

How to Restart Windows Services with NRPE

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 %
net start %1
@exit 0
```

Once completed, save it as a batch file called **restart_service.bat** in your NSClient++ scripts directory (create the directory if it doesn't exist):

```
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).

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

Add the following line:

```
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.

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
```

Name	Description	Status	Startup Type	Log On As
Network Connected Devices ...	Network Co...		Manual (Trigg...	Local Service
Network Connection Broker	Brokers con...	Running	Manual (Trigg...	Local System
Network Connections	Manages ob...	Running	Manual	Local System
Network Connectivity Assist...	Provides Dir...		Manual (Trigg...	Local System
Network List Service	Identifies th...	Running	Manual	Network Se...
Network Location Awareness	Collects and ...		Manual	Network Se...
Network Setup Service	The Network...	Running	Manual (Trigg...	Local System
Network Store Interface Serv...	This service ...	Running	Automatic	Local Service
NPSMSvc_18e754	<Failed to R...	Running	Manual	Local System
NSClient++ Monitoring Age...	Monitoring ...	Running	Automatic	Local System
NVIDIA Display Container LS	Container se...	Running	Automatic	Local System
NVWMI	NVWMI Pro...	Running	Automatic	Local System
Offline Files	The Offline ...		Manual (Trigg...	Local System
OpenSSH Authentication Ag...	Agent to hol...		Disabled	Local System
Optimize drives	Helps the co...		Manual	Local System
P9RdrService_18e754	Enables trig...		Manual (Trigg...	Local System
Parental Controls	Enforces par...		Manual	Local System
Payments and NFC/SE Mana...	Manages pa...		Manual (Trigg...	Local Service
Peer Name Resolution Proto...	Enables serv...		Manual	Local Service
Peer Networking Grouping	Enables mul...		Manual	Local Service
Peer Networking Identity M...	Provides ide...		Manual	Local Service
PenService_18e754	Pen Service		Manual (Trigg...	Local System
Performance Counter DLL H...	Enables rem...		Manual	Local Service
Performance Logs & Alerts	Performance...		Manual	Local Service
Phone Service	Manages th...		Manual (Trigg...	Local Service
Plug and Play	Enables a co...	Running	Manual	Local System

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```
[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
```

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and press Enter.

Now execute the following commands to set the correction permissions:

RHEL/Centos/Oracle

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

Debian/Ubuntu

```
chown www-data: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

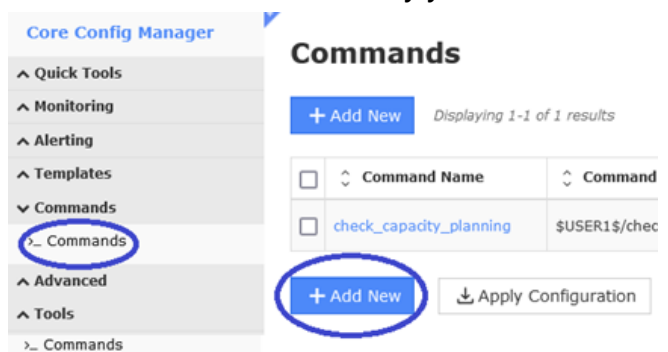
Now an event handler on the Nagios XI server will be created which will be used by your services.

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



The screenshot shows the Nagios XI Core Config Manager interface. On the left, a sidebar menu lists various configuration categories: Quick Tools, Monitoring, Alerting, Templates, Commands, Advanced, and Tools. The 'Commands' category is selected, and the '>_ Commands' link is circled in blue. On the right, the 'Commands' page is displayed, showing a table with one entry: 'check_capacity_planning' with the command '\$USER1\$/check_capacity_planning'. The '+ Add New' button is circled in blue. Below the table, there is an 'Apply Configuration' button.

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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**.

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**.

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

Save

Cancel

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.

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.

Services
Specify which services should be running or stopped. ⓘ

Make your Service Selections ⓘ

Service Description	Service Name	Expected Status
ShellHWDetection (runn		
SmsRouter (stopped)		
Spooler (running)	Spooler	<input checked="" type="radio"/> Running <input type="radio"/> Stopped X
SstpSvc (running)		
StateRepository (runnin		
StiSvc (stopped)		
StorSvc (running)		
SupportAssistAgent (ru		

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

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.

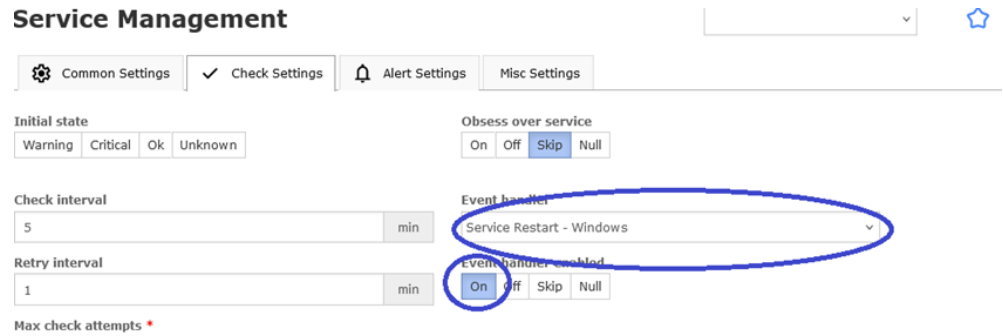
Name:

`$_SERVICE`

Value:

spooler

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



Service Management

Common Settings | Check Settings | Alert Settings | Misc Settings

Initial state: Warning | Critical | Ok | Unknown

Obsess over service: On | Off | Skip | Null

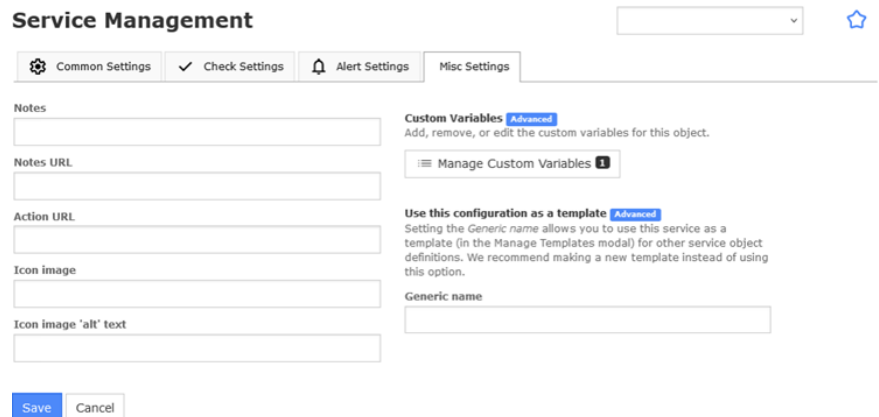
Check interval: 5 min

Event handler: Service Restart - Windows

Event handler enabled: On | Off | Skip | Null

Retry interval: 1 min

Max check attempts *



Service Management

Common Settings | Check Settings | Alert Settings | Misc Settings

Notes

Notes URL

Action URL

Icon image

Icon image 'alt' text

Save | Cancel

Custom Variables Advanced

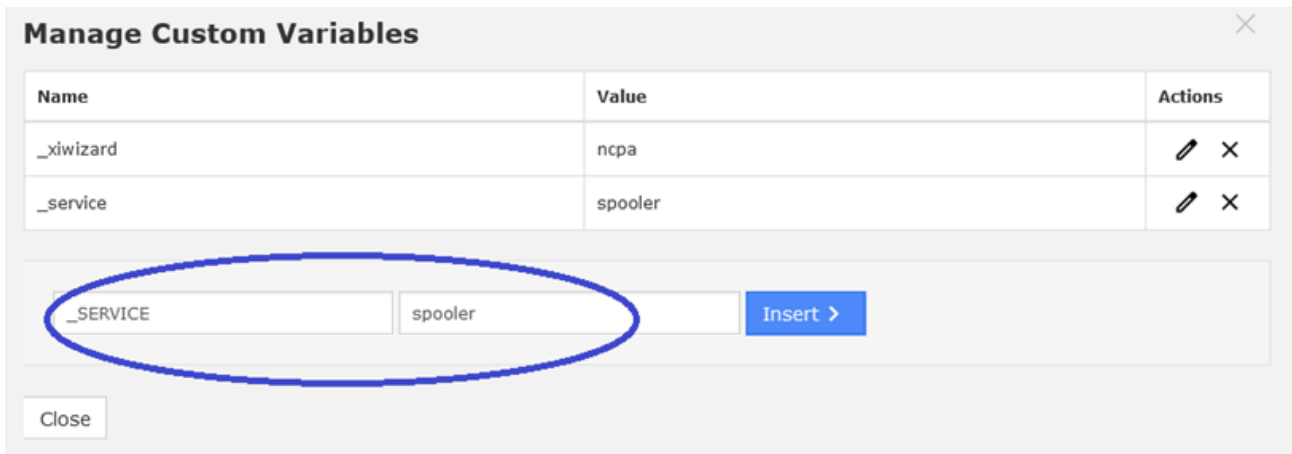
Add, remove, or edit the custom variables for this object.

Manage Custom Variables

Use this configuration as a template Advanced

Setting the Generic name allows you to use this service as a template (in the Manage Templates modal) for other service object definitions. We recommend making a new template instead of using this option.

Generic name



Manage Custom Variables

Name	Value	Actions
_xiwizard	ncpa	
_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>

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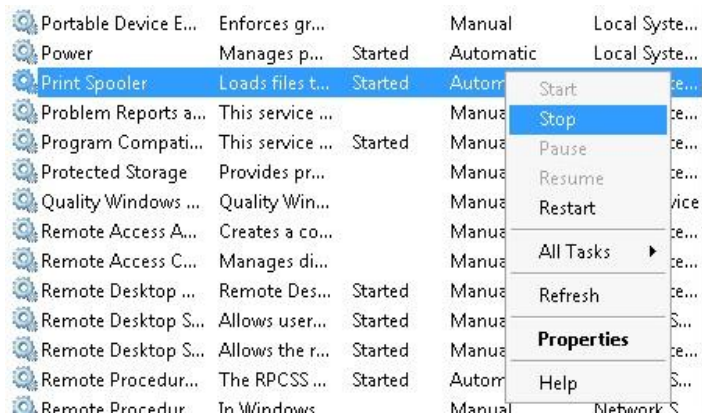
Test

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**.

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 or Knowledgebase:

[Visit Nagios Support Forum](#)

[Visit Nagios Knowledgebase](#)