EXPERIMENT-10

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BRANCH: T.E. INFORMATION TECHNOLOGY (SEM 5)

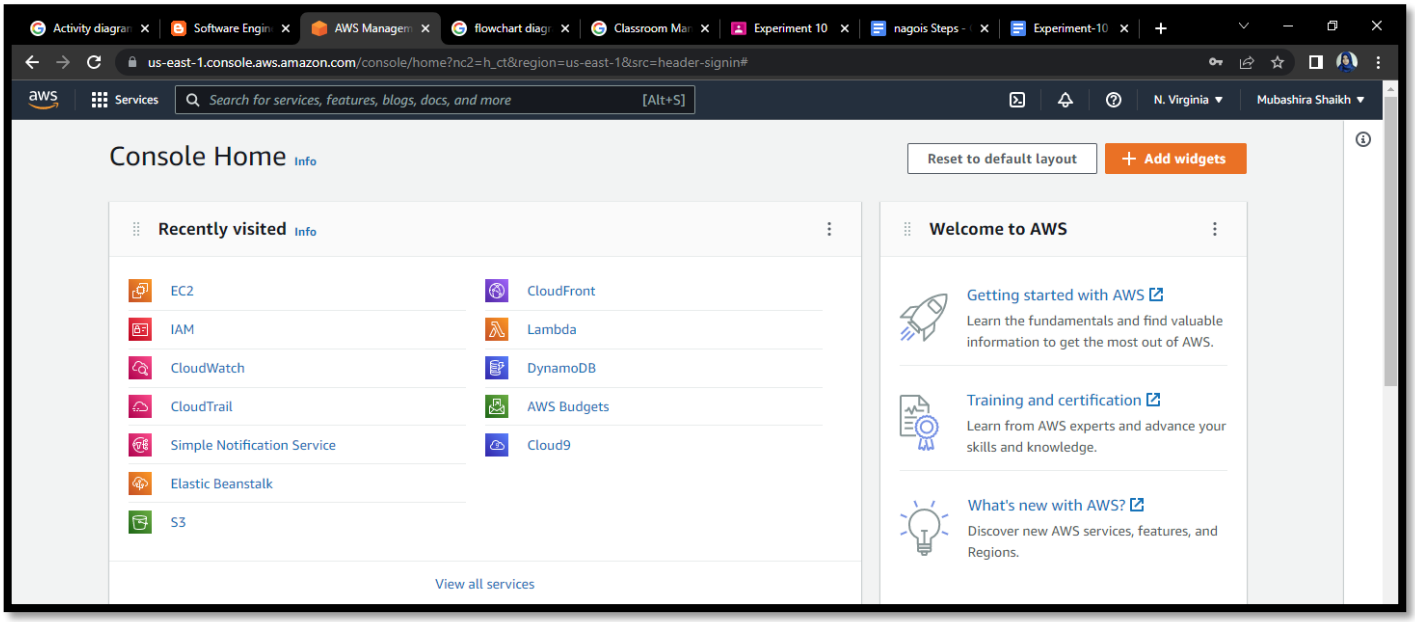
1. What is Nagios? Comment on why we need Nagios tool?

→Nagios is an open-source tool that is widely used to monitor the systems, infrastructure, and networks so that performance bottlenecks can be identified. The tool offers several services like monitoring of servers, applications, and switches and also sends alerts to the user when any performance issue is identified in the system. The tool is also capable to send alerts when the issue is identified.

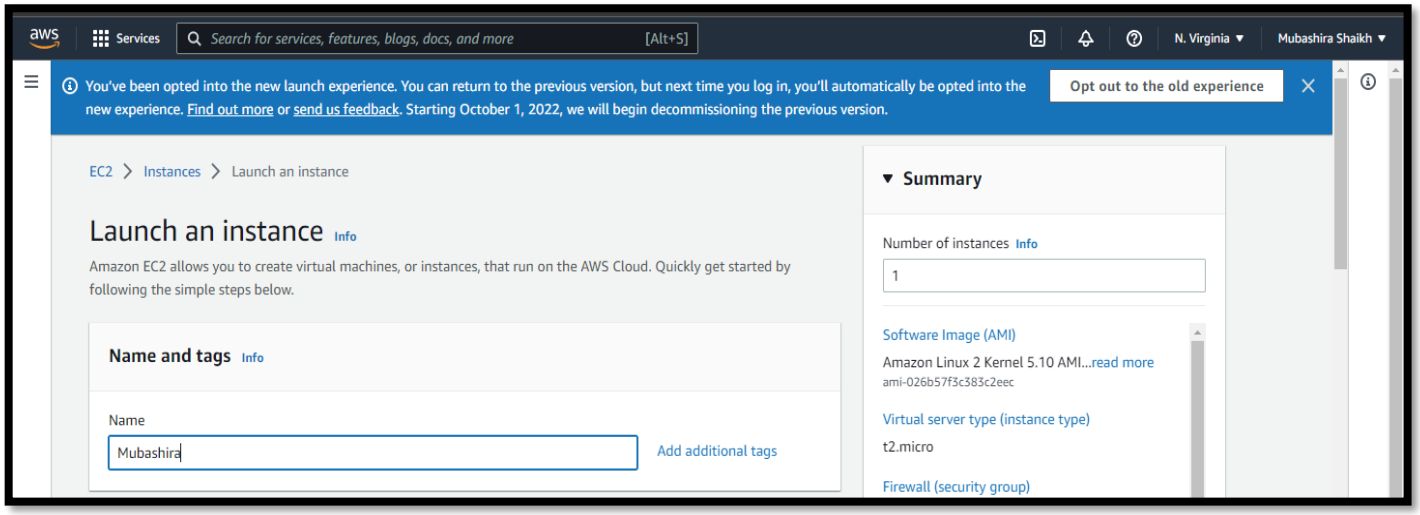
Need of Nagios:

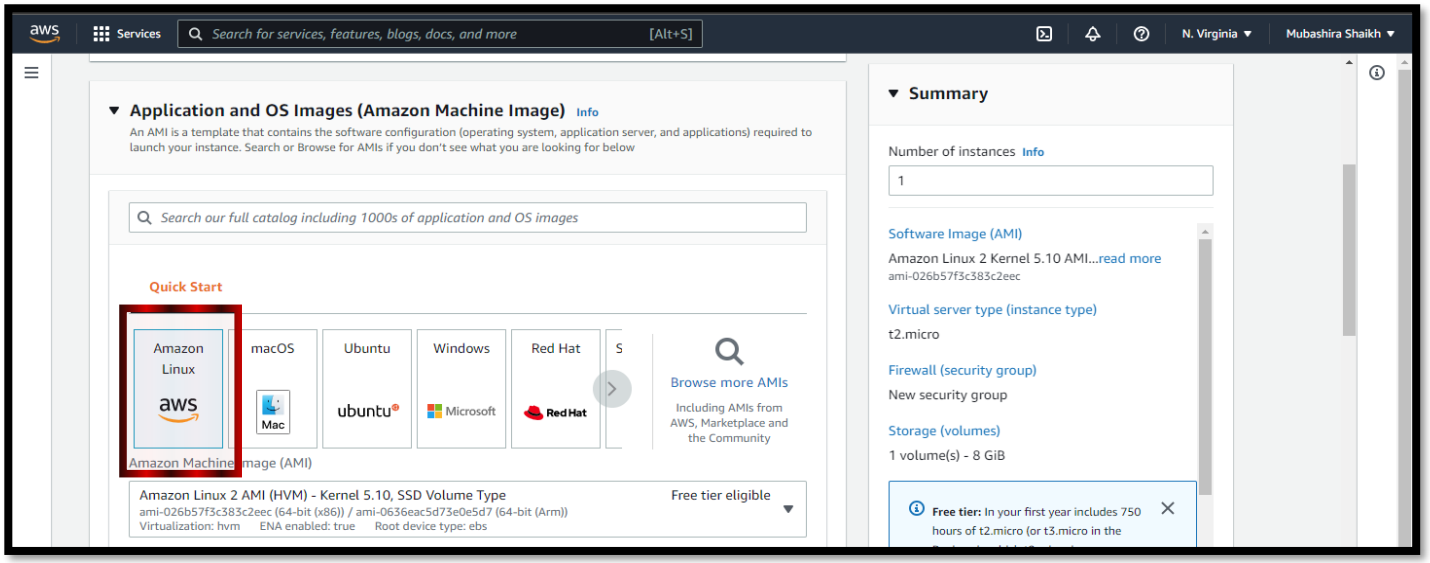
- Nagios can describe the event handler that executes at the time of host events or services to take a resolution for proactive problems. It is also used to support redundancy in monitoring hosts.
- It can also be monitored in hardware tools like a probe for alarm, a temperature that can send collected information through the network by configured written plugins. The remote monitoring can be established through Nagios remote plugin executor via SSL and SSH encrypted channels. The automated rotation of log files and parallel execution of service checks can be made using Nagios.
- Nagios performs the process on the database backend, data graphing and implements redundancy in monitoring the host. The web interface to view the current status of the network, problem history, notification manager, files, logs, etc
- Nagios has other services like Nagios Remote Plugin Executor abbreviated as NRPE, Nagios Remote Data processor (NRDP), Nagios Cross-Platform Agent, and for windows client machines it uses NSClient++.

Step 1: AWS Management Console Dashboard.

