Advance devops Experiment No. 9

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.

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
● Support for implementing redundant monitoring hosts
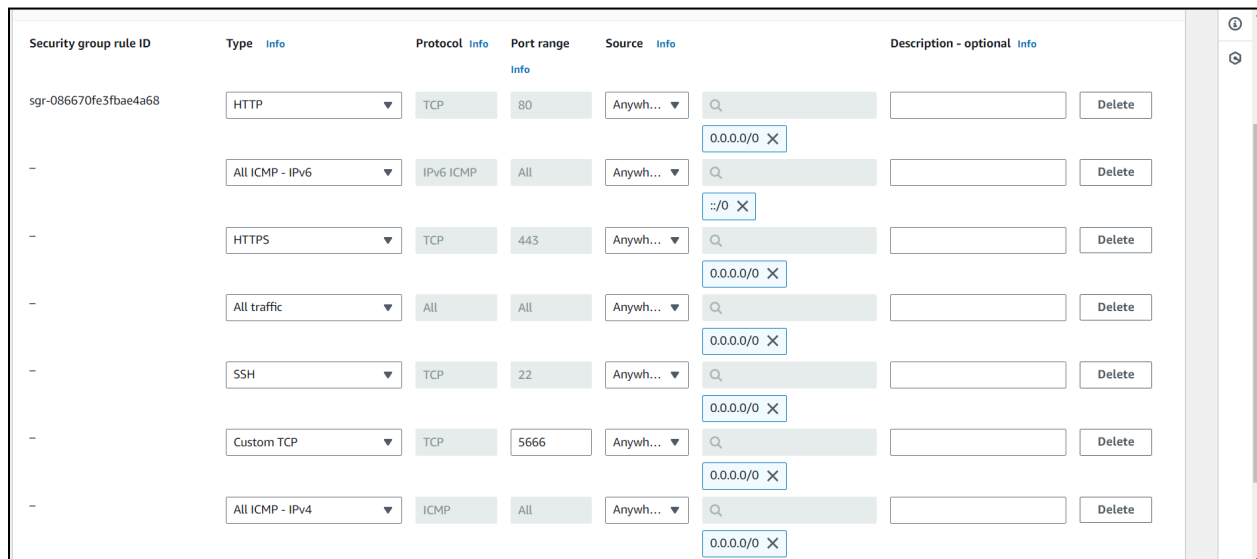
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1. Create an Amazon Linux EC2 Instance
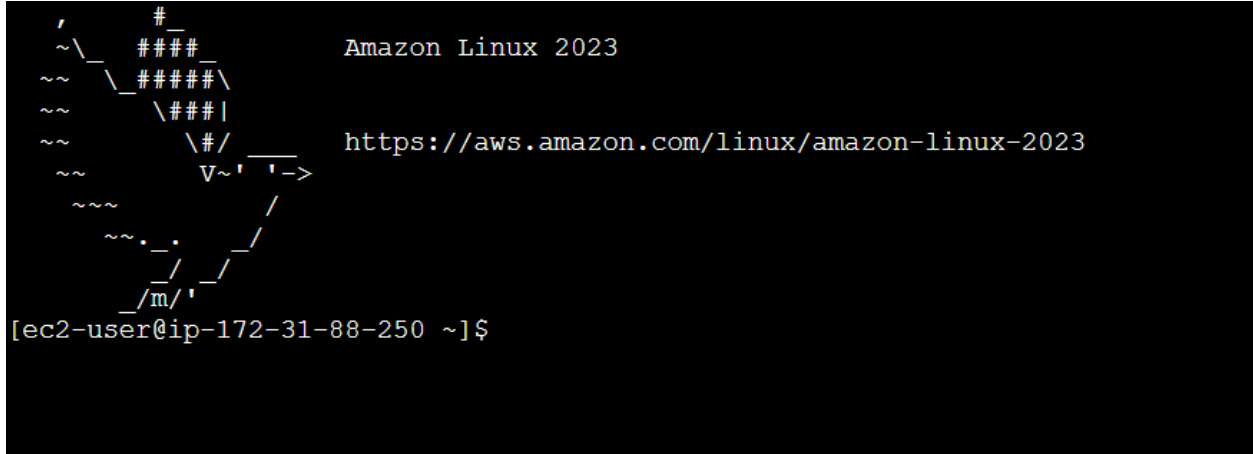
- Name it nagios-host.
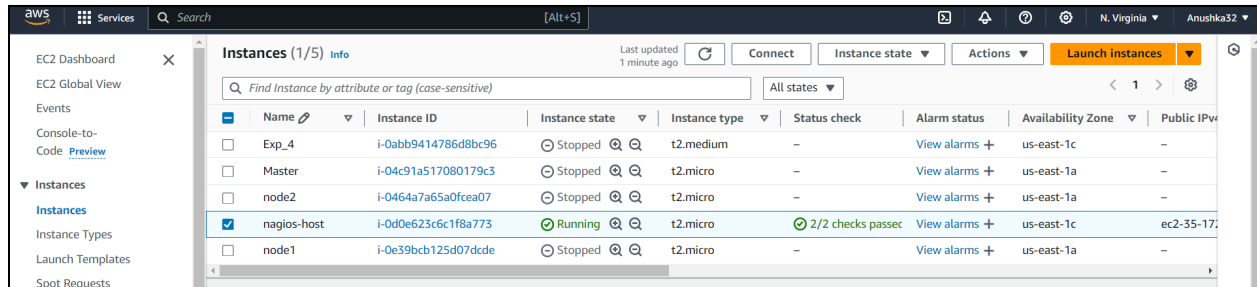
2. Configure Security Group

