

How To Monitor Remote Linux Systems With Nagios

On Remote Linux System

Nagios Remote Plugin Executor (abbreviated as NRPE) plugin allows you to monitor applications and services running on remote Linux / Windows hosts. This NRPE Add-on helps Nagios to monitor local resources like CPU, Memory, Disk, Swap, etc. of the remote host.

Install NRPE Add-on & Nagios Plugins

CentOS / RHEL

NRPE Server and Nagios plugins are available in the EPEL repository for CentOS / RHEL. So, configure the EPEL repository your CentOS / RHEL system.

```
### CentOS 8 / RHEL 8 ###  
rpm -ivh https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
```

Use the following command to install NRPE Add-on and Nagios plugins.

```
yum install -y nrpe nagios-plugins-all
```

Configure NRPE Add-on

Modify the NRPE configuration file to accept the connection from the Nagios server, Edit the `/etc/nagios/nrpe.cfg` file.

```
### CentOS / RHEL ###  
vi /etc/nagios/nrpe.cfg
```

Add the Nagios servers IP address, separated by comma like below.

```
allowed_hosts=192.168.0.10
```

Configure Nagios Checks

```
vi /etc/nagios/nrpe.cfg
```

Below command lines let you monitor logged in users, system load, root filesystem usage, swap usage and the total number of the process with the help of Nagios plugins.

```
# COMMAND DEFINITIONS

...

command[check_users]=/usr/lib64/nagios/plugins/check_users -w 5 -c 10
command[check_load]=/usr/lib64/nagios/plugins/check_load -w 15,10,5 -c 30,25,20
command[check_root]=/usr/lib64/nagios/plugins/check_disk -w 20% -c 10% -p /
command[check_swap]=/usr/lib64/nagios/plugins/check_swap -w 20% -c 10%
command[check_total_procs]=/usr/lib64/nagios/plugins/check_procs -w 150 -c 200
```

Restart the NRPE service.

```
### CentOS / RHEL ###

systemctl start nrpe

systemctl enable nrpe
```

Firewall

Configure the firewall so that the Nagios server can able to reach the NRPE server running on a remote Linux host. Run these commands on a remote Linux machine.

Firewalld

```
firewall-cmd --permanent --add-port=5666/tcp

firewall-cmd --reload
```

IP Tables

```
iptables -I INPUT -p tcp --dport 5666 -m conntrack --ctstate NEW,ESTABLISHED -j ACCEPT

iptables -I OUTPUT -p tcp --sport 5666 -m conntrack --ctstate ESTABLISHED -j ACCEPT

/etc/init.d/iptables save
```

On Nagios Server

Install NRPE plugin

This NRPE plugin provides check_nrpe plugin which contacts the NRPE server on remote machines to check the services or resource.

CentOS / RHEL

Nagios NRPE plugin is available in the EPEL repository for CentOS / RHEL. So, configure the EPEL repository your CentOS / RHEL system.

```
### CentOS 8 / RHEL 8 ###
```

```
rpm -ivh https://dl.fedoraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
```

Use the following command to install the NRPE plugin on your machine.

```
yum -y install nagios-plugins-nrpe
```

Edit Configuration

Edit the Nagios configuration file to include all .cfg files inside the /usr/local/nagios/etc/servers directory.

ADVERTISEMENT

```
### CentOS / RHEL ###
```

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

Add or uncomment the following line.

```
cfg_dir=/usr/local/nagios/etc/servers
```

Create a configuration directory.

```
### CentOS / RHEL ###
```

```
mkdir /usr/local/nagios/etc/servers
```

Add Command Definition

Now it's time to configure the Nagios server to monitor the remote client machine, and You'll need to create a command definition in Nagios object configuration file to use the check_nrpe plugin.

Open the `commands.cfg` file.

CentOS / RHEL

```
vi /usr/local/nagios/etc/objects/commands.cfg
```

Add the following Nagios command definition to the file.

```
# .check_nrpe. command definition
define command{
    command_name check_nrpe
    command_line /usr/lib64/nagios/plugins/check_nrpe -H $HOSTADDRESS$ -t 30 -c $ARG1$
}
```

Add a Linux host to Nagios server

Create a client configuration file `/usr/local/nagios/etc/servers/client.classroom.com.cfg` to define the host and service definitions of remote Linux host.

```
### CentOS / RHEL ###
```

```
vi /usr/local/nagios/etc/servers/client.classroom.com.cfg
```

Copy the below content to the above file.

You can also use the following template and modify it according to your requirements. The following template is for monitoring logged in users, system load, disk usage (/ - partition), swap, and total process.

```
define host{
    use linux-server
    host_name client.classroom.com
    alias client.classroom.com
    address 192.168.0.20
}

define hostgroup{
    hostgroup_name linux-server
    alias Linux Servers
}
```

```

        members                client.classroom.com
    }

define service{

        use                    local-service
        host_name              client.classroom.com
        service_description    SWAP Uasge
        check_command          check_nrpe!check_swap
    }

define service{

        use                    local-service
        host_name              client.classroom.com
        service_description    Root / Partition
        check_command          check_nrpe!check_root
    }

define service{

        use                    local-service
        host_name              client.classroom.com
        service_description    Current Users
        check_command          check_nrpe!check_users
    }

define service{

        use                    local-service
        host_name              client.classroom.com
        service_description    Total Processes
        check_command          check_nrpe!check_total_procs
    }

define service{

        use                    local-service
        host_name              client.classroom.com
        service_description    Current Load
        check_command          check_nrpe!check_load
    }
}

```

Verify Nagios for any errors.

```
### CentOS / RHEL ###
```

```
/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

Restart the Nagios server.

