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Subject: Advanced Devops Lab (ADL)
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EXPERIMENT NO. 09

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

Theory:

1 - Pre-requisite

First requirement is to install Apache and PHP first. Use the following commands to complete it. And use commands to install required packages for Nagios.

```
manjusha@apsit:~$ sudo apt-get update
manjusha@apsit:~$ sudo apt-get install wget build-essential unzip openssl
libssl-dev
manjusha@apsit:~$ sudo apt-get install apache2 php libapache2-mod-php php-gd
libgd-dev
```

2 – Create Nagios User

Create a new user account for Nagios in your system and assign a password.

```
manjusha@apsit:~$ sudo adduser nagios
```

Now create a group for Nagios setup “nagcmd” and add nagios user to this group. Also, add nagios user in the Apache group.

```
manjusha@apsit:~$sudo groupadd nagcmd
manjusha@apsit:~$sudo usermod -a -G nagcmd nagios
manjusha@apsit:~$sudo usermod -a -G nagcmd www-data
```

Step 3 – Install Nagios Core Service

After installing required dependencies and adding user accounts and Nagios core installation. Download latest Nagios core service from the official site.

```
manjusha@apsit:~$cd /opt/
```

```
manjusha@apsit:~$sudo wget
https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.3.tar.gz
manjusha@apsit:~$sudo tar xzf nagios-4.4.3.tar.gz
```

After extracting naviate to nagios source directory and install using make command.

```
manjusha@apsit:~$cd nagios-4.4.3
```

```
manjusha@apsit:~$sudo ./configure --with-command-group=nagcmd
manjusha@apsit:~$sudo make all
manjusha@apsit:~$sudo make install
```

```
manjusha@apsit:~$sudo make install-init
manjusha@apsit:~$sudo make install-daemoninit
manjusha@apsit:~$sudo make install-config
manjusha@apsit:~$sudo make install-commandmode
manjusha@apsit:~$sudo make install-exfoliation
```

Now copy event handlers scripts under libexec directory. These binaries provides multiple events triggers for your Nagios web interface.

```
manjusha@apsit:~$sudo cp -R contrib/eventhandlers/ /usr/local/nagios/libexec/
```

```
manjusha@apsit:~$sudo chown -R nagios:nagios
/usr/local/nagios/libexec/eventhandlers
```

Step 4 – Setup Apache with Authentication

Now create an Apache configuration file for your Nagios server as below:

```
manjusha@apsit:~$sudo nano /etc/apache2/conf-available/nagios.conf
```

Add below lines to nagios.conf file.

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
   Order allow,deny
   Allow from all
   AuthName "Restricted Area"
   AuthType Basic
   AuthUserFile /usr/local/nagios/etc/htpasswd.users
   Require valid-user
</Directory>
```

To setup apache authentication for user **nagiosadmin**

```
manjusha@apsit:~$sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users
nagiosadmin
```

Enable Apache configuration and restart Apache service to make the new settings take effect.cd

```
manjusha@apsit:~$sudo a2enconf nagios
manjusha@apsit:~$sudo a2enmod cgi rewrite
manjusha@apsit:~$sudo service apache2 restart
```

Step 5 – Installing Nagios Plugins

After installing and configuring Nagios core service, Download latest nagios-plugins source and install using follocdwing commands.

```
manjusha@apsit:~$cd /opt
manjusha@apsit:~$sudo wget http://www.nagios-plugins.org/download/nagios-
plugins-2.2.1.tar.gz
manjusha@apsit:~$sudo tar xzf nagios-plugins-2.2.1.tar.gznagios
manjusha@apsit:~$cd nagios-plugins-2.2.1
```

Now compile and install Nagios plugins

```
manjusha@apsit:~$sudo   ./configure   --with-nagios-user=nagios   --with-nagios-
group=nagios --with-openssl
manjusha@apsit:~$sudo make
manjusha@apsit:~$sudo make install
```

Step 6 – Verify Settings

Use the Nagios commands to verify the Nagios installation and configuration file. After successfully verify start the Nagios core service.

