Experiment No 10

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D15B 26
Batch B

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

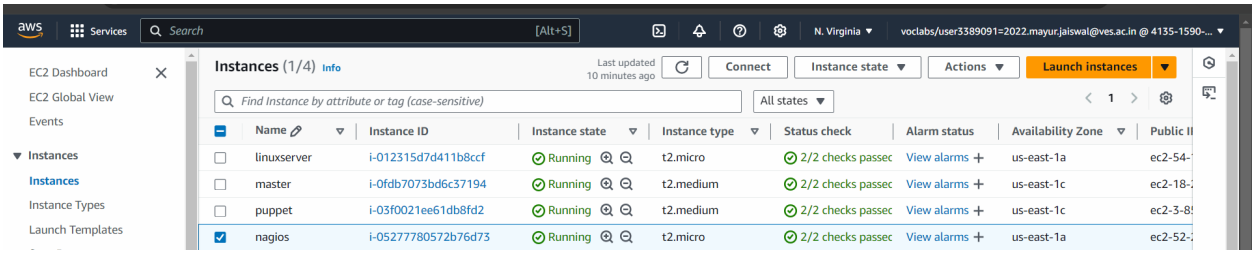
Output-

Step 1: To Confirm that Nagios is running on the server side, run this sudo systemctl status nagios on the “NAGIOS HOST”.

```
● nagios.service - Nagios Core 4.4.14
     Loaded: loaded (/lib/systemd/system/nagios.service; enabled; vendor preset: enabled)
     Active: active (running) since Sat 2023-09-30 08:54:01 UTC; 20s ago
       Docs: https://www.nagios.org/documentation
    Process: 55285 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
    Process: 55286 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Main PID: 55287 (nagios)
      Tasks: 6 (limit: 1141)
     Memory: 5.3M
        CPU: 252ms
     CGroup: /system.slice/nagios.service
             ├─55287 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             ├─55288 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─55289 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─55290 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─55291 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─55292 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 30 08:54:01 ip-172-31-44-151 nagios[55287]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
lines 1-19
```

Step 2: To monitor a Linux machine, create an Ubuntu 20.04 server EC2 Instance in AWS.



Step 3: On client side Step-03 Make a package index update and install gcc, nagios-nrpe-server and the plugins.

