

## ADVANCE DEVOPS EXP-10

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D15A/64

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

**Step-1.** Confirm Nagios is Running on the Server. `sudo systemctl status nagios` Proceed if you see that Nagios is active and running.

```
bash: !: command not found
[ec2-user@ip-172-31-98-152 nagios-plugins-2.3.3]$ cd
[ec2-user@ip-172-31-98-152 ~]$ sudo systemctl restart nagios
[ec2-user@ip-172-31-98-152 ~]$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.5.5
   Loaded: loaded (/usr/lib/systemd/system/nagios.service; enabled; preset: disabled)
   Active: active (running) since Mon 2024-09-30 19:41:36 UTC; 7s ago
     Docs: https://www.nagios.org/documentation
   Process: 80238 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 80239 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
  Main PID: 80240 (nagios)
    Tasks: 6 (limit: 1112)
   Memory: 4.0M
      CPU: 15ms
   CGroup: /system.slice/nagios.service
           └─80240 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─80241 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
               └─80242 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                 └─80243 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                   └─80244 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                     └─80245 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: qh: core query handler registered
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: qh: echo service query handler registered
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: qh: help for the query handler registered
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: wproc: Successfully registered manager as @wproc with query handler
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: wproc: Registry request: name=Core Worker 80244;pid=80244
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: wproc: Registry request: name=Core Worker 80243;pid=80243
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: wproc: Registry request: name=Core Worker 80242;pid=80242
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: wproc: Registry request: name=Core Worker 80241;pid=80241
Sep 30 19:41:36 ip-172-31-98-152.ec2.internal nagios[80240]: Successfully launched command file worker with pid 80245
```

**Step-2.** Create an Ubuntu 20.04 Server EC2 Instance

Name and tags [Info](#)

Name

linux-client [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 L

SUS

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 20.04 LTS (HVM) with SQL Server 2022 Standard

ami-032346ab877c418af (64-bit (x86))

Virtualization: hvm    ENA enabled: true    Root device type: ebs

Description

Microsoft SQL Server 2022 Standard edition on Ubuntu Server 20.04 LTS.

Number of instances [Info](#)

1

Software Image (AMI)

Ubuntu Server 20.04 with SQL S...read more  
ami-032346ab877c418af

Virtual server type (instance type)

t2.micro

Firewall (security group)

Nagios

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Review commands

### Step-3: Verify Nagios Process on the Server

```
[ec2-user@ip-172-31-80-215 nagios-plugins-2.3.3]$ ps -ef | grep nagios
nagios 68654 1 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
nagios 68655 68654 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 68656 68654 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 68657 68654 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 68658 68654 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
nagios 68659 68654 0 20:29 ? 00:00:00 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
ec2-user 69588 26447 0 20:44 pts/0 00:00:00 grep --color=auto nagios
[ec2-user@ip-172-31-80-215 nagios-plugins-2.3.3]$
```

### Step-4: Become Root User and Create Directory

`sudo su , mkdir -p /usr/local/nagios/etc/objects/monitorhosts/linuxhosts` **and to copy the same config file-** `cp /usr/local/nagios/etc/objects/localhost.cfg, /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg`

```
[ec2-user@ip-172-31-80-215 nagios-plugins-2.3.3]$ sudo su
[root@ip-172-31-80-215 nagios-plugins-2.3.3]# mkdir -p /usr/local/nagios/etc/objects/monitorhosts/linuxhosts
[root@ip-172-31-80-215 nagios-plugins-2.3.3]# cp /usr/local/nagios/etc/objects/localhost.cfg
cp: missing destination file operand after '/usr/local/nagios/etc/objects/localhost.cfg'
Try 'cp --help' for more information.
[root@ip-172-31-80-215 nagios-plugins-2.3.3]# cp /usr/local/nagios/etc/objects/localhost.cfg /usr/local/nagios/etc/objects/monitorhosts/linuxhosts/linuxserver.cfg
[root@ip-172-31-80-215 nagios-plugins-2.3.3]#
```

i-0ae1aae975bae3b7a (nagios-host)

### Step-5: Edit the Configuration File

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

- Change hostname to linuxserver everywhere in the file
- Change address to the public IP address of your linux-client.
- Change host\_group name under hostgroup to linux\_server

```
#
# 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          linuxserver
    alias              linuxserver
    address            35.174.139.220
}

#####
# 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
}

[ Read 157 lines ]
Help      Write Out  Where Is    Cut        Execute    Location   M-U Undo   M-A Set Mark  M-I To
Exit      Read File  Replace     Paste      Justify    Go To Line M-E Redo   M-C Copy    ^C Where
```

**Step-6:** Update Nagios Configuration `sudo`

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

**Add the command -** `cfg_dir=/usr/local/nagios/etc/objects/monitorhosts/`

```
# 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/
```

**Step-7:** Verify Configuration Files `sudo /usr/local/nagios/bin/nagios -v`

`/usr/local/nagios/etc/nagios.cfg`

```

[ec2-user@ip-172-31-80-215 ~]$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

Nagios Core 4.4.6
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Last Modified: 2020-04-28
License: GPL

Website: https://www.nagios.org
Reading configuration data...
  Read main config file okay...
Warning: Duplicate definition found for service 'HTTP' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'SSH' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg'),
Warning: Duplicate definition found for service 'Swap Usage' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'Current Load' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'Total Processes' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'Current Users' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'Root Partition' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
Warning: Duplicate definition found for service 'PING' on host 'localhost' (config file '/usr/local/nagios/etc/objects/localhost.cfg')
  Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
  Checked 8 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

```

**Step-8:** Restart Nagios Service `sudo systemctl restart nagios`

**Step-9: SSH into the Client Machine**

Use SSH or EC2 Instance Connect to access the `linux-client`.