- Ensure HTTP, HTTPS, SSH, and ICMP are open from everywhere.

- Edit the inbound rules of the specified Security Group

3. Connect to Your EC2 Instance

- SSH into your EC2 instance or use EC2 Instance Connect from the browser

```
          #_
   '       #_
  ~\_   ####_          Amazon Linux 2023
 ~~  \_#####\
 ~~     \###|
 ~~       \#/ ___      https://aws.amazon.com/linux/amazon-linux-2023
  ~~       V~' '->
   ~~~         /
     ~~._.   _/
        _/ _/
       _/m/'
[ec2-user@ip-172-31-88-250 ~]$
```

4. Update Package Indices and Install Required Packages

Commands -

sudo yum update

sudo yum install httpd php

sudo yum install gcc glibc glibc-common

sudo yum install gd gd-devel

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```
    _/m/'
[ec2-user@ip-172-31-80-174 ~]$ sudo yum update
Last metadata expiration check: 0:15:44 ago on Tue Oct  1 04:26:43 2024.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-80-174 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:16:34 ago on Tue Oct  1 04:26:43 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           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
: 0d08dddee33dde6db (nagios-host)
```

```
Verifying        : libxslt-1.1.34-5.amzn2023.0.2.x86_64                           11/25
Verifying        : mailcap-2.1.49-3.amzn2023.0.3.noarch                           12/25
Verifying        : mod_http2-2.0.27-1.amzn2023.0.3.x86_64                         13/25
Verifying        : mod_lua-2.4.62-1.amzn2023.x86_64                               14/25
Verifying        : nginx-filesystem-1:1.24.0-1.amzn2023.0.4.noarch                15/25
Verifying        : php8.3-8.3.10-1.amzn2023.0.1.x86_64                            16/25
Verifying        : php8.3-cli-8.3.10-1.amzn2023.0.1.x86_64                        17/25
Verifying        : php8.3-common-8.3.10-1.amzn2023.0.1.x86_64                     18/25
Verifying        : php8.3-fpm-8.3.10-1.amzn2023.0.1.x86_64                        19/25
Verifying        : php8.3-mbstring-8.3.10-1.amzn2023.0.1.x86_64                   20/25
Verifying        : php8.3-opcache-8.3.10-1.amzn2023.0.1.x86_64                    21/25
Verifying        : php8.3-pdo-8.3.10-1.amzn2023.0.1.x86_64                        22/25
Verifying        : php8.3-process-8.3.10-1.amzn2023.0.1.x86_64                    23/25
Verifying        : php8.3-sodium-8.3.10-1.amzn2023.0.1.x86_64                     24/25
Verifying        : php8.3-xml-8.3.10-1.amzn2023.0.1.x86_64                        25/25

Installed:
  apr-1.7.2-2.amzn2023.0.2.x86_64           apr-util-1.6.3-1.amzn2023.0.1.x86_64          apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
  generic-logos-httpd-18.0.0-12.amzn2023.0.3.noarch   httpd-2.4.62-1.amzn2023.x86_64         httpd-core-2.4.62-1.amzn2023.x86_64
  httpd-filesystem-2.4.62-1.amzn2023.noarch   httpd-tools-2.4.62-1.amzn2023.x86_64         libbrotli-1.0.9-4.amzn2023.0.2.x86_64
  libsodium-1.0.19-4.amzn2023.x86_64         libxslt-1.1.34-5.amzn2023.0.2.x86_64         mailcap-2.1.49-3.amzn2023.0.3.noarch
  mod_http2-2.0.27-1.amzn2023.0.3.x86_64     mod_lua-2.4.62-1.amzn2023.x86_64             nginx-filesystem-1:1.24.0-1.amzn2023.0.4.noarch
  php8.3-8.3.10-1.amzn2023.0.1.x86_64        php8.3-cli-8.3.10-1.amzn2023.0.1.x86_64      php8.3-common-8.3.10-1.amzn2023.0.1.x86_64
  php8.3-fpm-8.3.10-1.amzn2023.0.1.x86_64    php8.3-mbstring-8.3.10-1.amzn2023.0.1.x86_64 php8.3-opcache-8.3.10-1.amzn2023.0.1.x86_64
  php8.3-pdo-8.3.10-1.amzn2023.0.1.x86_64    php8.3-process-8.3.10-1.amzn2023.0.1.x86_64  php8.3-sodium-8.3.10-1.amzn2023.0.1.x86_64
  php8.3-xml-8.3.10-1.amzn2023.0.1.x86_64

Complete!
[ec2-user@ip-172-31-80-174 ~]$
```