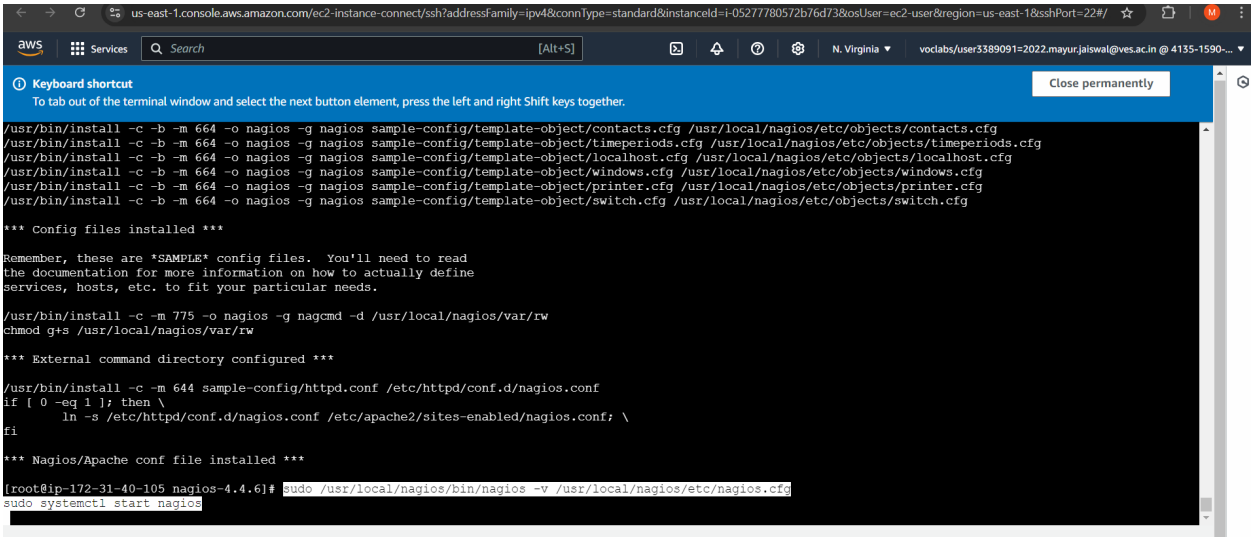
sudo apt update -y

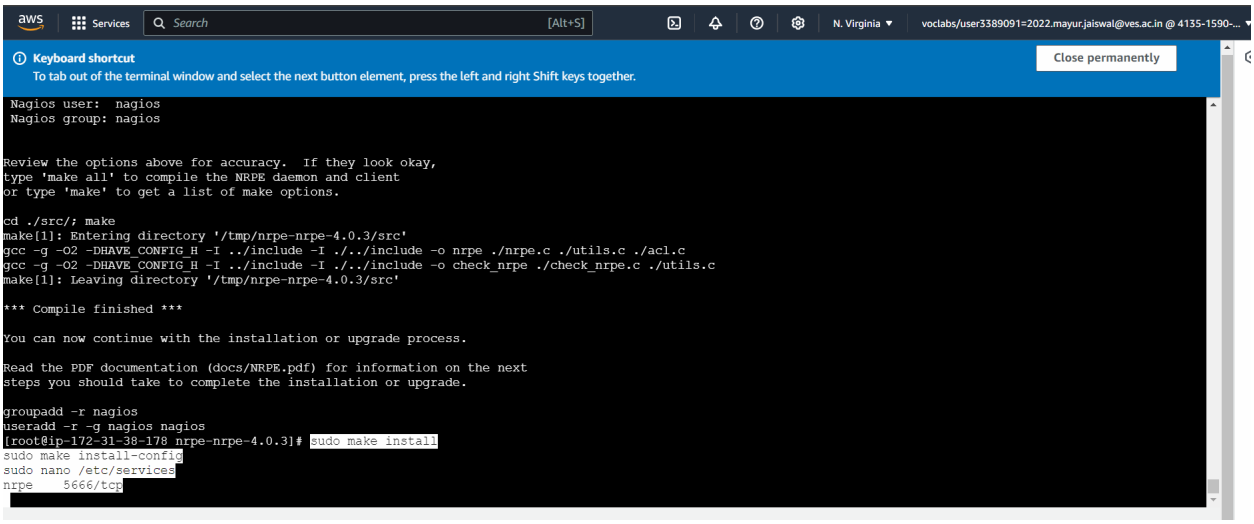
sudo apt install gcc -y

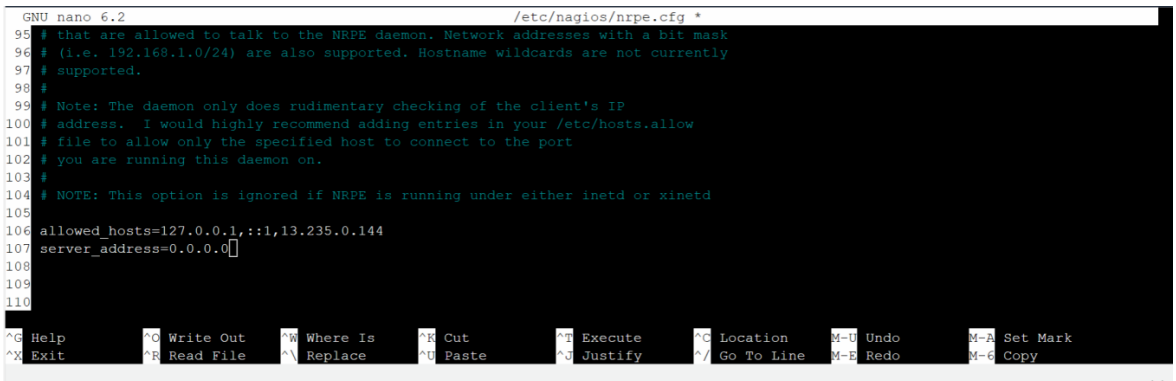
sudo apt install -y nagios-nrpe-server nagios-plugins

```
[root@ip-172-31-40-105 ec2-user]# sudo yum update -y  # For CentOS/RHEL
sudo dnf update -y  # For Fedora
Last metadata expiration check: 1:55:22 ago on Tue Oct 15 16:43:59 2024.
Dependencies resolved.
Nothing to do.
Complete!
Last metadata expiration check: 1:55:23 ago on Tue Oct 15 16:43:59 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-40-105 ec2-user]#
```

```
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'monitoring-plugins' instead of 'nagios-plugins'
monitoring-plugins is already the newest version (2.3.1-1ubuntu4).
nagios-nrpe-server is already the newest version (4.0.3-1ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
```







