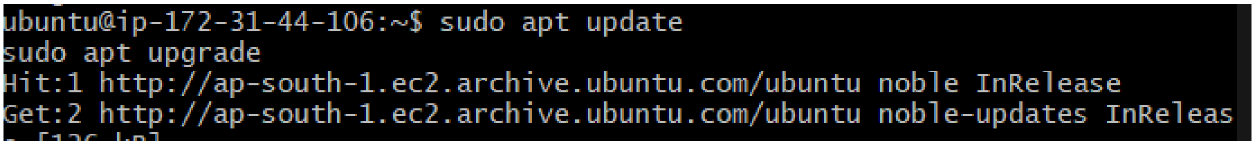
To use and configure Nagios on an Ubuntu VM for hosting and monitoring three websites, follow these steps:

1. Install Nagios on Ubuntu VM

Step 1: Update Packages

```
sudo apt update
sudo apt upgrade
```

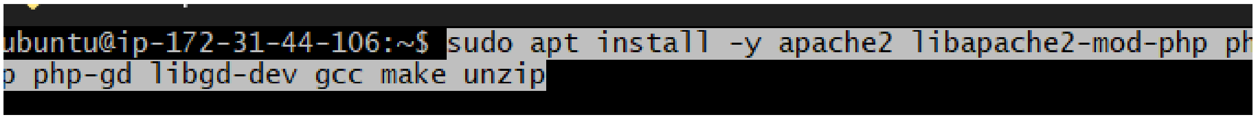


```
ubuntu@ip-172-31-44-106:~$ sudo apt update
sudo apt upgrade
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InReleas
```

Step 2: Install Required Dependencies

```
sudo apt install -y apache2 libapache2-mod-php php php-gd libgd-dev
gcc make unzip
```

```
sudo apt install -y build-essential libgd-dev openssl libssl-dev unzip
apache2 php libapache2-mod-php php-gd libmcrypt-dev
```

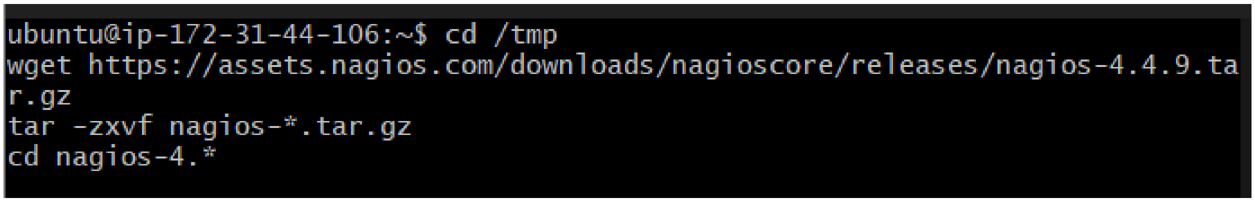


```
ubuntu@ip-172-31-44-106:~$ sudo apt install -y apache2 libapache2-mod-php ph
p php-gd libgd-dev gcc make unzip
```

Step 3: Download and Install Nagios

- Download the latest Nagios Core from its official website

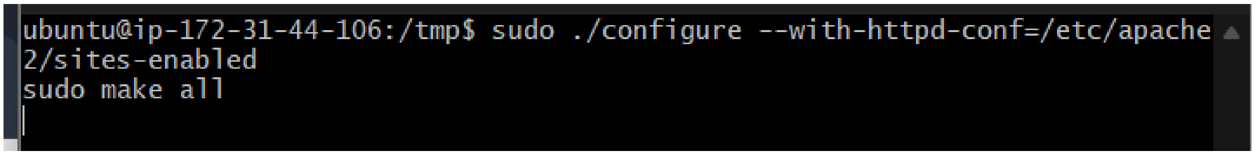
```
cd /tmp
wget
https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.9.t
ar.gz
tar -zxvf nagios-*.tar.gz
cd nagios-4.*
```



```
ubuntu@ip-172-31-44-106:~$ cd /tmp
wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.9.ta
r.gz
tar -zxvf nagios-*.tar.gz
cd nagios-4.*
```

- Run the configuration script and compile Nagios.

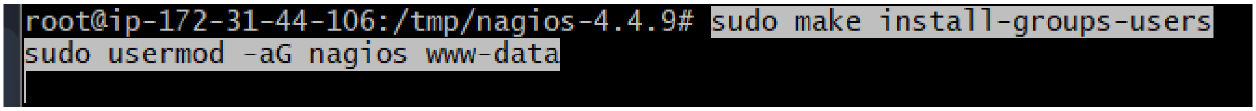
```
sudo ./configure --with-httpd-conf=/etc/apache2/sites-enabled
sudo make all
```



```
ubuntu@ip-172-31-44-106:/tmp$ sudo ./configure --with-httpd-conf=/etc/apache
2/sites-enabled
sudo make all
```

Step 4: Create User and Group for Nagios

```
sudo make install-groups-users
sudo usermod -aG nagios www-data
```



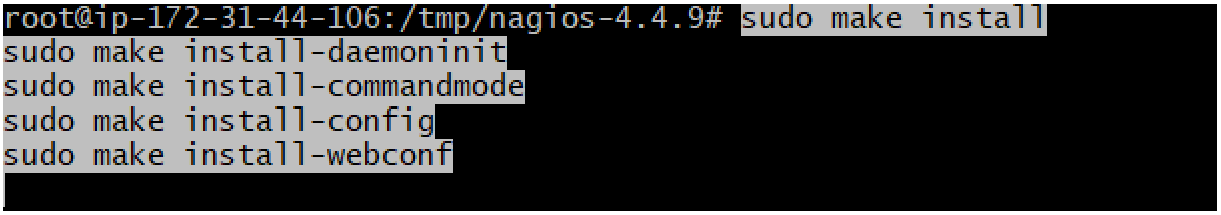
```
root@ip-172-31-44-106:/tmp/nagios-4.4.9# sudo make install-groups-users
sudo usermod -aG nagios www-data
```

Step 5: Install Nagios Binaries and Service Files

bash

Copy code

```
sudo make install
sudo make install-daemoninit
sudo make install-commandmode
sudo make install-config
sudo make install-webconf
```



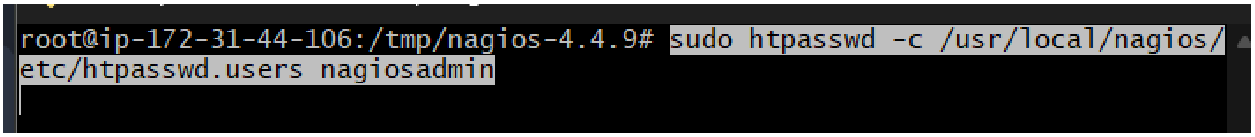
```
root@ip-172-31-44-106:/tmp/nagios-4.4.9# sudo make install
sudo make install-daemoninit
sudo make install-commandmode
sudo make install-config
sudo make install-webconf
```

Step 6: Set Up Apache Authentication

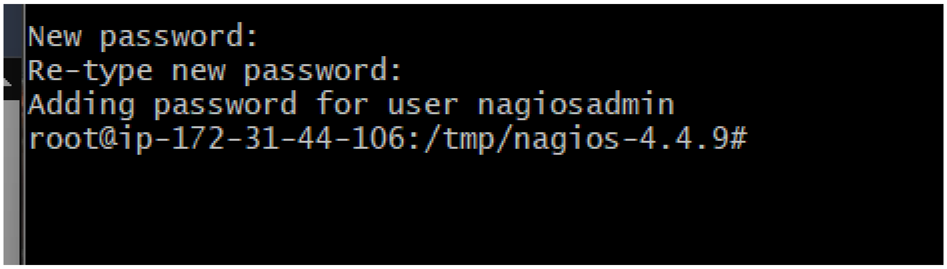
bash

Copy code

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



```
root@ip-172-31-44-106:/tmp/nagios-4.4.9# sudo htpasswd -c /usr/local/nagios/
etc/htpasswd.users nagiosadmin
```



```
New password:
Re-type new password:
Adding password for user nagiosadmin
root@ip-172-31-44-106:/tmp/nagios-4.4.9#
```

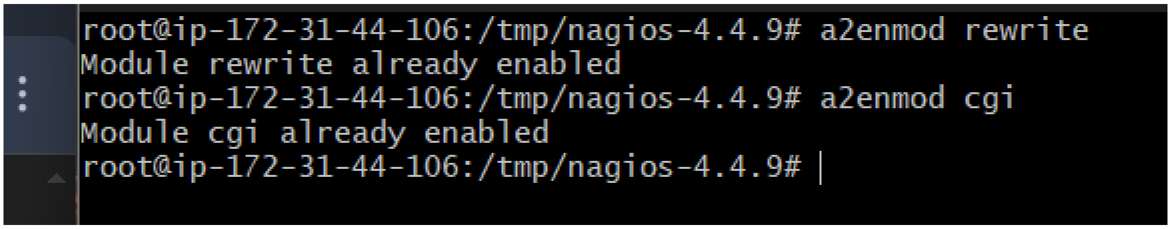
You'll be prompted to create a password for the `nagiosadmin` user.

Step 7: Enable Apache Modules and Start Services

bash

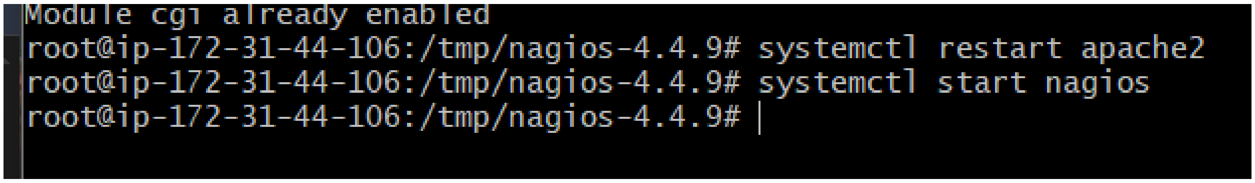
Copy code

```
sudo a2enmod rewrite
sudo a2enmod cgi
```



```
root@ip-172-31-44-106:/tmp/nagios-4.4.9# a2enmod rewrite
Module rewrite already enabled
root@ip-172-31-44-106:/tmp/nagios-4.4.9# a2enmod cgi
Module cgi already enabled
root@ip-172-31-44-106:/tmp/nagios-4.4.9# |
```

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



```
Module cgi already enabled
root@ip-172-31-44-106:/tmp/nagios-4.4.9# systemctl restart apache2
root@ip-172-31-44-106:/tmp/nagios-4.4.9# systemctl start nagios
root@ip-172-31-44-106:/tmp/nagios-4.4.9# |
```

Install Nagios Plugins

Nagios requires plugins for its monitoring functionality. Download and install the official Nagios plugins:

```
cd /tmp
wget https://nagios-plugins.org/download/nagios-plugins-2.4.6.tar.gz
tar -zxvf nagios-plugins-2.4.6.tar.gz
cd nagios-plugins-2.4.6
```

Run the configuration script, compile, and install:

```
sudo ./configure --with-nagios-user=nagios --with-nagios-group=nagios
sudo make
sudo make install
```

Start Nagios and Enable it on Boot

Start Nagios and ensure it will automatically start on boot:

```
bash
Copy code
sudo systemctl start nagios
sudo systemctl enable nagios
```

Verify Nagios Installation

Nagios should now be accessible via your web browser. Open your browser and navigate to:

```
arduino
Copy code
http://<your-server-ip>/nagios
```

Log in using the username (nagiosadmin or your custom one) and the password you set earlier.

