How To Restart Linux Services With NCPA In Nagios XI 5

Purpose

This document describes how to automatically restart problematic services on Linux servers using the Nagios Cross-Platform Agent (NCPA).

If you are restarting services with NCPA in Nagios XI 2024, see How To Restart Services With NCPA In Nagios XI 2024

Target Audience

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

Prerequisites

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

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.

Create Restart Script

First we'll create a service_restart.sh script in the

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

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

```
vi /usr/local/ncpa/plugins/service_restart.sh
```

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

Paste the following code into the terminal session:

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```
#!/bin/bash
sudo service $1 restart
exit 0
```

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 NCPA Permission to Restart Services

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

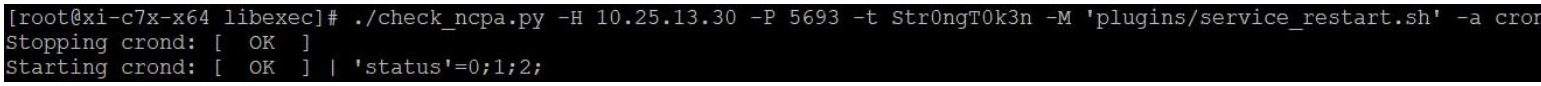
```
echo "nagios ALL = NOPASSWD: `which service`" >> /etc/sudoers
echo 'Defaults:nagios !requiretty' >> /etc/sudoers
```

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 script you just created 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 commands:

```
cd /usr/local/nagios/libexec ./check_ncpa.py -H 10.25.13.30 -P 5693 -t Str0ngT0k3n -M
'plugins/service_restart.sh' -a crond
```



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

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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 also 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
```

Paste the following into the terminal session:

```
#!/bin/sh
case "$1" in
     OK)
     ;;
             WARNING)
     ;;
             UNKNOWN)
     ;;
             CRITICAL)
/usr/local/nagios/libexec/check_ncpa.py -H "$2" -P 5693 -t "$3" -M 'plugins/service_restart.sh' -a "$4"
     ;;
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 10.25.13.30 Str0ngT0k3n crond
```


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When the script is run, it receives three arguments which are referenced as **$1**, **$2**, **$3**, **$4** in the script.

$1 = The state of the service.

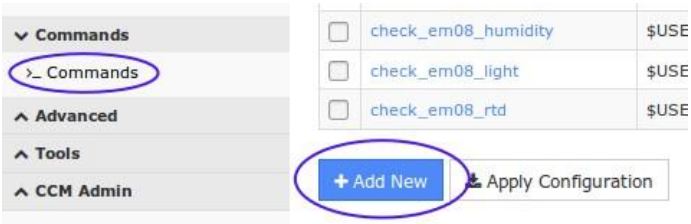
$2 = The host address of the Linux server.

$3 = The NCPA Token on the Linux server.

$4 = 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.sh 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.

Navigate to **Configure** > **Core Config Manager**.

Select **Commands** from the list on the left, click the **>_ Commands** link and then click the **Add New** button.

You will need to populate the fields with the values on the following page:

Command

Service Restart - Linux

Command line

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$USER1$/service_restart.sh $SERVICESTATE$ $HOSTADDRESS$ Str0ngT0k3n $_SERVICESERVICE$

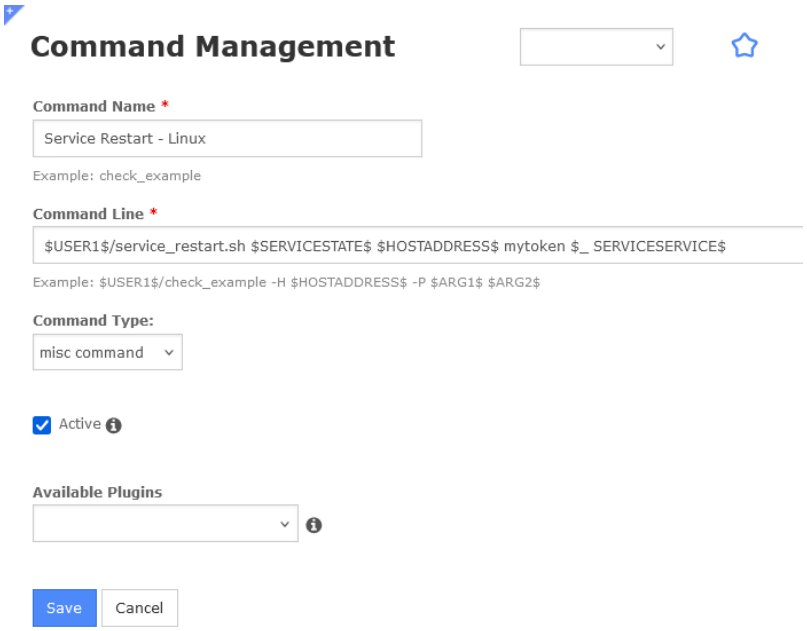
Command type

misc command

Check the **Active** check box.

Click the **Save** button and then **Apply Configuration**.

