

## Experiment No:10

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

### Prerequisites:

AWS Academy or Personal account.

Nagios Server running on Amazon Linux Machine. (Refer Experiment No 9)

### Monitoring Using Nagios:

1. Firstly,Confirm nagios Host is running or not by checking its status by following command.

**sudo systemctl status nagios**

```
[ec2-user@ip-172-31-39-90 ~]$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.5.5
   Loaded: loaded (/usr/lib/systemd/system/nagios.service; disabled; preset: disabled)
   Active: active (running) since Fri 2024-10-04 04:14:29 UTC; 9min ago
     Docs: https://www.nagios.org/documentation
   Process: 75298 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 75299 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
  Main PID: 75300 (nagios)
    Tasks: 6 (limit: 1112)
   Memory: 5.6M
      CPU: 164ms
   CGroup: /system.slice/nagios.service
           └─75300 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─75301 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
               └─75302 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                 └─75303 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                   └─75304 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                     └─75305 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 04 04:17:36 ip-172-31-39-90.ec2.internal nagios[75300]: SERVICE ALERT: localhost;Root Partition;CRITICAL;HARD;1;(No output on st
Oct 04 04:18:14 ip-172-31-39-90.ec2.internal nagios[75300]: SERVICE ALERT: localhost;SSH;CRITICAL;HARD;1;(No output on stdout) stder
Oct 04 04:18:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;SOFT;5;(No output on stdout) stderr: execvp(/
Oct 04 04:18:51 ip-172-31-39-90.ec2.internal nagios[75300]: SERVICE ALERT: localhost;Swap Usage;CRITICAL;HARD;1;(No output on stdout)
Oct 04 04:19:29 ip-172-31-39-90.ec2.internal nagios[75300]: SERVICE ALERT: localhost;Total Processes;CRITICAL;HARD;1;(No output on s
Oct 04 04:19:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;SOFT;6;(No output on stdout) stderr: execvp(/
Oct 04 04:20:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;SOFT;7;(No output on stdout) stderr: execvp(/
Oct 04 04:21:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;SOFT;8;(No output on stdout) stderr: execvp(/
Oct 04 04:22:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;SOFT;9;(No output on stdout) stderr: execvp(/
Oct 04 04:23:29 ip-172-31-39-90.ec2.internal nagios[75300]: HOST ALERT: localhost;DOWN;HARD;10;(No output on stdout) stderr: execvp(
lines 1-28/28 (END)
```

You can now proceed ahead if you get the above message/output.If not then again create a instance (Refer Experiment No 9)

2. **Creation an EC-2 Instance:**Create an EC-2 Instance of t2.micro type on ubuntu in AWS.

**Name and tags** [Info](#)

Name

[Add additional tags](#)

▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Recents

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Linux

SUSE

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

3. Then select the key pair that you have created and used in “nagios-host” EC-2 instance.

▼ **Instance type** [Info](#) | [Get advice](#)

Instance type

t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand RHEL base pricing: 0.026 USD per Hour

On-Demand Linux base pricing: 0.0116 USD per Hour

☐ All generations [Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

▼ **Key pair (login)** [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

server

4. Then select the security group that we have created in nagios host.here I have given name to security groups as Nagios.

▼ **Network settings** [Info](#)

Network [Info](#)

vpc-051bba342b3626898

Subnet [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

[Additional charges apply](#) when outside of [free tier allowance](#)

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☐ Create security group ☒ Select existing security group

Common security groups [Info](#)

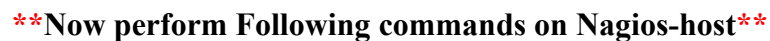
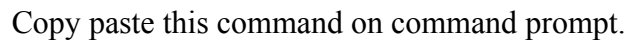
Select security groups

Nagios sg-0b1355e80625c05ee X

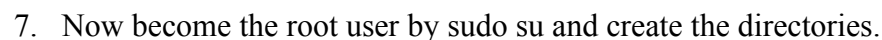
VPC: vpc-051bba342b3626898

Security groups that you add or remove here will be added to or removed from all your network interfaces.