If Error about Nagios.services

The error message "Unit nagios.service could not be found" indicates that the Nagios service either wasn’t installed properly or the service file wasn't set up correctly.

Here’s how you can fix this and get the Nagios service running:

1. Ensure Nagios is Installed Correctly

First, confirm that Nagios is installed. Make sure you’ve gone through all the installation steps properly, including the `make install-init` command, which should install the Nagios service.

2. Manually Create the Nagios Service File

If the service file wasn't created, you can create it manually. Use this content for the Nagios systemd service file:

```
sudo nano /etc/systemd/system/nagios.service
```

Then, add the following content to the file:

ini

Copy code

```
[Unit]

Description=Nagios Core Monitoring

Documentation=https://www.nagios.org/documentation

After=network.target apache2.service
```

```
[Service]
ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
ExecReload=/bin/kill -HUP $MAINPID
KillMode=process
Restart=on-failure

[Install]
WantedBy=multi-user.target
```

3. Reload systemd and Enable Nagios

After creating the service file, reload `systemd` to recognize the new service:

```
sudo systemctl daemon-reload
sudo systemctl enable nagios
sudo systemctl start nagios
```

4. Check the Nagios Service Status

Verify that Nagios is running with:

```
sudo systemctl status nagios
```

If everything is installed correctly, the service should now be running, and you should no longer see the "Unit nagios.service could not be found" error.

2. Configure Nagios for Website Monitoring

Now that Nagios is installed, you can configure it to monitor your websites.

Step 1: Add Website Configuration

- Open the `nagios.cfg` file to define the websites.

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

- Ensure the following lines are uncommented:

```
cfg_dir=/usr/local/nagios/etc/servers
```

Step 2: Create Directory for Website Configuration Files

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

Step 3: Configure Monitoring for Each Website

For each website, create a configuration file inside the `/servers` directory.

```
sudo nano /usr/local/nagios/etc/servers/website1.cfg
```

Example configuration to monitor a website's availability (HTTP check):

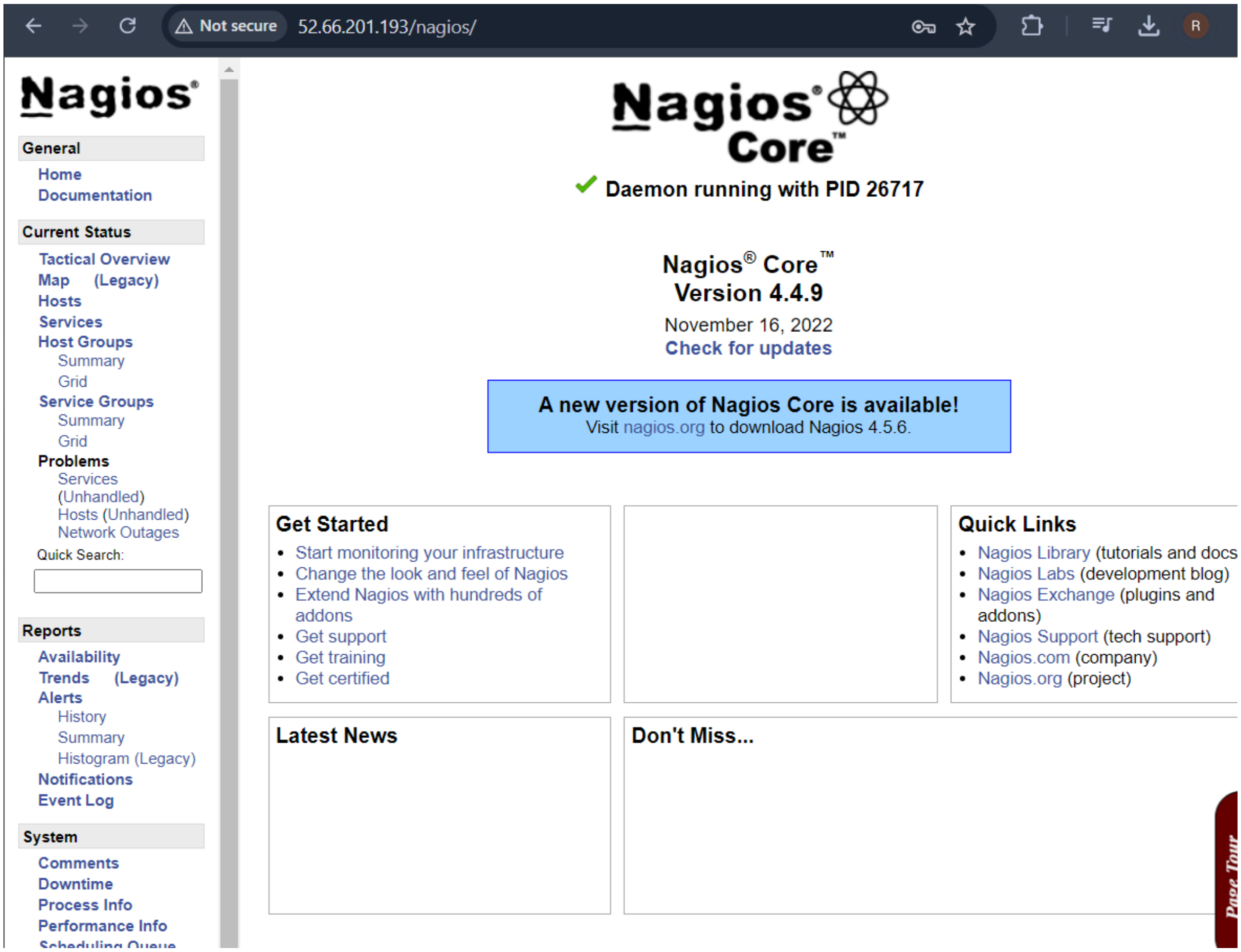
```
define host {
    use                     linux-server
    host_name               website1
    alias                   Website 1
    address                 your-website-1.com
}

define service {
    use                     generic-service
    host_name               website1
    service_description     HTTP
    check_command           check_http
}
```

Repeat this for each of your three websites, replacing `your-website-1.com` with the actual domain name or IP address.

Step 4: Reload Nagios Configuration

After adding all the website configurations:

```
sudo systemctl restart nagios
```



✓ Daemon running with PID 26717

Nagios® Core™
Version 4.4.9
November 16, 2022
Check for updates

A new version of Nagios Core is available!
Visit nagios.org to download Nagios 4.5.6.

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

Don't Miss...

3. Enable Email Notifications (Optional)

To receive alerts via email when a website goes down:

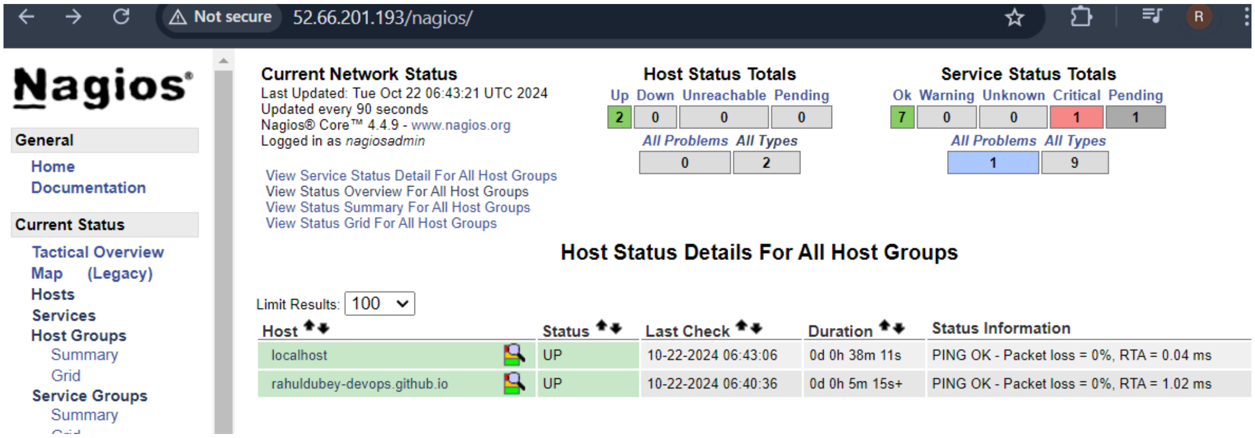
1. Edit `/usr/local/nagios/etc/objects/contacts.cfg` to configure email alerts.
2. Modify the `email` field to your own email address.

4. Access the Nagios Web Interface

- Open a browser and go to `http://<your-server-ip>/nagios`.
- Log in using the `nagiosadmin` credentials you created earlier.

5. Verify Monitoring

After logging in, you should see the status of your websites on the dashboard. If Nagios detects a problem with any of the websites, you will see it marked with an alert.



Current Network Status
Last Updated: Tue Oct 22 06:43:21 UTC 2024
Updated every 90 seconds
Nagios® Core™ 4.4.9 - 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

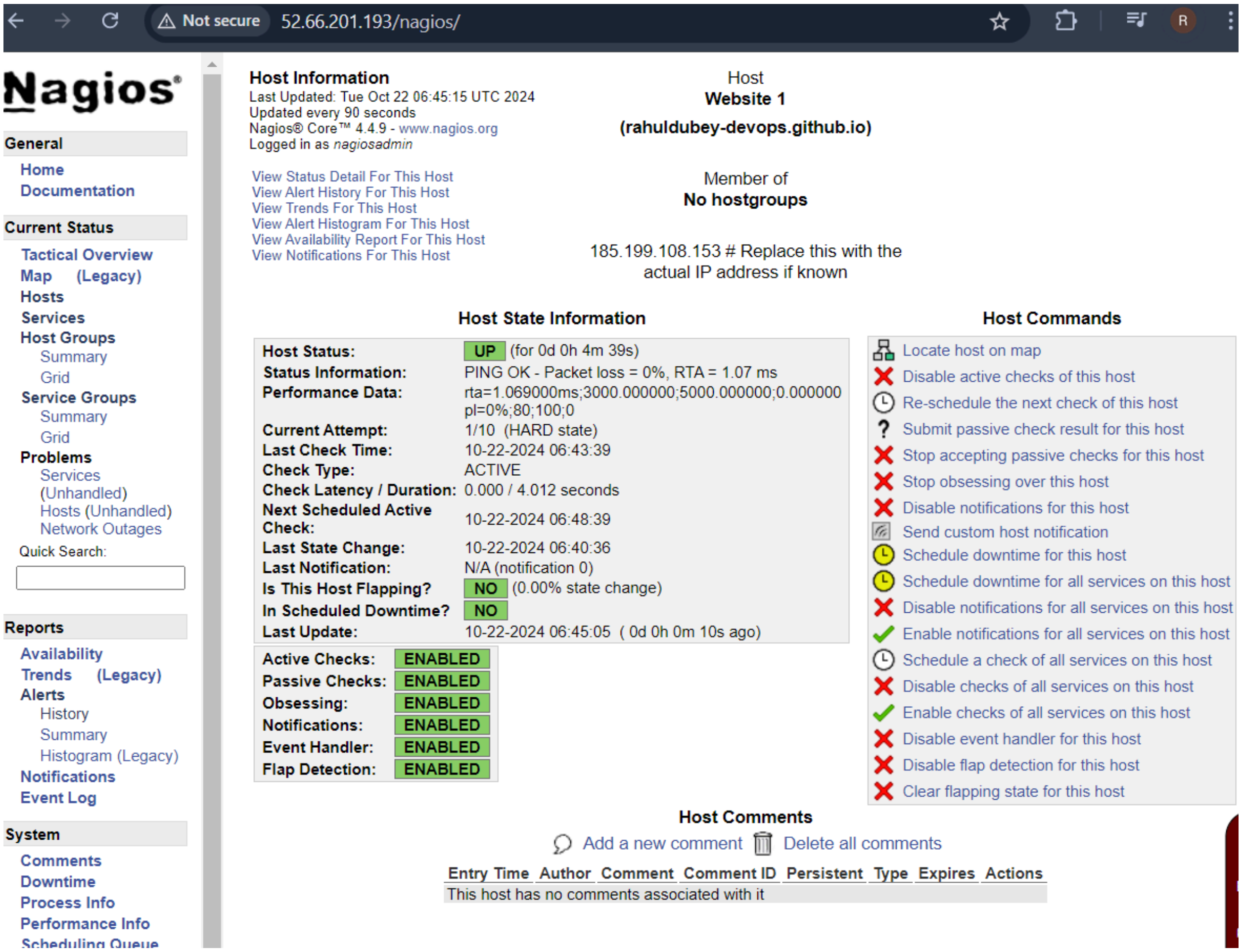
Ok	Warning	Unknown	Critical	Pending
7	0	0	1	1

