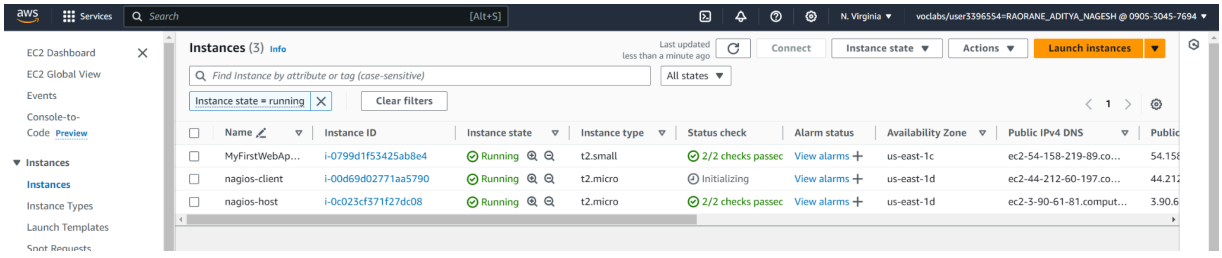
Aim: To perform Port, Service monitoring, Windows/Linux server monitoring using Nagios.

1. To Confirm that Nagios is running **on the server side**, run this ***sudo systemctl status nagios*** on the **nagios-host**.

```
[ec2-user@ip-172-31-80-195 ~]$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.5.5
     Loaded: loaded (/usr/lib/systemd/system/nagios.service; ena>
     Active: active (running) since Fri 2024-09-27 11:43:06 UTC;>
       Docs: https://www.nagios.org/documentation
    Process: 65083 ExecStartPre=/usr/local/nagios/bin/nagios -v >
    Process: 65084 ExecStart=/usr/local/nagios/bin/nagios -d /us>
   Main PID: 65085 (nagios)
      Tasks: 6 (limit: 1112)
     Memory: 5.7M
        CPU: 86ms
     CGroup: /system.slice/nagios.service
             ├─65085 /usr/local/nagios/bin/nagios -d /usr/local/>
             ├─65086 /usr/local/nagios/bin/nagios --worker /usr/>
             ├─65087 /usr/local/nagios/bin/nagios --worker /usr/>
             ├─65088 /usr/local/nagios/bin/nagios --worker /usr/>
             ├─65089 /usr/local/nagios/bin/nagios --worker /usr/>
             └─65090 /usr/local/nagios/bin/nagios -d /usr/local/>

Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: qh:>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: qh:>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: qh:>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: qh:>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: wpr>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: wpr>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: wpr>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: wpr>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: wpr>
Sep 27 11:43:06 ip-172-31-80-195.ec2.internal nagios[65085]: Suc>
```

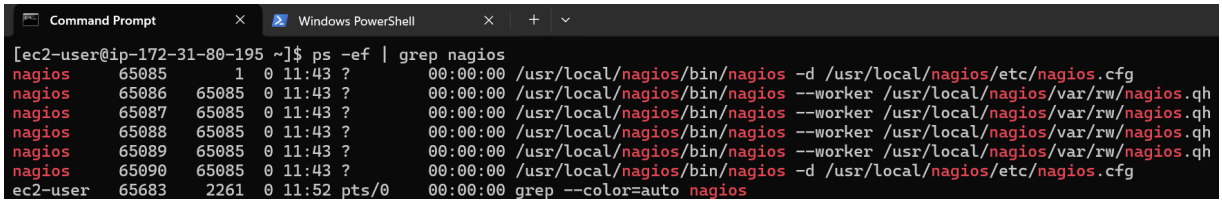
2. To monitor a Linux machine, create an Ubuntu server EC2 Instance in AWS. Provide it with the same security group as the nagios-host and name it ‘nagios-client’ alongside the host.



For now, leave this machine as is, and go back to your nagios-host.

