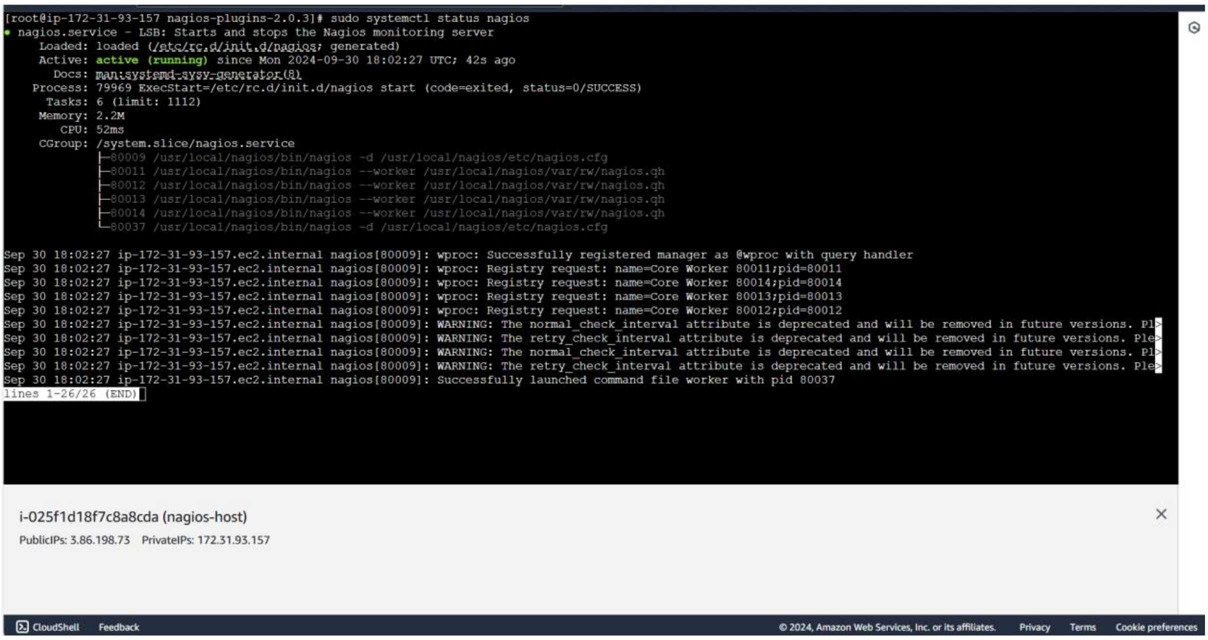
Experiment 10

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

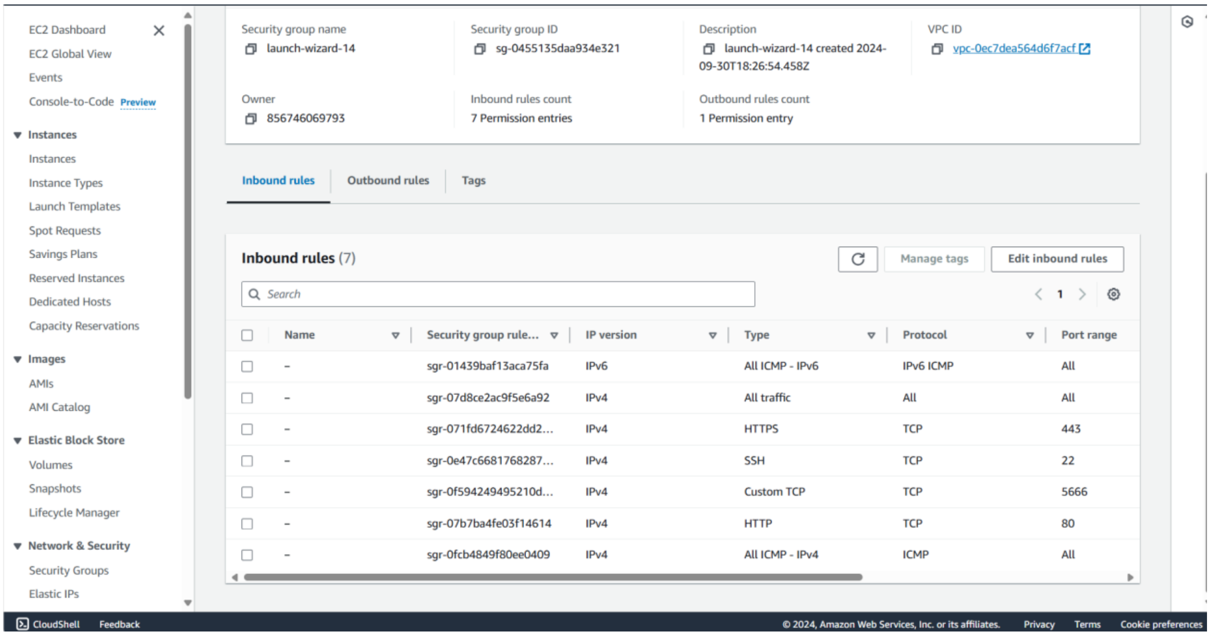
Step 1: Initially confirm that Nagios is running on the server side. For this run the following command -
sudo systemctl status nagios
on the nagios-host instance.



```
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# sudo systemctl status nagios
● nagios.service - LSB: Starts and stops the Nagios monitoring server
     Loaded: loaded (/etc/rc.d/init.d/nagios; generated)
     Active: active (running) since Mon 2024-09-30 18:02:27 UTC; 42s ago
       Docs: man:systemd-sysv-generator(8)
    Process: 79969 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
      Tasks: 6 (limit: 1112)
     Memory: 2.2M
        CPU: 52ms
     CGroup: /system.slice/nagios.service
             ├─80009 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             ├─80011 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80012 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80013 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80014 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─80037 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Successfully registered manager as @wproc with query handler
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80011;pid=80011
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80014;pid=80014
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80013;pid=80013
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80012;pid=80012
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Pl>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Ple>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Pl>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Ple>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: Successfully launched command file worker with pid 80037
lines 1-26/26 (END)
```

