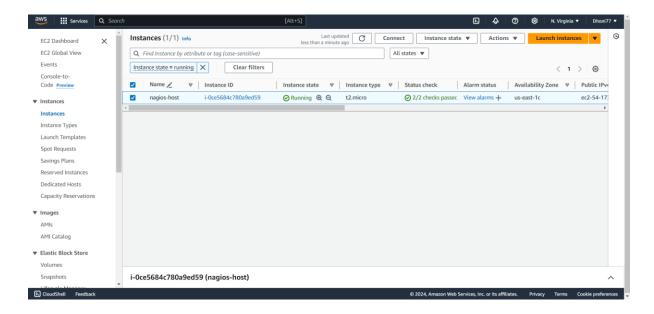
ADVANCE DEVOPS EXP 9

Name :- Bhagyesh Patil

Roll no :- 36

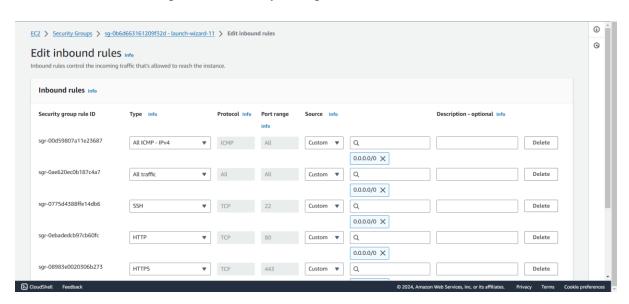
Aim :- To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

1. Create an Amazon Linux EC2 Instance



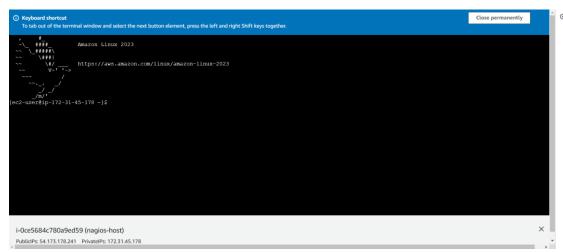
2. Configure Security Group

- Ensure HTTP, HTTPS, SSH, and ICMP are open from everywhere.
- Edit the inbound rules of the specified Security Group



You have to edit the inbound rules of the specified Security Group for this.

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

```
[ec2-user@ip-172-31-40-254 ~]$ sudo yum update
Last metadata expiration check: 0:01:31 ago on Wed Oct 2 05:48:47 2024.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-40-254 ~]$
```

sudo yum install httpd php

sudo yum install gcc glibc glibc-common

sudo yum install gd gd-devel

[ec2-user61p-172-3]-40-254 ~]\$ sudo yum install gd gd-devel Last metadata expiration check: 0:03:46 ago on Wed Oct 2 05:48:47 2024. Dependencies resolved.				
Package	Architecture	Version	Repository	Siz
Installing:				
gd	x86 64	2.3.3-5.amzn2023.0.3	amazonlinux	139
qd-devel	x86 64	2.3.3-5.amzn2023.0.3	amazonlinux	38
Installing dependencies:				
brotli	x86 64	1.0.9-4.amzn2023.0.2	amazonlinux	314
brotli-devel	x86 64	1.0.9-4.amzn2023.0.2	amazonlinux	31
bzip2-devel	x86_64	1.0.8-6.amzn2023.0.2	amazonlinux	214
cairo	x86_64	1.17.6-2.amzn2023.0.1	amazonlinux	684
cmake-filesystem	x86_64	3.22.2-1.amzn2023.0.4	amazonlinux	16
fontconfig	x86 64	2.13.94-2.amzn2023.0.2	amazonlinux	273
fontconfig-devel	x86_64	2.13.94-2.amzn2023.0.2	amazonlinux	128
fonts-filesystem	noarch	1:2.0.5-12.amzn2023.0.2	amazonlinux	9.5
freetype	x86_64	2.13.2-5.amzn2023.0.1	amazonlinux	423
freetype-devel	x86_64	2.13.2-5.amzn2023.0.1	amazonlinux	912
glib2-devel	x86_64	2.74.7-689.amzn2023.0.2	amazonlinux	486
google-noto-fonts-common	noarch	20201206-2.amzn2023.0.2	amazonlinux	15
google-noto-sans-vf-fonts	noarch	20201206-2.amzn2023.0.2	amazonlinux	492
graphite2	x86_64	1.3.14-7.amzn2023.0.2	amazonlinux	97
graphite2-devel	x86_64	1.3.14-7.amzn2023.0.2	amazonlinux	
harfbuzz	x86_64	7.0.0-2.amzn2023.0.1	amazonlinux	868
harfbuzz-devel	x86_64	7.0.0-2.amzn2023.0.1	amazonlinux	404
harfbuzz-icu	x86_64	7.0.0-2.amzn2023.0.1	amazonlinux	18

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

```
[ec2-user@ip-172-31-40-254 ~]$ sudo adduser -m nagios
[ec2-user@ip-172-31-40-254 ~]$ sudo passwd nagios
Changing password for user nagios.
New password:
BAD PASSWORD: The password is a palindrome
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-40-254 ~]$
```

