

## Experiment No 10

Prerequisites: AWS Free Tier, Nagios Server running on Amazon Linux Machine.

```
PS C:\Users\prath\Desktop\adv DevOps temp> ssh -i "exp-9.pem" ec2-user@3.88.22.82
Last login: Sun Sep 29 20:48:36 2024 from 111.125.237.191

#_
~\_##### Amazon Linux 2
~~\_#####\
~~\###| AL2 End of Life is 2025-06-30.
~~\#/
~~V~'-->
    ~~~
        ~.._
            _/_/_/_
            /m/'
```

1. To Confirm that Nagios is running on the server side, run this  
sudo systemctl status nagios  
on the "NAGIOS HOST".

```
[ec2-user@ip-172-31-92-100 ~]$ sudo systemctl status nagios
● nagios.service - LSB: Starts and stops the Nagios monitoring server
   Loaded: loaded (/etc/rc.d/init.d/nagios; bad; vendor preset: disabled)
   Active: active (running) since Sun 2024-09-29 21:06:29 UTC; 1h 5min ago
     Docs: man:systemd-sysv-generator(8)
  Process: 22314 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
    CGroup: /system.slice/nagios.service
            └─22335 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
            └─22337 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─22338 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─22339 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─22340 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─22341 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
```

2. Before we begin,  
To monitor a Linux machine, create an Ubuntu 20.04 server EC2 Instance in AWS.

EC2 > Instances > Launch an instance

Launch an instance

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags

Name

linux-client

Add additional tags

▼ Application and OS Images (Amazon Machine Image)

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

Q Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Li

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

▼ Summary

Number of instances

1

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd6...read more

ami-0e86e20dae9224db8

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

Review commands

Provide it with the same security group as the Nagios Host and name it 'linux-client' alongside the host.

EC2 > Security Groups > sg-06deb772c1721e7f9 - launch-wizard-6 > Edit inbound rules

Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sg-087a61b34d2e7f783	HTTP	TCP	80	Custom	Q 0.0.0.0/X	Delete
sg-0039f7887de571348	SSH	TCP	22	Custom	Q 0.0.0.0/X	Delete
sg-011c932cb461bee7f	All ICMP - IPv4	ICMP	All	Custom	Q 0.0.0.0/X	Delete
sg-008061b040cfa8cd	HTTPS	TCP	443	Custom	Q 0.0.0.0/X	Delete

Add rule

Rules with source of 0.0.0.0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Preview changes Save rules

Instances (2)

Last updated 1 minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

Running

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
	nagios-host	i-0c718840b8064ab08	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a	ec2-3-88-22-82.comput...	3.88.22.82	-
	linux-client	i-0199595de1fa040d7	Running	t2.micro	Initializing	View alarms	us-east-1a	ec2-44-211-159-102.co...	44.211.159.102	-

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

```
[ec2-user@ip-172-31-92-100 ~]$ ps -ef | grep nagios
nagios    22335      1    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios    22337 22335    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios    22338 22335    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios    22339 22335    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios    22340 22335    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios    22341 22335    0 21:06 ?        00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ec2-user  31167 31091    0 22:23 pts/1    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-172-31-92-100 ~]$ sudo su
[root@ip-172-31-92-100 ec2-user]# mkdir /usr/local/nagios/etc/objects/monitorhosts
[root@ip-172-31-92-100 ec2-user]# mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
[root@ip-172-31-92-100 ec2-user]#
```

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
```

```
[ec2-user@ip-172-31-92-100 ~]$ sudo su
[root@ip-172-31-92-100 ec2-user]# mkdir /usr/local/nagios/etc/objects/monitorhosts
[root@ip-172-31-92-100 ec2-user]# mkdir /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
[root@ip-172-31-92-100 ec2-user]# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
[root@ip-172-31-92-100 ec2-user]#
```

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.