```
manjusha@apsit:~$/usr/local/nagios/bin/nagios                                -v
/usr/local/nagios/etc/nagios.cfg
manjusha@apsit:~$ sudo service nagios start
```

Also configure Nagios to auto start on system boot.

Step 7 – Access Nagios Web Interface

Access your nagios setup by access nagios server using hostname or ip address followed by /nagios.

http://127.0.0.1/nagios/

Prompting for Apache Authentication Password –

username: nagiosadmin
Password : 123456 (which you enter while configuration)

Nagios After login screen –

We have successfully installed and configured Nagios Monitoring Server core service in our system now we need to install NRPE on all remote Linux systems to monitor with Nagios.

Screenshots:

```
root@vora:~# sudo apt-get install wget build-essential unzip openssl libssl-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
build-essential is already the newest version (12.8ubuntu1.1).
libssl-dev is already the newest version (1.1.1f-1ubuntu2.23).
openssl is already the newest version (1.1.1f-1ubuntu2.23).
unzip is already the newest version (6.0-25ubuntu1.2).
wget is already the newest version (1.20.3-1ubuntu2.1).
The following packages were automatically installed and are no longer required:
  gyp libjs-inherits libjs-ts-typedarray libjs-psl libjs-typedarray-to-buffer libuv1-dev node-abbrev node-ajv node-ansi node-ansi-align node-ansi-regex node-ansi-styles
  node-ansistyles node-aproba node-archy node-are-we-there-yet node-asap node-asn1 node-assert-plus node-asynckit node-aws-sign2 node-aws4 node-balanced-match
  node-bcrypt-pbkdf node-bl node-bluebird node-boxen node-brace-expansion node-builtin-modules node-builtins node-cacache node-call-limit node-camelcase node-caseless
  node-chalk node-chownr node-ci-info node-cli-boxes node-cliui node-clone node-co node-color-convert node-color-name node-colors node-columnify node-combined-stream
  node-concat-map node-concat-stream node-config-chain node-configstore node-console-control-strings node-copy-concurrently node-core-util-is node-cross-spawn
  node-crypto-random-string node-cyclist node-dashdash node-debug node-decamelize node-decompress-response node-deep-extend node-defaults node-define-properties
  node-delayed-stream node-delegates node-detect-indent node-detect-newline node-dot-prop node-duplexer3 node-duplexify node-ecc-jsbn node-editor node-encoding
  node-end-of-stream node-err-code node-errno node-es6-promise node-escape-string-regexp node-execa node-extend node-extsprintf node-fast-deep-equal node-find-up
  node-flush-write-stream node-forever-agent node-form-data node-from2 node-fs-vacuum node-fs-write-stream-atomic node-fs.realpath node-function-bind node-gauge node-genfun
  node-get-caller-file node-get-stream node-getpass node-glob node-got node-graceful-fs node-har-schema node-har-validator node-has-flag node-has-symbol-support-x
  node-has-to-string-tag-x node-has-unicode node-hosted-git-info node-http-signature node-iconv-lite node-ieee754 node-import-lazy node-imurmurhash node-inflight node-inherits
  node-ini node-invert-kv node-ip node-ip-regex node-is-npm node-is-obj node-is-object node-is-path-inside node-is-plain-obj node-is-retry-allowed node-is-stream
  node-is-typedarray node-isarray node-isexe node-isstream node-isurl node-jsbn node-json-parse-better-errors node-json-schema node-json-schema-traverse
  node-json-stable-stringify node-json-stringify-safe node-jsonify node-jsonparse node-jsonstream node-jsprim node-latest-version node-lazy-property node-lcid node-libnpx
  node-locate-path node-lockfile node-lodash node-lodash-packages node-lowercase-keys node-lru-cache node-make-dir node-mem node-mime node-mime-types node-mimic-fn
  node-mimic-response node-minimatch node-minimist node-mississippi node-mkdirp node-move-concurrently node-ms node-mute-stream node-nopt node-normalize-package-data
  node-npm-bundled node-npm-package-arg node-npm-run-path node-npmlog node-number-is-nan node-oauth-sign node-object-assign node-once node-opener node-os-locale
  node-os-tmpdir node-osenv node-p-cancelable node-p-finally node-p-is-promise node-p-limit node-p-locate node-p-timeout node-package-json node-parallel-transform
  node-path-exists node-path-is-absolute node-path-is-inside node-performance-now node-pify node-prepend-http node-process-nextick-args node-promise-inflight
  node-promise-retry node-promzard node-proto-list node-prr node-pseudomap node-psl node-pump node-pumpify node-punycode node-qs node-qw node-rc node-read
  node-read-package-json node-readable-stream node-registry-auth-token node-registry-url node-request node-require-directory node-require-main-filename node-resolve
  node-resolve-from node-retry node-rimraf node-run-queue node-safe-buffer node-semver node-semver-diff node-set-blocking node-sha node-shebang-command node-shebang-regex
  node-signal-exit node-slash node-slide node-sorted-object node-spdx-correct node-spdx-exceptions node-spdx-expression-parse node-spdx-license-ids node-sshpk node-ssri
  node-stream-each node-stream-iterate node-stream-shift node-strict-uri-encode node-string-decoder node-string-width node-strip-ansi node-strip-eof node-strip-json-comments
  node-supports-color node-tar node-term-size node-text-table node-through node-through2 node-timed-out node-tough-cookie node-tunnel-agent node-tweetnacl node-typedarray
  node-typedarray-to-buffer node-uid-number node-unique-filename node-unique-string node-unpipe node-uri-js node-url-parse-lax node-url-to-options node-util-deprecate
  node-uuid node-validate-npm-package-license node-validate-npm-package-name node-verror node-wcwidth.js node-which node-which-module node-wide-align node-widest-line
  node-wrap-ansi node-wrappy node-write-file-atomic node-xdg-basedir node-xtend node-y18n node-yallist node-yargs node-yargs-parser python-pkg-resources
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 68 not upgraded.
root@vora:~# sudo apt-get install apache2 php libapache2-mod-php php-gd libgd-dev
Reading package lists... Done
Building dependency tree
```