Step 5: Restart the NRPE server
sudo systemctl restart nagios-nrpe-server

```
Restarting services...
Service restarts being deferred:
 /etc/needrestart/restart.d/dbus.service
 systemctl restart getty@tty1.service
 systemctl restart networkd-dispatcher.service
 systemctl restart systemd-logind.service
 systemctl restart unattended-upgrades.service
 systemctl restart user@1000.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-41-41:/home/ubuntu# sudo nano /etc/nagios/nrpe.cfg
root@ip-172-31-41-41:/home/ubuntu# sudo nano /etc/nagios/nrpe.cfg
root@ip-172-31-41-41:/home/ubuntu# sudo systemctl restart nagios-nrpe-server
root@ip-172-31-41-41:/home/ubuntu# sudo systemctl status nagios-nrpe-server
● nagios-nrpe-server.service - Nagios Remote Plugin Executor
```

Step 6:

```
root@ip-172-31-44-151:/home/ubuntu# ps -ef | grep nagios
nagios      55287       1  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios      55288   55287  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      55289   55287  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      55290   55287  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      55291   55287  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      55292   55287  0 08:54 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios      56327       1  0 08:58 ?        00:00:00 /usr/sbin/nrpe -c /etc/nagios/nrpe.cfg -f
root        60903   60158  0 09:32 pts/1    00:00:00 grep --color=auto nagios
root@ip-172-31-44-151:/home/ubuntu# sudo su
root@ip-172-31-44-151:/home/ubuntu# mkdir /usr/local/nagios/etc/objects/monitorhosts
root@ip-172-31-44-151:/home/ubuntu# mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
```

Step 7: /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg

```
root@ip-172-31-44-151:/home/ubuntu# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhos
ts/linuxserver.cfg
root@ip-172-31-44-151:/home/ubuntu# nano /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
```

```
  GNU nano 6.2                  /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
##############################################################################

# Define a host for the local machine

define host {

    use                     linux-server            ; Name of host template to use
                                                    ; This host definition will inherit all variables that are defined
                                                    ; in (or inherited by) the linux-server host template definition.
    host_name               localhost
    alias                   localhost
    address                 127.0.0.1
}


]
^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T Execute       ^C Location      M-U Undo         M-A Set Mark
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J Justify       ^/ Go To Line    M-E Redo         M-6 Copy
```

i-03a3e79fc5ab0a056 (cutenagios_server)

```
  GNU nano 6.2                    /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg *

##############################################################################
#
# HOST GROUP DEFINITION
#
##############################################################################

# Define an optional hostgroup for Linux machines

define hostgroup {

    hostgroup_name          linux-servers[]         ; The name of the hostgroup
    alias                   Linux Servers           ; Long name of the group
    members                 localhost               ; Comma separated list of hosts that belong to this group
}

^G Help      ^O Write Out   ^W Where Is   ^K Cut         ^T Execute     ^C Location    M-U Undo      M-A Set Mark
^X Exit      ^R Read File   ^\ Replace    ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo      M-6 Copy
```

Change hostgroup_name under hostgroup to linuxserver

```
  GNU nano 6.2                                  /usr/local/nagios/etc/nagios.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/



# OBJECT CACHE FILE
# This option determines where object definitions are cached when
# Nagios starts/restarts.  The CGIs read object definitions from
Save modified buffer?
 Y Yes
 N No           ^C Cancel
```

