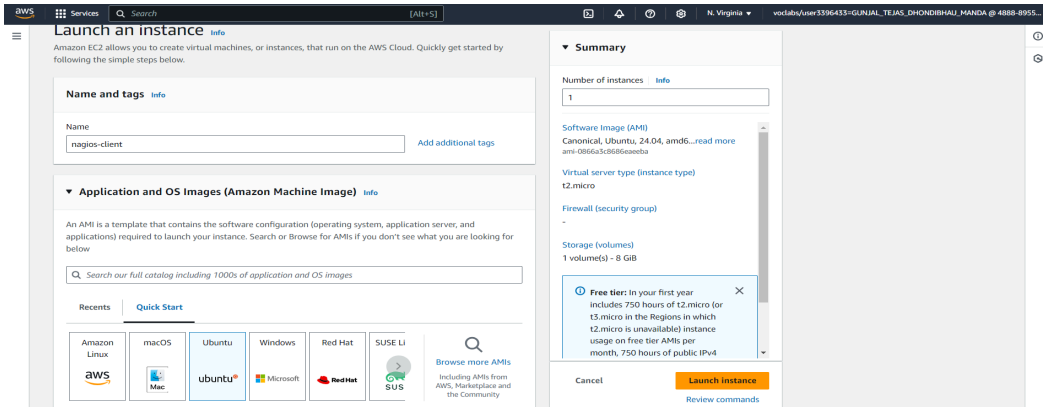
Shreyash Dhekane D15A Roll No.16

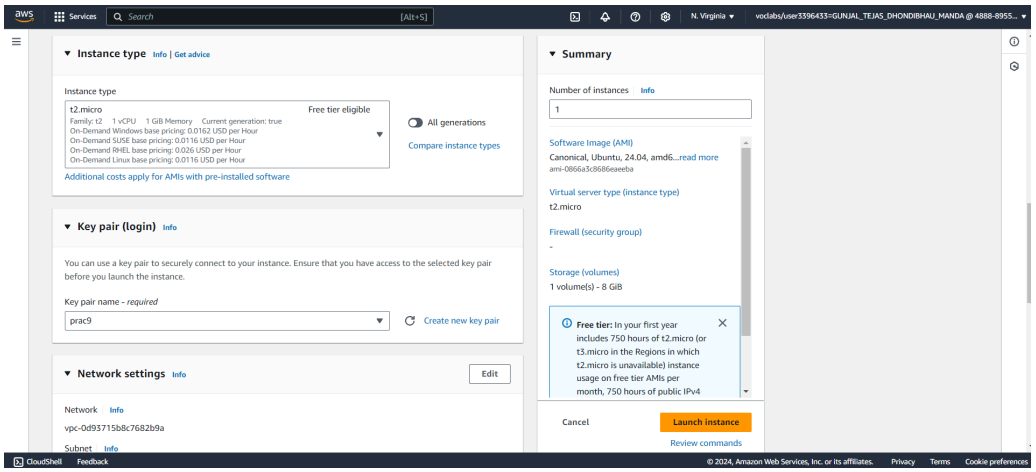
EXPERIMENT NO: - 10

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

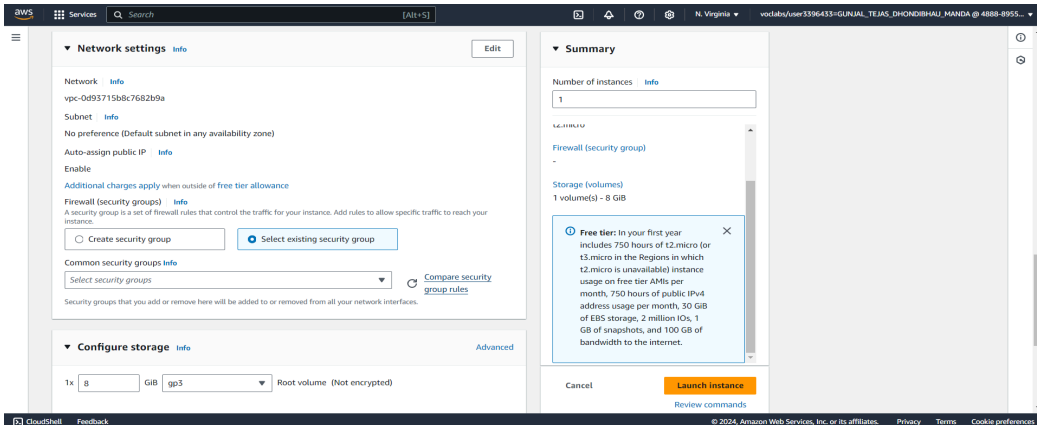
- Launch an instance