i-025f1d18f7c8a8cda (nagios-host)
PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

Step 2: Once confirmed, make another instance with the same security group as that of nagios-host. **For now, leave this machine as it is, and go back to your nagios-host machine.**

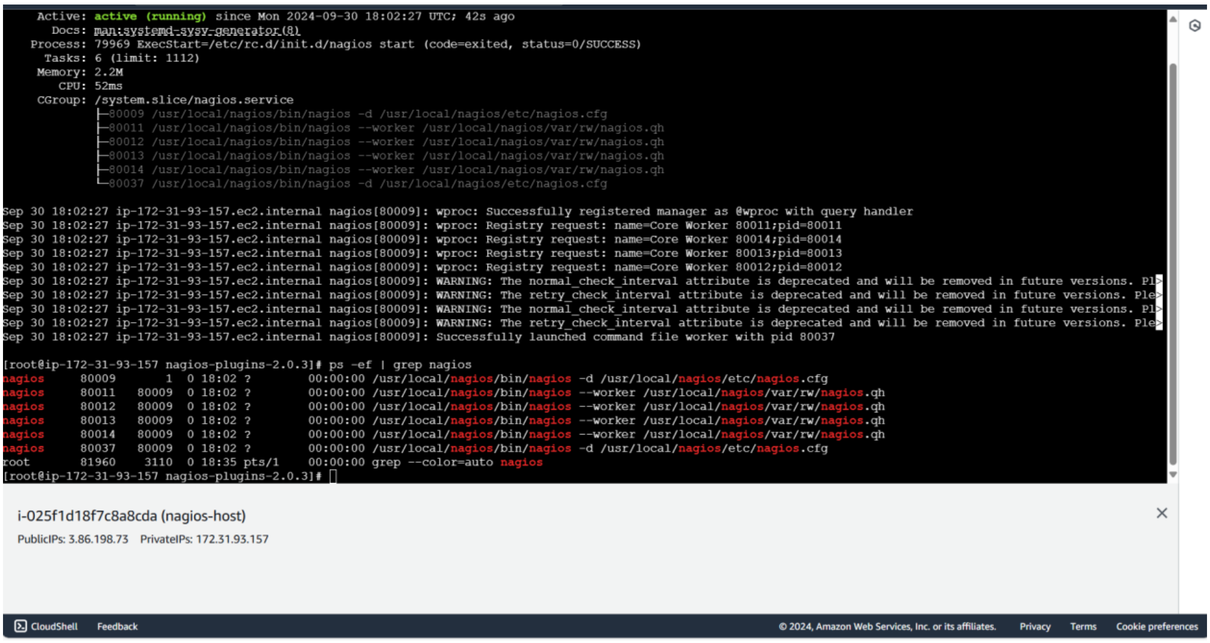


Security group name: launch-wizard-14
Security group ID: sg-0455135daa934e321
Description: launch-wizard-14 created 2024-09-30T18:26:54.458Z
VPC ID: vpc-0ec7dea564d6f7acf
Owner: 856746069793
Inbound rules count: 7 Permission entries
Outbound rules count: 1 Permission entry

Inbound rules (7)

