Purpose

This document describes how to restart services in Windows using Nagios XI with NSClient++ via NRPE. This allows you to automate the process of restarting Windows Services.

Target Audience

This document is intended for use by Nagios XI Administrators who want to automate starting, stopping, and restarting of Windows Services. A basic knowledge of NSClient++ and NRPE is recommended.

Prerequisites

It is required you have NSClient++ installed, and NRPE configured on the Windows machine you intend to use for this task. NSClient++ must also be configured to allow NRPE checks from the Nagios server. This guide focuses on NSClient++ version 0.4.x and newer. Information on installing and configuring NSClient++ can be found in the following documents:

- Installing The Nagios XI Windows Agent
- Configuring The Nagios XI Windows Agent
- Enabling The NRPE Listener In NSClient_0.4.x

Create A Batch File To Restart The Service

On your windows machine open **Notepad** and paste in the following code:

```
@echo off
net stop %1
net start %1
@exit 0
```

Once completed, save it as a batch file called **`restart_service.bat`** in your NSClient++ scripts directory:

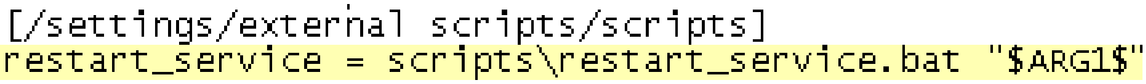
```
C:\Program Files\NSClient++\scripts\
```

The `%1` argument is the name of the service, this will be received from an event handler which will be created later in this document.

Configure NSClient++

Open `C:\Program Files\NSClient++\`**`nsclient.ini`** in Notepad and navigate to the `[/settings/external scripts/scripts]` section (if the section does not exist you will also need to add it).

Add the following line:



```
[/settings/external scripts/scripts]
restart_service = scripts\restart_service.bat "$ARG1$"
```

```
restart_service = scripts\restart_service.bat "$ARG1$"
```

Also, verify that **`allow arguments = true`** is configured. If this variable is not set correctly you will not be able to pass arguments to your scripts and the `restart_service.bat` script will not work. This must be configured in **BOTH** of these sections:

```
[/settings/NRPE/server]
[/settings/external scripts]
```

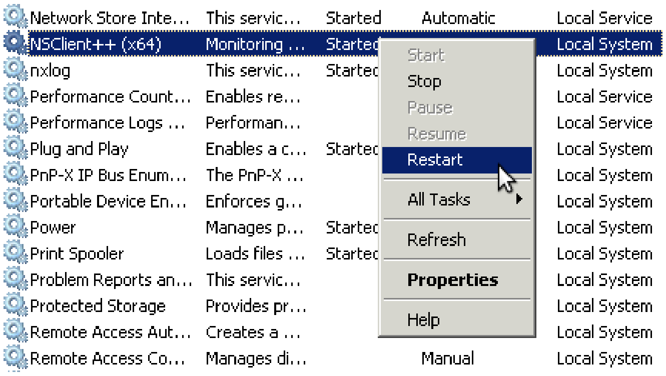
Save the `nsclient.ini` file.

NSClient++ must now be restarted to pick up the changes. Open the **Services** console under **Administrative Tools**. If you cannot locate this, use **`services.msc`** to open the Services console.

Locate the NSClient++ service.

Right click the **NSClient++** service and select **Restart**.

You can close the Services console as it's no longer required.

