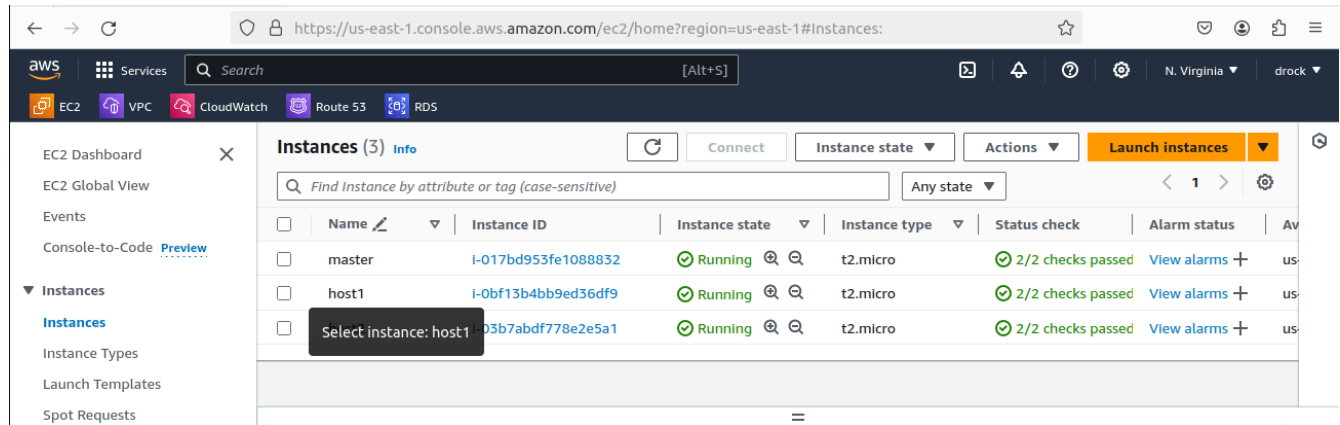


1. Create a Nagios Master-Slave architecture and add 2 hosts

Create a Nagios Master-Slave architecture and add 2 hosts



Update and Upgrade

```
sudo apt update && sudo apt upgrade -y
```

```
sudo apt install libldap-2.5-0 libldap-common
```

Install Prerequisites

```
sudo apt install autoconf gcc libc6 make wget unzip apache2 apache2-utils php libgd-dev libmcrypt-dev libssl-dev bc gawk dc build-essential snmp libnet-snmp-perl gettext
```

Create a Nagios User and Group

```
sudo useradd -m -s /bin/bash nagios
```

```
sudo groupadd nagcmd
```

```
sudo usermod -a -G nagcmd nagios
```

```
sudo usermod -a -G nagcmd www-data
```

Download and Compile Nagios on Ubuntu

```
cd /tmp
```

```
wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
```

Extract and Compile Nagios Core

```
tar -zxvf nagios-4.4.6.tar.gz
```

```
cd nagios-4.4.6
```

```
./configure --with-nagios-group=nagios --with-command-group=nagcmd  
make all
```

Install Nagios Core Binaries and Web Interface Files

```
sudo make install  
sudo make install-commandmode  
sudo make install-init  
sudo make install-config  
sudo /usr/bin/install -c -m 644 sample-config/httpd.conf /etc/apache2/sites-available/nagios.conf
```

Install Nagios on Ubuntu Plugins

```
sudo apt update  
sudo apt install nagios-plugins  
sudo cp /usr/lib/nagios/plugins/* /usr/local/nagios/libexec/
```

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

```
Checked 1 hosts.  
Checked 1 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 1 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  
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$
```

```
sudo systemctl restart nagios  
sudo systemctl restart apache2
```

```
sudo ln -s /etc/apache2/sites-available/nagios.conf /etc/apache2/sites-enabled/
```

```
sudo a2enmod cgi rewrite
```

Set Nagios Admin Password

```
sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
```

Start Nagios and Apache Services

sudo systemctl enable nagios

sudo systemctl enable apache2

sudo systemctl restart nagios

sudo systemctl restart apache2

```
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo systemctl restart nagios
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo systemctl restart apache2
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo ln -s /etc/apache2/sites-available/nagios.conf /etc/apache2/sites-enabled/
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo a2enmod cgi rewrite
Enabling module cgi.
Enabling module rewrite.
To activate the new configuration, you need to run:
  systemctl restart apache2
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo systemctl enable nagios
sudo systemctl enable apache2
sudo systemctl restart nagios
sudo systemctl restart apache2
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /lib/systemd/system/nagios.service.
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$
```

sudo systemctl status nagios

```
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.4.6
● nagios.service - Nagios Core 4.4.6
   Loaded: loaded (/lib/systemd/system/nagios.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2024-03-18 09:53:09 UTC; 5min ago
     Docs: https://www.nagios.org/documentation
   Process: 19047 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Process: 19048 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Main PID: 19049 (nagios)
      Tasks: 6 (limit: 1121)
     Memory: 2.1M
          CPU: 130ms
    CGroup: /system.slice/nagios.service
            └─19049 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
            └─19051 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─19052 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─19053 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─19054 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─19060 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
```

sudo systemctl status apache2

```
ubuntu@ip-172-31-25-10:/tmp/nagios-4.4.6$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2024-03-18 09:53:10 UTC; 7min ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 19064 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 19069 (apache2)
      Tasks: 6 (limit: 1121)
     Memory: 10.3M
          CPU: 69ms
    CGroup: /system.slice/apache2.service
            └─19069 /usr/sbin/apache2 -k start
            └─19070 /usr/sbin/apache2 -k start
            └─19071 /usr/sbin/apache2 -k start
            └─19072 /usr/sbin/apache2 -k start
            └─19073 /usr/sbin/apache2 -k start
            └─19074 /usr/sbin/apache2 -k start

Mar 18 09:53:10 ip-172-31-25-10 systemd[1]: Starting The Apache HTTP Server...
Mar 18 09:53:10 ip-172-31-25-10 systemd[1]: Started The Apache HTTP Server.
```

