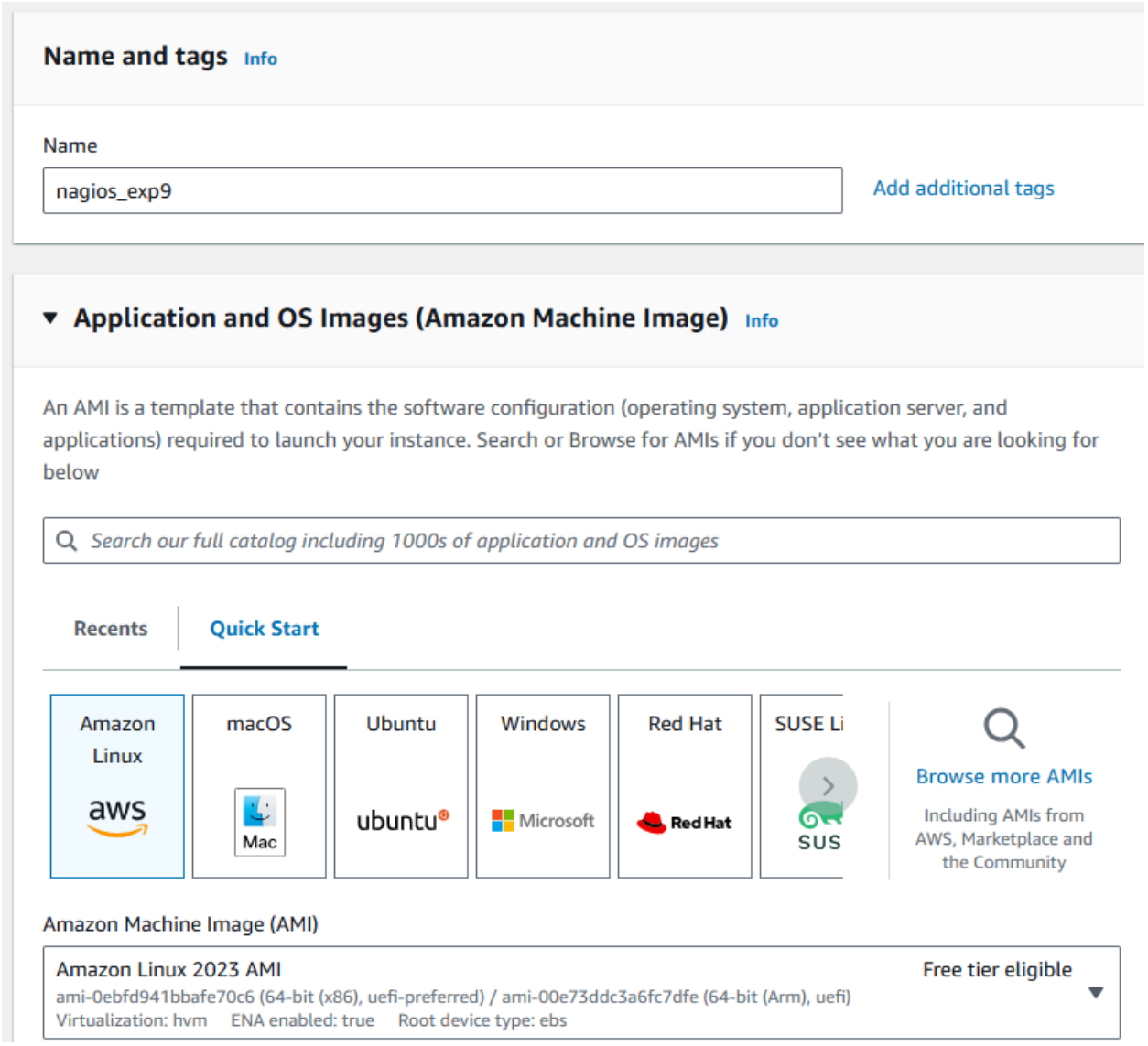
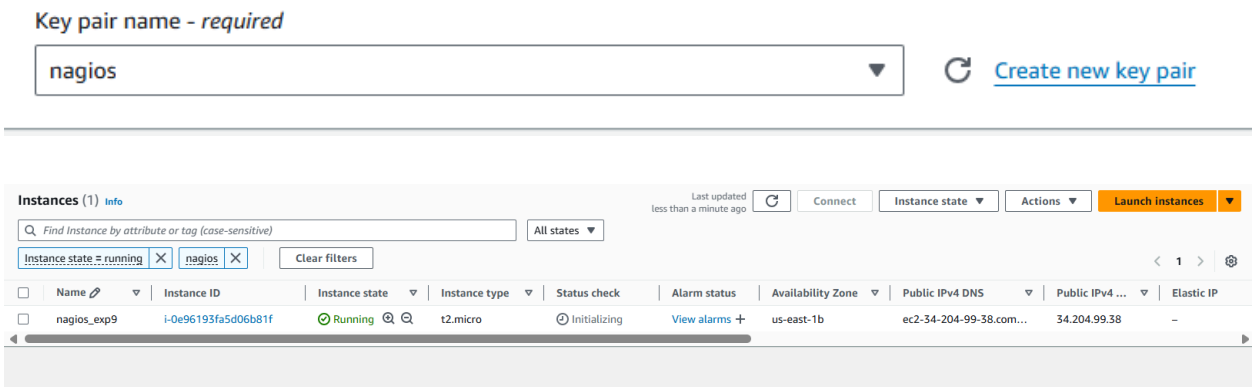
Aim: To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

