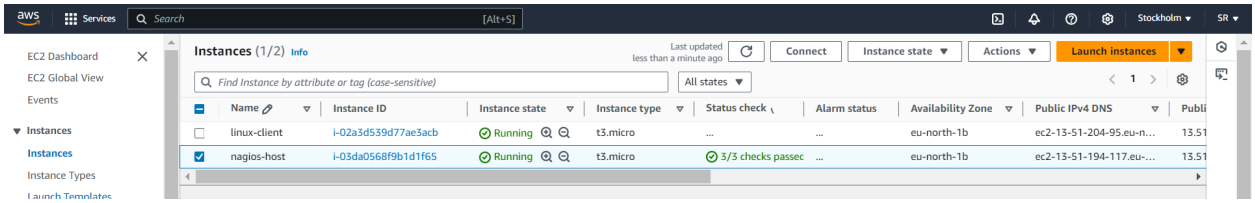
Aim: To perform Port, Service monitoring, Windows/Linux server monitoring using Nagios.
Steps:
Prerequisites: AWS Free Tier, Nagios Server running on Amazon Linux Machine.
1. To Confirm that Nagios is running on the server side, run this sudo systemctl status nagios on the “NAGIOS HOST”.

```
[ec2-user@ip-172-31-44-40 nagios-plugins-2.0.3]$ sudo systemctl status
nagios
● ip-172-31-44-40.eu-north-1.compute.internal
    State: running
    Units: 311 loaded (incl. loaded aliases)
     Jobs: 0 queued
   Failed: 0 units
    Since: Thu 2024-10-17 09:16:39 UTC; 51min ago
  systemd: 252.23-2.amzn2023
   CGroup: /
           ├─init.scope
           │ └─1 /usr/lib/systemd/systemd --switched-root --system --deserialize=32
           ├─system.slice
           │ ├─acpid.service
           │ │ ├─1398 /usr/bin/systemd-inhibit --what=handle-suspend-key:handle-hibernate-key --who=noah "--why=acpid instead" --mode=block /usr/sbin/acpid -f
           │ │ └─1434 /usr/sbin/acpid -f
           │ ├─amazon-ssm-agent.service
           │ │ └─1603 /usr/bin/amazon-ssm-agent
           │ ├─atd.service
           │ │ └─1620 /usr/sbin/atd -f
```

You can proceed if you get this message.
2. Before we begin,
To monitor a Linux machine, create an Ubuntu 20.04 server EC2 Instance in AWS. Provide it with the same security group as the Nagios Host and name it ‘linux-client’ alongside the host.



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

3. On the server, run this command
ps -ef | grep nagios

```
[ec2-user@ip-172-31-44-40 nagios-plugins-2.0.3]$ ps -ef | grep nagios
nagios     67581       1  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios     67583   67581  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     67584   67581  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     67585   67581  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     67586   67581  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     67587   67581  0 10:01 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ec2-user   68199    2106  0 10:10 pts/0    00:00:00 grep --color=auto 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

```
[ec2-user@ip-172-31-44-40 nagios-plugins-2.0.3]$ 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/linuxserver.cfg
6. Open linuxserver.cfg using nano and make the following changes
nano /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg

Change the hostname to linuxserver (EVERYWHERE ON THE FILE)
Change address to the public IP address of your LINUX CLIENT.
Change hostgroup_name under hostgroup to linux-servers1

Everywhere else on the file, change the hostname to linuxserver instead of localhost.
7. Open the Nagios Config file and add the following line
nano /usr/local/nagios/etc/nagios.cfg
##Add this line
cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/

8. Verify the configuration files

9. Restart the nagios service
service nagios restart

Now it is time to switch to the client machine.
10. SSH into the machine or simply use the EC2 Instance Connect feature.