```
### CentOS / RHEL ###  
systemctl restart nagios
```

Check Nagios Monitoring

Go and check the Nagios web interface to view the new services we added just now.

The screenshot displays the Nagios web interface in a browser window. The address bar shows '192.168.0.10/nagios/'. The interface includes a left sidebar with navigation links like 'General', 'Current Status', 'Hosts', 'Services', 'Host Groups', 'Service Groups', 'Problems', 'Quick Search', and 'Reports'. The main content area shows 'Current Network Status' with a last update of 'Sat Dec 14 01:52:14 EST 2019'. It also features 'Host Status Totals' and 'Service Status Totals' summary boxes. A table titled 'Host Status Details For All Host Groups' is visible, with a 'Limit Results' dropdown set to 100. The table has columns for Host, Status, Last Check, Duration, and Status Information. Two hosts are listed: 'client.itzgeek.local' and 'localhost', both with a status of 'UP'. The first row is highlighted with a red border. A 'Page Tour' button is located in the bottom right corner.

Host	Status	Last Check	Duration	Status Information
client.itzgeek.local	UP	12-14-2019 01:49:02	0d 0h 10m 46s	PING OK - Packet loss = 0%, RTA = 0.65 ms
localhost	UP	12-14-2019 01:48:25	0d 2h 3m 36s	PING OK - Packet loss = 0%, RTA = 0.06 ms

Monitor Remote Linux Systems With Nagios – Hosts List

Within a minute, you should start seeing the status on the services page.

Nagios: 192.168.0.10

192.168.0.10/nagios/

Nagios®

General

Home
Documentation

Current Status

Tactical Overview
Map (Legacy)
Hosts
Services
Host Groups
Summary
Grid
Service Groups
Summary
Grid
Problems
Services
(Unhandled)
Hosts (Unhandled)
Network Outages

Quick Search:

Reports

Availability
Trends (Legacy)
Alerts
History
Summary
Histogram (Legacy)
Notifications
Event Log

Current Network Status

Last Updated: Sat Dec 14 01:53:56 EST 2019
Updated every 90 seconds
Nagios® Core™ 4.4.5 - www.nagios.org
Logged in as nagiosadmin

View History For all hosts
View Notifications For All Hosts
View Host Status Detail For All Hosts

Host Status Totals

Up	Down	Unreachable	Pending
2	0	0	0

All Problems: 0 All Types: 2

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
12	1	0	0	0

All Problems: 1 All Types: 13

Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
client.itzgeek.local	Current Load	OK	12-14-2019 01:51:24	0d 0h 7m 32s	1/4	OK - load average: 0.00, 0.02, 0.04
	Current Users	OK	12-14-2019 01:51:35	0d 0h 7m 21s	1/4	USERS OK - 1 users currently logged in
	Root / Partition	OK	12-14-2019 01:52:02	0d 0h 7m 54s	1/4	DISK OK - free space: / 49726 MiB (97.16% inode=100%):
	SWAP Usage	OK	12-14-2019 01:51:49	0d 0h 7m 7s	1/4	SWAP OK - 100% free (2047 MB out of 2047 MB)
	Total Processes	OK	12-14-2019 01:51:25	0d 0h 7m 31s	1/4	PROCS OK: 104 processes
localhost	Current Load	OK	12-14-2019 01:49:02	0d 2h 4m 47s	1/4	OK - load average: 0.00, 0.01, 0.00
	Current Users	OK	12-14-2019 01:49:40	0d 2h 4m 9s	1/4	USERS OK - 2 users currently logged in
	HTTP	WARNING	12-14-2019 01:50:17	0d 2h 0m 32s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 508 bytes in 0.001 second response time
	PING	OK	12-14-2019 01:50:55	0d 2h 2m 54s	1/4	PING OK - Packet loss = 0%, RTA = 0.06 ms
	Root Partition	OK	12-14-2019 01:51:32	0d 2h 2m 17s	1/4	DISK OK - free space: / 49076 MB (95.89% inode=100%):
	SSH	OK	12-14-2019 01:52:10	0d 2h 1m 39s	1/4	SSH OK - OpenSSH_7.8 (protocol 2.0)
	Swap Usage	OK	12-14-2019 01:52:47	0d 2h 1m 2s	1/4	SWAP OK - 100% free (2119 MB out of 2119 MB)
	Total Processes	OK	12-14-2019 01:53:25	0d 2h 0m 24s	1/4	PROCS OK: 39 processes with STATE = RSZDT

Results 1 - 13 of 13 Matching Services

Page Four

Monitor Remote Linux Systems With Nagios – Monitor Services