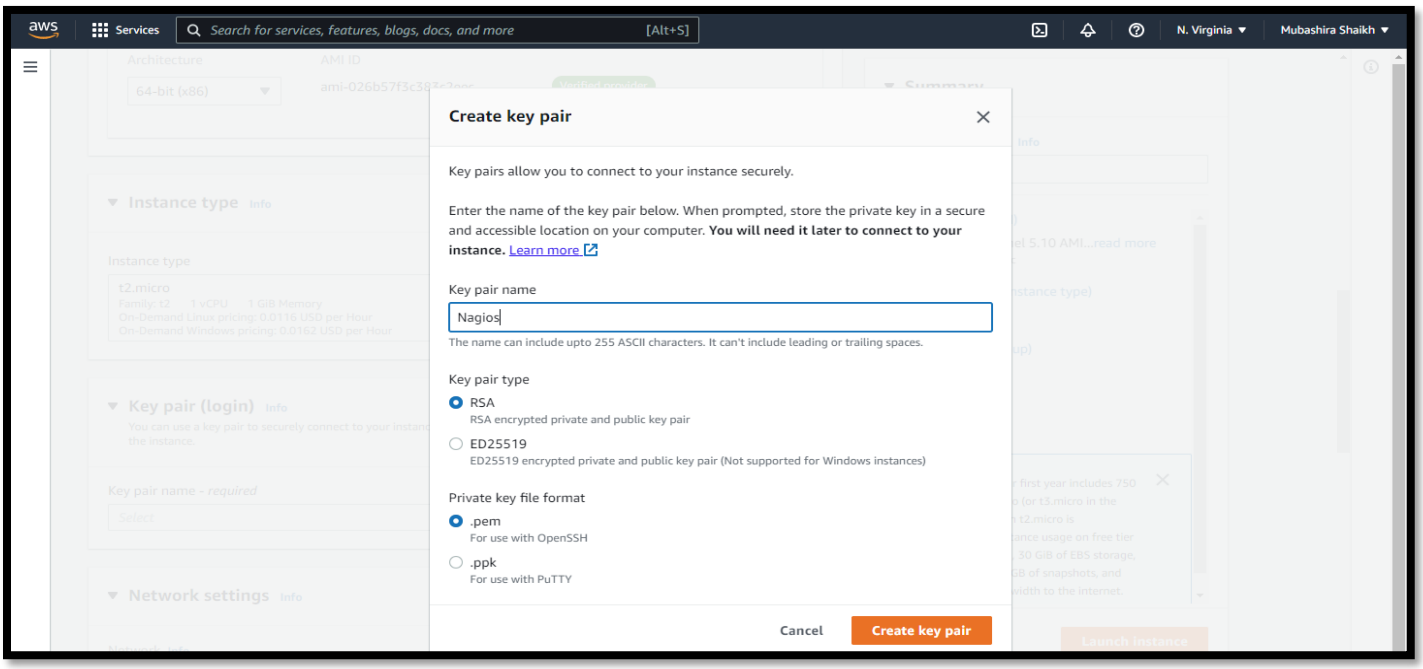


Step 2: Search for EC2→ Click on Launch instance→ Give a name to your instance and create an Amazon Linux instance with 2AMI version.

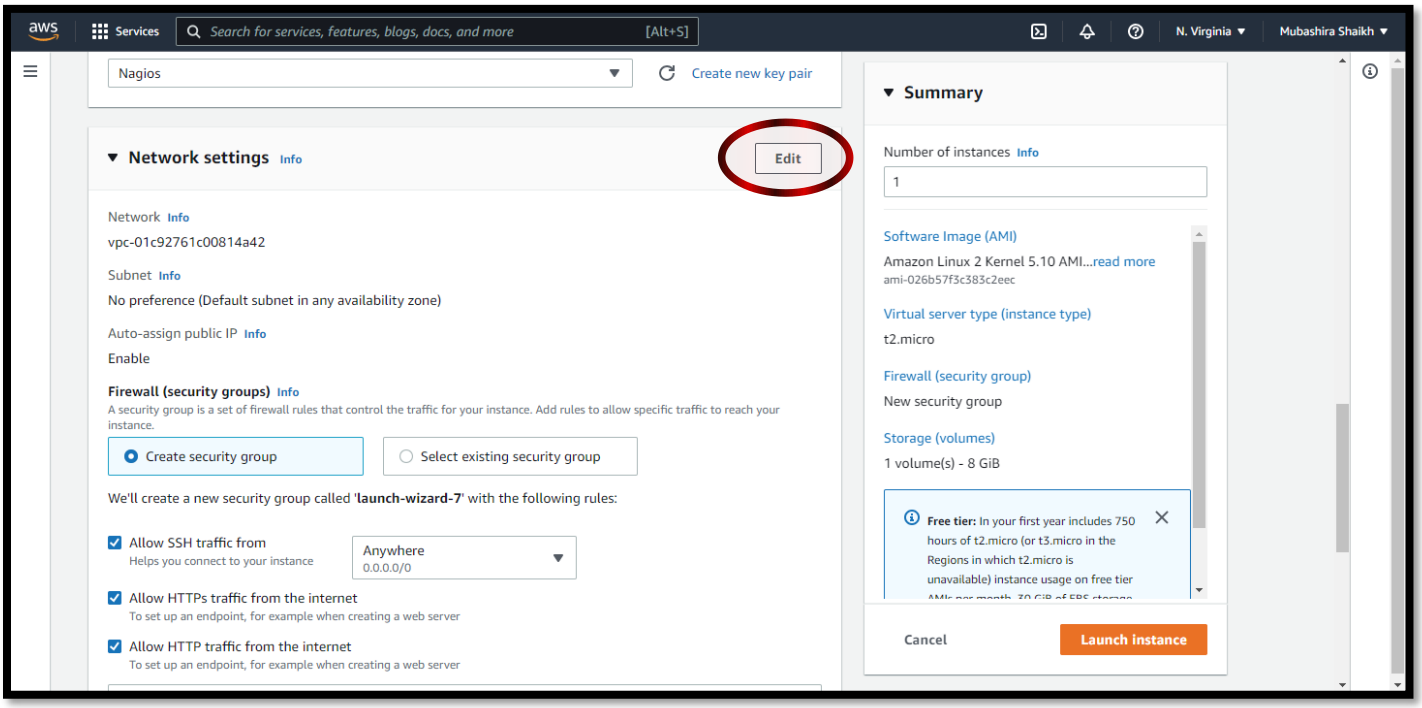




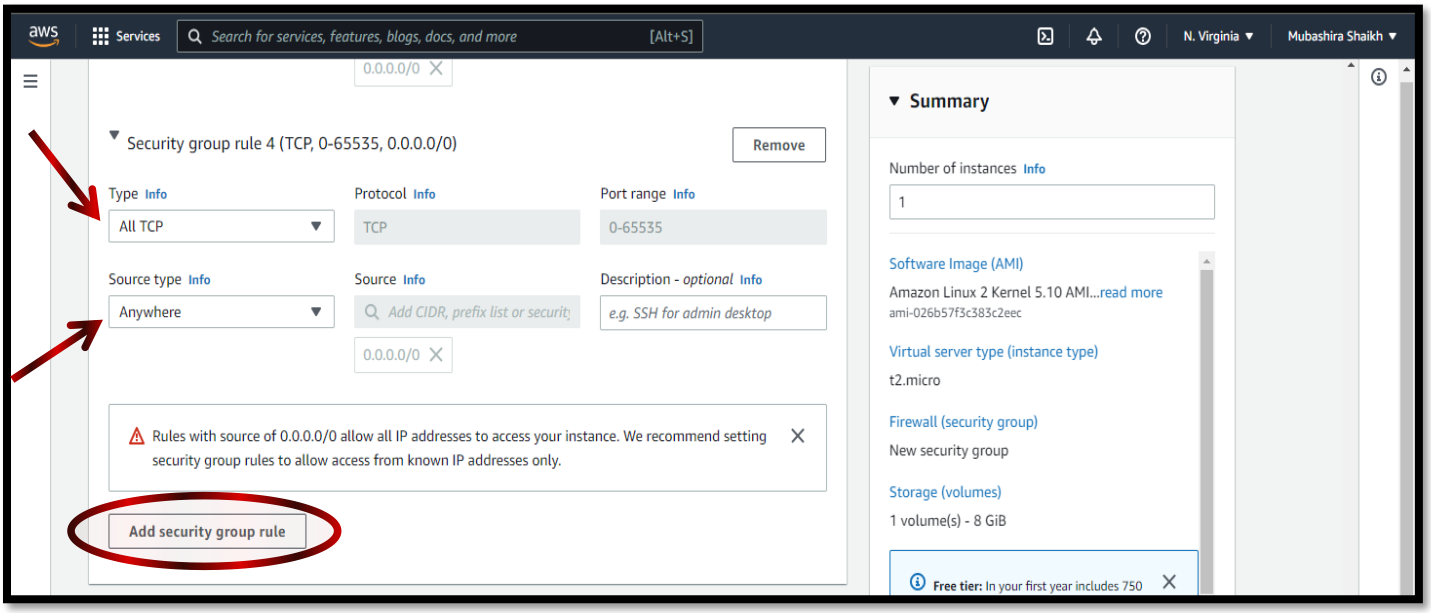
Step 3: Create new key pair for your instance.



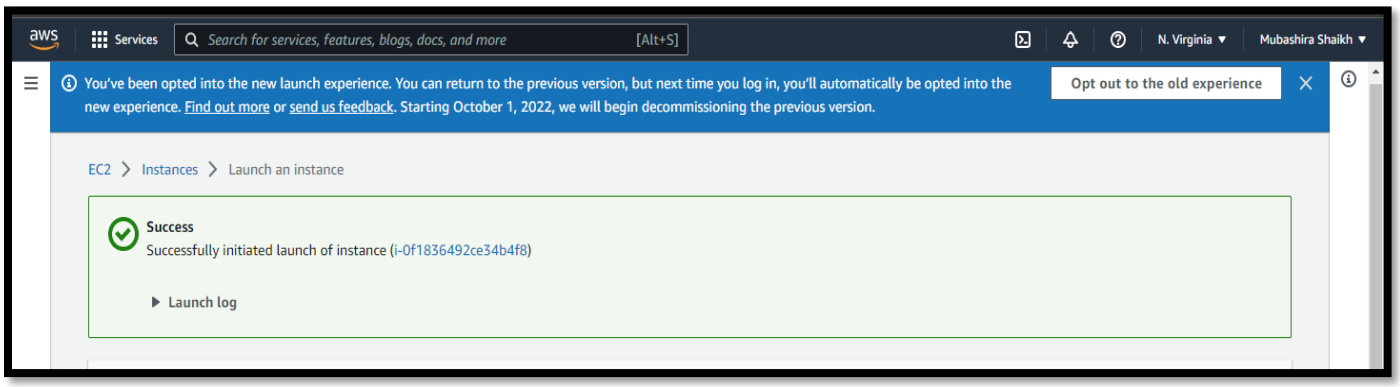
Step 4: Network Settings→allow the HTTPS and HTTP traffic→Click on edit.



