How To Monitor WebLogic In Nagios XI 2024

Purpose

This document describes how to monitor WebLogic servers using the WebLogic wizard with Nagios XI 2024, so that users may be notified when WebLogic applications are behaving unexpectedly.

Prerequisites

This document assumes you have the following:

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

The monitoring of the WebLogic server is performed by the WLSAgent, this can be accessed via HTTP calls from the Nagios XI server or via NCPA. Either method requires some prerequisite steps to be followed first which are outlined below.

WLSAgent

The WLSAgent is a Java application that allows you to query the WebLogic server. You will need to download the WLSAgent to a location on the WebLogic server, it can be downloaded directly from the Nagios XI server. This example is downloading it to the oracle user directory /home/oracle and may be different in your environment.

In our example the Linux user that runs WebLogic is oracle and you will need to execute all following commands as this user.

In the following commands replace `xi_address` with the IP address of your Nagios XI server. In a terminal session on the WebLogic server and execute the following three commands:

```
cd /home/oracle
```

```
wget http://xi_address/nagiosxi/includes/configwizards/java-as/plugins/wlsagent.tar.gz
```

```
tar xvfz wlsagent.tar.gz
```

The WLSAgent will listen on port 9090 by default, if you want to change this edit the `/home/oracle/wlsagent/run.sh` file and change the `PORT` line.

Note: If you are using WebLogic 14.1.1.0.0 or higher, you will need to edit the `/home/oracle/wlsagent/run.sh` file and change the second `CLASSPATH` in the file to the following:

```
CLASSPATH-="${CLASSPATH}:lib/wlthint3client.- jar:lib/weblogic.-
jar:lib/com.oracle.weblogic.management.base.jar:lib/com.oracle.weblogic.work
.jar"
```

You now need to generate and copy the WebLogic client library files. This example is using WebLogic that is installed in `/home/oracle/wls12213` however your location may differ. This has been set to the environment variable `ORACLE_HOME` as per the following command:

```
export ORACLE_HOME=/home/oracle/wls12213
```

Execute the following commands to generate and copy the WebLogic client library files:

```
cd $ORACLE_HOME/wlserver/server/lib

java -jar ../../modules/com.bea.core.jarbuilder.jar

cp ./{wlclient.jar,wljmxclient.jar,wlfullclient.jar} /home/oracle/wlsagent/lib
```

You are now ready to start the WLSAgent, execute the following command to do so:

```
/home/oracle/wlsagent/run.sh
```

This should be executed silently and returned to the command prompt. Execute the following command to determine if it is running:

```
ps -ef | grep wls
```

This should be something like:

```
oracle 3115 1 1 10:48 pts/1 00:00:00 /bin/java -Xmx32m -cp
.:wlsagent.jar:lib/servletapi-2.5.jar:lib/jetty-servlet-7.6.2.v20120308.-
jar:lib/wlclient.jar:lib/wljmxclient.jar:lib/wlfullclient.jar
net.wait4it.nagios.wlsagent.core.WLSAgent 0.0.0.0 9090
```

This indicates that the WLSAgent application is running.

You may also need to open firewall port 9090, depending on if your operating system is using a firewall (step not required if using NCPA). In our example the WebLogic server runs on CentOS 7, and the following commands are required (you will need to execute these as a root user):

```
firewall-cmd --zone=public --add-port=9090/tcp

firewall-cmd --zone=public --add-port=9090/tcp --permanent
```

Once these steps have been performed the WLSAgent is installed and ready to be used. If you are connecting to the WLSAgent from the Nagios XI server using HTTP calls, please proceed to the Configuration Wizard section of this document.

If you do not wish to connect to the WLSAgent from the Nagios XI server using HTTP calls, then you will need to install and configure NCPA to allow you to communicate with the WLSAgent.

NCPA

If the WLSAgent cannot be used, then NCPA will need to be installed on the WebLogic server as per the Installing NCPA documentation.