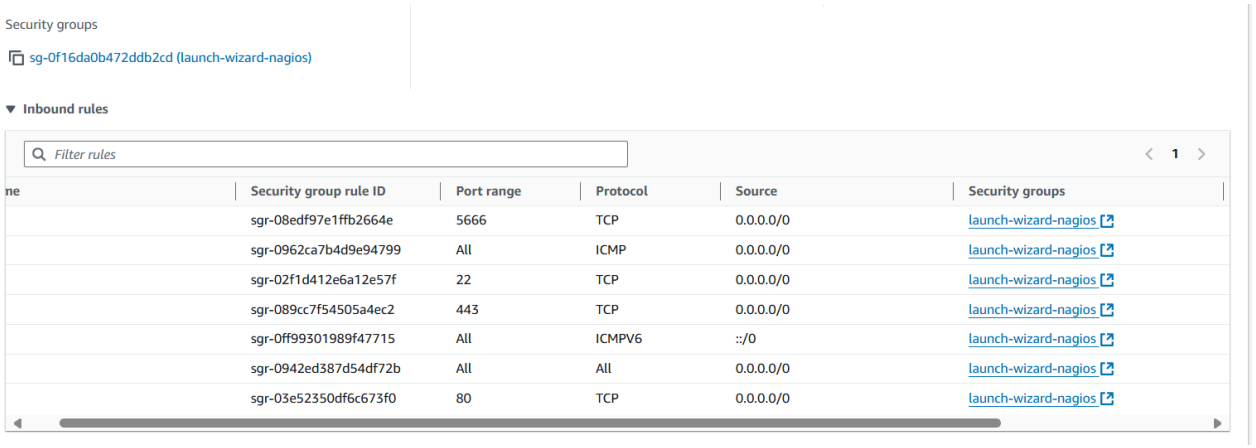
Steps to install and configure Nagios in EC2 instance

