**HOW TO INSTALL NAGIOS, CACTI AND SPEEDTEST MINI ON UBUNTU SERVER 16.04**

On the Ubuntu Server install LAMP during the server installation.

**CREATE SSL CERTIFICATES**

root@snet[~]# cd /etc/ssl/private

root@snet[~]# openssl genrsa -aes128 -out server.key 2048

**OUTPUT**

***Generating RSA private key, 2048 bit long modulus***

***.......+++......................................................................+++e is 65537 (0x10001)***

***Enter pass phrase for server.key: # set passphrase***

***Verifying - Enter pass phrase for server.key: # confirm***

root@snet[~]# openssl rsa -in server.key -out server.key

**OUTPUT**

***Enter pass phrase for server.key: # passphrase writing RSA key***

root@snet[~]# openssl req -new -days 3650 -key server.key -out server.csr

**OUTPUT**

***Country Name (2 letter code) [AU]: GH # country***

***State or Province Name (full name) [Some-State]: ACCRA # state***

***Locality Name (eg, city) []: ACCRA # city***

***Organization Name (eg, company) [Internet Widgits Pty Ltd]: STEP NETWORK # company***

***Organizational Unit Name (eg, section) []: CLOUD SOLUTIONS # department***

***Common Name (e.g. server FQDN or YOUR name) []: sdrive.snetgh.net # server's FQDN***

***Email Address []: info@snetgh.net # email address***

***Please enter the following 'extra' attributes to be sent with your certificate request***

***A challenge password []:***

***An optional company name []***

root@snet[~]# openssl x509 -in server.csr -out server.crt -req -signkey server.key -days 3650

root@snet[~]# chmod 400 server.\*

root@snet[~]# nano /etc/apache2/sites-available/default-ssl.conf

***# Line 3: change admin email***

ServerAdmin [info@snetgh.net](mailto:info@snetgh.net)

***# Line 32, 33: change to the one created above***

SSLCertificateFile /etc/ssl/private/server.crt

SSLCertificateKeyFile /etc/ssl/private/server.key

root@snet[~]# a2ensite default-ssl

root@snet[~]# a2enmod ssl

root@snet[~]# systemctl restart apache2

**OPTIONAL CONFIGURATION REDIRECT HTTP TO HTTPS**

root@snet[~]# nano /etc/apache2/sites-available/000-default.conf

***Add a redirect directive under <VirtualHost \*:80>***

**Redirect "/" "https://172.168.1.80/"**

root@snet[~]# sudo a2enmod ssl

root@snet[~]# sudo a2enmod headers

root@snet[~]# a2ensite default-ssl

root@snet[~]# sudo service apache2 restart

**INSTALLATION COMMANDS**

root@snet[~]# sudo nano /etc/apt/sources.list

***Add the following line at the bottom of the file:***

root@snet[~]# deb http://download.webmin.com/download/repository sarge contrib

root@snet[~]# wget <http://www.webmin.com/jcameron-key.asc>

root@snet[~]# sudo apt-key add jcameron-key.asc

root@snet[~]# sudo apt-get update

root@snet[~]# sudo apt-get install webmin

**INSTALLATION OF UBUNTU SERVER PACKAGES**

root@snet[~]# apt-get install build-essential apache2 php7.0 openssl perl make php7.0-gd libgd2-xpm-dev libapache2-mod-php7.0 libperl-dev libssl-dev daemon wget apache2-utils unzip

root@snet[~]# sudo apt-get install lamp-server^

root@snet[~]# sudo apt-get install php7.0-mcrypt

root@snet[~]# sudo add-apt-repository ppa:ondrej/php

root@snet[~]# sudo apt-get update

root@snet[~]# sudo apt-get install php7.0-gd

root@snet[~]# sudo apt-get install php7.0-intl

root@snet[~]# sudo apt-get update

root@snet[~]# sudo apt-get install php-xml

root@snet[~]# sudo add-apt-repository -y ppa:ondrej/php && sudo apt update && apt install -y php7.0-mbstring php7.0-zip php7.0-xml

root@snet[~]# sudo apt-get install php7.0-zip

root@snet[~]# sudo apt-get install php7.0-curl

root@snet[~]# sudo apt-get install unzip

root@snet[~]# apt-get install php-apcu php-apcu-bc

**INSTALLATION OF PHPMYADMIN**

phpMyAdmin is one of the most popular and widely used web-based database management tools. It a free and open source PHP application that allows the users to manage single or multiple SQL database servers locally or on a remote server using a web browser (GUI).