3. On the server, run this command

ps -ef | grep nagios

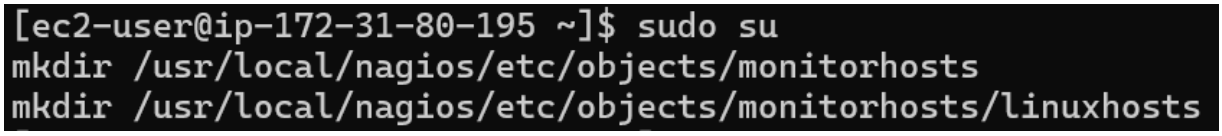


4. Become a root user and create 2 folders

sudo su

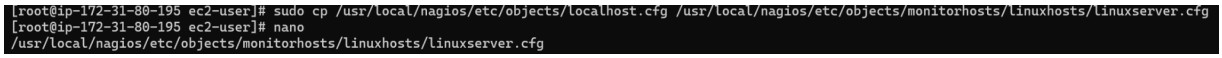
mkdir /usr/local/nagios/etc/objects/monitorhosts

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



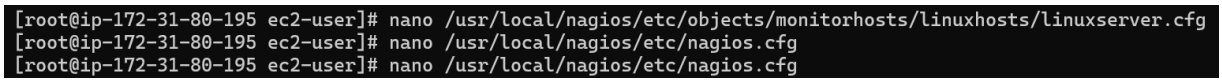
5. Copy the sample localhost.cfg file to linuxhost folder

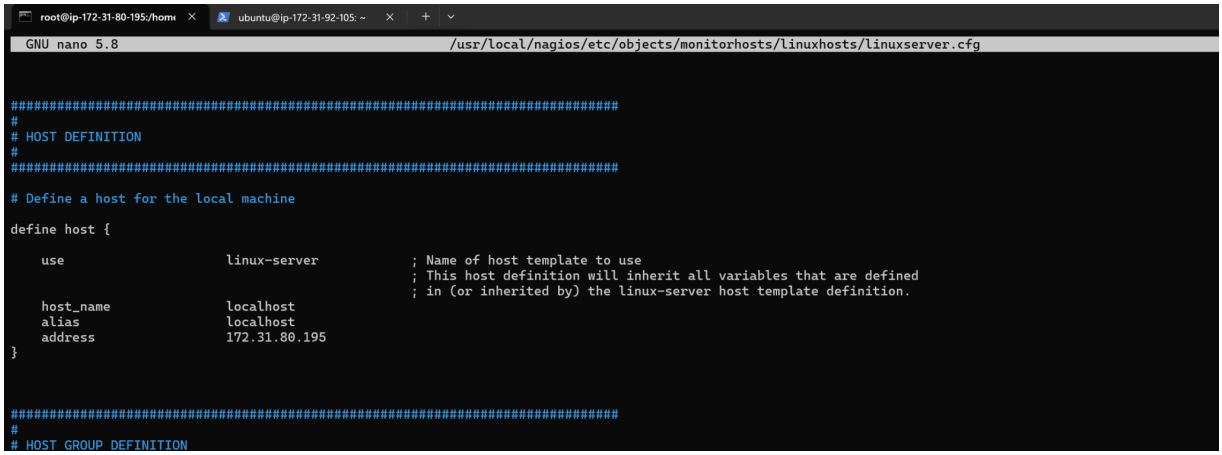
cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserve

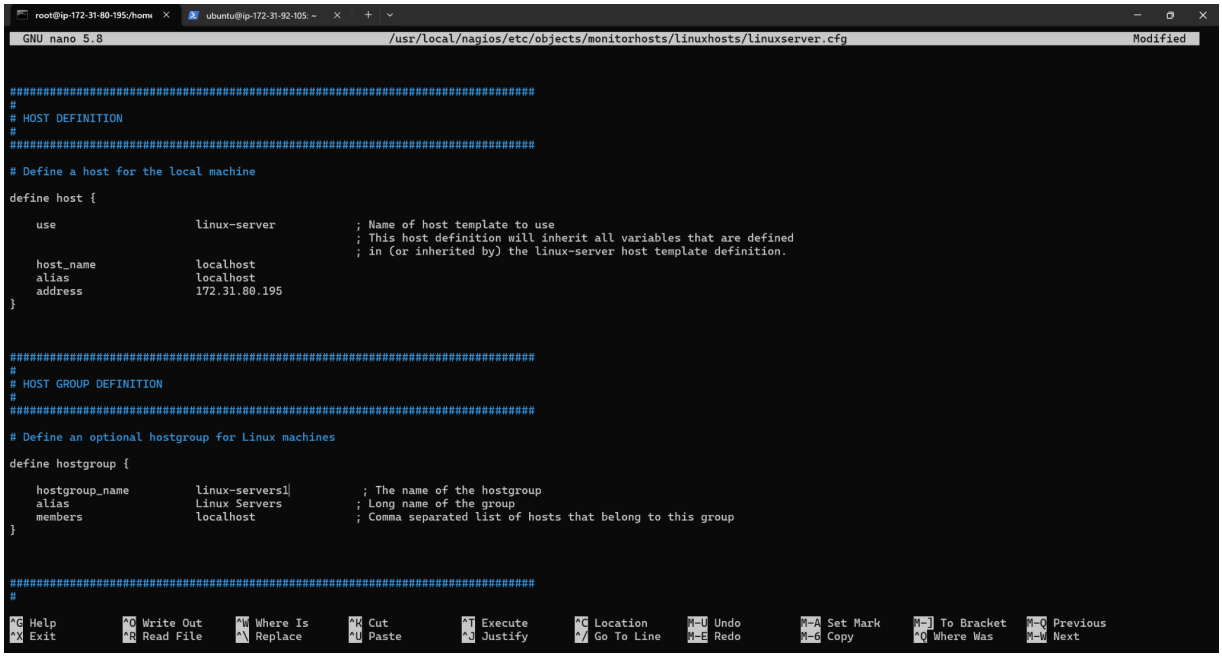


6. Open linuxserver.cfg using nano and make the following changes

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