1. Create an Amazon Linux EC-2 instance and select either existing key pair or create new

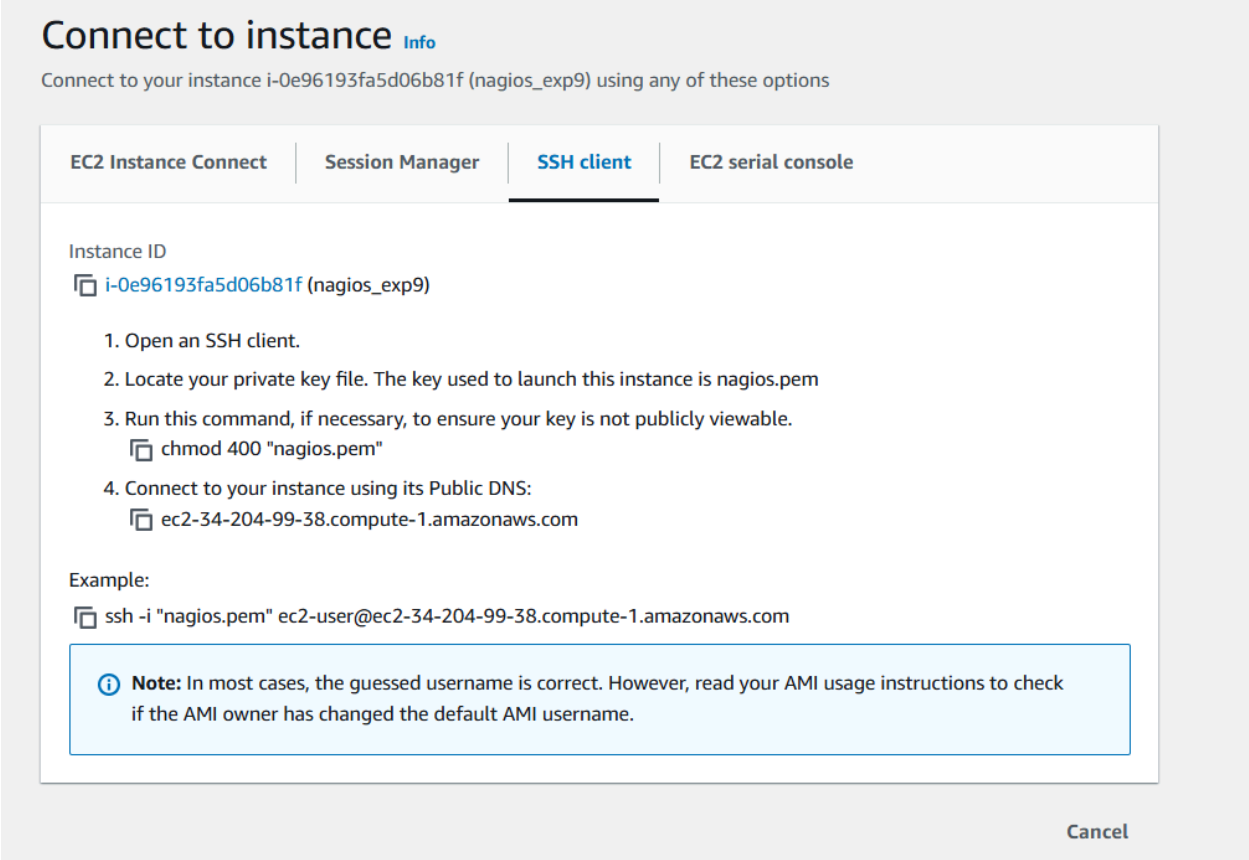




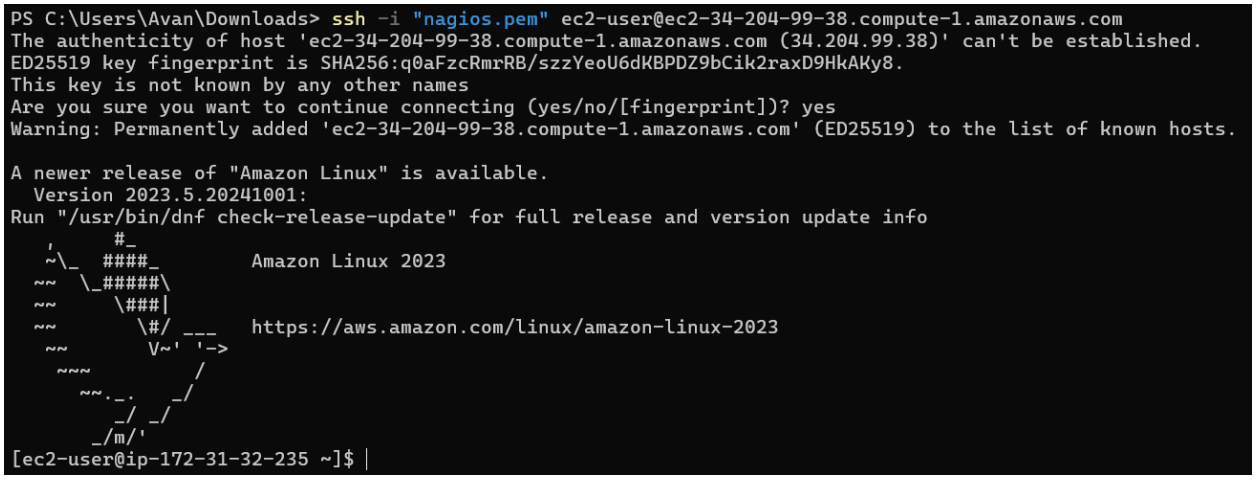
2. Under Security Group, make sure HTTP, HTTPS, SSH, ICMP are open from everywhere.