Once installed you will also need to copy the check_wlsagent.sh plugin from the Nagios XI server to your WebLogic server. The following commands executed on your WebLogic server as the root user will do this:

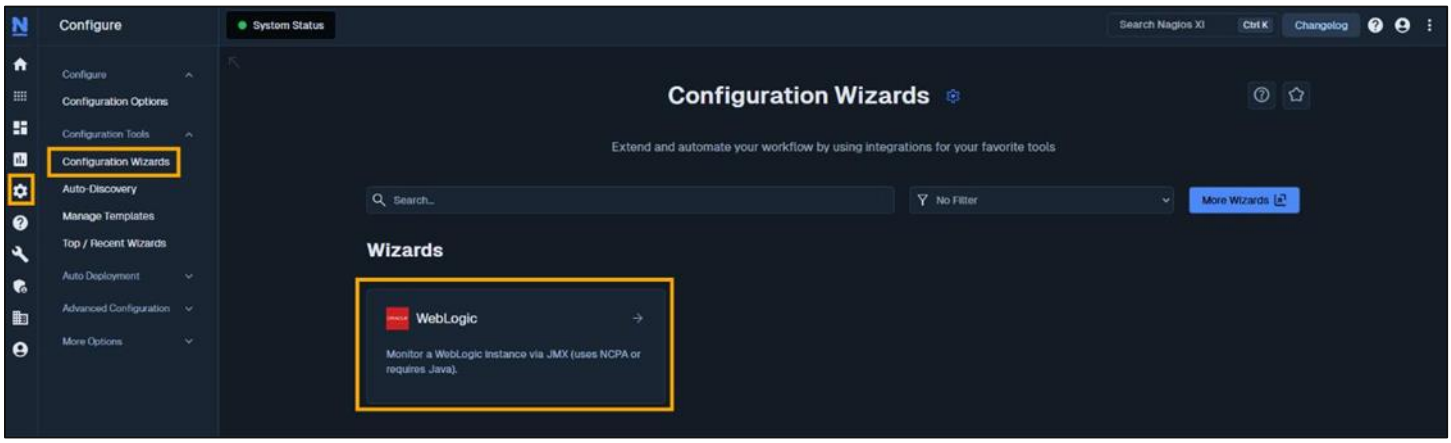
```
cd /usr/local/ncpa/plugins

wget http://xi_address/nagiosxi/includes/configwizards/java-as/plugins/check_wlsagent.sh

chmod +x check_wlsagent.sh

chown nagios:nagios check_wlsagent.sh
```

Once you have completed these steps please proceed to the Configuration Wizard section of this document.

The WebLogic Configuration Wizard

The WebLogic config wizard uses the WLS Agent to retrieve system statistics and compares them to the thresholds you set in the wizard. Checks can either be combined into one service or separated.

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



2. **Step 1** requires you to provide the details for the Nagios XI server to connect to WebLogic server.

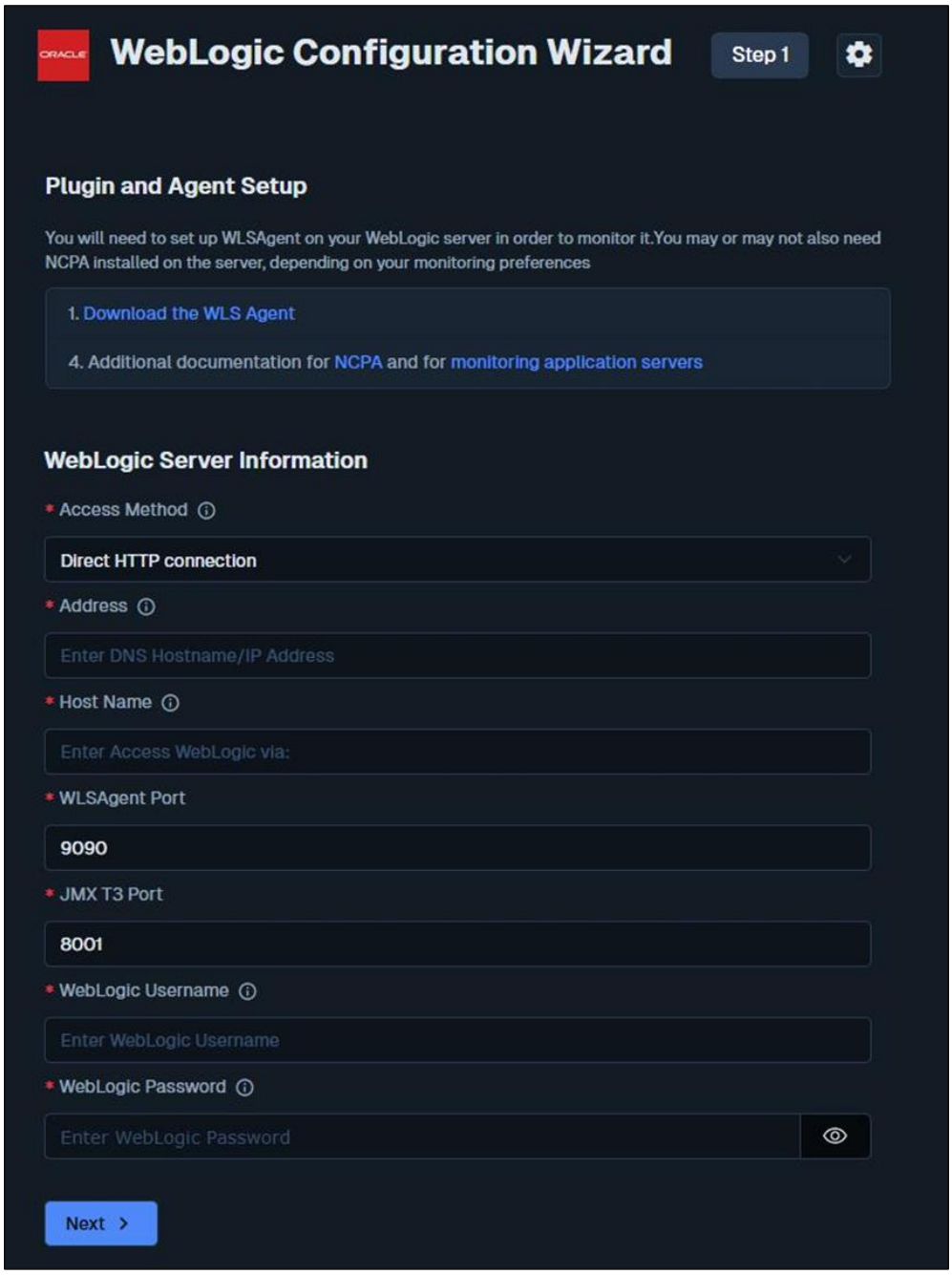
3. There are two methods of connecting to WebLogic, **Direct HTTP connection** or **Remote Agent (NCPA).** Both methods require the same settings, however NCPA has some additional options.

