Monitoring AIX With Nagios

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Purpose

This document describes how to monitor AIX servers using Nagios XI or Nagios Core. The instructions were contributed by Joshua Whitaker, who successfully configured Nagios XI to monitor AIX 5.3 servers. Thanks Joshua!

Overview

These instructions cover how to install and use pre-compiled binaries to monitor AIX 5.3 using NRPE.

Download Pre-Compiled Binaries

You will need to download two packages of pre-compiled binaries to your AIX server.

First download the pre-compiled Nagios plugin binaries for AIX 5.3 from the following URL:

http://exchange.nagios.org/hostedfiles/AIX/aix53_nrpe-nsca-plugins.tgz

Next download the pre-compiled NRPE binaries from the following URL:

http://assets.nagios.com/downloads/nagiosxi/agents/AIX-5.3-nrpe-2.12-binaries.tar.gz

Create Directories

Login to your AIX server as the root user and run the following commands:

```
cd /usr/local
mkdir nagios
```

Unpack Binaries

Next unpack the pre-compiled plugins and place the extracted files into the `/usr/local/nagios/` directory using commands similar to the following:

```
cd /tmp
tar xzf /path/to/aix53_nrpe-nsca-plugins.tgz
cd /tmp/nagios
cp -R * /usr/local/nagios
```

Next, unpack the pre-compiled NRPE binaries using commands similar to the following:

```
cd /tmp
tar xzf /path/to/AIX-5.3-nrpe-2.12-binaries.tar.gz
cp usr/local/nagios/bin/nrpe /usr/local/nagios/bin
cp usr/local/nagios/etc/nrpe.cfg /usr/local/nagios/etc
```

Create Nagios User And Group

Next, create a Nagios user and group on the AIX server.

Use the following command to create a new group:

```
mkgroup nagios
```

Make a home directory for a Nagios user using the following command:

```
cd /users/
mkdir nagios
```

Next, open up **smitty** and add a new user with the name **nagios**. Launch smitty with the following command:

```
smitty user
```

Once smitty opens, select **Add a user**, and use the following settings:

- User NAME = **`nagios`**
- Primary Group = **`users`**
- Group SET = **`users,nagios`**
- HOME directory = **`/users/nagios`**

Set Permissions

Change folder permissions so NRPE will operate properly, with the following command:

```
chown -R nagios.nagios /usr/local/nagios
```

Verify the permissions on the directory using the following commands:

```
chown /usr/local/nagios
ls -l
```

Specify NRPE Port Number

Next, edit the `/etc/services` file to add a port number for NRPE.

To edit the file, use the following command:

```
vi /etc/services
```

Add a line to the file that looks exactly like this:

```
nrpe   5666/tcp            #nrpe
```

Save the file.

Configure NRPE

Next, you'll need to modify the NRPE configuration file to include any command definitions that should be used for monitoring. The following command definitions provide an example of what can be added to the NRPE configuration file `/usr/local/nagios/etc/nrpe.cfg`.

```
command[check_users]=/usr/local/nagios/libexec/check_users -w 5 -c 10
command[check_load]=/usr/local/nagios/libexec/check_load -w 15,10,5 -c 30,25,20
command[check_zombie_procs]=/usr/local/nagios/libexec/check_procs -w 5 -c 10 -s Z
command[check_total_procs]=/usr/local/nagios/libexec/check_procs -w 150 -c 200
command[check_aix_ram]=/usr/local/nagios/libexec/check_aix_ram 80 100
command[check_aix_home]=/usr/local/nagios/libexec/check_disk -w 90 -c 95 -p /home
command[check_aix_root]=/usr/local/nagios/libexec/check_disk -w 90 -c 95 -p /
command[check_aix_var]=/usr/local/nagios/libexec/check_disk -w 90 -c 95 -p /var
command[check_aix_usr]=/usr/local/nagios/libexec/check_disk -w 90 -c 95 -p /usr
```

Important: The names of commands that you define in your NRPE config file are used later when you configure Nagios to monitor the AIX server. If you change command names or add additional commands to the configuration file, you'll need to modify the Nagios configuration covered later in this document.

Configure NRPE For Automatic Startup

Next, configure NRPE to automatically start when the AIX server reboots. To do this, use the following command:

```
nohup /usr/local/nagios/bin/nrpe -c /usr/local/nagios/etc -n -d
```

You should get this response:

```
Sending nohup output to nohup.out.
```

Note: The `-n` flag specifies that the NRPE server should run without SSL support. This reduces security of the NRPE daemon, but dramatically increases performance under heavy server load and may be okay if your server is on an internal network protected by a firewall.

Start NRPE

Start NRPE using the following command:

```
/usr/local/nagios/bin/nrpe -c  /usr/local/nagion/etc/nrpe.cfg -n -d
```

Test Your NRPE Configuration

Test your AIX server to see if NRPE is running properly. To do this, use the following command:

```
ps -ef | grep nrpe
```

You should see something that looks like this:

```
nagios  111345 43675 /usr/local/nagios/bin/nrpe -c  /usr/local/nagios/etc/nrpe.cfg  -n -d
```

Note: The output you see may differ slightly, as the PID number will be different on your system.