5. **Making the connection:**Then after instance get created successfully then click on connect then go to SSH client section there you will see connection command `ssh -i “key_pair.pem” ubuntu@ec2-Public_ip.compute-1.amazonaws.com`

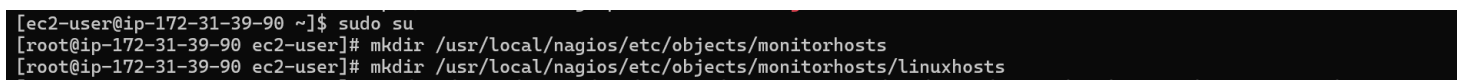


- ps -ef | grep nagios**



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

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



8. Copy the localhost.cfg file to linuxserver.cfg by following command.

**cp /usr/local/nagios/etc/objects/localhost.cfg**

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

```
[root@ip-172-31-39-90 ec2-user]# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
```

9. Open the linuxserver.cfg by nano command and then make following changes.

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

```
[root@ip-172-31-39-90 ec2-user]# nano /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
[root@ip-172-31-39-90 ec2-user]#
```

Now change the hostname to **linuxserver**. Then Change the address to the public IP of your Linux client.  
Now Set hostgroup\_name to **linux-servers1**.

```
GNU nano 5.8 /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg Modified
#####
# 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               localhost
    address             98.83.6.103
}

#####
#
# 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
}

^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
```

**Make the hostname changes throughout in Host,Host Group,HTTP,SSH.**

10. Now update the Nagios.config file add the following line in it.

**cfg\_dir=/usr/local/nagios/etc/objects/monitorhosts/**

Then execute the following command : **nano /usr/local/nagios/etc/nagios.cfg**

```

GNU nano 5.8 /usr/local/nagios/etc/nagios.cfg Modified
#
# Read the documentation for more information on this configuration
# file. I've provided some comments here, but things may not be so
# clear without further explanation.
#
#
#####

# LOG FILE
# This is the main log file where service and host events are logged
# for historical purposes. This should be the first option specified
# in the config file!!!

log_file=/usr/local/nagios/var/nagios.log

# OBJECT CONFIGURATION FILE(S)
# These are the object configuration files in which you define hosts,
# host groups, contacts, contact groups, services, etc.
# You can split your object definitions across several config files
# if you wish (as shown below), or keep them all in a single config file.

# You can specify individual object config files as shown below:
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
cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/
# Definitions for monitoring the local (Linux) host
cfg_file=/usr/local/nagios/etc/objects/localhost.cfg

^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

```

11. Now verify the configuration by the following command.

**/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg**

```

Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2024-09-17
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 16 services.
  Checked 2 hosts.
  Checked 2 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 2 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

```

12. Now restart the services of nagios by running the following command.

**service nagios restart**

```
[root@ip-172-31-39-90 ec2-user]# service nagios restart
Redirecting to /bin/systemctl restart nagios.service
```

**\*\*Now perform Following commands on Nagios-host\*\***

13. Firstly update the package by following command.

**sudo apt update -y**

```
ubuntu@ip-172-31-42-255:~$ sudo apt update -y
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://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [382 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [83.9 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4704 B]
Get:9 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [277 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [117 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [8632 B]
Get:12 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [10.4 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [10.9 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [2808 B]
Get:16 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [344 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [532 B]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.6 kB]
Get:38 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [10.8 kB]
Get:39 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:40 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1104 B]
Get:41 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:42 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:43 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:44 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 28.2 MB in 6s (4883 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
6 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

14. Now, Install the required packages by executing following commands.

### sudo apt install gcc -y

```
ubuntu@ip-172-31-42-255:~$ sudo apt install gcc -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu cpp cpp-13 cpp-13-x86-64-linux-gnu cpp-x86-64-linux-gnu fontconfig-config
  fonts-dejavu-core fonts-dejavu-mono gcc-13 gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libaom3 libasan8 libatomic1
  libbinutils libc-dev-bin libc-devtools libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libde265-0 libdeflate0
  libfontconfig1 libgcc-13-dev libgd3 libgomp1 libgprofng0 libheif-plugin-aomdec libheif-plugin-aomenc libheif-plugin-libde265
  libheif1 libhwasan0 libisl23 libitm1 libjbig0 libjpeg-turbo8 libjpeg8 liblerc4 liblsan0 libmpc3 libquadmath0 libsframe1
  libsharpyuv0 libtiff6 libtsan2 libubsan1 libwebp7 libxpm4 linux-libc-dev manpages-dev rpcsvc-proto
Suggested packages:
  binutils-doc gprofng-gui cpp-doc gcc-13-locales cpp-13-doc gcc-multilib make autoconf automake libtool flex bison gdb gcc-doc
  gcc-13-multilib gcc-13-doc gdb-x86-64-linux-gnu glibc-doc libgd-tools libheif-plugin-x265 libheif-plugin-ffmpegdec
  libheif-plugin-jpegdec libheif-plugin-jpegenc libheif-plugin-j2kdec libheif-plugin-j2kenc libheif-plugin-rav1e
  libheif-plugin-svtenc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu cpp cpp-13 cpp-13-x86-64-linux-gnu cpp-x86-64-linux-gnu fontconfig-config
  fonts-dejavu-core fonts-dejavu-mono gcc gcc-13 gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libaom3 libasan8
  libatomic1 libbinutils libc-dev-bin libc-devtools libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libde265-0 libdeflate0
  libfontconfig1 libgcc-13-dev libgd3 libgomp1 libgprofng0 libheif-plugin-aomdec libheif-plugin-aomenc libheif-plugin-libde265
  libheif1 libhwasan0 libisl23 libitm1 libjbig0 libjpeg-turbo8 libjpeg8 liblerc4 liblsan0 libmpc3 libquadmath0 libsframe1
  libsharpyuv0 libtiff6 libtsan2 libubsan1 libwebp7 libxpm4 linux-libc-dev manpages-dev rpcsvc-proto
0 upgraded, 57 newly installed, 0 to remove and 6 not upgraded.
Need to get 62.8 MB of archives.
After this operation, 222 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 binutils-common amd64 2.42-4ubuntu2 [239 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libsframe1 amd64 2.42-4ubuntu2 [14.8 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libbinutils amd64 2.42-4ubuntu2 [572 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libctf-nobfd0 amd64 2.42-4ubuntu2 [97.1 kB]
Setting up gcc (4:13.2.0-7ubuntu1) ...
Setting up libheif-plugin-aomdec:amd64 (1.17.6-1ubuntu4) ...
Setting up libheif1:amd64 (1.17.6-1ubuntu4) ...
Setting up libheif-plugin-libde265:amd64 (1.17.6-1ubuntu4) ...
Setting up libheif-plugin-aomenc:amd64 (1.17.6-1ubuntu4) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for sgml-base (1.31) ...
Setting up libfontconfig1:amd64 (2.15.0-1.1ubuntu2) ...
Setting up libgd3:amd64 (2.3.3-9ubuntu5) ...
Setting up libc-devtools (2.39-0ubuntu8.3) ...
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-172-31-42-255:~$
```



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

