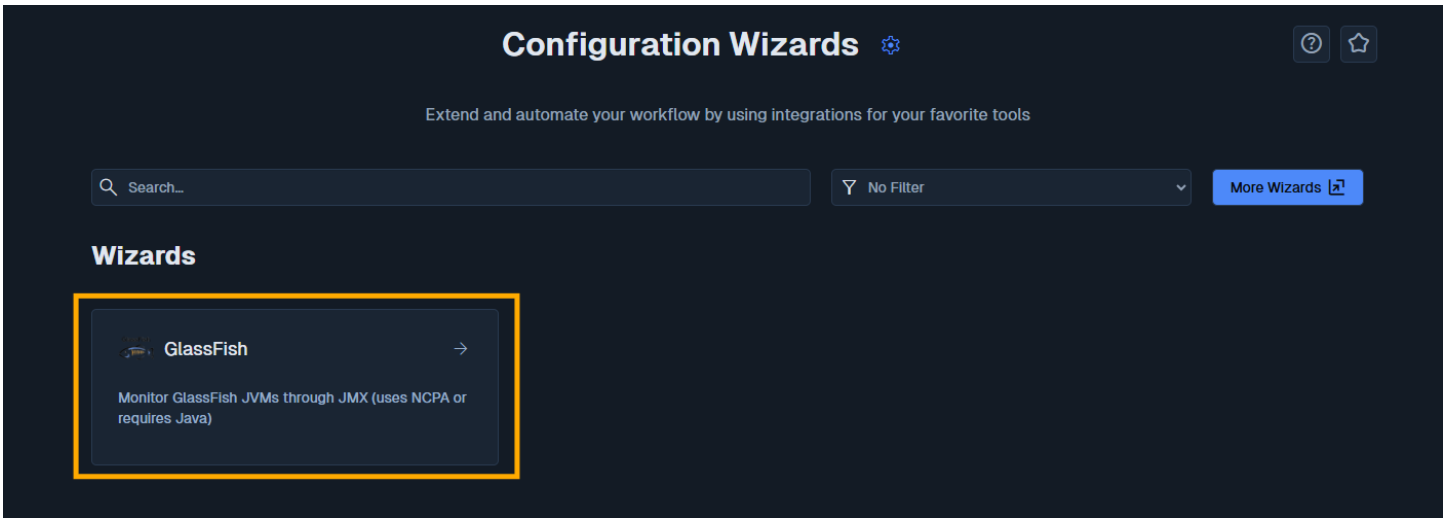
```
systemctl restart ncpa_listener.service
```

Once these steps have been performed, please proceed to the Configuration Wizard section of this document.