i-0d08dddee33dde6db (nagios-host)

```
(50/62): libwebp-devel-1.2.4-1.amzn2023.0.6.x86_64.rpm          644 kB/s |  37 kB   00:00
(51/62): libxml2-devel-2.10.4-1.amzn2023.0.6.x86_64.rpm          14 MB/s | 500 kB   00:00
(52/62): libtiff-devel-4.4.0-4.amzn2023.0.18.x86_64.rpm         3.8 MB/s | 516 kB   00:00
(53/62): libxcb-devel-1.13.1-7.amzn2023.0.2.x86_64.rpm           15 MB/s | 1.0 MB   00:00
(54/62): pcre2-devel-10.40-1.amzn2023.0.3.x86_64.rpm             13 MB/s | 473 kB   00:00
(55/62): pcre2-utf16-10.40-1.amzn2023.0.3.x86_64.rpm            5.8 MB/s | 216 kB   00:00
(56/62): pcre2-utf32-10.40-1.amzn2023.0.3.x86_64.rpm            3.7 MB/s | 205 kB   00:00
(57/62): sysprof-capture-devel-3.40.1-2.amzn2023.0.2.x86_64.rpm 2.7 MB/s |  60 kB   00:00
(58/62): pixman-0.40.0-3.amzn2023.0.3.x86_64.rpm                5.2 MB/s | 295 kB   00:00
(59/62): xml-common-0.6.3-56.amzn2023.0.2.noarch.rpm            1.4 MB/s |  32 kB   00:00
(60/62): xz-devel-5.2.5-9.amzn2023.0.2.x86_64.rpm               2.5 MB/s |  53 kB   00:00
(61/62): zlib-devel-1.2.11-33.amzn2023.0.5.x86_64.rpm           2.1 MB/s |  45 kB   00:00
(62/62): xorg-x11-proto-devel-2021.4-1.amzn2023.0.2.noarch.rpm  3.6 MB/s | 263 kB   00:00
----------------------------------------------------------------------------------
Total                                                            24 MB/s |  23 MB   00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                                   1/1
  Installing       : zlib-devel-1.2.11-33.amzn2023.0.5.x86_64                          1/62
  Installing       : libpng-2:1.6.37-10.amzn2023.0.6.x86_64                            2/62
  Installing       : libwebp-1.2.4-1.amzn2023.0.6.x86_64                               3/62
  Installing       : libjpeg-turbo-2.1.4-2.amzn2023.0.5.x86_64                         4/62
  Installing       : cmake-filesystem-3.22.2-1.amzn2023.0.4.x86_64                     5/62
  Installing       : libpng-devel-2:1.6.37-10.amzn2023.0.6.x86_64                      6/62
  Installing       : xorg-x11-proto-devel-2021.4-1.amzn2023.0.2.noarch                 7/62
  Installing       : libicu-67.1-7.amzn2023.0.3.x86_64 [==========================]   8/62
```

i-0d08dddee33dde6db (nagios-host)