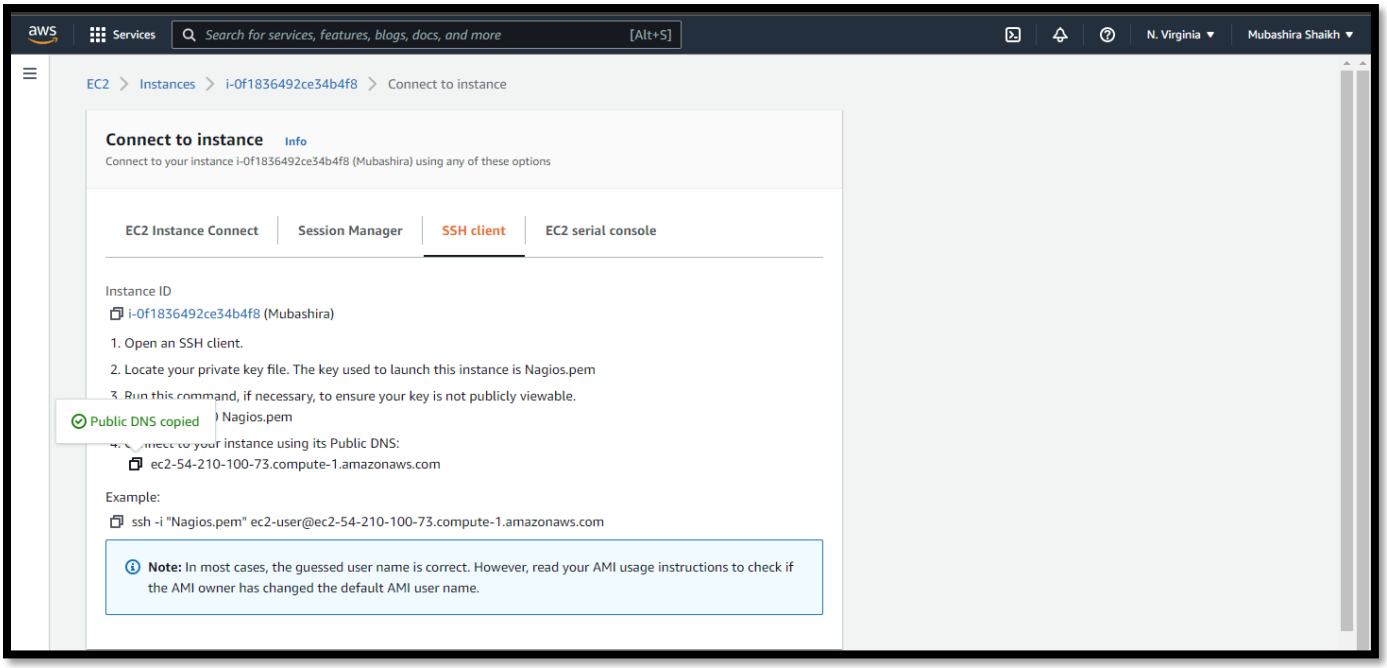
Step 5: Click on "Add security group rule" →In Type select "All TCP"→In source type choose "Anywhere".

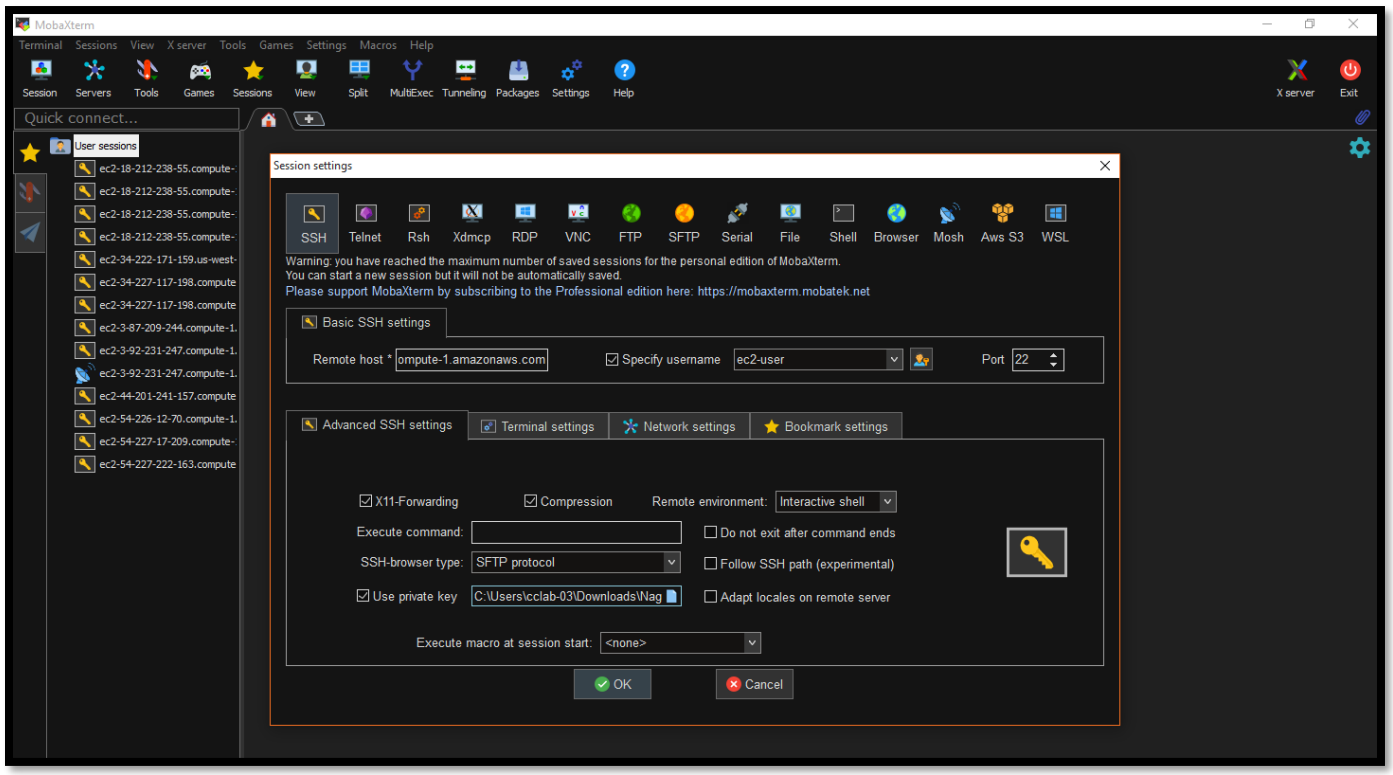


Step 6: Launch the instance.



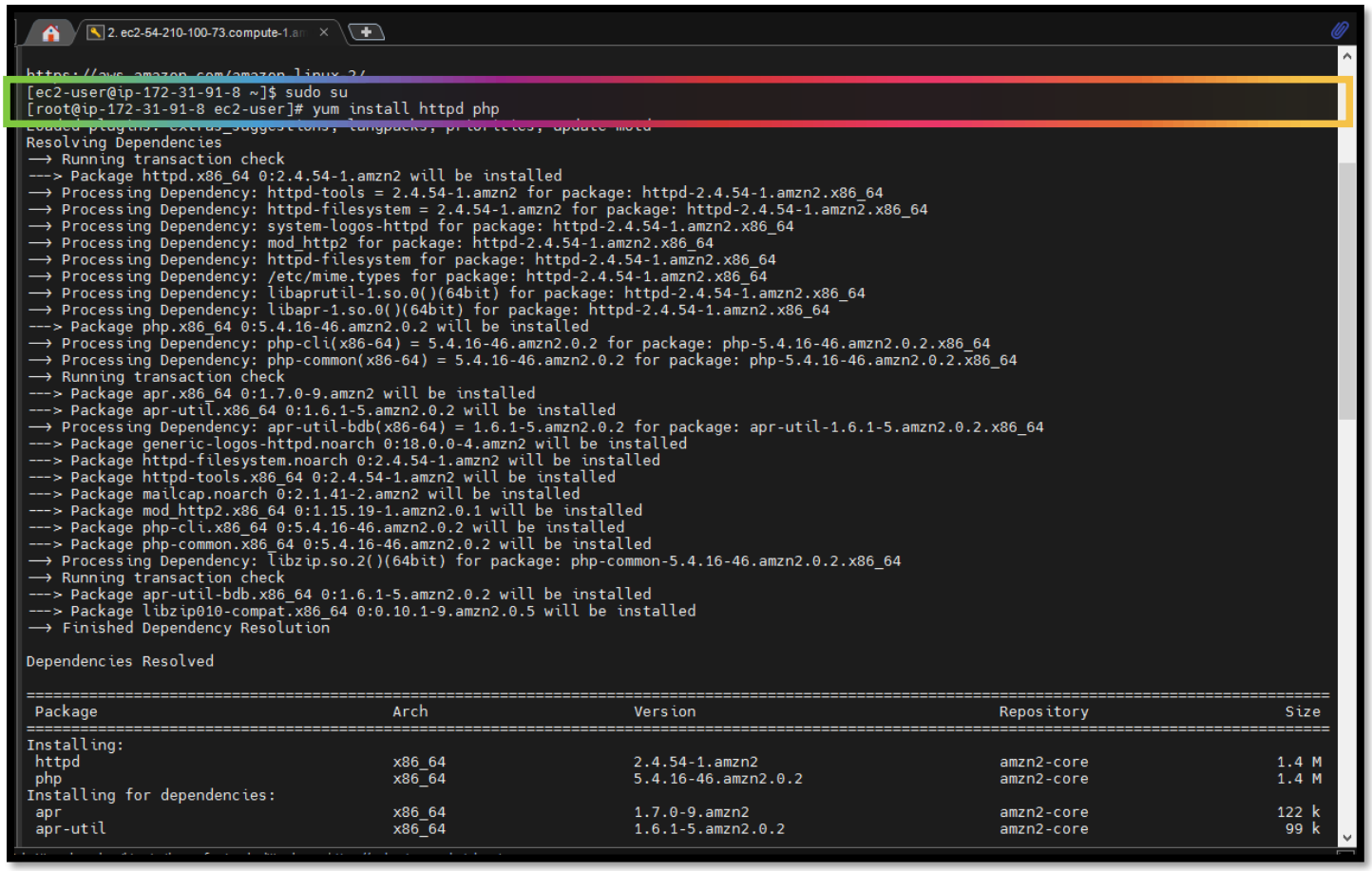
Step 7: Launch MobaXterm→Select SSH session→Copy the public DNS of your instance and paste it into the remote host. Use the downloaded key pair as the private key.