```

ubuntu@ip-172-31-42-255:~$ sudo apt install -y nagios-nrpe-server nagios-plugins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'monitoring-plugins' instead of 'nagios-plugins'
The following additional packages will be installed:
  libavahi-client3 libavahi-common-data libavahi-common3 libcups2t64 libdbb1t64 libldb2 libmysqlclient21 libnet-snmp-perl libpq5
  libradcli4 libsmbclient0 libsnmp-base libsnmp40t64 libtalloc2 libtdb1 libtevent0t64 liburiparser1 libwbclient0
  monitoring-plugins-basic monitoring-plugins-common monitoring-plugins-standard mysql-common python3-gpg python3-ldb
  python3-markdown python3-samba python3-talloc python3-tdb rpcbind samba-common samba-common-bin samba-dsdb-modules samba-libs
  smbclient snmp
Suggested packages:
  cups-common libcrypt-des-perl libdigest-hmac-perl libio-socket-inet6-perl snmp-mibs-downloader icinga2 nagios-plugins-contrib
  fping postfix | sendmail-bin | exim4-daemon-heavy | exim4-daemon-light qstat xinetd | inetd python-markdown-doc heimdal-clients
  python3-dnspython cifs-utils
The following NEW packages will be installed:
  libavahi-client3 libavahi-common-data libavahi-common3 libcups2t64 libdbb1t64 libldb2 libmysqlclient21 libnet-snmp-perl libpq5
  libradcli4 libsmbclient0 libsnmp-base libsnmp40t64 libtalloc2 libtdb1 libtevent0t64 liburiparser1 libwbclient0 monitoring-plugins
  monitoring-plugins-basic monitoring-plugins-common monitoring-plugins-standard mysql-common nagios-nrpe-server python3-gpg
  python3-ldb python3-markdown python3-samba python3-talloc python3-tdb rpcbind samba-common samba-common-bin samba-dsdb-modules
  samba-libs smbclient snmp
0 upgraded, 37 newly installed, 0 to remove and 6 not upgraded.
Need to get 16.1 MB of archives.
After this operation, 72.0 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 nagios-nrpe-server amd64 4.1.0-1ubuntu3 [356 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 rpcbind amd64 1.2.6-7ubuntu2 [46.5 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libavahi-common-data amd64 0.8-13ubuntu6 [29.7 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libavahi-common3 amd64 0.8-13ubuntu6 [23.3 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libavahi-client3 amd64 0.8-13ubuntu6 [26.8 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 libcups2t64 amd64 2.4.7-1.2ubuntu7.3 [272 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 libdbb1t64 amd64 0.9.0-6.1build1 [25.7 kB]
Creating config file /etc/nagios-plugins/config/netware.cfg with new version

Creating config file /etc/nagios-plugins/config/nt.cfg with new version

Creating config file /etc/nagios-plugins/config/pgsql.cfg with new version

Creating config file /etc/nagios-plugins/config/radius.cfg with new version

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.

