



Vivekanand Education Society's

Institute of Technology

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Hashu Advani Memorial Complex, Collector Colony, Chembur East, Mumbai - 400074.

Department of Information Technology

A.Y. 2024-25

Advance DevOps Lab

Experiment 09

Aim: To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

Roll No.	22
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Class	D15B
Subject	Advance DevOps Lab
LO Mapped	LO1: To understand the fundamentals of Cloud Computing and be fully proficient with Cloud based DevOps solution deployment options to meet your business requirements. LO5: To use Continuous Monitoring Tools to resolve any system errors (low memory, unreachable server etc.) before they have any negative impact on the business productivity.
Grade:	

- **Aim:** To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

- **Theory:**

What is Nagios?

Nagios is an open-source software for continuous monitoring of systems, networks, and infrastructures. It runs plugins stored on a server that is connected with a host or another server on your network or the Internet. In case of any failure, Nagios alerts about the issues so that the technical team can perform the recovery process immediately.

Nagios is used for continuous monitoring of systems, applications, service and business processes in a DevOps culture.

Why We Need Nagios tool?

Here are the important reasons to use Nagios monitoring tool:

- Detects all types of network or server issues
- Helps you to find the root cause of the problem which allows you to get the permanent solution to the problem
- Active monitoring of your entire infrastructure and business processes
- Allows you to monitor and troubleshoot server performance issues
- Helps you to plan for infrastructure upgrades before outdated systems create failures
- You can maintain the security and availability of the service
- Automatically fix problems in a panic situation

Features of Nagios

Following are the important features of Nagios monitoring tool:

- Relatively scalable, Manageable, and Secure
- Good log and database system

- Informative and attractive web interfaces
- Automatically send alerts if condition changes
- If the services are running fine, then there is no need to do check that host is an alive
- Helps you to detect network errors or server crashes
- You can troubleshoot the performance issues of the server.
- The issues, if any, can be fixed automatically as they are identified during the monitoring process
- You can monitor the entire business process and IT infrastructure with a single pass
- The product's architecture is easy to write new plugins in the language of your choice
- Nagios allows you to read its configuration from an entire directory which helps you to decide how to define individual files
- Utilizes topology to determine dependencies
- Monitor network services like HTTP, SMTP, HTTP, SNMP, FTP, SSH, POP, etc.
- Helps you to define network host hierarchy using parent hosts.
- Ability to define event handlers that runs during service or host events for proactive problem resolution.

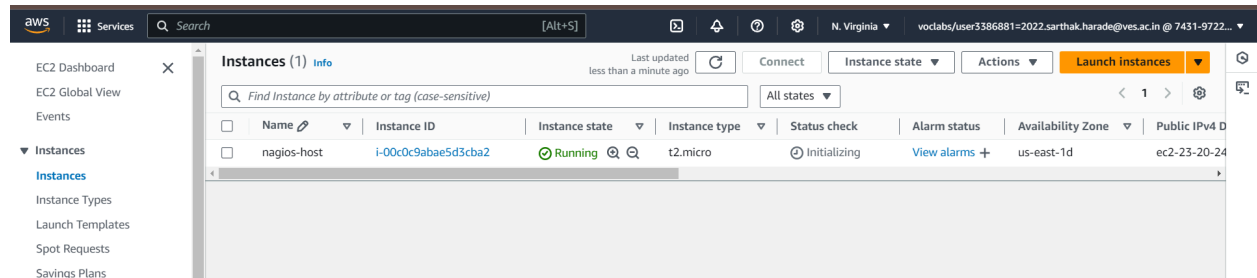
Nagios Architecture

Nagios is a client-server architecture. Usually, on a network, a Nagios server is running on a host, and plugins are running on all the remote hosts which should be monitored.

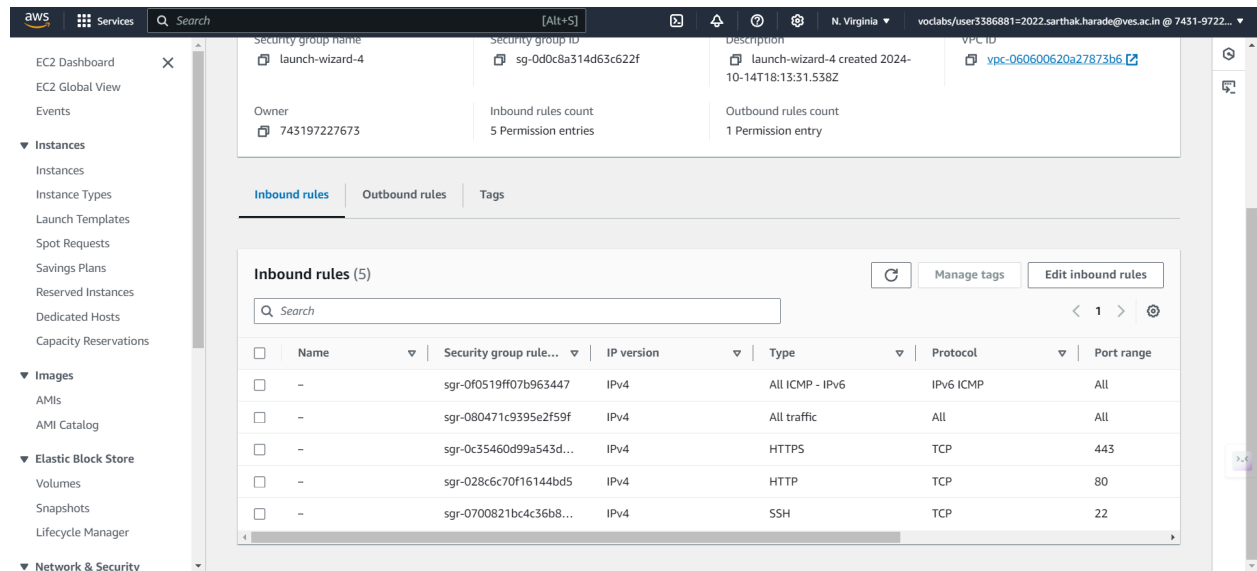
1. The scheduler is a component of the server part of Nagios. It sends a signal to execute the plugins at the remote host.
2. The plugin gets the status from the remote host
3. The plugin sends the data to the process scheduler
4. The process scheduler updates the GUI and notifications are sent to admins.