```
# 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            44.211.159.102
}
```

Change hostgroup\_name under hostgroup to linux-servers1

```
# 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            linuxserver    ; Comma separated list of hosts that belong to this group
}
```

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/
```

```
GNU nano 2.9.8 /usr/local/nagios/etc/nagios.

# 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

# Definitions for monitoring the local (Linux) host
cfg_file=/usr/local/nagios/etc/objects/localhost.cfg
cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/

# 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
```

8. Verify the configuration files

```
sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

```
Checking objects...
  Checked 11 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
[root@ip-172-31-92-100 ec2-user]# |
```

9. Restart the nagios service  
service nagios restart

```
[root@ip-172-31-92-100 ec2-user]# service nagios restart
Restarting nagios (via systemctl): [ OK ]
[root@ip-172-31-92-100 ec2-user]# |
```

10. SSH into the machine or simply use the EC2 Instance Connect feature.

```
PS C:\Users\prath\Desktop\adv DevOps temp> ssh -i "exp-10.pem" ubuntu@44.211.159.102
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

System information as of Sun Sep 29 22:50:12 UTC 2024

System load:  0.0               Processes:           104
Usage of /:   22.7% of 6.71GB   Users logged in:    0
Memory usage: 20%              IPv4 address for enX0: 172.31.93.79
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-93-79:~$ |
```

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
```

```
Get:43 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe
Get:44 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe
Get:45 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe
Get:46 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe
Get:47 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted
Get:48 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted
Get:49 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse
Get:50 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse
Fetched 29.1 MB in 6s (5068 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
143 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
ubuntu@ip-172-31-93-79:~$ sudo apt install gcc nagios-nrpe-server nagios-plugins -y
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:
  binutils binutils-common binutils-x86-64-linux-gnu cpp cpp-13 cpp-13-x86-64-linux-gnu
  gcc-13 gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libaom3 libasan8 lib
  libc-bin libc-dev-bin libc-devtools libc6 libc6-dev libcc1-0 libcrypt-dev libctf-nob
```

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

```
GNU nano 7.2 /etc/nagios/nrpe.cfg
# 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=127.0.0.1,3.88.22.82
```

13. Restart the NRPE server

```
sudo systemctl restart nagios-nrpe-server
```

```
ubuntu@ip-172-31-93-79:~$ sudo systemctl restart nagios-nrpe-server
```

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

The screenshot displays the Nagios Core 4.0.8 web interface. The top navigation bar shows the Nagios logo and version information. A sidebar on the left contains links to various sections: General, Current Status, Reports, and System. The main content area is divided into several sections: a 'Current Network Status' section showing the last update time and version; a 'Host Status Totals' section with a table of host counts; a 'Service Status Totals' section with a table of service counts; and a 'Host Status Details For All Host Groups' section with a table of host details. The 'Host Status Details' table lists two hosts: 'linuxserver' and 'localhost', both with a status of 'UP'.

**Nagios® Core™**  
Version 4.0.8  
August 12, 2014  
Check for updates

**Daemon running with PID 31464**

**A new version of Nagios Core is available!**  
Visit [nagios.org](http://nagios.org) to download Nagios 4.5.5.

**Get Started**

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

**Quick Links**

- Nagios Library (tutorials and docs)
- Nagios Labs (development blog)
- Nagios Exchange (plugins and add-ons)
- Nagios Support (tech support)
- Nagios.com (company)
- Nagios.org (project)

**Latest News**

- Nagios Plugins 2.0.2 Released
- Nagios Projects Moved To GitHub
- Nagios Core 4.0.6 Released
- More news...

**Don't Miss...**

- Interested in speaking at Nagios World Conference 2014? Learn more and apply today at [go.nagios.com/conference](http://go.nagios.com/conference).
- Improve your Nagios skillset with self-paced and instructor led training services.
- Don't miss the Nagios World Conference October 13th-16th, 2014. 3 days of presentations, industry experts, networking opportunities, and more. Register today before the conference fills up!

**Current Network Status**  
Last Updated: Sun Sep 29 23:12:55 UTC 2024  
Updated every 90 seconds  
Nagios® Core™ 4.0.8 - [www.nagios.org](http://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
9	1	0	1	0

**Host Status Details For All Host Groups**

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
linuxserver	UP	09-29-2024 23:12:39	0d 0h 0m 12s	PING OK - Packet loss = 0%, RTA = 1.03 ms
localhost	UP	09-29-2024 23:11:20	0d 2h 5m 49s	PING OK - Packet loss = 0%, RTA = 0.03 ms

Results 1 - 2 of 2 Matching Hosts

