Purpose

This document describes how to manage plugins on your Nagios XI system, including: finding and installing new plugins, defining commands, and using them in your services. Plugins are how Nagios talks to the devices you monitor, they are instrumental to extending the functionality of Nagios XI.

Target Audience

This document is intended for use by Nagios XI administrators who need to customize their setup beyond what the default Nagios XI installation provides.

Locate Your Plugin

There are thousands of community-created Nagios plugins available for download at the Nagios Exchange:

https://exchange.nagios.org

You can also find instructions for creating your own plugin at:

https://nagios-plugins.org/doc/guidelines.html

This guide is going to use the `countdown_to_date` plugin as the example in this documentation, it can be downloaded using the following link:

https://exchange.nagios.org/directory/Plugins/Others/countdown_to_date/details

Download the `countdown_to_date.zip` file and extract it. The **`countdown_to_date.php`** file that was in the zip file will be used in the next step.

Nagios XI   Managing Plugins In Nagios XI

Install Your Plugin

Installing a new plugin in Nagios XI is very simple. Navigate to **Admin** > **System Extensions** > **Manage Plugins**.

Click the **Browse** button to select the new plugin you want to install.

Select the plugin file `countdown_to_date.php` that you previously downloaded using the window that appears and click **Open**.

The Convert line endings check box will convert the plugin's line endings to UNIX line endings.

- Sometimes the files saved on a Windows computer will not work on the Nagios XI server, this check box fixes the problem

- This process will not break already UNIX-formatted files

Click the **Upload Plugin** button to upload the plugin.

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Once the plugin is uploaded, you will receive a message saying it was installed and it will appear in the list of plugins.

Manage Plugins

New plugin was installed successfully.

Test Your Plugin From The Command Line

The next step is to test that the plugin works and understand what arguments the plugin allows. This is easiest to test using a terminal session. Plugins are located in the `/usr/local/nagios/libexec` directory.

Establish a terminal session to your Nagios XI server as the root user and execute the following command:

```
cd /usr/local/nagios/libexec
```

Now we should see if the plugin has a help argument that explains how it works. Execute the following command:

```
./countdown_to_date.php --help
```

I'm not going to paste the full output here however at the top of the output is the usage:

```
Usage:    countdown_to_date.php --date <date> --warning <wdays> --critical <cdays>
```

So with that in mind, lets test using some real values:

```
./countdown_to_date.php --date 2017-01-19 --warning 60 --critical 30
```

This command will produce results which should be similar to the following:
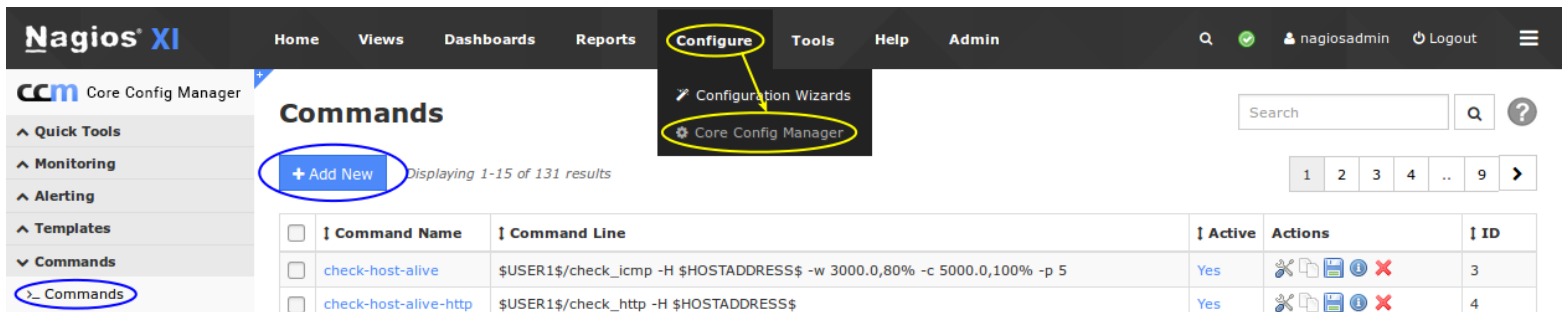
```
WARNING: 50 days until 2017-01-19
```

That example tested the plugin and helped us determine what arguments are required, `--date`, `--warning`, and `--critical`. The next step will show you how to define a command for the plugin.