Steps:

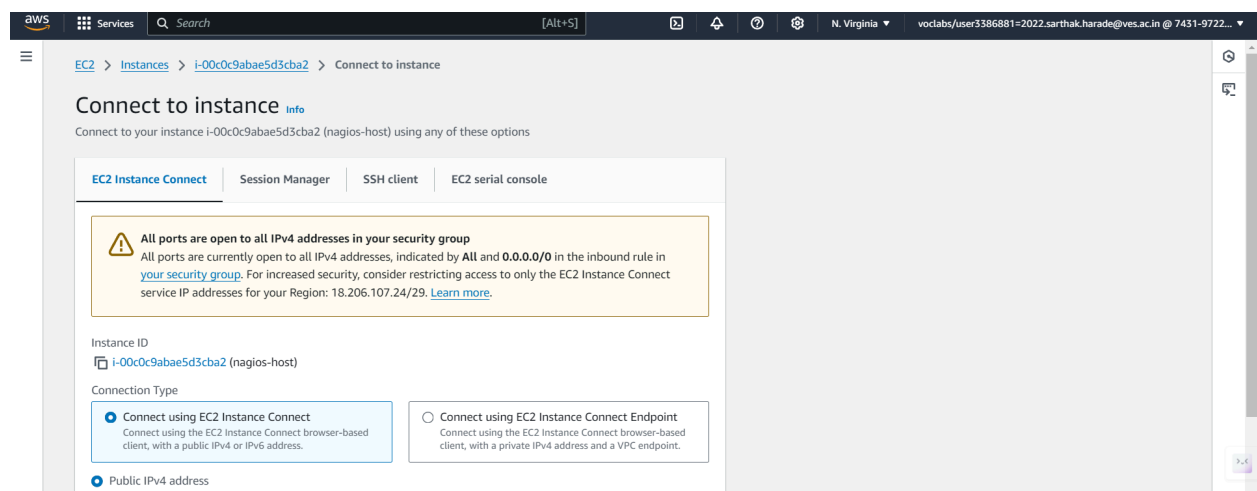
1. Create an Amazon Linux EC2 Instance in AWS and name it - nagios-host

