

Lab 4: LAMP (Linux, Apache, MySQL, PHP)

Objective: To help students to setup a LAMP Server and configure a Content Management System such as Joomla.

[0] Create a Virtual Machine name www.

[1] Installation:

1-1 Required packages:

- **http:** mysql mysql-server php php-gd php-mbstring php-mysql mod_auth_mysql httpd
- **https:** mysql mysql-server php php-gd php-mbstring php-mysql mod_auth_mysql httpd mod_ssl openssl crypto-utils

1-2 Configuration files: (1) /etc/httpd/conf/httpd.conf (2)/etc/httpd/conf.d/ssl.conf

1-3 Installation:

```
[root@www /root]# yum -y install mysql mysql-server php php-mysql \
mod_auth_mysql httpd mod_ssl openssl crypto-utils
```

[2] Configuration:

Remove private key file and certificate file:

```
[root@www /root]# rm -vf /etc/pki/tls/private/*.key
```

```
[root@www /root]# rm -vf /etc/pki/tls/certs/*.cert
```

Generate CA Certificate and Private key: www.coyote.net is a example.

```
[root@www /root]# genkey www.coyote.net --days 365
```

Next → Next → No →

US

California

San Bernardino

CSUSB.

CSE

www.coyote.net

Next → Encrypt the private key → Next → Passphrase(twice) → Next

Edit: /etc/httpd/conf.d/ssl.conf

SSLCertificateFile /etc/pki/tls/certs/www.coyote.net.cert

SSLCertificateKeyFile /etc/pki/tls/private/www.coyote.net.key

DocumentRoot "/var/www/html"

ServerName www.coyote.net:443

[3] Firewall Configuration:

```
[root@www /root]# setup
```

**Firewall Configuration → SELinux (Disabled) → Customize → Select (SSH, HTTP,HTTPS)
→ OK → OK → Quit**

[4] Start the web service and testing:

```
[root@www /root]# service httpd start
```

```
[root@www /root]# echo "Welcome to www.coyote.net" >> /var/www/html/index.php
```

Browse your http and https sites:

(1) http:// www.coyote.net

(2) https://www.coyote.net

[5] Get rid of pass phrase from httpd startup

```
[root@www /root]# cd /etc/pki/tls/private
```

```
[root@www private]# cp www.coyote.net.key www.coyote.net.key.org
```

```
[root@www private]# openssl rsa -in www.coyote.net.key.org -out www.coyote.net.key
```

```
[root@www private]# chmod 400 www.coyote.net.key
```

```
[root@www private]# service httpd restart
```

```
[root@www private]# chkconfig httpd on
```

[6] MySQL Configuration:

Edit /etc/my.cnf (add skip-networking in [mysqld] section)

```
[mysqld]
```

```
datadir=/var/lib/mysql
```

```
socket=/var/lib/mysql/mysql.sock
```

```
user=mysql
```

```
old_passwords=1
```

```
skip-networking
```

```
[root@www /root]#mysql_secure_installation
```

Start MySQL Server:

```
[root@www /root]# /sbin/chkconfig mysqld on
```

```
[root@www /root]# /sbin/service mysqld start
```

Remove /tmp/my.sql and MySQL History:

```
[root@www /root]# rm -f /tmp/my.sql
```

```
[root@www /root]# cat /dev/null > $HOME/.mysql_history
```

Set MySQL Admin Password:

```
[root@www /root]# mysqladmin -u root password 'password'
```

```
[root@www /root]# history -c
```

Add database and user: jdoe is a example user. Please use your own.

```
[root@mydb /root]# mysql -u root -p
```

```
mysql>use mysql;
```

```
mysql> CREATE DATABASE joomla;
```

```
mysql>GRANT CREATE,INSERT,DELETE,UPDATE,SELECT,DROP,INDEX,ALTER ON joomla.* to jdoe@localhost;
```

```
mysql> update user set password=password('password') where user='jdoe';
```

```
mysql> flush privileges;
mysql> exit;
[7] Installing joomla (CMS)
```

Download joomla:

```
[root@www /root]# cd /var/www/html
[root@www html]# wget http://joomlacode.org/gf/download/frsrelease/13105/57240/Joomla_1.5.22-Stable-Full_Package.zip
```

Installing joomla:

```
[root@www html]# unzip Joomla_1.5.22-Stable-Full_Package.zip
[root@www html]# cp configuration.php-dist configuration.php
[root@www html]# chmod 777 configuration.php
```

Configuring joomla:

Browse <http://www.coyote.net> with web browser.

- [1] Select Language: **en-US English (US)** Click Next
- [2] Pre-configuration Check Click Next
- [3] License Click Next
- [4] Database: **Database Type: mysql**
Hostname: localhost
Username: jdoe
Password: passowrd
Database Name: joomla Click Next
- [5] ftp settings Click Next
- [6] Configuration:

Site Name	<input type="text" value="CS365: Systems Administration"/>
Your E-mail	<input type="text" value="kw han@csci.csusb.edu"/>
Admin Password	<input type="password" value="*****"/>
Confirm Admin Password	<input type="password" value="*****"/>

Click Next

[7] Finish

Remove Installation Directory:

```
[root@www html]# rm -rvf installation
```

Browse the site with web browser:

- [1] <http://www.coyote.net>
- [2] <https://www.coyote.net>

Customize and beautify your website!

Lab 4: LAMP Server Report

Name: _____

Team Member: _____

[1] What is purpose of LAMP Server?

[2] What are TLS and SSL?

[3] What are the advantages of using SSL on web?

[4] How to generate private key and certificate without using genkey tool?

[5] How to send an email from your website without setting up the email server on your server?

[6] Compare Joomla with other CMS such as Drupal, WordPress, WebsiteBaker, etc..

[7] How to setup Name based Virtual Host for following sites?

<http://www.cody.net>

<http://www.acme.net>

<http://www.silicon.net>

[8] How to create and delete mysql database users?

[9] How to create and delete mysql database?

[10] How to backup and restore mysql database?

[11] Step by step installation and configuration for WordPress.