**INSTALLATION COMMANDS**

root@snet[~]# [apt-get](https://www.server-world.info/en/command/html/apt-get.html) -y install phpmyadmin php-mbstring php-gettext

root@snet[~]# sudo systemctl restart apache2

**SECURE YOUR PHPMYADMIN**

root@snet[~]# sudo nano /etc/apache2/conf-available/phpmyadmin.conf

To Configure Apache‘s .htaccess files

We need to add an AllowOverride All **Then find the line where there is**

<Directory /usr/share/phpmyadmin>

Options FollowSymLinks

DirectoryIndex index.php

AllowOverride All

root@snet[~]# sudo systemctl restart apache2

root@snet[~]# sudo nano /usr/share/phpmyadmin/.htaccess

*Add the following information*

**AuthType Basic**

**AuthName "Restricted Files"**

**AuthUserFile /etc/phpmyadmin/.htpasswd**

**Require valid-user**

root@snet[~]# sudo apt-get install apache2-utils

**ADDING A USER TO THE PHPMYADMIN AUTHENTICATION**

root@snet[~]# sudo htpasswd -c /etc/phpmyadmin/.htpasswd snet

**Adding Another User**

root@snet[~]# sudo htpasswd /etc/phpmyadmin/.htpasswd stepehen

**HOW TO CONFIGURE APACHE .HTACCESS FOR MAXIMUM FILE UPLOAD**

root@snet[~]# sudo nano /etc/apache2/apache2.conf

To Configure Apache‘s .htaccess files

Change **'AllowOverride None**' to '**AllowOveride All**'

**Then find the line where there is**

**<Directory /var/www/>**

**Options Indexes FollowSymLinks**

**AllowOverride None**

**Require all granted**

**</Directory>**

**Replace "None" with "All"**

**AllowOverride All**

**Next, press CTRL+O, press enter, and then press CTRL+X to exit**.

Note: Reboot the Ubuntu server

**CREATING OF DATABASE FOR OWNCLOUD SERVER**

root@snet[~]# mysql -u root -p

root@snet[~]# CREATE DATABASE owncloud;

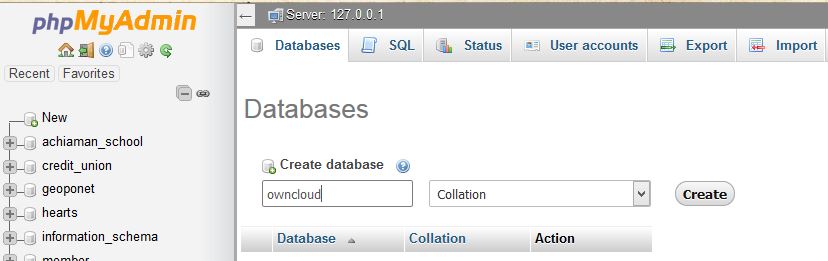
root@snet[~]# GRANT ALL ON owncloud.\* to 'owncloud'@'localhost' IDENTIFIED BY 'stephen';

root@snet[~]# FLUSH PRIVILEGES;

root@snet[~]# exit

**OR**

Navigate to phpmyadmin by [http://server’s](http://server's) name or IP/phpmyadmin and create database name called “**owncloud**” and click on create that’s all. Very easier than using the console or above.



