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**Roll No. : 64**

## EXPERIMENT 10

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

### Procedure:-

**Check if the nagios service is running by executing following command**  
sudo systemctl status nagios

```
ubuntu@ip-172-31-89-161:~$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.4.6
   Loaded: loaded (/usr/lib/systemd/system/nagios.service; enabled; preset: enabled)
   Active: active (running) since Sat 2024-09-28 16:08:58 UTC; 1min 2s ago
     Docs: https://www.nagios.org/documentation
   Process: 15743 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 15753 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
  Main PID: 15764 (nagios)
    Tasks: 6 (limit: 1130)
   Memory: 2.4M (peak: 3.2M)
      CPU: 29ms
   CGroup: /system.slice/nagios.service
           └─15764 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─15765 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
               └─15766 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                 └─15767 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                   └─15768 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                     └─15769 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: core query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: echo service query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: qh: help for the query handler registered
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Successfully registered manager as @wproc with query handler
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15765;pid=15765
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15766;pid=15766
Sep 28 16:08:58 ip-172-31-89-161 nagios[15764]: wproc: Registry request: name=Core Worker 15767;pid=15767
```

**Now, create a new EC2 instance on AWS**

Instances (2) Info

Last updated less than a minute ago

Connect

Instance state ▾

Actions ▾

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states ▾

< 1 >

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	
<input type="checkbox"/>	nagios-host	i-09e8ea019f24f4be2	Running	t2.micro	2/2 checks passed	<a href="#">View alarms +</a>	us-east-1c	e
<input type="checkbox"/>	linux-client	i-0ad38836f030e3784	Running	t2.micro	Initializing	<a href="#">View alarms +</a>	us-east-1c	e

**Now perform the following commands on nagios-host EC2 instance. On the server, run this command**

ps -ef | grep nagios

```
ubuntu@ip-172-31-89-161:~$ ps -ef | grep nagios
nagios 15764 1 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios 15765 15764 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 15766 15764 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 15767 15764 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 15768 15764 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 15769 15764 0 16:08 ? 00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ubuntu 15957 1342 0 16:13 pts/0 00:00:00 grep --color=auto nagios
ubuntu@ip-172-31-89-161:~$
```

Sudo su

mkdir /usr/local/nagios/etc/objects/monitorhosts

mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts

```
ubuntu@ip-172-31-89-161:~$ sudo su
mkdir /usr/local/nagios/etc/objects/monitorhosts
mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/home/ubuntu#
```

**Copy localhost.cfg file to the mentioned location**

cp

/usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts

```
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
cp: cannot create regular file '/usr/local/nagios/etc/objects/monitorhosts/linuxhosts': No such file or directory
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# sudo mkdir -p /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/usr/local/nagios/etc/objects# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
root@ip-172-31-89-161:/usr/local/nagios/etc/objects#
```

**Open the nano editor for localhost.cfg file and make these changes. Add the Ip address of the linux-client for the address field.**

nano /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/localhost.cfg

```
GNU nano 7.2 /usr/local/nagios/etc
#####
#
# HOST DEFINITION
#
#####
# Define a host for the local machine

define host {

    use                linux-server        ; Name of host template to use
                                ; This host definition inherits from the
                                ; in (or inherits from) the
                                ;

    host_name          linuxserver
    alias              linuxserver
    address            52.207.253.18
}

#####
#
# HOST GROUP DEFINITION

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Ex
^X Exit      ^R Read File ^\ Replace    ^U Paste      ^J Ju
```

**Note - Here replace hostname with linuxserver**

nano /usr/local/nagios/etc/nagios.cfg

**Add the following line to the nagios.cfg file**

cfg\_dir=/usr/local/nagios/etc/objects/monitorhosts/

```
# Definitions for monitoring a router/switch
#cfg_file=/usr/local/nagios/etc/objects/switch.cfg

# Definitions for monitoring a network printer
#cfg_file=/usr/local/nagios/etc/objects/printer.cfg

# You can also tell Nagios to process all config files (with a .cfg
# extension) in a particular directory by using the cfg_dir
# directive as shown below:

#cfg_dir=/usr/local/nagios/etc/servers
#cfg_dir=/usr/local/nagios/etc/printers
#cfg_dir=/usr/local/nagios/etc/switches
#cfg_dir=/usr/local/nagios/etc/routers

cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/
```