All Problems	*All Types*
1	9

Host Status Details For All Host Groups

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
localhost	UP	10-22-2024 06:43:06	0d 0h 38m 11s	PING OK - Packet loss = 0%, RTA = 0.04 ms
rahuldubey-devops.github.io	UP	10-22-2024 06:40:36	0d 0h 5m 15s+	PING OK - Packet loss = 0%, RTA = 1.02 ms



Host Information
Last Updated: Tue Oct 22 06:45:15 UTC 2024
Updated every 90 seconds
Nagios® Core™ 4.4.9 - www.nagios.org
Logged in as *nagiosadmin*

View Status Detail For This Host
View Alert History For This Host
View Trends For This Host
View Alert Histogram For This Host
View Availability Report For This Host
View Notifications For This Host

Host
Website 1
(rahuldubey-devops.github.io)

Member of
No hostgroups

185.199.108.153 # Replace this with the actual IP address if known

Host State Information

Host Status:	UP (for 0d 0h 4m 39s)
Status Information:	PING OK - Packet loss = 0%, RTA = 1.07 ms
Performance Data:	rta=1.069000ms;3000.000000;5000.000000;0.000000 pl=0%;80;100;0
Current Attempt:	1/10 (HARD state)
Last Check Time:	10-22-2024 06:43:39
Check Type:	ACTIVE
Check Latency / Duration:	0.000 / 4.012 seconds
Next Scheduled Active Check:	10-22-2024 06:48:39
Last State Change:	10-22-2024 06:40:36
Last Notification:	N/A (notification 0)
Is This Host Flapping?	NO (0.00% state change)
In Scheduled Downtime?	NO
Last Update:	10-22-2024 06:45:05 (0d 0h 0m 10s ago)

Active Checks:	ENABLED
Passive Checks:	ENABLED
Obsessing:	ENABLED
Notifications:	ENABLED
Event Handler:	ENABLED
Flap Detection:	ENABLED

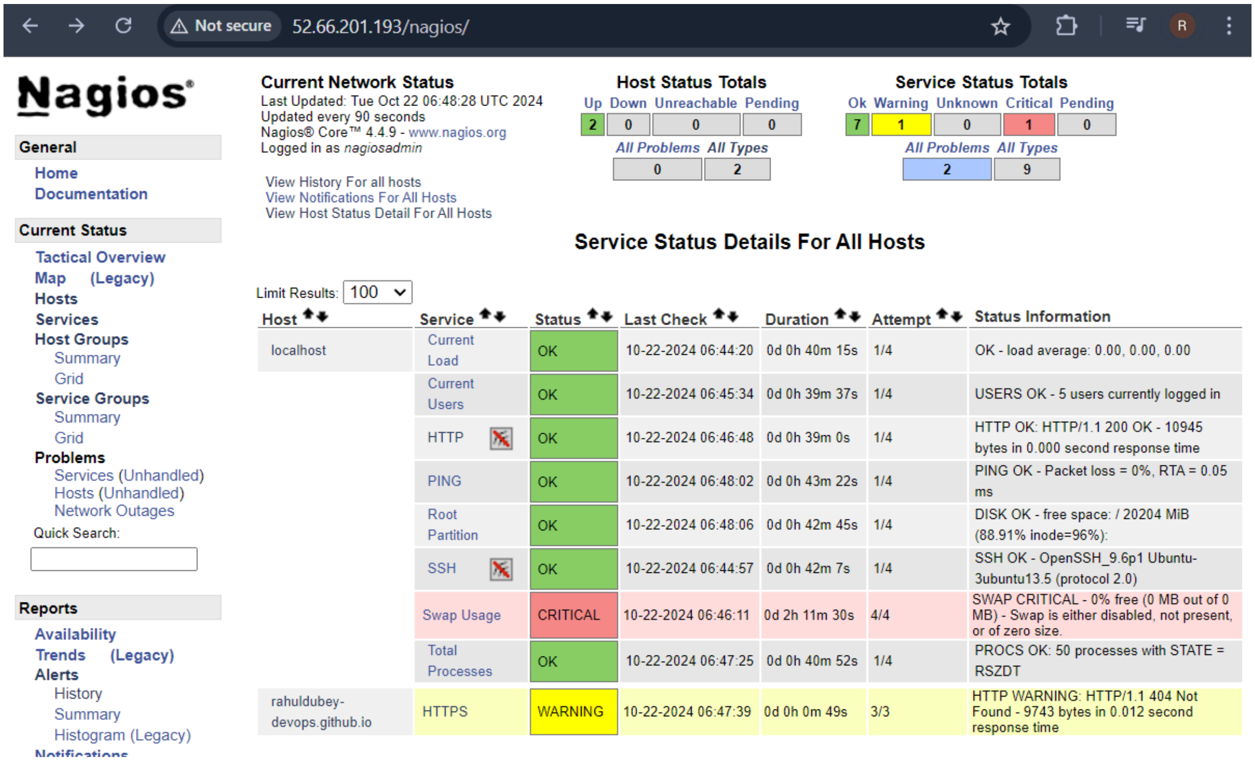
Host Commands

Locate host on map
✗ Disable active checks of this host
Re-schedule the next check of this host
? Submit passive check result for this host
✗ Stop accepting passive checks for this host
✗ Stop obsessing over this host
✗ Disable notifications for this host
Send custom host notification
Schedule downtime for this host
Schedule downtime for all services on this host
✗ Disable notifications for all services on this host
✓ Enable notifications for all services on this host
Schedule a check of all services on this host
✗ Disable checks of all services on this host
✓ Enable checks of all services on this host
✗ Disable event handler for this host
✗ Disable flap detection for this host
✗ Clear flapping state for this host

Host Comments

Add a new comment Delete all comments

Entry Time	Author	Comment	Comment ID	Persistent	Type	Expires	Actions
This host has no comments associated with it							



Current Network Status
Last Updated: Tue Oct 22 06:48:28 UTC 2024
Updated every 90 seconds
Nagios® Core™ 4.4.9 - 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	*All Types*
0	2

Service Status Totals

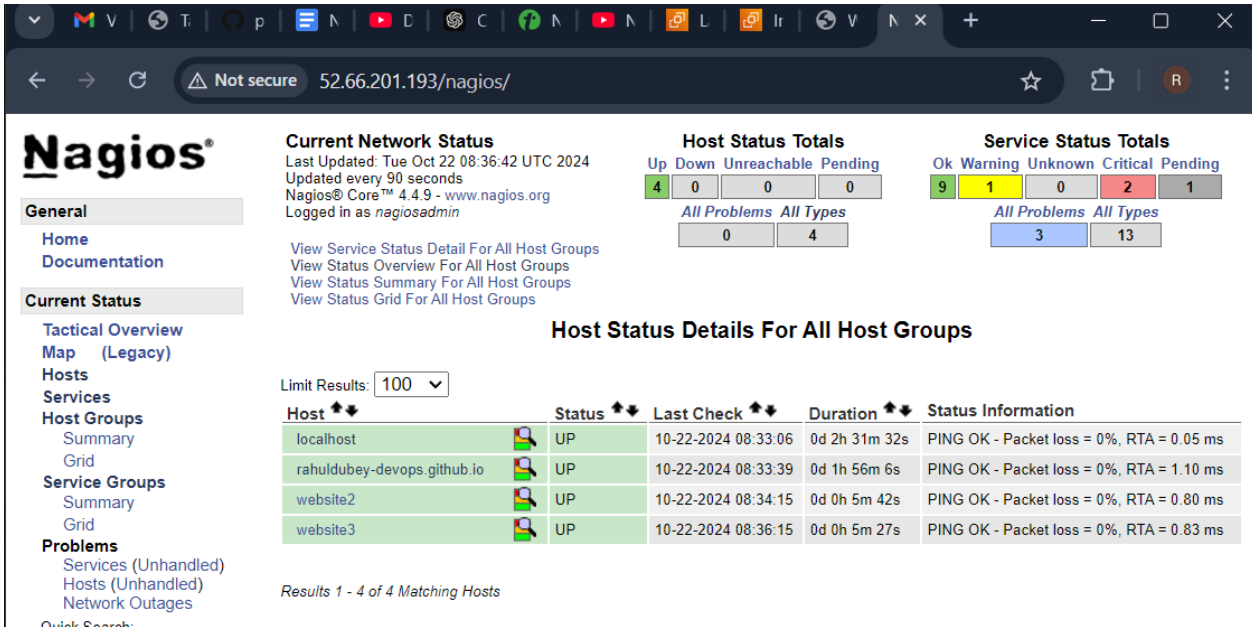
Ok	Warning	Unknown	Critical	Pending
7	1	0	1	0

All Problems	*All Types*
2	9

Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	10-22-2024 06:44:20	0d 0h 40m 15s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	10-22-2024 06:45:34	0d 0h 39m 37s	1/4	USERS OK - 5 users currently logged in
	HTTP	OK	10-22-2024 06:46:48	0d 0h 39m 0s	1/4	HTTP OK: HTTP/1.1 200 OK - 10945 bytes in 0.000 second response time
	PING	OK	10-22-2024 06:48:02	0d 0h 43m 22s	1/4	PING OK - Packet loss = 0%, RTA = 0.05 ms
	Root Partition	OK	10-22-2024 06:48:06	0d 0h 42m 45s	1/4	DISK OK - free space: / 20204 MiB (88.91% inode=96%):
	SSH	OK	10-22-2024 06:44:57	0d 0h 42m 7s	1/4	SSH OK - OpenSSH_9.6p1 Ubuntu-3ubuntu13.5 (protocol 2.0)
	Swap Usage	CRITICAL	10-22-2024 06:46:11	0d 2h 11m 30s	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	10-22-2024 06:47:25	0d 0h 40m 52s	1/4	PROCS OK: 50 processes with STATE = RSZDT
rahuldubey-devops.github.io	HTTPS	WARNING	10-22-2024 06:47:39	0d 0h 0m 49s	3/3	HTTP WARNING: HTTP/1.1 404 Not Found - 9743 bytes in 0.012 second response time



Current Network Status
Last Updated: Tue Oct 22 08:36:42 UTC 2024
Updated every 90 seconds
Nagios® Core™ 4.4.9 - 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
4	0	0	0

