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Practical No: 13

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Aim: To understand continuous monitoring by installing and configuring Nagios Core and Nagios Plugins on a Linux machine and exploring the monitoring dashboard services.

- 1) What is Nagios? Comment on why we need Nagios tool?
- 2) Perform an experiment, to Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins on Linux Machine.
- 3) Login to Nagios dashboard and just list any 5 services available of dashboard

[Terminate the resources after performing the practical-
terminate Ec2]

ANS.1:

Nagios is an open-source continuous monitoring system that monitors network services, host resources, and server components.

We need Nagios tool because:

- It provides proactive problem detection before infrastructure issues affect business operations
- Enables automated alerting and notifications when services fail
- Offers comprehensive infrastructure monitoring of networks, servers, applications, and services
- Supports performance tracking and capacity planning through historical data
- Ensures high availability of critical IT infrastructure components
- Provides centralized monitoring dashboard for entire IT environment

ANS.3:

- Current Load - Monitors CPU load average and processor utilization
- Current Users - Tracks number of users currently logged into the system
- HTTP - Monitors web server availability and response time
- PING - Checks host reachability using ICMP ping protocol
- Root Partition - Monitors disk space usage on the root filesystem

ANS.2:

```
ubuntu@ip-172-31-25-252:~$  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'ec2-54-174-103-158.compute-1.amazonaws.com' (ED25519) to the list of known hosts.  
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1011-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/pro  
  
System information as of Fri Oct 10 09:04:07 UTC 2025  
  
System load:  0.29          Processes:            111  
Usage of /:   25.6% of 6.7168  Users logged in:     0  
Memory usage: 23%          IPv4 address for enx0: 172.31.25.252  
Swap usage:   0%  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
ubuntu@ip-172-31-25-252:~$
```