**After making the changes in nagios.cfg file now check validate the file by typing the following command in the terminal.**

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

```
License: GPL

Website: https://www.nagios.org
Reading configuration data...
  Read main config file okay...
  Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
  Checked 16 services.
  Checked 2 hosts.
  Checked 2 host groups.
  Checked 0 service groups.
  Checked 1 contacts.
  Checked 1 contact groups.
  Checked 24 commands.
  Checked 5 time periods.
  Checked 0 host escalations.
  Checked 0 service escalations.
Checking for circular paths...
  Checked 2 hosts
  Checked 0 service dependencies
  Checked 0 host dependencies
  Checked 5 timeperiods
Checking global event handlers...
Checking obsessive compulsive processor commands...
Checking misc settings...

Total Warnings: 0
Total Errors: 0

Things look okay - No serious problems were detected during the pre-flight check
root@ip-172-31-89-161:/usr/local/nagios/etc/objects/monitorhosts/linuxhosts#
```

**Now restart the service by using this command**

```
service nagios restart
```

```

root@ip-172-31-89-161:/usr/local/nagios/etc/objects/monitorhosts/linuxhosts# service nagios restart
root@ip-172-31-89-161:/usr/local/nagios/etc/objects/monitorhosts/linuxhosts# systemctl status nagios
● nagios.service - Nagios Core 4.4.6
   Loaded: loaded (/usr/lib/systemd/system/nagios.service; enabled; preset: enabled)
   Active: active (running) since Sat 2024-09-28 17:36:35 UTC; 19s ago
     Docs: https://www.nagios.org/documentation
   Process: 1870 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 1872 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
  Main PID: 1874 (nagios)
    Tasks: 8 (limit: 1130)
   Memory: 3.0M (peak: 3.2M)
      CPU: 24ms
   CGroup: /system.slice/nagios.service
           └─1874 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─1875 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─1876 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─1877 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─1878 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─1879 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─1880 /usr/local/nagios/libexec/check_ping -H 52.207.253.18 -w 3000.0,80% -c 5000.0,100% -p 5
             └─1881 /usr/bin/ping -n -U -w 30 -c 5 52.207.253.18

Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: qh: core query handler registered
Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: qh: echo service query handler registered
Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: qh: help for the query handler registered
Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: wproc: Successfully registered manager as @wproc with query handler
Sep 28 17:36:35 ip-172-31-89-161 nagios[1874]: wproc: Registry request: name=Core Worker 1875;pid=1875
lines 1-26

```

Now using this command update the apt repository of ubuntu (linux-client), install gcc, nagios-nrpe-server and nagios-plugin sudo apt update -y sudo apt install gcc -y

sudo apt install -y nagios-nrpe-server nagios-plugins

Now open nrpe.cfg file and add the ip address of the nagios host as shown. To open the nrpe.cfg file copy this command.

```

# supported.
#
# Note: The daemon only does rudimentary checking
# address. I would highly recommend adding entries
# file to allow only the specified host to connect
# you are running this daemon on.
#
# NOTE: This option is ignored if NRPE is running
allowed_hosts=127.0.0.1,54.167.169.0

# COMMAND ARGUMENT PROCESSING
# This option determines whether or not the NRPE
# to specify arguments to commands that are executed
# if the daemon was configured with the --enable
# option.

```

sudo nano /etc/nagios/nrpe.cfg

Now restart nrpe server by using this command

sudo systemctl restart nagios-nrpe-server

Now, check nagios dashboard, you should see linuxserver up and running, if not

**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

System

Comments

Downtime

Process Info

Performance Info

Scheduling Queue

Configuration

**Current Network Status**

Last Updated: Wed Oct 2 18:47:25 UTC 2024

Updated every 90 seconds

Nagios® Core™ 4.4.6 - www.nagios.org

Logged in as nagiosadmin

View Service Status Detail For All Host Groups

View Host Status Detail For All Host Groups

View Status Overview For All Host Groups

View Status Grid For All Host Groups

**Host Status Totals**

Up Down Unreachable Pending

1 0 0 0

All Problems All Types

0 1

**Service Status Totals**

Ok Warning Unknown Critical Pending

6 1 0 1 0

All Problems All Types

2 8

**Status Summary For All Host Groups**

Host Group	Host Status Summary	Service Status Summary
Linux Servers (linux-servers)	1 UP	6 OK 1 WARNING 1 Unhandled 1 CRITICAL 1 Unhandled