

Module:- NDC(NAGIOS Monitoring tool)

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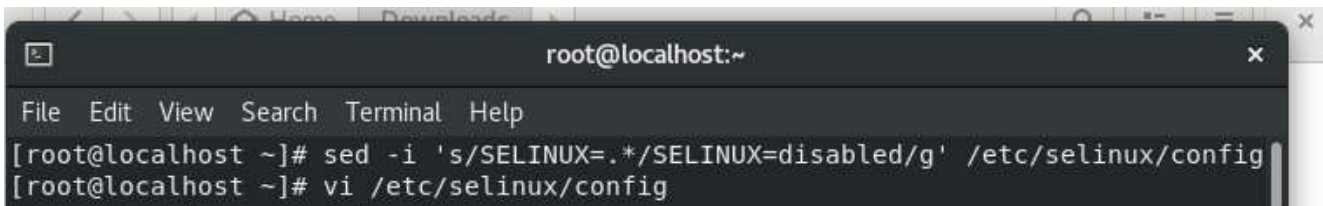
Server :- 192.168.3.140

Security-Enhanced Linux

Nagios Server Installation & Configuration

Step 1:- SeLinux being disabled or in permissive mode

#sed -i 's/SELINUX=.*SELINUX=disabled/g' /etc/selinux/config



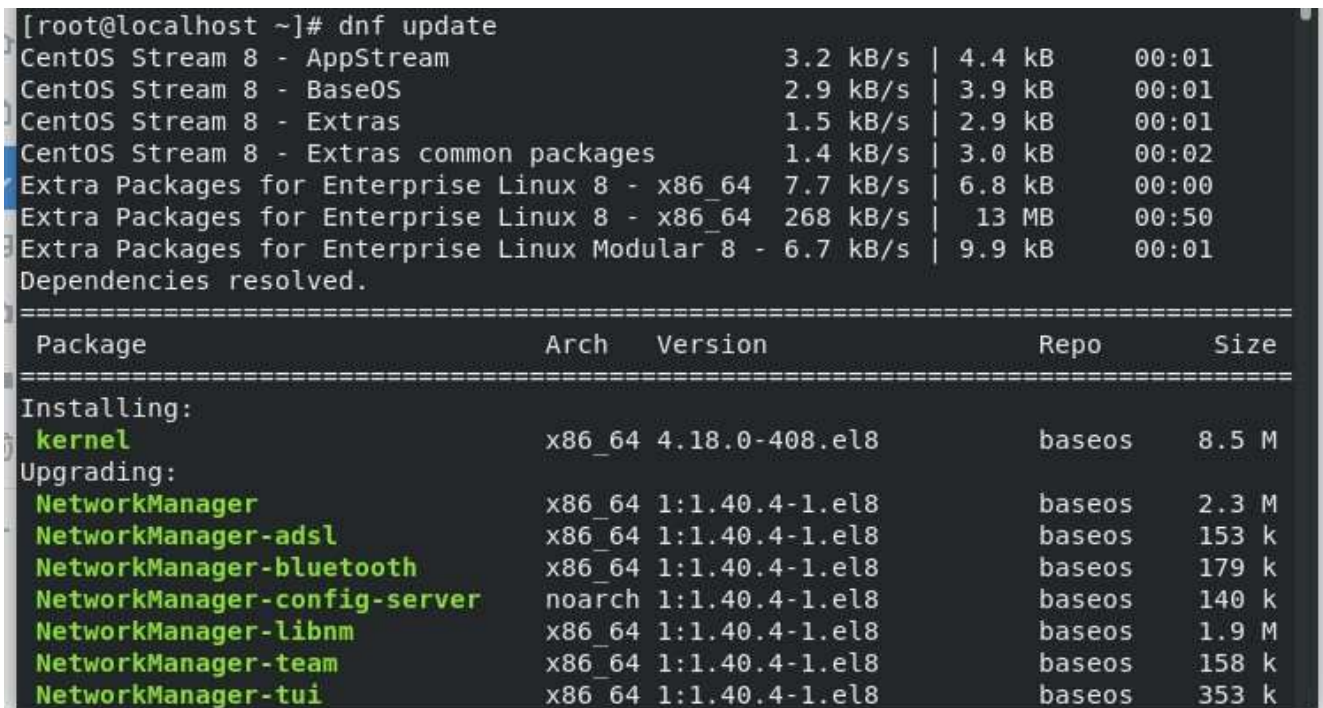
```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# sed -i 's/SELINUX=.*SELINUX=disabled/g' /etc/selinux/config  
[root@localhost ~]# vi /etc/selinux/config
```