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



Connection Successfully installed



4. Now, we need to install necessary packages that are required to run nagios properly

sudo yum install httpd php

```
[ec2-user@ip-172-31-32-235 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:02:20 ago on Thu Oct  3 06:48:23 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
```

```
  Available Versions:

  Version 2023.5.20241001:
    Run the following command to upgrade to 2023.5.20241001:

      dnf upgrade --releasever=2023.5.20241001

    Release notes:
     https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.5.20241001.html

================================================================================================================================

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
```

sudo yum install gcc glibc glibc-common

```
[ec2-user@ip-172-31-32-235 ~]$ sudo yum install gcc glibc glibc-common
Last metadata expiration check: 0:03:23 ago on Thu Oct  3 06:48:23 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
```

```
WARNING:
  A newer release of "Amazon Linux" is available.

  Available Versions:

  Version 2023.5.20241001:
    Run the following command to upgrade to 2023.5.20241001:

      dnf upgrade --releasever=2023.5.20241001

    Release notes:
     https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.5.20241001.html

================================================================================================================

Installed:
  annobin-docs-10.93-1.amzn2023.0.1.noarch                annobin-plugin-gcc-10.93-1.amzn2023.0.1.x86_64
  cpp-11.4.1-2.amzn2023.0.2.x86_64                        gc-8.0.4-5.amzn2023.0.2.x86_64
  gcc-11.4.1-2.amzn2023.0.2.x86_64                        glibc-devel-2.34-52.amzn2023.0.11.x86_64
  glibc-headers-x86-2.34-52.amzn2023.0.11.noarch          guile22-2.2.7-2.amzn2023.0.3.x86_64
  kernel-headers-6.1.109-118.189.amzn2023.x86_64          libmpc-1.2.1-2.amzn2023.0.2.x86_64
  libtool-ltdl-2.4.7-1.amzn2023.0.3.x86_64                libxcrypt-devel-4.4.33-7.amzn2023.x86_64
  make-1:4.3-5.amzn2023.0.2.x86_64

Complete!
```

sudo yum install gd gd-devel

```
[ec2-user@ip-172-31-32-235 ~]$ sudo yum install gd gd-devel
Last metadata expiration check: 0:04:23 ago on Thu Oct  3 06:48:23 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-vf-fonts       noarch           20201206-2.amzn2023.0.2                amazonlinux        492 k
 graphite2                       x86_64           1.3.14-7.amzn2023.0.2                  amazonlinux         97 k
 graphite2-devel                 x86_64           1.3.14-7.amzn2023.0.2                  amazonlinux         21 k
 harfbuzz                        x86_64           7.0.0-2.amzn2023.0.1                   amazonlinux        868 k
 harfbuzz-devel                  x86_64           7.0.0-2.amzn2023.0.1                   amazonlinux        404 k
 harfbuzz-icu                    x86_64           7.0.0-2.amzn2023.0.1                   amazonlinux         18 k
 jbigkit-libs                    x86_64           2.1-21.amzn2023.0.2                    amazonlinux         54 k
```

```
Installed:
  brotli-1.0.9-4.amzn2023.0.2.x86_64                      brotli-devel-1.0.9-4.amzn2023.0.2.x86_64
  bzip2-devel-1.0.8-6.amzn2023.0.2.x86_64                 cairo-1.17.6-2.amzn2023.0.1.x86_64
  cmake-filesystem-3.22.2-1.amzn2023.0.4.x86_64           fontconfig-2.13.94-2.amzn2023.0.2.x86_64
  fontconfig-devel-2.13.94-2.amzn2023.0.2.x86_64          fonts-filesystem-1:2.0.5-12.amzn2023.0.2.noarch
  freetype-2.13.2-5.amzn2023.0.1.x86_64                   freetype-devel-2.13.2-5.amzn2023.0.1.x86_64
  gd-2.3.3-5.amzn2023.0.3.x86_64                          gd-devel-2.3.3-5.amzn2023.0.3.x86_64
  glib2-devel-2.74.7-689.amzn2023.0.2.x86_64              google-noto-fonts-common-20201206-2.amzn2023.0.2.noarch
  google-noto-sans-vf-fonts-20201206-2.amzn2023.0.2.noarch graphite2-1.3.14-7.amzn2023.0.2.x86_64
  graphite2-devel-1.3.14-7.amzn2023.0.2.x86_64            harfbuzz-7.0.0-2.amzn2023.0.1.x86_64
  harfbuzz-devel-7.0.0-2.amzn2023.0.1.x86_64              harfbuzz-icu-7.0.0-2.amzn2023.0.1.x86_64
  jbigkit-libs-2.1-21.amzn2023.0.2.x86_64                 langpacks-core-font-en-3.0-21.amzn2023.0.4.noarch
  libICE-1.0.10-6.amzn2023.0.2.x86_64                     libSM-1.2.3-8.amzn2023.0.2.x86_64
  libX11-1.7.2-3.amzn2023.0.4.x86_64                      libX11-common-1.7.2-3.amzn2023.0.4.noarch
```