All Problems	*All Types*
0	4

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
9	1	0	2	1

All Problems	*All Types*
3	13

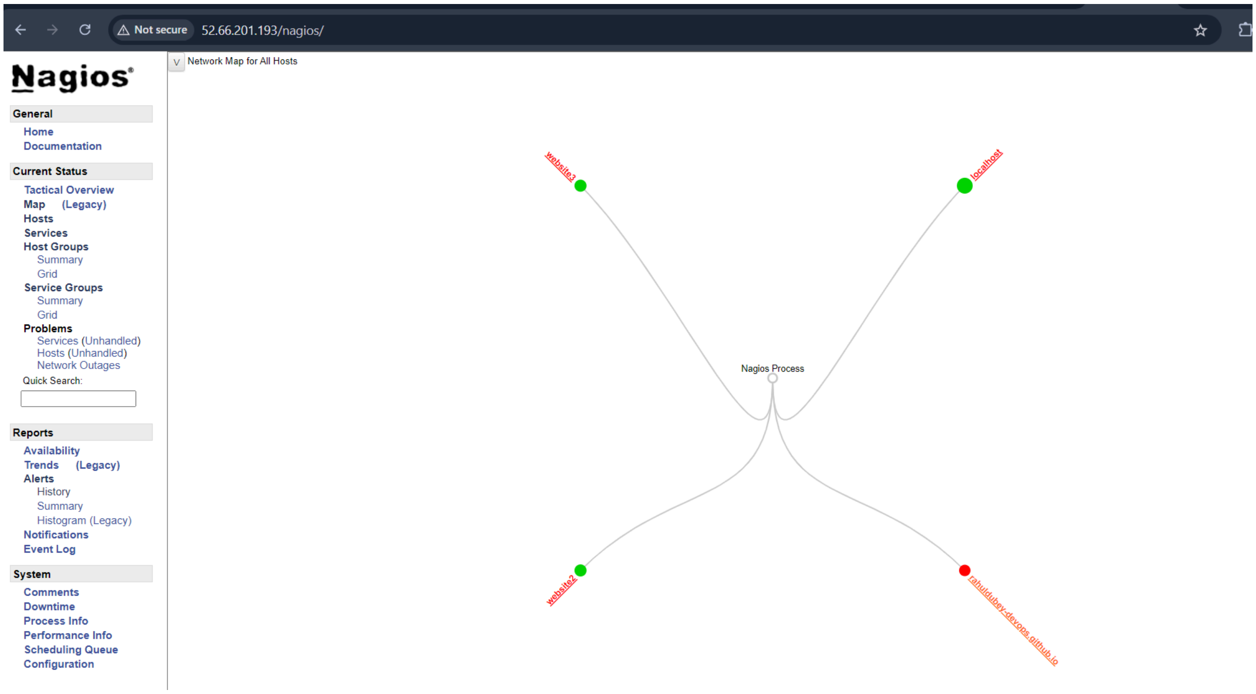
Host Status Details For All Host Groups

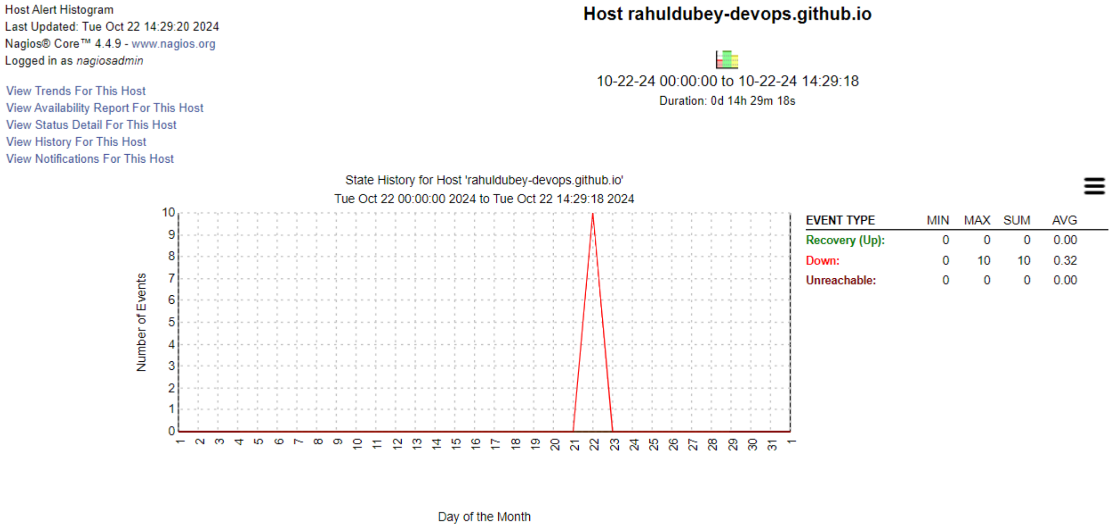
Limit Results: 100

Host	Status	Last Check	Duration	Status Information
localhost	UP	10-22-2024 08:33:06	0d 2h 31m 32s	PING OK - Packet loss = 0%, RTA = 0.05 ms
rahuldubey-devops.github.io	UP	10-22-2024 08:33:39	0d 1h 56m 6s	PING OK - Packet loss = 0%, RTA = 1.10 ms
website2	UP	10-22-2024 08:34:15	0d 0h 5m 42s	PING OK - Packet loss = 0%, RTA = 0.80 ms
website3	UP	10-22-2024 08:36:15	0d 0h 5m 27s	PING OK - Packet loss = 0%, RTA = 0.83 ms

Results 1 - 4 of 4 Matching Hosts

```
# Install NGINX if not already installed
sudo apt update
sudo apt install nginx

# Create directories for the websites
sudo mkdir -p /var/www/website1
sudo mkdir -p /var/www/website2

# Create index.html files
echo "<h1>Welcome to Website 1</h1>" | sudo tee /var/www/website1/index.html
echo "<h1>Welcome to Website 2</h1>" | sudo tee /var/www/website2/index.html

# Create NGINX configuration files
sudo nano /etc/nginx/sites-available/website1
# (add website 1 config and save)

sudo nano /etc/nginx/sites-available/website2
# (add website 2 config and save)

# Enable the sites
sudo ln -s /etc/nginx/sites-available/website1 /etc/nginx/sites-enabled/
sudo ln -s /etc/nginx/sites-available/website2 /etc/nginx/sites-enabled/

# Test the configuration
sudo nginx -t

# Restart NGINX
sudo systemctl restart nginx
```




Host Alert Histogram
Last Updated: Tue Oct 22 14:29:20 2024
Nagios® Core™ 4.4.9 - www.nagios.org
Logged in as *nagiosadmin*

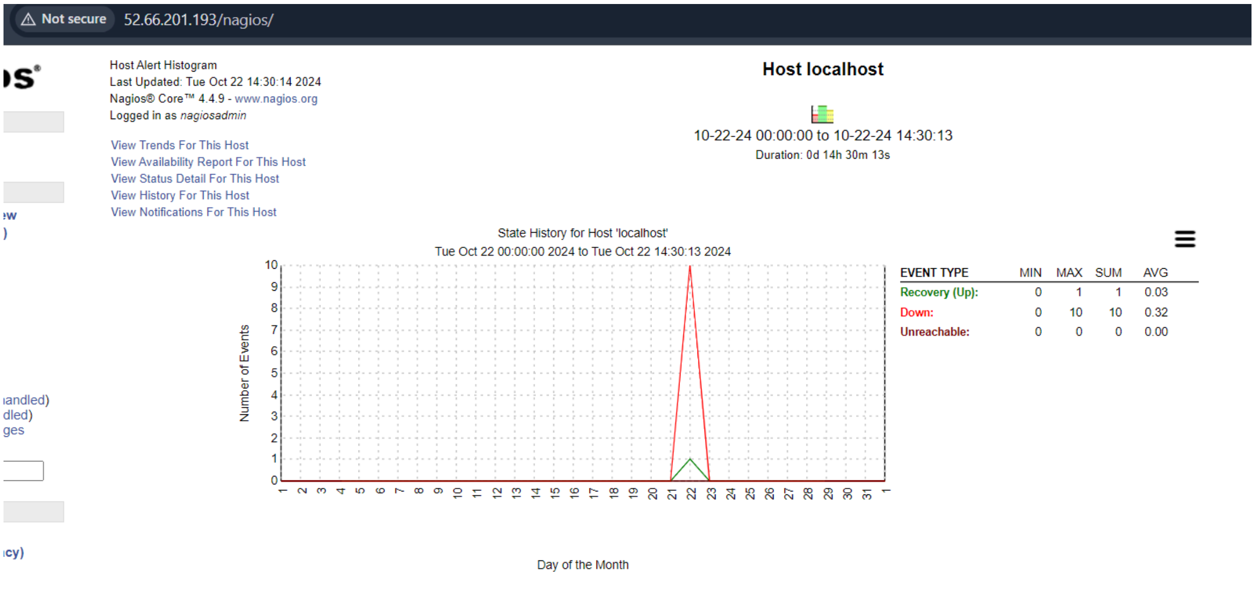
View Trends For This Host
View Availability Report For This Host
View Status Detail For This Host
View History For This Host
View Notifications For This Host

Host rahuldubey-devops.github.io

10-22-24 00:00:00 to 10-22-24 14:29:18
Duration: 0d 14h 29m 18s

State History for Host 'rahuldubey-devops.github.io'
Tue Oct 22 00:00:00 2024 to Tue Oct 22 14:29:18 2024

EVENT TYPE	MIN	MAX	SUM	AVG
Recovery (Up):	0	0	0	0.00
Down:	0	10	10	0.32
Unreachable:	0	0	0	0.00



Host Alert Histogram
Last Updated: Tue Oct 22 14:30:14 2024
Nagios® Core™ 4.4.9 - www.nagios.org
Logged in as *nagiosadmin*

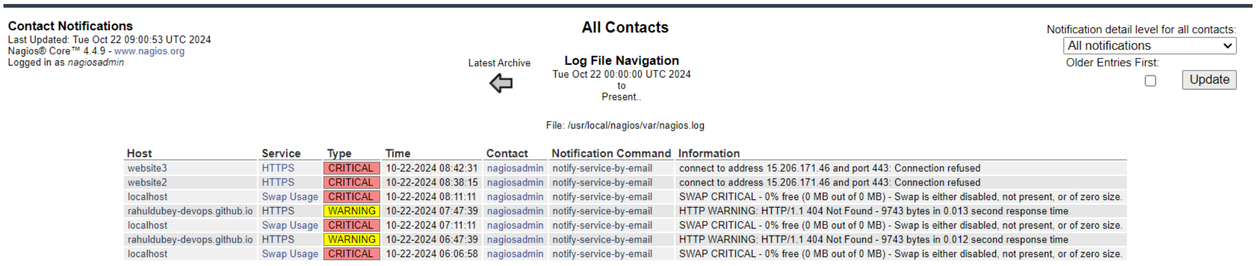
View Trends For This Host
View Availability Report For This Host
View Status Detail For This Host
View History For This Host
View Notifications For This Host

Host localhost

10-22-24 00:00:00 to 10-22-24 14:30:13
Duration: 0d 14h 30m 13s

State History for Host 'localhost'
Tue Oct 22 00:00:00 2024 to Tue Oct 22 14:30:13 2024

EVENT TYPE	MIN	MAX	SUM	AVG
Recovery (Up):	0	1	1	0.03
Down:	0	10	10	0.32
Unreachable:	0	0	0	0.00



Contact Notifications
Last Updated: Tue Oct 22 09:00:53 UTC 2024
Nagios® Core™ 4.4.9 - www.nagios.org
Logged in as *nagiosadmin*

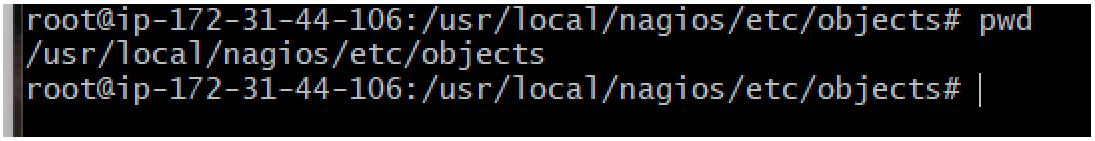
All Contacts

Log File Navigation
Tue Oct 22 00:00:00 UTC 2024
to
Present..