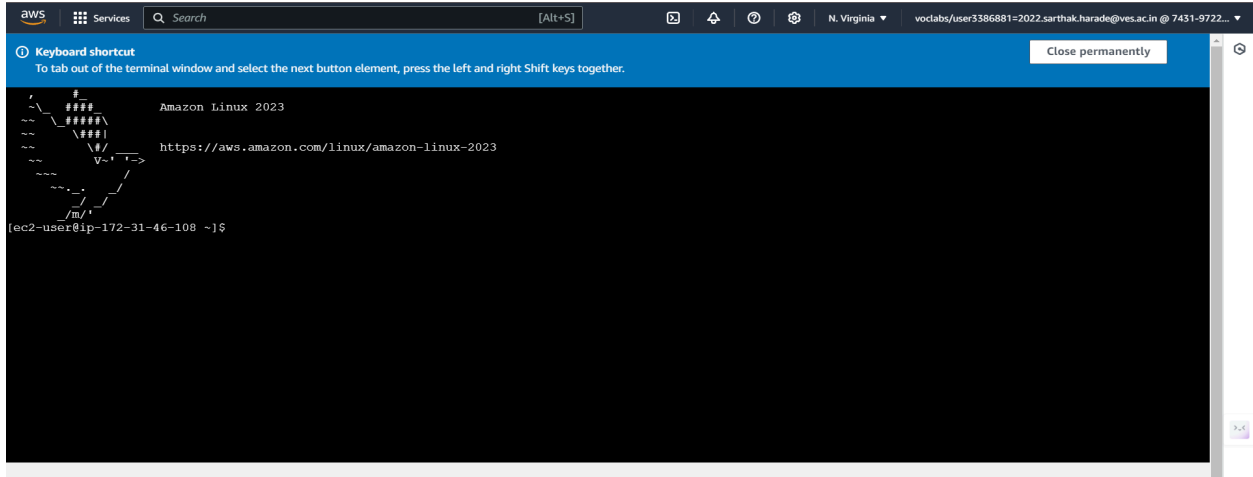


2. Under Security Group, make sure HTTP, HTTPS, SSH, ICMP are open from everywhere.



3. SSH into Your EC2 instance or simply use EC2 Instance Connect from the browser.





4. Update the package indices and install the following packages using yum

```
sudo yum update
```

```
sudo yum install httpd php
```

```
sudo yum install gcc glibc glibc-common
```

```
sudo yum install gd gd-devel
```

```
ec2-user@ip-172-31-46-108 ~]$ sudo yum update
Last metadata expiration check: 0:07:23 ago on Mon Oct 14 18:15:00 2024.
Dependencies resolved.
Nothing to do.
Complete!
```

```
ec2-user@ip-172-31-46-108 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:08:09 ago on Mon Oct 14 18:15:00 2024.
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
httpd	x86_64	2.4.62-1.amzn2023	amazonlinux	48 k
php8.3	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	10 k
Installing dependencies:				
apr	x86_64	1.7.2-2.amzn2023.0.2	amazonlinux	129 k
apr-util	x86_64	1.6.3-1.amzn2023.0.1	amazonlinux	98 k
generic-logos-httpd	noarch	18.0.0-12.amzn2023.0.3	amazonlinux	19 k
httpd-core	x86_64	2.4.62-1.amzn2023	amazonlinux	1.4 M
httpd-filesystem	noarch	2.4.62-1.amzn2023	amazonlinux	14 k
httpd-tools	x86_64	2.4.62-1.amzn2023	amazonlinux	81 k
libbrotli	x86_64	1.0.9-4.amzn2023.0.2	amazonlinux	315 k
libsodium	x86_64	1.0.19-4.amzn2023	amazonlinux	176 k
libxslt	x86_64	1.1.34-5.amzn2023.0.2	amazonlinux	241 k
mailcap	noarch	2.1.49-3.amzn2023.0.3	amazonlinux	33 k
nginx-filesystem	noarch	1:1.24.0-1.amzn2023.0.4	amazonlinux	9.8 k
php8.3-cli	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	3.7 M
php8.3-common	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	737 k
php8.3-process	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	45 k
php8.3-xml	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	154 k
Installing weak dependencies:				

```
[ec2-user@ip-172-31-46-108 ~]$ sudo yum install gcc glibc glibc-common
Last metadata expiration check: 0:09:03 ago on Mon Oct 14 18:15:00 2024.
Package glibc-2.34-52.amzn2023.0.11.x86_64 is already installed.
Package glibc-common-2.34-52.amzn2023.0.11.x86_64 is already installed.
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
gcc	x86_64	11.4.1-2.amzn2023.0.2	amazonlinux	32 M
Installing dependencies:				
annobin-docs	noarch	10.93-1.amzn2023.0.1	amazonlinux	92 k
annobin-plugin-gcc	x86_64	10.93-1.amzn2023.0.1	amazonlinux	887 k
cpp	x86_64	11.4.1-2.amzn2023.0.2	amazonlinux	10 M
gc	x86_64	8.0.4-5.amzn2023.0.2	amazonlinux	105 k
glibc-devel	x86_64	2.34-52.amzn2023.0.11	amazonlinux	27 k
glibc-headers-x86	noarch	2.34-52.amzn2023.0.11	amazonlinux	427 k
guile22	x86_64	2.2.7-2.amzn2023.0.3	amazonlinux	6.4 M
kernel-headers	x86_64	6.1.109-118.189.amzn2023	amazonlinux	1.4 M
libmpc	x86_64	1.2.1-2.amzn2023.0.2	amazonlinux	62 k
libtool-ltdl	x86_64	2.4.7-1.amzn2023.0.3	amazonlinux	38 k
libxcrypt-devel	x86_64	4.4.33-7.amzn2023	amazonlinux	32 k
make	x86_64	1:4.3-5.amzn2023.0.2	amazonlinux	534 k

```
Transaction Summary
Install 13 Packages
Total download size: 52 M
```

```
Complete!
[ec2-user@ip-172-31-46-108 ~]$ sudo yum install gd gd-devel
Last metadata expiration check: 0:11:40 ago on Mon Oct 14 18:15:00 2024.
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
gd	x86_64	2.3.3-5.amzn2023.0.3	amazonlinux	139 k
gd-devel	x86_64	2.3.3-5.amzn2023.0.3	amazonlinux	38 k
Installing dependencies:				
brotli	x86_64	1.0.9-4.amzn2023.0.2	amazonlinux	314 k
brotli-devel	x86_64	1.0.9-4.amzn2023.0.2	amazonlinux	31 k
bzip2-devel	x86_64	1.0.8-6.amzn2023.0.2	amazonlinux	214 k
cairo	x86_64	1.17.6-2.amzn2023.0.1	amazonlinux	684 k
cmake-filesystem	x86_64	3.22.2-1.amzn2023.0.4	amazonlinux	16 k
fontconfig	x86_64	2.13.94-2.amzn2023.0.2	amazonlinux	273 k
fontconfig-devel	x86_64	2.13.94-2.amzn2023.0.2	amazonlinux	128 k
fonts-filesystem	noarch	1:2.0.5-12.amzn2023.0.2	amazonlinux	9.5 k
freetype	x86_64	2.13.2-5.amzn2023.0.1	amazonlinux	423 k
freetype-devel	x86_64	2.13.2-5.amzn2023.0.1	amazonlinux	912 k
glib2-devel	x86_64	2.74.7-689.amzn2023.0.2	amazonlinux	486 k
google-noto-fonts-common	noarch	20201206-2.amzn2023.0.2	amazonlinux	15 k
google-noto-sans-xf-fonts	noarch	20201206-2.amzn2023.0.2	amazonlinux	492 k

5. Create a new Nagios User with its password. You'll have to enter the password twice for confirmation.