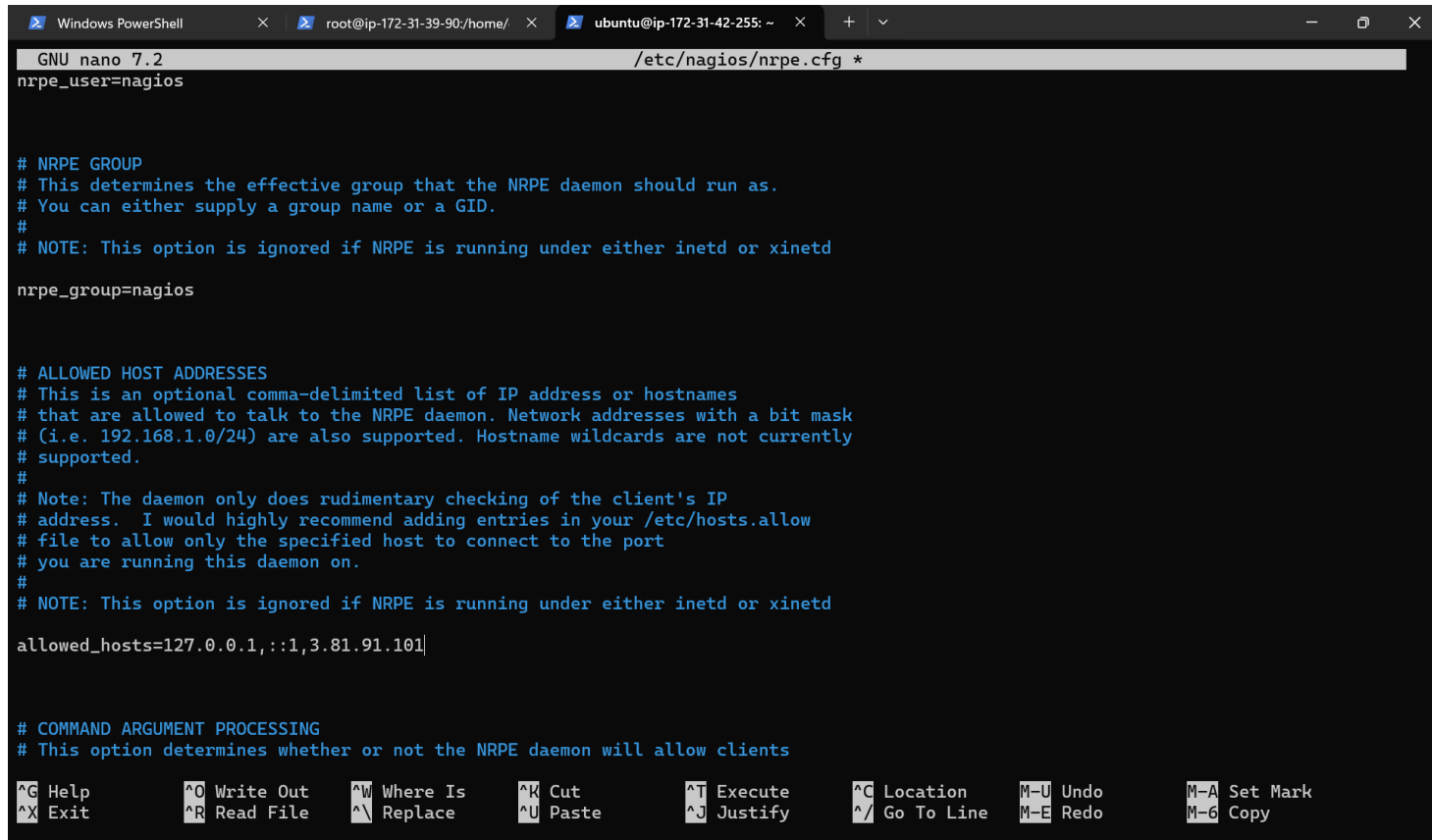
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-42-255:~$

```



15. Now open the nrpe.cfg file. Scroll down the page and find allowed\_hosts.Go there, and add your nagios host IP address.

**sudo nano /etc/nagios/nrpe.cfg**



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

# NRPE GROUP
# This determines the effective group that the NRPE daemon should run as.
# You can either supply a group name or a GID.
#
# NOTE: This option is ignored if NRPE is running under either inetd or xinetd

nrpe_group=nagios

# 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,::1,3.81.91.101

# COMMAND ARGUMENT PROCESSING
# This option determines whether or not the NRPE daemon will allow clients

^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
```

16. Now restart the NRPE server

**sudo systemctl restart nagios-nrpe-server**

```
ubuntu@ip-172-31-42-255:~$ sudo systemctl restart nagios-nrpe-server
```

