

The Industry Standard in IT Infrastructure Monitoring

Purpose

This document describes how to monitor a WebLogic installation with Nagios XI in order to give you a better view of the health of your WebLogic application server and allow you to be notified your staff when issues arise. WebLogic is a Java-based application server that acts as middleware between an application and the Java environment. This document will go over monitoring various aspects of WebLogic such as current connections, heap usage, and stuck threads.

Target Audience

This document is intended for use by Nagios administrators looking to monitor their WebLogic application servers to gain greater insight into the health of their IT infrastructure.

Prerequisites

This document assumes the following prerequisites exist:

- You have a functioning WebLogic installation accessible to your Nagios XI server
- You have your WebLogic server set up as a host in Nagios XI
- NRPE is installed on the server running WebLogic

For instructions on setting NRPE up reference the link below:

[Monitoring Hosts Using NRPE](#)

http://assets.nagios.com/downloads/nagiosxi/docs/Monitoring_Hosts_Using_NRPE.pdf

Installing And Configuring The WLSAgent On The WebLogic Server

The first thing that needs to be done is to download the wlsagent plugin to the WebLogic Server. Log onto the WebLogic server as the root user and download the latest wlsagent (this document was written using r185) to the Nagios Plugins directory. The latest version of the wlsagent can be found at <http://code.google.com/p/wlsagent/downloads/list>.

```
cd /usr/local/nagios/libexec/  
wget http://wlsagent.googlecode.com/files/wlsagent-r185.tar.gz  
tar xzf wlsagent-r185.tar.gz  
mv wlsagent-r185 wlsagent
```

Now we need to add some files to the newly-created directory. You will need to locate the WebLogic directory and copy over some specific .jar files. You can find them with the following commands:

```
find / -name wlclient.jar  
find / -name wljmxclient.jar
```

For our installation we found these files in: /home/weblogic/Oracle/Middleware/Oracle_Home/wlserver/server/lib/

Now change into the directory where those files are located and run the following command:

```
cd /home/weblogic/Oracle/Middleware/Oracle_Home/wlserver/server/lib/  
java -jar wljarbuilder.jar
```

This will create the wfullclient.jar file.

Copy these three files into your wlsagent directory:

```
cp wlclient.jar /usr/local/nagios/libexec/wlsagent/lib
cp wljmxclient.jar /usr/local/nagios/libexec/wlsagent/lib
cp wlfullclient.jar /usr/local/nagios/libexec/wlsagent/lib
```

Now we need to make sure permissions are correct so the local nagios user can run them with NRPE:

```
chmod -R 755 /usr/local/nagios/libexec/wlsagent
chown -R nagios.nagios /usr/local/nagios/libexec/wlsagent
```

One edit needs to be made to the run.sh script in the wlsagent directory. You need to configure the JAVA_HOME variable, setting it to the full directory path where java resides on your system. On my particular system (a premade virtual machine from Oracle), I changed the file to: /labs/wls1211/jdk160_29/ but your path may be different. The HOST and PORT options can stay the same.

Open the file /usr/local/nagios/libexec/wlsagent/run.sh with your favorite text editor and change the following line to your path to java:

```
JAVA_HOME=""
to
JAVA_HOME="/path/to/java/"
```

The configuration is now done. In order to start the wlsagent daemon, run the run.sh script which will start the wlsagent daemon in the background.

```
/usr/local/nagios/libexec/wlsagent/run.sh
```

To verify the daemon is running you can run the following command:

```
ps ax | grep wlsagent
```

The daemon is running if the wlsagent is listed in your output.

```
19160 pts/2    S+   0:00 grep wlsagent
```

Using WLSAgent

The wlsagent.sh script is a script which is found in the same directory as run.sh. The wlsagent script queries the process started by run.sh in order to get WebLogic metrics. A typical call might look like this (replace with your weblogic username and password):

```
cd /usr/local/nagios/libexec/wlsagent
./wlsagent.sh 'hostname=localhost&port=7001&username=weblogic&password=welcome1&jvm=UsedMemory,90,95'
```

Output returned:

```
AdminServer is in RUNNING state, status OK|HeapSize=247MB;;;0;494 UsedMemory=58MB;;;0;494
```

The following values need to be defined:

- hostname In our case this will always be localhost since we are checking via NRPE
- port This is the port of the WebLogic server (7001 by default) **not** the wlsagent daemon (9090 by default)
- username The user you would use to administrate WebLogic
- password The password for the WebLogic user