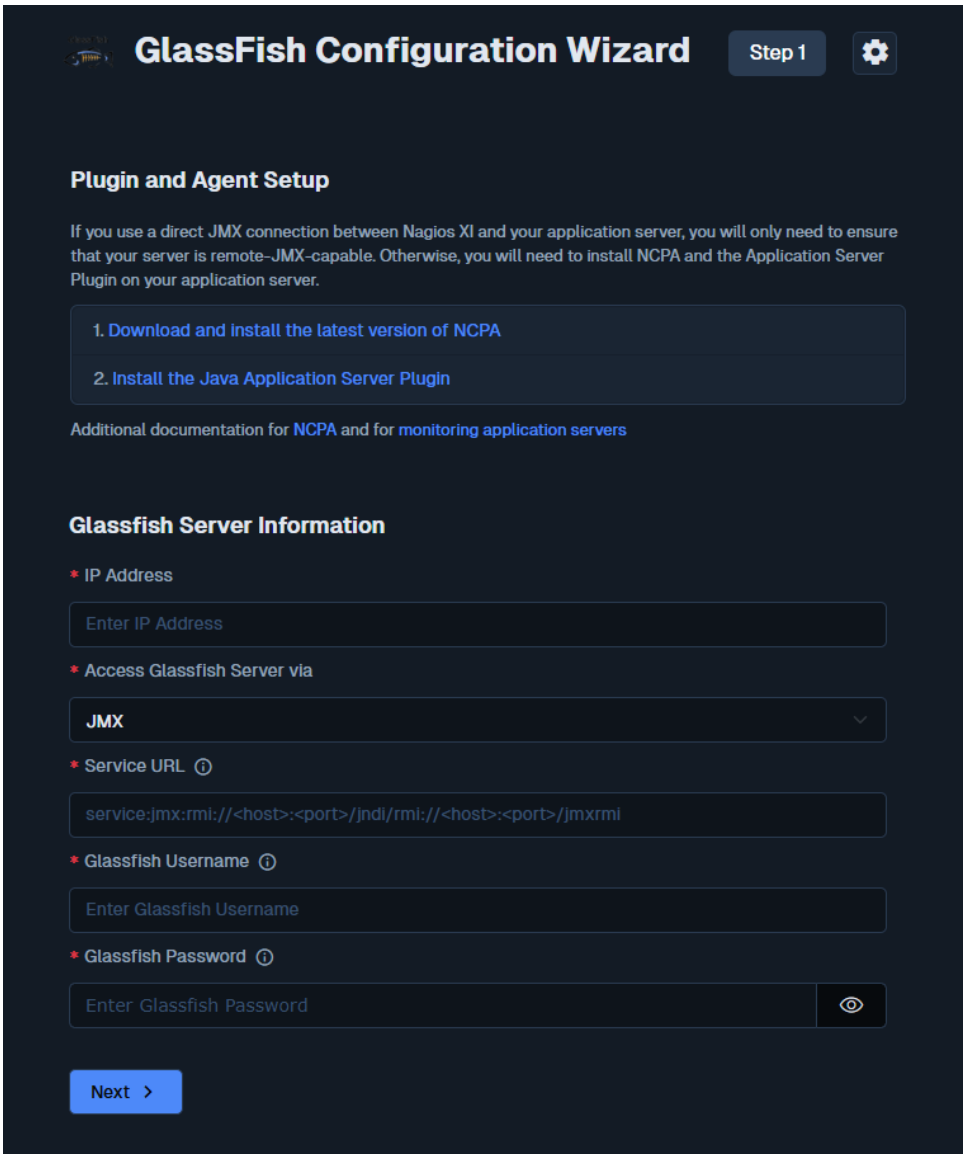
The GlassFish Configuration Wizard

The GlassFish config wizard uses JMX to retrieve JVM and system statistics and compare them to the thresholds you set in the wizard. Checks can either be combined into one service or separated.

To begin using the GlassFish configuration wizard, navigate via the top bar to **Configure > Configuration Wizards**. Then, select the GlassFish wizard. In the following screenshot you can see how the search field allows you to quickly find a wizard.



1. **Step 1** requires you to provide the details for the Nagios XI server to connect to **GlassFish** via **JMX**.



   a. In GlassFish Server Information, specify the following:

      i. **IP Address:** is the network address of the GlassFish server

      ii. **Access GlassFish Server via:** asks you how to access GlassFish statistics. **JMX** is when Nagios XI connects instead of using NCPA to execute the plugin remotely.