An explanation of the fields you are required to provide is explained as follows.

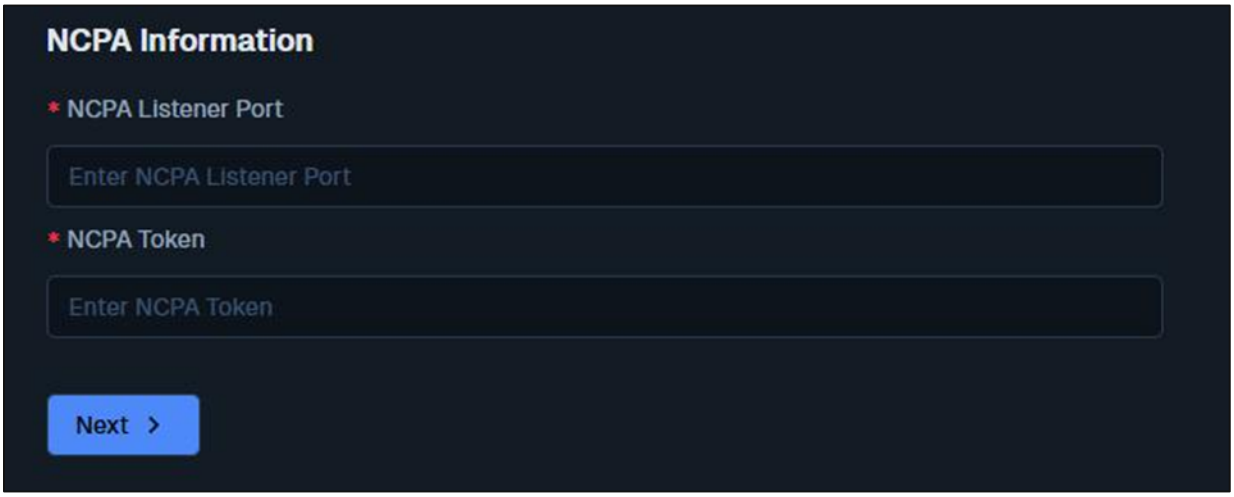
- **Hostname** is the name that you want the monitoring objects created by the wizard to be associated with in Nagios XI.
- **DNS Hostname/IP Address** is the network address of the WebLogic server.
- **WLSAgent Port** is how Nagios XI or NCPA connects to the WLSAgent.
- **JMX T3 Port** is how the WLSAgent connects to WebLogic. Depending on the version of WebLogic this can be 7001 or 8001. You can see this in the WebLogic logs:

```
<Sep 12, 2018 10:42:26,239 AM AEST> <Notice> <Server> <BEA002613> <Channel
"Default" is now listening on 10.25.9.4:7001 for protocols iiop, t3, ldap,
snmp, http.>
```

- **WebLogic Username** and **WebLogic Password** are the credentials required to access the WebLogic internal statistics.