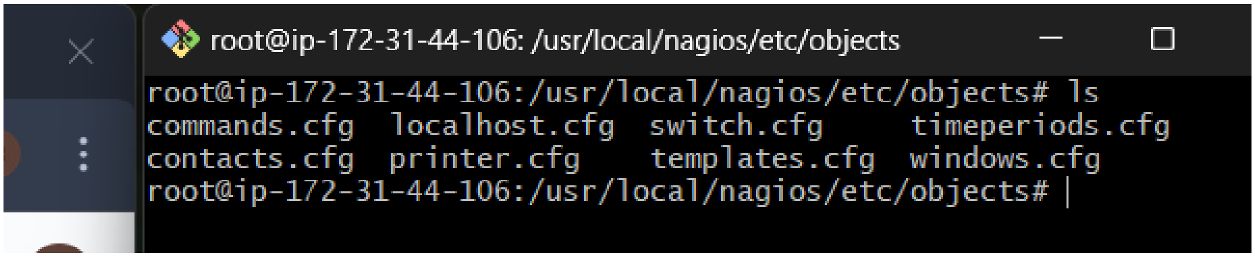
Notification detail level for all contacts:
Older Entries First: □

File: /usr/local/nagios/var/nagios.log

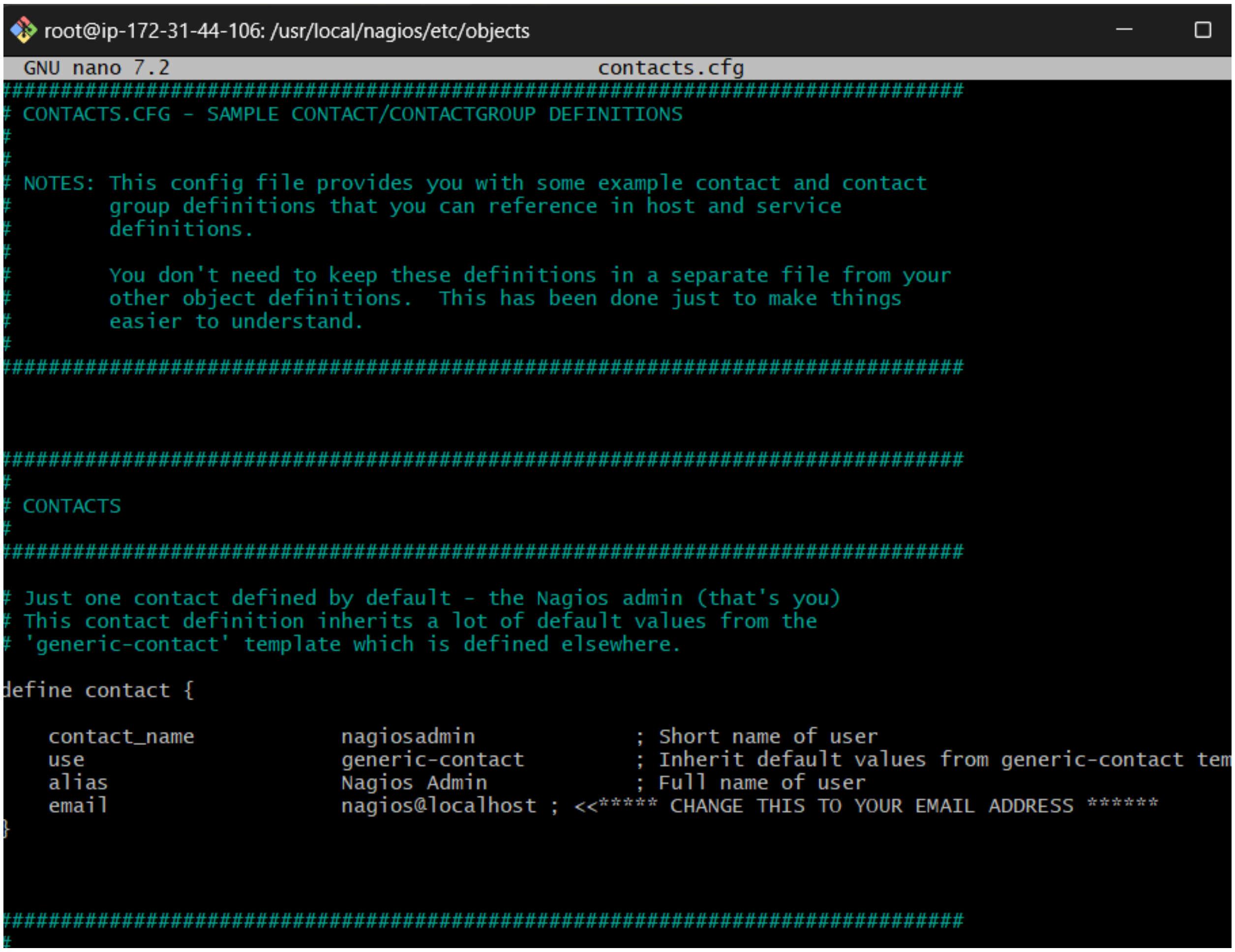
Host	Service	Type	Time	Contact	Notification Command	Information
website3	HTTPS	CRITICAL	10-22-2024 08:42:31	nagiosadmin	notify-service-by-email	connect to address 15.206.171.46 and port 443: Connection refused
website2	HTTPS	CRITICAL	10-22-2024 08:38:15	nagiosadmin	notify-service-by-email	connect to address 15.206.171.46 and port 443: Connection refused
localhost	Swap Usage	CRITICAL	10-22-2024 08:11:11	nagiosadmin	notify-service-by-email	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
rahuldubey-devops.github.io	HTTPS	WARNING	10-22-2024 07:47:39	nagiosadmin	notify-service-by-email	HTTP WARNING: HTTP/1.1 404 Not Found - 9743 bytes in 0.013 second response time
localhost	Swap Usage	CRITICAL	10-22-2024 07:11:11	nagiosadmin	notify-service-by-email	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.
rahuldubey-devops.github.io	HTTPS	WARNING	10-22-2024 06:47:39	nagiosadmin	notify-service-by-email	HTTP WARNING: HTTP/1.1 404 Not Found - 9743 bytes in 0.012 second response time
localhost	Swap Usage	CRITICAL	10-22-2024 06:06:58	nagiosadmin	notify-service-by-email	SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size.



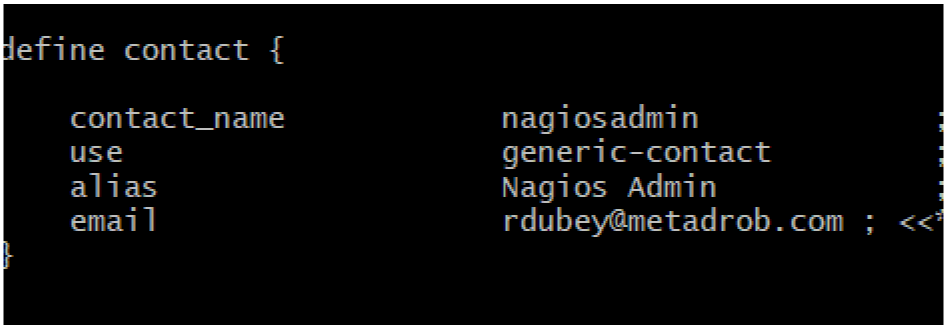
```
root@ip-172-31-44-106:/usr/local/nagios/etc/objects# pwd
/usr/local/nagios/etc/objects
root@ip-172-31-44-106:/usr/local/nagios/etc/objects#
```



```
root@ip-172-31-44-106:/usr/local/nagios/etc/objects# ls
commands.cfg  localhost.cfg  switch.cfg     timeperiods.cfg
contacts.cfg  printer.cfg    templates.cfg  windows.cfg
root@ip-172-31-44-106:/usr/local/nagios/etc/objects#
```



```
 GNU nano 7.2                                     contacts.cfg
###############################################################################
# CONTACTS.CFG - SAMPLE CONTACT/CONTACTGROUP DEFINITIONS
#
#
# NOTES: This config file provides you with some example contact and contact
#        group definitions that you can reference in host and service
#        definitions.
#
#        You don't need to keep these definitions in a separate file from your
#        other object definitions.  This has been done just to make things
#        easier to understand.
#
###############################################################################



###############################################################################
#
# CONTACTS
#
###############################################################################

# Just one contact defined by default - the Nagios admin (that's you)
# This contact definition inherits a lot of default values from the
# 'generic-contact' template which is defined elsewhere.

define contact {

    contact_name            nagiosadmin             ; Short name of user
    use                     generic-contact         ; Inherit default values from generic-contact tem
    alias                   Nagios Admin            ; Full name of user
    email                   nagios@localhost ; <<***** CHANGE THIS TO YOUR EMAIL ADDRESS ******
}



###############################################################################
#
```



```
define contact {

    contact_name            nagiosadmin             ;
    use                     generic-contact         ;
    alias                   Nagios Admin            ;
    email                   rdubey@metadrob.com ; <<
}
```

To monitor the websites hosted on your **website VM** from your **Nagios VM**, you need to set up **Nagios** to track their availability and performance. Below is a detailed step-by-step guide on how to configure Nagios to monitor these websites:

Step 1: Ensure Connectivity Between VMs

Make sure that your **Nagios VM** can reach your **website VM** via the network. The **website VM** should be publicly accessible, or at least accessible from your **Nagios VM** (through a VPN or a private network).

Step 2: Install NRPE on the Website VM (Optional for Detailed Metrics)

If you want to monitor detailed system data (e.g., CPU, memory, disk usage) of your **website VM**, you should install the **Nagios Remote Plugin Executor (NRPE)** agent on the **website VM**.

Install NRPE and Nagios plugins:
bash
Copy code

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

1.

Configure NRPE to allow the Nagios server to connect:
Open the NRPE configuration file:
bash
Copy code

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

Find the line:
makefile
Copy code

```
allowed_hosts=127.0.0.1
```

Replace it with the IP address of your **Nagios VM**:
makefile
Copy code

```
allowed_hosts=<Nagios_VM_IP>,127.0.0.1
```

2. Save and close the file.

Restart the NRPE service:
bash
Copy code

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

3.

Step 3: Configure Website Monitoring in Nagios VM

3.1: Add Hosts for Your Websites in Nagios

On your **Nagios VM**, follow these steps to add your websites for monitoring.

Open the hosts configuration file:
bash
Copy code

```
sudo nano /usr/local/nagios/etc/servers/website1.cfg
```

1.

Add the configuration for Website 1:
bash
Copy code

```
define host {
    use             linux-server
    host_name       website1
    alias           Website 1
    address         <Website_VM_IP>
}

define service {
    use                 generic-service
    host_name           website1
    service_description HTTP Check - Website 1
    check_command       check_http!-I <Website_VM_IP> -u /
}
```

2.
3. **Save and exit** the editor.

Create a second configuration file for Website 2:
bash
Copy code

```
sudo nano /usr/local/nagios/etc/servers/website2.cfg
```

4.

Add the configuration for Website 2:
bash
Copy code

```
host {
    use             linux-server
    host_name       website2
    alias           Website 2
    address         <Website_VM_IP>
}

define service {
    use                 generic-service
    host_name           website2
    service_description HTTP Check - Website 2
    chedefine ck_command       check_http!-I <Website_VM_IP> -u /
}
```

5.
6. **Save and exit** the editor.