5. Create a new Nagios User with its password. You'll have to enter the password twice for confirmation. This is require as to give separate permissions for nagios

sudo adduser -m nagios

sudo passwd nagios

```
[ec2-user@ip-172-31-32-235 ~]$ sudo adduser -m nagios
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.
```

6. Create a new user group and use these commands so that you don't have to use sudo for Apache and Nagios

sudo groupadd nagcmd
sudo usermod -a -G nagcmd nagios
sudo usermod -a -G nagcmd apache

```
[ec2-user@ip-172-31-32-235 ~]$ sudo groupadd nagcmd
[ec2-user@ip-172-31-32-235 ~]$ sudo usermod -a -G nagcmd nagios
sudo usermod -a -G nagcmd apache
[ec2-user@ip-172-31-32-235 ~]$
```

7. Create a new directory for Nagios downloads

mkdir ~/downloads
cd ~/downloads

```
[ec2-user@ip-172-31-32-235 ~]$ mkdir ~/downloads
cd ~/downloads
[ec2-user@ip-172-31-32-235 downloads]$
```

8. Use wget to download the installation source zip files.

- wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.5.5.tar.gz

```
[ec2-user@ip-172-31-32-235 downloads]$ wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.5.5.tar.gz
--2024-10-03 06:57:29--  https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.5.5.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: 2065473 (2.0M) [application/x-gzip]
Saving to: ‘nagios-4.5.5.tar.gz’

nagios-4.5.5.tar.gz             100%[=====================================================>]   1.97M  5.21MB/s    in 0.4s

2024-10-03 06:57:29 (5.21 MB/s) - ‘nagios-4.5.5.tar.gz’ saved [2065473/2065473]
```

- wget https://nagios-plugins.org/download/nagios-plugins-2.4.11.tar.gz

```
[ec2-user@ip-172-31-32-235 downloads]$ wget https://nagios-plugins.org/download/nagios-plugins-2.4.11.tar.gz
--2024-10-03 06:57:45--  https://nagios-plugins.org/download/nagios-plugins-2.4.11.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|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2753049 (2.6M) [application/x-gzip]
Saving to: ‘nagios-plugins-2.4.11.tar.gz’

nagios-plugins-2.4.11.tar.gz     100%[=====================================================>]   2.62M  5.29MB/s    in 0.5s

2024-10-03 06:57:46 (5.29 MB/s) - ‘nagios-plugins-2.4.11.tar.gz’ saved [2753049/2753049]
```

9. Use tar to unzip the downloaded archive and change to that directory.

tar zxvf nagios-4.5.5.tar.gz

```
[ec2-user@ip-172-31-32-235 downloads]$ tar zxvf nagios-4.5.5.tar.gz
nagios-4.5.5/
nagios-4.5.5/.github/
nagios-4.5.5/.github/workflows/
nagios-4.5.5/.github/workflows/test.yml
nagios-4.5.5/.gitignore
nagios-4.5.5/CONTRIBUTING.md
nagios-4.5.5/Changelog
nagios-4.5.5/INSTALLING
nagios-4.5.5/LEGAL
nagios-4.5.5/LICENSE
nagios-4.5.5/Makefile.in
nagios-4.5.5/README.md
nagios-4.5.5/THANKS
nagios-4.5.5/UPGRADING
nagios-4.5.5/aclocal.m4
nagios-4.5.5/autoconf-macros/
nagios-4.5.5/autoconf-macros/.gitignore
nagios-4.5.5/autoconf-macros/CHANGELOG.md
nagios-4.5.5/autoconf-macros/LICENSE
nagios-4.5.5/autoconf-macros/LICENSE.md
nagios-4.5.5/autoconf-macros/README.md
nagios-4.5.5/autoconf-macros/add_group_user
nagios-4.5.5/autoconf-macros/ax_nagios_get_distrib
nagios-4.5.5/autoconf-macros/ax_nagios_get_files
nagios-4.5.5/autoconf-macros/ax_nagios_get_inetd
nagios-4.5.5/autoconf-macros/ax_nagios_get_init
nagios-4.5.5/autoconf-macros/ax_nagios_get_os
```