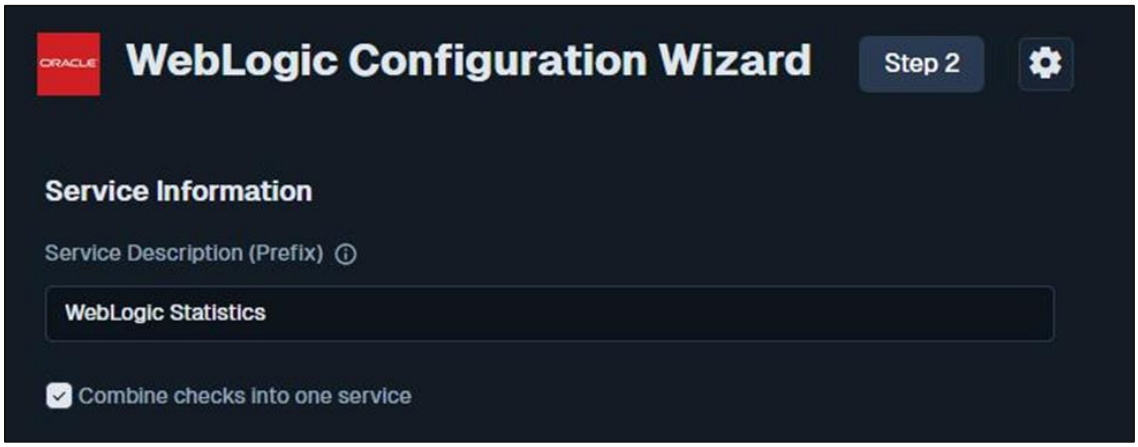
- **NCPA Listener Port** and **NCPA Token** only appear when you select the **NCPA** access method. You defined these options when installing NCPA earlier.



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

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

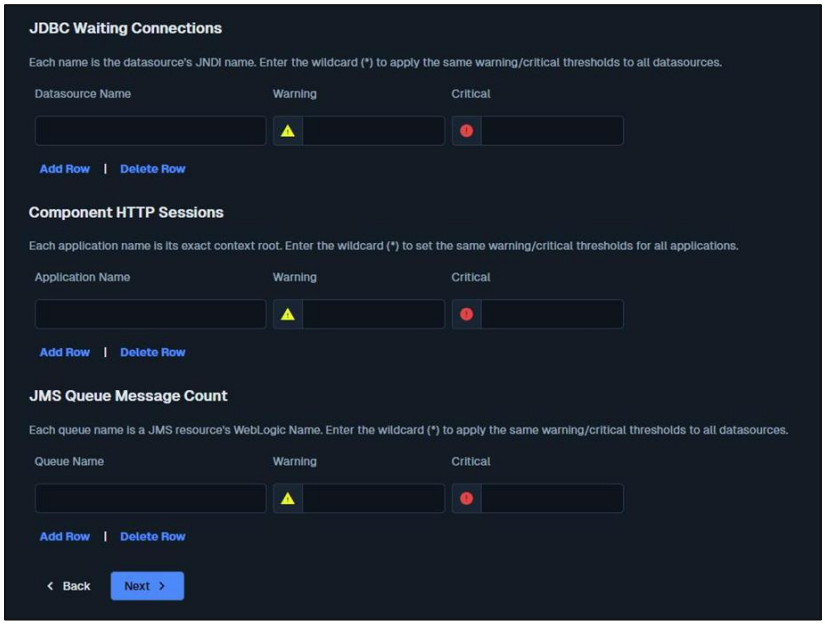
6. In **Service Information** you can define the **Service** Description of the service that will be created by this wizard. By default, the checks below are combined into one service, de-selecting the check box will create multiple services (the name of each service created will begin with the defined service description).



7. Each **metric** allows you to check and un-check the relevant boxes to determine which checks to run and enter your desired warning and critical thresholds.

- **Heap Memory** is the memory segment for the storage of Java objects.
- **JTA** is the Java Transaction API, here you can monitor the number of active connections.
- **JMS** is the Java Message Service; here you can monitor its overall number of connections.
- **Stuck Threads** in WebLogic can also be monitored.