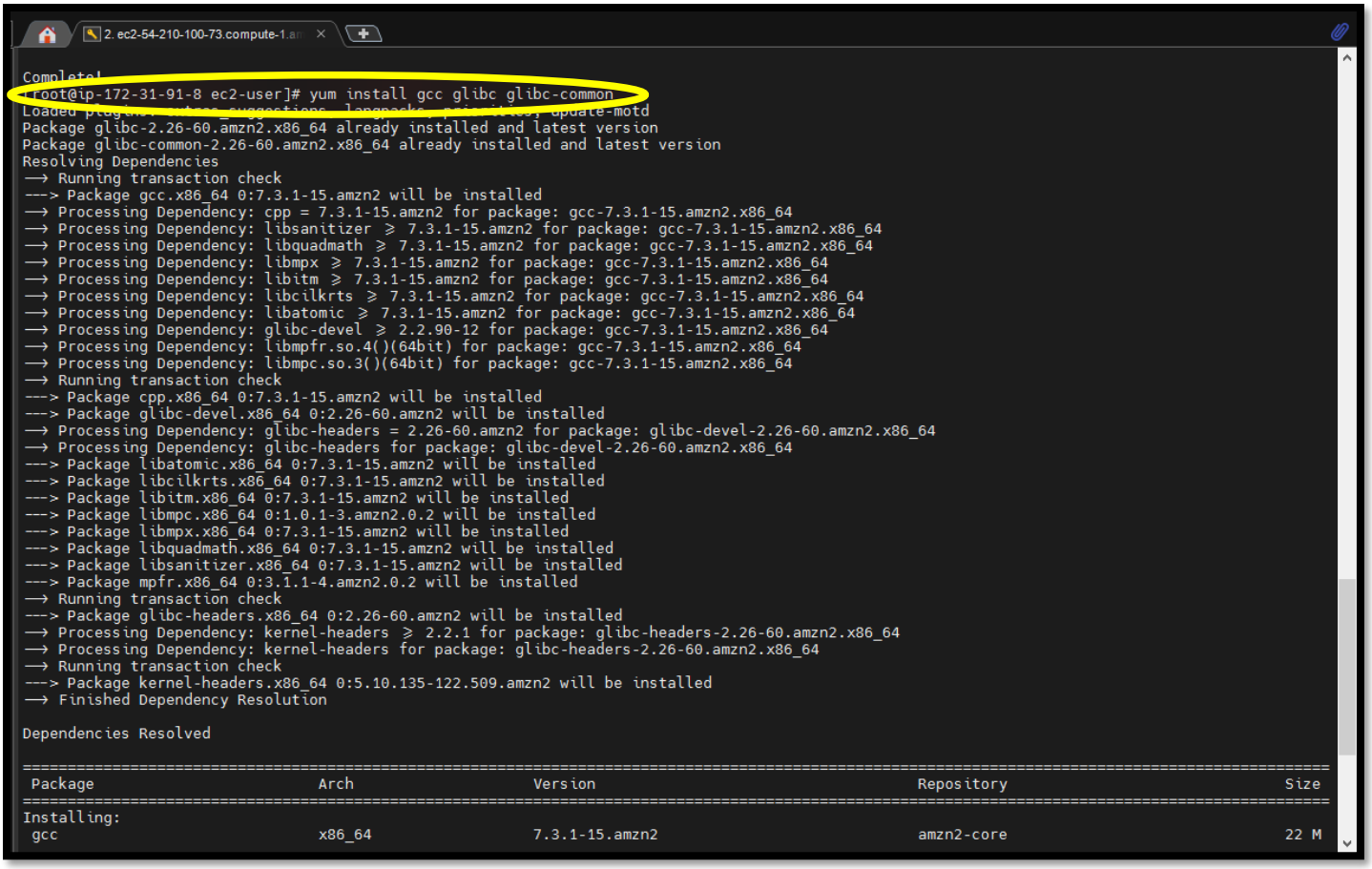


Step 8: Run the following commands for Nagios installation on EC2 Linux

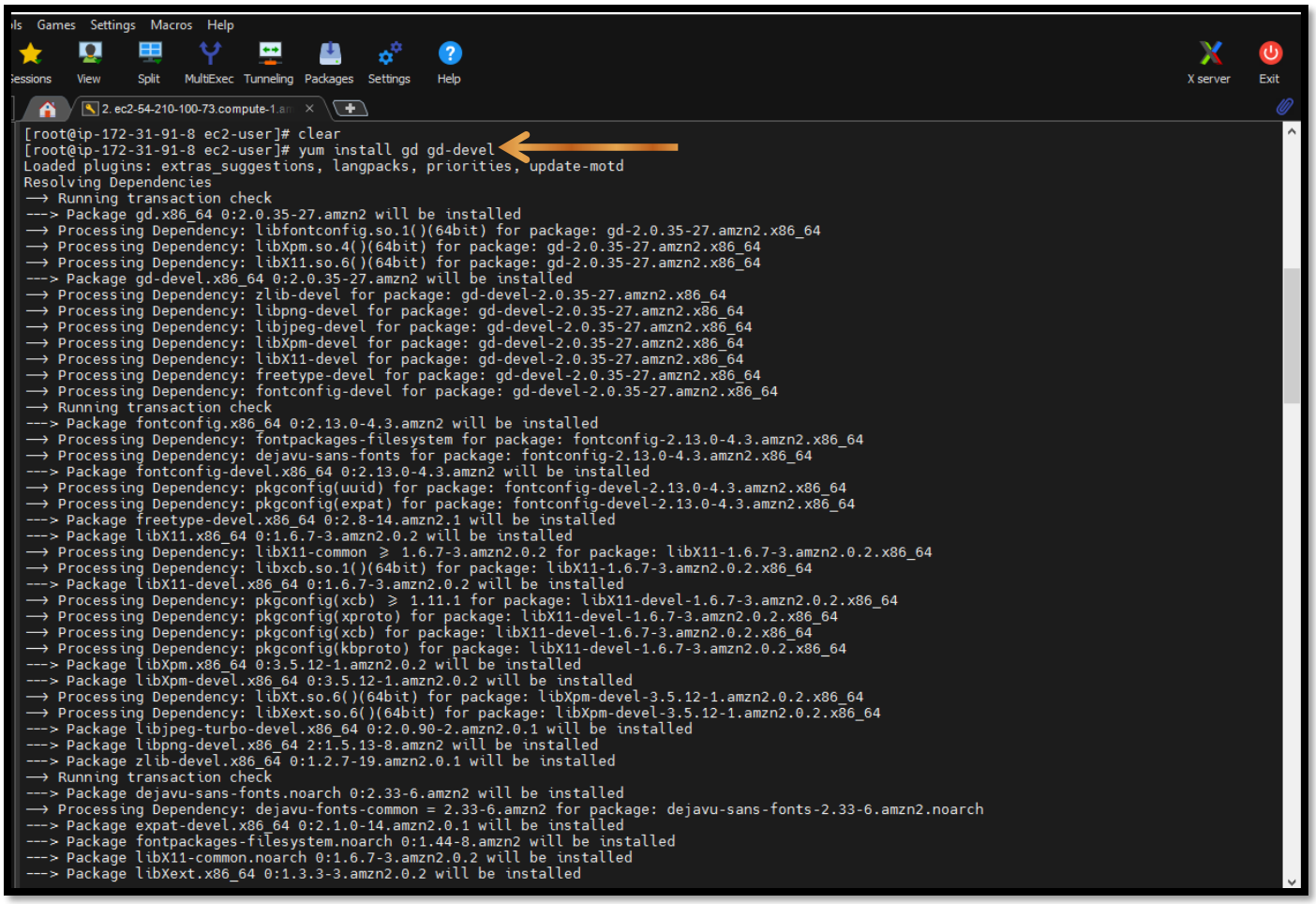
- ⇒ **sudo su**
- ⇒ **yum install httpd php**
- ⇒ **yum install gcc glibc glibc-common**
- ⇒ **yum install gd gd-devel**
- ⇒ **adduser -m nagios**
- ⇒ **passwd nagios**
- ⇒ **groupadd nagioscmd**
- ⇒ **usermod -a -G nagioscmd nagios**
- ⇒ **usermod -a -G nagioscmd apache**
- ⇒ **mkdir ~/downloads**
- ⇒ **cd ~/downloads**
- ⇒ **wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz**
- ⇒ **wget http://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz**
- ⇒ **tar zxvf nagios-4.0.8.tar.gz**
- ⇒ **cd nagios-4.0.8**
- ⇒ **./configure --with-command-group=nagioscmd**
- ⇒ **make all**
- ⇒ **make install**
- ⇒ **make install-init**
- ⇒ **make install-config**
- ⇒ **make install-commandmode**
- ⇒ **make install-webconf**
- ⇒ **htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin**
- ⇒ **service httpd restart**
- ⇒ **cd ~/downloads**
- ⇒ **tar zxvf nagios-plugins-2.3.3.tar.gz**
- ⇒ **cd nagios-plugins-2.3.3**
- ⇒ **./configure --with-nagios-user=nagios --with-nagios-group=nagios**
- ⇒ **make**
- ⇒ **make install**
- ⇒ **chkconfig --add nagios**
- ⇒ **chkconfig nagios on**
- ⇒ **/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg**
- ⇒ **service nagios start**
- ⇒ **service httpd restart**

