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

1. Install and Configure Nagios Core

Step 1: Update the system packages.

Sudo apt update and sudo apt upgrade:

```
irin@irin-VirtualBox:~$ sudo apt update
[sudo] password for irin:
Hit:1 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [114 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [455 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [200 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [99.8 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [99.9 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [365 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadata [20.0 kB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/main DEP-11 48x48 Icons [13.2 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/main DEP-11 64x64 Icons [22.1 kB]
Get:12 http://security.ubuntu.com/ubuntu jammy-security/restricted i386 Packages [21.8 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [367 kB]
Get:14 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [56.5 kB]
Get:15 http://security.ubuntu.com/ubuntu jammy-security/universe i386 Packages [471 kB]
Get:16 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [602 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [683 kB]
Get:18 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [76.2 kB]
Get:19 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Metadata [13.3 kB]
Get:20 http://security.ubuntu.com/ubuntu jammy-security/universe DEP-11 48x48 Icons [5,769 B]
Get:21 http://in.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [156 kB]
Get:22 http://security.ubuntu.com/ubuntu jammy-security/universe DEP-11 64x64 Icons [12.3 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metadata [93.1 kB]
Get:24 http://in.archive.ubuntu.com/ubuntu jammy-updates/main DEP-11 48x48 Icons [26.7 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu jammy-updates/main DEP-11 64x64 Icons [41.8 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [10.6 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [403 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted i386 Packages [22.2 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [62.0 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [540 B]
Get:31 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [735 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [513 kB]
```

```

irin@irin-VirtualBox:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  linux-headers-5.15.0-52 linux-headers-5.15.0-52-generic
  linux-image-5.15.0-52-generic linux-modules-5.15.0-52-generic
  linux-modules-extra-5.15.0-52-generic systemd-hwe-hwdb
The following packages have been kept back:
  gdb
The following packages will be upgraded:
  apt apt-utils bind9-dnsutils bind9-host bind9-libs cpp-11 dmidecode
  evolution-data-server evolution-data-server-common fonts-opensymbol
  fprintd gcc-11-base gcc-12-base ghostscript ghostscript-x
  gir1.2-gdkpixbuf-2.0 gir1.2-gnomedesktop-3.0 gir1.2-gtk-4.0
  gir1.2-javascriptcoregtk-4.0 gir1.2-webkit2-4.0 gjs
  gnome-control-center gnome-control-center-data
  gnome-control-center-faces gnome-desktop3-data gnome-remote-desktop
  gnome-shell gnome-shell-common gstreamer1.0-pipewire gzip
  intel-microcode isc-dhcp-client isc-dhcp-common libapt-pkg6.0
  libcamel-1.2-63 libcryptsetup12 libcurl3-gnutls libcurl4
  libebook-1.2-10 libebook-1.2-20 libebook-contacts-1.2-3
  libecal-2.0-1 libedata-book-1.2-26 libedata-cal-2.0-1
  libedataserver-1.2-26 libedataserverui-1.2-3 libgcc-s1
  libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin libgdk-pixbuf2.0-common
  libgfortran5 libgjs0g libgnome-bg-4-1 libgnome-desktop-3-19
  libgnome-desktop-4-1 libgomp1 libgs9 libgs9-common libgtk-4-1
  libgtk-4-bin libgtk-4-common libjavascriptcoregtk-4.0-18 libksba8
  libldap-2.5-0 libldap-common liblvm13 libnftables1 libnss-systemd
  libpam-fprintd libpam-systemd libpcre2-32-0 libpcre2-8-0
  libperl5.34 libpipewire-0.3-0 libpipewire-0.3-common
  libpipewire-0.3-modules libpoppler-cpp0v5 libpoppler-glib8
  libpoppler118 libpulse-mainloop-glib0 libpulse0 libpulseos