3.2: Verify Nagios Configuration

After adding the websites, verify that the Nagios configuration is valid:

bash
Copy code

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

If the configuration is valid, you'll see a message saying there are no errors.

3.3: Restart Nagios

Restart the Nagios service to apply the new configuration:

bash
Copy code

```
sudo systemctl restart nagios
```

Step 4: Check Website Status in Nagios Web Interface

Access the Nagios Web Interface by opening your browser and navigating to:
arduino
Copy code

```
http://<Nagios_VM_IP>/nagios
```

1.
2. **Login** with your Nagios admin credentials.
3. **View Host Status**: You should see both **Website 1** and **Website 2** listed under the "Hosts" section. The HTTP check for each website will report their status (either "UP" or "DOWN").

Step 5: Set Up Notifications for Website Status

If you want to be alerted via email when any of the websites go down, configure Nagios notifications.

Open the `contacts.cfg` file in Nagios:
bash
Copy code

```
sudo nano /usr/local/nagios/etc/objects/contacts.cfg
```

1.

Make sure your email is set under the `nagiosadmin` contact:
bash
Copy code

```
define contact {
    contact_name            nagiosadmin
    alias                   Nagios Admin
    email                   your-email@example.com  # Set your email
here
    ...
}
```

2.
3. Save and exit, then restart Nagios.

bash
Copy code

```
sudo systemctl restart nagios
```

Now, you will receive email notifications whenever the status of any monitored websites changes.

Recap of Commands:

On Website VM:

Install NGINX and NRPE:
bash
Copy code

```
sudo apt update
sudo apt install nginx nagios-nrpe-server nagios-plugins
```

1.

Configure NRPE to allow Nagios VM:
bash
Copy code

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

2.
    - Update `allowed_hosts` to include Nagios VM IP.

bash
Copy code

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

3.

On Nagios VM:
Create monitoring configs for Website 1 and 2:
bash
Copy code

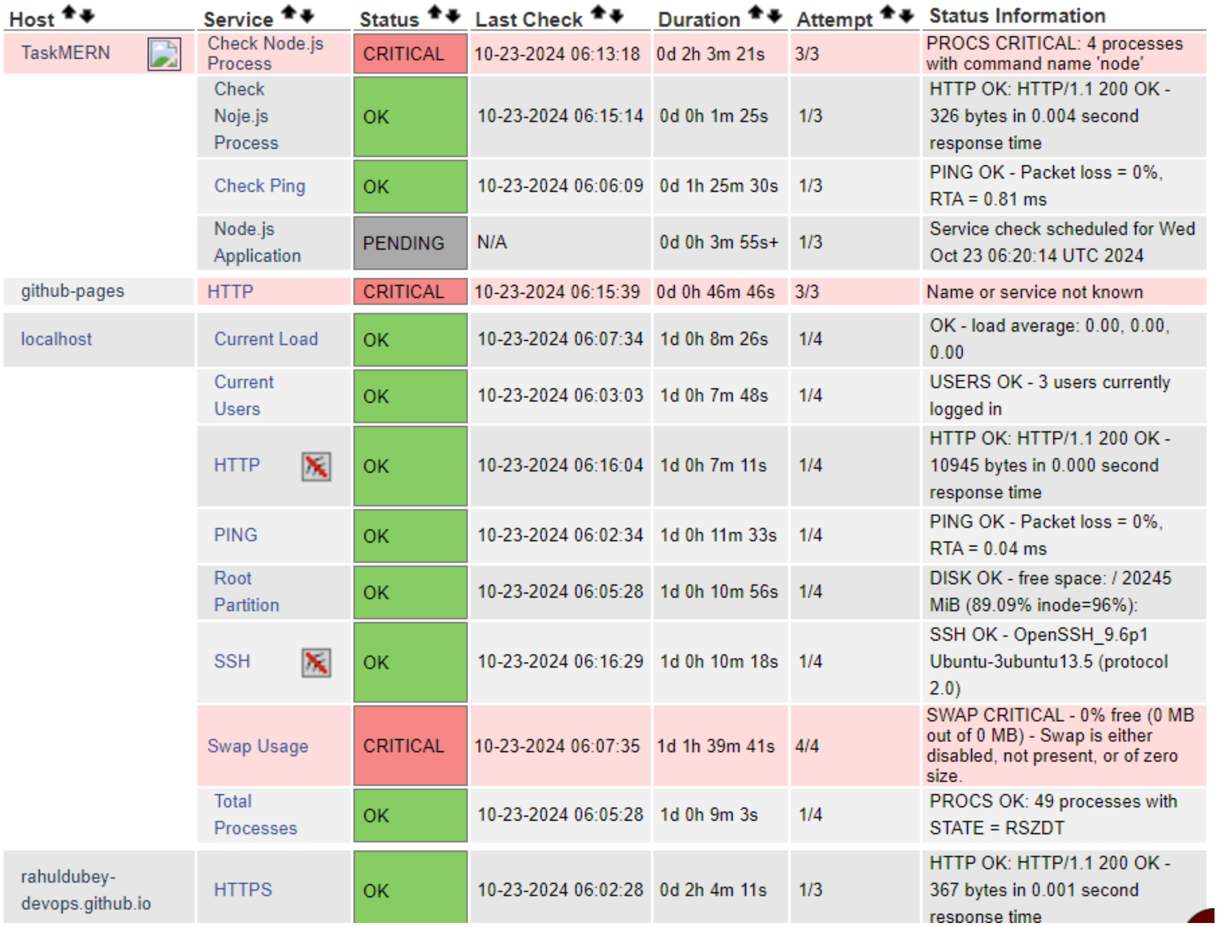
```
sudo nano /usr/local/nagios/etc/servers/website1.cfg
sudo nano /usr/local/nagios/etc/servers/website2.cfg
```

1.

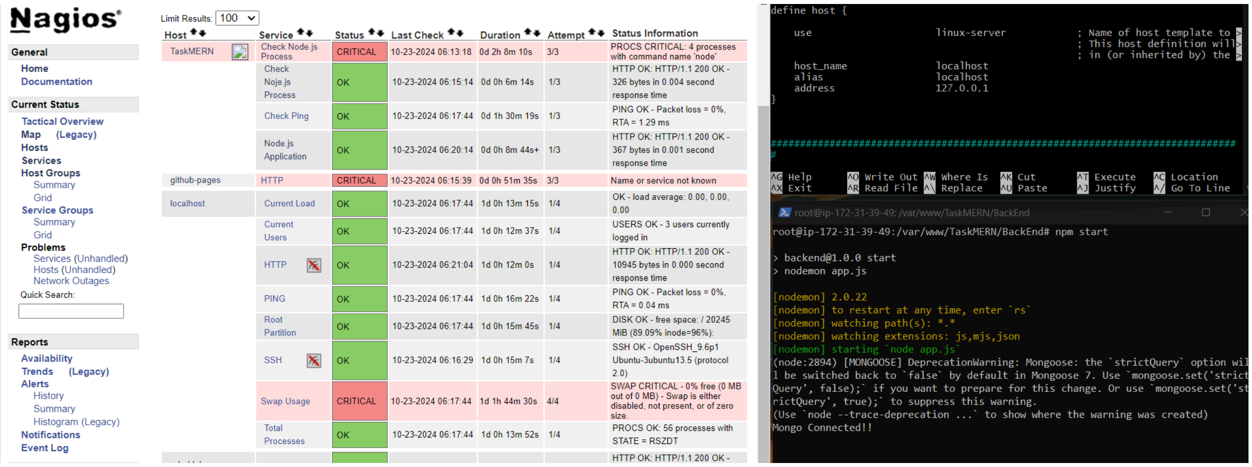
Verify and Restart Nagios:
bash
Copy code

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

2.
3. **Check Nagios Web UI** at `http://<Nagios_VM_IP>/nagios` to view monitoring status.



Host	Service	Status	Last Check	Duration	Attempt	Status Information
TaskMERN	Check Node.js Process	CRITICAL	10-23-2024 06:13:18	0d 2h 3m 21s	3/3	PROCS CRITICAL: 4 processes with command name 'node'
	Check Noje.js Process	OK	10-23-2024 06:15:14	0d 0h 1m 25s	1/3	HTTP OK: HTTP/1.1 200 OK - 326 bytes in 0.004 second response time
	Check Ping	OK	10-23-2024 06:06:09	0d 1h 25m 30s	1/3	PING OK - Packet loss = 0%, RTA = 0.81 ms
	Node.js Application	PENDING	N/A	0d 0h 3m 55s+	1/3	Service check scheduled for Wed Oct 23 06:20:14 UTC 2024
github-pages	HTTP	CRITICAL	10-23-2024 06:15:39	0d 0h 46m 46s	3/3	Name or service not known
localhost	Current Load	OK	10-23-2024 06:07:34	1d 0h 8m 26s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	10-23-2024 06:03:03	1d 0h 7m 48s	1/4	USERS OK - 3 users currently logged in
	HTTP	OK	10-23-2024 06:16:04	1d 0h 7m 11s	1/4	HTTP OK: HTTP/1.1 200 OK - 10945 bytes in 0.000 second response time
	PING	OK	10-23-2024 06:02:34	1d 0h 11m 33s	1/4	PING OK - Packet loss = 0%, RTA = 0.04 ms
	Root Partition	OK	10-23-2024 06:05:28	1d 0h 10m 56s	1/4	DISK OK - free space: / 20245 MiB (89.09% inode=96%):
	SSH	OK	10-23-2024 06:16:29	1d 0h 10m 18s	1/4	SSH OK - OpenSSH_9.6p1 Ubuntu-3ubuntu13.5 (protocol 2.0)
	Swap Usage	CRITICAL	10-23-2024 06:07:35	1d 1h 39m 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	10-23-2024 06:05:28	1d 0h 9m 3s	1/4	PROCS OK: 49 processes with STATE = RSZDT
rahuldubey-devops.github.io	HTTPS	OK	10-23-2024 06:02:28	0d 2h 4m 11s	1/3	HTTP OK: HTTP/1.1 200 OK - 367 bytes in 0.001 second response time