□	Name	Security group rule...	IP version	Type	Protocol	Port range
□	-	sgr-01439baf13aca75fa	IPv6	All ICMP - IPv6	IPv6 ICMP	All
□	-	sgr-07d8ce2ac9f5e6a92	IPv4	All traffic	All	All
□	-	sgr-071fd6724622dd2...	IPv4	HTTPS	TCP	443
□	-	sgr-0e47c6681768287...	IPv4	SSH	TCP	22
□	-	sgr-0f594249495210d...	IPv4	Custom TCP	TCP	5666
□	-	sgr-07b7ba4fe03f14614	IPv4	HTTP	TCP	80
□	-	sgr-0fcb4849f80ee0409	IPv4	All ICMP - IPv4	ICMP	All

Step 3: Now run the following command -
ps -ef | grep nagios

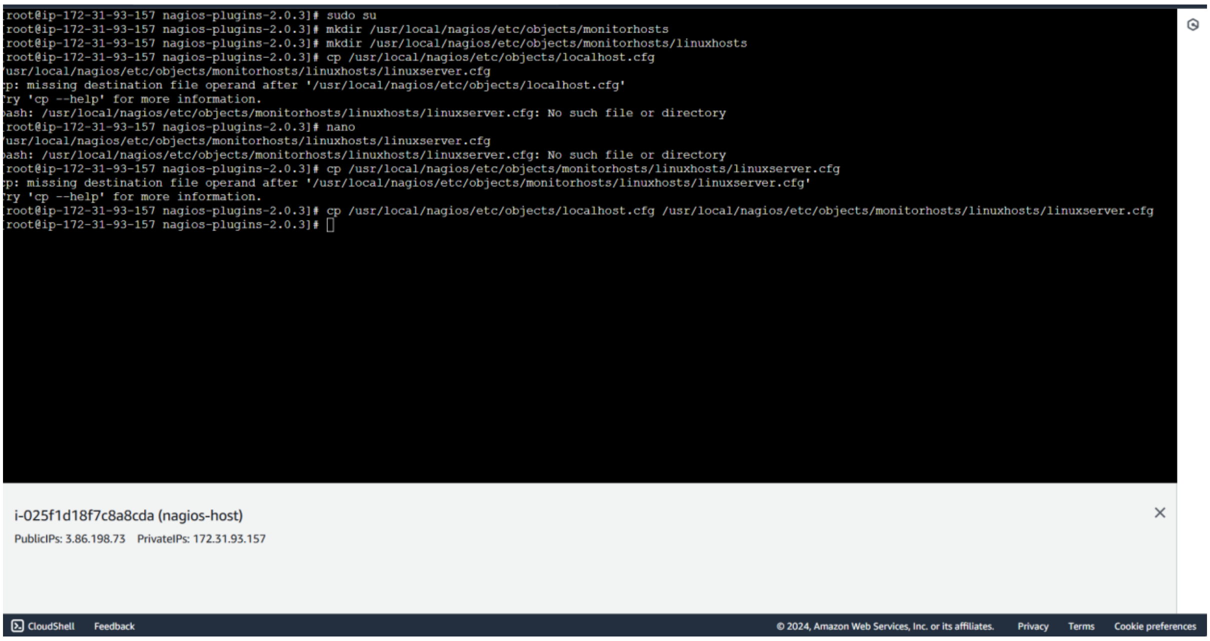


```
     Active: active (running) since Mon 2024-09-30 18:02:27 UTC; 42s ago
       Docs: man:systemd-sysv-generator(8)
    Process: 79969 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
      Tasks: 6 (limit: 1112)
     Memory: 2.2M
        CPU: 52ms
     CGroup: /system.slice/nagios.service
             ├─80009 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             ├─80011 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80012 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80013 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─80014 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─80037 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Successfully registered manager as @wproc with query handler
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80011;pid=80011
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80014;pid=80014
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80013;pid=80013
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: wproc: Registry request: name=Core Worker 80012;pid=80012
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Pl>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Ple>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Pl>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Ple>
Sep 30 18:02:27 ip-172-31-93-157.ec2.internal nagios[80009]: Successfully launched command file worker with pid 80037

[root@ip-172-31-93-157 nagios-plugins-2.0.3]# ps -ef | grep nagios
nagios     80009       1  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios     80011   80009  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     80012   80009  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     80013   80009  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     80014   80009  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios     80037   80009  0 18:02 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
root       81960    3110  0 18:35 pts/1    00:00:00 grep --color=auto nagios
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# 
```

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73   PrivateIPs: 172.31.93.157

Step 4: Now, run the following commands -
sudo su
mkdir /usr/local/nagios/etc/objects/monitorhosts
mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
cp/usr/local/nagios/etc/objects/localhost.cfg/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg



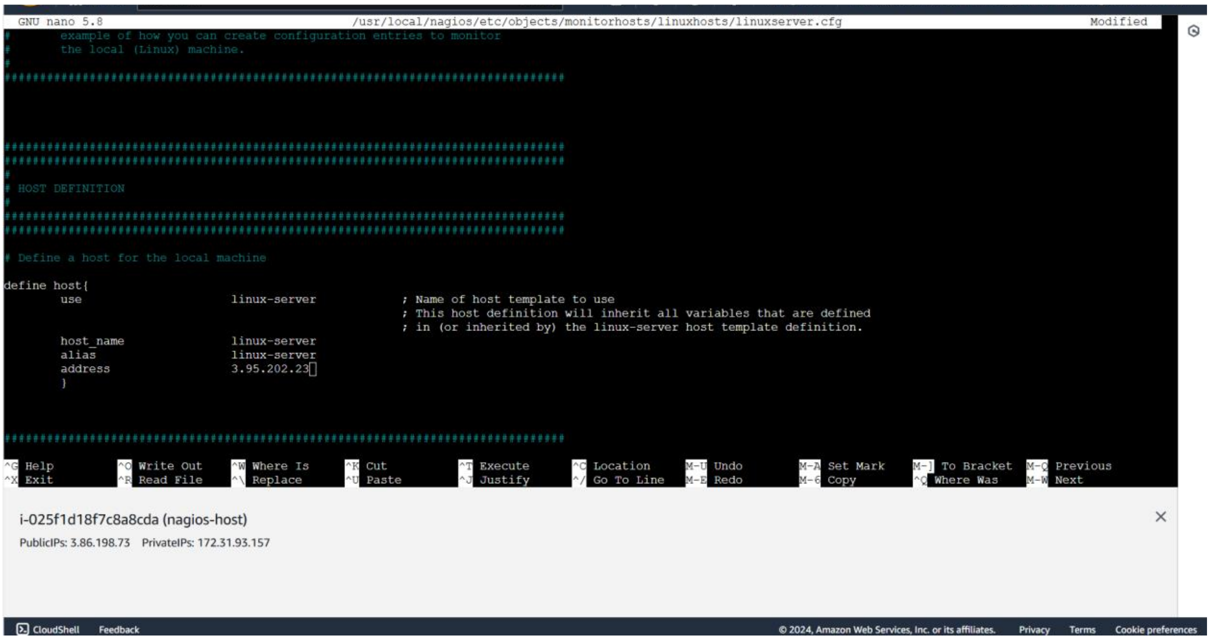
```
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# sudo su
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# mkdir /usr/local/nagios/etc/objects/monitorhosts
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# cp /usr/local/nagios/etc/objects/localhost.cfg
/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
cp: missing destination file operand after '/usr/local/nagios/etc/objects/localhost.cfg'
Try 'cp --help' for more information.
bash: /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg: No such file or directory
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# nano
/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
bash: /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg: No such file or directory
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# cp /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
cp: missing destination file operand after '/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg'
Try 'cp --help' for more information.
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# 
```

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73   PrivateIPs: 172.31.93.157

Step 5: Open linuxserver.cfg using the the following command -
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



```
  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               linux-server
        alias                   linux-server
        address                 3.95.202.23
        }



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

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

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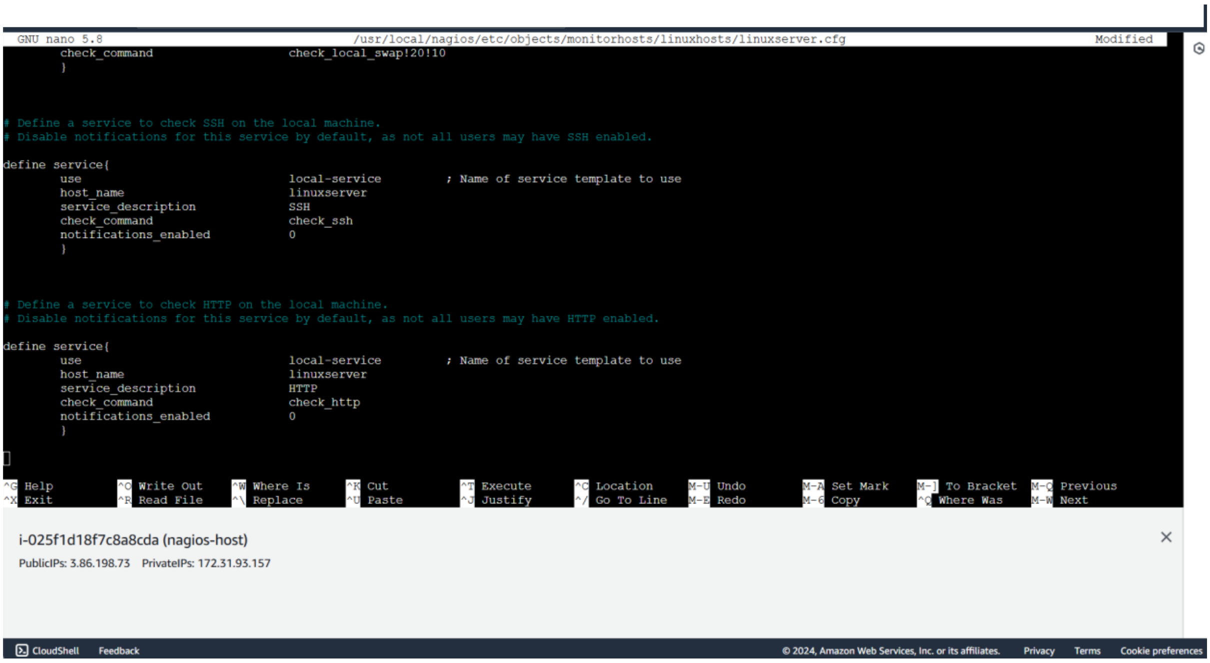