```

Step 2: Install all the required packages

```

irin@irin-VirtualBox:~$ sudo apt install -y autoconf bc gawk dc build-essential gcc libc6 make wget u
nzip apache2 php libapache2-mod-php libgd-dev libmcrypt-dev make libssl-dev snmp libnet-snmp-perl get
text
[sudo] password for irin:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
bc is already the newest version (1.07.1-3build1).
bc set to manually installed.
dc is already the newest version (1.07.1-3build1).
dc set to manually installed.
wget is already the newest version (1.21.2-2ubuntu1).
wget set to manually installed.
libc6 is already the newest version (2.35-0ubuntu3.1).
libc6 set to manually installed.
unzip is already the newest version (6.0-26ubuntu3.1).
unzip set to manually installed.
The following packages were automatically installed and are no longer required:
  linux-headers-5.15.0-43 linux-headers-5.15.0-43-generic
  linux-image-5.15.0-43-generic linux-modules-5.15.0-43-generic
  linux-modules-extra-5.15.0-43-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils automake autotools-dev
  binutils binutils-common binutils-x86-64-linux-gnu dpkg-dev
  fakeroot g++ g++-11 gcc-11 libalgorithm-diff-perl
  libalgorithm-diff-xs-perl libalgorithm-merge-perl
  libapache2-mod-php8.1 libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libasan6 libatomic1 libbinutils libbrotli-dev
  libc-dev-bin libc-devtools libc6-dev libcc1-0 libcrypt-dev
  libctf-nobfd0 libctf0 libdeflate-dev libdpkg-perl libexpat1-dev
  libfakeroot libfile-fcntllock-perl libfontconfig-dev
  libfreeimage-dev libfreeimage6-dev libgcc-11-dev libice-dev libitm1

```

Step 3: Download Nagios Core Setup files

```
irin@irin-VirtualBox:~$ mkdir nagios
irin@irin-VirtualBox:~$ cd nagios/
irin@irin-VirtualBox:~/nagios$ sudo wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
--2022-10-25 12:07:31-- https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
Resolving assets.nagios.com (assets.nagios.com)... 45.79.49.120, 2600:3c00::f03c:92ff:fe77:45ce
Connecting to assets.nagios.com (assets.nagios.com)|45.79.49.120|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11333414 (11M) [application/x-gzip]
Saving to: 'nagios-4.4.6.tar.gz'

nagios-4.4.6.tar. 100%[=====] 10.81M 221KB/s in 65s

2022-10-25 12:08:38 (169 KB/s) - 'nagios-4.4.6.tar.gz' saved [11333414/11333414]

irin@irin-VirtualBox:~/nagios$
```

```
irin@irin-VirtualBox:~/nagios$ ll
total 11076
drwxrwxr-x 2 irin irin 4096 Oct 25 12:07 ./
drwxr-x--- 18 irin irin 4096 Oct 25 12:05 ../
-rw-r--r-- 1 root root 11333414 May 5 2020 nagios-4.4.6.tar.gz
irin@irin-VirtualBox:~/nagios$
```

Step 4: Extract the downloaded files.

```
irin@irin-VirtualBox:~/nagios$ sudo tar -zxvf nagios-4.4.6.tar.gz
nagios-4.4.6/
nagios-4.4.6/.gitignore
nagios-4.4.6/.travis.yml
nagios-4.4.6/CONTRIBUTING.md
nagios-4.4.6/ChangeLog
nagios-4.4.6/INSTALLING
nagios-4.4.6/LLEGAL
nagios-4.4.6/LICENSE
nagios-4.4.6/Makefile.in
nagios-4.4.6/README.md
nagios-4.4.6/THANKS
nagios-4.4.6/UPGRADING
nagios-4.4.6/aclocal.m4
nagios-4.4.6/autoconf-macros/
nagios-4.4.6/autoconf-macros/.gitignore
nagios-4.4.6/autoconf-macros/CHANGELOG.md
nagios-4.4.6/autoconf-macros/LICENSE
nagios-4.4.6/autoconf-macros/LICENSE.md
nagios-4.4.6/autoconf-macros/README.md
nagios-4.4.6/autoconf-macros/add_group_user
nagios-4.4.6/autoconf-macros/ax_nagios_get_distrib
nagios-4.4.6/autoconf-macros/ax_nagios_get_files
nagios-4.4.6/autoconf-macros/ax_nagios_get_inetd
nagios-4.4.6/autoconf-macros/ax_nagios_get_init
nagios-4.4.6/autoconf-macros/ax_nagios_get_os
nagios-4.4.6/autoconf-macros/ax_nagios_get_paths
nagios-4.4.6/autoconf-macros/ax_nagios_get_ssl
nagios-4.4.6/base/
nagios-4.4.6/base/.gitignore
nagios-4.4.6/base/Makefile.in
nagios-4.4.6/base/broker.c
nagios-4.4.6/base/checks.c
```