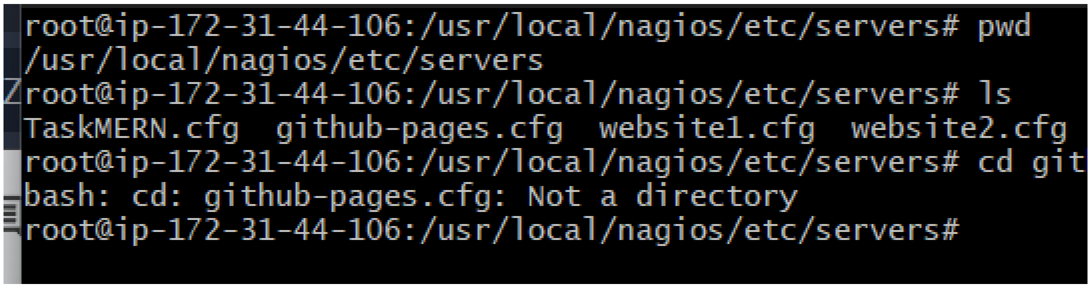


Host	Service	Status	Last Check	Duration	Attempt	Status Information
TaskMERN	Check Node.js Process	CRITICAL	10-23-2024 06:13:18	0d 2h 8m 10s	3/3	PROCS CRITICAL: 4 processes with command name 'node'
	Check Noje.js Process	OK	10-23-2024 06:15:14	0d 0h 6m 14s	1/3	HTTP OK: HTTP/1.1 200 OK - 326 bytes in 0.004 second response time
	Check Ping	OK	10-23-2024 06:17:44	0d 1h 30m 19s	1/3	PING OK - Packet loss = 0%, RTA = 1.29 ms
	Node.js Application	OK	10-23-2024 06:20:14	0d 0h 8m 44s+	1/3	HTTP OK: HTTP/1.1 200 OK - 367 bytes in 0.001 second response time
github-pages	HTTP	CRITICAL	10-23-2024 06:15:39	0d 0h 51m 35s	3/3	Name or service not known
localhost	Current Load	OK	10-23-2024 06:17:44	1d 0h 13m 15s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	10-23-2024 06:17:44	1d 0h 12m 37s	1/4	USERS OK - 3 users currently logged in
	HTTP	OK	10-23-2024 06:21:04	1d 0h 12m 0s	1/4	HTTP OK: HTTP/1.1 200 OK - 10945 bytes in 0.000 second response time
	PING	OK	10-23-2024 06:17:44	1d 0h 16m 22s	1/4	PING OK - Packet loss = 0%, RTA = 0.04 ms
	Root Partition	OK	10-23-2024 06:17:44	1d 0h 15m 45s	1/4	DISK OK - free space: / 20245 MiB (89.09% inode=96%):
	SSH	OK	10-23-2024 06:16:29	1d 0h 15m 7s	1/4	SSH OK - OpenSSH_9.6p1 Ubuntu-3ubuntu13.5 (protocol 2.0)
	Swap Usage	CRITICAL	10-23-2024 06:17:44	1d 1h 44m 30s	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	10-23-2024 06:17:44	1d 0h 13m 52s	1/4	PROCS OK: 56 processes with STATE = RSZDT
						HTTP OK: HTTP/1.1 200 OK -

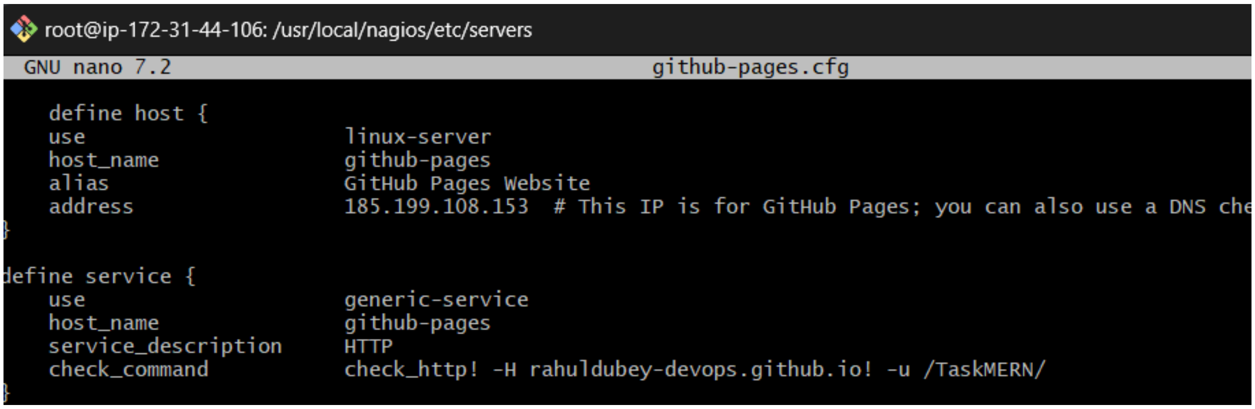
```
define host {

    use                     linux-server            ; Name of host template to >
                                                    ; This host definition will>
                                                    ; in (or inherited by) the >

    host_name               localhost
    alias                   localhost
    address                 127.0.0.1
}


################################################################################
#

^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^/ Go To Line
```

root@ip-172-31-39-49: /var/www/TaskMERN/BackEnd

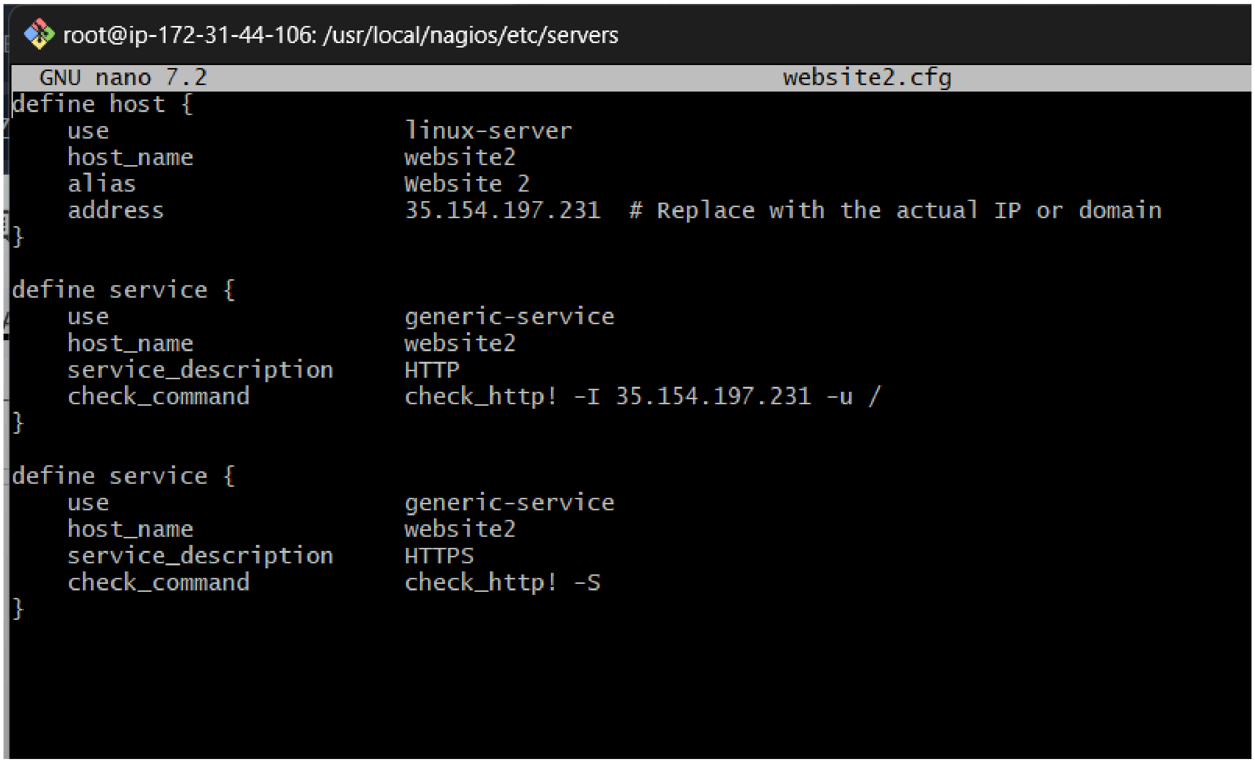
```
root@ip-172-31-39-49:/var/www/TaskMERN/BackEnd# npm start

> backend@1.0.0 start
> nodemon app.js

[nodemon] 2.0.22
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node app.js`
(node:2894) [MONGOOSE] DeprecationWarning: Mongoose: the `strictQuery` option wil
l be switched back to `false` by default in Mongoose 7. Use `mongoose.set('strict
Query', false);` if you want to prepare for this change. Or use `mongoose.set('st
rictQuery', true);` to suppress this warning.
(Use `node --trace-deprecation ...` to show where the warning was created)
Mongo Connected!!
```



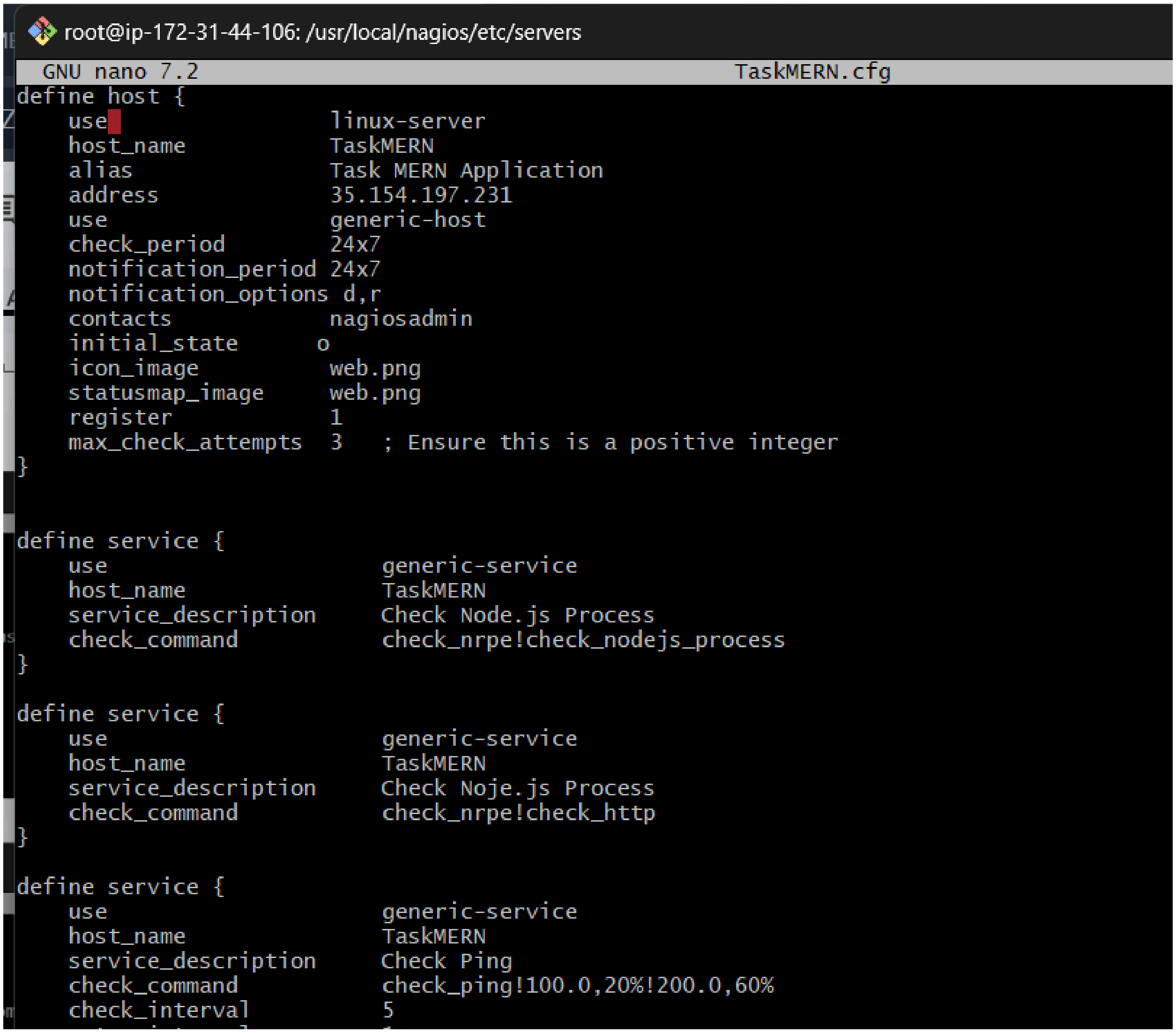
```
root@ip-172-31-44-106:/usr/local/nagios/etc/servers# pwd
/usr/local/nagios/etc/servers
root@ip-172-31-44-106:/usr/local/nagios/etc/servers# ls
TaskMERN.cfg  github-pages.cfg  website1.cfg  website2.cfg
root@ip-172-31-44-106:/usr/local/nagios/etc/servers# cd git
bash: cd: github-pages.cfg: Not a directory
root@ip-172-31-44-106:/usr/local/nagios/etc/servers#
```



```
 GNU nano 7.2                                     github-pages.cfg

   define host {
   use                     linux-server
   host_name               github-pages
   alias                   GitHub Pages Website
   address                 185.199.108.153  # This IP is for GitHub Pages; you can also use a DNS che
}

define service {
   use                     generic-service
   host_name               github-pages
   service_description     HTTP
   check_command           check_http! -H rahuldubey-devops.github.io! -u /TaskMERN/
}
```