```
root@vora:~# sudo adduser nagios
adduser: The user `nagios' already exists.
root@vora:~#
```

```
root@vora:~# sudo groupadd nagcmd
groupadd: group 'nagcmd' already exists
root@vora:~# sudo usermod -a -G nagcmd nagios
root@vora:~# sudo usermod -a -G nagcmd www-data
root@vora:~#
```

```
root@vora:/opt# sudo wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.3.tar.gz
--2024-10-03 11:25:43--  https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.3.tar.gz
Resolving assets.nagios.com (assets.nagios.com)... 45.79.49.128, 2600:3c00::f03c:92ff:fef7:45ce
Connecting to assets.nagios.com (assets.nagios.com)|45.79.49.128|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11302228 (11M) [application/x-gzip]
Saving to: 'nagios-4.4.3.tar.gz.1'

nagios-4.4.3.tar.gz.1                   100%[=============================================================================>]  10.78M  1.27MB/s    in 9.7s

2024-10-03 11:25:54 (1.11 MB/s) - 'nagios-4.4.3.tar.gz.1' saved [11302228/11302228]

root@vora:/opt#
```

```
root@vora:/opt# sudo tar xzf nagios-4.4.3.tar.gz
root@vora:/opt# cd nagios-4.4.3
root@vora:/opt/nagios-4.4.3#
```

```
root@vora:/opt# sudo tar xzf nagios-4.4.3.tar.gz
root@vora:/opt# cd nagios-4.4.3
root@vora:/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... /bin/grep
checking for egrep... /bin/grep -E
checking for ANSI C header files... yes
checking whether time.h and sys/time.h may both be included... yes
checking for sys/wait.h that is POSIX.1 compatible... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
checking for stdint.h... yes
checking for unistd.h... yes
checking arpa/inet.h usability... yes
checking arpa/inet.h presence... yes
checking for arpa/inet.h... yes
checking ctype.h usability... yes
checking ctype.h presence... yes
checking for ctype.h... yes
checking dirent.h usability... yes
checking dirent.h presence... yes
checking for dirent.h... yes
checking errno.h usability... yes
```