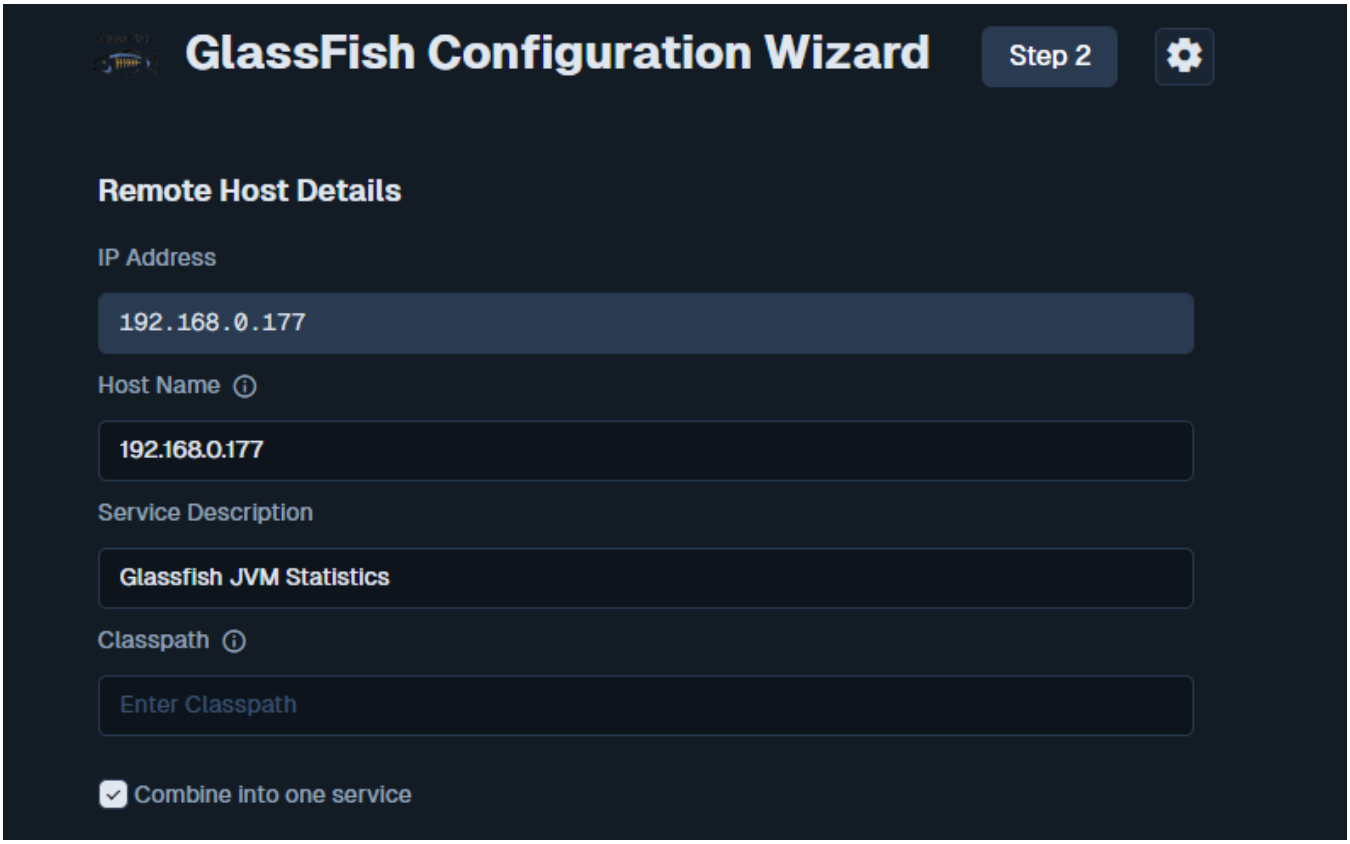
iii. **NCPA Listener Port** and **NCPA Token only** appear when you select the NCPA access method. You defined these options when installing NCPA earlier.

iv. **Service URL:** is the URL required to form the JMX connection, this will be of the form of `service:jmx:rmi://<host>:<port>/jndi/rmi://<host>:<port>/jmxrmi`

v. GlassFish Username and GlassFish Password are the credentials required to access the JVM's internal statistics

b. After making all your selections click **Next** to proceed to **Step 2**.

2. **Step 2** provides you with multiple monitoring options.



a. In **Remote Host Details**, you have the choice of defining the **Host Name** to your requirements.