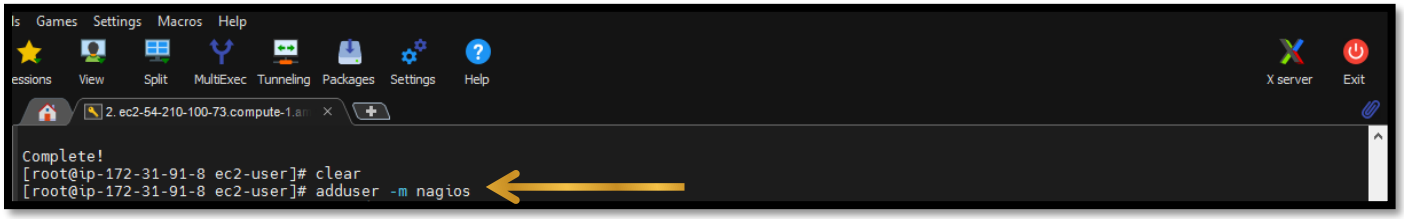


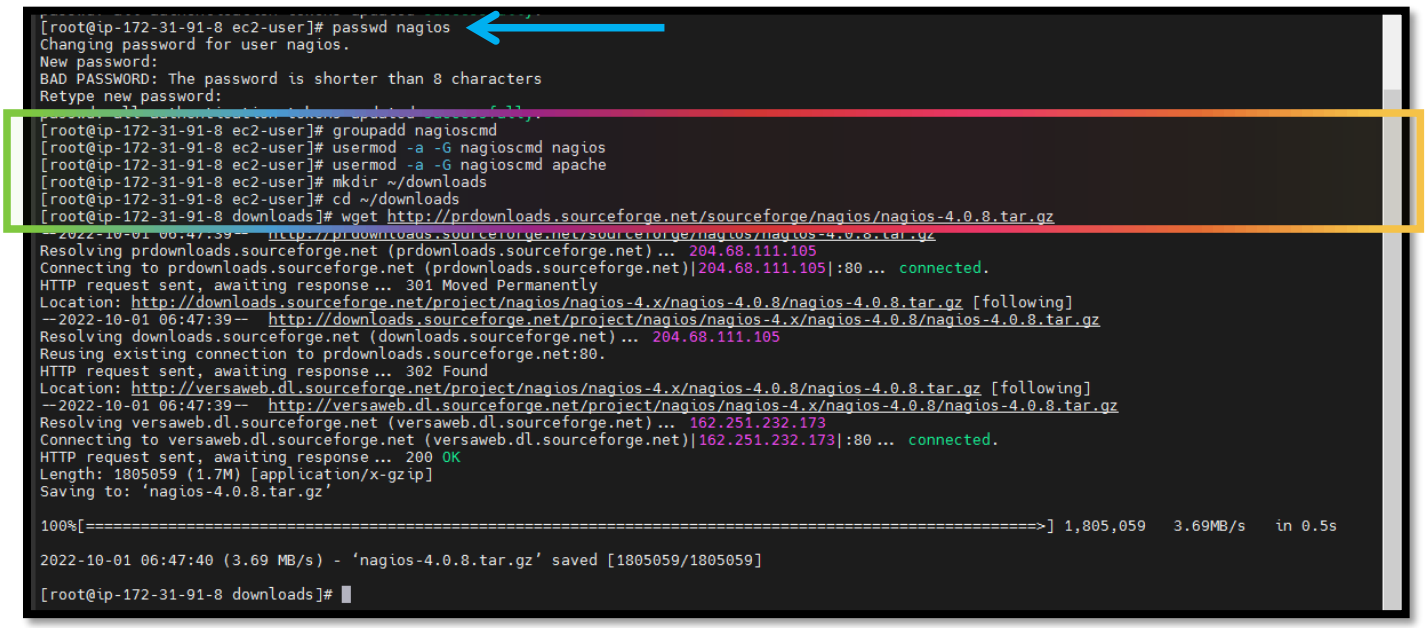
```
2.ec2-54-210-100-73.compute-1.a
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-91-8 ~]$ sudo su
[root@ip-172-31-91-8 ec2-user]# yum install httpd php
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.54-1.amzn2 will be installed
--> Processing Dependency: httpd-tools = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem = 2.4.54-1.amzn2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.54-1.amzn2.x86_64
---> Package php.x86_64 0:5.4.16-46.amzn2.0.2 will be installed
--> Processing Dependency: php-cli(x86-64) = 5.4.16-46.amzn2.0.2 for package: php-5.4.16-46.amzn2.0.2.x86_64
--> Processing Dependency: php-common(x86-64) = 5.4.16-46.amzn2.0.2 for package: php-5.4.16-46.amzn2.0.2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.7.0-9.amzn2 will be installed
---> Package apr-util.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.1-5.amzn2.0.2 for package: apr-util-1.6.1-5.amzn2.0.2.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
---> Package httpd-filesystem.noarch 0:2.4.54-1.amzn2 will be installed
---> Package httpd-tools.x86_64 0:2.4.54-1.amzn2 will be installed
---> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
---> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.1 will be installed
---> Package php-cli.x86_64 0:5.4.16-46.amzn2.0.2 will be installed
---> Package php-common.x86_64 0:5.4.16-46.amzn2.0.2 will be installed
--> Processing Dependency: libzip.so.2()(64bit) for package: php-common-5.4.16-46.amzn2.0.2.x86_64
--> Running transaction check
---> Package apr-util-bdb.x86_64 0:1.6.1-5.amzn2.0.2 will be installed
---> Package libzip010-compat.x86_64 0:0.10.1-9.amzn2.0.5 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================
 Package                          Arch                   Version                              Repository                  Size
================================================================================================================================
Installing:
 httpd                            x86_64                 2.4.54-1.amzn2                       amzn2-core                 1.4 M
 php                              x86_64                 5.4.16-46.amzn2.0.2                  amzn2-core                 1.4 M
Installing for dependencies:
 apr                              x86_64                 1.7.0-9.amzn2                        amzn2-core                 122 k
 apr-util                         x86_64                 1.6.1-5.amzn2.0.2                    amzn2-core                  99 k
```



```
2.ec2-54-210-100-73.compute-1.a
Complete!
[root@ip-172-31-91-8 ec2-user]# yum install gcc glibc glibc-common
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Package glibc-2.26-60.amzn2.x86_64 already installed and latest version
Package glibc-common-2.26-60.amzn2.x86_64 already installed and latest version
Resolving Dependencies
--> Running transaction check
---> Package gcc.x86_64 0:7.3.1-15.amzn2 will be installed
--> Processing Dependency: cpp = 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libsanitizer >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libquadmath >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpx >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libitm >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libcilkrts >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libatomic >= 7.3.1-15.amzn2 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpfr.so.4()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Processing Dependency: libmpc.so.3()(64bit) for package: gcc-7.3.1-15.amzn2.x86_64
--> Running transaction check
---> Package cpp.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package glibc-devel.x86_64 0:2.26-60.amzn2 will be installed
--> Processing Dependency: glibc-headers = 2.26-60.amzn2 for package: glibc-devel-2.26-60.amzn2.x86_64
--> Processing Dependency: glibc-headers for package: glibc-devel-2.26-60.amzn2.x86_64
---> Package libatomic.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package libcilkrts.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package libitm.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package libmpc.x86_64 0:1.0.1-3.amzn2.0.2 will be installed
---> Package libmpx.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package libquadmath.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package libsanitizer.x86_64 0:7.3.1-15.amzn2 will be installed
---> Package mpfr.x86_64 0:3.1.1-4.amzn2.0.2 will be installed
--> Running transaction check
---> Package glibc-headers.x86_64 0:2.26-60.amzn2 will be installed
--> Processing Dependency: kernel-headers >= 2.2.1 for package: glibc-headers-2.26-60.amzn2.x86_64
--> Processing Dependency: kernel-headers for package: glibc-headers-2.26-60.amzn2.x86_64
--> Running transaction check
---> Package kernel-headers.x86_64 0:5.10.135-122.509.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================================
 Package                    Arch                   Version                                Repository                    Size
================================================================================================================================
Installing:
 gcc                        x86_64                 7.3.1-15.amzn2                         amzn2-core                   22 M
```


Games Settings Macros Help
Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
2. ec2-54-210-100-73.compute-1.
[root@ip-172-31-91-8 ec2-user]# clear
[root@ip-172-31-91-8 ec2-user]# yum install gd gd-devel
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package gd.x86_64 0:2.0.35-27.amzn2 will be installed
--> Processing Dependency: libfontconfig.so.1()(64bit) for package: gd-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libXpm.so.4()(64bit) for package: gd-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libX11.so.6()(64bit) for package: gd-2.0.35-27.amzn2.x86_64
---> Package gd-devel.x86_64 0:2.0.35-27.amzn2 will be installed
--> Processing Dependency: zlib-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libpng-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libjpeg-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libXpm-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: libX11-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: freetype-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Processing Dependency: fontconfig-devel for package: gd-devel-2.0.35-27.amzn2.x86_64
--> Running transaction check
---> Package fontconfig.x86_64 0:2.13.0-4.3.amzn2 will be installed
--> Processing Dependency: fontpackages-filesystem for package: fontconfig-2.13.0-4.3.amzn2.x86_64
--> Processing Dependency: dejavu-sans-fonts for package: fontconfig-2.13.0-4.3.amzn2.x86_64
---> Package fontconfig-devel.x86_64 0:2.13.0-4.3.amzn2 will be installed
--> Processing Dependency: pkgconfig(uuid) for package: fontconfig-devel-2.13.0-4.3.amzn2.x86_64
--> Processing Dependency: pkgconfig(expat) for package: fontconfig-devel-2.13.0-4.3.amzn2.x86_64
---> Package freetype-devel.x86_64 0:2.8-14.amzn2.1 will be installed
---> Package libX11.x86_64 0:1.6.7-3.amzn2.0.2 will be installed
--> Processing Dependency: libX11-common ≥ 1.6.7-3.amzn2.0.2 for package: libX11-1.6.7-3.amzn2.0.2.x86_64
--> Processing Dependency: libxcb.so.1()(64bit) for package: libX11-1.6.7-3.amzn2.0.2.x86_64
---> Package libX11-devel.x86_64 0:1.6.7-3.amzn2.0.2 will be installed
--> Processing Dependency: pkgconfig(xcb) ≥ 1.11.1 for package: libX11-devel-1.6.7-3.amzn2.0.2.x86_64
--> Processing Dependency: pkgconfig(xproto) for package: libX11-devel-1.6.7-3.amzn2.0.2.x86_64
--> Processing Dependency: pkgconfig(xcb) for package: libX11-devel-1.6.7-3.amzn2.0.2.x86_64
--> Processing Dependency: pkgconfig(kbproto) for package: libX11-devel-1.6.7-3.amzn2.0.2.x86_64
---> Package libXpm.x86_64 0:3.5.12-1.amzn2.0.2 will be installed
---> Package libXpm-devel.x86_64 0:3.5.12-1.amzn2.0.2 will be installed
--> Processing Dependency: libXt.so.6()(64bit) for package: libXpm-devel-3.5.12-1.amzn2.0.2.x86_64
--> Processing Dependency: libXext.so.6()(64bit) for package: libXpm-devel-3.5.12-1.amzn2.0.2.x86_64
---> Package libjpeg-turbo-devel.x86_64 0:2.0.90-2.amzn2.0.1 will be installed
---> Package libpng-devel.x86_64 2:1.5.13-8.amzn2 will be installed
---> Package zlib-devel.x86_64 0:1.2.7-19.amzn2.0.1 will be installed
--> Running transaction check
---> Package dejavu-sans-fonts.noarch 0:2.33-6.amzn2 will be installed
--> Processing Dependency: dejavu-fonts-common = 2.33-6.amzn2 for package: dejavu-sans-fonts-2.33-6.amzn2.noarch
---> Package expat-devel.x86_64 0:2.1.0-14.amzn2.0.1 will be installed
---> Package fontpackages-filesystem.noarch 0:1.44-8.amzn2 will be installed
---> Package libX11-common.noarch 0:1.6.7-3.amzn2.0.2 will be installed
---> Package libXext.x86_64 0:1.3.3-3.amzn2.0.2 will be installed


Games Settings Macros Help
Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
2. ec2-54-210-100-73.compute-1.
Complete!
[root@ip-172-31-91-8 ec2-user]# clear
[root@ip-172-31-91-8 ec2-user]# adduser -m nagios