```
root@vora:/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:758:8: warning: ignoring return value of 'chdir', declared with attribute warn_unused_result [-Wunused-result]
  758 |  (void)chdir("/tmp");
      |        ^~~~~~~~~~~~
worker.c:759:8: warning: ignoring return value of 'chdir', declared with attribute warn_unused_result [-Wunused-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 pqueue.o worker.o skiplist.o nsock.o nspath.o
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 nebmods.o ../common/shared.o  query-handler.o workers.o checks.o config.o commands.o events.o flappin
g.o logging.o macros-base.o netutils.o notifications.o sehandlers.o utils.o retention-base.o xretention-base.o comments-base.o xcomments-base.o objects-base.o xobjects-base.o s
tatusdata-base.o xstatusdata-base.o perfdata-base.o xperfdata-base.o downtime-base.o  -Wl,-export-dynamic   -lm  -ldl  ../lib/libnagios.a
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -o nagiostats nagiostats.c  -lm  ../lib/libnagios.a
make[1]: Leaving directory '/opt/nagios-4.4.3/base'
cd ./cgi && make
make[1]: Entering directory '/opt/nagios-4.4.3/cgi'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI -DJSON_NAGIOS_4X  -o archivejson.cgi archivejson.c ../common/shared.o getcgi.o cgiutils.o cgiauth.o macros-cgi.o  objects-cgi.o xo
bjects-cgi.o statusdata-cgi.o xstatusdata-cgi.o comments-cgi.o downtime-cgi.o ../lib/libnagios.a archiveutils.o jsonutils.o
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI  -o avail.cgi avail.c ../common/shared.o getcgi.o cgiutils.o cgiauth.o macros-cgi.o  objects-cgi.o xobjects-cgi.o statusdata-cgi.o
 xstatusdata-cgi.o comments-cgi.o downtime-cgi.o ../lib/libnagios.a
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI  -o cmd.cgi cmd.c extcmd_list.o ../common/shared.o getcgi.o cgiutils.o cgiauth.o macros-cgi.o  objects-cgi.o xobjects-cgi.o status
data-cgi.o xstatusdata-cgi.o comments-cgi.o downtime-cgi.o ../lib/libnagios.a
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCGI  -o config.cgi config.c  ../common/shared.o getcgi.o cgiutils.o cgiauth.o macros-cgi.o  objects-cgi.o xobjects-cgi.o statusdata-cg
i.o xstatusdata-cgi.o comments-cgi.o downtime-cgi.o ../lib/libnagios.a
```

```
root@vora:/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 nagiostats /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/nagiostats
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 $file /usr/local/nagios/sbin; \
done
make[2]: Leaving directory '/opt/nagios-4.4.3/cgi'
make strip-post-install
make[2]: Entering directory '/opt/nagios-4.4.3/cgi'
for file in *.cgi; do \
        /usr/bin/strip /usr/local/nagios/sbin/$file; \
done
make[2]: Leaving directory '/opt/nagios-4.4.3/cgi'
make[1]: Leaving directory '/opt/nagios-4.4.3/cgi'
cd ./html && make install
make[1]: Entering directory '/opt/nagios-4.4.3/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
```

```
root@vora:/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
root@vora:/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 ***

root@vora:/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.

root@vora:/opt/nagios-4.4.3# sudo make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

root@vora:/opt/nagios-4.4.3# sudo make install-exfoliation

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

root@vora:/opt/nagios-4.4.3#
```

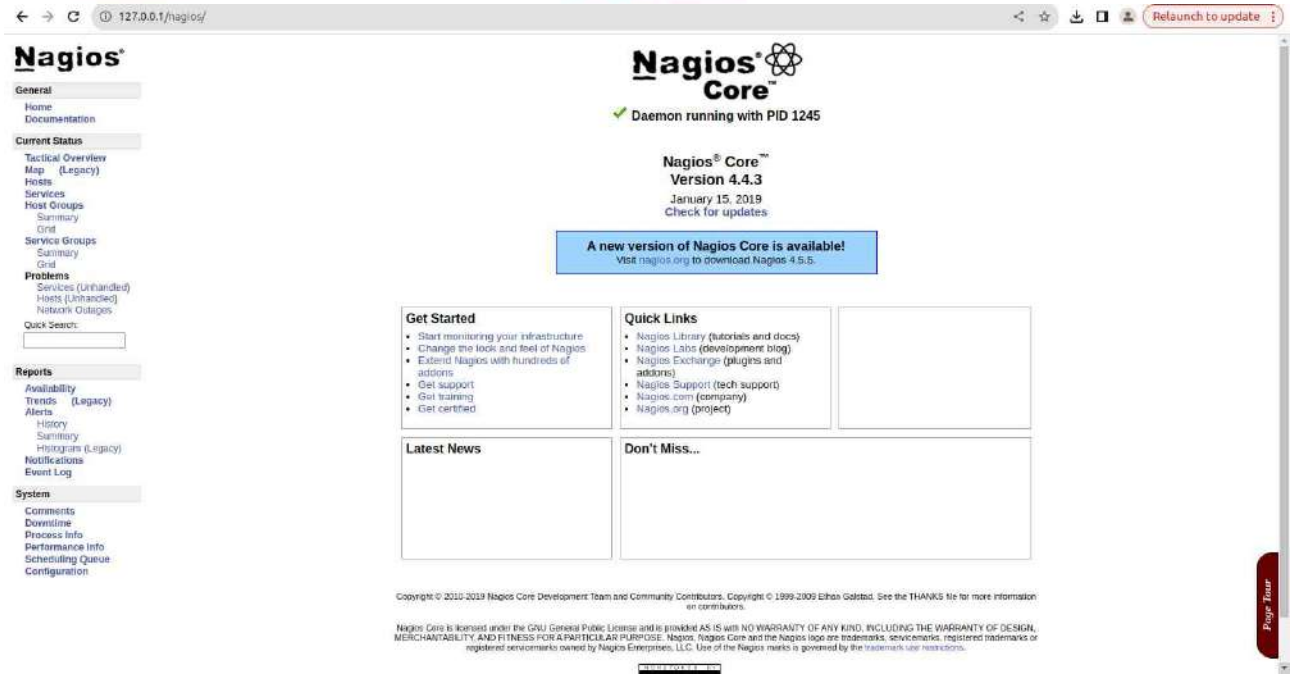
```
NOTE: Use 'make install-classicui' to revert to classic Nagios theme

