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MONITORING TOOLS ◌ **392**

How to Add Linux

Monitoring Server Using NRPE Plugin

by Ravi Saive | Published: November 8, 2013 | Last Updated: August 8, 2016

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In our first part of this article, we've explained in detail on how to install and configure latest **Nagios Core 4.2.0** on **CentOS 7.2** server. In this article we will show you how to add **Remote Linux** machine and it's services to **Nagios Monitoring** host using **NRPE** agent.

We hope you already having **Nagios** installed and running properly. If not, please use the following installation guide to install it on the system.

- Nagios 4.2.0

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Once you've installed, you can proceed further to install **NRPE** agent on your **Remote Linux** host. Before heading further, let us give you a short description about **NRPE**.

What is NRPE?

The **NRPE** (**Nagios Remote Plugin Executor**) plugin allows you to monitor any remote **Linux**/**Unix** services or network devices. This **NRPE** add-on allows **Nagios** to monitor any local resources like **CPU load**, **Swap**, **Memory usage**, **Online users**, etc. on remote Linux machines. After all, these local resources are not mostly exposed to

⭐   💬

NRPE agent must be installed and configured on the remote machines.

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Note: The **NRPE** addon requires that **Nagios Plugins** must be installed on the remote Linux machine. Without these, the **NRPE** daemon will not work and will not monitor anything.

Installation of NRPE Plugin

To use the **NRPE**, you will need to do some additional tasks on both the **Nagios Monitoring Host** and **Remote Linux Host** that the NRPE installed on. We will be covering both the installation parts separately.

We assume that you are

host that supports TCP wrappers and Xinted daemon installed on it. Today, most of the modern Linux distributions have these two installed by default. If not, we will install it later during the installation when required.

On Remote Linux Host

Please use the below instructions to install Nagios Plugins and NRPE daemon on the Remote Linux Host.

Step 1: Install Required Dependencies

We need to install required libraries like gcc, glibc, glibc-common and GD and its development libraries before installing.

```
[root@tecmint]# yum
-------------- On Fe
[root@tecmint]# dnf
```

Nagios User

Create a new nagios user account and set a password.

```
[root@tecmint]# user
[root@tecmint]# pass
```

Step 3: Install the Nagios Plugins

Create a directory for installation and all its future downloads.

```
[root@tecmint]# cd /
```

Now download latest Nagios Plugins 2.1.2 package with **wget** command.

```
[root@tecmint nagios
```

Step 4: Extract Nagios Plugins

Run the following **tar** command to extract the source code tarball.

After, extracting one new folder will appear in that directory.

```
[root@tecmint nagios
total 2640
drwxr-xr-x. 15 root
-rw-r--r--.  1 root
```

Step 5: Compile and Install Nagios Plugins

Next, compile and install using following commands

```
[root@tecmint nagios
[root@tecmint nagios
[root@tecmint nagios
[root@tecmint nagios
```

Set the permissions on the plugin directory.

```
[root@tecmint nagios
[root@tecmint nagios
```

Step 6: Install Xinetd

Most of the systems, its by default installed. If not,

using following **yum**
command.

```
[root@tecmint nagios
-------------- On Fe
[root@tecmint nagios
```

Step 7: Install NRPE Plugin

Download latest **NRPE Plugin 3.0** packages with **wget** command.

```
[root@tecmint nagios
[root@tecmint nagios
```

Unpack the NRPE source code tarball.

```
[root@tecmint nagios
[root@tecmint nrpe-3
```

Compile and install the NRPE addon.

```
[root@tecmint nrpe-3
[root@tecmint nrpe-3
```

Next, install the NRPE plugin daemon, and sample daemon config

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```
[root@tecmint nrpe-3
[root@tecmint nrpe-3
[root@tecmint nrpe-3
```

Install the NRPE daemon under xinetd as a service.

```
[root@tecmint nrpe-3
OR
[root@tecmint nrpe-3
```

Now open
/etc/xinetd.d/nrpe file
and add the **localhost**
and **IP address** of the
Nagios Monitoring
Server.

```
only_from = 127.0.0.
```

Next, open /etc/services
file add the following
entry for the **NRPE**
daemon at the bottom of
the file.

```
nrpe            5666
```

Restart the xinetd
service.

Step 8: Verify NRPE Daemon Locally

Run the following command to verify the NRPE daemon working correctly under xinetd.

