

Restarting Linux Services NRPE in Nagios XI 2024

Purpose

This document describes how to automatically restart problematic services on Linux servers using NRPE.

Target Audience

This document is intended for use by Nagios XI Administrators who want to automate starting, stopping, and restarting of problematic services on their Linux servers. A basic knowledge of NRPE is recommended.

Prerequisites

You should already have the NRPE server configured on the Linux machine you would like to restart services on, please refer to the following documentation:

[Installing The Nagios XI 2024 Linux Agent](#)

Background Information

In this guide you will be shown how to use an event handler to restart a service on a Linux server. This guide will be using a CentOS 6.x Linux server, which uses the command service to perform the service restart.

Configuring NRPE Command

First, we'll create a command in the

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

file that will perform the restart command. Establish a terminal or SSH session to your Linux server as the root user and execute the following command:

```
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.

Go to the end of the file by pressing Shift + G and add the following line:

```
command[service_restart]=sudo service $ARG1$ restart 2>&1
```

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

```
:wq
```

and press Enter.

Remain logged into your Linux server as you'll need to perform more steps.

Granting NRPE Permission to Restart Services

The nagios user will also need to be granted permissions to execute the service command. Execute the following command as root to give NRPE permission to restart services:

```
echo "nagios ALL = NOPASSWD: `which service`" >> /etc/sudoers
```

It's very important to use the back-tick key on your keyboard around the `which service` words above, this key is commonly located to the left of the 1 key.

Testing the Commands from Nagios XI Server

Now we will test from the Nagios XI server that the command you just added to the NRPE client on the Linux server is working. This example is going to restart the crond service as it is unlikely to cause any issues. Establish a terminal session to your Nagios XI server and execute the following command:

```
/usr/local/nagios/libexec/check_nrpe -H 10.25.13.34 -p 5666 -c service_restart -a crond
```

You can see from the screenshot on the previous page that we received back the results from the service_restart command, it appears to be working.

Create Event Handler Script

Next we need to create a script that will be used by Nagios XI for the event handler. The script will be called service_restart.sh and will be located in the /usr/local/nagios/libexec/ directory on the Nagios XI server. Execute the following command:

```
vi /usr/local/nagios/libexec/service_restart.sh
```

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Paste the following into the terminal session:

```
#!/bin/sh
case "$1" in
OK)
;;
WARNING)
;;
UNKNOWN)
;;
CRITICAL)
/usr/local/nagios/libexec/check_nrpe -H "$2" -p 5666 -c service_restart -a "$3"
;;
esac
exit 0
```

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

```
:wq
```

and press Enter.

Now execute the following commands to set the correction permissions:

```
chown apache:nagios /usr/local/nagios/libexec/service_restart.sh
chmod 775 /usr/local/nagios/libexec/service_restart.sh
```

You can now test the script works by executing the following command:

```
/usr/local/nagios/libexec/service_restart.sh CRITICAL 10.25.13.34 crond
```

When the script is run, it receives three arguments which are referenced as \$1, \$2, \$3 in the script.