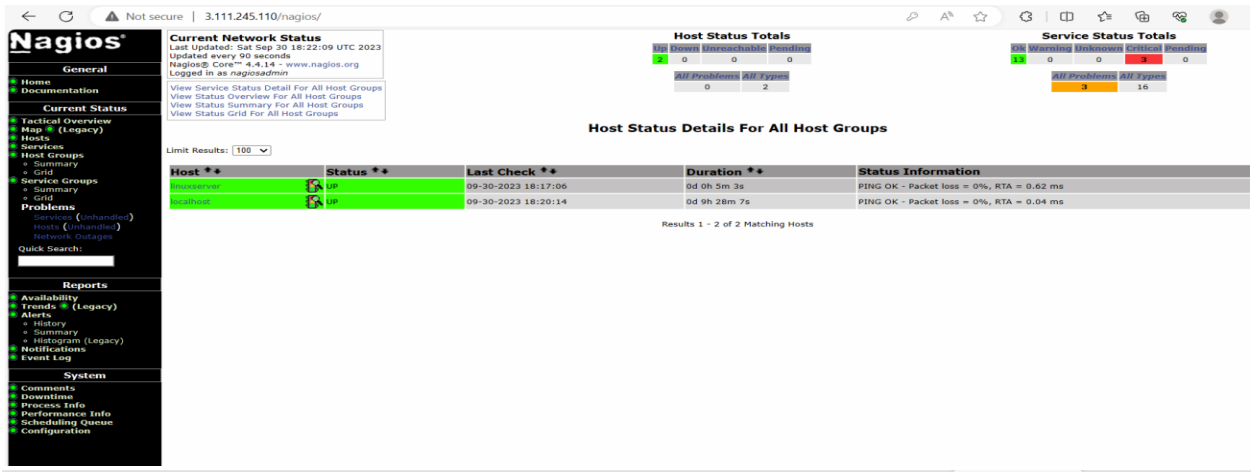
Step 10: Verify the configuration files.

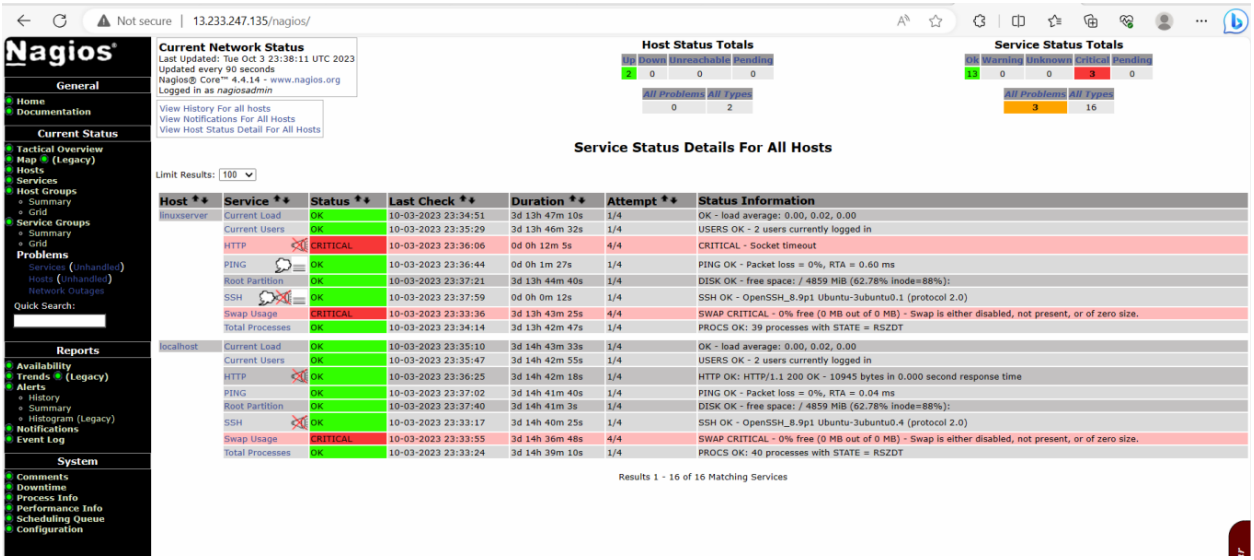
```
        Checked 1 contacts.
        Checked 1 contact groups.
        Checked 24 commands.
        Checked 5 time periods.
        Checked 0 host escalations.
        Checked 0 service escalations.
Checking for circular paths...
        Checked 1 hosts
        Checked 0 service dependencies
        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-172-31-44-151:/home/ubuntu# nano /usr/local/nagios/etc/nagios.cfg
```

Step 12: Now, check your nagios dashboard and you'll see a new host being added.





Conclusion: In this experiment, a new host was added to the Nagios monitoring system. The process involved configuring the host's definition in Nagios, applying changes by restarting the Nagios service, and verifying the host's visibility on the web interface. Proper configuration and connectivity were key to successfully monitoring the new host