6. Create a new user group

sudo groupadd nagcmd

```
[ec2-user@ip-172-31-40-254 ~]$ sudo groupadd nagcmd [ec2-user@ip-172-31-40-254 ~]$
```

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-1/2-31-40-254 ~]$ sudo groupadd nagcmd
[ec2-user@ip-172-31-40-254 ~]$ sudo usermod -a -G nagcmd nagios
sudo usermod -a -G nagcmd apache
[ec2-user@ip-172-31-40-254 ~]$
```

8. Create a new directory for Nagios downloads

mkdir ~/downloads cd ~/downloads

```
[ec2-user@ip-172-31-40-254 ~]$ mkdir ~/downloads
cd ~/downloads
[ec2-user@ip-172-31-40-254 downloads]$
```

9. Use wget to download the source zip files.

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

https://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz

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

tar zxvf nagios-4.4.6.tar.gz cd nagios-4.4.6

```
| lack_wereign_172_31-40-234 downloads| tar zxvf nagios-4.4.6.tar.gx nagios-4.4.6.f.
| nagios-4.4.6.f. injugnore | nagios-4.4.6.f. injugnore | nagios-4.8.6.f. injugnore |
```

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

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

```
ec2-user8ip-172-31-40-254 magios-4.4.6|$ ./configure --with-comm hecking for a BBD-commpatible install.../usr/bin/install -c hecking build system type... x86_64-pc-linux-gnu hecking host system type... x86_64-pc-linux-gnu hecking for gcc... gcc the secking for gcc... gcc the secking for compiler default output file name... a.out secking for compiler default output file name... a.out secking for suffix of executables... gcc file secking for suffix of object files... o ecking whether we are cross compiling... no ecking whether we are using the GNU compiler... yes ecking of suffix of object files... o ecking of suffix of object files... yes ecking for gcc option to accept ISO G89... none needed the secking whether make sets $(MNRE)... yes ecking whether make sets $(MNRE)... yes ecking for strip... /usr/bin/strip ecking for strip... /usr/bin/strip ecking for grep that handles long lines and -e... /usr/bin/grep ecking for grep... /usr/bin/grep -E cking for grep... /usr/bin/grep -E cking for sys/vyes.h... yes exing for sys/vyes.h... yes exing for sys/vyes.h... yes exing for sys/types.h... yes exing for sys/types.h... yes king for stdlib.h... yes king for inttypes.h... yes king for for inttypes.h... yes king for arpa/inet.h usability... yes ging arpa/inet.h usability... yes ging arpa/inet.h usability... yes ging for arpa/inet.h usability... yes ging for arpa/inet.h usability... yes ging for arpa/inet.h usability... yes
```

12. Compile the source code.

make all

```
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o checks.o checks.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o commands.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o commands.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o commands.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o commands.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o logging.o flapping.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o logging.o logging.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o logging.o logging.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o macro-base.o../common/macros.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o macro-base.o../common/macros.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
-Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o netutils.o netutils.c
 butils.c:50:46: note: directive argument in the range [-2147483648, 65535]
50 | snprintf(port_str, sizeof(port_str), "4d", port);
   tutils.c:50:9: note: 'smprintf' output between 2 and 12 bytes into a destination of size 6 snprintf(port str, sizeof(port str), "%d", port);
```

```
make install-classicui
- This installs the classic theme for the Nagios
web interface
** Support Notes *************************
f you have questions about configuring or running Nagios, clease make sure that you:
         Look at the sample config files
Read the documentation on the Nagios Library at:
https://library.nagios.com
  fore you post a question to one of the mailing lists. so make sure to include pertinent information that could lp others help you. This might include:
        What version of Nagios you are using
What version of the plugins you are using
Relevant snippets from your config files
Relevant error messages from the Nagios log file
            information on obtaining support for Nagios, visit:
       **************
```

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

```
[sc2-user8ip-172-31-40-254 nagios-4.4.6]$ ./sudo make install
sudo make install-config
sudo make install-commandmode
-bash: ./sudo: No such file or directory
//srf/bin/install -c = m755 -d -o root -g root /lib/systemd/system
//srf/bin/install -c = m755 -d -o root -g root startup/default-service /lib/systemd/system/nagios.service
//srf/bin/install -c = m755 -o root -g root startup/default-service /lib/systemd/system/nagios.service
//srf/bin/install -c = m755 -o nagios -g nagios -d /usr/local/nagios/etc/objects
//srf/bin/install -c = m755 -o nagios -g nagios -d /usr/local/nagios/etc/objects
//srf/bin/install -c = m 664 -o nagios -g nagios sample-config/ragios.cfg /usr/local/nagios/etc/ragios.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/ramplates.cfg /usr/local/nagios/etc/objects/templates.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/ramplates.cfg /usr/local/nagios/etc/objects/commands.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/ramplates.cfg /usr/local/nagios/etc/objects/commands.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/contacts.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/contacts.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/contacts.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/contacts.cfg
//srf/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/printer.cfg
//usr/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/nagios/etc/objects/printer.cfg
//usr/bin/install -c = b =m 664 -o nagios -g nagios sample-config/remplate-object/romands.cfg /usr/local/
```

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

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

15. Configure the web interface.

sudo make install-webconf

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-172-31-40-254 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
[ec2-user@ip-172-31-40-254 nagios-4.4.6]$
```