In addition, you will want to specify a metric to check as well as the thresholds for warning and critical. In our example we checked heap memory used in the JVM with warning at 90% and critical at 95%. This is the last part of the call (jvm=UsedMemory,90,95) and is the only thing you need to change in order to monitor different metrics. Below is a sample of some available methods and outputs (replace jvm=UsedMemory,90,95 above with the check listed below):

```
check: thread-pool=ThreadStuckCount,5,10
```

```
Output: ThreadPoolSize=16 ThreadActiveCount=14;;;0;16 ThreadHoggingCount=2;;;0;16
ThreadStuckCount=0;;;0;16 Throughput=14.31
```

```
check: jta=ActiveTransactions,15,30
Output: ActiveTransactions=3
```

```
check: jms-runtime=CurrentConnections,500,750
Output: JmsRuntime-current=581
```

```
check: jms-queue=DistributedQueue0,150,200
Output: jms-DistributedQueue0-current=2 jms-DistributedQueue0-pending=0
```

A more conclusive list of commands and general help can be found on the [wlsagent wiki](#):

<http://code.google.com/p/wlsagent/wiki/Wlsagent>

Integration With NRPE

Adding a NRPE command for wlsagent is just like with any other plugin. You simply define the command and arguments in the NRPE config (located by default at `/usr/local/nagios/etc/nrpe.cfg`):

```
command[check_weblogic_heap]=usr/local/nagios/libexec/wlsagent/wlsagent.sh
'hostname=localhost&port=7001&username=weblogic&password=welcome1&jvm=UsedMemory,90,95'
```

If you're running the NRPE daemon as a standalone daemon you'll need to restart it. If you're running it under xinetd you don't need to do anything more. Installation and configuration are now complete. You can use the NRPE Wizard in Nagios XI to set up checks. Reference the **Prerequisites** section for more information about NRPE.

Creating The NRPE Service In Nagios XI

Setting up the NRPE check in Nagios XI is made simple by using the **NRPE Monitoring Wizard**. To access the wizard, click **Configure** in the top navigation bar in the Nagios XI web interface, then click **Monitoring Wizard** in the left-hand navigation pane. Here you will see a list of all of the configuration wizards you have installed. Scroll down and select the blue link labeled **NRPE**.

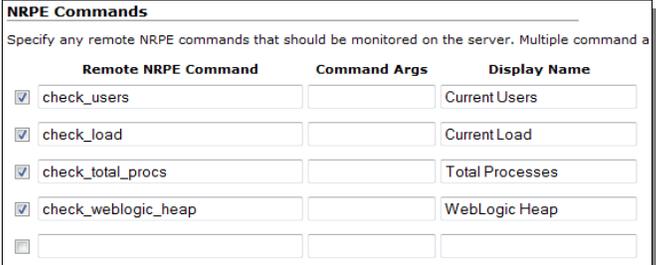
This first page of the wizard will ask for the **IP Address** and the **Operating System**. Fill in the IP address, and select the OS from the drop-down. The OS is not strictly important, as it simply applies an appropriate mascot or icon for quick identification. Click **Next**.

On this page you can name the host you would like to associate the check with, specify whether to use SSL, whether Nagios should check the host via Ping, and identify the NRPE commands. We are going to focus on the **NRPE Commands**.

By default you will have three NRPE commands configured:

- check_users
- check_load
- check_total_procs

If you want to enable these commands that is fine, but it will require you to uncomment the corresponding commands in `/usr/local/nagios/etc/nrpe.cfg` on your weblogic server. Otherwise, you can just uncheck the checkboxes in front of these commands.



Remote NRPE Command	Command Args	Display Name
<input checked="" type="checkbox"/> check_users		Current Users
<input checked="" type="checkbox"/> check_load		Current Load
<input checked="" type="checkbox"/> check_total_procs		Total Processes
<input checked="" type="checkbox"/> check_weblogic_heap		WebLogic Heap
<input type="checkbox"/>		

We need to add a new command for our WebLogic check. Check the first empty checkbox in the **NRPE Commands** section and in the **Remote NRPE Command** field enter:

```
check_weblogic_heap
```

Leave the **Command Args** field empty, and in the **Display Name** field, enter:

```
WebLogic Heap
```

Then click **Next**. On the next few pages you can configure standard settings just like any other wizard, otherwise you can click **Finish** and the service will be added.

Navigate to **Home** → **Service Detail** and find your weblogic server to see the service successfully running:

Host	Service	Status	Duration	Attempt	Last Check	Status Information
192.168.4.163	Ping	Ok	2m 30s	1/5	2014-04-02 11:53:58	OK - 192.168.4.163: rta 0.569ms, lost 0%
	WebLogic Heap	Ok	49s	1/5	2014-04-02 11:55:39	AdminServer is in RUNNING state, status OK

Final Thoughts

You should now have your WebLogic server set up in Nagios XI with a service check for heap memory used. You should now be able to set up additional service checks executing wlsagent and receiving status updates about the health of your WebLogic server.

If you experience difficulties implementing wlsagent, or for any other support related issue, you are invited to get additional support on the [Nagios Support Forums](#):

<http://support.nagios.com/forum/>