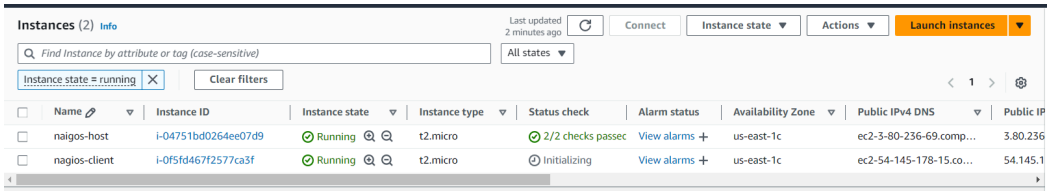


- Select Ubuntu as the os give a meaningful name of the instance.
  Make sure to select the same key-pair login used in the prac9 machine

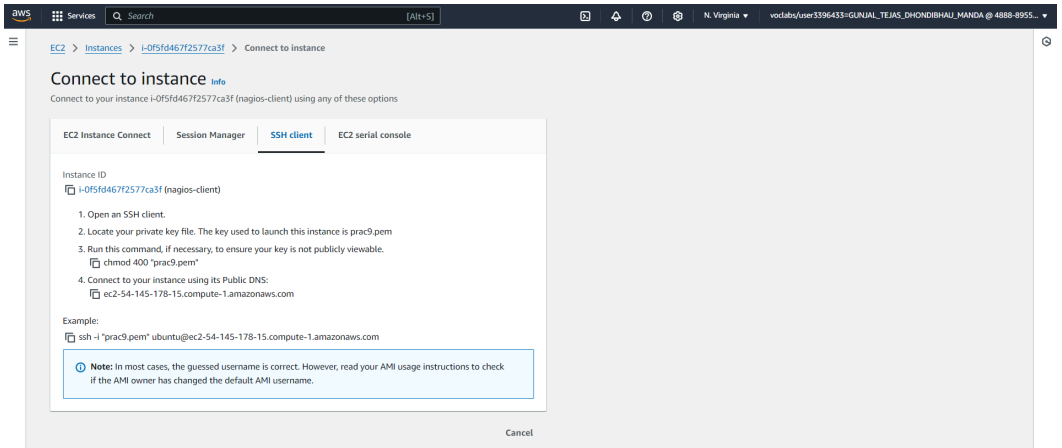


- Click on launch instance.