```
  GNU nano 5.8                    /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg                    Modified
        check_command                   check_local_swap!20!10
        }


# Define a service to check SSH on the local machine.
# Disable notifications for this service by default, as not all users may have SSH enabled.

define service{
        use                             local-service         ; Name of service template to use
        host_name                       linuxserver
        service_description             SSH
        check_command                   check_ssh
        notifications_enabled           0
        }


# Define a service to check HTTP on the local machine.
# Disable notifications for this service by default, as not all users may have HTTP enabled.

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

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

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

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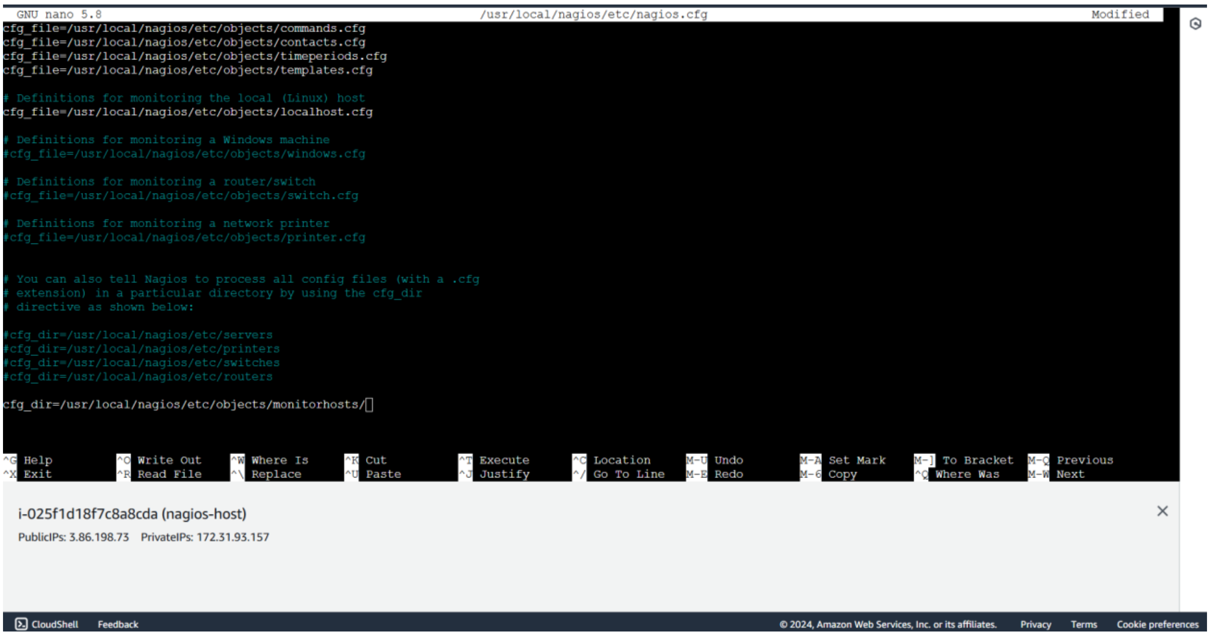
Step 6: Open Nagios config file and add the following line -
nano /usr/local/nagios/etc/nagios.cfg