Install check_nrpe on Master:

```
sudo apt-get update
sudo apt install nagios-nrpe-plugin
/usr/lib/nagios/plugins/check_nrpe --version
```

```
ubuntu@ip-172-31-25-10:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
ubuntu@ip-172-31-25-10:~$ sudo apt install nagios-nrpe-plugin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nagios-nrpe-plugin is already the newest version (4.0.3-1ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-25-10:~$ /usr/lib/nagios/plugins/check_nrpe --version
NRPE Plugin for Nagios
Version: 4.0.3
ubuntu@ip-172-31-25-10:~$
```

```
sudo mkdir -p /usr/local/nagios/etc/servers
```

```
sudo nano /usr/local/nagios/etc/servers/Host1.cfg
```

```
define host {
    use          linux-server
    host_name    Host1
    alias        My Test Host
    address      192.168.1.10
    max_check_attempts 5
    check_period 24x7
    notification_interval 30
    notification_period 24x7
}

define service {
    use          generic-service
    host_name    Host1
    service_description PING
    check_command check_ping!100.0,20%!500.0,60%
}

define service {
    use          generic-service
    host_name    Host1
    service_description HTTP
    check_command check_http
}
```

```
GNU nano 6.2 /usr/local/nagios/etc/servers/Host1.cfg *
define host {
    use          linux-server
    host_name    Host1
    alias        My Test Host
    address      3.90.56.62
    max_check_attempts 5
    check_period 24x7
    notification_interval 30
    notification_period 24x7
}

define service {
    use          generic-service
    host_name    Host1
    service_description PING
    check_command check_ping!100.0,20%!500.0,60%
}

define service {
    use          generic-service
```

sudo systemctl restart nagios

2. Define Host2 Configuration:

```
define host {
    use          linux-server
    host_name    Host2
    alias        My Second Host
    address      192.168.1.20 # Update with the IP address of Host2
    max_check_attempts 5
    check_period 24x7
    notification_interval 30
    notification_period 24x7
}
```

```
define service {
    use          generic-service
    host_name    Host2
    service_description PING
    check_command check_ping!100.0,20%!500.0,60%
}
```

```
define service {
    use          generic-service
    host_name    Host2
    service_description HTTP
    check_command check_http
}
```

```
GNU nano 6.2 /usr/local/nagios/etc/servers/Host2.cfg *
define host {
    use                linux-server
    host_name          Host2
    alias              My Second Host
    address            54.197.81.11
    max_check_attempts 5
    check_period       24x7
    notification_interval 30
    notification_period 24x7
}

define service {
    use                generic-service
    host_name          Host2
    service_description PING
    check_command       check_ping!100.0,20%!500.0,60%
}

define service {
    use                generic-service

```

^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	^V Replace	^U Paste	^J Justify	^_ Go To Line	M-E Redo	M-C Copy

ON HOSTS / ON SLAVES

Install Nagios NRPE Client

sudo apt update && sudo apt upgrade -y

sudo apt install nagios-nrpe-server nagios-plugins

Configuring Nagios Client

sudo nano /etc/nagios/nrpe.cfg

allowed_hosts=127.0.0.1, 192.168.1.100

restart the NRPE service

sudo systemctl restart nagios-nrpe-server

```
GNU nano 6.2 /etc/nagios/nrpe.cfg

# 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, 54.89.74.184

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

i-0bf13b4bb9ed36df9 (host1)
PublicIPs: 3.90.56.62 PrivateIPs: 172.31.20.19
```

```
GNU nano 6.2 /etc/nagios/nrpe.cfg
# (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, 54.89.74.184

# 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.
#

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

i-03b7abdf778e2e5a1 (host2)
PublicIPs: 54.197.81.11 PrivateIPs: 172.31.23.38
```

Step 4: Verify Connection from Nagios

To verify the connection between the Nagios server and the NRPE client, log in to your Nagios server and check if it can communicate with the NRPE service properly.

```
/usr/lib/nagios/plugins/check_nrpe --version
/usr/lib/nagios/plugins/check_nrpe -H 192.168.1.11
```

If successful, the output should be “NRPE v4.0.0”, indicating that the Nagios server has successfully communicated with NRPE.

```
ubuntu@ip-172-31-25-10:~$ /usr/lib/nagios/plugins/check_nrpe -H 3.90.56.62
NRPE v4.0.3
ubuntu@ip-172-31-25-10:~$ /usr/lib/nagios/plugins/check_nrpe -H 54.197.81.11
NRPE v4.0.3
ubuntu@ip-172-31-25-10:~$
```

PublicIPs: 54.89.74.184

PrivateIPs: 172.31.25.10

54.89.74.184/nagios/

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Nagios®

General

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Documentation

Current Status

Tactical Overview

Map (Legacy)

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Host Groups

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Summary

Grid

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Current Network Status

Last Updated: Mon Mar 18 11:04:59 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

1

0

0

0

All Problems

All Types

0

1

Service Status Totals

Ok

Warning

Unknown

Critical

Pending

7

0

0

1

0

All Problems

All Types

1

8

Host Status Details For All Host Groups

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
localhost	UP	03-18-2024 11:00:17	0d 1h 14m 4s	PING OK - Packet loss = 0%, RTA = 0.04 ms

Results 1 - 1 of 1 Matching Hosts