Step-2:- Prerequisites

dnf update -y

dnf install -y gcc glibc glibc-common perl httpd php wget gd gd-devel

dnf install openssl-devel



```
[root@localhost ~]# dnf update  
CentOS Stream 8 - AppStream 3.2 kB/s | 4.4 kB 00:01  
CentOS Stream 8 - BaseOS 2.9 kB/s | 3.9 kB 00:01  
CentOS Stream 8 - Extras 1.5 kB/s | 2.9 kB 00:01  
CentOS Stream 8 - Extras common packages 1.4 kB/s | 3.0 kB 00:02  
Extra Packages for Enterprise Linux 8 - x86_64 7.7 kB/s | 6.8 kB 00:00  
Extra Packages for Enterprise Linux 8 - x86_64 268 kB/s | 13 MB 00:50  
Extra Packages for Enterprise Linux Modular 8 - 6.7 kB/s | 9.9 kB 00:01  
Dependencies resolved.  
=====
```

Package	Arch	Version	Repo	Size
Installing:				
kernel	x86_64	4.18.0-408.el8	baseos	8.5 M
Upgrading:				
NetworkManager	x86_64	1:1.40.4-1.el8	baseos	2.3 M
NetworkManager-adsl	x86_64	1:1.40.4-1.el8	baseos	153 k
NetworkManager-bluetooth	x86_64	1:1.40.4-1.el8	baseos	179 k
NetworkManager-config-server	noarch	1:1.40.4-1.el8	baseos	140 k
NetworkManager-libnm	x86_64	1:1.40.4-1.el8	baseos	1.9 M
NetworkManager-team	x86_64	1:1.40.4-1.el8	baseos	158 k
NetworkManager-tui	x86_64	1:1.40.4-1.el8	baseos	353 k

```
root@localhost:~/Downloads
File Edit View Search Terminal Help
Complete!
[root@localhost Downloads]# dnf install -y gcc glibc glibc-common perl httpd php
wget gd gd-devel
Last metadata expiration check: 0:00:56 ago on Mon 12 Dec 2022 11:44:33 AM IST.
Package gcc-8.5.0-17.el8.x86_64 is already installed.
Package glibc-2.28-220.el8.x86_64 is already installed.
Package glibc-common-2.28-220.el8.x86_64 is already installed.
Package httpd-2.4.37-47.module_el8.6.0+1111+ce6f4ceb.1.x86_64 is already installed.
Package wget-1.19.5-10.el8.x86_64 is already installed.
Package gd-2.2.5-7.el8.x86_64 is already installed.
Dependencies resolved.
=====
Package Arch Version Repo Size
=====
Installing:
gd-devel x86_64 2.2.5-7.el8 appstream 50 k
perl x86_64 4:5.26.3-421.el8 appstream 73 k
php x86_64 7.2.24-1.module_el8.2.0+313+b04d0a66 appstream 1.5 M
Installing dependencies:
bzip2-devel x86_64 1.0.6-26.el8 baseos 224 k
expat-devel x86_64 2.2.5-10.el8 baseos 57 k
fontconfig-devel x86_64 2.13.1-4.el8 baseos 151 k
```

Step-3:-Extract downloaded tar file of Nagios:-

tar -xzf nagios.tar.gz

```
root@localhost:~/Downloads
File Edit View Search Terminal Help
[root@localhost Downloads]# ls
nagios-4.4.9 nagios-plugins-2.3.3 nagios-plugins-2.3.3.tar.gz
[root@localhost Downloads]# tar -xzf nagios-4.4.9.tar.gz
```