[root@ip-172-31-91-8 ec2-user]# passwd nagios
Changing password for user nagios.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
[root@ip-172-31-91-8 ec2-user]# groupadd nagioscmd
[root@ip-172-31-91-8 ec2-user]# usermod -a -G nagioscmd nagios
[root@ip-172-31-91-8 ec2-user]# usermod -a -G nagioscmd apache
[root@ip-172-31-91-8 ec2-user]# mkdir ~/downloads
[root@ip-172-31-91-8 ec2-user]# cd ~/downloads
[root@ip-172-31-91-8 downloads]# wget 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]
--2022-10-01 06:47:39-- 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 [following]
--2022-10-01 06:47:39-- http://versaweb.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz
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'
100%[==========>] 1,805,059 3.69MB/s in 0.5s
2022-10-01 06:47:40 (3.69 MB/s) - 'nagios-4.0.8.tar.gz' saved [1805059/1805059]
[root@ip-172-31-91-8 downloads]#

```
[root@ip-172-31-91-8 downloads]# wget http://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz
--2022-10-01 06:47:56--  http://nagios-plugins.org/download/nagios-plugins-2.3.3.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: 2782610 (2.7M) [application/x-gzip]
Saving to: 'nagios-plugins-2.3.3.tar.gz'

100%[==========================================================================================================>] 2,782,610   8.25MB/s   in 0.3s

2022-10-01 06:47:57 (8.25 MB/s) - 'nagios-plugins-2.3.3.tar.gz' saved [2782610/2782610]

[root@ip-172-31-91-8 downloads]#
```

```
s  Games  Settings  Macros  Help
essions  View  Split  MultiExec  Tunneling  Packages  Settings  Help  X server  Exit
2. ec2-54-210-100-73.compute-1.a
[root@ip-172-31-91-8 downloads]# clear
[root@ip-172-31-91-8 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
nagios-4.0.8/base/nagios.c
nagios-4.0.8/base/nagiostats.c
nagios-4.0.8/base/nebmods.c
nagios-4.0.8/base/nerd.c
nagios-4.0.8/base/netutils.c
nagios-4.0.8/base/notifications.c
nagios-4.0.8/base/perfdata.c
nagios-4.0.8/base/query-handler.c
nagios-4.0.8/base/sehandlers.c
nagios-4.0.8/base/sretention.c
nagios-4.0.8/base/utils.c
nagios-4.0.8/base/workers.c
nagios-4.0.8/base/wp-phash.c
nagios-4.0.8/base/wpres-phash.h
nagios-4.0.8/base/wpres.gperf
nagios-4.0.8/cgi/
```

```
[root@ip-172-31-91-8 downloads]# cd nagios-4.0.8
[root@ip-172-31-91-8 nagios-4.0.8]# ./configure --with-command-group=nagioscmd
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... /bin/strip
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /bin/grep
checking for egrep... /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
checking for unistd.h... yes
checking arpa/inet.h usability... yes
checking arpa/inet.h presence... yes
checking for arpa/inet.h... yes
checking ctype.h usability... yes
checking ctype.h presence... yes
checking for ctype.h... yes
checking dirent.h usability... yes
checking dirent.h presence... yes
checking for dirent.h... yes
checking errno.h usability... yes
checking errno.h presence... yes
checking for errno.h... yes
checking fcntl.h usability... yes
checking fcntl.h presence... yes
checking for fcntl.h... yes
```

```
[root@ip-172-31-91-8 nagios-4.0.8]# make all
cd ./base && make
make[1]: Entering directory `/root/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 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 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
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:2247:12: warning: assignment discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]
  cr.source = command_worker.source_name;
            ^
commands.c: In function 'process_passive_host_check':
commands.c:2339:12: warning: assignment discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]
  cr.source = command_worker.source_name;
            ^
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
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o netutils.o netutils.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o notifications.o notifications.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o sehandlers.o sehandlers.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE   -c -o utils.o utils.c
utils.c: In function '_get_matching_timerange':
utils.c:1117:6: warning: assuming signed overflow does not occur when assuming that (X + c) >= X is always true [-Wstrict-overflow]
    if((midnight + 84800 >= start_time && (midnight <= end_time || start_time > end_time)) || (midnight <= end_time && start_time > end_time)) {
      ^
utils.c: In function 'process_check_result_queue':
utils.c:2038:38: warning: 'snprintf' output may be truncated before the last format character [-Wformat-truncation=]
   snprintf(file, sizeof(file), "%s/%s", dirname, dirfile->d_name);
                                      ^
utils.c:2038:3: note: 'snprintf' output 2 or more bytes (assuming 257) into a destination of size 256
   snprintf(file, sizeof(file), "%s/%s", dirname, dirfile->d_name);
   ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o retention-base.o sretention.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o xretention-base.o ../xdata/xrddefault.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o comments-base.o ../common/comments.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o xcomments-base.o ../xdata/xcddefault.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o objects-base.o ../common/objects.c
```

```
2. ec2-54-210-100-73.compute-1.a

[root@ip-172-31-91-8 nagios-4.0.8]# make install
cd ./base && make install
make[1]: Entering directory `/root/downloads/nagios-4.0.8/base'
make install-basic
make[2]: Entering directory `/root/downloads/nagios-4.0.8/base'
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/bin/install -c -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/bin/install -c -m 774 -o nagios -g nagios nagiostats /usr/local/nagios/bin
make[2]: Leaving directory `/root/downloads/nagios-4.0.8/base'
make strip-post-install
make[2]: Entering directory `/root/downloads/nagios-4.0.8/base'
/bin/strip /usr/local/nagios/bin/nagios
/bin/strip /usr/local/nagios/bin/nagiostats
make[2]: Leaving directory `/root/downloads/nagios-4.0.8/base'
make[1]: Leaving directory `/root/downloads/nagios-4.0.8/base'
cd ./cgi && make install
make[1]: Entering directory `/root/downloads/nagios-4.0.8/cgi'
make install-basic
make[2]: Entering directory `/root/downloads/nagios-4.0.8/cgi'
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/sbin
for file in *.cgi; do \
        /bin/install -c -m 775 -o nagios -g nagios $file /usr/local/nagios/sbin; \
done
make[2]: Leaving directory `/root/downloads/nagios-4.0.8/cgi'
make strip-post-install
make[2]: Entering directory `/root/downloads/nagios-4.0.8/cgi'
for file in *.cgi; do \
        /bin/strip /usr/local/nagios/sbin/$file; \
done
make[2]: Leaving directory `/root/downloads/nagios-4.0.8/cgi'
make[1]: Leaving directory `/root/downloads/nagios-4.0.8/cgi'
cd ./html && make install
make[1]: Entering directory `/root/downloads/nagios-4.0.8/html'
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/media
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/stylesheets
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/contexthelp
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/docs
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/docs/images
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/js
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/images
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/images/logos
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/includes
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/includes/rss
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/includes/rss/extlib
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/ssi
```

```
[root@ip-172-31-91-8 nagios-4.0.8]# make install-init
/bin/install -c -m 755 -d -o root -g root /etc/rc.d/init.d
/bin/install -c -m 755 -o root -g root daemon-init /etc/rc.d/init.d/nagios

*** Init script installed ***

[root@ip-172-31-91-8 nagios-4.0.8]# make install-config
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/local/nagios/etc/nagios.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/cgi.cfg /usr/local/nagios/etc/cgi.cfg
/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/resource.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/templates.cfg /usr/local/nagios/etc/objects/templates.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/commands.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/timeperiods.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/windows.cfg /usr/local/nagios/etc/objects/windows.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/printer.cfg /usr/local/nagios/etc/objects/printer.cfg
/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/switch.cfg /usr/local/nagios/etc/objects/switch.cfg

*** 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.

[root@ip-172-31-91-8 nagios-4.0.8]# make install-commandmode
/bin/install -c -m 775 -o nagios -g nagioscmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

[root@ip-172-31-91-8 nagios-4.0.8]# make install-webconf
/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf

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

[root@ip-172-31-91-8 nagios-4.0.8]# htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[root@ip-172-31-91-8 nagios-4.0.8]# service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[root@ip-172-31-91-8 nagios-4.0.8]#
```

```
[root@ip-172-31-91-8 nagios-4.0.8]# cd ~/downloads
[root@ip-172-31-91-8 downloads]# tar zxvf nagios-plugins-2.3.3.tar.gz
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
nagios-plugins-2.3.3/config.h.in
nagios-plugins-2.3.3/ChangeLog
nagios-plugins-2.3.3/AUTHORS
nagios-plugins-2.3.3/lib/
nagios-plugins-2.3.3/lib/parse_ini.h
nagios-plugins-2.3.3/lib/extra_opts.c
nagios-plugins-2.3.3/lib/Makefile.in
nagios-plugins-2.3.3/lib/utils_cmd.h
nagios-plugins-2.3.3/lib/utils_tcp.h
nagios-plugins-2.3.3/lib/Makefile.am
nagios-plugins-2.3.3/lib/extra_opts.h
nagios-plugins-2.3.3/lib/utils_tcp.c
nagios-plugins-2.3.3/lib/parse_ini.c
nagios-plugins-2.3.3/lib/utils_cmd.c
```

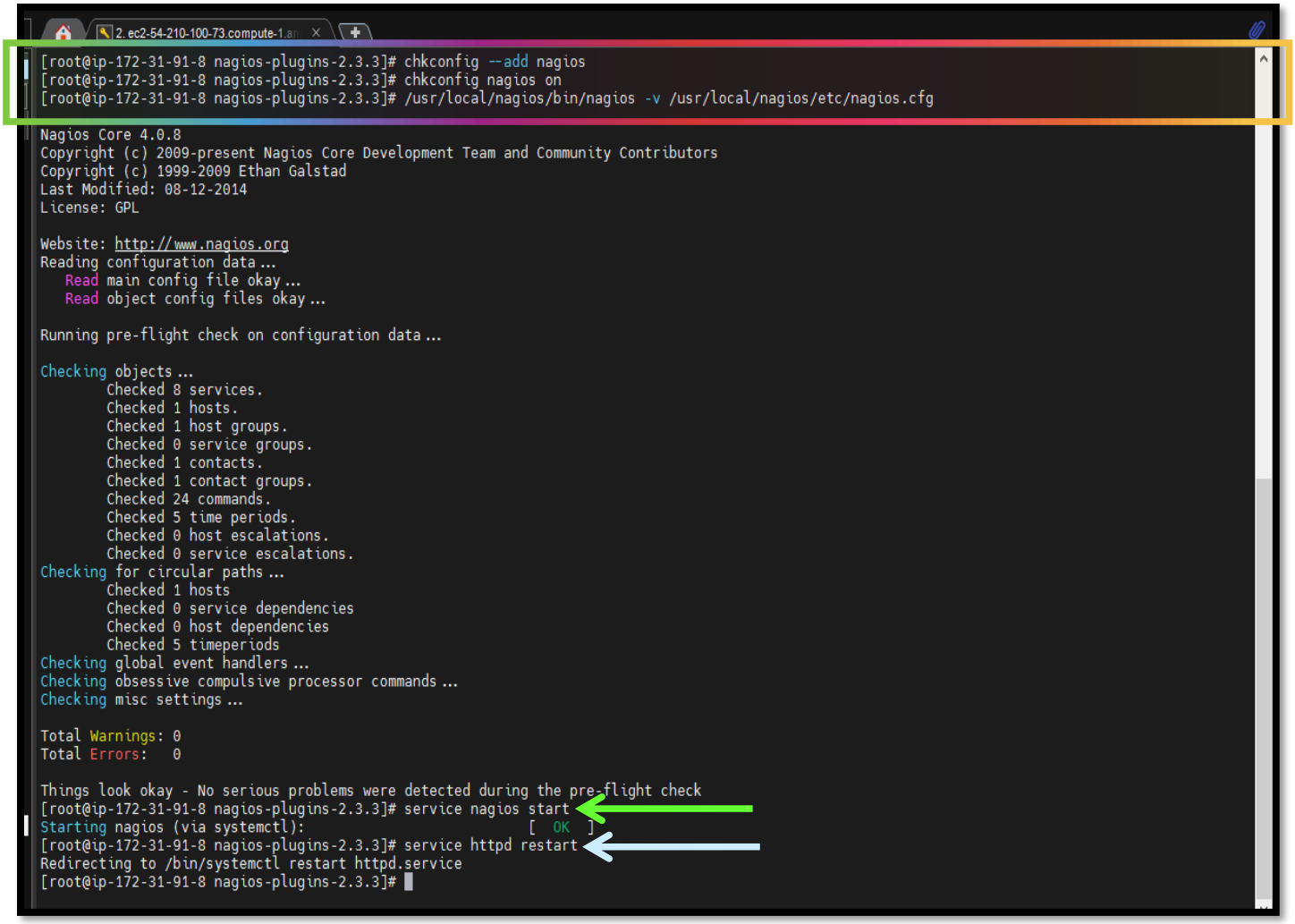
```
[root@ip-172-31-91-8 downloads]# cd nagios-plugins-2.3.3
[root@ip-172-31-91-8 nagios-plugins-2.3.3]#
```

```
[root@ip-172-31-91-8 downloads]# cd nagios-plugins-2.3.3
[root@ip-172-31-91-8 nagios-plugins-2.3.3]# ./configure --with-nagios-user=nagios --with-nagios-group=nagios
checking whether build environment is sane ... yes
checking for a thread-safe mkdir -p ... /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 ... /bin/grep
checking for egrep ... /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
checking for ANSI C header files ... 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
checking for unistd.h ... yes
checking minix/config.h usability ... no
checking minix/config.h presence ... no
checking for minix/config.h ... no
checking whether it is safe to define __EXTENSIONS__ ... yes
checking whether _XOPEN_SOURCE should be defined ... no
checking for special C compiler options needed for large files ... no
checking for _FILE_OFFSET_BITS value needed for large files ... no
checking whether gcc needs -traditional ... no
checking how to print strings ... printf
```