17. Now again check the nagios-host status

**sudo systemctl status nagios**

Now check the status is active or not

```
[root@ip-172-31-39-90 ec2-user]#
sudo systemctl status nagios
● nagios.service - Nagios Core 4.5.5
   Loaded: loaded (/usr/lib/systemd/system/nagios.service; disabled; preset: disabled)
   Active: active (running) since Fri 2024-10-04 09:24:28 UTC; 9min ago
     Docs: https://www.nagios.org/documentation
   Process: 2725 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 2727 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
  Main PID: 2729 (nagios)
    Tasks: 6 (limit: 1112)
   Memory: 4.2M
      CPU: 114ms
   CGroup: /system.slice/nagios.service
           └─2729 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─2730 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
               └─2731 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                 └─2732 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                   └─2733 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                     └─2742 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 04 09:30:28 ip-172-31-39-90.ec2.internal nagios[2729]: HOST ALERT: linuxserver;DOWN;SOFT;7;(No output on stdout) stderr>
Oct 04 09:31:28 ip-172-31-39-90.ec2.internal nagios[2729]: HOST ALERT: linuxserver;DOWN;SOFT;8;(No output on stdout) stderr>
Oct 04 09:32:28 ip-172-31-39-90.ec2.internal nagios[2729]: HOST ALERT: linuxserver;DOWN;SOFT;9;(No output on stdout) stderr>
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: HOST NOTIFICATION: nagiosadmin;linuxserver;DOWN;notify-host-by-e>
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: HOST ALERT: linuxserver;DOWN;HARD;10;(No output on stdout) stder>
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: wproc: NOTIFY job 6 from worker Core Worker 2732 is a non-check >
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: wproc: host=linuxserver; service=(none); contact=nagiosadmin
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: wproc: early_timeout=0; exited_ok=1; wait_status=32512; error_>
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: wproc: stderr line 01: /bin/sh: line 1: /bin/mail: No such fil>
Oct 04 09:33:28 ip-172-31-39-90.ec2.internal nagios[2729]: wproc: stderr line 02: /usr/bin/printf: write error: Broken pi>
[root@ip-172-31-39-90 ec2-user]#
```

18. Now, check the status of http

**sudo systemctl status httpd**

**sudo systemctl start httpd**

**sudo systemctl enable httpd**

```
[root@ip-172-31-39-90 ec2-user]# sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
   Drop-In: /usr/lib/systemd/system/httpd.service.d
            └─php-fpm.conf
   Active: active (running) since Fri 2024-10-04 09:45:14 UTC; 33min ago
     Docs: man:httpd.service(8)
  Main PID: 4146 (httpd)
    Status: "Total requests: 19; Idle/Busy workers 100/0; Requests/sec: 0.0095; Bytes served/sec: 70 B/sec"
    Tasks: 230 (limit: 1112)
   Memory: 17.3M
      CPU: 1.428s
   CGroup: /system.slice/httpd.service
           └─4146 /usr/sbin/httpd -DFOREGROUND
             └─4148 /usr/sbin/httpd -DFOREGROUND
               └─4149 /usr/sbin/httpd -DFOREGROUND
                 └─4150 /usr/sbin/httpd -DFOREGROUND
                   └─4151 /usr/sbin/httpd -DFOREGROUND
                     └─4533 /usr/sbin/httpd -DFOREGROUND

Oct 04 09:45:14 ip-172-31-39-90.ec2.internal systemd[1]: Stopped httpd.service - The Apache HTTP Server.
Oct 04 09:45:14 ip-172-31-39-90.ec2.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Oct 04 09:45:14 ip-172-31-39-90.ec2.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
Oct 04 09:45:14 ip-172-31-39-90.ec2.internal httpd[4146]: Server configured, listening on: port 80
[root@ip-172-31-39-90 ec2-user]# sudo systemctl start httpd
[root@ip-172-31-39-90 ec2-user]# sudo systemctl enable httpd
```

19. Now to check Nagios dashboard go to <http://<Nagios-host ip>/nagios>.

Take host public IP address to add in "Nagios-host ip".

**Nagios® Core™**

✓ Daemon running with PID 2729

**Nagios® Core™**  
Version 4.5.5  
September 17, 2024  
[Check for updates](#)

**Get Started**

- Start monitoring your infrastructure
- Change the look and feel of Nagios
- Extend Nagios with hundreds of addons
- Get support
- Get training
- Get certified

**Quick Links**

- [Nagios Library](#) (tutorials and docs)
- [Nagios Labs](#) (development blog)
- [Nagios Exchange](#) (plugins and addons)
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- [Nagios.com](#) (company)
- [Nagios.org](#) (project)

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20. Now Click on Hosts from the left side panel there you will get the status of linuxserver and localhost. Check whether its status is up or down.If it is up then it is successful.