Step-4:- Run “configure” file

./configure

```

[root@localhost Downloads]# cd nagios-4.4.9
[root@localhost nagios-4.4.9]# ls
aclocal.m4      debian          LICENSE         t
autoconf-macros docs            Makefile.in     tap
base           doxy.conf      make-tarball    test
cgi            functions      mkpackage       THANKS
Changelog      html           module          t-tap
common         include        nagios.spec     update-version
config.guess   indent-all.sh nagios.sysconfig UPGRADING
config.sub     indent.sh      pkginfo.in      worker
configure      INSTALLING     README.md       xdata
configure.ac   install-sh     sample-config
contrib        LEGAL          startup
CONTRIBUTING.md lib             subst.in
[root@localhost nagios-4.4.9]#

```

```

[root@localhost nagios-4.4.9]# ./configure
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 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 whether ln -s works... 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

```

Step-5:- Compile and install using the make command
make all


```
[root@localhost nagios-4.4.9]# make all
cd ./base && make
make[1]: Entering directory '/root/Downloads/nagios-4.4.9/base'
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o broker.o broker.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o nebmods.o nebmods.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o ../common/shared.o ../common/shared.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o query-handler.o query-handler.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o workers.o workers.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o checks.o checks.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o config.o config.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o commands.o commands.c
gcc -Wall -I.. -g -O2 -I/usr/include/krb5 -DHAVE_CONFIG_H -DNSCORE -c -o event.o event.c
```

Step-6:- Add nagios group and user
make install-groups-users

```
[root@localhost nagios-4.4.9]# make install-groups-users
groupadd -r nagios
useradd -g nagios nagios
[root@localhost nagios-4.4.9]#
```

Step-7:- Add apache user into nagios group
usermod -a -G nagios apache

```
root@localhost: ~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# usermod -a -G nagios apache
[root@localhost nagios-4.4.9]#
```

Step-8:- Installs the binary files, CGIs, and HTML files.
make install

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# make install
cd ./base && make install
make[1]: Entering directory '/root/Downloads/nagios-4.4.9/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 nagiosstats /usr/local/nagios/b
in
make[1]: Leaving directory '/root/Downloads/nagios-4.4.9/base'
cd ./cgi && make install
make[1]: Entering directory '/root/Downloads/nagios-4.4.9/cgi'
make install-basic
make[2]: Entering directory '/root/Downloads/nagios-4.4.9/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/nagio
s/sbin; \
done
make[2]: Leaving directory '/root/Downloads/nagios-4.4.9/cgi'
make[1]: Leaving directory '/root/Downloads/nagios-4.4.9/cgi'
cd ./html && make install
make[1]: Entering directory '/root/Downloads/nagios-4.4.9/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/styles
```

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/libexec
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var/archives
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var/spool/checkresults
chmod g+s /usr/local/nagios/var/spool/checkresults

*** Main program, CGIs and HTML files installed ***

You can continue with installing Nagios as follows (type 'make'
without any arguments for a list of all possible options):

make install-init
- This installs the init script in /lib/systemd/system

make install-commandmode
- This installs and configures permissions on the
  directory for holding the external command file

make install-config
- This installs sample config files in /usr/local/nagios/etc

make[1]: Leaving directory '/root/Downloads/nagios-4.4.9'
```

Step-9:- Nagios works as daemon and as init service install daemoninit

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# make install-daemoninit
/usr/bin/install -c -m 755 -d -o root -g root /lib/systemd/system
/usr/bin/install -c -m 755 -o root -g root startup/default-service /lib/systemd/
system/nagios.service
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /us
r/lib/systemd/system/nagios.service.

*** Init script installed ***

[root@localhost nagios-4.4.9]#
```



```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

[root@localhost nagios-4.4.9]#
```

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# make install-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/
local/nagios/etc/nagios.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/cgi.cfg /usr/loc
al/nagios/etc/cgi.cfg
/usr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /us
r/local/nagios/etc/resource.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
templates.cfg /usr/local/nagios/etc/objects/templates.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
commands.cfg /usr/local/nagios/etc/objects/commands.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
timeperiods.cfg /usr/local/nagios/etc/objects/timeperiods.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
windows.cfg /usr/local/nagios/etc/objects/windows.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
printer.cfg /usr/local/nagios/etc/objects/printer.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
```

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# 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 ***

