Date - Cairo, May 2009 -

AfNOG 10

Apache 2.2 with SSL, PHP, Mysql and Wordpress Exercises

Installation:

$ cd /usr/ports/www/apache22/
$ make install clean

In /etc/rc.conf, add the following line

apache22_enable="YES"

To start apache run

$ /usr/local/etc/rc.d/apache22 start

Creating the SSL Certificates:

$ cd /usr/local/etc/apache22/

$ openssl genrsa -des3 -out server.key 1024

Password-Phrase is needed to encrypt the key. This pass-phrase will be needed at every apache restart. To get rid of the pass-phrase prompts at every apache restart and maintain the original key.

$ cp server.key server.key.org

$ openssl rsa -in server.key.org -out server.key

Create Certificate Request

$openssl req -new -key server.key -out server.csr

*** The CommonName is the name of the Website you will use in this case the localhost name i.e www.name.afnogws.gh*

Self Signing your Own Certificate

$ openssl x509 -req -days 3650 -in server.csr -signkey server.key -out server.crt

Enabling SSL

vi /usr/local/etc/apache22/extra/httpd-ssl.conf

Each virtual host must have its own certificate file see comments on “CommonName”.

The path is where the certificate File and Keys are located in this case
/usr/loca/etc/apache22/ (see virtualhost example below

SSLCertificateFile /path/to/this/server.crt
SSLCertificateKeyFile /path/to/this/server.key

Edit the httpd.conf file and **uncomment** the line below;

 # include etc/apache22/extra/httpd-ssl.conf

include etc/apache22/extra/httpd-ssl.conf

At the end of the file **(httpd-ssl.conf)** add the virtual hosts that will be handled with SSL

```
<VirtualHost www.name.afnogws.gh:443>
ServerAdmin webmaster@name.afnogws.gh
DocumentRoot /home/afnog/name
ServerName www.name.afnogws.gh
ErrorLog “/var/log/httpd-error.log”
TransferLog “/var/log/httpd-access.log”
SSLEngine on
SSLCertificateFile /usr/local/etc/apache22/server.crt
SSLCertificateKeyFile /usr/local/etc/apache22/server.key
<FilesMatch "\.(cgi|shtml|phtml|php)$">
   SSLOptions +StdEnvVars
</FilesMatch>
<Directory "/usr/local/www/apache22/cgi-bin">
   SSLOptions +StdEnvVars
</Directory>

BrowserMatch ".*MSIE.*" \
        nokeepalive ssl-unclean-shutdown \
        downgrade-1.0 force-response-1.0

CustomLog "/var/log/httpd-ssl_request.log" \
         "%t %h %{SSL_PROTOCOL}x %{SSL_CIPHER}x \"%r\" %b"
</VirtualHost>
```

Enable IPv6 in FreeBSD

As user root, vi /etc/rc.conf and add:-

ipv6_enable=“YES”

add (manual) interface configuration:-

ipv6_network_interfaces="em0"
Use the above option to limit the interface to enable IPv6. By default it's "auto", meaning to enable IPv6 on all the interfaces.

ipv6_ifconfig_em0="2001:4348:0:219:196:200:219:X"
(where x is your pc number, eg.1, 2, 3 …)

•Add the default router:-

ipv6_defaultrouter=" 2001:4348:0:219:196:200:219:254"

•Reboot!

Test with traceroute6 and ping6
a)to your neighbour's ipv6 address
b)An external host e.g tracroute6 www.afrinic.net

Open your browser and go to
http://www.afrinic.net
http://[2001:610:240:a50::2]/

or go to http://ipv6.google.com

www.kame.net

Without having to reboot do this after editing the /etc/rc.confg;

$ ifconfig em0 inet6 2001:4348:0:219:196:200:219:X prefixlen 64
$ route add –inet6 default 2001:4348:0:219:196:200:219:254

$ /etc/rc.d/network_ipv6 start

Configuring Virtual IPv4 and IPv6 hosts

Vi /usr/local/etc/apache/httpd.conf

Edit the httpd.conf file and **uncomment** the line

#include etc/apache22/extra/httpd-vhosts.conf

include etc/apache22/extra/httpd-vhosts.conf

Ensure that Apache listens on port 80

Listen 80 # Listen for virtual host requests on all IP addresses (both Ipv4 and IPv6)

ServerName *:80 # to avoid binding to DNS Names or IP

Edit /usr/loca/etc/apache22/extra/httpd-vhosts.conf to define the virtual hosts. In the exercise “name” should be replaced with your name as in the DNS exercise.

NameVirtualHost *:80

<VirtualHost *:80>
ServerAdmin webmaster@name.afnogws.gh
DocumentRoot /home/afnog/name
ServerName www.name.afnogws.gh
</VirtualHost>

Therefore the need to create the directory “name” in afnog home directory and also give it the right permissions for apache to access it – in this case

$cd /home/afnog/
$mkdir name
$chown –R www:www name
$chmod u+x name

By default apaches Directory access permissions are restrictive to deny all. This requires that any directory access for apache outside the Document root should be explicitly set.

***To allow from all from httpd.conf may resolve but is not recommended. The best option is as follows;*

create a file called name.conf (where name is same as “name” above for ease of management) in /usr/local/etc/apache22/Includes/

Inside the file have the following

<Directory /home/afnog/name>
Order deny,allow
Allow from all
</Directory>

Installing PHP & PHP Extensions

$ cd /usr/ports/lang/php5
$ make install clean

** Select Apache Option # Build Apache Module option

Once its completes, proceed to add the following into the apache httpd.conf file to enable PHP in apache

$ vi /usr/local/etc/apache22/httpd.conf

Find directory index as below and add the index.php

DirectoryIndex index.html index.htm ***index.php***

Also find the Addtype section and add the 2 lines below

AddType application/x-httpd-php .php
AddType application/x-httpd-php-source .phps

Copy the php initialization file that has the php features.

$ cp /usr/local/etc/php.ini-dist /usr/local/etc/php.ini

Install php5-extensions which provide support for various modules like mysql and others.

$ cd /usr/ports/lang/php5-extenstions
$ make install clean

** Select mysql and IMAP support

Onces its complete

Restart Apache

apachectl restart

Test PHP installation

Create PHP test page

vi /home/afnog/name/test.php

```
<?php
$hostname = gethostbyaddr($_SERVER['REMOTE_ADDR']);
echo "Your IP Address is $hostname";
?>
```

got to http://www.name.afnogws.gh/test.php from browser

(If you have IPv6 AAAA record for www.name.afnogws.gh the result will be the Ipv6 address or otherwise the IPv4 address.) At your own time you can add the AAAA resource record, change serial number and see the results.

Mysql50 Server Installation

cd /usr/ports/databases/mysql50-server/

Make install clean

Edit /etc/rc.conf for mysql to start add the line

mysql_enable="YES"

Start Mysql

$ /usr/local/etc/rc.d/mysql-server start

Create root password

$ mysqladmin –u root password newpassword

The "newpassword" is the password of your choice e.g afnog09

Install and Configure Wordpress

$ cd /usr/ports/www/wordpress
$ make install clean

$mysql –p

Mysql> create database wordpress

Create a virtual host for wordpress in apache

Modify the wordpress config in /usr/local/www/data/wordpress/

$ cd /usr/local/www/data/wordpress
$ cp wp-config-sample.php wp-config.php

Edit the wp-config with the database name, username and passwords created above

Save and restart apache and happy blogging