PublicIPs: 35.173.200.53   PrivateIPs: 172.31.80.174

5. Create a New Nagios User

Commands -

> sudo adduser -m nagios

> sudo passwd nagios

```
Last login: Mon Sep 30 17:45:34 2024 from 18.206.107.27
[ec2-user@ip-172-31-88-250 ~]$ sudo adduser -m nagios
adduser: user 'nagios' already exists
[ec2-user@ip-172-31-88-250 ~]$ sudo passwd nagios
Changing password for user nagios.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-88-250 ~]$
```

6. Create a New User Group

Commands -

> sudo groupadd nagcmd

```
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-88-250 ~]$ sudo groupadd nagcmd
[ec2-user@ip-172-31-88-250 ~]$ sudo usermod -a -G nagcmd nagios
[ec2-user@ip-172-31-88-250 ~]$ sudo usermod -a -G nagcmd apache
[ec2-user@ip-172-31-88-250 ~]$
```

7. Add Users to the Group

Commands -

      sudo usermod -a -G nagcmd nagios

      sudo usermod -a -G nagcmd apache

```
[ec2-user@ip-172-31-80-22 ~]$ sudo usermod -aG nagcmd nagios
sudo usermod -aG nagcmd apache
```

8. Create a Directory for Nagios Downloads

Commands -

      mkdir ~/downloads

      cd ~/downloads

```
[ec2-user@ip-172-31-88-250 ~]$ sudo usermod -a -G
[ec2-user@ip-172-31-88-250 ~]$ mkdir ~/downloads
[ec2-user@ip-172-31-88-250 ~]$ cd ~/downloads
```

9. Download Nagios and Plugins Source Files

Commands -

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

```
[ec2-user@ip-172-31-88-250 downloads]$ wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
--2024-09-30 18:02:53--  https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
Resolving assets.nagios.com (assets.nagios.com)... 45.79.49.120, 2600:3c00::f03c:92ff:fef7:45ce
Connecting to assets.nagios.com (assets.nagios.com)|45.79.49.120|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11333414 (11M) [application/x-gzip]
Saving to: 'nagios-4.4.6.tar.gz'

nagios-4.4.6.tar.gz              100%[===================================================================>]  10.81M  12.3MB/s    in 0.9s

2024-09-30 18:02:54 (12.3 MB/s) - 'nagios-4.4.6.tar.gz' saved [11333414/11333414]

[ec2-user@ip-172-31-88-250 downloads]$
```

```
Resolving nagios-plugins.org (nagios-plugins.org)... 45.56.123.251
Connecting to nagios-plugins.org (nagios-plugins.org)|45.56.123.251|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2782610 (2.7M) [application/x-gzip]
Saving to: 'nagios-plugins-2.3.3.tar.gz.3'

nagios-plugins-2.3.3.tar.gz.3      100%[===============================================================>]   2.65M  7.09MB/s    in 0.4s

2024-09-30 18:03:39 (7.09 MB/s) - 'nagios-plugins-2.3.3.tar.gz.3' saved [2782610/2782610]

[ec2-user@ip-172-31-88-250 downloads]$
```

```
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]
--2024-10-01 04:54:16--  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://netactuate.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz?viasf=1 [following]
--2024-10-01 04:54:16--  http://netactuate.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz?viasf=1
Resolving netactuate.dl.sourceforge.net (netactuate.dl.sourceforge.net)... 104.225.3.66
Connecting to netactuate.dl.sourceforge.net (netactuate.dl.sourceforge.net)|104.225.3.66|: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  --.-KB/s    in 0.09s

2024-10-01 04:54:17 (18.6 MB/s) - 'nagios-4.0.8.tar.gz' saved [1805059/1805059]

[ec2-user@ip-172-31-80-174 downloads]$
```

i-0d08dddee33dde6db (nagios-host)   ✕

PublicIPs: 35.173.200.53   PrivateIPs: 172.31.80.174

```
nagios-4.0.8.tar.gz               100%[===============================================================>]   1.72M  --.-KB/s    in 0.09s

2024-10-01 04:54:17 (18.6 MB/s) - 'nagios-4.0.8.tar.gz' saved [1805059/1805059]

[ec2-user@ip-172-31-80-174 downloads]$ wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
--2024-10-01 04:55:13--  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  7.82MB/s    in 0.3s

2024-10-01 04:55:13 (7.82 MB/s) - 'nagios-plugins-2.0.3.tar.gz' saved [2659772/2659772]

[ec2-user@ip-172-31-80-174 downloads]$
```