```
sudo adduser -m nagios
```

```
sudo passwd nagios
```

```
Complete!
[ec2-user@ip-172-31-46-108 ~]$ sudo adduser -m nagios
[ec2-user@ip-172-31-46-108 ~]$ sudo passwd nagios
Changing password for user nagios.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-46-108 ~]$
```

6. Create a new user group

```
sudo groupadd nagcmd
```

7. Use these commands so that you don't have to use sudo for Apache and Nagios

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

```
sudo usermod -a -G nagcmd apache
```

```
[ec2-user@ip-172-31-46-108 ~]$ sudo usermod -a -G nagcmd nagios
[ec2-user@ip-172-31-46-108 ~]$ sudo usermod -a -G nagcmd apache
[ec2-user@ip-172-31-46-108 ~]$
```

8. Create a new directory for Nagios downloads

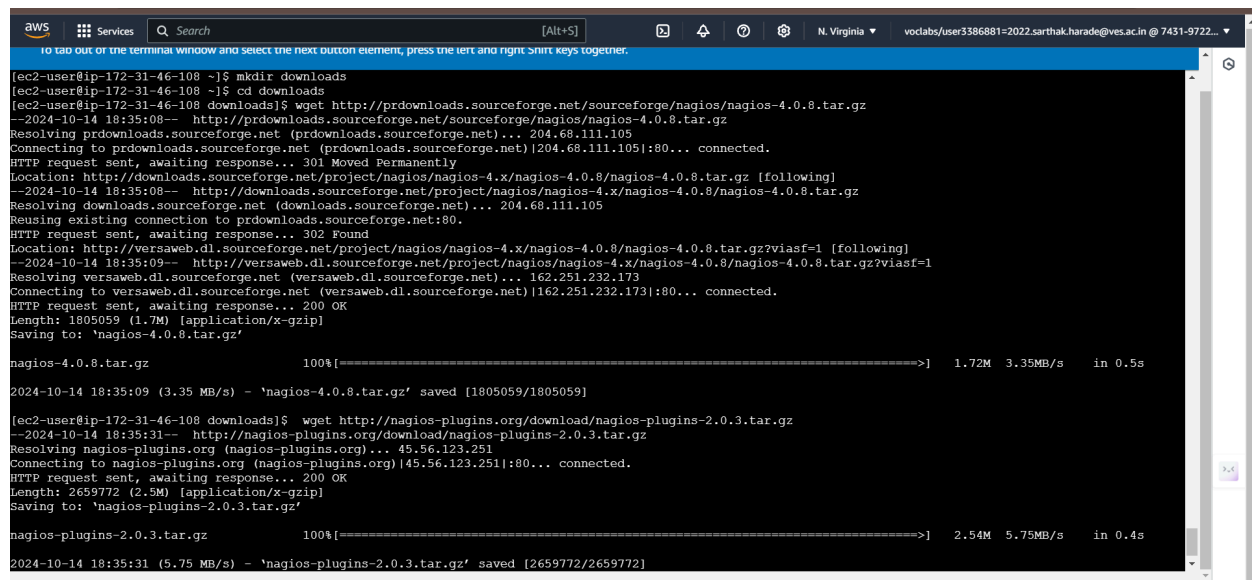
```
mkdir ~/downloads
```

```
cd ~/downloads
```

9. Use wget to download the source zip files.

Wget <http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz>

wget <http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz>

A screenshot of a terminal window with a dark background and light-colored text. The terminal shows a series of commands and their outputs. The first command is 'mkdir downloads'. The second is 'cd downloads'. The third is a 'wget' command to download 'nagios-4.0.8.tar.gz' from 'http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz'. The output shows the file being resolved, connected to, and downloaded successfully. The fourth command is another 'wget' to download 'nagios-plugins-2.0.3.tar.gz' from 'http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz'. The output shows the file being resolved, connected to, and downloaded successfully. The terminal window has a title bar with 'aws' and 'Services' buttons, and a search bar. The status bar at the bottom shows 'N. Virginia' and 'voclabs/user3386881-2022.sarthak.harade@ves.ac.in @ 7431-9722...'.

```
aws Services [Alt+S] N. Virginia voclabs/user3386881-2022.sarthak.harade@ves.ac.in @ 7431-9722...
to tab out of the terminal window and select the next button element, press the left and right Shift keys together.
[ec2-user@ip-172-31-46-108 ~]$ mkdir downloads
[ec2-user@ip-172-31-46-108 ~]$ cd downloads
[ec2-user@ip-172-31-46-108 downloads]$ wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
--2024-10-14 18:35:08-- http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
Resolving prdownloads.sourceforge.net (prdownloads.sourceforge.net)... 204.68.111.105
Connecting to prdownloads.sourceforge.net (prdownloads.sourceforge.net)[204.68.111.105]:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz [following]
--2024-10-14 18:35:08-- http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz
Resolving downloads.sourceforge.net (downloads.sourceforge.net)... 204.68.111.105
Reusing existing connection to prdownloads.sourceforge.net:80.
HTTP request sent, awaiting response... 302 Found
Location: http://versaweb.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz?viasf=1 [following]
--2024-10-14 18:35:09-- http://versaweb.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz?viasf=1
Resolving versaweb.dl.sourceforge.net (versaweb.dl.sourceforge.net)... 162.251.232.173
Connecting to versaweb.dl.sourceforge.net (versaweb.dl.sourceforge.net)[162.251.232.173]:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1805059 (1.7M) [application/x-gzip]
Saving to: 'nagios-4.0.8.tar.gz'

nagios-4.0.8.tar.gz      100%[=====>] 1.72M  3.35MB/s  in 0.5s

2024-10-14 18:35:09 (3.35 MB/s) - 'nagios-4.0.8.tar.gz' saved [1805059/1805059]

[ec2-user@ip-172-31-46-108 downloads]$ wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
--2024-10-14 18:35:31-- http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 45.56.123.251
Connecting to nagios-plugins.org (nagios-plugins.org)[45.56.123.251]:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2659772 (2.5M) [application/x-gzip]
Saving to: 'nagios-plugins-2.0.3.tar.gz'

nagios-plugins-2.0.3.tar.gz  100%[=====>] 2.54M  5.75MB/s  in 0.4s

2024-10-14 18:35:31 (5.75 MB/s) - 'nagios-plugins-2.0.3.tar.gz' saved [2659772/2659772]
```

10. Use tar to unzip and change to that directory.