10. Navigate to the extracted folder and Run the configuration script with the same group name you previously created.

cd nagios-4.5.5 (check your own version using nagios - v or ls)

```
[ec2-user@ip-172-31-32-235 downloads]$ ls
nagios-4.5.5  nagios-4.5.5.tar.gz  nagios-plugins-2.4.11.tar.gz
[ec2-user@ip-172-31-32-235 downloads]$
```

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

```
[ec2-user@ip-172-31-32-235 downloads]$ cd nagios-4.5.5
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether the compiler supports GNU C... yes
checking whether gcc accepts -g... yes
checking for gcc option to enable C11 features... none needed
checking whether make sets $(MAKE)... yes
checking whether ln -s works... yes
checking for strip... /usr/bin/strip
checking for sys/wait.h that is POSIX.1 compatible... yes
checking for stdio.h... yes
checking for stdlib.h... yes
checking for string.h... yes
```

```
checking for library containing connect... none required
checking for initgroups... yes
checking for setenv... yes
checking for strdup... yes
checking for strstr... yes
checking for strtoul... yes
checking for unsetenv... yes
checking for type of socket size... size_t
checking for Kerberos include files... configure: WARNING: could not find include files
checking for pkg-config... pkg-config
checking for SSL headers... configure: error: Cannot find ssl headers
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$
```

We got error, because ssl headers library is not installed

It can be installed using **sudo yum install openssl-devel**

```
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ sudo yum install openssl-devel
Last metadata expiration check: 0:54:32 ago on Thu Oct  3 06:48:23 2024.
Dependencies resolved.
================================================================================================================================
 Package                    Architecture          Version                                Repository                   Size
================================================================================================================================
Installing:
 openssl-devel              x86_64                1:3.0.8-1.amzn2023.0.14                amazonlinux                 3.0 M

Transaction Summary
================================================================================================================================
Install  1 Package

Total download size: 3.0 M
Installed size: 4.7 M
Is this ok [y/N]: y
Downloading Packages:
openssl-devel-3.0.8-1.amzn2023.0.14.x86_64.rpm                                  12 MB/s | 3.0 MB     00:00
--------------------------------------------------------------------------------------------------------------------------------
Total                                                                           10 MB/s | 3.0 MB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                                                              1/1
  Installing       : openssl-devel-1:3.0.8-1.amzn2023.0.14.x86_64                                                 1/1
  Running scriptlet: openssl-devel-1:3.0.8-1.amzn2023.0.14.x86_64                                                 1/1
  Verifying        : openssl-devel-1:3.0.8-1.amzn2023.0.14.x86_64                                                 1/1
```

Now rerun

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

```
*** Configuration summary for nagios 4.5.5 2024-09-17 ***:

 General Options:
 -------------------------
        Nagios executable:  nagios
        Nagios user/group:  nagios,nagios
       Command user/group:  nagios,nagcmd
             Event Broker:  yes
        Install ${prefix}:  /usr/local/nagios
    Install ${includedir}:  /usr/local/nagios/include/nagios
                Lock file:  /run/nagios.lock
   Check result directory:  /usr/local/nagios/var/spool/checkresults
           Init directory:  /lib/systemd/system
  Apache conf.d directory:  /etc/httpd/conf.d
             Mail program:  /bin/mail
                  Host OS:  linux-gnu
          IOBroker Method:  epoll

 Web Interface Options:
 ------------------------
                HTML URL:  http://localhost/nagios/
                 CGI URL:  http://localhost/nagios/cgi-bin/
 Traceroute (used by WAP):  /usr/bin/traceroute


Review the options above for accuracy.  If they look okay,
type 'make all' to compile the main program and CGIs.
```

