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 A
CCEPT

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

/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.


```
### 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
```

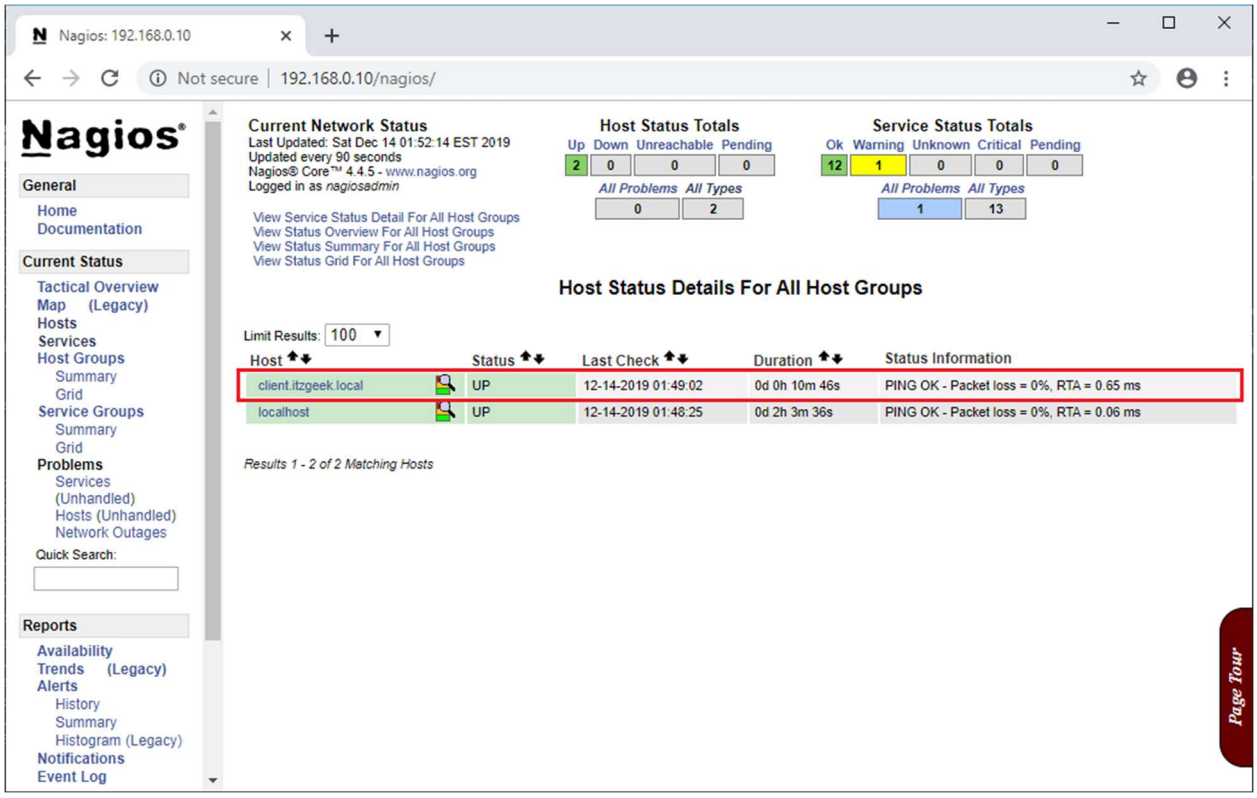
Restart the Nagios server.

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

systemctl restart nagios
```

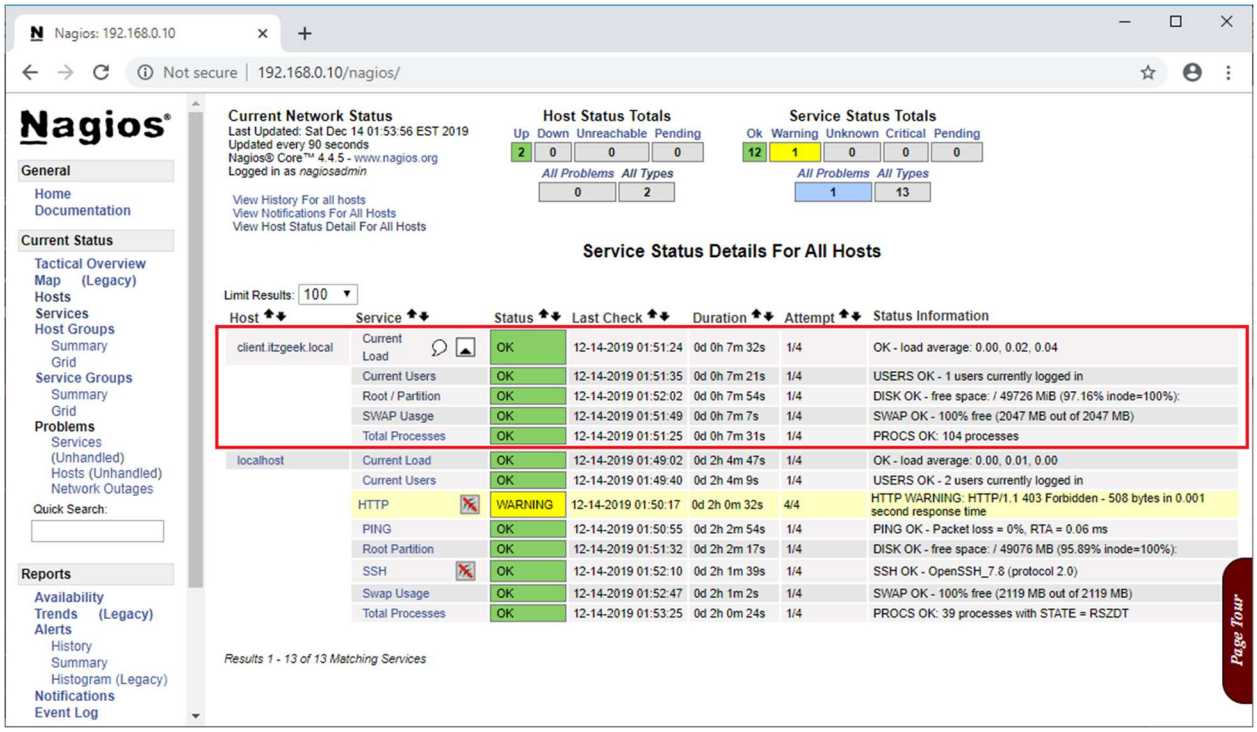
Check Nagios Monitoring

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



Monitor Remote Linux Systems With Nagios – Hosts List

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



Monitor Remote Linux Systems With Nagios – Monitor Services