Then add this line -
cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/



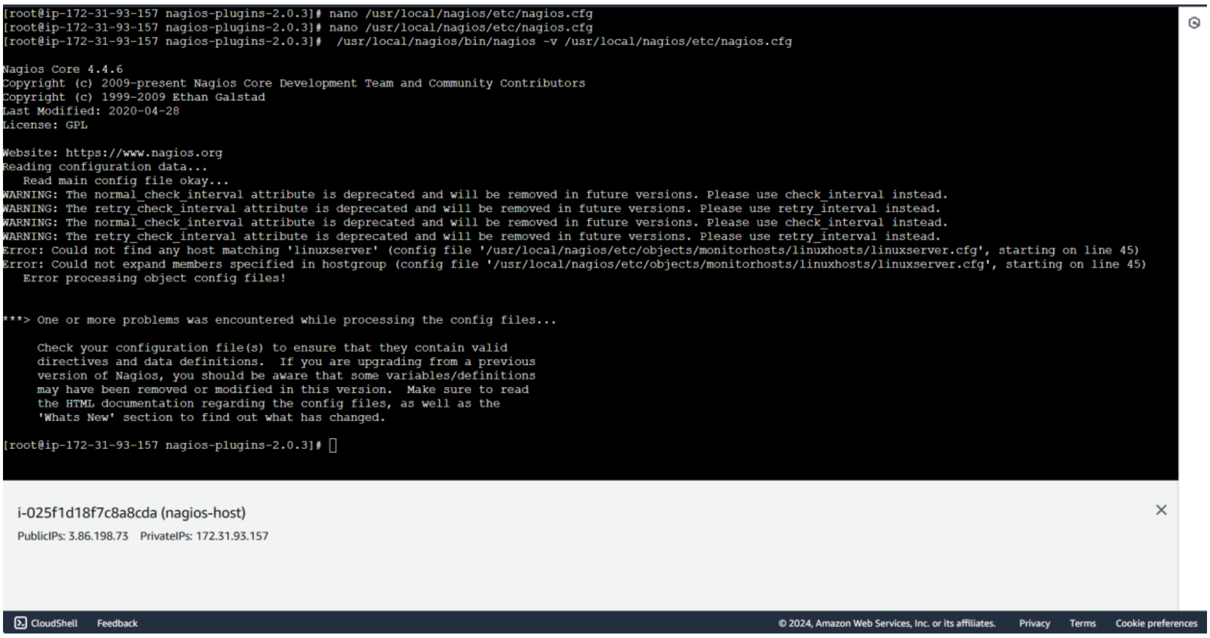
```
  GNU nano 5.8                                          /usr/local/nagios/etc/nagios.cfg                                          Modified
cfg_file=/usr/local/nagios/etc/objects/commands.cfg
cfg_file=/usr/local/nagios/etc/objects/contacts.cfg
cfg_file=/usr/local/nagios/etc/objects/timeperiods.cfg
cfg_file=/usr/local/nagios/etc/objects/templates.cfg

# 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  M-] To Bracket  M-Q Previous
^X Exit      ^R Read File  ^\ Replace    ^U Paste     ^J Justify   ^/ Go To Line M-E Redo    M-6 Copy      ^Q Where Was    M-W Next
```

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

Step 8: Verify configuration files using the following command -
sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