8. The remaining checks require you to define a name (**Datasource** / **Application** / **Queue**) and the relative thresholds.



9. If you do not want to define a name then use the wildcard * to monitor all of them.

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

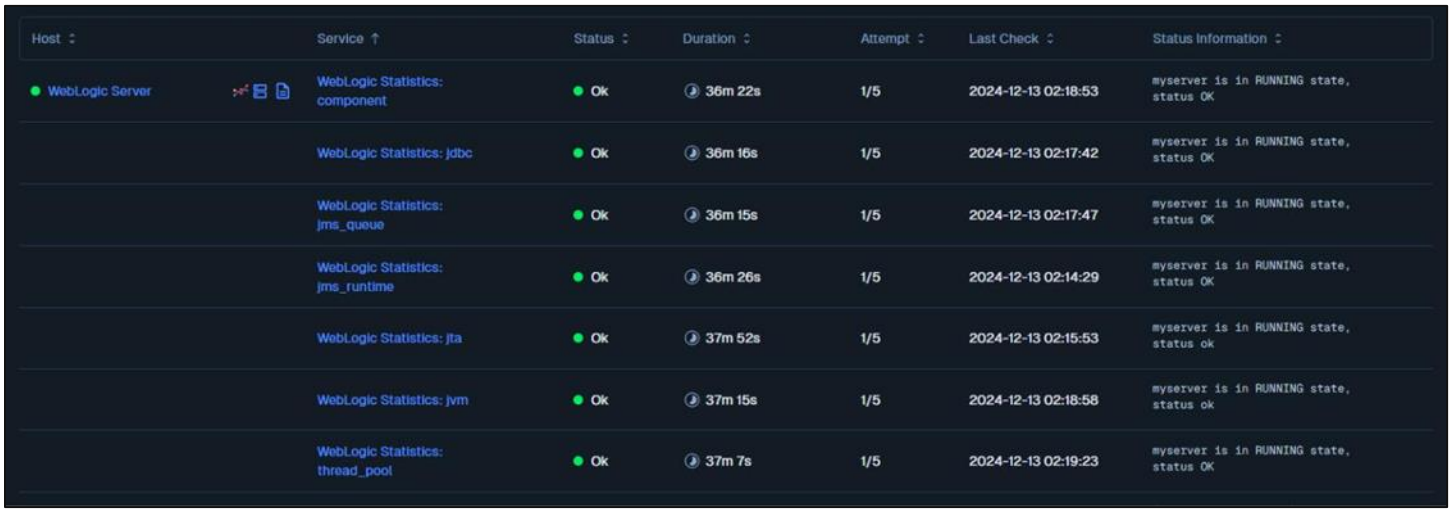
11. To finish, click **Finish** in the last step of the wizard.

Once the wizard applies the configuration, click the View status details for link to see the new service(s) that have been created.

Here is an example of all checks in one service:

Host	Service	Status	Duration	Attempt	Last Check	Status Information
WebLogic	WebLogic Statistics	Ok	18m 20s	1/5	2024-12-12 14:49:30	myserver is in RUNNING state, status OK

Here is an example of multiple checks in separate services:



Host	Service	Status	Duration	Attempt	Last Check	Status Information
WebLogic Server	WebLogic Statistics: component	Ok	36m 22s	1/5	2024-12-13 02:18:53	myserver is in RUNNING state, status OK
	WebLogic Statistics: jdbc	Ok	36m 16s	1/5	2024-12-13 02:17:42	myserver is in RUNNING state, status OK
	WebLogic Statistics: jms_queue	Ok	36m 15s	1/5	2024-12-13 02:17:47	myserver is in RUNNING state, status OK
	WebLogic Statistics: jms_runtime	Ok	36m 26s	1/5	2024-12-13 02:14:29	myserver is in RUNNING state, status OK
	WebLogic Statistics: jta	Ok	37m 52s	1/5	2024-12-13 02:15:53	myserver is in RUNNING state, status ok
	WebLogic Statistics: jvm	Ok	37m 15s	1/5	2024-12-13 02:18:58	myserver is in RUNNING state, status ok
	WebLogic Statistics: thread_pool	Ok	37m 7s	1/5	2024-12-13 02:19:23	myserver is in RUNNING state, status OK

For more information, visit the Configuration Wizards documentation.

Finishing Up

This completes the documentation on how to monitor WebLogic servers using the WebLogic wizard with 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