```
$1 = The state of the service.
$2 = The host address of the Linux server.
$3 = The name of the service being restarted.
```

You can see from the script above that it's only when the service is in a CRITICAL state that the service_restart command will be executed.

Create Event Handler

Now an event handler on the Nagios XI server will be created which will be used by your services.

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Commands
Displaying 1-3 of 3 results

+ Add New

Command Name	Command Line	Active	Actions	ID
<input type="checkbox"/> check-host-alive	<code>`\${USER1}\$/check_icmp -H \${HOSTADDRESS\$} -w 3000.0,80% -c 5000.0,100% -p 5</code>	Yes		5
<input type="checkbox"/> check-host-alive-http	<code>`\${USER1}\$/check_http -H \${HOSTADDRESS\$}</code>	Yes		6
<input type="checkbox"/> check-host-alive-tftp	<code>tftp \${HOSTNAME\$} 69</code>	Yes		112

With checked Results per page 15

+ Add New

1. Navigate to Configure > Core Config Manager.
2. Select Commands from the list on the left, click the >_ Commands link and then click the Add New button.
3. You will need to populate the fields with the values below:

Command
Service Restart - Linux
Command line
``${USER1}$/service_restart.sh ${SERVICESTATE$} ${HOSTADDRESS$} $_ SERVICESERVICE$`
Command Type
misc command

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Command Management

Example: check_example

Example: \$USER1\$/check_example -H \$HOSTADDRESS\$ -P \$ARG1\$ \$ARG2\$

Command Type:

Active ⓘ

Available Plugins ⓘ

4. Check the Active check box.
5. Click the Save button and then Apply Configuration.

Adding a Service Check

Now we will need to create a Service using the Linux Server Monitoring Wizard. This guide will not go into the entire steps required, please refer to the steps in the following documentation:

[Monitoring Hosts Using NRPE](#)

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Services

Specify which services should be running or stopped. ⓘ

Make your Service Selections ⓘ

- cron (running)
- dbus (running)
- dm-event (stopped)

Selected Services

Service Description	Service Name	Expected Status
cron	cron	<input checked="" type="radio"/> Running <input type="radio"/> Stopped <input type="button" value="X"/>

⏪

On Step 2 of the wizard you need to select the crond service from the list of Services. Finish the wizard to create the new service.

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Update Service With Event Handler