[root@localhost nagios-4.4.9]#
```

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# make install-exfoliation

*** Exfoliation theme installed ***
NOTE: Use 'make install-classicui' to revert to classic Nagios theme

[root@localhost nagios-4.4.9]#
```

```
root@localhost:~/Downloads/nagios-4.4.9
File Edit View Search Terminal Help
[root@localhost nagios-4.4.9]# systemctl enable --now nagios
[root@localhost nagios-4.4.9]#
```

Step-10:- Install the plugins of nagios:-

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


```
root@localhost:~/Downloads
File Edit View Search Terminal Help
[root@localhost ~]# cd Downloads
[root@localhost Downloads]# ls
nagios-4.4.9 nagios-plugins-2.3.3 nagios-plugins-2.3.3.tar.gz
[root@localhost Downloads]#
```

```
root@localhost:~/Downloads/nagios-plugins-2.3.3
File Edit View Search Terminal Help
[root@localhost Downloads]# cd nagios-plugins-2.3.3/
[root@localhost nagios-plugins-2.3.3]# ./configure --with-nagios-user=nagios
configure: error: unrecognized option: --with-nagios-user=nagios
Try './configure --help' for more information.
[root@localhost nagios-plugins-2.3.3]# ls
ABOUT-NLS          configure           mkinstalldirs      po
acinclude.m4        configure.ac        nagios-plugins.spec README
ACKNOWLEDGEMENTS    COPYING            nagios-plugins.spec.in release
aclocal.m4          FAQ                NEWS                REQUIREMENTS
AUTHORS              gl                 NPTest.pm           SUPPORT
build-aux            INSTALL            NP-VERSION-GEN      tap
ChangeLog           LEGAL              perlmods            test.pl.in
CODING              lib                pkg                  THANKS
config.h.in         m4                 plugins              tools
config.rpath        Makefile.am        plugins-root
config_test         Makefile.in        plugins-scripts
[root@localhost nagios-plugins-2.3.3]#
```

```
root@localhost:~/Downloads/nagios-plugins-2.3.3
File Edit View Search Terminal Help

[root@localhost nagios-plugins-2.3.3]# ./configure --with-nagios-user=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 to disable maintainer-specific portions of Makefiles... yes
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking for style of include used by make... GNU
checking dependency style of gcc... gcc3
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
checking for egrep... /usr/bin/egrep -E
```

```
[root@localhost nagios-plugins-2.3.3]# make all
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 '/^\.ifnndef/, $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' \
```

```

[root@localhost 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/Makefile.in; then \
  cd /usr/local/nagios/lib; \
  make install; \
fi ; \

```

Step-11:- Stop Firewall service

```

[root@localhost nagios-plugins-2.3.3]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor p
   Active: active (running) since Mon 2022-12-12 10:16:00 IST; 1h 57min ago
     Docs: man:firewalld(1)
   Main PID: 888 (firewalld)
    Tasks: 3 (limit: 13066)
   Memory: 22.3M
   CGroup: /system.slice/firewalld.service
           └─888 /usr/libexec/platform-python -s /usr/sbin/firewalld --nofork -

```

```

Dec 12 10:15:58 localhost.localdomain systemd[1]: Starting firewalld - dynamic
Dec 12 10:16:00 localhost.localdomain systemd[1]: Started firewalld - dynamic f
Dec 12 10:16:01 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
Dec 12 11:04:48 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
Dec 12 11:07:58 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
Dec 12 11:11:56 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
Dec 12 11:24:15 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
Dec 12 11:27:41 localhost.localdomain firewalld[888]: WARNING: AllowZoneDriftin
[root@localhost nagios-plugins-2.3.3]# systemctl stop firewalld
[root@localhost nagios-plugins-2.3.3]#

```

Step-12:- Start the httpd service and set Httpd Password

#systemctl start httpd

#htpasswd -c /usr/local/nagios/etc/htpasswd.users prithvi

```
root@localhost:~/Downloads/nagios-plugins-2.3.3

File Edit View Search Terminal Help

[root@localhost nagios-plugins-2.3.3]# systemctl start httpd
[root@localhost nagios-plugins-2.3.3]# htpasswd -c /usr/local/nagios/etc/htpasswd.users prithvi
New password:
Re-type new password:
Adding password for user prithvi
[root@localhost nagios-plugins-2.3.3]#
```

Step-13:- Go to Browser and type

<http://192.168.3.140/nagios>