Connected to an Ubuntu EC2 Instance successfully

```
ubuntu@ip-172-31-25-252:~$  
Unpacking vim-tiny (2:9.1.0016-1ubuntu7.9) over (2:9.1.0016-1ubuntu7.8) ...  
Preparing to unpack .../17-vim-runtime_2%3a9.1.0016-1ubuntu7.9_all.deb ...  
Unpacking vim-runtime (2:9.1.0016-1ubuntu7.9) over (2:9.1.0016-1ubuntu7.8) ...  
Preparing to unpack .../18-xxd_2%3a9.1.0016-1ubuntu7.9_amd64.deb ...  
Unpacking xxd (2:9.1.0016-1ubuntu7.9) over (2:9.1.0016-1ubuntu7.8) ...  
Preparing to unpack .../19-bind9-host_1%3a9.18.39-0ubuntu0.24.04.1_amd64.deb ...  
Unpacking bind9-host (1:9.18.39-0ubuntu0.24.04.1) over (1:9.18.39-0ubuntu0.24.04.2) ...  
Preparing to unpack .../20-bind9-dnswriter_1%3a9.18.39-0ubuntu0.24.04.1_amd64.deb ...  
Unpacking bind9-dnswriter (1:9.18.39-0ubuntu0.24.04.1) over (1:9.18.39-0ubuntu0.24.04.2) ...  
Preparing to unpack .../21-bind9-libs_1%3a9.18.39-0ubuntu0.24.04.1_amd64.deb ...  
Unpacking bind9-libs:amd64 (1:9.18.39-0ubuntu0.24.04.1) over (1:9.18.39-0ubuntu0.24.04.2) ...  
Preparing to unpack .../22-tcpdump_4.99.4-3ubuntu4.24.04.1_amd64.deb ...  
Unpacking tcpdump (4.99.4-3ubuntu4.24.04.1) over (4.99.4-3ubuntu4) ...  
Preparing to unpack .../23-libfwupd2_1.9.31-0ubuntu1~24.04.1_amd64.deb ...  
Unpacking libfwupd2:amd64 (1.9.31-0ubuntu1~24.04.1) over (1.9.30-0ubuntu1~24.04.1) ...  
Preparing to unpack .../24-fwupd_1.9.31-0ubuntu1~24.04.1_amd64.deb ...  
Unpacking fwupd (1.9.31-0ubuntu1~24.04.1) over (1.9.30-0ubuntu1~24.04.1) ...  
Preparing to unpack .../25-landscape-common_24.02-0ubuntu5.6_amd64.deb ...  
Unpacking landscape-common (24.02-0ubuntu5.6) over (24.02-0ubuntu5.3) ...  
Preparing to unpack .../26-udisks2_2.10.1-6ubuntu1.3_amd64.deb ...  
Unpacking udisks2 (2.10.1-6ubuntu1.3) over (2.10.1-6ubuntu1.2) ...  
Preparing to unpack .../27-libudisks2_2.10.1-6ubuntu1.3_amd64.deb ...  
Unpacking libudisks2-0:amd64 (2.10.1-6ubuntu1.3) over (2.10.1-6ubuntu1.2) ...  
Selecting previously unselected package linux-modules-6.14.0-1014-aws.  
Preparing to unpack .../28-linux-modules-6.14.0-1014-aws_6.14.0-1014.14~24.04.1_amd64.deb ...  
Unpacking linux-modules-6.14.0-1014-aws (6.14.0-1014.14~24.04.1) ...  
Selecting previously unselected package linux-image-6.14.0-1014-aws.  
Preparing to unpack .../29-linux-image-6.14.0-1014-aws_6.14.0-1014.14~24.04.1_amd64.deb ...  
Unpacking linux-image-6.14.0-1014-aws (6.14.0-1014.14~24.04.1) ...  
Preparing to unpack .../30-linux-aws_6.14.0-1014.14~24.04.1_amd64.deb ...  
Unpacking linux-aws (6.14.0-1014.14~24.04.1) over (6.14.0-1011.11~24.04.1) ...  
Preparing to unpack .../31-linux-image-aws_6.14.0-1014.14~24.04.1_amd64.deb ...  
Unpacking linux-image-aws (6.14.0-1014.14~24.04.1) over (6.14.0-1011.11~24.04.1) ...  
Selecting previously unselected package linux-aws-6.14-headers-6.14.0-1014.  
Preparing to unpack .../32-linux-aws-6.14-headers-6.14.0-1014_6.14.0-1014.14~24.04.1_all.deb ...  
Unpacking linux-aws-6.14-headers-6.14.0-1014 (6.14.0-1014.14~24.04.1) ...  
  
Progress: [ 55%] [#####]
```

Updating and Upgrading Ubuntu System


```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6

ubuntu@ip-172-31-25-252:~$ mkdir ~/nagios-install
ubuntu@ip-172-31-25-252:~$ cd ~/nagios-install
ubuntu@ip-172-31-25-252:~/nagios-install$ wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
--2025-10-10 09:12:37-- 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:fe7:45ce
Connecting to assets.nagios.com (assets.nagios.com)[45.79.49.120]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11333414 (11M) [application/x-gzip]
Saving to: 'nagios-4.4.6.tar.gz'

nagios-4.4.6.tar.gz          100%[=====] 10.81M  16.3MB/s   in 0.7s

2025-10-10 09:12:37 (16.3 MB/s) - 'nagios-4.4.6.tar.gz' saved [11333414/11333414]

ubuntu@ip-172-31-25-252:~/nagios-install$ tar xzf nagios-4.4.6.tar.gz
ubuntu@ip-172-31-25-252:~/nagios-install$ cd nagios-4.4.6
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$ ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether 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
```

Download and Install Nagios Core

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6

config.status: creating t/Makefile
config.status: creating t-tap/Makefile
config.status: creating include/config.h
config.status: creating lib/snprintf.h
config.status: creating lib/iobroker.h

Creating sample config files in sample-config/ ...