Now that the Nagios service is created we need to do two things:

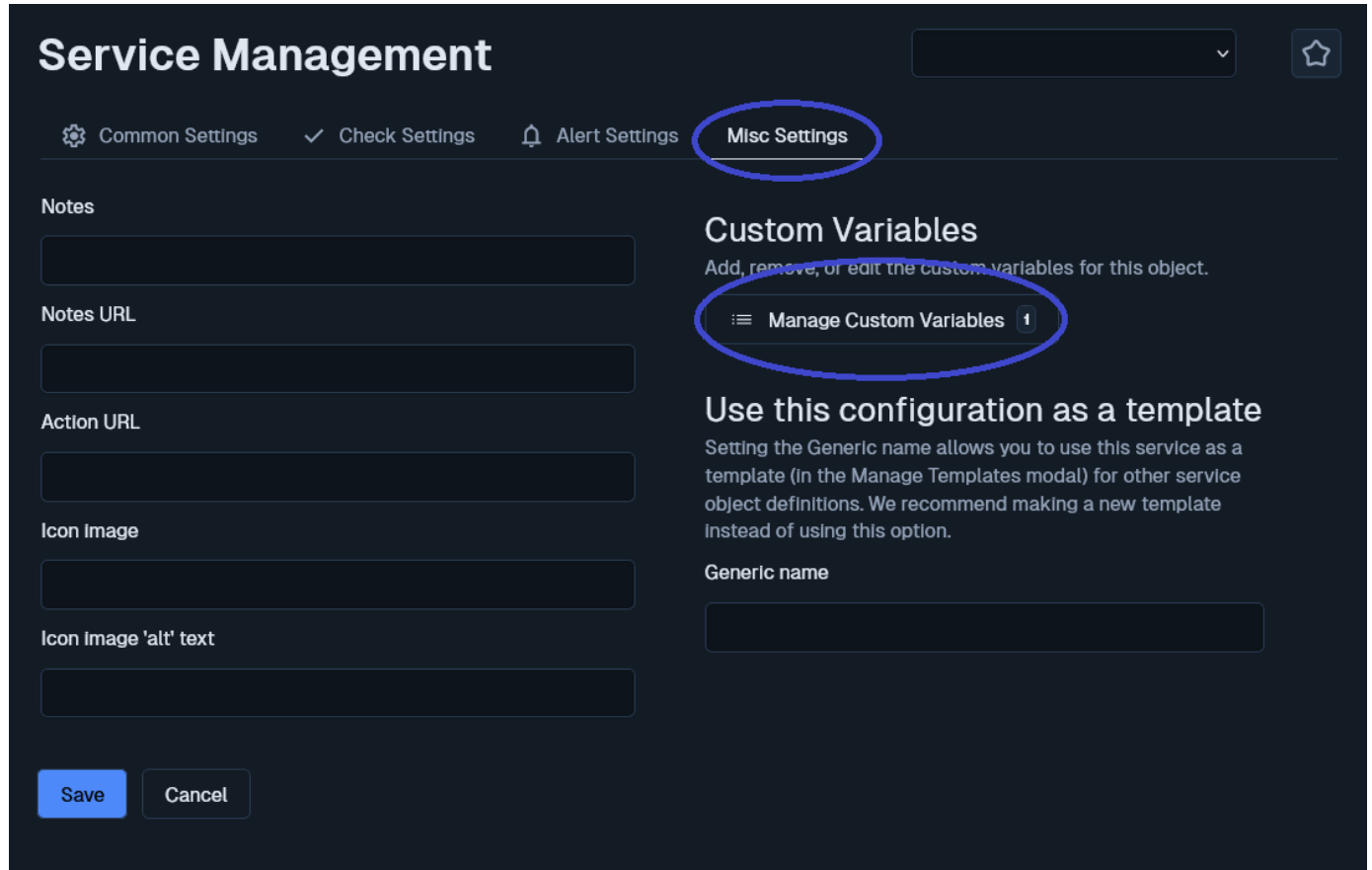
- Select Event Handler
 - Add the name of the service we want to restart as a custom variable to the service object. This is how the event handler knows what the name of the service is to restart.
1. Navigate to **Configure > Core Config Manager > Monitoring > Services**.
 2. Click the service Cron Scheduling Daemon to edit the service.

The screenshot shows the Nagios XI Service Management interface for the Cron Scheduling Daemon service. The 'Check Settings' tab is selected and circled in blue. The 'Event handler' dropdown menu is also circled in blue and set to 'Service Restart - Linux'. The 'Event handler enabled' toggle is also circled in blue and set to 'On'.

3. Click the Check Settings tab.
4. From the Event handler drop down list select the option Service Restart - Linux.

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5. For Event handler enabled click On.



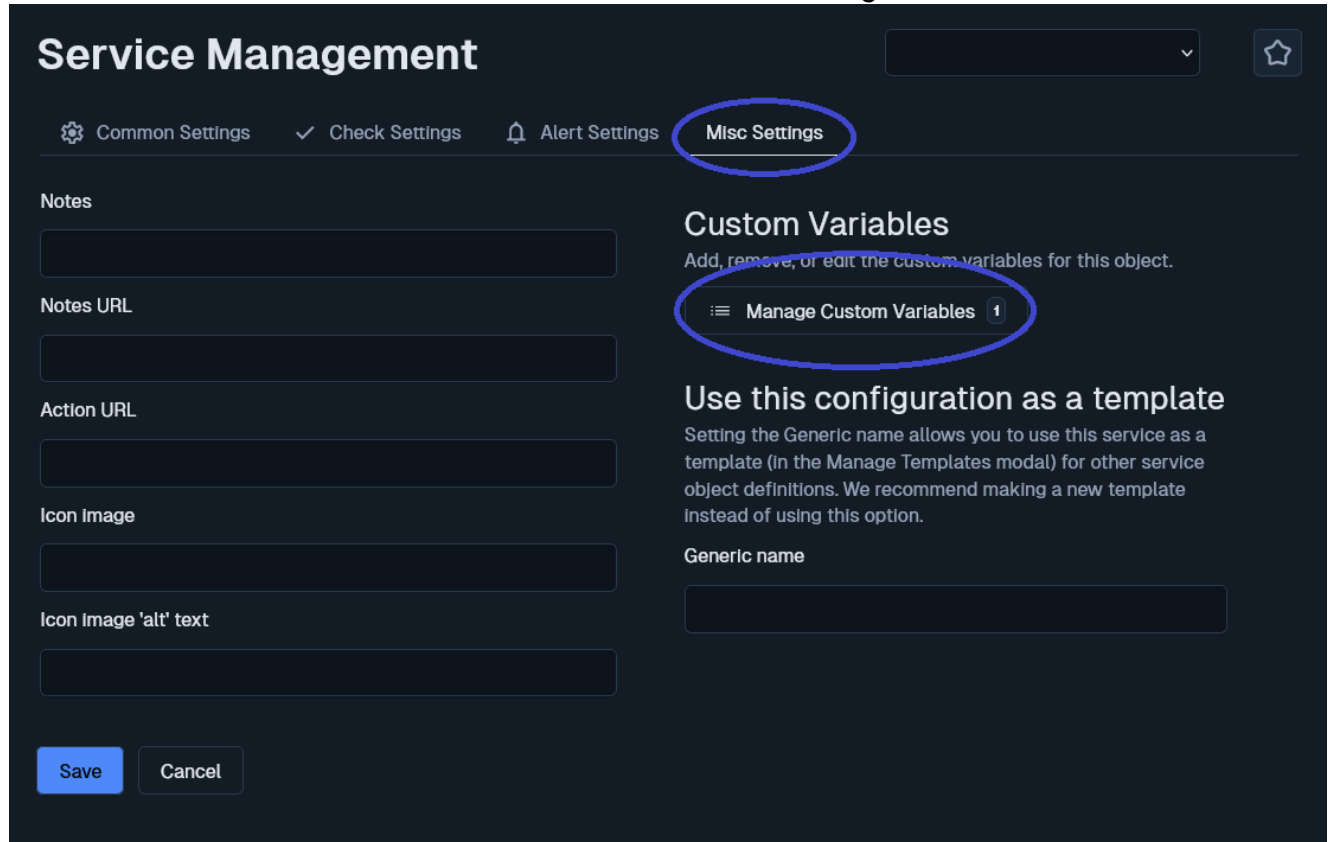
The screenshot shows the Nagios XI Service Management interface. The 'Misc Settings' tab is selected and circled in blue. Below it, the 'Custom Variables' section is visible, with the 'Manage Custom Variables' button also circled in blue. The interface includes fields for Notes, Notes URL, Action URL, Icon Image, and Icon Image 'alt' text. There are 'Save' and 'Cancel' buttons at the bottom left. The 'Use this configuration as a template' section is also visible on the right side.

6. Click the Misc Settings tab and then click the Manage Free Variables button.
7. We will be adding a custom variable so that the event handler knows the name of the service to restart.

Name : `_SERVICE`
Value : `crond`

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- Click Insert and the variable will be added to the list on the right.



- Click the Close button and then click the Save button.
- Click Apply Configuration for the changes to take effect.

In the event handler command you created, you can see the macro `$_SERVICESERVICE$` was used. This is how a service macro is referenced by the Nagios Core engine. More information on custom variables can be found here:

<https://assets.nagios.com/downloads/nagioscore/docs/nagioscore/4/en/customobjectvars.html>

Test

To test simply force the service to stop on the Linux machine. Execute the following command on your Linux machine:

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```
service crond stop
```