```
tar zxvf nagios-4.0.8.tar.gz
```

```
aws Services Search [Alt+S] N. Virginia voclabs/user3386881=2022.sarthak.harade@ves.ac.in @ 7431-9722...
to tab out of the terminal window and select the next button element, press the left and right Shift keys together.

[ec2-user@ip-172-31-46-108 downloads]$ tar xzvf nagios-4.0.8.tar.gz
nagios-4.0.8/
nagios-4.0.8/.gitignore
nagios-4.0.8/ChangeLog
nagios-4.0.8/INSTALLING
nagios-4.0.8/LICENSE
nagios-4.0.8/LICENCE
nagios-4.0.8/Makefile.in
nagios-4.0.8/README
nagios-4.0.8/README.asciidoc
nagios-4.0.8/THANKS
nagios-4.0.8/UPGRADING
nagios-4.0.8/base/
nagios-4.0.8/base/.gitignore
nagios-4.0.8/base/Makefile.in
nagios-4.0.8/base/broker.c
nagios-4.0.8/base/checks.c
nagios-4.0.8/base/commands.c
nagios-4.0.8/base/config.c
nagios-4.0.8/base/worker.c
```

11. Run the configuration script with the same group name you previously created.

`./configure --with-command-group=nagcmd`

```
aws Services Search [Alt+S] N. Virginia voclabs/user3386881=2022.sarthak.harade@ves.ac.in @ 7431-9722...
to tab out of the terminal window and select the next button element, press the left and right Shift keys together.

-bash: cd: nagios-4.0.8: No such file or directory
[ec2-user@ip-172-31-46-108 ~]$ cd downloads
[ec2-user@ip-172-31-46-108 downloads]$ cd nagios-4.0.8
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether make sets $(MAKE)... yes
checking for strip... /usr/bin/strip
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/grep -E
checking for ANSI C header files... yes
checking whether time.h and sys/time.h may both be included... yes
checking for sys/wait.h that is POSIX.1 compatible... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
checking for stdint.h... yes
```

12. Compile the source code.

`make all`

```
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ make all
cd ./base && make
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o broker.o broker.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nebmodes.o nebmodes.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o ../common/shared.o ../common/shared.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nerd.o nerd.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o query-handler.o query-handler.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o workers.o workers.c
In function 'get_wproc_list',
    inlined from 'get_worker' at workers.c:224:12:
workers.c:209:17: warning: '%s' directive argument is null [-Wformat-overflow=]
   209 |         log_debug_info(DEBUGL_CHECKS, 1, "Found specialized worker(s) for '%s'", (slash && *slash != '/') ? slash : cmd
       |         ^~~~~~
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o checks.o checks.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o config.o config.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o commands.o commands.c
commands.c: In function 'process_passive_service_check':
commands.c:2247:19: warning: assignment discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]
   2247 |         cr.source = command_worker.source_name;
       |         ^
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
```

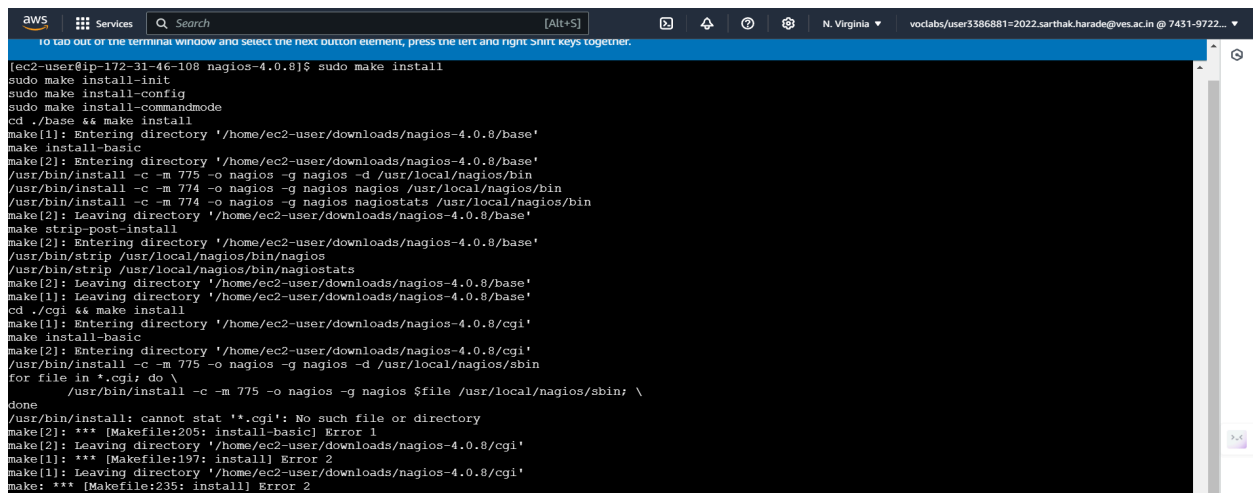

13. Install binaries, init script and sample config files. Lastly, set permissions on the external command directory.

`sudo make install`

`sudo make install-init`

`sudo make install-config`

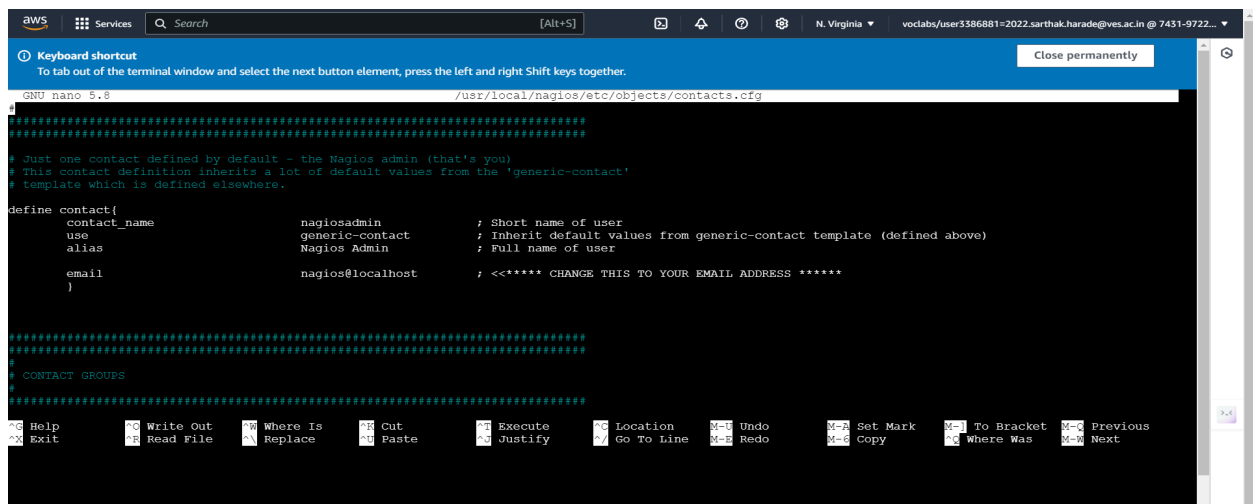
`sudo make install-commandmode`