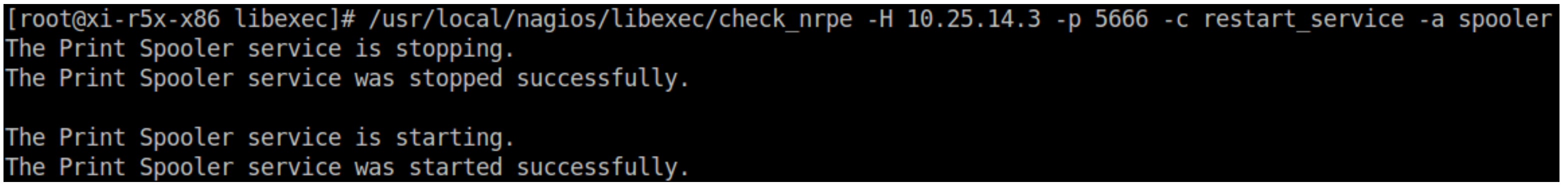


Network Store Inte…	This servic…	Started	Automatic	Local Service
NSClient++ (x64)	Monitoring …	Started		Local System
nxlog	This servic…	Started		Local System
Performance Count…	Enables re…			Local Service
Performance Logs …	Performan…			Local Service
Plug and Play	Enables a c…	Started		Local System
PnP-X IP Bus Enum…	The PnP-X …			Local System
Portable Device En…	Enforces g…			Local System
Power	Manages p…	Started		Local System
Print Spooler	Loads files …	Started		Local System
Problem Reports an…	This servic…			Local System
Protected Storage	Provides pr…			Local System
Remote Access Aut…	Creates a …			Local System
Remote Access Co…	Manages di…		Manual	Local System

Test The Command From The Nagios XI Server

Now we will test from the Nagios XI server that the command you just added to NSClient++ is working. This example is going to restart the **spooler** 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 10.25.14.3 -p 5666 -c restart_service -a spooler
```



```
[root@xi-r5x-x86 libexec]# /usr/local/nagios/libexec/check_nrpe -H 10.25.14.3 -p 5666 -c restart_service -a spooler
The Print Spooler service is stopping.
The Print Spooler service was stopped successfully.

The Print Spooler service is starting.
The Print Spooler service was started successfully.
```

You can see from the screenshot that we received back the results from the `restart_service` 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 **restart_service.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/restart_service.sh
```

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

Paste the code on the following page into the terminal session:

```
#!/bin/sh
case "$1" in
   OK)
        ;;
   WARNING)
        ;;
   UNKNOWN)
        ;;
   CRITICAL)
        /usr/local/nagios/libexec/check_nrpe -H "$2" -p 5666 -c restart_service -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/restart_service.sh
chmod 775 /usr/local/nagios/libexec/restart_service.sh
```

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

```
/usr/local/nagios/libexec/restart_service.sh CRITICAL 10.25.14.3 spooler
```

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.

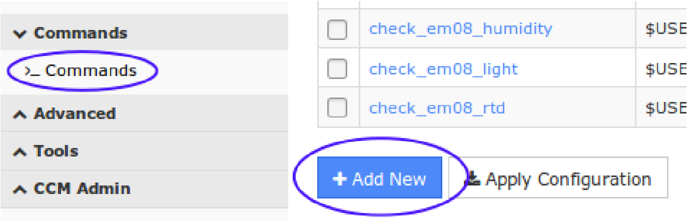
You can see from the script above that it's only when the service is in a CRITICAL state that the `service_restart` command will be executed.

Create Event Handler

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

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 following values:

Command

```
Service Restart - Windows
```

Command line

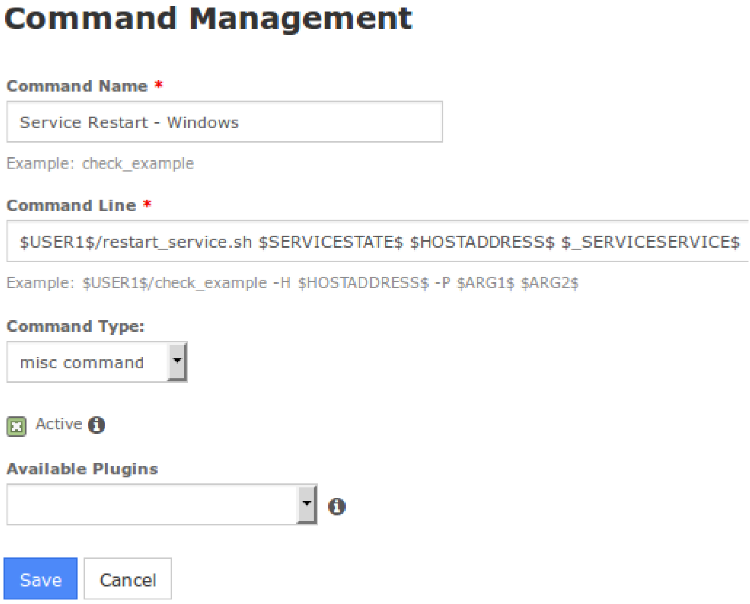
```
$USER1$/restart_service.sh $SERVICESTATE$ $HOSTADDRESS$ $_SERVICESERVICE$
```

Command type

misc command

Check the **Active** check box.