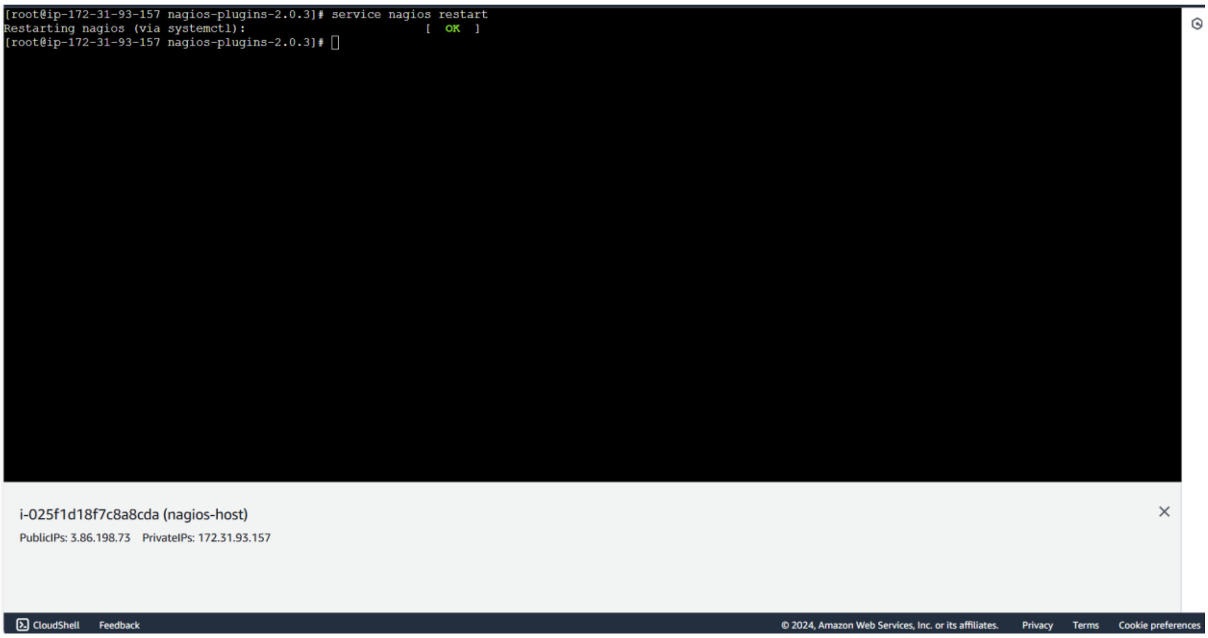
If there are no errors, run the following command -
sudo service nagios start



```
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# nano /usr/local/nagios/etc/nagios.cfg
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# nano /usr/local/nagios/etc/nagios.cfg
[root@ip-172-31-93-157 nagios-plugins-2.0.3]#  /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...
WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Please use check_interval instead.
WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Please use retry_interval instead.
WARNING: The normal_check_interval attribute is deprecated and will be removed in future versions. Please use check_interval instead.
WARNING: The retry_check_interval attribute is deprecated and will be removed in future versions. Please use retry_interval instead.
Error: Could not find any host matching 'linuxserver' (config file '/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg', starting on line 45)
Error: Could not expand members specified in hostgroup (config file '/usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg', starting on line 45)
   Error processing object config files!


***> One or more problems was encountered while processing the config files...

     Check your configuration file(s) to ensure that they contain valid
     directives and data definitions.  If you are upgrading from a previous
     version of Nagios, you should be aware that some variables/definitions
     may have been removed or modified in this version.  Make sure to read
     the HTML documentation regarding the config files, as well as the
     'Whats New' section to find out what has changed.

[root@ip-172-31-93-157 nagios-plugins-2.0.3]# 
```

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

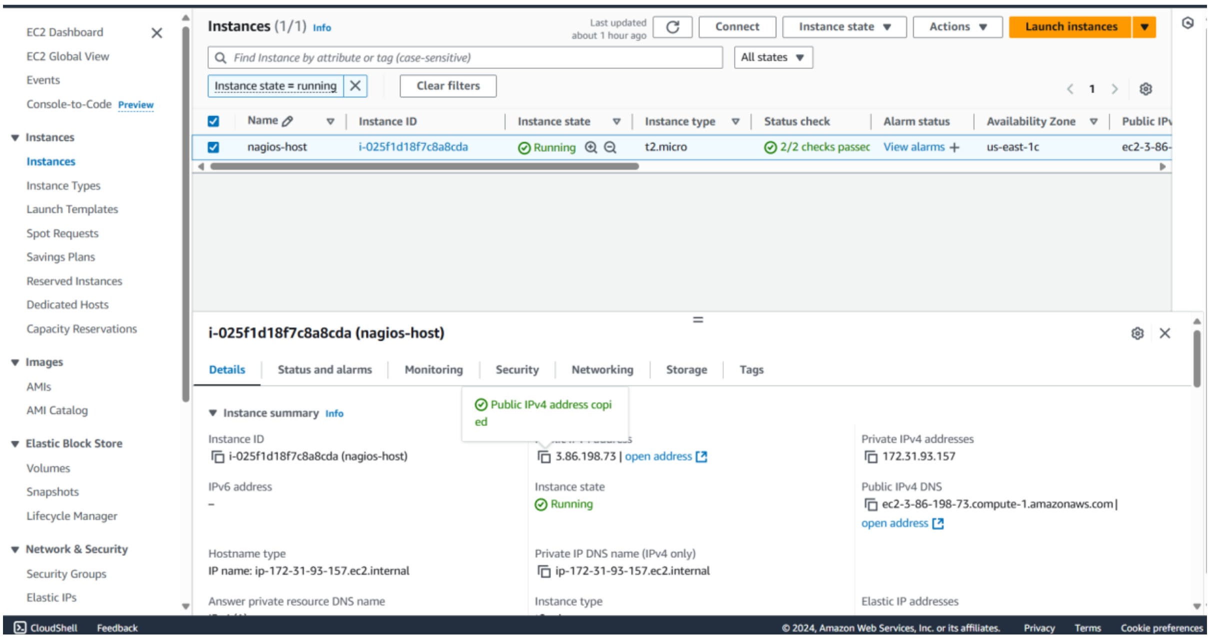


```
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# service nagios restart
Restarting nagios (via systemctl):                        [  OK  ]
[root@ip-172-31-93-157 nagios-plugins-2.0.3]# 
```

i-025f1d18f7c8a8cda (nagios-host)

PublicIPs: 3.86.198.73 PrivateIPs: 172.31.93.157

Step 9: After entering the correct credentials, you will see this page.



☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
☑	nagios-host	i-025f1d18f7c8a8cda	Running	t2.micro	2/2 checks passec	View alarms +	us-east-1c	ec2-3-86-

i-025f1d18f7c8a8cda (nagios-host)

Instance ID
i-025f1d18f7c8a8cda (nagios-host)

Public IPv4 address
3.86.198.73 | open address

Private IPv4 addresses
172.31.93.157

IPv6 address
–

Instance state
Running

Public IPv4 DNS
ec2-3-86-198-73.compute-1.amazonaws.com | open address

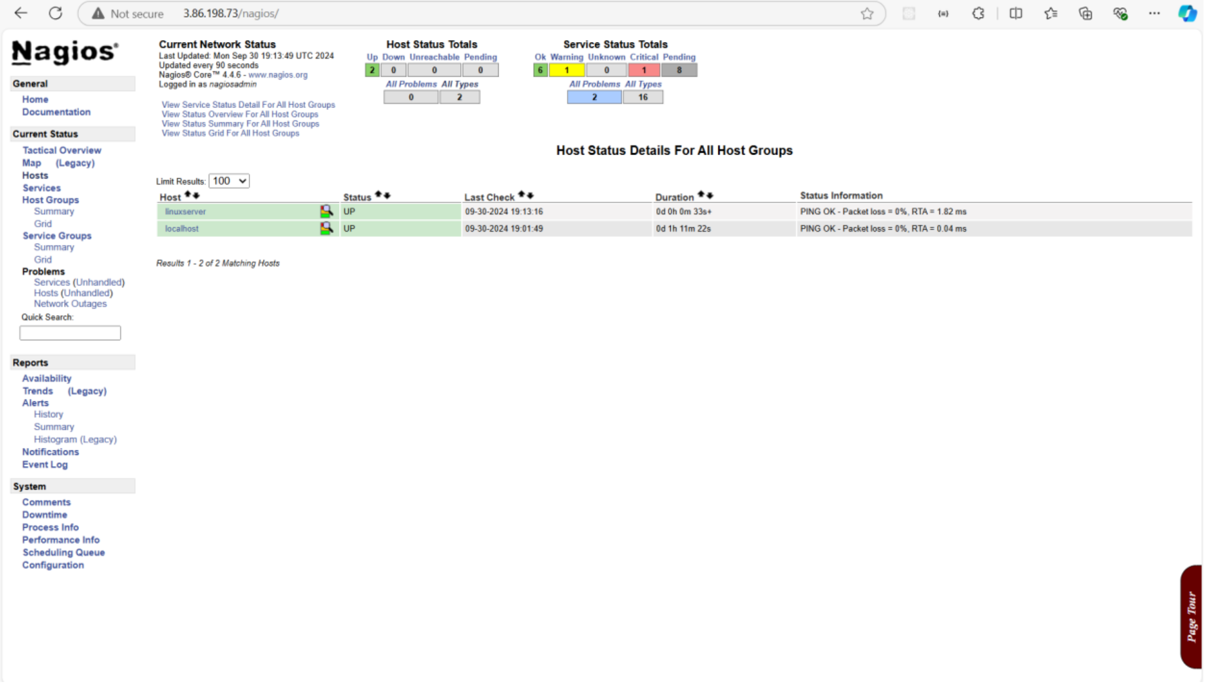
Hostname type
IP name: ip-172-31-93-157.ec2.internal

Private IP DNS name (IPv4 only)
ip-172-31-93-157.ec2.internal

Answer private resource DNS name

Instance type

Elastic IP addresses



Current Network Status
Last Updated: Mon Sep 30 19:13:49 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 Status Overview For All Host Groups
View Status Summary For All Host Groups
View Status Grid For All Host Groups

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
6	1	0	1	8

All Problems	*All Types*
2	16

Host Status Details For All Host Groups

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
linuxserver	UP	09-30-2024 19:13:16	0d 0h 0m 33s+	PING OK - Packet loss = 0%, RTA = 1.82 ms
localhost	UP	09-30-2024 19:01:49	0d 1h 11m 22s	PING OK - Packet loss = 0%, RTA = 0.04 ms

Results 1 - 2 of 2 Matching Hosts