*** Configuration summary for nagios 4.4.6 2020-04-28 ***:

General Options:
-----
Nagios executable: nagios
Nagios user/group: nagios,nagios
Command user/group: nagios,nagcmd
Event Broker: yes
Install ${prefix}: /usr/local/nagios
Install ${includedir}: /usr/local/nagios/include/nagios
Lock file: /run/nagios.lock
Check result directory: /usr/local/nagios/var/spool/checkresults
Init directory: /lib/systemd/system
Apache conf.d directory: /etc/apache2/sites-available
Mail program: /bin/mail
Host OS: linux-gnu
IOBroker Method: epoll

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

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

ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$
```

Compile and install Nagios (./configure --with-command-group=nagcmd)

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6

format-truncation=]
359 |          snprintf(url_logo_images_path, sizeof(url_logo_images_path), "%slogos/", url_images_path);
    |
In file included from /usr/include/stdio.h:988,
    |             from ../include/config.h:121,
    |             from cgiutils.c:22:
In function 'sprintf',
    |   inlined from 'read CGI config file' at cgiutils.c:359:4:
/usr/include/x86_64-linux-gnu/bits/stdio2.h:54:18: note: '___builtin___sprintf_chk' output between 7 and 262 bytes into a destination of size 256
54 |     return ___builtin___sprintf_chk (__s, __n, __USE_FORTIFY_LEVEL - 1,
    |             ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
55 |                                     __glibc_objsize (__s), __fmt,
    |                                     ~~~~~
56 |                                     __va_arg_pack ());
    |
cgiutils.c: In function 'html_encode':
cgiutils.c:1257:25: warning: '___builtin___strncpy_chk' output truncated before terminating nul copying 4 bytes from a string of the same length [-Wstringop-truncation]
1257 |         strncpy( outcp, "<BR>", 4);
    |         ^
cgiutils.c:1262:25: warning: '___builtin___strncpy_chk' output truncated before terminating nul copying 4 bytes from a string of the same length [-Wstringop-truncation]
1262 |         strncpy( outcp, "<BR>", 4);
    |         ^
cgiutils.c: In function 'escape_string':
cgiutils.c:1436:33: warning: '___builtin___strncpy_chk' output truncated before terminating nul copying as many bytes from a string as its length [-Wstringop-truncation]
1436 |         strncpy( stp, temp_expansion, strlen( temp_expansion));
    |         ^
cgiutils.c:1434:60: note: length computed here
1434 |         if((( stp - encoded_html_string) + strlen( temp_expansion)) <
    |         ^~~~~~
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI -c -o cgiutils.o cgiutils.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI -c -o macros-cgi.o ../common/macros.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI -c -o objects-cgi.o ../common/objects.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI -c -o xobjects-cgi.o ../xdata/xodtemplate.c
```

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6

web interface

make install-exfoliation
- This installs the Exfoliation theme for the Nagios
  web interface

make install-classicui
- This installs the classic theme for the Nagios
  web interface

*** Support Notes ****

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

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

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

- What version of Nagios you are using
- What version of the plugins you are using
- Relevant snippets from your config files
- Relevant error messages from the Nagios log file

For more information on obtaining support for Nagios, visit:
https://support.nagios.com

*****

Enjoy.

ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$
```

(make all) Command execution Completed


```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$ sudo make install
cd ./base && make install
make[1]: Entering directory '/home/ubuntu/nagios-install/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/ubuntu/nagios-install/nagios-4.4.6/base'
cd ./cgi && make install
make[1]: Entering directory '/home/ubuntu/nagios-install/nagios-4.4.6/cgi'
make install-basic
make[2]: Entering directory '/home/ubuntu/nagios-install/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/ubuntu/nagios-install/nagios-4.4.6/cgi'
make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-4.4.6/cgi'
cd ./html && make install
make[1]: Entering directory '/home/ubuntu/nagios-install/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
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/bootstrap-3.3.7/css
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/d3
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/share/spin
/usr/bin/install -c -m 664 -o nagios -g nagios robots.txt /usr/local/nagios/share
```

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-4.4.6
/usr/bin/install -c -m 664 -o nagios -g nagios bootstrap-3.3.7/css/bootstrap.min.css /usr/local/nagios/share/bootstrap-3.3.7/css
/usr/bin/install -c -m 664 -o nagios -g nagios bootstrap-3.3.7/css/bootstrap-theme.min.css /usr/local/nagios/share/bootstrap-3.3.7/css
/usr/bin/install -c -m 664 -o nagios -g nagios d3/d3.min.js /usr/local/nagios/share/d3
/usr/bin/install -c -m 664 -o nagios -g nagios spin/spin.min.js /usr/local/nagios/share/spin
make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-4.4.6/html'
make install-exfoliation
make[1]: Entering directory '/home/ubuntu/nagios-install/nagios-4.4.6'

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

make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-4.4.6'
make install-basic
make[1]: Entering directory '/home/ubuntu/nagios-install/nagios-4.4.6'
/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 '/home/ubuntu/nagios-install/nagios-4.4.6'
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$
```