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



Command Management

Command Name *

Service Restart - Windows

Example: check_example

Command Line *

$USER1$/restart_service.sh $SERVICESTATE$ $HOSTADDRESS$ $_SERVICESERVICE$

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

Command Type:

misc command

☒ Active

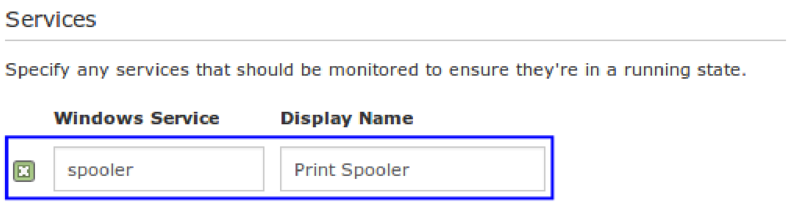
Available Plugins

Adding a Service Check

Now we will need to create a Service using the Windows Server wizard. Navigate to **Configure** from the top menu of the Nagios XI web interface and select **Run a configuration wizard**.

Select **Windows Server** and click **Next**. Enter the **IP address** of the Windows Host you will be monitoring a service on and click **Next**.

On **Step 2** of the wizard you need to add **spooler** under the **Windows Service** field and **Print Spooler** in the **Display Name** field.



Services

Specify any services that should be monitored to ensure they're in a running state.

	Windows Service	Display Name
☒	spooler	Print Spooler

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:

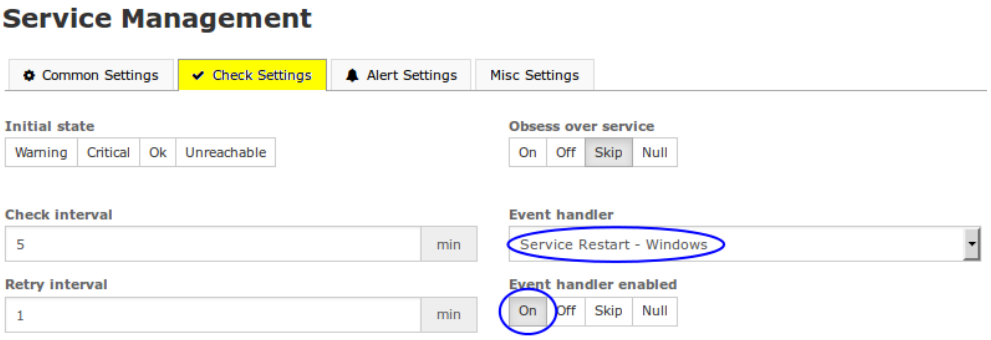
- Select Event Handler
- Add the name of the service we want to restart as a custom variable to the service object. This is how the event handler knows what the name of the service is to restart.

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

Click the service **Print Spooler** to edit the service and then click the **Check Settings** tab.

