



PARSHVANATH CHARITABLE TRUST'S

A. P. SHAH INSTITUTE OF TECHNOLOGY

Department of Information Technology

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Academic Year: 2025-26
Semester: V
Class / Branch/ Div: TEIT C
Subject: ADL Lab

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Experiment No: 9

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

Code & Output:

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo apt-get update
[sudo] password for apsit:
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:3 https://deb.nodesource.com/node_20.x nodistro InRelease
Hit:4 https://packages.microsoft.com/repos/code stable InRelease
Hit:5 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Hit:7 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:8 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:9 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
W: http://pkg.jenkins.io/debian-stable/binary/Release.gpg: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION section in apt.conf for details.
N: Skipping acquire of configured file 'main/binary-i386/Packages' as repository 'https://deb.nodesource.com/node_20.x nodistro InRelease' doesn't support i386
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo apt-get install wget build-essential unzip openssl libssl-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
build-essential is already the newest version (12.9ubuntu3).
libssl-dev is already the newest version (3.0.2-0ubuntu1.19).
openssl is already the newest version (3.0.2-0ubuntu1.19).
unzip is already the newest version (6.0-26ubuntu3.2).
wget is already the newest version (1.21.2-2ubuntu1.1).
0 upgraded, 0 newly installed, 0 to remove and 20 not upgraded.
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo apt-get install apache2 php libapache2-mod-php php-gd libgd-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
libapache2-mod-php is already the newest version (2:8.1+92ubuntu1).
php is already the newest version (2:8.1+92ubuntu1).
php-gd is already the newest version (2:8.1+92ubuntu1).
apache2 is already the newest version (2.4.52-1ubuntu4.16).
libgd-dev is already the newest version (2.3.0-2ubuntu2.3).
0 upgraded, 0 newly installed, 0 to remove and 20 not upgraded.
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo adduser nagios
adduser: The user 'nagios' already exists.
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo groupadd nagcmd
```



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```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo adduser nagios1
Adding user 'nagios1' ...
Adding new group 'nagios1' (1005) ...
Adding new user 'nagios1' (1004) with group 'nagios1' ...
Creating home directory '/home/nagios1' ...
Copying files from '/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for nagios1
Enter the new value, or press ENTER for the default
  Full Name []:
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n]
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo groupadd nagcmd
groupadd: group 'nagcmd' already exists
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo usermod -a -G nagcmd nagios
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo usermod -a -G nagcmd nagios1
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ sudo usermod -a -G nagcmd www-data
apsit@apsit-HP-280-Pro-G6-Microtower-PC:~$ cd /opt/
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt$ ls
dockerhub  google  nagios-4.4.3  nagios-4.4.3.tar.gz  nagios-plugins-  nagios-plugins-2.2.1  nagios-plugins-2.2.1.tar.gz  tomcat
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt$
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt$ cd nagios-4.4.3
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo ./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
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
```



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```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo make all
cd ./base && make
make[1]: Entering directory '/opt/nagios-4.4.3/base'
make -C ../lib
make[2]: Entering directory '/opt/nagios-4.4.3/lib'
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c squeue.c -o squeue.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c kvvec.c -o kvvec.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c iocache.c -o iocache.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c iobroker.c -o iobroker.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c bitmap.c -o bitmap.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c dkhash.c -o dkhash.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c runcmd.c -o runcmd.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c nsutils.c -o nsutils.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c fanout.c -o fanout.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c pqueue.c -o pqueue.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c worker.c -o worker.o
worker.c: In function 'enter_worker':
worker.c:758:15: warning: ignoring return value of 'chdir' declared with attribute 'warn_unused_result' [
758 |         (void)chdir("/tmp");
      |
worker.c:759:15: warning: ignoring return value of 'chdir' declared with attribute 'warn_unused_result' [
759 |         (void)chdir("nagios-workers");
      |
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c skiplist.c -o skiplist.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c nsock.c -o nsock.o
gcc -Wall -g -O2 -DHAVE_CONFIG_H -c nspath.c -o nspath.o
ar cr libnagios.a squeue.o kvvec.o iocache.o iobroker.o bitmap.o dkhash.o runcmd.o nsutils.o fanout.o pqu
make[2]: Leaving directory '/opt/nagios-4.4.3/lib'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -o nagios nagios.o broker.o nebmodes.o ../common/shared.o
flapping.o logging.o macros-base.o netutils.o notifications.o sehandlers.o utils.o retention-base.o xret
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo make install
cd ./base && make install
make[1]: Entering directory '/opt/nagios-4.4.3/base'
make install-basic
make[2]: Entering directory '/opt/nagios-4.4.3/base'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagiosstats /usr/local/nagios/bin
make[2]: Leaving directory '/opt/nagios-4.4.3/base'
make strip-post-install
make[2]: Entering directory '/opt/nagios-4.4.3/base'
/usr/bin/strip /usr/local/nagios/bin/nagios
/usr/bin/strip /usr/local/nagios/bin/nagiosstats
make[2]: Leaving directory '/opt/nagios-4.4.3/base'
make[1]: Leaving directory '/opt/nagios-4.4.3/base'
cd ./cgi && make install
make[1]: Entering directory '/opt/nagios-4.4.3/cgi'
make install-basic
make[2]: Entering directory '/opt/nagios-4.4.3/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 -m 775 -o nagios -g nagios $file /usr/local/nagios/sbin; \
done
/usr/bin/install: cannot stat '*.cgi': No such file or directory
make[2]: *** [Makefile:205: install-basic] Error 1
make[2]: Leaving directory '/opt/nagios-4.4.3/cgi'
make[1]: *** [Makefile:197: install] Error 2
make[1]: Leaving directory '/opt/nagios-4.4.3/cgi'
make: *** [Makefile:277: install] Error 2
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ 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
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo 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