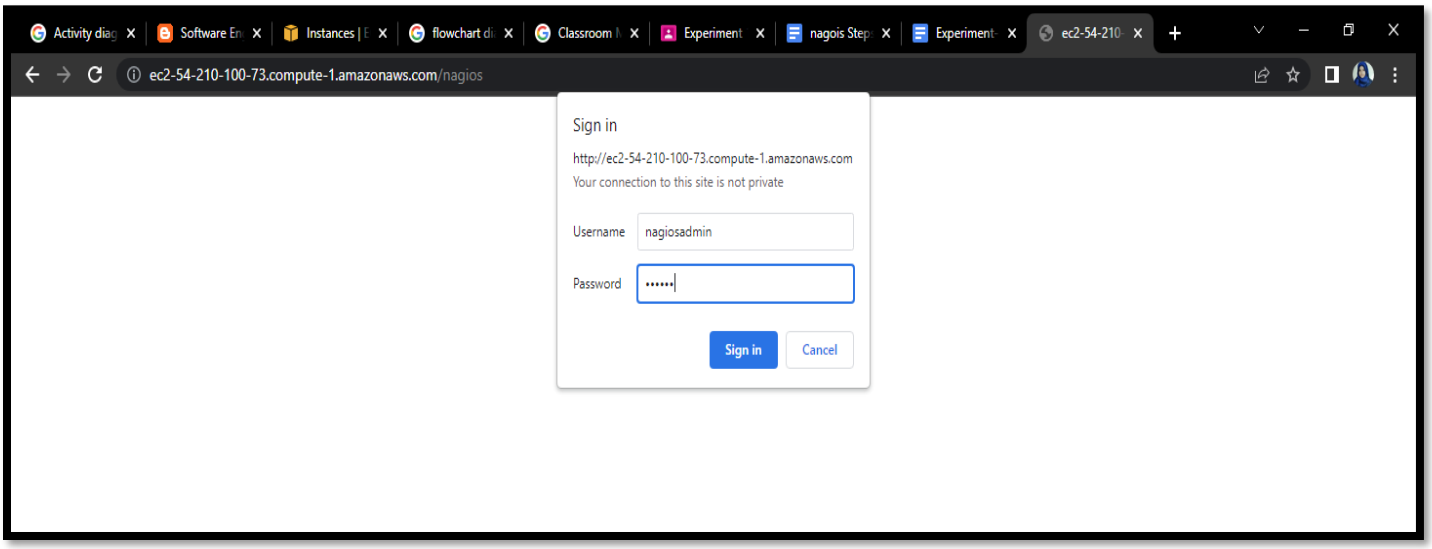
```
nagios-plugins-2.3.3/pkg/redhat/requires
[root@ip-172-31-91-8 downloads]# clear
[root@ip-172-31-91-8 downloads]# cd nagios-plugins-2.3.3
[root@ip-172-31-91-8 nagios-plugins-2.3.3]# ./configure --with-nagios-user=nagios --with-nagios-group=nagios
checking whether build environment is sane ... yes
checking for a thread-safe mkdir -p ... /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 ... /bin/grep
checking for egrep ... /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
checking for ANSI C header files ... 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
checking for unistd.h ... yes
checking minix/config.h usability ... no
checking minix/config.h presence ... no
checking for minix/config.h ... no
checking whether it is safe to define __EXTENSIONS__ ... yes
checking whether _XOPEN_SOURCE should be defined ... no
checking for special C compiler options needed for large files ... no
checking for _FILE_OFFSET_BITS value needed for large files ... no
```

```
config.status: creating po/POTFILES
config.status: creating po/Makefile
[root@ip-172-31-91-8 nagios-plugins-2.3.3]# make
make  all-recursive
make[1]: Entering directory `/root/downloads/nagios-plugins-2.3.3'
Making all in gl
make[2]: Entering directory `/root/downloads/nagios-plugins-2.3.3/gl'
rm -f alloca.h-t alloca.h && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
  cat ./alloca.in.h; \
} > alloca.h-t && \
mv -f alloca.h-t alloca.h
rm -f c++defs.h-t c++defs.h && \
sed -n -e '/_GL_CXXDEFS/,$p' \
  < ../build-aux/snippet/c++defs.h \
  > c++defs.h-t && \
mv c++defs.h-t c++defs.h
rm -f warn-on-use.h-t warn-on-use.h && \
sed -n -e '/^.ifndef/,$p' \
  < ../build-aux/snippet/warn-on-use.h \
  > warn-on-use.h-t && \
mv warn-on-use.h-t warn-on-use.h
rm -f arg-nonnull.h-t arg-nonnull.h && \
sed -n -e '/GL_ARG_NONNULL/,$p' \
  < ../build-aux/snippet/arg-nonnull.h \
  > arg-nonnull.h-t && \
mv arg-nonnull.h-t arg-nonnull.h
/bin/mkdir -p arpa
rm -f arpa/inet.h-t arpa/inet.h && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
  sed -e 's|@''GUARD_PREFIX''@|GL|g' \
      -e 's|@''INCLUDE_NEXT''@|include_next|g' \
      -e 's|@''PRAGMA_SYSTEM_HEADER''@|#pragma GCC system_header|g' \
      -e 's|@''PRAGMA_COLUMNS''@||g' \
      -e 's|@''HAVE_FEATURES_H''@|1|g' \
      -e 's|@''NEXT_ARPA_INET_H''@|<arpa/inet.h>|g' \
      -e 's|@''HAVE_ARPA_INET_H''@|1|g' \
      -e 's/@''GNULIB_INET_NTOP''@/1/g' \
      -e 's/@''GNULIB_INET_PTON''@/0/g' \
      -e 's|@''HAVE_DECL_INET_NTOP''@|1|g' \
      -e 's|@''HAVE_DECL_INET_PTON''@|1|g' \
      -e 's|@''REPLACE_INET_NTOP''@|0|g' \
      -e 's|@''REPLACE_INET_PTON''@|0|g' \
      -e '/definitions of _GL_FUNCDECL_RPL/r c++defs.h' \
      -e '/definition of _GL_ARG_NONNULL/r arg-nonnull.h' \
      -e '/definition of _GL_WARN_ON_USE/r warn-on-use.h' \
      < ./arpa_inet.in.h; \
```