```
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ sudo make install
sudo make install-init
sudo make install-config
sudo make install-commandmode
cd ./base && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make install-basic
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagiosstats /usr/local/nagios/bin
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make strip-post-install
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
/usr/bin/strip /usr/local/nagios/bin/nagios
/usr/bin/strip /usr/local/nagios/bin/nagiosstats
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/base'
cd ./cgi && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make install-basic
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/sbin
for file in *.cgi; do \
    /usr/bin/install -c -m 775 -o nagios -g nagios $file /usr/local/nagios/sbin; \
done
/usr/bin/install: cannot stat '*.cgi': No such file or directory
make[2]: *** [Makefile:205: install-basic] Error 1
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make[1]: *** [Makefile:197: install] Error 2
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make: *** [Makefile:235: install] Error 2
```

14. Edit the config file and change the email address.

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



```
GNU nano 2.8.0 /usr/local/nagios/etc/objects/contacts.cfg

#####
# 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 template (defined above)
    alias             Nagios Admin     ; Full name of user
    email             nagios@localhost ; <***** CHANGE THIS TO YOUR EMAIL ADDRESS *****>
}

#####
# CONTACT GROUPS
#####

#####

#####

#####
Help      Write Out  Where Is   Cut        Execute    Location   Ctrl-A  Set Mark   Ctrl-J  To Bracket  Ctrl-O  Previous
Exit      Read File  Replace   Paste      Justify    Go To Line Ctrl-Z  Redo       Ctrl-C  Where Was   Ctrl-W  Next
```

15. Configure the web interface.

`sudo make install-webconf`

```
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf

*** Nagios/Apache conf file installed ***

[ec2-user@ip-172-31-46-108 nagios-4.0.8]$
```

16. Create a nagiosadmin account for nagios login along with password. You'll have to specify the password twice.

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

```
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$
```

17. Restart Apache

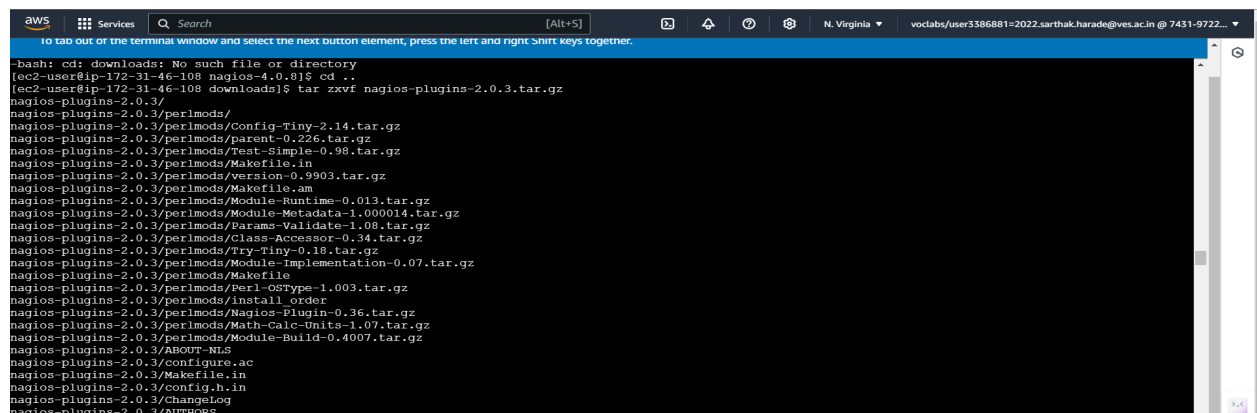
`sudo service httpd restart`

```
ec2-user@ip-172-31-46-108 nagios-4.0.8]$ sudo service httpd restart
redirecting to /bin/systemctl restart httpd.service
ec2-user@ip-172-31-46-108 nagios-4.0.8]$
```

18. Go back to the downloads folder and unzip the plugins zip file.

`cd ~/downloads`

`tar zxvf nagios-plugins-2.0.3.tar.gz`