Important: If you don't see any output when running the above command, it means something is wrong with your setup! This may be related to problems in your NRPE configuration file (`/usr/local/nagios/etc/nrpe.cfg`).

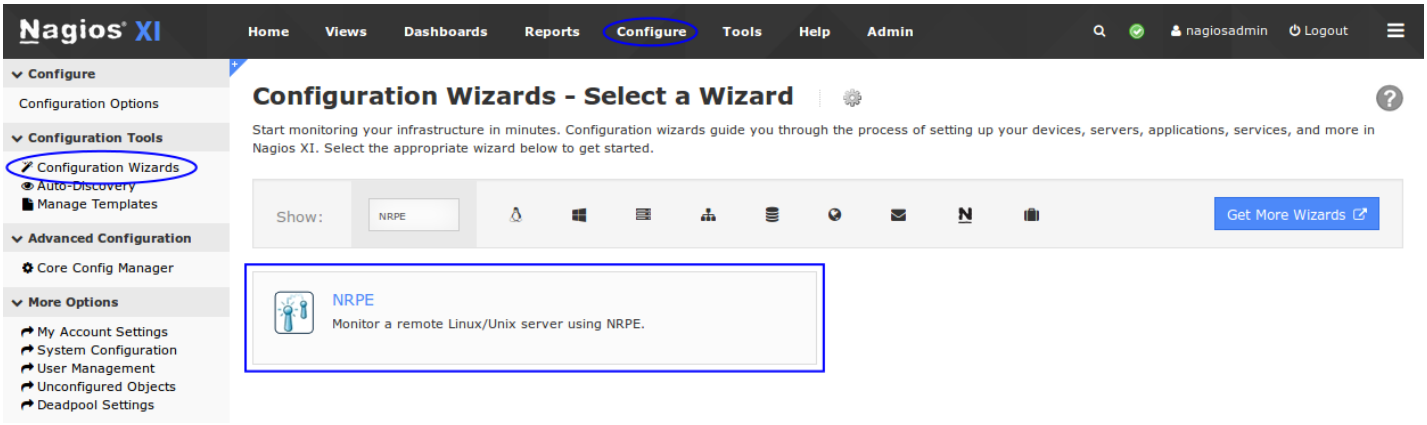
Nagios Configuration

Once you are finished installing and configuring NRPE on the AIX server, you'll need to modify the monitoring configuration on your Nagios server.

The process for configuring your monitoring setup is determined by whether you are using Nagios XI or Nagios Core.

Nagios XI Setup

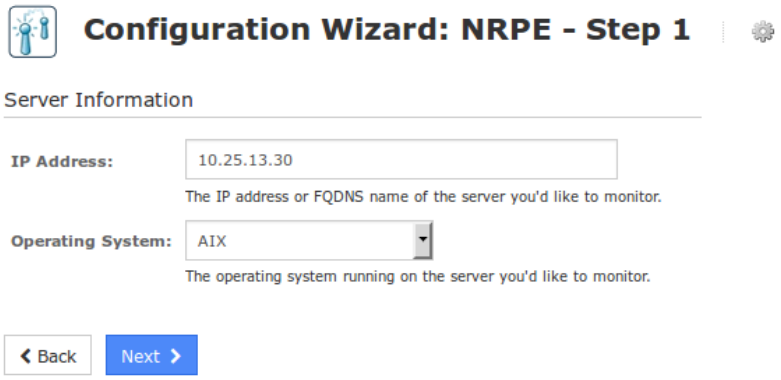
To begin using the NRPE wizard navigate via the top menu bar to **Configure** > **Run a configuring wizard**, and select the **NRPE** wizard. In the following screenshot you can see how the search field allows you to quickly find a wizard.



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

You will also have to select the **Operating System** which of course is AIX.

Click Next to progress to step 2.



On step 2 you will configure all of the options for monitoring.