Step 5: Navigate to the setup directory and Run the Nagios Core configure script using

```
irin@irin-VirtualBox:~/nagios$ cd nagios-4.4.6
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ ll
total 616
drwxrwxr-x 20 root root 4096 Apr 29 2020 ./
drwxrwxr-x 3 irin irin 4096 Oct 25 12:18 ../
-rwxrwxr-x 1 root root 346 Apr 29 2020 aclocal.m4*
drwxrwxr-x 2 root root 4096 Apr 29 2020 autoconf-macros/
drwxrwxr-x 2 root root 4096 Apr 29 2020 base/
drwxrwxr-x 2 root root 4096 Apr 29 2020 cgi/
-rw-rw-r-- 1 root root 32590 Apr 29 2020 Changelog
drwxrwxr-x 2 root root 4096 Apr 29 2020 common/
-rwxrwxr-x 1 root root 43765 Apr 29 2020 config.guess*
-rwxrwxr-x 1 root root 36345 Apr 29 2020 config.sub*
-rwxrwxr-x 1 root root 246354 Apr 29 2020 configure*
-rw-rw-r-- 1 root root 29812 Apr 29 2020 configure.ac
drwxrwxr-x 5 root root 4096 Apr 29 2020 contrib/
-rw-rw-r-- 1 root root 6291 Apr 29 2020 CONTRIBUTING.md
drwxrwxr-x 2 root root 4096 Apr 29 2020 docs/
-rw-rw-r-- 1 root root 886 Apr 29 2020 doxy.conf
-rwxrwxr-x 1 root root 7025 Apr 29 2020 functions*
-rw-rw-r-- 1 root root 509 Apr 29 2020 .gitignore
drwxrwxr-x 11 root root 4096 Apr 29 2020 html/
drwxrwxr-x 2 root root 4096 Apr 29 2020 include/
-rwxrwxr-x 1 root root 77 Apr 29 2020 indent-all.sh*
-rwxrwxr-x 1 root root 161 Apr 29 2020 indent.sh*
-rw-rw-r-- 1 root root 422 Apr 29 2020 INSTALLING
-rwxrwxr-x 1 root root 5869 Apr 29 2020 install-sh*
-rw-rw-r-- 1 root root 841 Apr 29 2020 LEGAL
drwxrwxr-x 2 root root 4096 Apr 29 2020 lib/
-rw-rw-r-- 1 root root 18002 Apr 29 2020 LICENSE
-rw-rw-r-- 1 root root 16506 Apr 29 2020 Makefile.in
-rwxrwxr-x 1 root root 461 Apr 29 2020 make-tarball*
-rwxrwxr-x 1 root root 818 Apr 29 2020 mkpackage*
```

```
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo ./configure --with-httpd-conf=/etc/apache2/sites-enabled
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
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 forunistd.h... yes
```

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make all
cd ./base && make
make[1]: Entering directory '/home/irin/nagios/nagios-4.4.6/base'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
nagios.c: In function 'main':
nagios.c:611:25: warning: ignoring return value of 'asprintf' declared with attribute 'warn_unused_result' [-Wunused-result]
   611 |                                     asprintf(&mac->x[MACRO_PROCESSTARTTIME], "%llu", (unsigned long long
      |                                     ^
)program_start);

nagios.c:841:25: warning: ignoring return value of 'asprintf' declared with attribute 'warn_unused_result' [-Wunused-result]
   841 |                                     asprintf(&mac->x[MACRO_EVENTSTARTTIME], "%llu", (unsigned long long)event_start);
      |                                     ^

nagios.c: In function 'nagios_core_worker':
nagios.c:176:17: warning: ignoring return value of 'read' declared with attribute 'warn_unused_result' [-Wunused-result]
   176 |                                     read(sd, response + 3, sizeof(response) - 4);
      |                                     ^

nagios.c: In function 'test_path_access':
nagios.c:122:17: warning: ignoring return value of 'asprintf' declared with attribute 'warn_unused_result' [-Wunused-result]
   122 |                                     asprintf(&path, "%s/%s", p, program);
      |                                     ^

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 nebmodes.o nebmodes.c

```

Step 6: Compile the main program and CGIs using `sudo make all` and `make` and install group and user.

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make install-groups-users
groupadd -r nagios
useradd -g nagios nagios
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo usermod -a -G nagios www-date
usermod: user 'www-date' does not exist
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo usermod -a -G nagios www-data
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

Step 7: Add www-data directories user to the nagios group and install Nagios

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make install-groups-users
groupadd -r nagios
useradd -g nagios nagios
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo usermod -a -G nagios www-date
usermod: user 'www-date' does not exist
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo usermod -a -G nagios www-data
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```