**Nagios®**

**Current Network Status**  
Last Updated: Fri Oct 4 10:43:54 UTC 2024  
Updated every 90 seconds  
Nagios® Core™ 4.5.5 - [www.nagios.org](#)  
Logged in as nagiosadmin

**Host Status Totals**

Up	Down	Unreachable	Pending
2	0	0	0

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
8	1	0	7	0

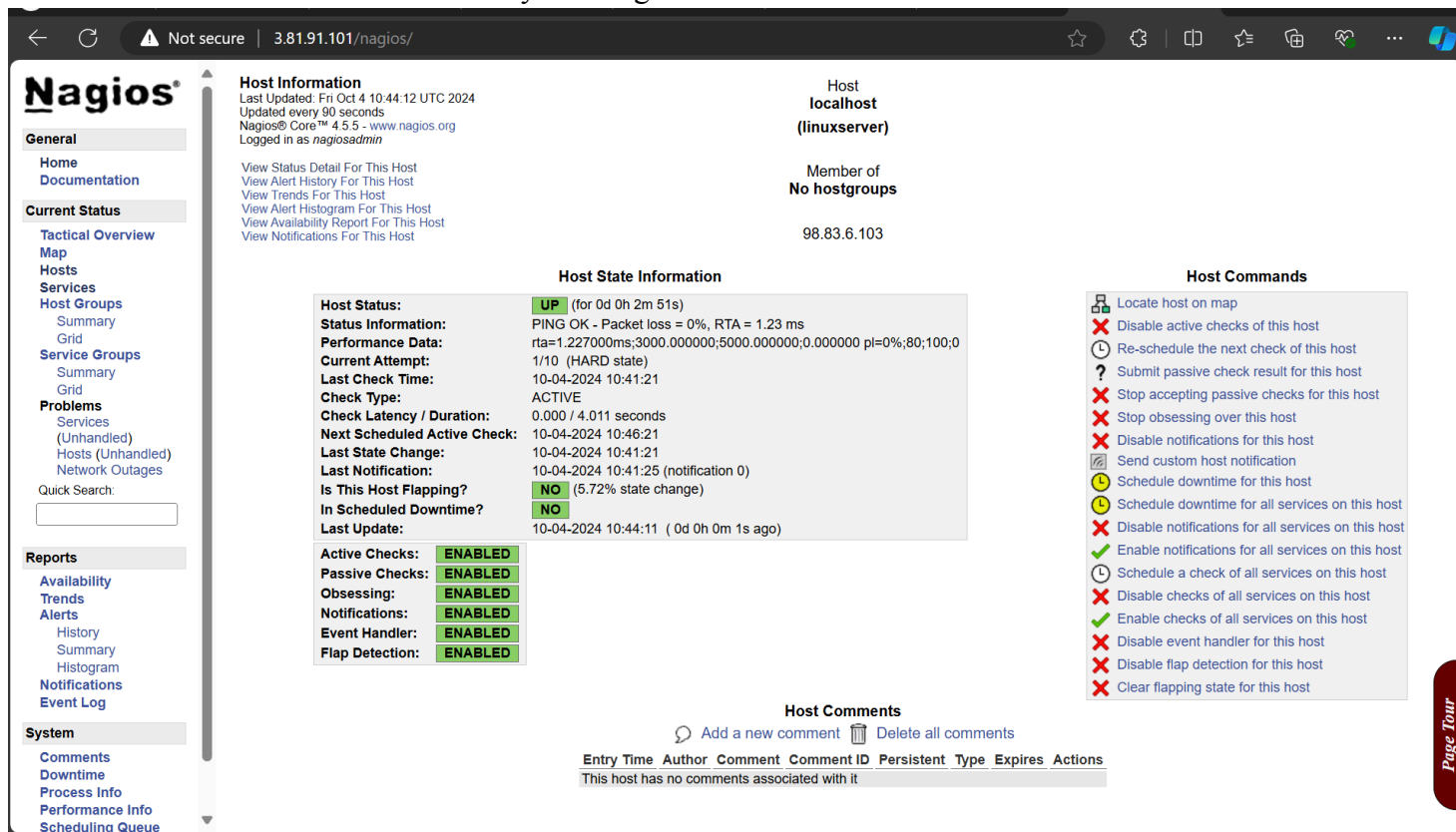
**Host Status Details For All Host Groups**

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
linuxserver	UP	10-04-2024 10:41:21	0d 0h 2m 33s	PING OK - Packet loss = 0%, RTA = 1.23 ms
localhost	UP	10-04-2024 10:43:13	0d 0h 3m 11s	PING OK - Packet loss = 0%, RTA = 0.06 ms