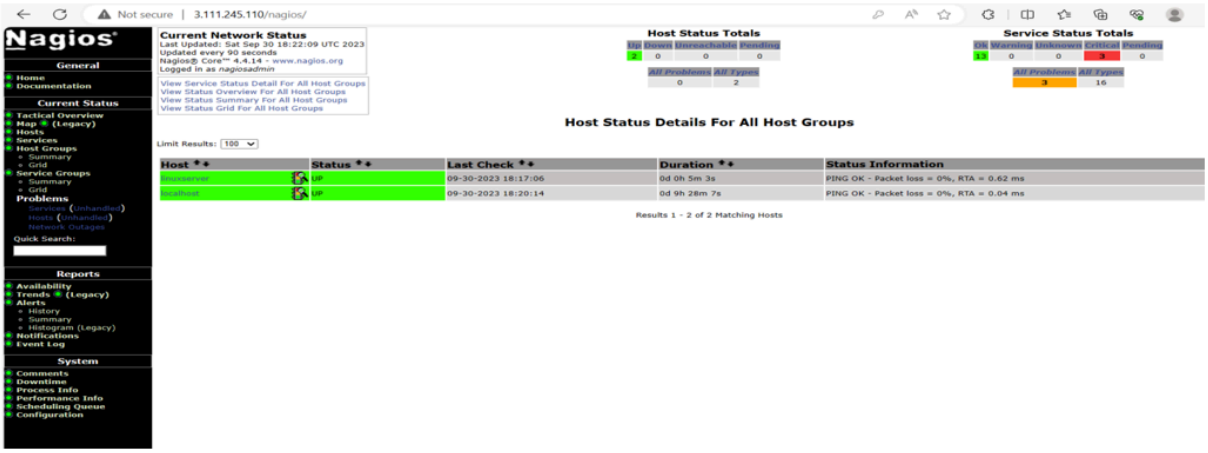
11. Make a package index update and install gcc, nagios-nrpe-server and the plugins.
sudo apt update -y
sudo apt install gcc -y
sudo apt install -y nagios-nrpe-server nagios-plugins
12. Open nrpe.cfg file to make changes.
sudo nano /etc/nagios/nrpe.cfg
Under allowed_hosts, add your nagios host IP address 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.
Click on Hosts.

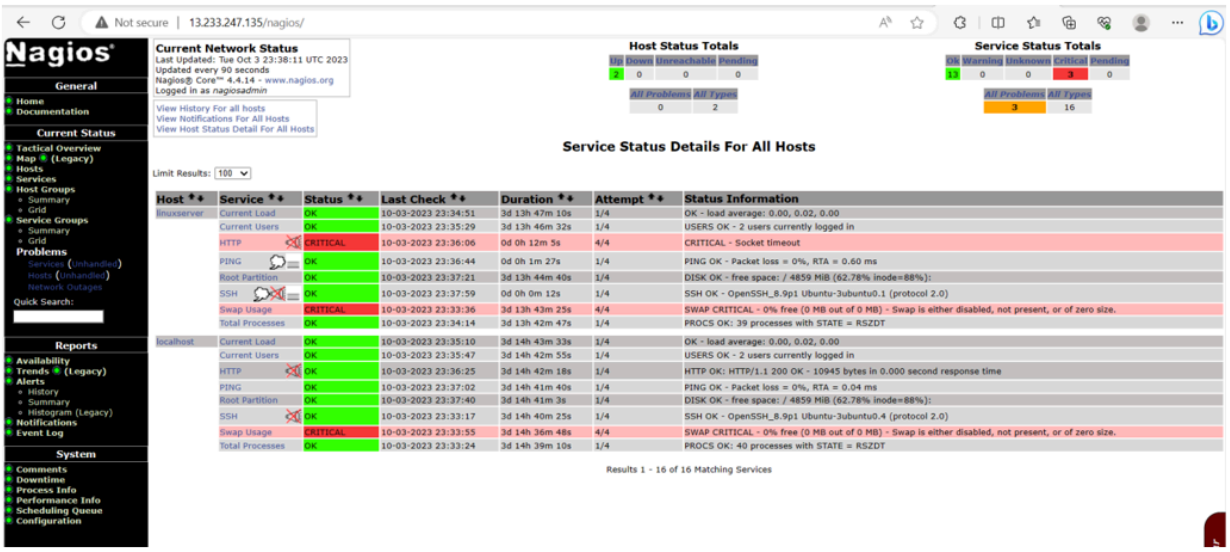
Click on linuxserver to see the host details

You can click Services to see all services and ports being monitored.

As you can see, we have our linuxserver up and running. It is showing critical status on HTTP due to permission errors and swap because there is no partition created.
In this case, we have monitored -
Servers: 1 linux server



Services: swap
Ports: 22, 80 (ssh, http)
Processes: User status, Current load, total processes, root partition, etc.



Recommended Cleanup
● Terminate both of your EC-2 instances to avoid charges.
● Delete the security group if you created a new one (it won't affect your bill, you may avoid it)
Conclusion:
Thus, we learned about service monitoring using Nagios and successfully monitored a Linux Server and monitored its different ports and services using Nagios and NRPE.