10. Extract the Nagios Source File

Commands -

tar zxvf nagios-4.4.6.tar.gz

cd nagios-4.4.6

```
[ec2-user@ip-172-31-80-174 downloads]$ tar zxvf 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/LEGAL
nagios-4.0.8/LICENSE
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/events.c
nagios-4.0.8/base/flapping.c
nagios-4.0.8/base/logging.c
```

11. Run the Configuration Script

Commands -

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

```
nagios-4.0.8  nagios-4.0.8.tar.gz  nagios-plugins-2.0.3.tar.gz
[ec2-user@ip-172-31-80-174 downloads]$ cd nagios-4.0.8
[ec2-user@ip-172-31-80-174 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
```

12. Compile the Source Code

Commands -

make all

```
[ec2-user@ip-172-31-80-22 nagios-4.4.6]$ make all
cd ./base && make
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.4.6/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 nebmods.o nebmods.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 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:277:12:
workers.c:253:17: warning: '%s' directive argument is null [-Wformat-overflow=]
  253 |            log_debug_info(DEBUGL_CHECKS, 1, "Found specialized worker(s) for '%s'", (slash && *slash != '/') ? slash : cmd_name);
      |                 ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o events.o events.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o flapping.o flapping.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o logging.o logging.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o macros-base.o ../common/macros.c
```

```
                    /usr/bin/install  c  m 775  o nagios  g nagios $file /usr/local/nagios/sbin/ \
done
/usr/bin/install: cannot stat '*.cgi': No such file or directory
make[2]: *** [Makefile:205: install-basic] Error 1
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make[1]: *** [Makefile:197: install] Error 2
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.0.8/cgi'
make: *** [Makefile:235: install] Error 2
[ec2-user@ip-172-31-80-174 nagios-4.0.8]$ sudo make install-init
/usr/bin/install -c -m 755 -d -o root -g root /etc/rc.d/init.d
/usr/bin/install -c -m 755 -o root -g root daemon-init /etc/rc.d/init.d/nagios

*** Init script installed ***

[ec2-user@ip-172-31-80-174 nagios-4.0.8]$
```

```
*** Support Notes ******************************************

If you have questions about configuring or running Nagios,
please make sure that you:

    - Look at the sample config files
    - Read the documentation on the Nagios Library at:
        https://library.nagios.com

before you post a question to one of the mailing lists.
Also make sure to include pertinent information that could
help 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

For more information on obtaining support for Nagios, visit:

    https://support.nagios.com

************************************************************
Enjoy.
[ec2-user@ip-172-31-88-250 nagios-4.4.6]$
```

13. Install Binaries, Init Script, and Sample Config Files

Commands -

./sudo make install

sudo make install-init

sudo make install-config

sudo make install-commandmode

```
*** External command directory configured ***

[ec2-user@ip-172-31-80-174 nagios-4.0.8]$ sudo nano /usr/local/nagios/etc/objects/contacts.cfg
[ec2-user@ip-172-31-80-174 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-172-31-80-174 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-172-31-80-174 nagios-4.0.8]$ sudo service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[ec2-user@ip-172-31-80-174 nagios-4.0.8]$ cd ~/downloads
[ec2-user@ip-172-31-80-174 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
```

14. Edit the Config File to Change the Email Address

Commands -

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

- ● Change the email address in the contacts.cfg file to your preferred email.