```
aws Services Search [Alt+S] N. Virginia voclabs/User3386881=2022.sarthak.harade@ves.ac.in @ 7431-9722...
to tab out of the terminal window and select the next button element, press the left and right shift keys together.
-bash: cd: downloads: No such file or directory
[ec2-user@ip-172-31-46-108 nagios-4.0.8]$ cd ..
[ec2-user@ip-172-31-46-108 downloads]$ tar zxvf nagios-plugins-2.0.3.tar.gz
nagios-plugins-2.0.3/
nagios-plugins-2.0.3/perlmods/
nagios-plugins-2.0.3/perlmods/Config-Tiny-2.14.tar.gz
nagios-plugins-2.0.3/perlmods/parent-0.226.tar.gz
nagios-plugins-2.0.3/perlmods/Test-Simple-0.98.tar.gz
nagios-plugins-2.0.3/perlmods/Makefile.in
nagios-plugins-2.0.3/perlmods/version-0.9903.tar.gz
nagios-plugins-2.0.3/perlmods/Makefile.am
nagios-plugins-2.0.3/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.0.3/perlmods/Module-Metadata-1.000014.tar.gz
nagios-plugins-2.0.3/perlmods/Params-Validate-1.08.tar.gz
nagios-plugins-2.0.3/perlmods/Class-Accessor-0.34.tar.gz
nagios-plugins-2.0.3/perlmods/Try-Tiny-0.18.tar.gz
nagios-plugins-2.0.3/perlmods/Module-Implementation-0.07.tar.gz
nagios-plugins-2.0.3/perlmods/Makefile
nagios-plugins-2.0.3/perlmods/Perl-OSType-1.003.tar.gz
nagios-plugins-2.0.3/perlmods/Install_Order
nagios-plugins-2.0.3/perlmods/Nagios-Plugin-0.36.tar.gz
nagios-plugins-2.0.3/perlmods/Math-Calc-Units-1.07.tar.gz
nagios-plugins-2.0.3/perlmods/Module-Build-0.4007.tar.gz
nagios-plugins-2.0.3/ABOUT-NLS
nagios-plugins-2.0.3/configure.ac
nagios-plugins-2.0.3/Makefile.in
nagios-plugins-2.0.3/config.h.in
nagios-plugins-2.0.3/ChangeLog
nagios-plugins-2.0.3/AUTHORS
```

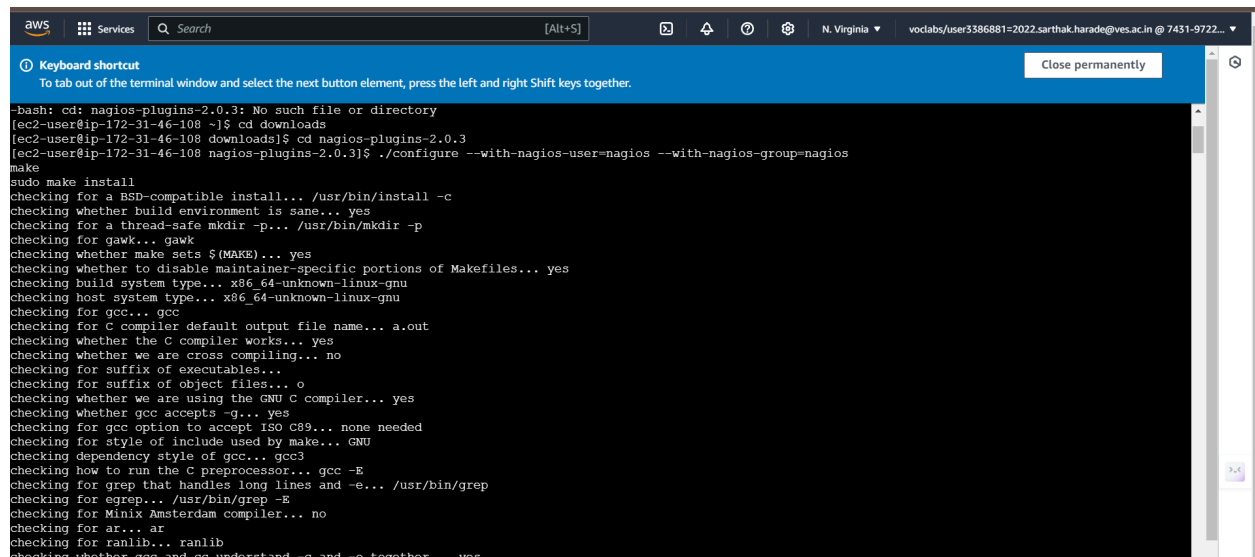
19. Compile and install plugins

```
cd nagios-plugins-2.0.3
```

```
./configure --with-nagios-user=nagios --with-nagios-group=nagios
```

```
make
```

```
sudo make install
```



```
aws Services [Alt+S] N. Virginia voclabs/user3386881=2022.sarthak.harade@ves.ac.in @ 7431-9722...
Keyboard shortcut
To tab out of the terminal window and select the next button element, press the left and right Shift keys together.
Close permanently
-bash: cd: nagios-plugins-2.0.3: No such file or directory
[ec2-user@ip-172-31-46-108 ~]$ cd downloads
[ec2-user@ip-172-31-46-108 downloads]$ cd nagios-plugins-2.0.3
[ec2-user@ip-172-31-46-108 nagios-plugins-2.0.3]$ ./configure --with-nagios-user=nagios --with-nagios-group=nagios
make
sudo make install
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether to disable maintainer-specific portions of Makefiles... yes
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking for style of include used by make... GNU
checking dependency style of gcc... gcc3
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/grep -E
checking for Minix Amsterdam compiler... no
checking for ar... ar
checking for ranlib... ranlib
checking whether gcc and cc understand -c and -o together... yes
```

20. Start Nagios

Add Nagios to the list of system services

```
sudo chkconfig --add nagios
```

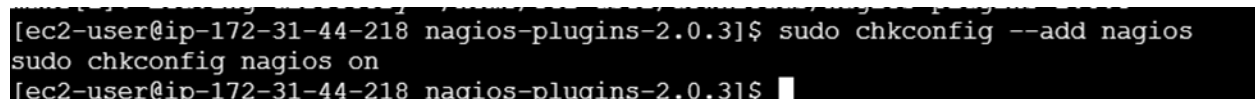
```
sudo chkconfig nagios on
```

Verify the sample configuration files

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

If there are no errors, you can go ahead and start Nagios.