Results 1 - 2 of 2 Matching Hosts

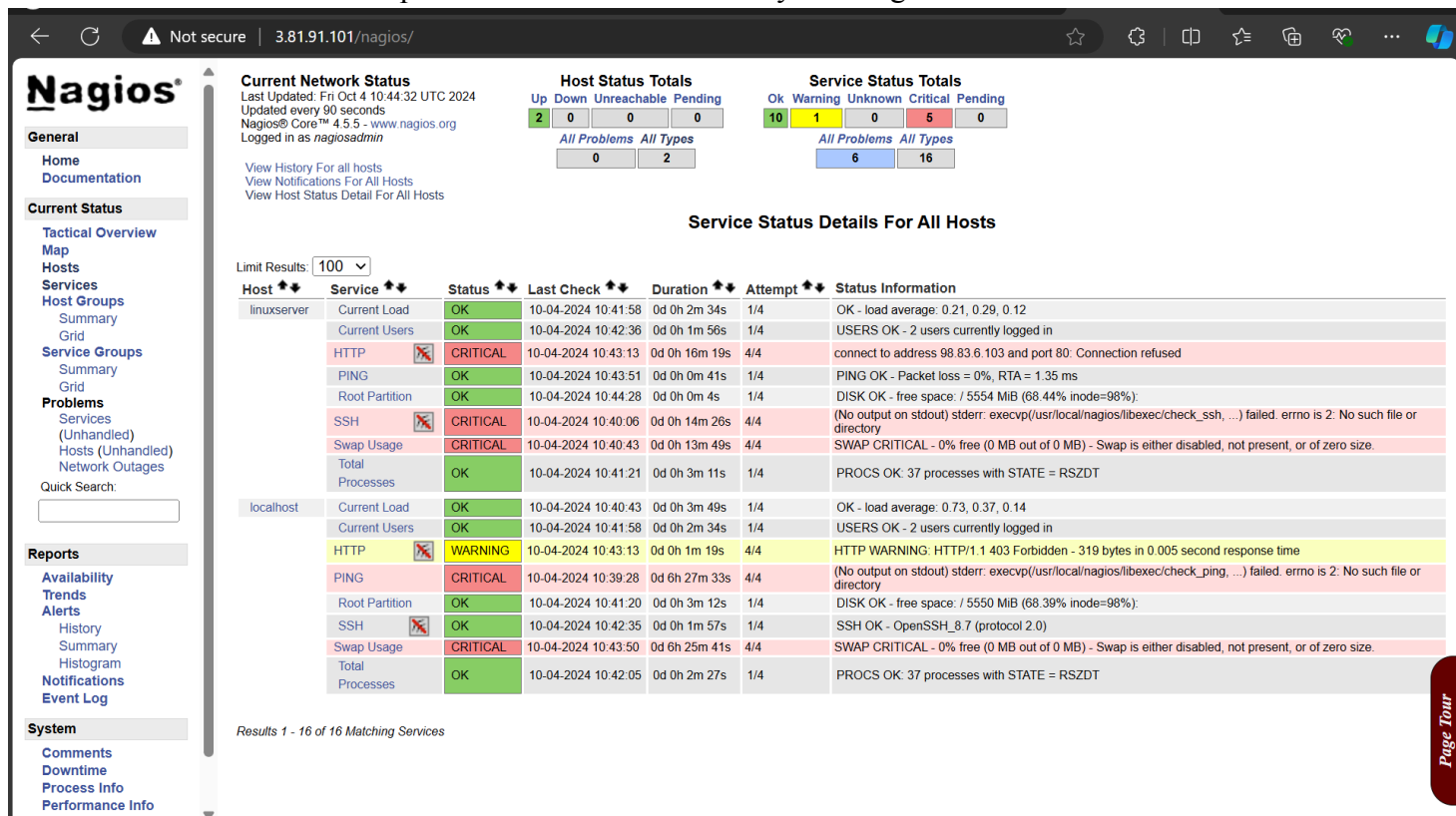
21. Now click on linuxserver. There you will get Host state information.