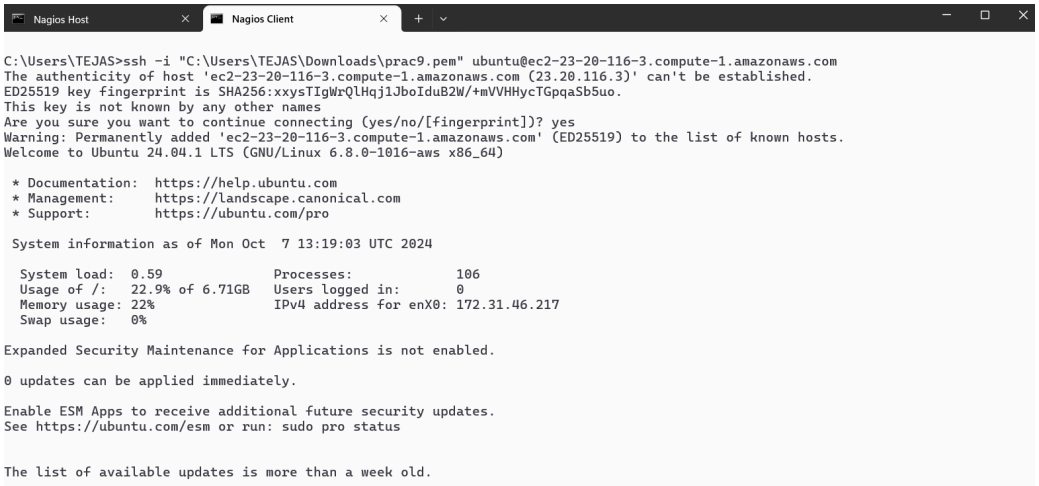


- Now connect with this client machine using the ssh through your terminal(open a new terminal in your local machine and we will need both of the terminals open)



- Nagios Host

- Note to change the path of the .pem file.



- Go to nagios host machine (Host machine) & Perform the following commands

ps -ef | grep nagios

```
[ec2-user@ip-172-31-46-179 ~]$ ps -ef | grep nagios
nagios      3420       1  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios      3421    3420  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      3422    3420  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      3423    3420  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      3424    3420  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios      3425    3420  0 12:40 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ec2-user   10340    9541  0 13:20 pts/0    00:00:00 grep --color=auto nagios
```

sudo su

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

```
[ec2-user@ip-172-31-46-179 ~]$ sudo su
[root@ip-172-31-46-179 ec2-user]# mkdir -p /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
[root@ip-172-31-46-179 ec2-user]# ls
downloads  nagios-4.4.6  nagios-4.4.6.tar.gz  nagios-plugins-2.3.3.tar.gz
```

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

```
[root@ip-172-31-46-179 ec2-user]# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linu
xhosts/linuxserver.cfg
```

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

```
[root@ip-172-31-46-179 ec2-user]# nano /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
[root@ip-172-31-46-179 ec2-user]#
```

- [ ] Change hostname and alias to linuxserver Change address to public ip address of client instance (Ubuntu instance)

```
Nagios Host    Nagios Client
  GNU nano 5.8                /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg                Modified
#       example of how you can create configuration entries to monitor
#       the local (Linux) machine.
#
###############################################################################


###############################################################################
#
# HOST DEFINITION
#
###############################################################################

# 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               linuxserver
    alias                   linuxserver
    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
```

- [ ] Change hostgroup_name to linux-servers1

```
Nagios Host    Nagios Client
  GNU nano 5.8                /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg                Modified


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

# Define an optional hostgroup for Linux machines

define hostgroup {

    hostgroup_name          linux-servers1           ; 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
}


###############################################################################
#
# SERVICE DEFINITIONS
#
###############################################################################

^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 the occurrences of hostname further in the document from localhost to linuxserver

```
Nagios Host    Nagios Client
GNU nano 5.8                /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg                Modified
    alias                   Linux Servers           ; Long name of the group
    members                 localhost               ; Comma separated list of hosts that belong to this group
}



###############################################################################
#
# SERVICE DEFINITIONS
#
###############################################################################

# Define a service to "ping" the local machine

define service {

    use                     local-service           ; Name of service template to use
    host_name               linuxserver
    service_description     PING
    check_command           check_ping!100.0,20%!500.0,60%
}


# Define a service to check the disk space of the root partition

^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
```

```
###############################################################################
#
# SERVICE DEFINITIONS
#
###############################################################################

# Define a service to "ping" the local machine

define service {

    use                     local-service           ; Name of service template to use
    host_name               linuxserver
    service_description     HTTP
    check_command           check_http
    notification_enabled    0
}


# Define a service to check the disk space of the root partition

^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
```

- Open nagios configuration file and add the line shown below
  cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/

```
Nagios Host    Nagios Client
GNU nano 5.8                /usr/local/nagios/etc/nagios.cfg                Modified
# Definitions for monitoring the local (Linux) host
#cfg_file=/usr/local/nagios/etc/objects/localhost.cfg

# Definitions for monitoring a Windows machine
#cfg_file=/usr/local/nagios/etc/objects/windows.cfg

# 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/

^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
```

- Verify configuration files
  /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```
Nagios Host    Nagios Client
[root@ip-172-31-46-179 ec2-user]# /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

Nagios Core 4.4.6
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2020-04-28
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 8 services.
        Checked 1 hosts.
        Checked 1 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 1 hosts
        Checked 0 service dependencies
```

```
Nagios Host    Nagios Client
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 8 services.
        Checked 1 hosts.
        Checked 1 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 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-172-31-46-179 ec2-user]#
```