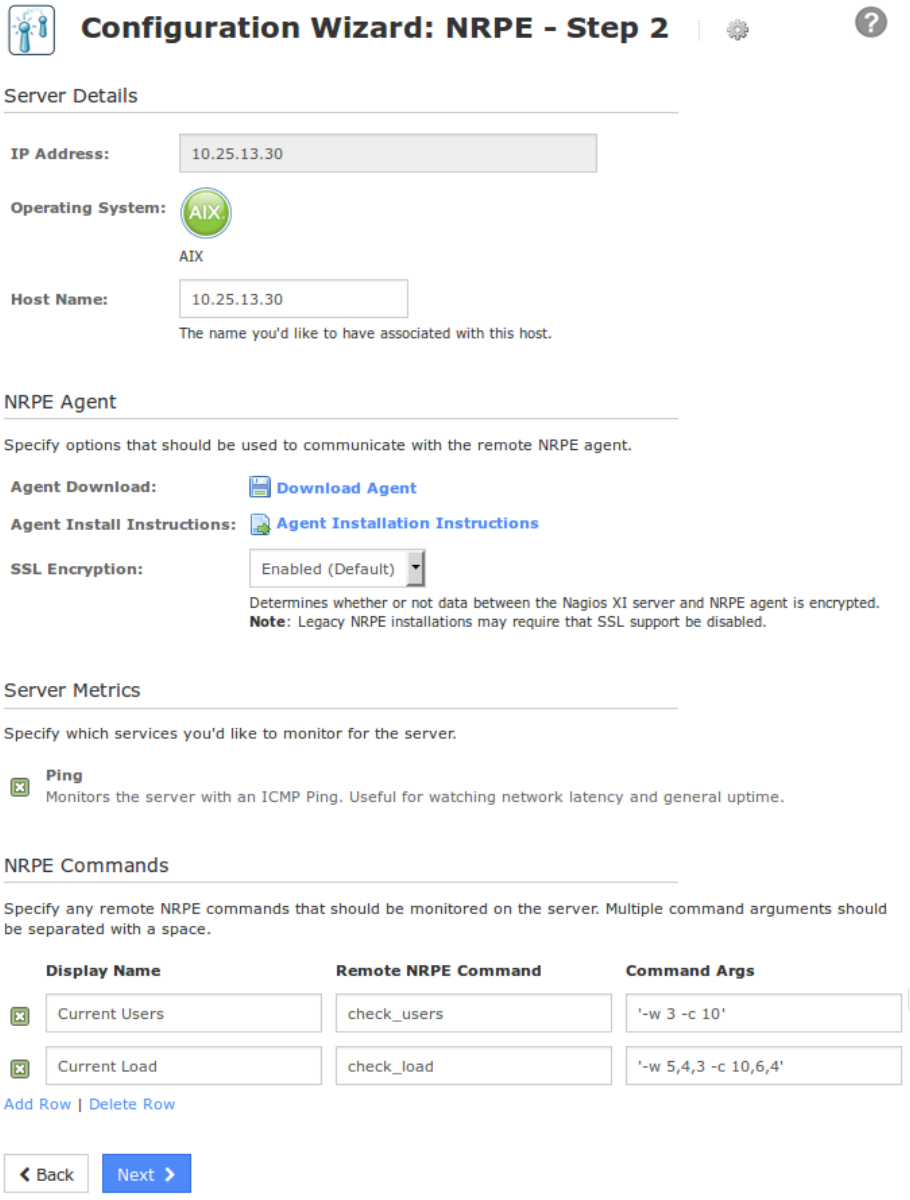
To start off with make sure a valid **Host Name** has been entered.

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.

The commands you enter in the wizard must correspond to the command names that you defined in the NRPE configuration file on your AIX server.

In the screenshot to the right you can see there are two commands defined with their respective arguments.



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 the new hosts and services and begin monitoring.

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

Host	Service	Status	Duration	Attempt	Last Check	Status Information
10.25.13.30	Current Load	Ok	1h 20m 36s	1/5	2016-12-01 16:27:56	OK - load average: 0.00, 0.01, 0.04
	Current Users	Ok	22m 58s	1/5	2016-12-01 16:25:37	USERS OK - 0 users currently logged in
	Ping	Ok	1h 21m 36s	1/5	2016-12-01 16:26:45	OK - 10.25.13.30: rta 0.055ms, lost 0%

This completes the steps required to monitor the AIX server using Nagios XI.

Nagios Core Setup

If you're using Nagios Core, you'll need to manually edit one or more configuration files to configure monitoring.

A command definition like the following needs to be setup in one of your object configuration files:

```
define command{
       command_name     check_nrpe
       command_line     $USER1$/check_nrpe -H $HOSTADDRESS$ -c $ARG1$
       }
```

Next, you'll need to configure host and service definitions for monitoring the AIX server. The following definitions provide examples of how to configure monitoring of an AIX server with multiple monitored services. These definitions should be modified to fit your setup and placed in an object configuration file that Nagios Core processes.

```
define host{
           use             linux-server
           host_name       aixbox
           address         192.168.5.24
           }
define service{
           use                     generic-service
           host_name               aixbox
           service_description     CPU LOAD
           check_command           check_nrpe!check_load
           }
define service{
           use                     generic-service
           host_name               aixbox
           service_description     RAM USAGE
```

```
        check_command           check_nrpe!check_aix_ram
        }
define service{
        use                     generic-service
        host_name               aixbox
        service_description     Home Directory Free Space
        check_command           check_nrpe!check_aix_home
        }
define service{
        use                     generic-service
        host_name               aixbox
        service_description     Root Directory Free Space
        check_command           check_nrpe!check_aix_root
        }
define service{
        use                     generic-service
        host_name               aixbox
        service_description     Var Directory Free Space
        check_command           check_nrpe!check_aix_var
        }
define service{
        use                     generic-service
        host_name               aixbox
        service_description     Usr Directory Free Space
        check_command           check_nrpe!check_aix_usr
        }
```

Once you're done editing the Nagios Core configuration files, don't forget to restart Nagios Core using the following command:

```
service nagios restart
```

Finishing Up

That's it! If you followed all the steps in these instructions, you should have basic monitoring of AIX working.

If you have additional questions or other support related questions, please visit us at our Nagios Support Forums:

https://support.nagios.com/forum