```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make install
cd ./base && make install
make[1]: Entering directory '/home/irin/nagios/nagios-4.4.6/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/bin
make[1]: Leaving directory '/home/irin/nagios/nagios-4.4.6/base'
cd ./cgi && make install
make[1]: Entering directory '/home/irin/nagios/nagios-4.4.6/cgi'
make install-basic
make[2]: Entering directory '/home/irin/nagios/nagios-4.4.6/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/irin/nagios/nagios-4.4.6/cgi'
make[1]: Leaving directory '/home/irin/nagios/nagios-4.4.6/cgi'
cd ./html && make install
make[1]: Entering directory '/home/irin/nagios/nagios-4.4.6/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
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/ssi
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/angularjs
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/angularjs/angular-1.3.9
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/angularjs/ui-utils-0.2.3
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/bootstrap-3.3.7

```

Step 8: Initialize all the installation configuration scripts.

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make install-init
/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
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

Step 9: Install and configure permissions on the configs' directory and install sample config files

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo 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 ***

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo 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/local/nagios/etc/cgi.cfg
/usr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/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/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.

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

Step 10: Install apache files. Enable apache rewrite mode and CGI config.

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/apache2/sites-enabled/nagios.conf
if [ 0 -eq 1 ]; then \
    ln -s /etc/apache2/sites-enabled/nagios.conf /etc/apache2/sites-enabled/nagios.conf; \
fi

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

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo a2enmod rewrite cgi
Enabling module rewrite.
Enabling module cgi.
To activate the new configuration, you need to run:
    systemctl restart apache2
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

Step 11: Restart the Apache service and then create a user and set the password when prompted.

```

irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$

```

2. Install Nagios Plugins Step 1: Download the Nagios Core plugin.

```
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ sudo apt install monitoring-plugins nagios-nrpe-plugin -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-headers-5.15.0-43 linux-headers-5.15.0-43-generic linux-image-5.15.0-43-generic
  linux-modules-5.15.0-43-generic linux-modules-extra-5.15.0-43-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libdbi1 libmysqlclient21 libpq5 libradcli4 liburiparser1 monitoring-plugins-basic
  monitoring-plugins-common monitoring-plugins-standard mysql-common python3-gpg python3-samba
  python3-tdb rpcbind samba-common samba-common-bin samba-dsdb-modules smbclient
Suggested packages:
  icinga2 nagios-plugins-contrib fping postfix | sendmail-bin | exim4-daemon-heavy
  | exim4-daemon-light qstat heimdal-clients python3-markdown python3-dnspython cifs-utils
The following NEW packages will be installed:
  libdbi1 libmysqlclient21 libpq5 libradcli4 liburiparser1 monitoring-plugins
  monitoring-plugins-basic monitoring-plugins-common monitoring-plugins-standard mysql-common
  nagios-nrpe-plugin python3-gpg python3-samba python3-tdb rpcbind samba-common samba-common-bin
  samba-dsdb-modules smbclient
0 upgraded, 19 newly installed, 0 to remove and 1 not upgraded.
Need to get 6,872 kB of archives.
After this operation, 39.2 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 rpcbind amd64 1.2.6-2build1 [46.6 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-common all 2:4.15.9+dfsg-0ubu
untu0.2 [73.5 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 smbclient amd64 2:4.15.9+dfsg-0ubu
ntu0.2 [470 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libdbi1 amd64 0.9.0-6build2 [26.6 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 mysql-common all 5.8+1.0.8 [7,212 B]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libmysqlclient21 amd64 8.0.31-0ubu
```

```
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
irin@irin-VirtualBox:~/nagios/nagios-4.4.6$ cd /usr/local/nagios/etc/
irin@irin-VirtualBox:/usr/local/nagios/etc$ ll
total 84
drwxrwxr-x 3 nagios nagios 4096 Oct 25 12:33 ./
drwxr-xr-x 8 root root 4096 Oct 25 12:30 ../
-rw-rw-r-- 1 nagios nagios 13710 Oct 25 12:30 cgi.cfg
-rw-r--r-- 1 root root 50 Oct 25 12:33 htpasswd.users
-rw-rw-r-- 1 nagios nagios 45843 Oct 25 12:30 nagios.cfg
drwxrwxr-x 2 nagios nagios 4096 Oct 25 12:30 objects/
-rw-rw-r-- 1 nagios nagios 1312 Oct 25 12:30 resource.cfg
irin@irin-VirtualBox:/usr/local/nagios/etc$
```