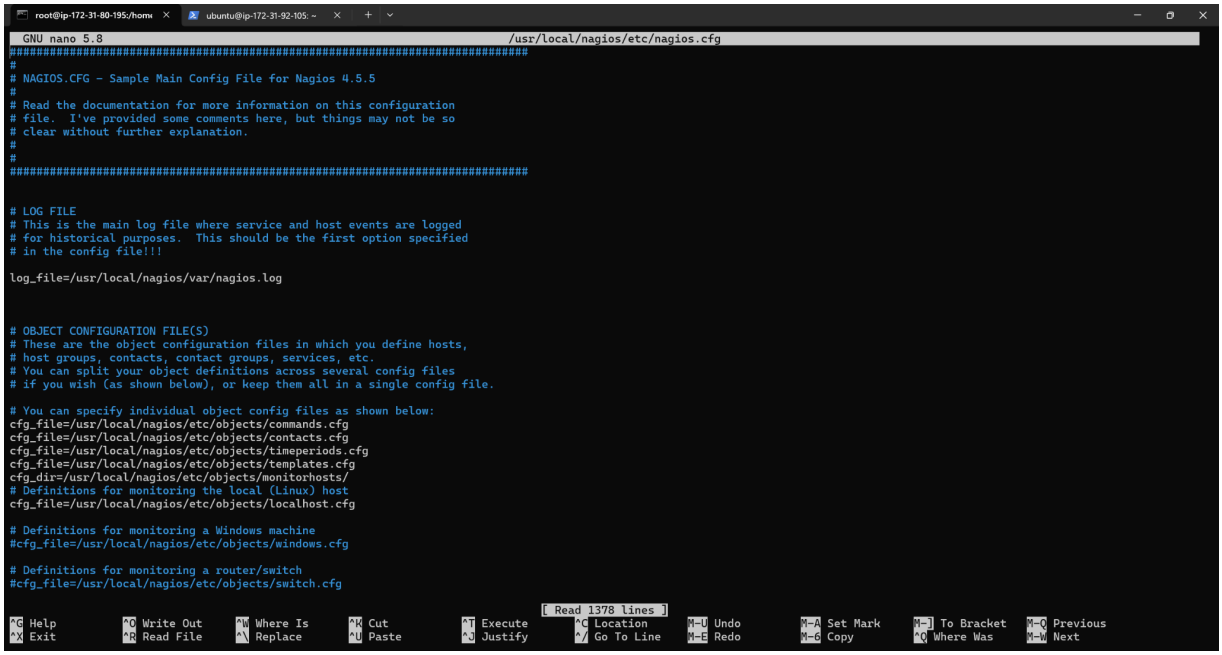




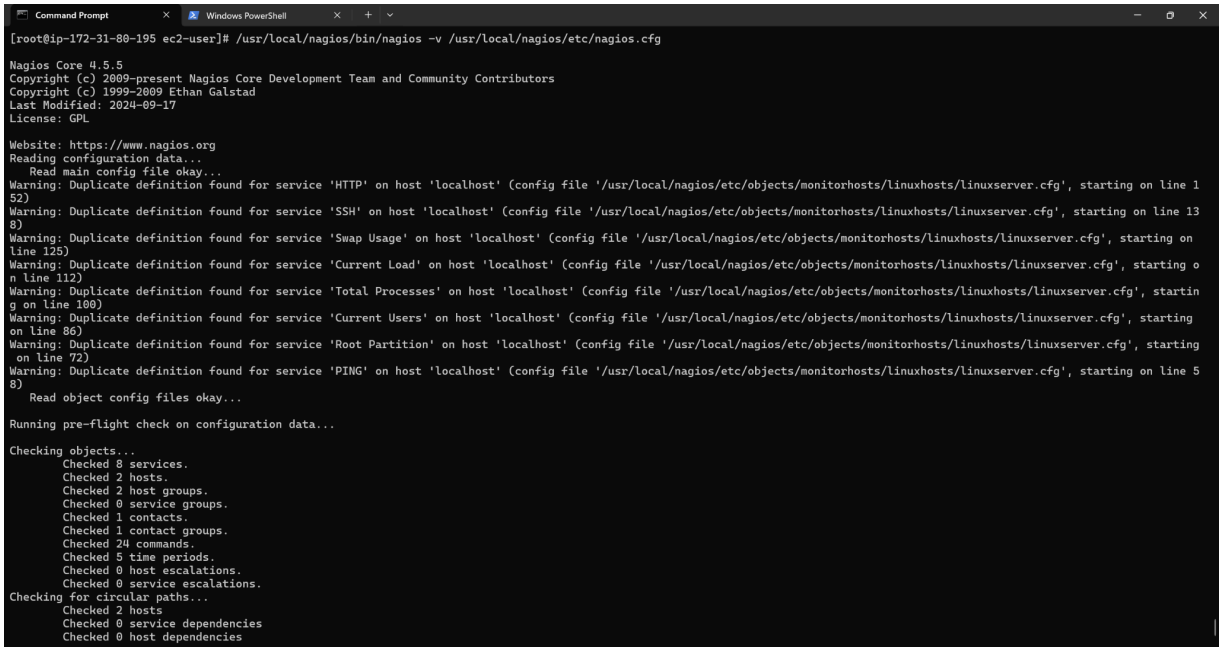
7. Open the Nagios Config file and add the following line