**Using PuTTY to remote the server and issue the following commands to install nagios and cacti:**

**INSTALLATION OF NAGIOS**

root@snet[~]# apt-get update

root@snet[~]# apt-get install build-essential apache2 php7.0 openssl perl make php7.0-gd libgd2-xpm-dev libapache2-mod-php7.0 libperl-dev libssl-dev daemon wget apache2-utils unzip

root@snet[~]# useradd nagios

root@snet[~]# groupadd nagcmd

root@snet[~]# usermod -a -G nagcmd nagios

root@snet[~]# usermod -a -G nagcmd www-data

root@snet[~]# cd /tmp

root@snet[~]# wget <https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.3.4.tar.gz>

root@snet[~]# tar -zxvf /tmp/nagios-4.3.4.tar.gz

root@snet[~]# cd /tmp/nagios-4.3.4/

root@snet[~]# ./configure --with-nagios-group=nagios --with-command-group=nagcmd --with-httpd\_conf=/etc/apache2/sites-enabled/

root@snet[~]# make all

root@snet[~]# make install

root@snet[~]# make install-init

root@snet[~]# make install-config

root@snet[~]# make install-commandmode

root@snet[~]# make install-webconf

root@snet[~]# nano /usr/local/nagios/etc/objects/contacts.cfg

*Change the email address field to receive the notification.*

root@snet[~]# htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin

root@snet[~]# a2enmod cgi

root@snet[~]# service apache2 restart

root@snet[~]# cd /tmp

root@snet[~]# wget <http://www.nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz>

root@snet[~]# tar -zxvf /tmp/nagios-plugins-2.2.1.tar.gz

root@snet[~]# cd /tmp/nagios-plugins-2.2.1/

root@snet[~]# ./configure --with-nagios-user=nagios --with-nagios-group=nagios

root@snet[~]# make

root@snet[~]# make install

root@snet[~]# nano /etc/systemd/system/nagios.service

**Add below content into above file.**

**[Unit]**

**Description=Nagios**

**BindTo=network.target**

**[Install]**

**WantedBy=multi-user.target**

**[Service]**

**User=nagios**

**Group=nagios**

**Type=simple**

**ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg**

root@snet[~]# systemctl enable /etc/systemd/system/nagios.service

root@snet[~]# systemctl start nagios

**INSTALLATION OF CACTI**

root@snet[~]# sudo apt-get install cacti cacti-spine

**ADDING NEW HOSTS TO NAGIOS SERVER**

root@snet[~]# sudo nano /usr/local/nagios/etc/objects/new\_host\_name.cfg

And adding the following lines to it

# Define a host for the local machine

define host{

use linux-server ; Name of host template to use

; This host definition will inherit all variables that are defined

; in (or inherited by) the linux-server host template definition.

host\_name google.com

alias google.com

address www.google.com

}

###############################################################################

###############################################################################

#

# SERVICE DEFINITIONS

#

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# Define a service to "ping" the local machine

define service{

use generic-service ; Name of service template to use

host\_name google.com

service\_description PING

check\_command check\_ping!100.0,20%!500.0,60%

}

# Define a service to check HTTP on the local machine.

# Disable notifications for this service by default, as not all users may have HTTP enabled.

define service{

use generic-service ; Name of service template to use

host\_name google.com

service\_description HTTP

check\_command check\_http

notifications\_enabled 0

}

root@snet[~]# sudo nano /usr/local/nagios/etc/nagios.cfg

Add the folowwing line to the file

cfg\_file=/usr/local/nagios/etc/objects/newhost.cfg

root@snet[~]# sudo /etc/init.d/nagios restart

root@snet[~]# sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

**HOW TO ADD WINDOWS CLIENT TO NAGIOS**

root@snet[~]# cd /usr/local/nagios/etc/

root@snet[~]# touch windows-hosts.cfg

root@snet[~]# touch windows-services.cfg

root@snet[~]# nano /usr/local/nagios/etc/nagios.cfg

Copy the following files to the bottom

cfg\_file=/usr/local/nagios/etc/windows-hosts.cfg

cfg\_file=/usr/local/nagios/etc/windows-services.cfg

root@snet[~]# nano /usr/local/nagios/etc/objects/windows.cfg

“Now u can edit your host and services”

root@snet[~]# nano /usr/local/nagios/etc/nagios.cfg

Uncomment line 38 and then save

root@snet[~]# service nagios restart

root@snet[~]# sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

**HOW TO DEFINE NEW GROUP IN NAGIOS SERVER**

root@snet[~]# nano /usr/local/nagios/etc/objects/templates.cfg

#Define a template for cloud-server that can be reuse

define host{

name cloud-server; The name of this host template

use generic-host ; Inherit default values from the generic-host template

check\_period 24x7 ; By default, Windows servers are monitored round the clock

check\_interval 5; Actively check the server every 5 minutes

retry\_interval 1 ; Schedule host check retries at 1 minute intervals

max\_check\_attempts 10 ; Check each server 10 times (max)