```
irin@irin-VirtualBox:/usr/local/nagios/etc$ sudo vim nagios.cfg
irin@irin-VirtualBox:/usr/local/nagios/etc$ sudo mkdir servers printers switches routers
irin@irin-VirtualBox:/usr/local/nagios/etc$ ll
total 168
drwxrwxr-x 7 nagios nagios 4096 Oct 25 13:21 ./
drwxr-xr-x 8 root root 4096 Oct 25 12:30 ../
-rw-rw-r-- 1 nagios nagios 13710 Oct 25 13:08 cgi.cfg
-rw-rw-r-- 1 nagios nagios 13710 Oct 25 12:30 cgi.cfg~
-rw-r--r-- 1 root root 50 Oct 25 13:09 htpasswd.users
-rw-rw-r-- 1 nagios nagios 45841 Oct 25 13:20 nagios.cfg
-rw-rw-r-- 1 nagios nagios 45843 Oct 25 12:30 nagios.cfg~
drwxrwxr-x 2 nagios nagios 4096 Oct 25 13:08 objects/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 printers/
-rw-rw-r-- 1 nagios nagios 1312 Oct 25 13:08 resource.cfg
-rw-rw-r-- 1 nagios nagios 1312 Oct 25 12:30 resource.cfg~
drwxr-xr-x 2 root root 4096 Oct 25 13:21 routers/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 servers/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 switches/
irin@irin-VirtualBox:/usr/local/nagios/etc$
```



```
irin@irin-VirtualBox:/usr/local/nagios/etc$ sudo vim resource.cfg
irin@irin-VirtualBox:/usr/local/nagios/etc$ ll
total 168
drwxrwxr-x 7 nagios nagios 4096 Oct 25 13:27 ./
drwxr-xr-x 8 root root 4096 Oct 25 12:30 ../
-rw-rw-r-- 1 nagios nagios 13710 Oct 25 13:08 cgi.cfg
-rw-rw-r-- 1 nagios nagios 13710 Oct 25 12:30 cgi.cfg~
-rw-r--r-- 1 root root 50 Oct 25 13:09 htpasswd.users
-rw-rw-r-- 1 nagios nagios 45841 Oct 25 13:20 nagios.cfg
-rw-rw-r-- 1 nagios nagios 45843 Oct 25 12:30 nagios.cfg~
drwxrwxr-x 2 nagios nagios 4096 Oct 25 13:08 objects/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 printers/
-rw-rw-r-- 1 nagios nagios 1344 Oct 25 13:27 resource.cfg
-rw-rw-r-- 1 nagios nagios 1312 Oct 25 12:30 resource.cfg~
drwxr-xr-x 2 root root 4096 Oct 25 13:21 routers/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 servers/
drwxr-xr-x 2 root root 4096 Oct 25 13:21 switches/
irin@irin-VirtualBox:/usr/local/nagios/etc$
```

```
irin@irin-VirtualBox:/usr/local/nagios/etc$ cd objects/
irin@irin-VirtualBox:/usr/local/nagios/etc/objects$ ll
total 112
drwxrwxr-x 2 nagios nagios 4096 Oct 25 13:08 ./
drwxrwxr-x 7 nagios nagios 4096 Oct 25 13:27 ../
-rw-rw-r-- 1 nagios nagios 6747 Oct 25 13:08 commands.cfg
-rw-rw-r-- 1 nagios nagios 6747 Oct 25 12:30 commands.cfg~
-rw-rw-r-- 1 nagios nagios 1797 Oct 25 13:08 contacts.cfg
-rw-rw-r-- 1 nagios nagios 1797 Oct 25 12:30 contacts.cfg~
-rw-rw-r-- 1 nagios nagios 4777 Oct 25 13:08 localhost.cfg
-rw-rw-r-- 1 nagios nagios 4777 Oct 25 12:30 localhost.cfg~
-rw-rw-r-- 1 nagios nagios 3001 Oct 25 13:08 printer.cfg
-rw-rw-r-- 1 nagios nagios 3001 Oct 25 12:30 printer.cfg~
-rw-rw-r-- 1 nagios nagios 3484 Oct 25 13:08 switch.cfg
-rw-rw-r-- 1 nagios nagios 3484 Oct 25 12:30 switch.cfg~
-rw-rw-r-- 1 nagios nagios 12533 Oct 25 13:08 templates.cfg
-rw-rw-r-- 1 nagios nagios 12533 Oct 25 12:30 templates.cfg~
-rw-rw-r-- 1 nagios nagios 3512 Oct 25 13:08 timeperiods.cfg
-rw-rw-r-- 1 nagios nagios 3512 Oct 25 12:30 timeperiods.cfg~
-rw-rw-r-- 1 nagios nagios 4074 Oct 25 13:08 windows.cfg
-rw-rw-r-- 1 nagios nagios 4074 Oct 25 12:30 windows.cfg~
irin@irin-VirtualBox:/usr/local/nagios/etc/objects$
```

Step 2: Start the Nagios service and enable Nagios service to run at system startup.