- Restart nagios service.
  service nagios restart

```
[root@ip-172-31-46-179 ec2-user]# service nagios restart
Redirecting to /bin/systemctl restart nagios.service
[root@ip-172-31-46-179 ec2-user]#
```

- Go to client machine (ubuntu machine) & Perform the following commands
  sudo apt update -y
  sudo apt install gcc -y
  sudo apt install -y nagios-nrpe-server nagios-plugins

```
Nagios Host    Nagios Client
ubuntu@ip-172-31-46-217:~$ sudo apt update -y
sudo apt install gcc -y
sudo apt install -y nagios-nrpe-server nagios-plugins
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [382 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [537 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [84.0 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [132 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [8860 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [384 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [159 kB]
Get:20 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4704 B]
Get:21 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [277 kB]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [45.0 kB]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [14.9 kB]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [14.4 kB]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3608 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [212 B]
```

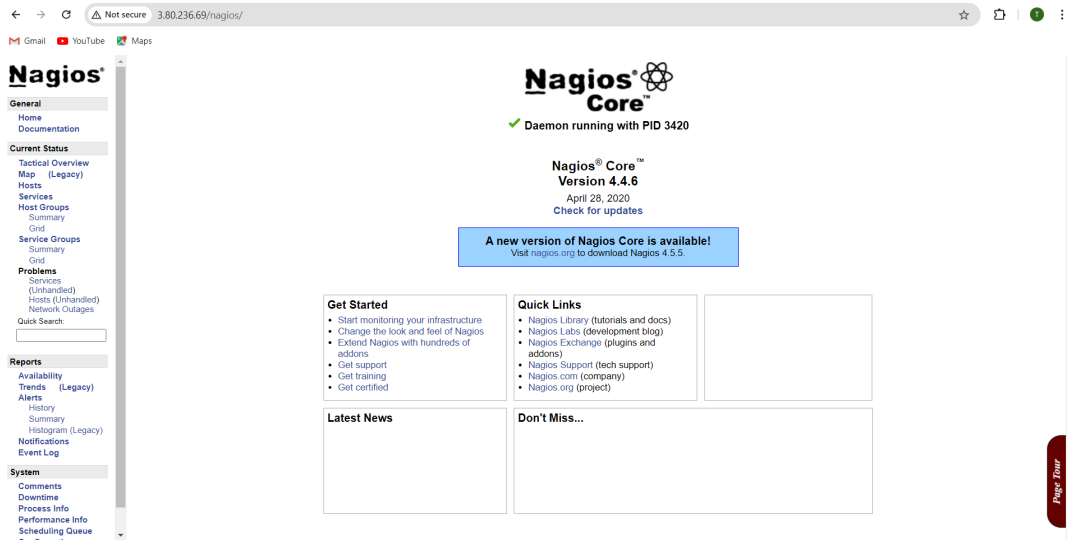
```
Creating config file /etc/nagios-plugins/config/rpc-nfs.cfg with new version

Creating config file /etc/nagios-plugins/config/snmp.cfg with new version
Setting up monitoring-plugins (2.3.5-1ubuntu3) ...
Setting up libldb2:amd64 (2:2.8.0+samba4.19.5+dfsg-4ubuntu9) ...
Setting up libavahi-client3:amd64 (0.8-13ubuntu6) ...
Setting up samba-libs:amd64 (2:4.19.5+dfsg-4ubuntu9) ...
Setting up python3-ldb (2:2.8.0+samba4.19.5+dfsg-4ubuntu9) ...
Setting up samba-dsdb-modules:amd64 (2:4.19.5+dfsg-4ubuntu9) ...
Setting up libsmbclient0:amd64 (2:4.19.5+dfsg-4ubuntu9) ...
Setting up libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) ...
Setting up python3-samba (2:4.19.5+dfsg-4ubuntu9) ...
Setting up smbclient (2:4.19.5+dfsg-4ubuntu9) ...
Setting up samba-common-bin (2:4.19.5+dfsg-4ubuntu9) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
ubuntu@ip-172-31-46-217:~$
```