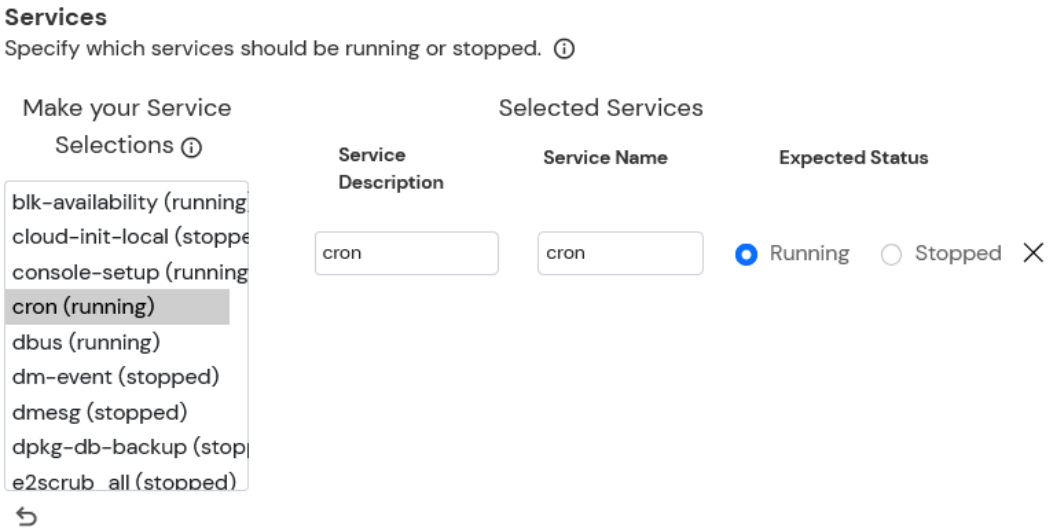
Note: You will notice that the NCPA token **Str0ngT0k3n** has been hard coded in the command definition. This has been done to simplify this documentation, user macros is a better solution and is explained in the Understanding The User Macros Component documentation.



Adding a Service Check

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

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



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Finish the wizard to create the new service.

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.

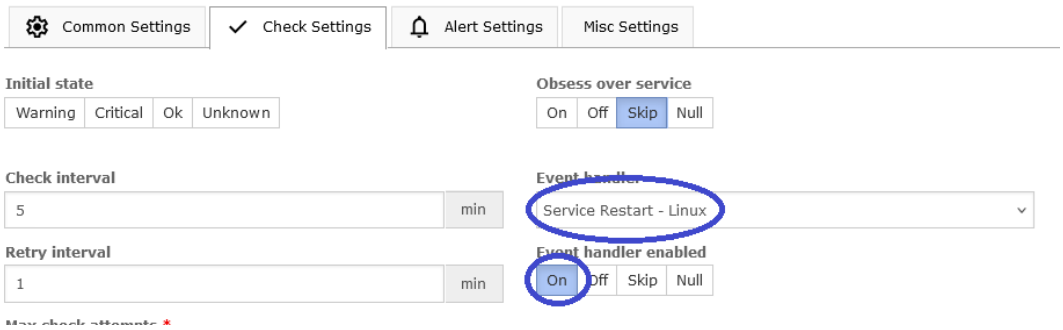
Navigate to **Configure** > **Core Config Manager** > **Monitoring** > **Services**.

Click the service **Service status for: crond** to edit the service.

Click the **Check Settings** tab.

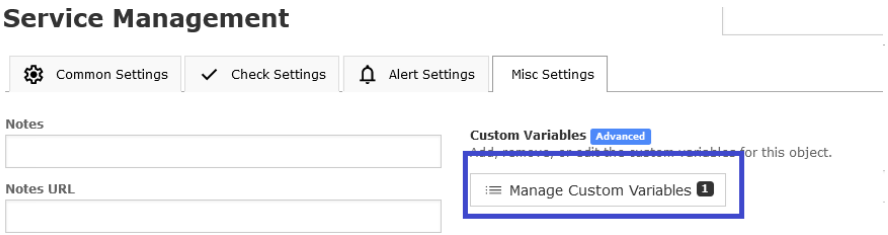
From the **Event handler** drop down list select the option **Service Restart - Linux**.

For **Event handler enabled** click **On**.



Click the **Misc Settings** tab and then click the **Manage Custom Variables** button.

We will be adding a custom variable so that the event handler knows the name of the service to restart.



Name:

_SERVICE

Value:

crond

Click **Insert** and the variable will be added to the list.

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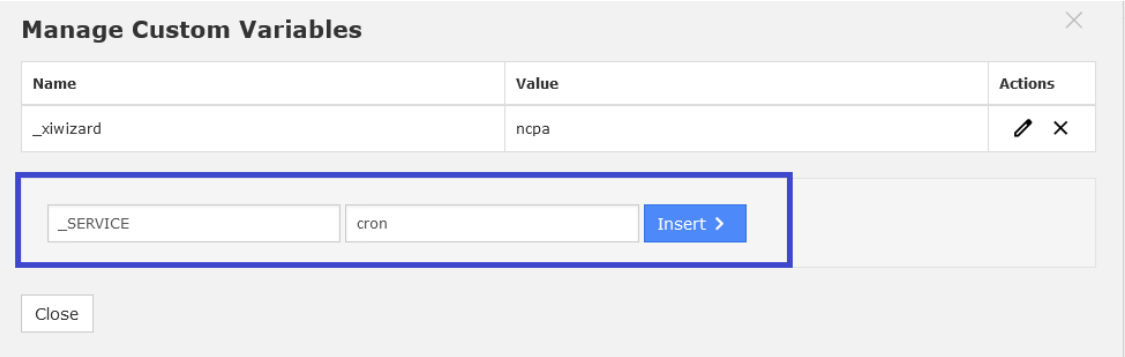

Click the **Close** button and then click the **Save** button.

Click **Apply Configuration** for the changes to take affect.

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:

```
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.

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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.

Finishing Up

This completes the documentation on how to restart Linux services with NCPA in 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:

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