Wait for the Nagios service to go to a critical state or force the next check. Once the Nagios XI Cron Scheduling Daemon service is in a critical state the event handler will be executed and the Linux crond service will be restarted. The next time Nagios XI checks the Cron Scheduling Daemon service it will return to an OK state as the Linux crond service will now be running.

Troubleshooting

If the event handler does not appear to be working as expected, check the

```
/usr/local/nagios/var/nagios.log
```

file for any errors, for example:

```
[1481763272] SERVICE ALERT: 10.25.13.34;Cron Scheduling
Daemon;CRITICAL;SOFT;1;crond is stopped
[1481763272] wproc: SERVICE EVENTHANDLER job 7 from worker Core Worker 12627
is a non-check helper but exited with return code 13
[1481763272] wproc:  early_timeout=0; exited_ok=1; wait_status=3328;
error_code=0;
[1481763272] wproc:  stderr line 01:
execvp(/usr/local/nagios/libexec/service_restart.sh, ...) failed. Errno is 13:
Permission denied
```

In the log entries above you can see that the worker reported that it did not have permission to execute the `service_restart.sh` command.

If the command returns “NRPE: Unable to read output” when run manually, make sure that NRPE command definition redirects stderr to stdout; i.e., change

```
command[service_restart]=sudo service $ARG1$ restart
```

to

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```
command[service_restart]=sudo service $ARG1$ restart 2>&1
```

Finishing Up

This completes the documentation on Restarting Linux Services NRPE 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](#)