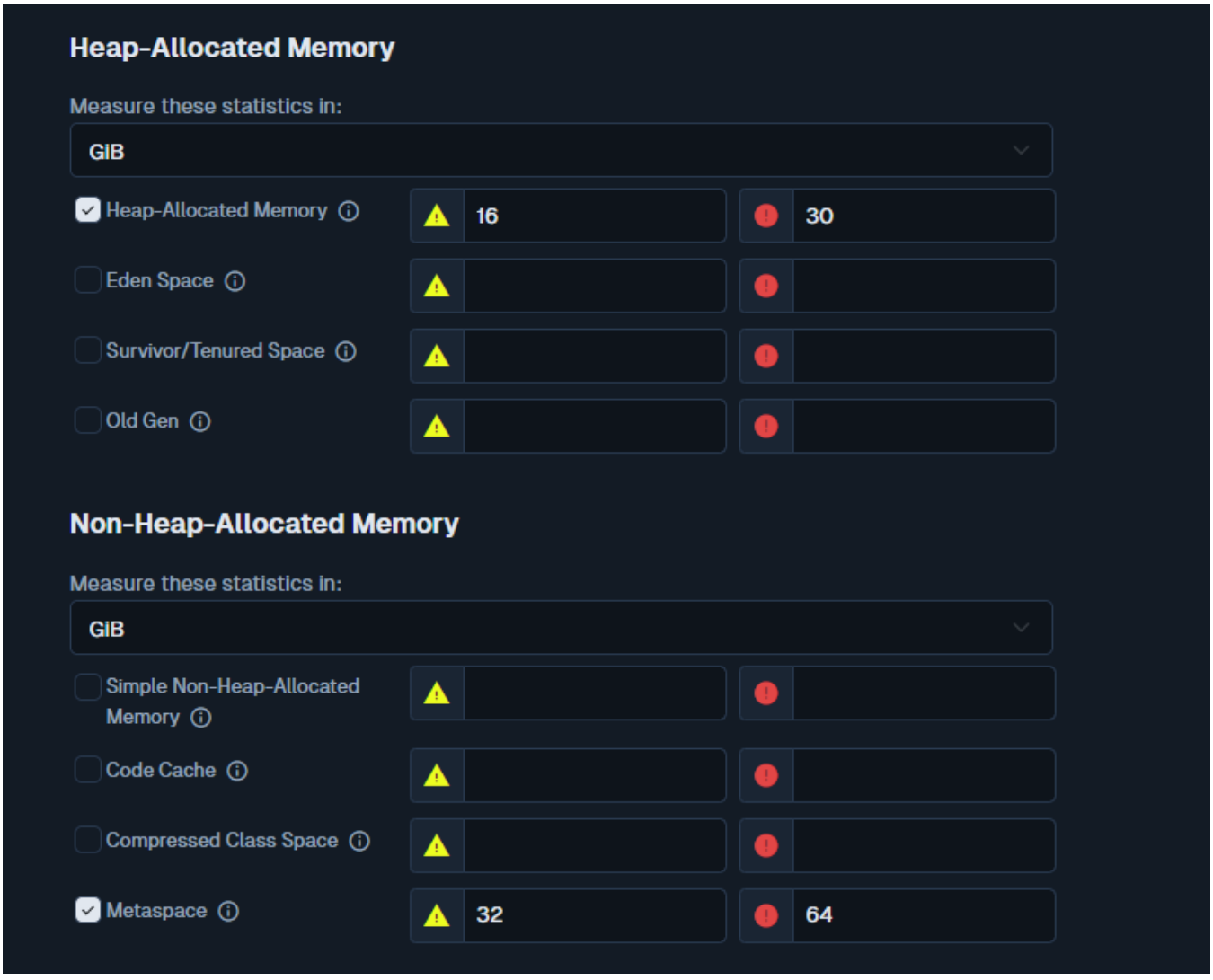
b. All the services created by this wizard will be assigned to this newly created host.

i. You also have the option to combine the checks into one service.

ii. If you have selected **NCPA**, then the **Classpath** field will not be displayed.

iii. If you are using **JMX** then you can optionally define the **Classpath** field.

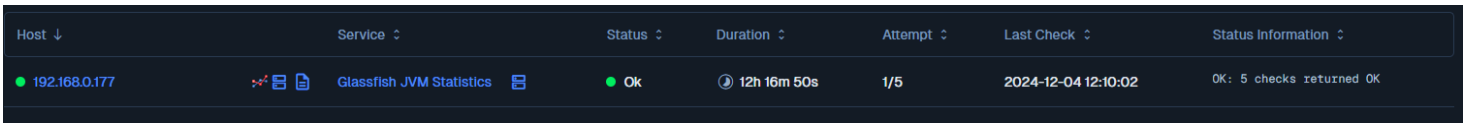
c. The **Heap-Allocated Memory** and **Non-Heap-Allocated Memory** options are self-explanatory, simply check and un-check the relevant boxes to determine which checks to run and enter your desired warning and critical thresholds.



d. The **Other System Statistics** options are self-explanatory, simply check and uncheck the relevant boxes to determine which checks to run and enter your desired warning and critical thresholds.

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

3. To finish up, click on **Finish** in the final step of the wizard. Once the wizard applies the configuration, click the **View status details** for <your host> link to see the new service(s) that have been created.



More Information:
Using Configuration Wizards

Finishing Up

This completes the documentation on how to monitor GlassFish in Nagios XI 2024. 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