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```
  GNU nano 5.8                    /usr/local/nagios/etc/objects/contacts.cfg                          Modified
###############################################################################
###############################################################################
#
# 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 template (defined above)
    alias                   Nagios Admin        ; Full name of user
    email                   anushka3204@gmail.com ; <<***** CHANGE THIS TO YOUR EMAIL ADDRESS ******
}

###############################################################################
#
# CONTACT GROUPS
```

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

15. Configure the Web Interface

Commands -

    sudo make install-webconf

```
[ec2-user@ip-172-31-88-250 nagios-4.4.6]$ sudo nano /usr/local/nagios/etc/objects/contacts.
[ec2-user@ip-172-31-88-250 nagios-4.4.6]$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf
if [ 0 -eq 1 ]; then \
        ln -s /etc/httpd/conf.d/nagios.conf /etc/apache2/sites-enabled/nagios.conf; \
fi

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

[ec2-user@ip-172-31-88-250 nagios-4.4.6]$
```

16. Create a Nagios Admin Account

Commands -

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

● You will be prompted to enter and confirm the password for the nagiosadmin user

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

[ec2-user@ip-172-31-88-250 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-172-31-88-250 nagios-4.4.6]$
```

```
nagios-plugins-2.3.3/pkg/fedora/requires
nagios-plugins-2.3.3/pkg/solaris/
nagios-plugins-2.3.3/pkg/solaris/preinstall
nagios-plugins-2.3.3/pkg/solaris/solpkg
nagios-plugins-2.3.3/pkg/solaris/pkginfo.in
nagios-plugins-2.3.3/pkg/solaris/pkginfo
nagios-plugins-2.3.3/pkg/redhat/
nagios-plugins-2.3.3/pkg/redhat/requires
[ec2-user@ip-172-31-88-250 downloads]$ cd nagios-plugins-2.3.3
[ec2-user@ip-172-31-88-250 nagios-plugins-2.3.3]$
```

```
libtool: install: /usr/bin/install -c -o nagios -g nagios check_nt /usr/local/nagios/libexec/check_nt
make  install-exec-hook
make[3]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins'
cd /usr/local/nagios/libexec && \
for i in check_ftp check_imap check_nntp check_pop check_udp check_clamd  ; do rm -f $i; ln -s check_tcp $i ; done ;\
if [ -x check_ldap ] ; then rm -f check_ldaps ; ln -s check_ldap check_ldaps ; fi
make[3]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins'
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins'
Making install in plugins-scripts
make[1]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins-scripts'
make[2]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins-scripts'
test -z "/usr/local/nagios/libexec" || /usr/bin/mkdir -p "/usr/local/nagios/libexec"
 /usr/bin/install -c -o nagios -g nagios check_breeze check_disk_smb check_flexlm check_ircd check_log check_oracle check_rpc check_sensors check_wave check_ifs
tatus check_ifoperstatus check_mailq check_file_age check_ssl_validity utils.sh utils.pm '/usr/local/nagios/libexec'
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins-scripts'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.3.3/plugins-scripts'
```

17. Restart Apache

Commands -

    sudo systemctl restart httpd

```
[ec2-user@ip-172-31-80-22 nagios-4.4.6]$ sudo systemctl restart httpd
[ec2-user@ip-172-31-80-22 nagios-4.4.6]$
```

18. Extract the Plugins Source File

Commands -

    cd ~/downloads

    tar zxvf nagios-plugins-2.3.3.tar.gz

cd nagios-plugins-2.3.3

```
[ec2-user@ip-172-31-80-22 nagios-4.4.6]$ sudo systemctl restart httpd
[ec2-user@ip-172-31-80-22 nagios-4.4.6]$ cd ~/downloads
tar zxvf nagios-plugins-2.3.3.tar.gz
cd nagios-plugins-2.3.3
nagios-plugins-2.3.3/
nagios-plugins-2.3.3/perlmods/
nagios-plugins-2.3.3/perlmods/Config-Tiny-2.14.tar.gz
nagios-plugins-2.3.3/perlmods/parent-0.226.tar.gz
nagios-plugins-2.3.3/perlmods/Test-Simple-0.98.tar.gz
nagios-plugins-2.3.3/perlmods/Makefile.in
nagios-plugins-2.3.3/perlmods/version-0.9903.tar.gz
nagios-plugins-2.3.3/perlmods/Makefile.am
nagios-plugins-2.3.3/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Metadata-1.000014.tar.gz
nagios-plugins-2.3.3/perlmods/Params-Validate-1.08.tar.gz
nagios-plugins-2.3.3/perlmods/Class-Accessor-0.34.tar.gz
nagios-plugins-2.3.3/perlmods/Try-Tiny-0.18.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Implementation-0.07.tar.gz
nagios-plugins-2.3.3/perlmods/Makefile
nagios-plugins-2.3.3/perlmods/Perl-OSType-1.003.tar.gz
nagios-plugins-2.3.3/perlmods/install_order
nagios-plugins-2.3.3/perlmods/Nagios-Plugin-0.36.tar.gz
nagios-plugins-2.3.3/perlmods/Math-Calc-Units-1.07.tar.gz
nagios-plugins-2.3.3/perlmods/Module-Build-0.4007.tar.gz
nagios-plugins-2.3.3/ABOUT-NLS
nagios-plugins-2.3.3/configure.ac
nagios-plugins-2.3.3/Makefile.in
```

```
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/po'
make[1]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3'
make[2]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-plugins-2.0.3'
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$ sudo chkconfig --add nagios
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$ sudo chkconfig nagios on
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

Nagios Core 4.0.8
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 08-12-2014
License: GPL

Website: http://www.nagios.org
Reading configuration data...
Error in configuration file '/usr/local/nagios/etc/nagios.cfg' - Line 452 (Check result path '/usr/local/nagios/var/spool/checkresults' is not a valid directory)
   Error processing main config file!

[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$
```

```
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 8 services.
        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
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$
```