```
[root@tecmint]# nets
tcp       0       0
```

If you get output similar to above, means it working correctly. If not, make sure to check the following things.

- Check you've added nrpe entry correctly in **/etc/services** file
- The **only_from** contains an entry for "**nagios_ip_address**" in the **/etc/xinetd.d/nrpe** file.
- The **xinetd** is installed and started.
- Check for the errors in the **system log** files for about **xinetd**

problems.

Next, verify the NRPE
daemon is functioning
properly. Run the
"**check_nrpe**" command
that was installed earlier
for testing purposes.

```
[root@tecmint]# /usr
```

You will get a following
string on the screen, it
shows you what version
of NRPE is installed:

```
NRPE v3.0
```

Step 9: Configure
Firewall Rules

Make sure that the
Firewall on the local
machine will allow the
NRPE daemon to be
accessed from remote
servers. To do this, run
the following iptables
command.

```
-------------- On RH
[root@tecmint]# ipta
```

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Run the following
command to Save the
new iptables rule so it will
survive at system
reboots.

```
-------------- On RH
[root@tecmint]# serv
```

Step 10: Customize NRPE commands

The default NRPE
configuration file that got
installed has several
command definitions that
will be used to monitor
this machine. The sample
configuration file located
at.

```
[root@tecmint]# vi /
```

The following are the
default command
definitions that are
located at the bottom of
the configuration file. For
the time being, we
assume you are using
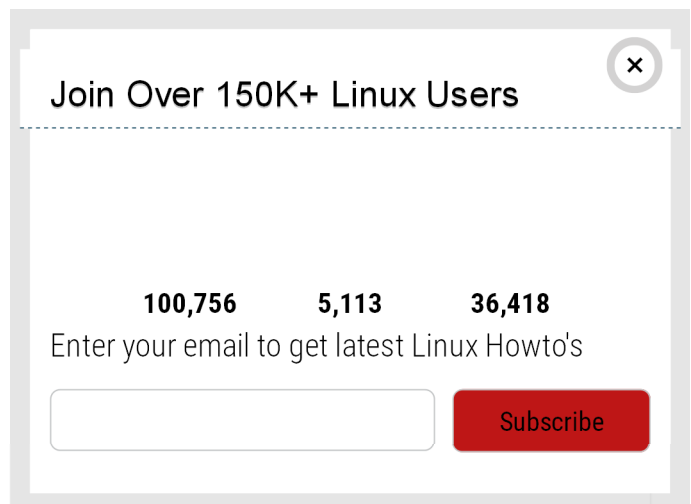
can check them by using the following commands.

```
# /usr/local/nagios/
USERS OK – 1 users d
```

```
# /usr/local/nagios/
OK – load average: 3
```

```
# /usr/local/nagios/
DISK OK – free space
```

```
# /usr/local/nagios/
PROCS CRITICAL: 297
```

```
# /usr/local/nagios/
PROCS OK: 0 processe
```

You can edit and add new command definitions by editing the NRPE config file. Finally, you've successfully installed and configured NRPE agent on the **Remote Linux Host**. Now it's time to install a **NRPE** component and add some services on your Nagios Monitoring Server…

Monitoring Server

Now login into your **Nagios Monitoring Server**. Here you will need to do following things:

- Install the **check_nrpe** plugin.
- Create a **Nagios command definition** using the **check_nrpe** plugin.
- Create **Nagios host** and **add service definitions** for monitoring the **remote Linux host**.

Step 1: Install NRPE Plugin

Go to the nagios download directory and download latest **NRPE Plugin** with **wget** command.

```
[root@tecmint]# cd /
[root@tecmint]# wget
```

Unpack the NRPE source code tarball.

```
[root@tecmint]# cd
```

Compile and install the NRPE addon.

```
[root@tecmint]# ./co
[root@tecmint]# make
[root@tecmint]# make
```

Step 2: Verify NRPE Daemon Remotely

Make sure that the **check_nrpe** plugin can communicate with the **NRPE** daemon on the remote **Linux** host. Add the **IP address** in the command below with the IP address of your R**emote Linux** host.