- Open the nrpe.cfg file in nano editor

  sudo nano /etc/nagios/nrpe.cfg
  Under allowed_hosts, add the nagios host ip address (public)

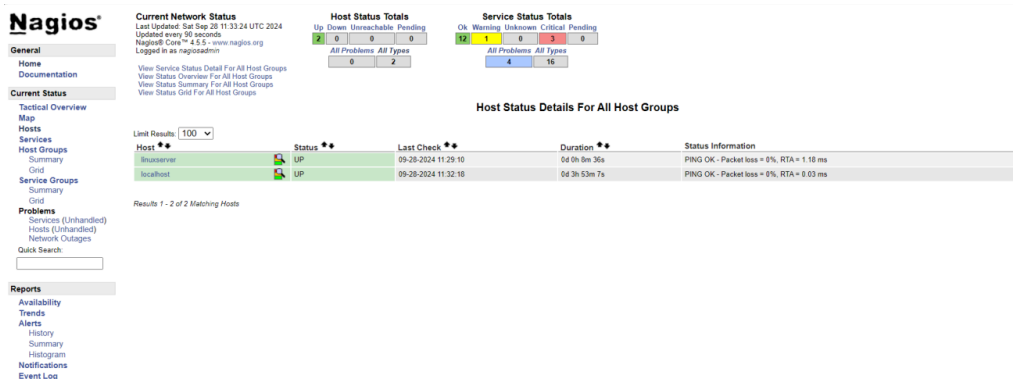
```
GNU nano 7.2                                  /etc/nagios/nrpe.cfg *

# ALLOWED HOST ADDRESSES
# This is an optional comma-delimited list of IP address or hostnames
# that are allowed to talk to the NRPE daemon. Network addresses with a bit mask
# (i.e. 192.168.1.0/24) are also supported. Hostname wildcards are not currently
# supported.
#
# Note: The daemon only does rudimentary checking of the client's IP
# address.  I would highly recommend adding entries in your /etc/hosts.allow
# file to allow only the specified host to connect to the port
# you are running this daemon on.
#
# NOTE: This option is ignored if NRPE is running under either inetd or xinetd

allowed_hosts=127.0.0.1,3.80.236.69

# COMMAND ARGUMENT PROCESSING
# This option determines whether or not the NRPE daemon will allow clients
# to specify arguments to commands that are executed.  This option only works
# if the daemon was configured with the --enable-command-args configure script
# option.
#
# *** ENABLING THIS OPTION IS A SECURITY RISK! ***

^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
```