(sudo make install) Command Execution Successful

```
ubuntu@ip-172-31-25-252: ~/nagios-install/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 ***

ubuntu@ip-172-31-25-252:~/nagios-install/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/templa
tes.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/command
s.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contact
s.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/time
periods.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localh
ost.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.cf
g

*** 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.

ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$
```

Installing Command Mode and configuration files

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/apache2/sites-available/nagios.conf
if [ 1 -eq 1 ]; then \
    ln -s /etc/apache2/sites-available/nagios.conf /etc/apache2/sites-enabled/nagios.conf; \
fi

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

ubuntu@ip-172-31-25-252:~/nagios-install/nagios-4.4.6$ cd ~/nagios-install
ubuntu@ip-172-31-25-252:~/nagios-install$ wget https://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz
--2025-10-10 09:21:42-- https://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|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2782610 (2.7M) [application/x-gzip]
Saving to: 'nagios-plugins-2.3.3.tar.gz'

nagios-plugins-2.3.3.tar.gz 100%[=====] 2.65M 8.59MB/s in 0.3s

2025-10-10 09:21:42 (8.59 MB/s) - 'nagios-plugins-2.3.3.tar.gz' saved [2782610/2782610]

ubuntu@ip-172-31-25-252:~/nagios-install$ tar xzf nagios-plugins-2.3.3.tar.gz
ubuntu@ip-172-31-25-252:~/nagios-install$ cd nagios-plugins-2.3.3
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ ./configure --with-nagios-user=nagios --with-nagios-group=nagios
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether 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
```

Install Web Configuration and Nagios Plugins


```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3

/usr/bin/install -c -o nagios -g nagios check_dhcp /usr/local/nagios/libexec/check_dhcp
chown root /usr/local/nagios/libexec/check_dhcp
chmod ug=rx,u+s /usr/local/nagios/libexec/check_dhcp
/usr/bin/install -c -o nagios -g nagios check_icmp /usr/local/nagios/libexec/check_icmp
chown root /usr/local/nagios/libexec/check_icmp
chmod ug=rx,u+s /usr/local/nagios/libexec/check_icmp
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3/plugins-root'
make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3/plugins-root'
Making install in po
make[1]: Entering directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3/po'
/usr/bin/mkdir -p /usr/local/nagios/share
installing fr.gmo as /usr/local/nagios/share/locale/fr/LC_MESSAGES/nagios-plugins.mo
installing de.gmo as /usr/local/nagios/share/locale/de/LC_MESSAGES/nagios-plugins.mo
if test "nagios-plugins" = "gettext-tools"; then \
  /usr/bin/mkdir -p /usr/local/nagios/share/gettext/po; \
  for file in Makefile.in.in remove-potdate.sin Makevars.template; do \
    /usr/bin/install -c -o nagios -g nagios -m 644 ./.$file \
      /usr/local/nagios/share/gettext/po/$file; \
  done; \
  for file in Makevars; do \
    rm -f /usr/local/nagios/share/gettext/po/$file; \
  done; \
else \
  :; \
fi
make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3/po'
make[1]: Entering directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3'
make[2]: Entering directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3'
make[1]: Leaving directory '/home/ubuntu/nagios-install/nagios-plugins-2.3.3'
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$
```

make, sudo make install and setting password

```
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.c
fg

Nagios Core 4.4.6
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
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Last Modified: 2020-04-28
License: GPL

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

Running pre-flight check on configuration data...