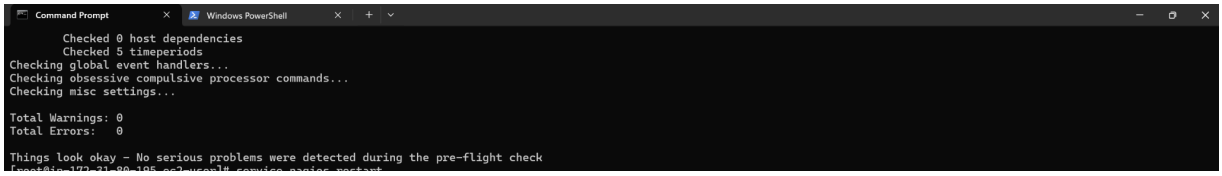
nano /usr/local/nagios/etc/nagios.cfg

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

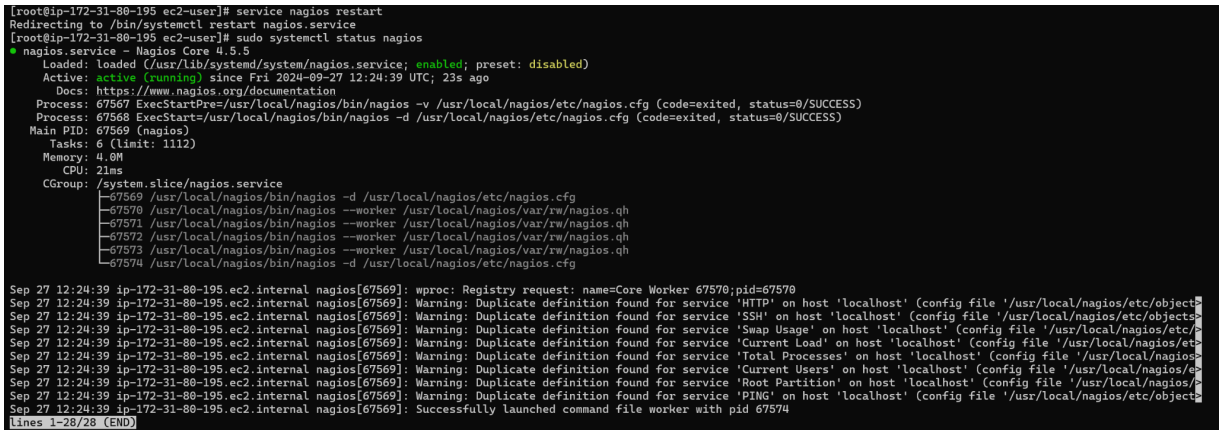


8. Verify the configuration files





9. Restart the nagios service by **service nagios restart**.



10. Under **nagios-client** ,SSH into the machine or simply use the EC2 Instance Connect feature.

```
Command Prompt | Windows PowerShell

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\adity> cd Downloads
PS C:\Users\adity\Downloads> ssh -i "ar.pem" ubuntu@ec2-44-212-60-197.compute-1.amazonaws.com
The authenticity of host 'ec2-44-212-60-197.compute-1.amazonaws.com (44.212.60.197)' can't be established.
ED25519 key fingerprint is SHA256:Lwrr9v/VJNu2G/UrjnK/N9yYvSdOCbsG7Ppk83eeKWo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-212-60-197.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro
```

11. Make a package index update and install gcc, nagios-nrpe-server and the plugins.

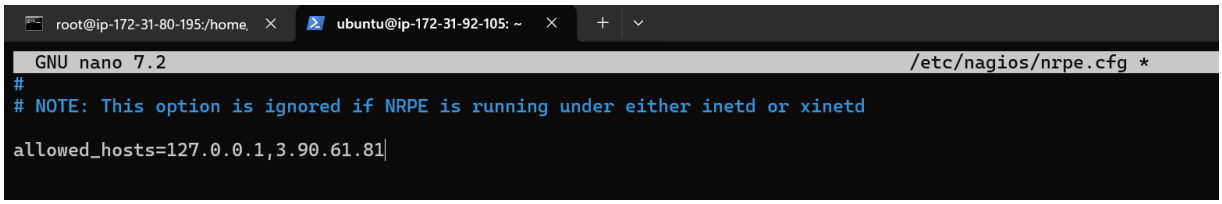
sudo apt update -y
sudo apt install gcc -y
sudo apt install -y nagios-nrpe-server nagios-plugins

```
Command Prompt | Windows PowerShell

ubuntu@ip-172-31-92-105:~$ 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 [380 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 [535 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [130 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [8636 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [377 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [156 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [45.0 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [14.8 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [353 kB]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [68.1 kB]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 c-n-f Metadata [424 B]
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]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [532 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.6 kB]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [10.8 kB]
Get:32 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:33 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1104 B]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:38 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [82.9 kB]
Get:39 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4560 B]
Get:40 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [272 kB]
Get:41 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [115 kB]
Get:42 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [8632 B]
Get:43 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [10.3 kB]
```