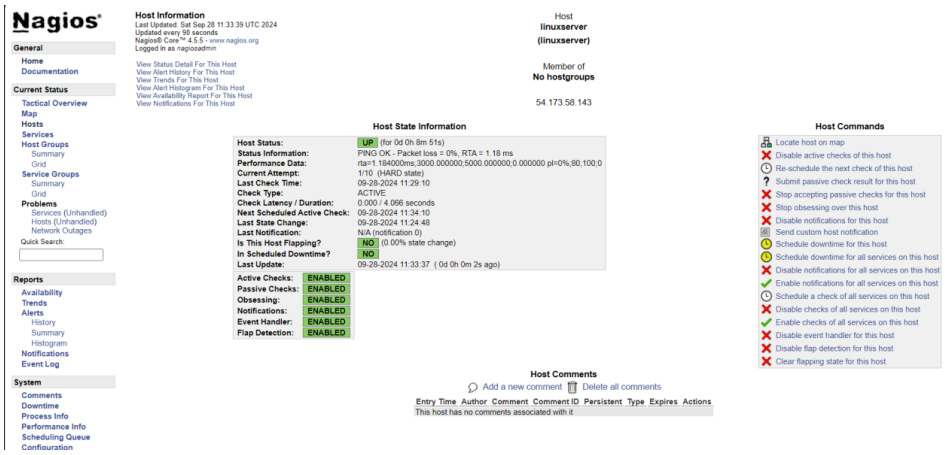
- Go to nagios dashboard



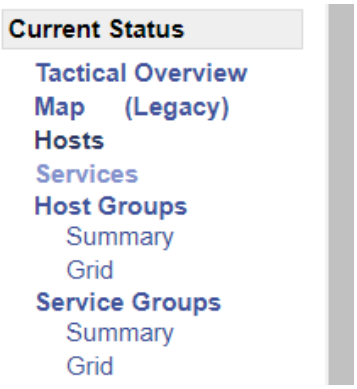
- Click on hosts

- Click on linux server





- Click on nagios services



Shreyash Dhekane D15A Roll No.16

Nagios

General
- Home
- Documentation

Current Status
- Tactical Overview
- Map
- Hosts
- Services
- Host Groups
  - Summary
  - Grid
- Service Groups
  - Summary
  - Grid
- Problems
  - Services (Unhandled)
  - Hosts (Unhandled)
  - Network Outages

Quick Search:

Reports
- Availability
- Trends
- Alerts
  - History
  - Summary
  - Histogram
- Notifications
- Event Log

System

Current Network Status
Last Updated: Sat Sep 28 11:33:58 UTC 2024
Updated every 90 seconds
Nagios® Core™ 4.5.5 - www.nagios.org
Logged in as *nagiosadmin*

View History For all hosts
View Notifications For All Hosts
View Host Status Detail For All Hosts

Host Status Totals

Up	Down	Unreachable	Pending
2	0	0	0

All Problems	All Types
0	2

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
12	1	0	3	0

All Problems	All Types
4	16

Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
linuxserver	Current Load	OK	09-28-2024 11:30:25	0d 0h 8m 33s	1/4	OK - load average: 0.01, 0.00, 0.00
	Current Users	OK	09-28-2024 11:31:03	0d 0h 7m 55s	1/4	USERS OK - 2 users currently logged in
	HTTP	CRITICAL	09-28-2024 11:29:40	0d 0h 4m 18s	4/4	connect to address 54.173.58.143 and port 80: Connection refused
	PING	OK	09-28-2024 11:32:18	0d 0h 6m 40s	1/4	PING OK - Packet loss = 0%, RTA = 1.03 ms
	Root Partition	OK	09-28-2024 11:32:55	0d 0h 6m 3s	1/4	DISK OK - free space: / 6105 MiB (75.23% inode=98%):
	SSH	OK	09-28-2024 11:33:33	0d 0h 5m 25s	1/4	SSH OK - OpenSSH_9.6p1 Ubuntu-3ubuntu13.4 (protocol 2.0)
	Swap Usage	CRITICAL	09-28-2024 11:32:10	0d 0h 1m 48s	4/4	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
	Total Processes	OK	09-28-2024 11:29:48	0d 0h 9m 10s+	1/4	PROCS OK: 37 processes with STATE = RSZDT
localhost	Current Load	OK	09-28-2024 11:29:39	0d 3h 53m 5s	1/4	OK - load average: 0.02, 0.01, 0.00
	Current Users	OK	09-28-2024 11:30:17	0d 3h 52m 27s	1/4	USERS OK - 2 users currently logged in
	HTTP	WARNING	09-28-2024 11:29:46	0d 2h 49m 12s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 319 bytes in 0.001 second response time
	PING	OK	09-28-2024 11:31:32	0d 3h 51m 12s	1/4	PING OK - Packet loss = 0%, RTA = 0.03 ms
	Root Partition	OK	09-28-2024 11:32:09	0d 3h 50m 35s	1/4	DISK OK - free space: / 6105 MiB (75.23% inode=98%):
	SSH	OK	09-28-2024 11:32:47	0d 3h 49m 57s	1/4	SSH OK - OpenSSH_8.7 (protocol 2.0)
	Swap Usage	CRITICAL	09-28-2024 11:31:24	0d 3h 12m 34s	4/4	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
	Total Processes	OK	09-28-2024 11:29:02	0d 3h 14m 56s	1/4	PROCS OK: 37 processes with STATE = RSZDT

Results 1 - 16 of 16 Matching Services