*** Init script installed ***

apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$
```



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```
GNU nano 6.2 /etc/apache2/conf-available/nagios.conf
ScriptAlias /nagios/cgi-bin "/usr/local/nagios/sbin"

<Directory "/usr/local/nagios/sbin">
    Options ExecCGI
    AllowOverride None

    Order allow,deny
    Allow from all

    AuthName "Restricted Area"
    AuthType Basic
    AuthUserFile /usr/local/nagios/etc/htpasswd.users
    Require valid-user
</Directory>

Alias /nagios "/usr/local/nagios/share"

<Directory "/usr/local/nagios/share">
    Options None
    AllowOverride None
</Directory>

^C Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^d Location   ^U Undo       ^M Set Mark   ^_ To Bracket
^X Exit      ^R Read File  ^N Replace    ^U Paste      ^J Justify    ^_ Go To Line ^E Redo       ^G Copy       ^O Where Was
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ 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.

apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ 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 ***

apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo make install-exfoliation
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/redhat.png': No such file or directory
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/apple.gif': No such file or directory
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/freebsd40.gif': No such file or directory
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/internet_device.png': No such file or directory
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/stampede.gif': No such file or directory
/usr/bin/install: cannot create regular file '/usr/local/nagios/share/.images/logos/ng-switch40.png': No such file or directory
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo cp -R contrib/eventhandlers/ /usr/local/nagios1/libexec/
cp: target '/libexec/' is not a directory
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo chown -R nagios:nagios /usr/local/nagios/libexec/eventhandlers
chown: missing operand after 'nagios:nagios'
Try 'chown --help' for more information.
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo nano /etc/apache2/conf-available/nagios.conf
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo a2enconf nagios
Conf nagios already enabled
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo a2enmod cgi rewrite
Module cgi already enabled
Module rewrite already enabled
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ sudo service apache2 restart
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-4.4.3$ cd /opt
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt$ ls
dockerhub  google  nagios-4.4.3  nagios-4.4.3.tar.gz  nagios-plugins-  nagios-plugins-2.2.1  nagios-plugins-2.2.1.tar.gz  tomcat
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt$ cd nagios-plugins-2.2.1
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-plugins-2.2.1$ sudo ./configure --with-nagios-user=nagios --with-nagios-group=nagios
--with-openssl
configure: WARNING: unrecognized options: --with-nagios-
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdirm... /usr/bin/mkdir -p
checking for gawk... no
checking for mawk... mawk
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
```




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```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-plugins-2.2.1$ sudo make
make all-recursive
make[1]: Entering directory '/opt/nagios-plugins-2.2.1'
Making all in gl
make[2]: Entering directory '/opt/nagios-plugins-2.2.1/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
/usr/bin/mkdir -p arpa
rm -f arpa/inet.h-t arpa/inet.h && \
```

```
make[2]: Leaving directory '/opt/nagios-plugins-2.2.1'
make[1]: Leaving directory '/opt/nagios-plugins-2.2.1'
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-plugins-2.2.1$ sudo make install
Making install in gl
make[1]: Entering directory '/opt/nagios-plugins-2.2.1/gl'
make install-recursive
make[2]: Entering directory '/opt/nagios-plugins-2.2.1/gl'
make[3]: Entering directory '/opt/nagios-plugins-2.2.1/gl'
make[4]: Entering directory '/opt/nagios-plugins-2.2.1/gl'
if test yes = no; then \
  case 'linux-gnu' in \
    darwin[56]*) \
      need_charset_alias=true ;; \
```

```
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-plugins-2.2.1$ /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
bash: /usr/local/nagios/bin/nagios: Permission denied
apsit@apsit-HP-280-Pro-G6-Microtower-PC:/opt/nagios-plugins-2.2.1$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

Nagios Core 4.4.3
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2019-01-15
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
```



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✓ Daemon running with PID 1013

Nagios® Core™
Version 4.4.6

April 28, 2020
[Check for updates](#)

A new version of Nagios Core is available!
Visit nagios.org to download Nagios 4.5.9.

Get Started

- Start monitoring your infrastructure
- Change the look and feel of Nagios
- Extend Nagios with hundreds of addons
- Get support
- Get training
- Get certified

Quick Links

- [Nagios Library](#) (tutorials and docs)
- [Nagios Labs](#) (development blog)
- [Nagios Exchange](#) (plugins and addons)
- [Nagios Support](#) (tech support)
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Conclusion: In this experiment, we learned continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.