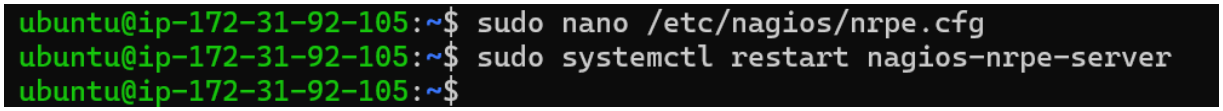
12. Open nrpe.cfg file to make changes.

    sudo nano /etc/nagios/nrpe.cfg
    Under allowed_hosts, add your nagios-host IP address like so

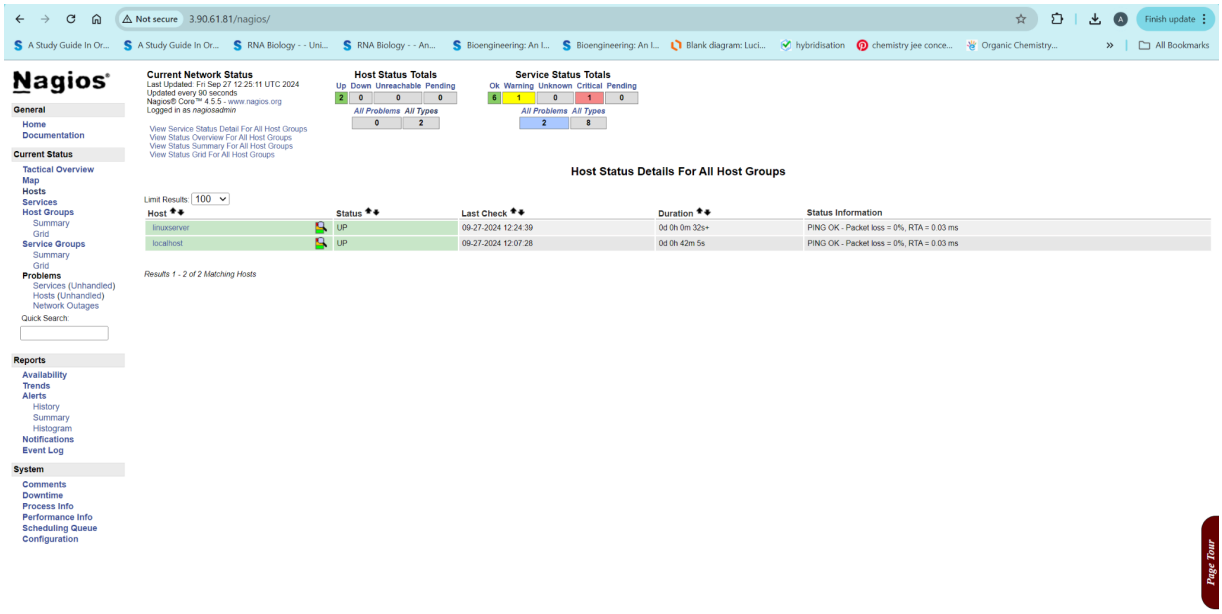


13. Restart the NRPE server

    sudo systemctl restart nagios-nrpe-server



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



Conclusion: Thus we successfully performed port monitoring of a Linux server using Nagios.Utilizing Nagios for comprehensive monitoring of ports, services, and Windows/Linux servers enhances system reliability, improves performance, and ensures proactive management of IT infrastructure, ultimately driving operational efficiency.