```
sudo service nagios start
```



```
[ec2-user@ip-172-31-44-218 nagios-plugins-2.0.3]$ sudo chkconfig --add nagios
sudo chkconfig nagios on
[ec2-user@ip-172-31-44-218 nagios-plugins-2.0.3]$
```

21. Check the status of Nagios

`sudo systemctl status nagios`

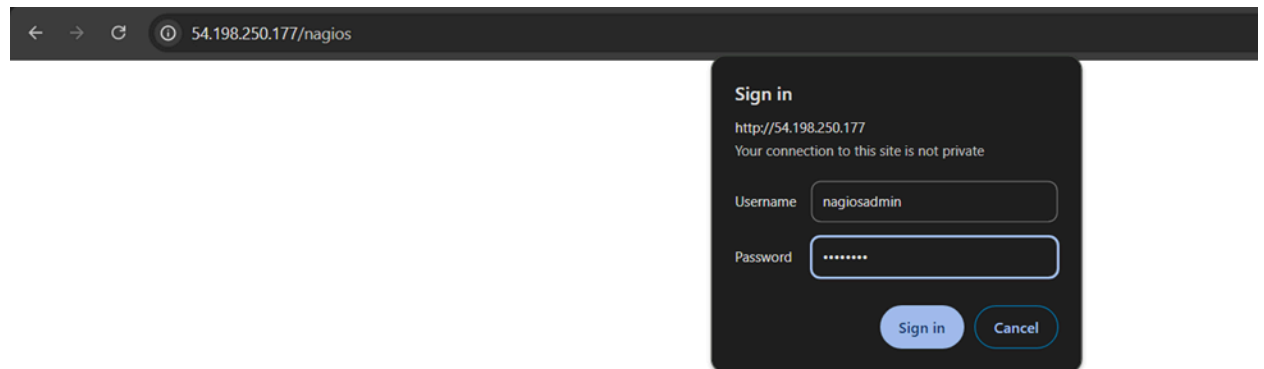
22. Go back to EC2 Console and copy the Public IP address of this instance

```
Things look okay - No serious problems were detected during the pre-flight check
[ec2-user@ip-172-31-44-218 nagios-plugins-2.0.3]$ sudo service nagios start
Reloading systemd: [ OK ]
Starting nagios (via systemctl): [ OK ]
[ec2-user@ip-172-31-44-218 nagios-plugins-2.0.3]$
```

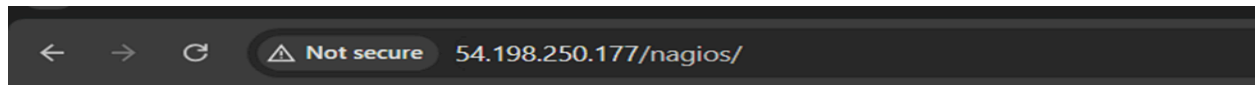
```
Starting nagios (via systemctl): [ OK ]
[ec2-user@ip-172-31-44-218 nagios-plugins-2.0.3]$ sudo systemctl status nagios
● nagios.service - LSB: Starts and stops the Nagios monitoring server
   Loaded: loaded (/etc/rc.d/init.d/nagios; generated)
   Active: active (running) since Sat 2024-10-12 09:59:46 UTC; 51s ago
     Docs: man:syslogd-sysv-generator(8)
   Process: 66468 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
    Tasks: 6 (limit: 1112)
   Memory: 2.1M
      CPU: 51ms
   CGroup: /system.slice/nagios.service
           └─66490 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             └─66492 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
               └─66493 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                 └─66494 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                   └─66495 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                     └─66496 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 12 09:59:46 ip-172-31-44-218.ec2.internal nagios[66490]: wproc: Registry request: name=Core Worker 66493;pid=66493
Oct 12 09:59:46 ip-172-31-44-218.ec2.internal nagios[66490]: wproc: Registry request: name=Core Worker 66492;pid=66492
Oct 12 09:59:46 ip-172-31-44-218.ec2.internal nagios[66490]: Warning: Could not open object cache file '/usr/local/nagios/var/objects.cache' for writing!
Oct 12 09:59:46 ip-172-31-44-218.ec2.internal nagios[66490]: Error: Unable to create temp file '/usr/local/nagios/var/nagios.tmp71290s' for writing status data
Oct 12 09:59:46 ip-172-31-44-218.ec2.internal nagios[66490]: Successfully launched command file worker with pid 66496
Oct 12 09:59:55 ip-172-31-44-218.ec2.internal nagios[66490]: Error: Unable to create temp file '/usr/local/nagios/var/nagios.tmp8htMOK' for writing status data
```

23. Open up your browser and look for `http://<your_public_ip_address>/nagios`



24. After entering the correct credentials, you will see this page.



- **Conclusion:**

Thus, we learned about Nagios and successfully set it up as a host on our Amazon Linux machine.

