Semester: V
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Class / Branch: TE IT
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

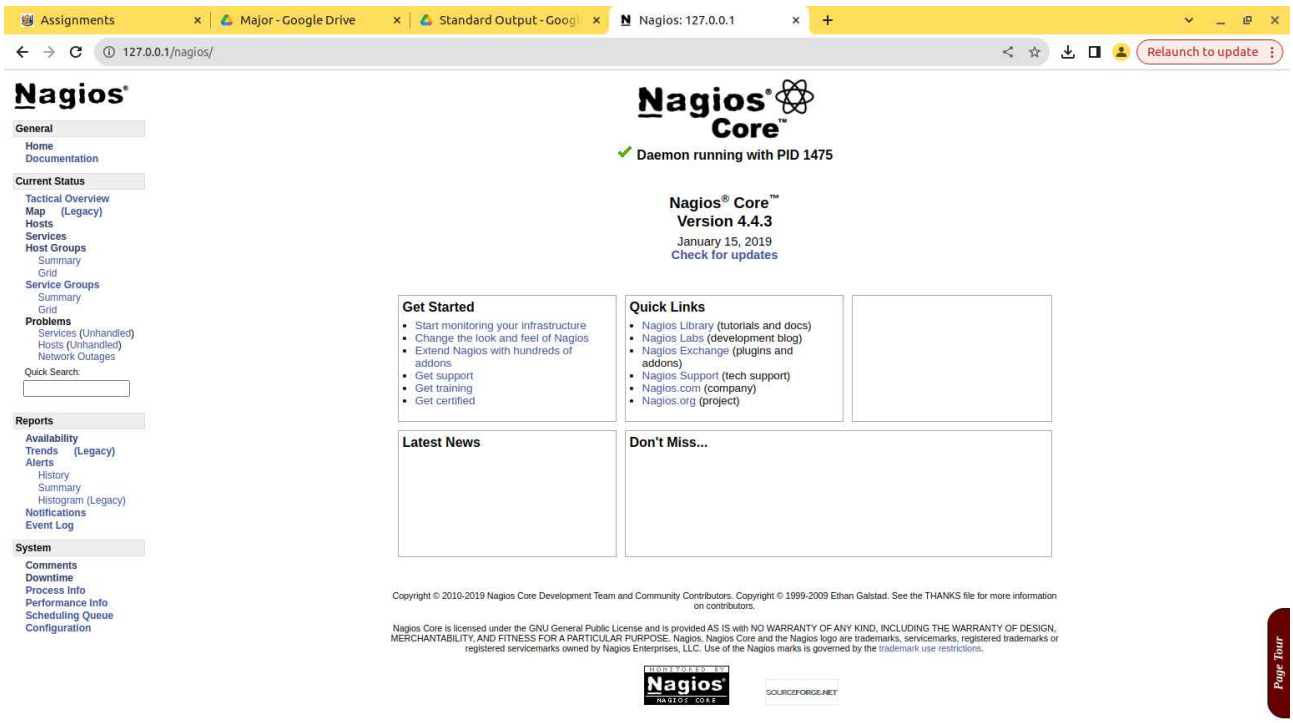
Access your nagios setup by access nagios server using hostname or ip address followed by /nagios.

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.

Conclusion: In brief, setting up Nagios Core involves installing required packages, creating a user, compiling Nagios, configuring Apache, and installing plugins. This enables monitoring through the web interface and prepares for NRPE integration for remote system monitoring.