root@vora:/opt/nagios-4.4.3# sudo cp -R contrib/eventhandlers/ /usr/local/nagios/libexec/
root@vora:/opt/nagios-4.4.3# sudo chown -R nagios:nagios /usr/local/nagios/libexec/eventhandlers
root@vora:/opt/nagios-4.4.3# sudo nano /etc/apache2/conf-available/nagios.conf
root@vora:/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
root@vora:/opt/nagios-4.4.3#
```

```
root@vora:/opt/nagios-4.4.3# sudo a2enconf nagios
Conf nagios already enabled
root@vora:/opt/nagios-4.4.3# sudo a2enmod cgi rewrite
Module cgi already enabled
Module rewrite already enabled
root@vora:/opt/nagios-4.4.3# sudo service apache2 restart
root@vora:/opt/nagios-4.4.3#
```

```
root@vora:/opt/nagios-4.4.3# cd /opt
root@vora:/opt# ls
BurpSuiteCommunity  google  nagios-4.4.3  nagios-4.4.3.tar.gz  nagios-4.4.3.tar.gz.1  nagios-plugins-2.2.1  nagios-plugins-2.2.1.tar.gz  zaproxy
root@vora:/opt# cd nagios-plugins-2.2.1
root@vora:/opt/nagios-plugins-2.2.1#
```

```
root@vora:/opt/nagios-4.4.3# cd /opt
root@vora:/opt# ls
BurpSuiteCommunity  google  nagios-4.4.3  nagios-4.4.3.tar.gz  nagios-4.4.3.tar.gz.1  nagios-plugins-2.2.1  nagios-plugins-2.2.1.tar.gz  zaproxy
root@vora:/opt# cd nagios-plugins-2.2.1
root@vora:/opt/nagios-plugins-2.2.1#
```

```
config.status: creating po/Makefile
root@vora:/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
/bin/mkdir -p arpa
rm -f arpa/inet.h-t arpa/inet.h && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
  sed -e 's|@''GUARD_PREFIX''@|GL|g' \
      -e 's|@''INCLUDE_NEXT''@|include_next|g' \
      -e 's|@''PRAGMA_SYSTEM_HEADER''@|#pragma GCC system_header|g' \
      -e 's|@''PRAGMA_COLUMNS''@||g' \
      -e 's|@''HAVE_FEATURES_H''@|1|g' \
      -e 's|@''NEXT_ARPA_INET_H''@|<arpa/inet.h>|g' \
      -e 's|@''HAVE_ARPA_INET_H''@|1|g' \
      -e 's/@''GNULIB_INET_NTOP''@/1/g' \
      -e 's/@''GNULIB_INET_PTON''@/0/g' \
      -e 's|@''HAVE_DECL_INET_NTOP''@|1|g' \
      -e 's|@''HAVE_DECL_INET_PTON''@|1|g' \
      -e 's|@''REPLACE_INET_NTOP''@|0|g' \
      -e 's|@''REPLACE_INET_PTON''@|0|g' \
      -e '/definitions of _GL_FUNCDECL_RPL/r c++defs.h' \
      -e '/definition of _GL_ARG_NONNULL/r arg-nonnull.h' \
      -e '/definition of _GL_WARN_ON_USE/r warn-on-use.h' \
      < ./arpa_inet.in.h; \
} > arpa/inet.h-t && \
mv arpa/inet.h-t arpa/inet.h
rm -f configmake.h-t && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
```



Conclusion: In this experiment we learnt Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.