



Semester: V
Academic Year: 2025-26
Class / Branch: TE IT
Subject: Advanced Devops Lab (ADL)
Name of Instructor: Prof. Vishal Badgular

Name of Student: Pritish Shetty
Student ID: 23104128

EXPERIMENT NO. 10

Aim: To perform Port, Service monitoring, Linux server monitoring using Nagios.

Step 1 – Configure NRPE on Linux Host

Follow the below steps to install and configure NRPE on client machine and check connectivity with Nagios server.

Step 1.1 – Install NRPE

```
manjusha@apsit:~$ sudo apt-get install nagios-nrpe-server nagios-plugins
```

Step 1.2 – Configure NRPE

After successfully installing NRPE service, Edit nrpe configuration file /etc/nagios/nrpe.cfg in your favorite editor and add your nagios service ip in allowed hosts.

```
manjusha@apsit:~$ sudo nano /etc/nagios/nrpe.cfg
```

allowed_hosts=127.0.0.1, 192.168.64.3, 192.168.1.100

Where **192.168.1.100** is your Nagios server ip address.

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo nano /etc/nagios/nrpe.cfg
[sudo] password for apsit:
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo systemctl restart nagios-nrpe-server
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo systemctl enable nagios-nrpe-server
Synchronizing state of nagios-nrpe-server.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable nagios-nrpe-server
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ systemctl status nagios-nrpe-server
● nagios-nrpe-server.service - Nagios Remote Plugin Executor
   Loaded: loaded (/lib/systemd/system/nagios-nrpe-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2025-09-25 11:15:16 IST; 8s ago
     Docs: http://www.nagios.org/documentation
   Main PID: 19721 (nrpe)
    Tasks: 1 (limit: 4915)
   CGroup: /system.slice/nagios-nrpe-server.service
           └─19721 /usr/sbin/nrpe -c /etc/nagios/nrpe.cfg -f

Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC systemd[1]: Started Nagios Remote Plugin Executor.
Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC nrpe[19721]:
Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC nrpe[19721]: Server listening on 0.0.0.0 port 5666.
Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC nrpe[19721]: Server listening on :: port 5666.
Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC nrpe[19721]: Listening for connections on port 5666
Sep 25 11:15:16 apsit-HP-280-Pro-G6-Microtower-PC nrpe[19721]: Allowing connections from: 127.0.0.1, 192.168.86.18
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ /usr/local/nagios/libexec/check_nrpe -H 192.168.86.17
```



After making above changes in nrpe configuration file, Lets restart NRPE service as per your system

```
manjusha@apsit:~$ sudo /etc/init.d/nagios-nrpe-server restart  
ng
```

Step 1.3 – Verify Connectivity from Nagios

Now run the below command from Nagios server to make sure your nagios is able to connect nrpe client on remote Linux system. Here **192.168.64.3** is your remote Linux system ip.

```
manjusha@apsit:~$ /usr/local/nagios/libexec/check_nrpe -H 192.168.64.3  
NRPE v2.15
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ /usr/lib/nagios/plugins/check_nrpe -H 192.168.86.17  
CHECK_NRPE STATE CRITICAL: Socket timeout after 10 seconds.  
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ /usr/lib/nagios/plugins/check_nrpe -H 192.168.86.17  
CHECK_NRPE STATE CRITICAL: Socket timeout after 10 seconds.  
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ /usr/lib/nagios/plugins/check_nrpe -H 192.168.86.17  
NRPE v3.2.1  
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo nano /usr/local/nagios/etc/servers/MyLinuxHost001.cfg  
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg  
Nagios Core 4.4.3  
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors  
Copyright (c) 1999-2009 Ethan Galstad  
Last Modified: 2019-01-15  
License: GPL
```

```
manjusha@apsit:~$ sudo nano /usr/local/nagios/etc/servers/MyLinuxHost001.cfg
```

```
define host {  
    use                linux-server  
    host_name          Linux_Host_001  
    alias              Linux Host 001  
    address            192.168.  
    register          1  
}  
define service{  
    host_name          Linux_Host_001  
    service_description PING  
    check_command      check_ping!100.0,20%!500.0,60%  
    max_check_attempts 2  
    check_interval     2  
    retry_interval     2  
    check_period       24x7  
    check_freshness    1  
    contact_groups     admins  
    notification_interval 2  
    notification_period 24x7  
    notifications_enabled 1  
    register          1  
}
```



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Now verify configuration files using following command. If there are no errors found in configuration, restart nagios service.

```
manjusha@apsit:~$ sudo nagios -v /usr/local/nagios/etc/nagios.cfg
manjusha@apsit:~$ sudo service nagios restart
```

Step 3 – Check Host in Nagios Web Interface

Open your Nagios web interface and check for new Linux hosts added in Nagios core service.

The screenshot shows the Nagios web interface at 127.0.0.1/nagios/. The 'Host Status Totals' section shows 2 Up, 0 Down, 0 Unreachable, and 0 Pending. The 'Service Status Totals' section shows 0 Ok, 0 Warning, 0 Unknown, 0 Critical, and 0 Pending. The 'Host Status Details For All Host Groups' table lists two hosts: 'Linux_Host_001' and 'localhost', both with a status of 'UP'.

Host	Status	Last Check	Duration	Status Information
Linux_Host_001	UP	09-25-2025 11:38:22	0s 0m 38s	PING OK - Packet loss = 0%, RTT = 0.72 ms
localhost	UP	09-25-2025 11:42:38	415d 21h 41m 21s	PING OK - Packet loss = 0%, RTT = 0.08 ms

The screenshot shows the Nagios web interface at 127.0.0.1/nagios/ for the host 'Linux_Host_001'. The 'Host Alert History' section displays a list of alerts, including 'Nagios 4.4.3 starting...' and 'Caught SIGTERM, shutting down...'. The 'Log File Navigation' section shows the log file path: /usr/local/nagios/var/nagios.log.

Alert	Time
Nagios 4.4.3 starting... (PID=20457)	September 25, 2025 11:00
Caught SIGTERM, shutting down...	September 25, 2025 11:00
Nagios 4.4.3 starting... (PID=20334)	September 25, 2025 11:00
Caught SIGTERM, shutting down...	September 25, 2025 11:00
Nagios 4.4.3 starting... (PID=20006)	September 25, 2025 11:00
Caught SIGTERM, shutting down...	September 25, 2025 11:00
Nagios 4.4.3 starting... (PID=19376)	September 25, 2025 11:00
Caught SIGTERM, shutting down...	September 25, 2025 11:00
Nagios 4.4.3 starting... (PID=1530)	September 25, 2025 11:00
Caught SIGTERM, shutting down...	September 25, 2025 11:00

Conclusion: Successfully monitored host of LINUX