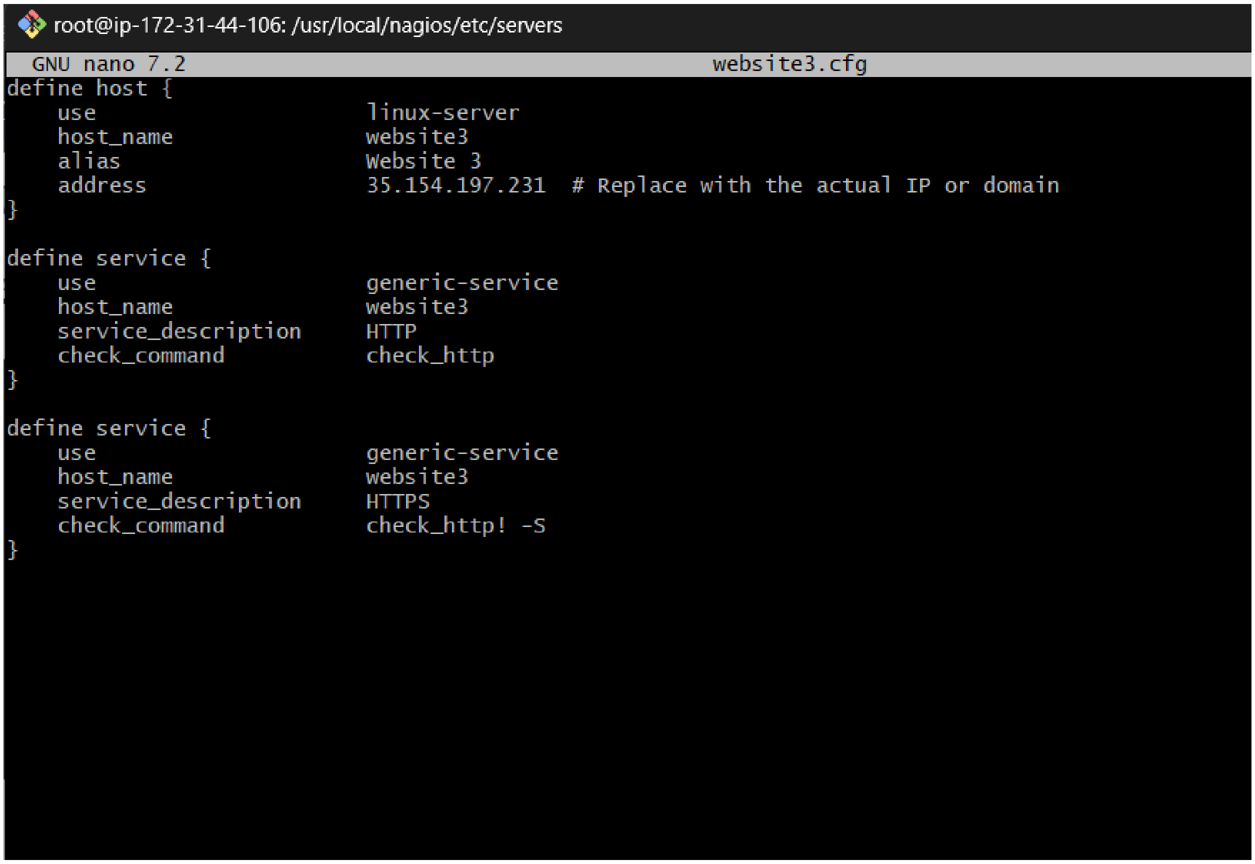


```
 GNU nano 7.2                                     website2.cfg
define host {
    use                     linux-server
    host_name               website2
    alias                   Website 2
    address                 35.154.197.231  # Replace with the actual IP or domain
}

define service {
    use                     generic-service
    host_name               website2
    service_description     HTTP
    check_command           check_http! -I 35.154.197.231 -u /
}

define service {
    use                     generic-service
    host_name               website2
    service_description     HTTPS
    check_command           check_http! -S
}
```



root@ip-172-31-44-106: /usr/local/nagios/etc/servers

```
  GNU nano 7.2                                         TaskMERN.cfg
define host {
    use                 linux-server
    host_name           TaskMERN
    alias               Task MERN Application
    address             35.154.197.231
    use                 generic-host
    check_period        24x7
    notification_period 24x7
    notification_options d,r
    contacts            nagiosadmin
    initial_state      o
    icon_image          web.png
    statusmap_image     web.png
    register            1
    max_check_attempts  3   ; Ensure this is a positive integer
}


define service {
    use                         generic-service
    host_name                   TaskMERN
    service_description         Check Node.js Process
    check_command               check_nrpe!check_nodejs_process
}

define service {
    use                         generic-service
    host_name                   TaskMERN
    service_description         Check Noje.js Process
    check_command               check_nrpe!check_http
}

define service {
    use                         generic-service
    host_name                   TaskMERN
    service_description         Check Ping
    check_command               check_ping!100.0,20%!200.0,60%
    check_interval              5
```



root@ip-172-31-44-106: /usr/local/nagios/etc/servers

```
  GNU nano 7.2                                         website3.cfg
define host {
    use                         linux-server
    host_name                   website3
    alias                       Website 3
    address                     35.154.197.231  # Replace with the actual IP or domain
}

define service {
    use                         generic-service
    host_name                   website3
    service_description         HTTP
    check_command               check_http
}

define service {
    use                         generic-service
    host_name                   website3
    service_description         HTTPS
    check_command               check_http! -S
}
```

Node.js Check

```
define host {
   use              linux-server
   host_name          TaskMERN
   alias            Task MERN Application
   address           35.154.197.231
   check_period       24x7
   notification_period 24x7
   notification_options d,r
   initial_state      o
   icon_image          web.png
   statusmap_image     web.png
   register            1
   max_check_attempts  3   ; Ensure this is a positive integer
}

define service {
   use                   generic-service
   host_name               TaskMERN
   service_description     Check Node.js Process
```

```
    check_command           check_nrpe!check_http
}

define service {
    use                     generic-service
    host_name               TaskMERN
    service_description     Check Ping
    check_command           check_ping!100,20%!200,60%
    check_interval          5
    retry_interval          1
    max_check_attempts      3
}

define service {
    use                     generic-service
    host_name               TaskMERN
    service_description     Node.js Application
    check_command           check_http! -S -H localhost -p 3000
}
```

Possible Errors:

1. **NPRE Plugins :**

```
sudo apt update
sudo apt install nagios-plugins

cd /tmp
wget https://nagios-plugins.org/download/nagios-plugins-2.5.6.tar.gz  # Check for the latest version

tar -xzf nagios-plugins-2.5.6.tar.gz
cd nagios-plugins-2.5.6

./configure --with-nagios-user=nagios --with-nagios-group=nagios
make
sudo make install
```

A. Verify Installation

After installation, check again to see if the `libexec` directory exists and if the commands are present:

```
ls /usr/local/nagios/libexec/
```

B. Check Permissions

Once the plugins are installed, ensure the Nagios user has execute permissions:

```
sudo chmod +x /usr/local/nagios/libexec/*
```

C. Restart Nagios

Finally, restart the Nagios service to apply any changes:

```
sudo systemctl restart nagios
```

2. **Nagios.services error can occur**
3. **Error of Ping (100% packet loss)**

The error message you're encountering in Nagios indicates that the `check_ping` command cannot be executed because it cannot find the file at the specified path. This typically means that the Nagios plugins, specifically the `check_ping` plugin, are either not installed or not located where Nagios expects them.

Here's how you can troubleshoot and resolve this issue:

Verify the Nagios Plugins Installation: Make sure that the Nagios plugins are installed. You can check this by running:
bash
Copy code

```
ls /usr/local/nagios/libexec/
```

1. **Look for `check_ping` in the output. If it's not there, you need to install or reinstall the Nagios plugins.**

Install Nagios Plugins: If the plugins are missing, you can install them using the following commands:
bash
Copy code

```
sudo apt update
sudo apt install nagios-plugins
```

2.

Check Configuration: If `check_ping` is installed but Nagios still can't find it, ensure that the Nagios configuration files point to the correct path. Open the Nagios configuration file that defines the command, typically found in `/usr/local/nagios/etc/commands.cfg`, and check for the `check_ping` command definition. It should look something like this:

bash
Copy code

```
define command {
    command_name    check_ping
    command_line    /usr/local/nagios/libexec/check_ping -H $HOSTADDRESS$ -w 100.0,20% -c 500.0,60%
}
```

3.

Correct Path: If `check_ping` is located in a different directory, update the path in the command definition. You can find the actual location by running:

bash
Copy code

```
which check_ping
```

or:

bash
Copy code

```
find / -name check_ping 2>/dev/null
```

4.

Restart Nagios: After making any changes, be sure to restart the Nagios service:

bash
Copy code

```
sudo systemctl restart nagios
```

5.

Check Permissions: Ensure that the Nagios user has permission to execute `check_ping`. If necessary, adjust the permissions:

bash
Copy code

```
sudo chmod +x /usr/local/nagios/libexec/check_ping
```

6.

After following these steps, check your Nagios interface again to see if the issue with the `localhost` host is resolved. Let me know if you need further assistance!

- The Nagios error you're seeing regarding the swap space — **"SWAP CRITICAL - 0% free (0 MB out of 0 MB) - Swap is either disabled, not present, or of zero size"** — indicates that Nagios is unable to detect any available swap space on your system. This typically means either:

1. **Swap space is not configured or is disabled.**
2. **The system has no swap partition or swap file.**

Steps to Resolve

1. Check Swap Space Availability

Run the following command to check the current swap space status on your system:

bash
Copy code

```
sudo swapon --show
```

If nothing is returned, this means swap is not enabled or configured.

2. Check Free Memory

You can also verify swap space and overall memory usage using:

bash
Copy code

```
free -m
```

This will show you the current memory usage, including swap space, if it exists.

3. Configure Swap Space (if necessary)

If you don't have swap space configured, you can add swap space by following these steps:

a. Create a Swap File:

bash

Copy code

```
sudo fallocate -l 1G /swapfile
```

This creates a 1GB swap file. You can adjust the size if needed.

b. Secure the Swap File:

bash
Copy code

```
sudo chmod 600 /swapfile
```

c. Set up the Swap File:

bash
Copy code

```
sudo mkswap /swapfile
```

d. Enable the Swap File:

bash
Copy code

```
sudo swapon /swapfile
```

e. Verify Swap Space:

You can verify that swap is now enabled by running:

bash
Copy code

```
sudo swapon --show
```

You should see the new swap file listed.

4. Make Swap Persistent (Optional)

To make this swap file permanent, add it to your `/etc/fstab` file:

bash
Copy code

```
echo '/swapfile none swap sw 0 0' | sudo tee -a /etc/fstab
```

5. Restart Nagios

Once swap space is configured and available, restart the Nagios service to check if the error is resolved:

bash
Copy code

```
sudo systemctl restart nagios
```