check\_command check-host-alive ; Default command to check if servers are "alive"

notification\_period 24x7; Send notification out at any time - day or night

notification\_interval 30 ; Resend notifications every 30 minutes

notification\_options d,r ; Only send notifications for specific host states

contact\_groups admins ; Notifications get sent to the admins by default

hostgroups cloud-servers ; Host groups that Windows servers should be a member of

register 0 ; DONT REGISTER THIS - ITS JUST A TEMPLATE

}

root@snet[~]# sudo nano /usr/local/nagios/etc/objects/cloud.cfg

# Define Hosts

define host{

use cloud-server; Inherit default values from a template

host\_name cserver1 ; The name we're giving to this host

alias Cloud Server 1 ; A longer name associated with the host

address 192.168.1.1 ; IP address of the host

contacts nagiosadmin

}

# Define host groups

define hostgroup{

hostgroup\_name cloud-servers

alias Cloud Servers

members cserver1   
}

###############################################################################

###############################################################################

#

# SERVICE DEFINITIONS

#

###############################################################################

###############################################################################

# Define a service to "ping" the local machine

define service{

use generic-service ; Name of service template to use

host\_name cloud

service\_description PING

check\_command check\_ping!100.0,20%!500.0,60%

}

# Define a service to check HTTP on the local machine.

# Disable notifications for this service by default, as not all users may have HTTP enabled.

define service{

use generic-service ; Name of service template to use

host\_name cloud

service\_description HTTP

check\_command check\_http

notifications\_enabled 0

}

# Define a service to check SSH on the local machine.# Disable notifications for this service by default, as not all users may have SSH enabled.

define service{

use generic-service ; Name of service template to use

host\_name cloud

service\_description SSH

check\_command check\_ssh

notifications\_enabled 0

}

# Define a service to check the load on the local machine.

define service{

use generic-service ; Name of service template to use

host\_name cloud

service\_description Current Load

check\_command check\_local\_load!5.0,4.0,3.0!10.0,6.0,4.0

}

# Define a service to check the number of currently running procs

# on the local machine. Warning if > 250 processes, critical if

# > 400 processes.

define service{

use generic-service ; Name of service template to use

host\_name cloud

service\_description Total Processes

check\_command check\_local\_procs!250!400!RSZDT

}

root@snet[~]# sudo nano /usr/local/nagios/etc/nagios.cfg

Add the folowwing line to the file

cfg\_file=/usr/local/nagios/etc/objects/cloud.cfg

root@snet[~]# sudo /etc/init.d/nagios restart

root@snet[~]# sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

To check errors of your configuration

We have to install NSClient++ on the windows Host

http://www.nsclient.org/download/

**WEBSITE TO BE VISITED FOR MORE INFORMATION**

http://www.the-tech-tutorial.com/adding-hosts-to-nagios/

# Cloud Storage host definition template - This is NOT a real host, just a template!

define host{

name cloud-servers ; The name of this host template

use generic-host ; This template inherits other values from the generic-host template

check\_period 24x7 ; By default, Linux hosts are checked round the clock

check\_interval 5 ; Actively check the host every 5 minutes

retry\_interval 1 ; Schedule host check retries at 1 minute intervals

max\_check\_attempts 10 ; Check each Linux host 10 times (max)

check\_command check-host-alive ; Default command to check Linux hosts

notification\_period workhours ; Linux admins hate to be woken up, so we only notify during the day

; Note that the notification\_period variable is being overridden from

; the value that is inherited from the generic-host template!

notification\_interval 120 ; Resend notifications every 2 hours

notification\_options d,u,r ; Only send notifications for specific host states

contact\_groups admins ; Notifications get sent to the admins by default

register 0 ; DONT REGISTER THIS DEFINITION - ITS NOT A REAL HOST, JUST A TEMPLATE!

}