```
[root@tecmint]# /usr
```

You will get a string back that shows you what version of NRPE is installed on the remote host, like this:

```
NRPE v3.0
```

time-out error, then check
the following things.

- Make sure your
  firewall isn't blocking
  the communication
  between the **remote
  host** and the
  monitoring host.
- Make sure that the
  NRPE daemon is
  installed correctly
  under **xinetd**.
- Make sure that the
  r**emote Linux** host
  firewall rules
  blocking the
  monitoring server
  from communicating
  to the **NRPE** daemon.

Adding Remote Linux Host to Nagios Monitoring Server

To add a remote host you
need to create a two new
files "**hosts.cfg**" and
"**services.cfg**" under

location.

```
[root@tecmint]# cd /
[root@tecmint]# touc
[root@tecmint]# touc
```

Now add these two files to main Nagios configuration file. Open **nagios.cfg** file with any editor.

```
[root@tecmint]# vi /
```

Now add the two newly created files as shown below.

```
# You can specify i
cfg_file=/usr/local/
cfg_file=/usr/local/
```

Now open **hosts.cfg** file and add the **default host template name** and **define remote hosts** as shown below. Make sure to replace **host_name**, **alias** and **address** with your remote host server details.

```
## Default Linux Hos
define host{
name
use
check_period
check_interval
retry_interval
max_check_attempts
check_command
notification_period
notification_interva
notification_options
contact_groups
register
}
## Default
define host{
use
host_name
alias
address
}
```

Next open **services.cfg**
file add the following
services to be monitored.

```
[root@tecmint]# vi /
```

```
define service{
use
host_name
service_description
check_command
}
define service{
use
host_name
service_description
check_command
```

```
use
host_name
service_description
check_command
}
define service{
use
host_name
service_description
check_command
}
define service{
use
host_name
service_description
check_command
}
```

Now NRPE command definition needs to be created in **commands.cfg** file.

```
[root@tecmint]# vi /
```

Add the following NRPE command definition at the bottom of the file.

```
####################
# NRPE CHECK COMMAND
#
# Command to use NRF
####################
define command{
command_name check_r
command_line $USER1$
}
```
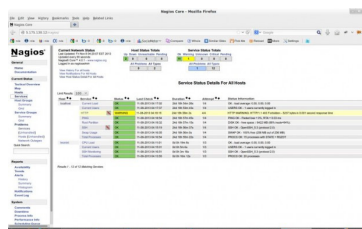
Configuration files for any
errors.

```
[root@tecmint]# /usr
Total Warnings: 0
Total Errors:   0
```

Restart Nagios:

```
[root@tecmint]# serv
```

That's it. Now go to
Nagios Monitoring Web
interface at "**http://Your-
server-IP-address
/nagios**" or "**http://FQDN
/nagios"** and Provide the
username "**nagiosadmin**"
and **password**. Check
that the **Remote Linux
Host** was added and is
being monitored.

Nagios Remote Host Monitoring

That's it! for now, in our
my up-coming article I
will show you how to add

monitoring Server. If
you're facing any
difficulties while adding
remote host to **Nagios**.
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queries or problem via
comment section, till
then stay tuned to
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Ravi Saive   View all Posts

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Guru who loves to share
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Nick ⊙ August 12, 2016 at 1:09 am
I get to the part where I need to make install-xinetd and run into an issue…

[root@ip-172-24-2-0 nrpe-3.0]# make install-xinetd
make: *** No rule to make target `install-xinetd'. Stop.

So I try to make install-inetd and I get it…

[root@ip-172-24-2-0 nrpe-3.0]# make install-inetd
No inetd file to install
make: *** [install-inetd] Error 1

This is on Centos 6.8. Any ideas?

Reply

Ravi Saive
★ ⊙ August 12, 2016 at 10:57 am
@Nick,

Have you installed Xinetd package before running that command? If no, install it or else it seems your NRPE installation was not successful..

Reply

mukesh ⊙ July 20, 2016 at 7:14 pm
bash: /usr/local/nagios/libexec /check_nrpe: No such file or directory

I try to install nrpe plugin into nagios server. while installation no any coming error. when try to run below command

IP). then coming error bash: /usr/local/nagios/libexec /check_nrpe: No such file or directory. Please help me.

Reply

mukesh ⊙ July 20, 2016 at 7:07 pm
bash: /usr/local/nagios/libexec /check_nrpe: No such file or directory

Please help me.

Reply

Vivek Patil ⊙ July 7, 2016 at 3:09 pm
I am getting error when I ran /usr/local/nagios/libexec /check_nrpe -H localhost CHECK_NRPE: Error – Could not complete SSL handshake.

Reply

> **Ravi Saive**
> ★ ⊙ July 8, 2016 at 11:30 am
> @Vivek,
>
> Please check that you've added your Nagios Server IP address in nrpe.cfg file under Xinetd..
>
> Reply

>> **Mukesh**
>> ⊙ July 21, 2016 at 10:41 am
>> Hi ,
>> I installed nrpe at nagios server. install has been successful. but when i try to communicate with client host with below command

.

-H 192.168.0.57

then coming below massage. Please help me. /usr/local/nagios /libexec /check_nrpe: No such file or directory

Reply

Ravi Saive

★ ☉ July 21, 2016 at 12:34 pm

@Mukesh,

It seems that your Nagios NRPE plugin installation was not successful, thats the reason you getting such error, I suggest you to try the installation again and see.

Reply

Mukesh

☉ July 21, 2016 at 4:54 pm

can

me
insta
step
(with
com
) ?

**Ravi
Saive**
⊙
July
21,
2016
at
5:45
pm
@Mu

The
insta
instr
are
alrea
step-
just
follo
care
and
insta
it
prop

mukesh
⊙ July 22, 2016 at
3:42 pm
connect to address
192.168.0.121 port
5666: Connection
refused

Reply

Ravi Saive

★

pm
@Mukesh,

The error is clear that the connection id refusing, you need to open the port 5666 on the firewall to function properly..

Reply

sandy ⊙ June 25, 2016 at 12:23 pm
Hello,

When we install nagios agent in the client machine we will get lot of checks in the directory /usr/local/nagios/libexec and also few checks defined in the **/etc/nrpe.cfg** file right..

But is it necessary to define these checks in the **nrpe.cfg** file??

because there are only 7 predifined checks in my **nrpe.cfg** file and when I checked the front end Internet Explorer in the nagiosadmin I can see the graphical interface is showing 10 checks.

I found out that these checks are defined in the nagios server for that host.

I think we need only to define check in **nrpe.cfg** of the agent for custom checks..

what is the difference between

eximmail queue is custom check
atnd is defined in the nrpe.cfg of
agent. But check_http is not defined
in the nrpe.cfg of agent…
==
define service{
use local-service ; Name of service
template to use
host_name harmonicland
service_description HTTP
check_command check_http
notifications_enabled 0
}

define service{
use local-service ; Name of service
template to use
host_name harmonicland
service_description eximqueue
check_command
check_nrpe!check_eximqueue
notifications_enabled 0
}
====
So i think we need to check

Reply

> **Ravi Saive**
> ★ ⊙ June 27, 2016 at 11:27 am
> @Sandy,
>
> Yes you 100% right, these
> nagios checks are installed
> under /usr/local/nagios
> /libexec and checks are
> defined in **/etc/nrpe.cfg** file,
> yes you can define your own
> checks in nrpe.cfg file under
> client machine.
>
> Reply

chandrakumar
⊙ June 11, 2016 at 1:00 pm
Now open /etc/xinetd.d/nrpe file

Server.