Define A Command

Now that your plugin is available and you know the command line arguments to run it, you should define a command in Nagios XI.

In the Nagios XI web interface navigate to **Configure** > **Core Config Manager** > **Commands**.

Click the **Add New** button and you will need to provide the following details:

Command Name:

     `countdown_to_date`

Command Line:

     `$USER1$/countdown_to_date.php --date $ARG1$ --warning $ARG2$ --critical $ARG3$`

Command Type:

     check command

Make sure the **Active** box is **checked**.

Command Management

The final command definition should resemble the screenshot to the right:

Click **Save** when finished.

$USER1$ references the directory `/usr/local/nagios/libexec` from the `resources.cfg` file. This is the default path for plugins and scripts in Nagios XI.

The **$ARG1$**, **$ARG2$** and **$ARG3$** are macros that are a placeholder for an argument you will specify in the service that uses this command.

Command Name *

`countdown_to_date`

Example: check_example

Command Line *

`$USER1$/countdown_to_date.php --date $ARG1$ --warning $ARG2$ --critical $ARG3$`

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

Command Type:

check command

☒ Active ⓘ

Available Plugins

ⓘ

Save   Cancel

Macros allow you to use the same command in different services and each service can provide different values. This is one of the key features of Nagios XI that allows for flexible and dynamic monitoring configurations.

Click the **Apply Configuration** button to commit these changes to Nagios XI.

At this point you have a command defined, in the next step you will be shown how to assign the command to a service.
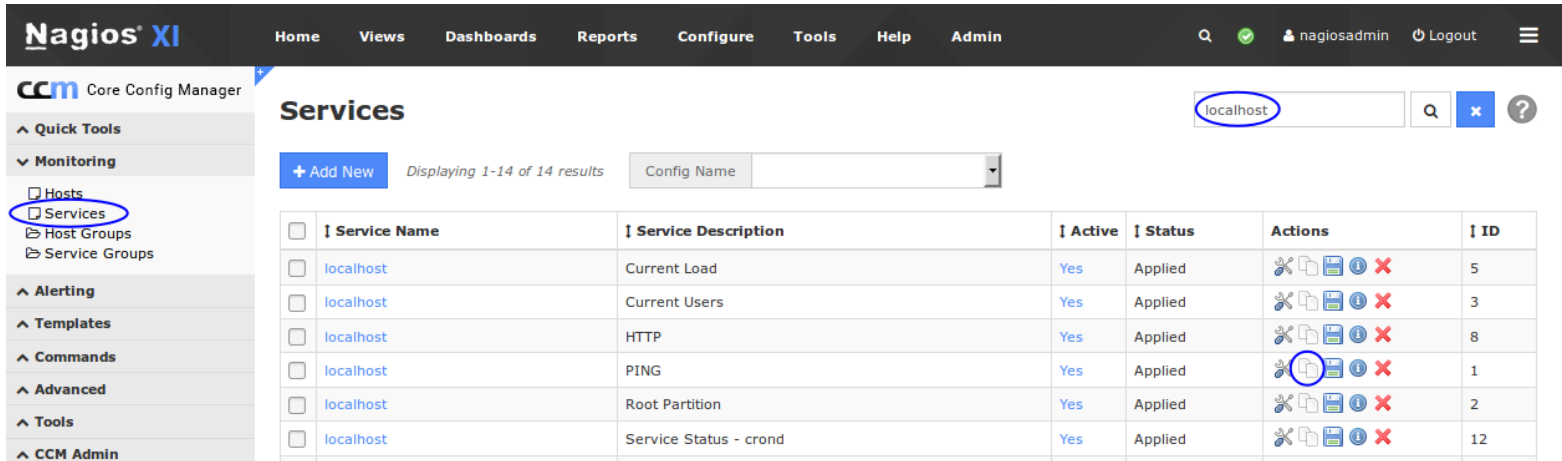
Add A Service

For the purposes of keeping things simple, we are going to create a service for the Nagios XI `localhost`. There are already existing services for the `localhost` so we'll copy an existing service to use it to create the new service. By copying an existing service it allows us to focus just on the command part of the service, we won't need to focus on all the options as they will already be defined the service being copied.

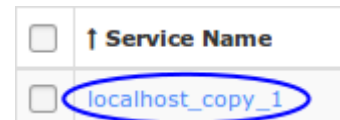Navigate to **Monitoring** > **Services** and search for `localhost`.