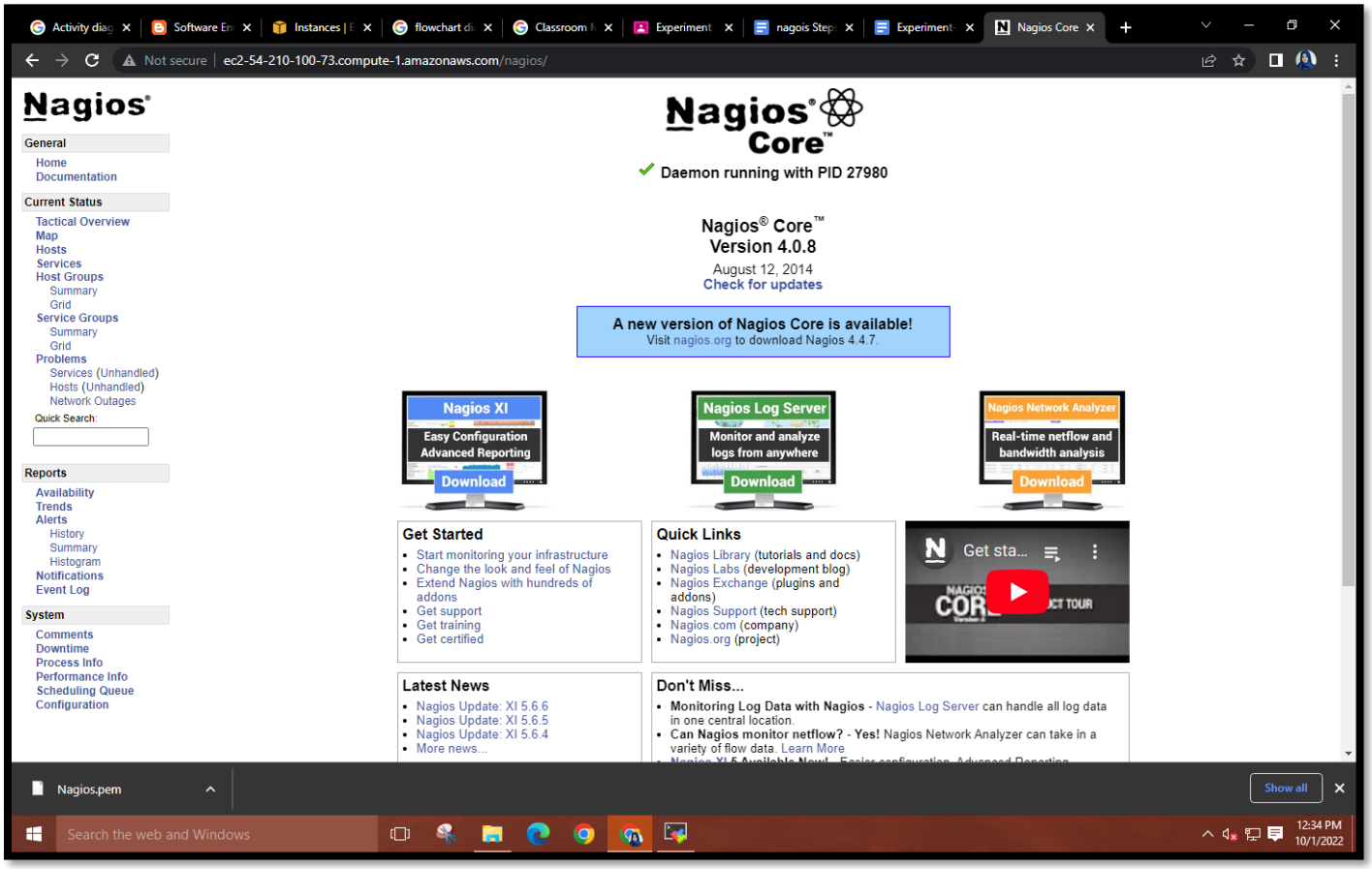
```
[root@ip-172-31-91-8 nagios-plugins-2.3.3]# make install
Making install in gl
make[1]: Entering directory `/root/downloads/nagios-plugins-2.3.3/gl'
make  install-recursive
make[2]: Entering directory `/root/downloads/nagios-plugins-2.3.3/gl'
make[3]: Entering directory `/root/downloads/nagios-plugins-2.3.3/gl'
make[4]: Entering directory `/root/downloads/nagios-plugins-2.3.3/gl'
if test yes = no; then \
  case 'linux-gnu' in \
    darwin[56]*) \
      need_charset_alias=true ;; \
    darwin* | cygwin* | mingw* | pw32* | cegcc*) \
      need_charset_alias=false ;; \
    *) \
      need_charset_alias=true ;; \
  esac ; \
else \
  need_charset_alias=false ; \
fi ; \
if $need_charset_alias; then \
  /bin/sh ../build-aux/mkinstalldirs /usr/local/nagios/lib ; \
fi ; \
if test -f /usr/local/nagios/lib/charset.alias; then \
  sed -f ref-add.sed /usr/local/nagios/lib/charset.alias > /usr/local/nagios/lib/charset.tmp ; \
  /bin/install -c -o nagios -g nagios -m 644 /usr/local/nagios/lib/charset.tmp /usr/local/nagios/lib/charset.alias ; \
  rm -f /usr/local/nagios/lib/charset.tmp ; \
else \
  if $need_charset_alias; then \
    sed -f ref-add.sed charset.alias > /usr/local/nagios/lib/charset.tmp ; \
    /bin/install -c -o nagios -g nagios -m 644 /usr/local/nagios/lib/charset.tmp /usr/local/nagios/lib/charset.alias ; \
    rm -f /usr/local/nagios/lib/charset.tmp ; \
  fi ; \
fi
make[4]: Nothing to be done for `install-data-am'.
make[4]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/gl'
make[3]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/gl'
make[2]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/gl'
make[1]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/gl'
Making install in tap
make[1]: Entering directory `/root/downloads/nagios-plugins-2.3.3/tap'
make[2]: Entering directory `/root/downloads/nagios-plugins-2.3.3/tap'
make[2]: Nothing to be done for `install-exec-am'.
test -z "/usr/local/nagios/include" || /bin/mkdir -p "/usr/local/nagios/include"
make[2]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/tap'
make[1]: Leaving directory `/root/downloads/nagios-plugins-2.3.3/tap'
Making install in lib
make[1]: Entering directory `/root/downloads/nagios-plugins-2.3.3/lib'
```

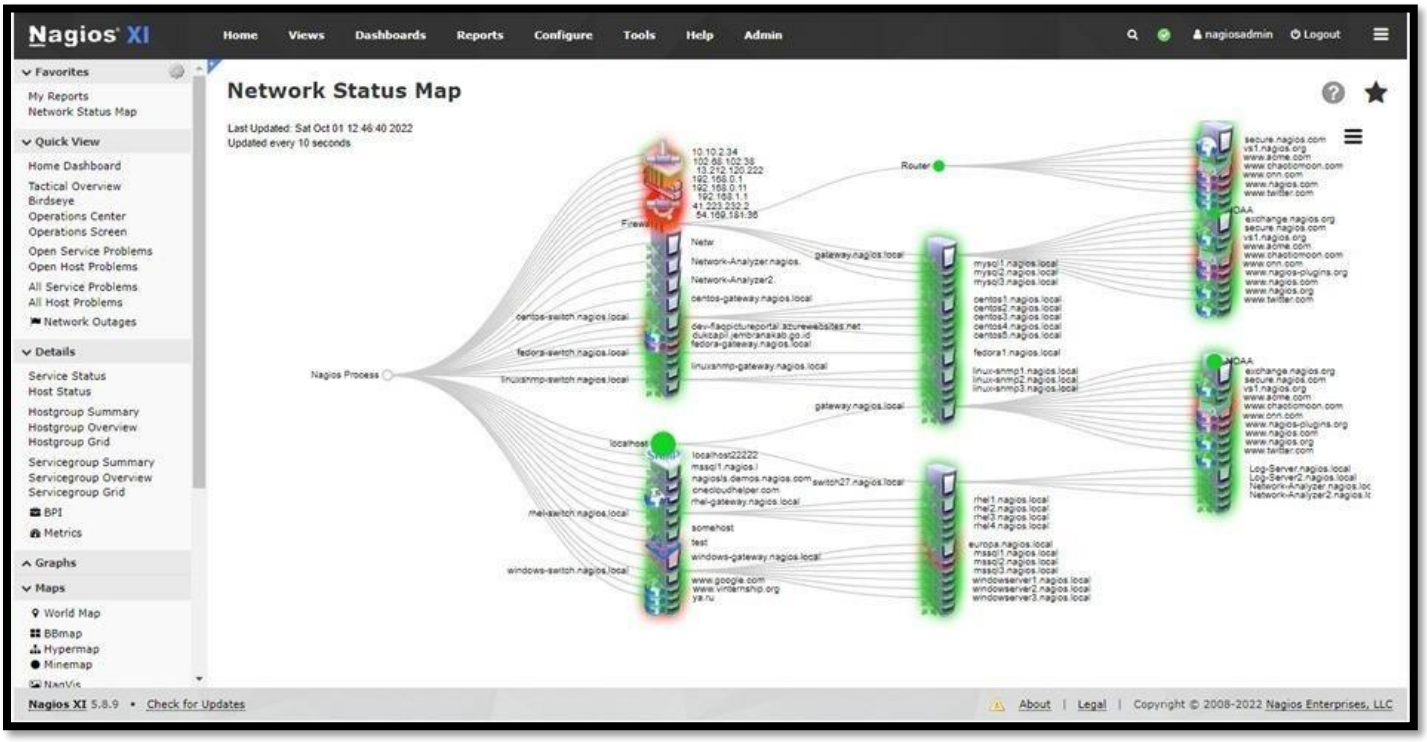


Step 9: Copy the IPV4 address from the EC2 instance details and paste it into a web browser by adding "/nagios.
Sign in by using
Username→ "nagiosadmin"
Password→ "nagios"



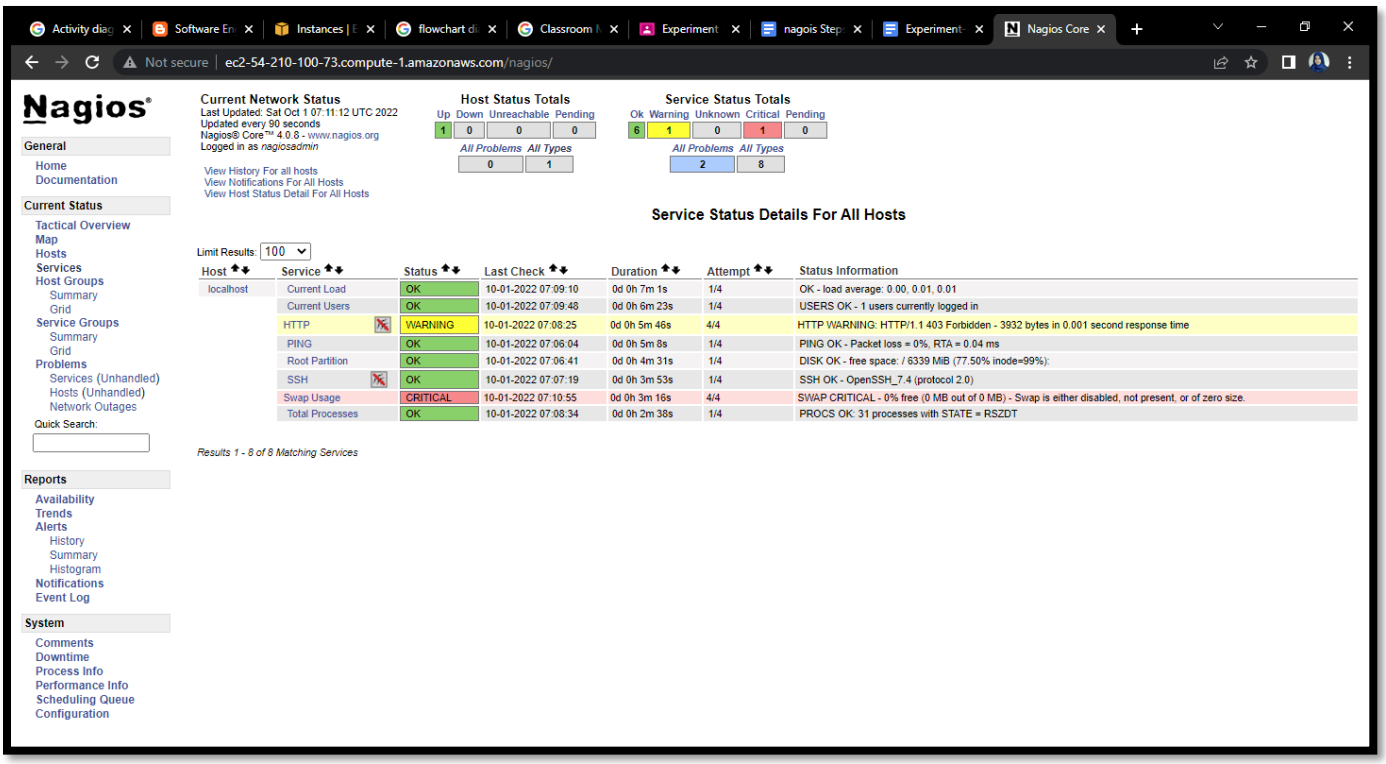
Nagios Dashboard will be displayed.





Nagios Services:

- Network Monitoring
- Server Monitoring
- Application Monitoring
- OS Monitoring
- Host resources Monitoring (like processor load, system log, and disk usage)
- Remote monitoring using SSL and SSH encrypted tunnels



Terminate the resource