only_from = 127.0.0.1 localhost

i don't know the nagios ip address
,how can i find it?
and the local host is mine or the one
which created above (nagios)?

Reply

> **Ravi Saive**
> ★ ⊙ June 21, 2016 at 11:30 am
> @Chandra,
>
> Use ifconfig or ip command
> to find out your Nagios
> server IP address.
>
> Reply

Ashok ⊙ June 3, 2016 at 6:47 pm
Hi Ravi,
Do we need to install NRPE and
Nagios Plugins in both of the Nagios
monitor server and remote linux
system?

Reply

> **Ravi Saive**
> ★ ⊙ June 4, 2016 at 11:20 am
> @Ashok,
>
> NRPE and Nagios plugins in
> Nagios monitoring server
> and only NRPE plugin is
> enough on remote Linux
> server.
>
> Reply

I'm adding four ubuntu host in the nagios server but all the four host showing same root partition and all the services

Reply

Ravi Saive

★ ⊙ April 28, 2016 at 1:28 pm

@Nagaraj,

Have you add all Ubuntu servers to Nagios hosts.cfg file? and defined services for these 4 servers in services.cfg file? also on each Ubuntu server in nrpe.cfg file have you defined proper root device name and all services? Please check these things first and confirm..

Reply

Nagaraj

⊙ April 28, 2016 at 2:37 pm
i done the following thing:
1) vi /usr/local /nagios/etc/objects /localhost.cfg /usr/local/nagios /etc/objects /newhost.cfg

2:edit the usr/local /nagios/etc/objects /newhost.cfg
in HOST DEFINITION and change the hostname to newhost
And same changes

SERVICE
DEFINITIONS

and save the file

3) to add newhost in
the /usr/local
/nagios
/etc/nrpe.cfg file
also

verify with
/usr/local/nagios
/bin/nagios -v
/usr/local/nagios
/etc/nagios.cfg

no error

where i did the
mistake and where
the hosts.cfg file
located

Reply

> **Ravi Saive**
> ★ ☉ April 29,
> 2016 at 11:59
> am
> @Nagraj,
>
> Please
> follow the
> instructions
> carefully,
> you will
> know where
> is hosts.cfg
> and
> services.cfg
> file….
>
> Reply

Nagaraj
☉ April 28, 2016 at
2:41 pm
where hosts.cfg file

1)copy localhost.cfg file to newhost.cfg

and edit the newhost.cfg file and change the host name in the file to newhost and also i added the entry in the nrpe.cfg file also

Reply

Balaraju ⊙ April 26, 2016 at 10:00 am
@Ravi,

I have installed client in ubuntu. i followed below link to install the nrpe in cleint.
http://sharadchhetri.com/2013/06/11/how-to-install-and-configure-nagios-nrpe-client-in-ubuntu-with-apt-get-command/

[root@localhost ~]# /usr/local/nagios/libexec/check_nrpe -H xxx.xxx.xx.xxx
NRPE v2.15
[root@localhost ~]# /usr/local/nagios/libexec/check_nrpe -H xxx.xxx.xx.xxx -c check_load
OK – load average: 0.03, 0.08, 0.13|load1=0.030;15.000;30.000;0;
load5=0.080;10.000;25.000;0;
load15=0.130;5.000;20.000;0;

but it is not displayed on console. We have added command also in /usr/local/nagios/etc/objects/command.cfg like below

define command{
command_name check_nrpe
command_line /usr/local/nagios/libexec/check_nrpe -H

}

define command{
command_name check_load
command_line /usr/local/nagios
/libexec/check_load -H
$HOSTADDRESS$ -w $ARG1$ -c
$ARG2$
}
Reply

> **Ravi Saive**
> ★ ☉ April 26, 2016 at 10:54 am
> @Balaraju,
>
> You should all add those
> check commands in remote
> nrpe.cfg file under /etc
> directory to display on the
> web..
>
> Reply

Balaraju ☉ April 22, 2016 at 3:28 pm
Hi Team,

I did all the configuration as above .
But i am getting the error as below
on console
(No output on stdout) stderr:
execvp(/usr/lib/nagios/plugins
/check_nrpe, …) failed. errno is 2:
No such file or directory
Reply

> **Ravi Saive**
> ★ ☉ April 23, 2016 at 10:59 am
> @balaraju,
>
> Have you changed the
> default Nagios installation
> location? the default
> location for nagios-plugins
> source will be **/usr/local
> /nagios/libexec**, here all
> plugins installs. The error

nagios-plugins sources while compiling…

Reply

Vinod K

⊙ June 23, 2016 at 12:11 pm

I was also having the same problem, the solution which worked for me was renamed /usr/local/nagios/libexec to some temorary name /usr/local/nagios/libexec_temp and re-compile nrpe-2.15 which again created /usr/local/nagios/libexec/ folder with check_nrpe file, and then I moved all files within /usr/local/nagios/libexec_temp directory to /usr/local/nagios/libexec/

I hope this helps, thanks :-)

Reply

Ravi Saive

★ ⊙ June 23, 2016 at 12:53 pm

@Vinod,

Thanks for sharing, hope it will

face similar issues…

Reply

Vinod K

⏲ June 23, 2016 at 12:05 pm

Very nice article, I was able to setup Nagios host & multiple servers monitor fairly quickly, since this article is a bit old I used some latest available softwares, e.g nagion-4.1.1, nagios plugins-2.1.1

Reply

      ★ **Ravi Saive**

⏲ June 23, 2016 at 12:54 pm

@Vinod,

Yes, this article is a bit old, but I am in process of updating it to most recent version, just give me some time to prepare, test and implement it..

Reply

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