If Error

sudo mkdir -p /usr/local/nagios/var/spool/checkresults

sudo chown -R nagios:nagcmd /usr/local/nagios/var

```
Things look okay - No serious problems were detected during the pre-flight check
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$ sudo service nagios start
Reloading systemd:                                        [  OK  ]
Starting nagios (via systemctl):                          [  OK  ]
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$
```

19. Compile and Install Plugins

Commands -

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

make

sudo make install

```
[ec2-user@ip-172-31-80-22 nagios-plugins-2.3.3]$ ./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
```

20. Start Nagios

Commands -

    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
error reading information on service nagios: No such file or directory
Note: Forwarding request to 'systemctl enable nagios.service'.
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /usr/lib/systemd/system/nagios.service.

Nagios Core 4.4.6
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Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2020-04-28
License: GPL

Website: https://www.nagios.org
Reading configuration data...
   Read main config file okay...
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 8 services.
        Checked 1 hosts.
        Checked 1 host groups
```

21. Check the Status of Nagios

Commands -

sudo systemctl status nagios

```
Things look okay - No serious problems were detected during the pre-flight check
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$ sudo service nagios start
Reloading systemd:                                           [  OK  ]
Starting nagios (via systemctl):                             [  OK  ]
[ec2-user@ip-172-31-80-174 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 Tue 2024-10-01 05:25:27 UTC; 38s ago
      Docs: man:systemd-sysv-generator(8)
   Process: 67937 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
     Tasks: 6 (limit: 1112)
    Memory: 2.1M
       CPU: 49ms
    CGroup: /system.slice/nagios.service
            ├─67959 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
            ├─67961 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67962 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67963 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67964 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─67965 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel hostchecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel servicechecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel opathchecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Fully initialized and ready to rock!
```

```
Starting nagios (via systemctl):                             [  OK  ]
[ec2-user@ip-172-31-80-174 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 Tue 2024-10-01 05:25:27 UTC; 38s ago
      Docs: man:systemd-sysv-generator(8)
   Process: 67937 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
     Tasks: 6 (limit: 1112)
    Memory: 2.1M
       CPU: 49ms
    CGroup: /system.slice/nagios.service
            ├─67959 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
            ├─67961 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67962 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67963 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            ├─67964 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
            └─67965 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel hostchecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel servicechecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Channel opathchecks registered successfully
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: nerd: Fully initialized and ready to rock!
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: wproc: Successfully registered manager as @wproc with query handler
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: wproc: Registry request: name=Core Worker 67964;pid=67964
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: wproc: Registry request: name=Core Worker 67962;pid=67962
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: wproc: Registry request: name=Core Worker 67963;pid=67963
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: wproc: Registry request: name=Core Worker 67961;pid=67961
Oct 01 05:25:27 ip-172-31-80-174.ec2.internal nagios[67959]: Successfully launched command file worker with pid 67965
[ec2-user@ip-172-31-80-174 nagios-plugins-2.0.3]$
```

22. Access Nagios Web Interface

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- Copy the Public IP address of your EC2 instance.

- Open your browser and navigate to http://<your_public_ip_address>/nagios.

- Enter the username nagiosadmin and the password you set in Step 16.