The screenshot displays the Nagios web interface for the host 'localhost (linuxserver)'. The interface includes a sidebar with navigation links such as General, Current Status, Tactical Overview, Map, Hosts, Services, Host Groups, Service Groups, Problems, Reports, and System. The main content area shows the following information:

- Host Information:** Last Updated: Fri Oct 4 10:44:12 UTC 2024, Updated every 90 seconds, Nagios® Core™ 4.5.5 - www.nagios.org, Logged in as nagiosadmin.
- Host State Information:**
  - Host Status: **UP** (for 0d 0h 2m 51s)
  - Status Information: PING OK - Packet loss = 0%, RTA = 1.23 ms
  - Performance Data: rta=1.227000ms;3000.000000;5000.000000;0.000000 pl=0%;80;100;0
  - Current Attempt: 1/10 (HARD state)
  - Last Check Time: 10-04-2024 10:41:21
  - Check Type: ACTIVE
  - Check Latency / Duration: 0.000 / 4.011 seconds
  - Next Scheduled Active Check: 10-04-2024 10:46:21
  - Last State Change: 10-04-2024 10:41:21
  - Last Notification: 10-04-2024 10:41:25 (notification 0)
  - Is This Host Flapping?: **NO** (5.72% state change)
  - In Scheduled Downtime?: **NO**
  - Last Update: 10-04-2024 10:44:11 (0d 0h 0m 1s ago)
- Host Commands:** A list of actions such as 'Locate host on map', 'Disable active checks of this host', 'Re-schedule the next check of this host', etc.
- Host Comments:** A section for adding or deleting comments, currently showing no comments.

22. Then click on Services presnet on left sidebar where you will get current network status.



The screenshot displays the Nagios web interface for the 'Current Network Status'. The interface includes a sidebar with navigation links such as General, Current Status, Tactical Overview, Map, Hosts, Services, Host Groups, Service Groups, Problems, Reports, and System. The main content area shows the following information:

- Current Network Status:** Last Updated: Fri Oct 4 10:44:32 UTC 2024, Updated every 90 seconds, Nagios® Core™ 4.5.5 - www.nagios.org, Logged in as nagiosadmin.
- Host Status Totals:** Up: 2, Down: 0, Unreachable: 0, Pending: 0.
- Service Status Totals:** Ok: 10, Warning: 1, Unknown: 0, Critical: 5, Pending: 0.
- Service Status Details For All Hosts:** A table showing the status of various services across different hosts.

Host	Service	Status	Last Check	Duration	Attempt	Status Information	
linuxserver	Current Load	OK	10-04-2024 10:41:58	0d 0h 2m 34s	1/4	OK - load average: 0.21, 0.29, 0.12	
	Current Users	OK	10-04-2024 10:42:36	0d 0h 1m 56s	1/4	USERS OK - 2 users currently logged in	
	HTTP	CRITICAL	10-04-2024 10:43:13	0d 0h 16m 19s	4/4	connect to address 98.83.6.103 and port 80: Connection refused	
	PING	OK	10-04-2024 10:43:51	0d 0h 0m 41s	1/4	PING OK - Packet loss = 0%, RTA = 1.35 ms	
	Root Partition	OK	10-04-2024 10:44:28	0d 0h 0m 4s	1/4	DISK OK - free space: / 5554 MiB (68.44% inode=98%):	
	SSH	CRITICAL	10-04-2024 10:40:06	0d 0h 14m 26s	4/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec/check_ssh, ...) failed. errno is 2: No such file or directory	
	Swap Usage	CRITICAL	10-04-2024 10:40:43	0d 0h 13m 49s	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	10-04-2024 10:41:21	0d 0h 3m 11s	1/4	PROCS OK: 37 processes with STATE = RSZDT	
	localhost	Current Load	OK	10-04-2024 10:40:43	0d 0h 3m 49s	1/4	OK - load average: 0.73, 0.37, 0.14
		Current Users	OK	10-04-2024 10:41:58	0d 0h 2m 34s	1/4	USERS OK - 2 users currently logged in
HTTP		WARNING	10-04-2024 10:43:13	0d 0h 1m 19s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 319 bytes in 0.005 second response time	
PING		CRITICAL	10-04-2024 10:39:28	0d 6h 27m 33s	4/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec/check_ping, ...) failed. errno is 2: No such file or directory	
Root Partition		OK	10-04-2024 10:41:20	0d 0h 3m 12s	1/4	DISK OK - free space: / 5550 MiB (68.39% inode=98%):	
SSH		OK	10-04-2024 10:42:35	0d 0h 1m 57s	1/4	SSH OK - OpenSSH_8.7 (protocol 2.0)	
Swap Usage		CRITICAL	10-04-2024 10:43:50	0d 6h 25m 41s	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	10-04-2024 10:42:05	0d 0h 2m 27s	1/4	PROCS OK: 37 processes with STATE = RSZDT	

Results 1 - 16 of 16 Matching Services

**Conclusion:** In this experiment, we created a nagios client EC-2 instance of t2.micro ubuntu instance. Then after updating hostname, hostgroup\_name. Then adding the address to the public IP of your Linux client. Then verify the configuration and then check the status of nagios-host and then start and enable it then open <http://<Nagios-host ip>/nagios>. There you will get the status of linuxserver and localhost. Thus we can monitor essential network services on the Linux server.

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