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

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



Service Management

Initial state: Warning | Critical | Ok | Unreachable

Obsess over service: On | Off | [✓ Skip] | Null

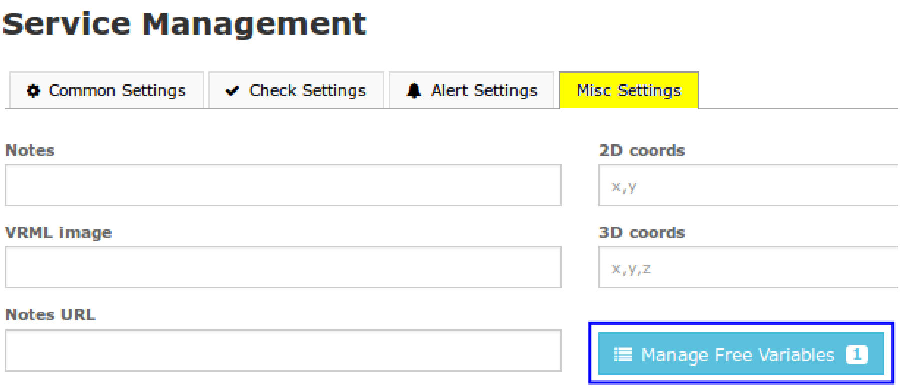
Check interval: 5 min

Event handler: Service Restart - Windows

Retry interval: 1 min

Event handler enabled: [✓ On] | Off | Skip | Null

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



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

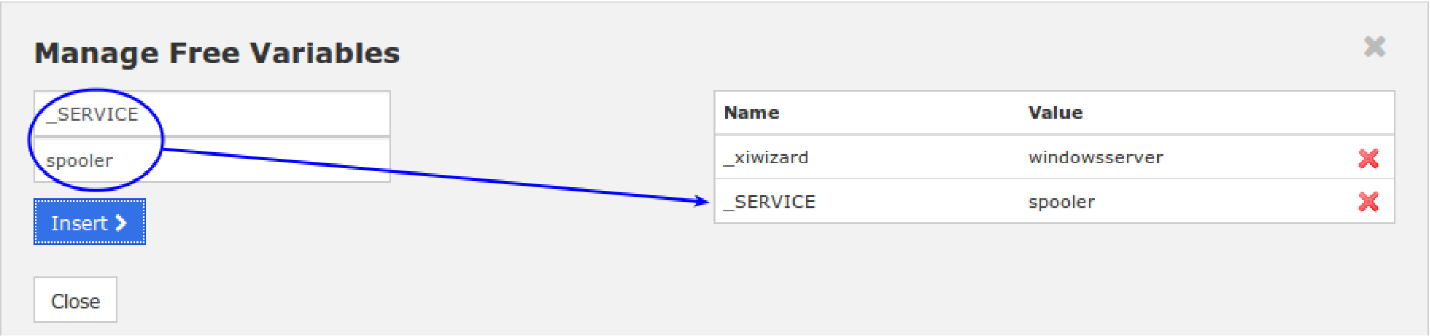
Name:

```
_SERVICE
```

Value:

```
spooler
```

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



_SERVICE

spooler

Name	Value
_xiwizard	windowsserver
_SERVICE	spooler

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:

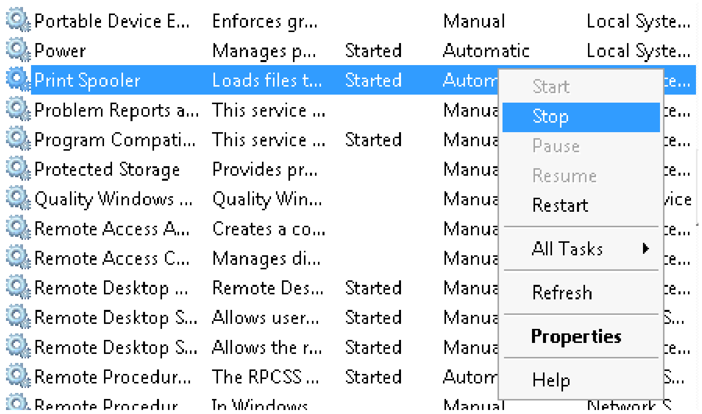
https://assets.nagios.com/downloads/nagioscore/docs/nagioscore/4/en/customobjectvars.html

Test

To test simply stop the **Print Spooler** service on the Windows machine.

Open the **Services console** under **Administrative Tools**.

Right click the **Print Spooler** service and select **Stop**.



Portable Device E...	Enforces gr...		Manual	Local Syste...
Power	Manages p...	Started	Automatic	Local Syste...
Print Spooler	Loads files t...	Started	Autom	te...
Problem Reports a...	This service ...		Manua	te...
Program Compati...	This service ...	Started	Manua	te...
Protected Storage	Provides pr...		Manua	te...
Quality Windows ...	Quality Win...		Manua	vice
Remote Access A...	Creates a co...		Manua	te...
Remote Access C...	Manages di...		Manua	te...
Remote Desktop ...	Remote Des...	Started	Manua	te...
Remote Desktop S...	Allows user...	Started	Manua	S...
Remote Desktop S...	Allows the r...	Started	Manua	te...
Remote Procedur...	The RPCSS ...	Started	Autom	S...
Remote Procedur...	In Windows...		Manual	Network S...

Wait for the Nagios service to go to a critical state or force the next check.

Once the Nagios XI **Print Spooler** service is in a **critical** state the event handler will be executed and the **Windows Print Spooler** service will be restarted. The next time Nagios XI checks the **Print Spooler** service it will return to an **OK** state as the **Windows Print Spooler** 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: 10.25.14.3;Print Spooler;CRITICAL;SOFT;1;spooler: 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/restart_service.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 `restart_service.sh` command.

Finishing Up

This completes the documentation on how to restart Windows services with NRPE and 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