Checking objects...
  Checked 8 services.
  Checked 1 hosts.
  Checked 1 host groups.
  Checked 0 service groups.
  Checked 1 contacts.
  Checked 1 contact groups.
  Checked 24 commands.
  Checked 5 time periods.
  Checked 0 host escalations.
  Checked 0 service escalations.

Checking for circular paths...
  Checked 1 hosts
  Checked 0 service dependencies
  Checked 0 host dependencies
  Checked 5 timeperiods
Checking global event handlers...
Checking obsessive compulsive processor commands...
Checking misc settings...

Total Warnings: 0
Total Errors: 0
```

Verifying configuration

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo tee /etc/systemd/system/nagios.service << EOF
>
> [Unit]
>
> Description=Nagios
>
> BindTo=network.target
>
>
> [Install]
>
> WantedBy=multi-user.target
>
>
> [Service]
>
> Type=simple
>
> User=nagios
>
> Group=nagios
>
> ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
>
> EOF
```

Creating systemd service file

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3
>
> [Service]
>
> Type=simple
>
> User=nagios
>
> Group=nagios
>
> ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
>
> EOF
[Unit]
Description=Nagios
BindTo=network.target

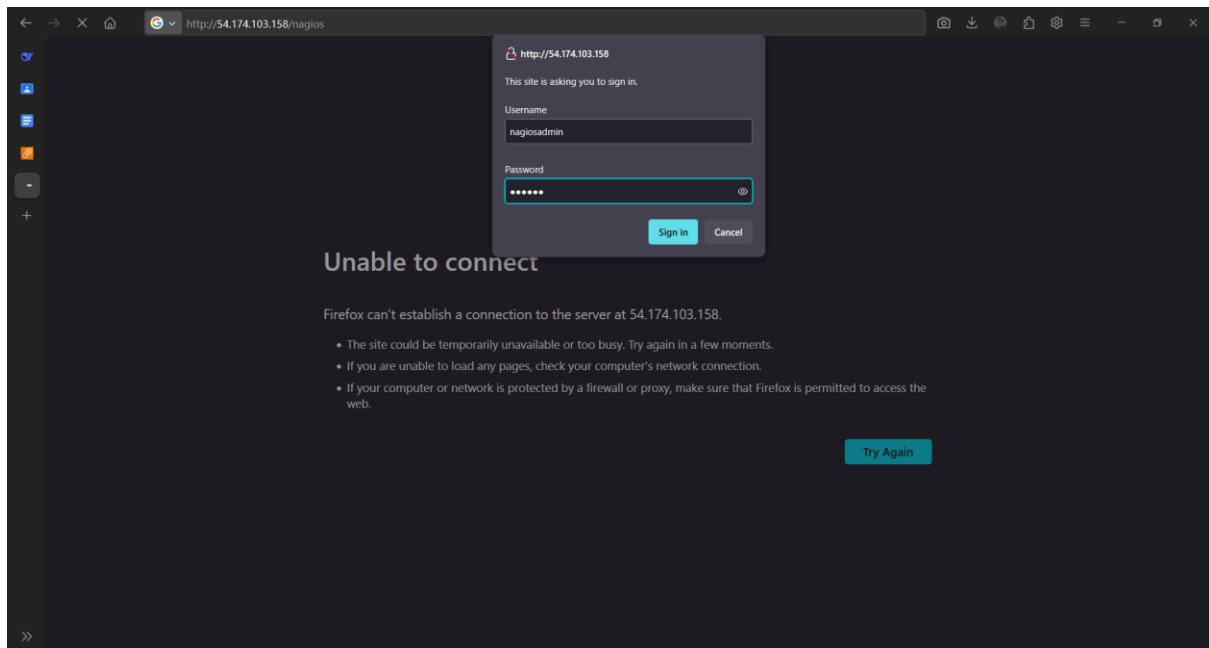
[Install]
WantedBy=multi-user.target

[Service]
Type=simple
User=nagios
Group=nagios
ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$
```

Output of the command