17. Restart Apache

sudo systemctl restart httpd

```
Adding password for user nagiosadmin
[ec2-user@ip-172-31-40-254 nagios-4.4.6]$ sudo systemctl restart httpd
[ec2-user@ip-172-31-40-254 nagios-4.4.6]$
```

cd ~/downloads

tar zxvf nagios-plugins-2.3.3.tar.gz

cd nagios-plugins-2.3.3

```
[ec2-user#ip-172-31-40-254 nagios-4.4.6]$ sudo systemctl restart httpd
[ec2-user#ip-172-31-40-254 nagios-4.4.6]$ cd ~/downloads
tar ZxY nagio-plugins-2.3.3.tar.gz
nagios-plugins-2.3.3.tar.ga
nagios-plugins-2.3.3.perlmods/config-Tiny-2.14.tar.gz
nagios-plugins-2.3.3/perlmods/ponent-0.226.tar.gz
nagios-plugins-2.3.3/perlmods/ponent-0.226.tar.gz
nagios-plugins-2.3.3/perlmods/ponent-0.256.tar.gz
nagios-plugins-2.3.3/perlmods/version-0.98.tar.gz
nagios-plugins-2.3.3/perlmods/wersion-0.98.tar.gz
nagios-plugins-2.3.3/perlmods/wersion-0.990.tar.gz
nagios-plugins-2.3.3/perlmods/wersion-0.990.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Runtime-0.03.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Runtime-0.03.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Runtime-0.36.tar.gz
nagios-Plugin
```

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

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

make sudo

make install

```
dec2-user@ip-172-31-80-22 nagios-plugins-2.3.3}$ ./configure --with-nagios-user=nagios --with-nagios-group=nagios nake

sudo make install

thecking for a BSD-compatible install... /usr/bin/install -c

thecking whether build environment is sane... yes

thecking for a thread-safe mkdir -p... /usr/bin/mkdir -p

thecking for gawk... gawk

thecking whether make sets $(MAKE)... yes

thecking whether to disable maintainer-specific portions of Makefiles... yes

thecking build system type... x86_64-unknown-linux-gnu

thecking host system type... x86_64-unknown-linux-gnu

thecking for gcc... gcc

thecking for C compiler default output file name... a.out

thecking whether the C compiler works... yes

thecking whether we are cross compiling... no

thecking for suffix of executables...

thecking for suffix of object files... o

thecking for suffix of object files... o

thecking for gcc accepts -g... yes

thecking for gcc option to accept ISO C89... none needed

thecking for style of include used by make... GNU

thecking dependency style of gcc... gcc3

thecking for grep that handles long lines and -e... /usr/bin/grep
```

19. Compile and install plugins

sudo chkconfig --add nagios sudo chkconfig nagios on sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg sudo systemctl start nagios

```
[ec2-user@ip-172-31-80-22 nagios-plugins-2.3.3] $ sudo chkconfig --add nagios sudo chkconfig nagios on sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg sudo systemctl start nagios survice nagios: No such file or directory Note: Forwarding request to 'systemctl enable nagios.service'.

Tereated symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /usr/lib/systemd/system/nagios.service.

Nagios Core 4.4.6
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2020-04-28
License: GPL

Nebsite: https://www.nagios.org
Reading configuration data...

Read main config file okay...

Read main config file okay...

Read object config files okay...

Read object config files okay...

Checked 8 services.

Checked 1 hosts.

Checked 1 hosts.
```

20. Check the status of Nagios

```
Things look okay - No serious problems were detected during the pre-flight check
ec2-user8ip-172-31-45-178 nagios-plugins-2.3.3]$ sudo systemctl status nagios
- nagios.service - Nagios Core 4.4.6
Loaded: loaded (/nxt/lib/nyxtemp/systemp/nagios,serxice; enabled; preset: disabled)
Active: active (running) since Wed 2024-10-02 05:37:36 UTC; 14s ago
Docs: https://www.nagios.org/documentation
Process: 67390 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
Process: 67391 ExecStartPre=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
Main PID: 67392 (nagios)
Tasks: 6 (limit: 1112)
Memory: 2.0M
CFU: 16ms
CGroup: /system.slice/nagios.service
-67392 /usr/local/nagios/bin/nagios -worker /usr/local/nagios/vat/rw/nagios.qh
-67393 /usr/local/nagios/bin/nagios -worker /usr/local/nagios/vat/rw/nagios.qh
-67394 /usr/local/nagios/bin/nagios -worker /usr/local/nagios/vat/rw/nagios.qh
-67395 /usr/local/nagios/bin/nagios -worker /usr/local/nagios/vat/rw/nagios.qh
-67396 /usr/local/nagios/bin/nagi
```

23. Open up your browser and look for <a href="http://<your public ip address>/nagios">http://<your public ip address>/nagios