11. Compile the source code.

make all

```
*** Config files installed ***

Remember, these are *SAMPLE* config files.  You'll need to read
the documentation for more information on how to actually define
services, hosts, etc. to fit your particular needs.

/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***


[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ 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 ***
```

12. 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-172-31-32-235 nagios-4.5.5]$ 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-4.5.5/base'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -s -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/usr/bin/install -c -s -m 774 -o nagios -g nagios nagiostats /usr/local/nagios/bin
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.5.5/base'
cd ./cgi && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.5.5/cgi'
make install-basic
make[2]: Entering directory '/home/ec2-user/downloads/nagios-4.5.5/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 -s -m 775 -o nagios -g nagios $file /usr/local/nagios/sbin; \
done
make[2]: Leaving directory '/home/ec2-user/downloads/nagios-4.5.5/cgi'
make[1]: Leaving directory '/home/ec2-user/downloads/nagios-4.5.5/cgi'
cd ./html && make install
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.5.5/html'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/media
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/stylesheets
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/contexthelp
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/docs
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/docs/images
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/js
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/images
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/images/logos
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/includes
```

13. Edit the config file and change the email address so that we can receive timely alerts about the status of our system.

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

```
  GNU nano 5.8                          /usr/local/nagios/etc/objects/contacts.cfg                          Modified
#
#       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 template (defined above)
    alias                   Nagios Admin            ; Full name of user
    email                   2022.avan.shetty@ves.ac.in ; <<***** CHANGE THIS TO YOUR EMAIL ADDRESS ******
}
```

And change email with your email

14. Configure the web interface. This is used to set up web server configuration of nagios dashboard.

sudo make install-webconf

```
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ 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 ***
```

15. 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-172-31-32-235 nagios-4.5.5]$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
```

16. Restart Apache

sudo service httpd restart

```
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ sudo service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$
```

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

cd ~/downloads

tar zxvf nagios-plugins-2.4.11.tar.gz

```
[ec2-user@ip-172-31-32-235 nagios-4.5.5]$ cd ~/downloads
tar zxvf nagios-plugins-2.4.11.tar.gz
nagios-plugins-2.4.11/
nagios-plugins-2.4.11/build-aux/
nagios-plugins-2.4.11/build-aux/compile
nagios-plugins-2.4.11/build-aux/config.guess
nagios-plugins-2.4.11/build-aux/config.rpath
nagios-plugins-2.4.11/build-aux/config.sub
nagios-plugins-2.4.11/build-aux/install-sh
nagios-plugins-2.4.11/build-aux/ltmain.sh
nagios-plugins-2.4.11/build-aux/missing
nagios-plugins-2.4.11/build-aux/mkinstalldirs
nagios-plugins-2.4.11/build-aux/depcomp
nagios-plugins-2.4.11/build-aux/snippet/
nagios-plugins-2.4.11/build-aux/snippet/_Noreturn.h
nagios-plugins-2.4.11/build-aux/snippet/arg-nonnull.h
nagios-plugins-2.4.11/build-aux/snippet/c++defs.h
nagios-plugins-2.4.11/build-aux/snippet/warn-on-use.h
nagios-plugins-2.4.11/build-aux/test-driver
nagios-plugins-2.4.11/config_test/
nagios-plugins-2.4.11/config_test/Makefile
nagios-plugins-2.4.11/config_test/run_tests
nagios-plugins-2.4.11/config_test/child_test.c
nagios-plugins-2.4.11/gl/
nagios-plugins-2.4.11/gl/m4/
nagios-plugins-2.4.11/gl/m4/00gnulib.m4
nagios-plugins-2.4.11/gl/m4/absolute-header.m4
nagios-plugins-2.4.11/gl/m4/alloca.m4
nagios-plugins-2.4.11/gl/m4/arpa_inet_h.m4
```

18. Compile and install plugins

cd nagios-plugins-2.4.11

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

```
[ec2-user@ip-172-31-32-235 downloads]$ cd nagios-plugins-2.4.11
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$ ./configure --with-nagios-user=nagios --with-nagios-group=nagios
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 make supports nested variables... yes
checking whether to enable maintainer-specific portions of Makefiles... yes
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
```

19. Start Nagios and Add Nagios to the list of system services

sudo chkconfig --add nagios

sudo chkconfig nagios on

```
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$ sudo chkconfig --add nagios
sudo chkconfig nagios on
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.
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$
```