We are going to copy the `PING` service, click the copy icon ⧉ in the Actions column for the `PING` service.

When the screen refreshes, click the copied service `localhost_copy_1` to edit it. Update the service with the following details:

- Config Name: `localhost`

- Description: `Date Check`

- Check command: `countdown_to_date`

- $ARG1$: `2017-01-19`

- $ARG2$: `60`

- $ARG3$: `90`

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Make sure the **Active** box is **checked**.

The final command definition should resemble this screenshot:

Service Management

⚠ This object is currently set as **Inactive** and will not be written to the configuration files.

| ⚙ Common Settings | ✔ Check Settings | 🔔 Alert Settings | Misc Settings |

Config Name *

localhost

Description *

Date Check

Display name

Manage Hosts 1

📄 **Manage Templates** 1

📂 **Manage Host Groups** 0

Manage Servicegroups 0

☒ Active ⓘ

Save   Cancel

Check command

countdown_to_date

Command view

$USER1$/countdown_to_date.php --date $ARG1$ --warning $ARG2$ --critical $ARG3$

$ARG1$ 2017-01-19

$ARG2$ 60

$ARG3$ 30

$ARG4$

$ARG5$

$ARG6$

$ARG7$

$ARG8$

▶ Run Check Command

Click **Save** when finished and then click **Apply Configuration**.

In the screenshot on the previous page, you can see in the **Command View** field the command you created in the last step of this document. The `$ARGx$` macros refer to the fields underneath that allow you to provide the values you want to use for this particular service. For example you can see how the `--date` argument uses the `$ARG1$` macro which has the value `2017-01-19`.

As explained earlier, macros allow you to use the same command in different services and each service can provide different values. This is one of the key features of Nagios XI that allows for flexible and dynamic monitoring configurations.

Verify Your Service Is Working

Now that you have created a service, you should check that it is working as expected. Use the **Search** field on the menu bar to search for `localhost`.

Click the new service to bring up the **Service Status Details** page.

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In this screenshot to the right, you can see that the service has the same output that the test in a terminal session produced, so we know the service is correctly working. This means that the new plugin that was added to Nagios XI is working as expected.

Service Status Detail

Date Check
localhost

⚠ **WARNING: 50 days until 2017-01-19**

Status Details

Service State:	🟡 Warning
Duration:	6m 35s
Service Stability:	Unchanging (stable)
Last Check:	2016-11-30 13:54:47
Next Check:	2016-11-30 13:59:47

Quick Actions

Acknowledge this problem
Disable notifications
Force an immediate check

Acknowledgements and Comments
No comments or acknowledgements.

Performance Data

If you expect that your plugin will generate performance graphs, you will want to verify that it is collecting performance data. To do so, click the **Advanced** tab after your plugin has run a check and make sure you see some output under **Performance Data**. If you don't see anything there, you will not be able to see performance graphs with this plugin.

The `countdown_to_date.php` plugin used in this example does not output performance data so this field is empty.

Date Check
localhost

Advanced Status Details

Service State:	🟡 Warning
Duration:	11m 14s
State Type:	Hard
Current Check:	4 of 4
Last Check:	2016-11-30 13:59:43
Next Check:	2016-11-30 14:04:43
Last State Change:	2016-11-30 13:51:49
Last Notification:	2016-11-30 13:54:47
Check Type:	Active
Check Latency:	0 seconds
Execution Time:	0.03463 seconds
State Change:	6.11842%
Performance Data:	

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The PING service is an example of performance data.

After about 15 minutes (when enough data has been gathered)
performance graphs will appear on the **Performance Graphs** tab.

PING
localhost

Advanced Status Details

Service State:	● Ok
Duration:	34d 3h 16m 26s
State Type:	Hard
Current Check:	1 of 4
Last Check:	2016-11-30 14:01:24
Next Check:	2016-11-30 14:06:24
Last State Change:	2016-10-27 10:47:10
Last Notification:	Never
Check Type:	Active
Check Latency:	0 seconds
Execution Time:	4.00344 seconds
State Change:	0%
Performance Data:	rta=0.035000ms;100.000000;500.000000; 0.000000 pl=0%;20;60;0

Finishing Up

This completes the documentation on managing plugins in Nagios XI.

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

https://support.nagios.com/forum

The Nagios Support Knowledgebase is also a great support resource:

https://support.nagios.com/kb