```
irin@irin-VirtualBox:~$ sudo systemctl restart apache2
irin@irin-VirtualBox:~$ sudo systemctl restart nagios
irin@irin-VirtualBox:~$ sudo systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
irin@irin-VirtualBox:~$
```

```
irin@irin-VirtualBox:~$ sudo systemctl enable nagios
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /lib/systemd/system/nagios.service.
irin@irin-VirtualBox:~$
```

```
irin@irin-VirtualBox:~$ sudo systemctl enable nagios
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /lib/systemd/system/nagios.service.
irin@irin-VirtualBox:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-10-25 13:46:13 IST; 3min 34s ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 75713 (apache2)
      Tasks: 6 (limit: 5538)
     Memory: 10.2M
        CPU: 175ms
    CGroup: /system.slice/apache2.service
            └─75713 /usr/sbin/apache2 -k start
               75714 /usr/sbin/apache2 -k start
               75715 /usr/sbin/apache2 -k start
               75716 /usr/sbin/apache2 -k start
               75717 /usr/sbin/apache2 -k start
               75718 /usr/sbin/apache2 -k start

Oct 25 13:46:13 irin-VirtualBox systemd[1]: Starting The Apache HTTP Server...
Oct 25 13:46:13 irin-VirtualBox apache2[75712]: AH00558: apache2: Could not
Oct 25 13:46:13 irin-VirtualBox systemd[1]: Started The Apache HTTP Server.

irin@irin-VirtualBox:~$
```

4. Access Nagios Web Interface Open your web browser and access Nagios web interface via the URL `http://ServerIP/nagios`.

```
irin@irin-VirtualBox:~$ sudo systemctl status nagios
● nagios.service - Nagios Core 4.4.6
   Loaded: loaded (/lib/systemd/system/nagios.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-10-25 13:46:47 IST; 7min ago
     Docs: https://www.nagios.org/documentation
    Main PID: 75725 (nagios)
      Tasks: 11 (limit: 5538)
     Memory: 4.0M
        CPU: 703ms
    CGroup: /system.slice/nagios.service
            └─75725 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
              └─75726 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                └─75727 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                  └─75728 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                    └─75729 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                      └─75730 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                        └─75731 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                          └─75732 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                            └─75733 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                              └─75734 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                                └─75735 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