Verify the sample configuration files

```
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
```

As we can see no errors were detected

sudo service nagios start

```
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$ sudo service nagios start
Redirecting to /bin/systemctl start nagios.service
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$
```

20. Check the status of Nagios

sudo systemctl status nagios

```
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$ sudo service nagios start
Redirecting to /bin/systemctl start nagios.service
[ec2-user@ip-172-31-32-235 nagios-plugins-2.4.11]$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.5.5
     Loaded: loaded (/usr/lib/systemd/system/nagios.service; enabled; preset: disabled)
     Active: active (running) since Fri 2024-10-04 03:42:22 UTC; 1min 5s ago
       Docs: https://www.nagios.org/documentation
    Process: 20075 ExecStartPre=/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
    Process: 20076 ExecStart=/usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg (code=exited, status=0/SUCCESS)
   Main PID: 20077 (nagios)
      Tasks: 6 (limit: 1112)
     Memory: 5.9M
        CPU: 92ms
     CGroup: /system.slice/nagios.service
             ├─20077 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
             ├─20078 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─20079 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─20080 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             ├─20081 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
             └─20082 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: qh: core query handler registered
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: qh: echo service query handler registered
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: qh: help for the query handler registered
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: wproc: Successfully registered manager as @wproc with query handler
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: wproc: Registry request: name=Core Worker 20079;pid=20079
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: wproc: Registry request: name=Core Worker 20080;pid=20080
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: wproc: Registry request: name=Core Worker 20081;pid=20081
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: wproc: Registry request: name=Core Worker 20078;pid=20078
Oct 04 03:42:22 ip-172-31-32-235.ec2.internal nagios[20077]: Successfully launched command file worker with pid 20082
```

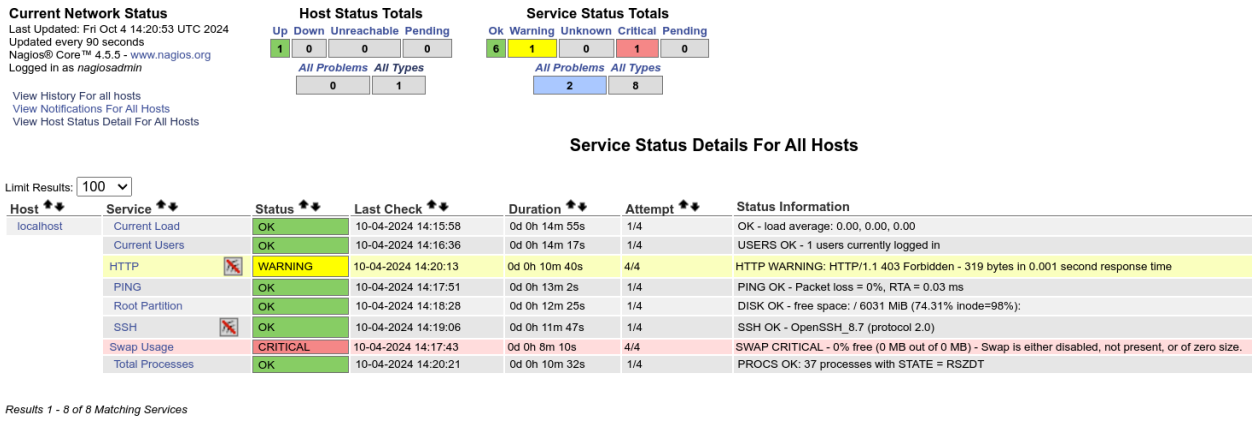
The nagios service is running and working normally

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

Enter username as **nagiosadmin** and password which we had set previously

22. After entering the correct credentials, you will see the Home page of Nagios.

Now we can see system logs using nagios



Conclusion:

The successful installation and configuration of Nagios Core, Nagios Plugins, and NRPE on the EC2 instance marks a significant step towards establishing comprehensive system monitoring capabilities. The ability to effectively track and analyze system performance, resource utilization, and potential issues is crucial for maintaining operational efficiency and preventing downtime. In the course of experiment various issues regarding the nagios version and the ssl error was found and that was fixed by installing the openssl library. Apart from that we got to learn the basic fundamentals of nagios and how the plugins are configured in the system or the host machine. At the end Nagios server was hosted on the ec2 instance with the public ip.