```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3
> [Unit]
>
> Description=Nagios
> BindTo=network.target
>
>
> [Install]
> WantedBy=multi-user.target
>
> [Service]
> Type=simple
>
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo systemctl daemon-reload
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo systemctl enable nagios
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /etc/systemd/system/nagios.service.
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$ sudo systemctl start nagios
ubuntu@ip-172-31-25-252:~/nagios-install/nagios-plugins-2.3.3$
```

Enabling and start Nagios



Logging to Nagios

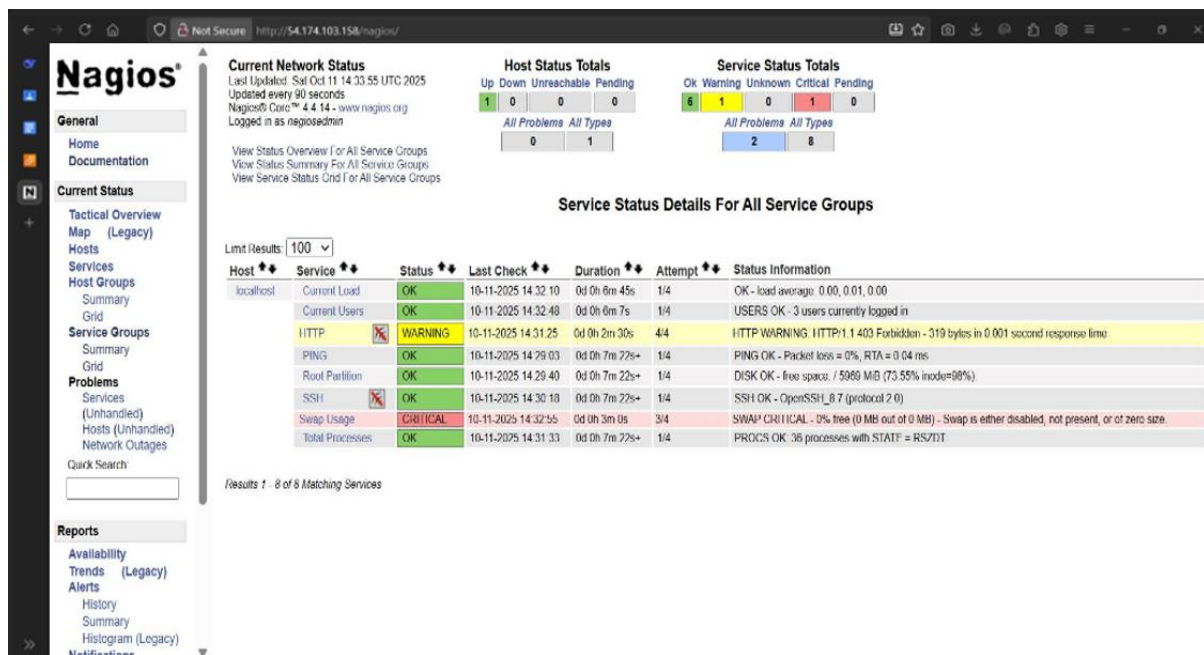
```
ubuntu@ip-172-31-25-252: ~/nagios-install/nagios-plugins-2.3.3$ sudo systemctl status nagios
● nagios.service - Nagios
   Loaded: loaded (/etc/systemd/system/nagios.service; enabled; preset: enabled)
   Active: active (running) since Fri 2025-10-10 09:28:26 UTC; 4min 31s ago
     Main PID: 47496 (nagios)
        Tasks: 6 (limit: 1121)
      Memory: 2.0M (peak: 3.3M)
         CPU: 85ms
    CGroup: /system.slice/nagios.service
            └─47496 /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
              └─47497 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                └─47498 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                  └─47499 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                    └─47500 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                      └─47501 /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg

Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: qh: echo service query handler registered
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: qh: help for the query handler registered
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: wproc: Successfully registered manager as @wproc with query handler
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: wproc: Registry request: name=Core Worker 47500;pid=47500
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: wproc: Registry request: name=Core Worker 47499;pid=47499
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: wproc: Registry request: name=Core Worker 47498;pid=47498
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: wproc: Registry request: name=Core Worker 47497;pid=47497
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: Successfully launched command file worker with pid 47501
Oct 10 09:28:26 ip-172-31-25-252 nagios[47496]: Successfully launched command file worker with pid 47501
Oct 10 09:32:48 ip-172-31-25-252 nagios[47496]: SERVICE ALERT: localhost;Swap Usage;CRITICAL;SOFT;1;SWAP CRITICAL - 0% free (0 MB)
Lines 1-25/25 (END)
```

Checking Nagios Service Status



Final Output Nagios Dashboard



Services Available of Dashboard on Nagios

Complete Nagios Installation Script:

```
#!/bin/bash
```

```
# Nagios Complete Installation Script
```

```
# Save this as install_nagios.sh and run: bash install_nagios.sh
```

```
echo "Starting Nagios Installation..."
```

```
# Step 1: Update system and install dependencies
```

```
echo "Step 1: Installing dependencies..."
```

```
sudo apt update && sudo apt upgrade -y
```

```
sudo apt install -y wget build-essential apache2 php openssl perl make \
php-gd libgd-dev libapache2-mod-php libperl-dev libssl-dev daemon unzip
```

```
# Step 2: Create Nagios user and group
```

```
echo "Step 2: Creating Nagios user and group..."
```

```
sudo useradd nagios
```

```
sudo groupadd nagcmd
```

```
sudo usermod -a -G nagcmd nagios
```

```
sudo usermod -a -G nagcmd www-data
```

```
# Step 3: Create installation directory and download Nagios
```



```
echo "Step 3: Downloading Nagios Core..."
mkdir ~/nagios-install
cd ~/nagios-install
wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.6.tar.gz
tar xzf nagios-4.4.6.tar.gz
cd nagios-4.4.6

# Step 4: Compile and install Nagios Core
echo "Step 4: Compiling and installing Nagios Core..."
./configure --with-command-group=nagcmd
make all
sudo make install
sudo make install-commandmode
sudo make install-config
sudo make install-webconf

# Step 5: Install Nagios Plugins
echo "Step 5: Installing Nagios Plugins..."
cd ~/nagios-install
wget https://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz
tar xzf nagios-plugins-2.3.3.tar.gz
cd nagios-plugins-2.3.3
./configure --with-nagios-user=nagios --with-nagios-group=nagios
make
sudo make install

# Step 6: Configure Apache and set password
echo "Step 6: Configuring Apache..."
sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin

# Step 7: Set proper permissions
echo "Step 7: Setting permissions..."
sudo chown -R nagios:nagios /usr/local/nagios/etc/
sudo chown -R nagios:nagios /usr/local/nagios/var/
sudo mkdir -p /usr/local/nagios/var/spool/checkresults
sudo chown nagios:nagcmd /usr/local/nagios/var/spool/checkresults
sudo chmod 775 /usr/local/nagios/var/spool/checkresults

# Step 8: Create systemd service
echo "Step 8: Creating systemd service..."
sudo tee /etc/systemd/system/nagios.service << EOF
```

```

[Unit]
Description=Nagios
BindTo=network.target

[Install]
WantedBy=multi-user.target

[Service]
Type=simple
User=nagios
Group=nagios
ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
EOF

# Step 9: Verify configuration
echo "Step 9: Verifying configuration..."
sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

# Step 10: Start services
echo "Step 10: Starting services..."
sudo systemctl daemon-reload
sudo systemctl enable nagios
sudo systemctl start nagios
sudo systemctl restart apache2

# Step 11: Get server IP for access
echo "Step 11: Getting server information..."
PUBLIC_IP=$(curl -s http://169.254.169.254/latest/meta-data/public-ipv4)
PRIVATE_IP=$(curl -s http://169.254.169.254/latest/meta-data/local-ipv4)

echo "======"
echo "Nagios Installation Complete!"
echo "======"
echo "Access Nagios at: http://$PUBLIC_IP/nagios"
echo "Username: nagiosadmin"
echo "Password: [the password you set during installation]"
echo "======"
echo "Check Nagios status: sudo systemctl status nagios"
echo "Check Nagios logs: sudo tail -f /usr/local/nagios/var/nagios.log"
echo "======"

```