**Step-10:** Update Package Index and Install Required Packages `sudo`

`apt update -y sudo apt install gcc -y`

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



```

ubuntu@ip-172-31-86-24:~$ sudo apt update -y
sudo apt install gcc -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://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [380 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [83.1 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4560 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [274 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [535 kB]
Get:18 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [116 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [130 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [8652 B]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [379 kB]

```

### Step-11: Edit NRPE Configuration File

Commands -

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

Add your Nagios host IP address under `allowed_hosts`:

```
allowed_hosts=<Nagios_Host_IP>
```

```

#
# 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=127.0.0.1,35.174.139.220

# COMMAND ARGUMENT PROCESSING
# This option determines whether or not the NRPE daemon will allow clients
# to specify arguments to commands that are executed.  This option only works
# if the daemon was configured with the --enable-command-args configure script
# option.
#
# *** ENABLING THIS OPTION IS A SECURITY RISK! ***
# Read the SECURITY file for information on some of the security implications
# of enabling this variable.
#
# Values: 0=do not allow arguments, 1=allow command arguments

dont_blame_nrpe=0

```

**Step-12:** Restart NRPE Server

Commands -

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

**Step-13:**Check Nagios Dashboard

Open your browser and navigate to [http://<Nagios\\_Host\\_IP>/nagios](http://<Nagios_Host_IP>/nagios).

Log in with nagiosadmin and the password you set earlier.

You should see the new host linuxserver added.

Click on Hosts to see the host details.

Click on Services to see all services and ports being monitored



✓ Daemon running with PID 71172

Nagios® Core™  
Version 4.4.6

April 28, 2020  
[Check for updates](#)

**A new version of Nagios Core is available!**  
Visit [nagios.org](https://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 addons
- Get support
- Get training
- Get certified

#### Quick Links

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

#### Latest News

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# Nagios®

- General
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  - Map (Legacy)
  - Hosts
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  - Problems
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    - Hosts (Unhandled)
    - Network Outages

Quick Search:

## Current Network Status

Last Updated: Mon Sep 30 21:16:41 UTC 2024  
Updated every 90 seconds  
Nagios® Core™ 4.4.6 - [www.nagios.org](http://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: 0, All Types: 2

## Service Status Totals

Ok	Warning	Unknown	Critical	Pending
6	1	0	1	0

All Problems: 2, All Types: 8

## Host Status Details For All Host Groups

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
linuxserver	UP	09-30-2024 21:14:52	0d 0h 11m 49s	PING OK - Packet loss = 0%, RTA = 0.98 ms
localhost	UP	09-30-2024 21:14:01	0d 0h 47m 2s	PING OK - Packet loss = 0%, RTA = 0.04 ms

Results 1 - 2 of 2 Matching Hosts

## Current Network Status

Last Updated: Mon Sep 30 21:21:11 UTC 2024  
Updated every 90 seconds  
Nagios® Core™ 4.4.6 - [www.nagios.org](http://www.nagios.org)  
Logged in as nagiosadmin

View History For all hosts  
View Notifications For All Hosts  
View Host Status Detail For All Hosts

## Host Status Totals

Up	Down	Unreachable	Pending
2	0	0	0

All Problems: 0, All Types: 2

## Service Status Totals

Ok	Warning	Unknown	Critical	Pending
6	1	0	1	0

All Problems: 2, All Types: 8

## Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	09-30-2024 21:20:16	0d 0h 50m 55s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	09-30-2024 21:20:54	0d 0h 50m 17s	1/4	USERS OK - 1 users currently logged in
	HTTP	WARNING	09-30-2024 21:19:31	0d 0h 46m 40s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 319 bytes in 0.001 second response time
	PING	OK	09-30-2024 21:17:09	0d 0h 49m 2s	1/4	PING OK - Packet loss = 0%, RTA = 0.04 ms
	Root Partition	OK	09-30-2024 21:17:46	0d 0h 48m 25s	1/4	DISK OK - free space: / 6080 MIB (74.91% inode=98%)
	SSH	OK	09-30-2024 21:18:24	0d 0h 47m 47s	1/4	SSH OK - OpenSSH_8.7 (protocol 2.0)
	Swap Usage	CRITICAL	09-30-2024 21:17:01	0d 0h 44m 10s	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	09-30-2024 21:19:39	0d 0h 46m 32s	1/4	PROCS OK: 36 processes with STATE = RSZDT

Results 1 - 8 of 8 Matching Services