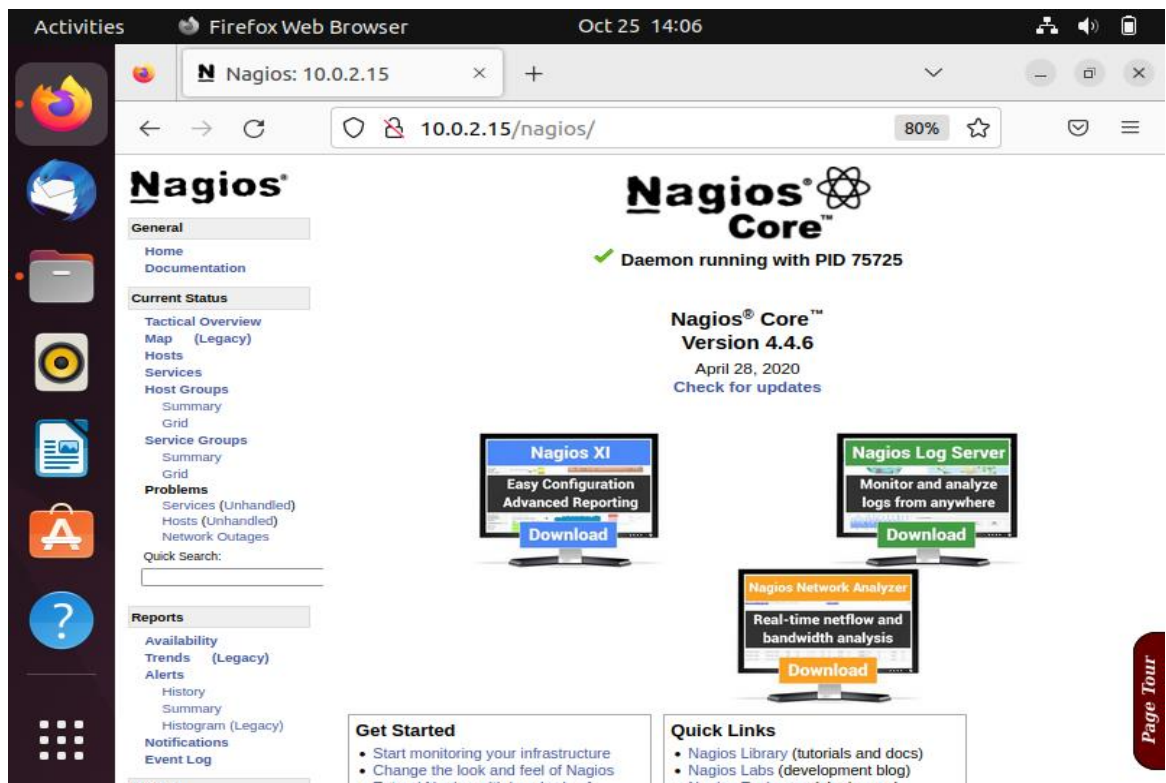
Oct 25 13:46:47 irin-VirtualBox nagios[75725]: wproc: Registry request: name=Core Worker 75726;pid=7>
Oct 25 13:46:47 irin-VirtualBox nagios[75725]: wproc: Registry request: name=Core Worker 75734;pid=7>
Oct 25 13:46:47 irin-VirtualBox nagios[75725]: wproc: Registry request: name=Core Worker 75729;pid=7>
Oct 25 13:46:47 irin-VirtualBox nagios[75725]: wproc: Registry request: name=Core Worker 75732;pid=7>
Oct 25 13:46:47 irin-VirtualBox nagios[75725]: wproc: Registry request: name=Core Worker 75733;pid=7>
Oct 25 13:46:49 irin-VirtualBox nagios[75725]: Successfully launched command file worker with pid 75>
Oct 25 13:50:32 irin-VirtualBox nagios[75725]: SERVICE ALERT: localhost;SSH;CRITICAL;SOFT;1;connect >
Oct 25 13:51:32 irin-VirtualBox nagios[75725]: SERVICE ALERT: localhost;SSH;CRITICAL;SOFT;2;connect >
Oct 25 13:52:32 irin-VirtualBox nagios[75725]: SERVICE ALERT: localhost;SSH;CRITICAL;SOFT;3;connect >
Oct 25 13:53:32 irin-VirtualBox nagios[75725]: SERVICE ALERT: localhost;SSH;CRITICAL;HARD;4;connect >

irin@irin-VirtualBox:~$
```

```
irin@irin-VirtualBox:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::7b7a:a829:3c76:25fc prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:e3:e7:d3 txqueuelen 1000 (Ethernet)
    RX packets 907759 bytes 1262161739 (1.2 GB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 323127 bytes 28091637 (28.0 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 22132 bytes 1903336 (1.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 22132 bytes 1903336 (1.9 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

irin@irin-VirtualBox:~$
```



Successfully Installed and Configured Nagios Plugins

Reference:

https://www.vultr.com/de/docs/install-nagios-on-ubuntu-20-04/?lang=de&utm_source=performancemaxapac&utm_medium=paidmedia&obility_id=16876059738&utm_adgroup=&utm_campaign=&utm_term=&utm_content=&gclid=Cj0KCQjwyOuYBhCGARIsAIdGQRO6LONSLKjtHIQs1smDa4yHgeTmA1meVkpAToKqKrekrNzvsNbFiAaAjUMEALw_wc