

Once you have SSH'ed to your server (see the video on Moodle if you don't know how).

1 Install Apache

1.1 First, update your package manager.

```
sudo apt-get update -y
```

1.2 Install and start Apache

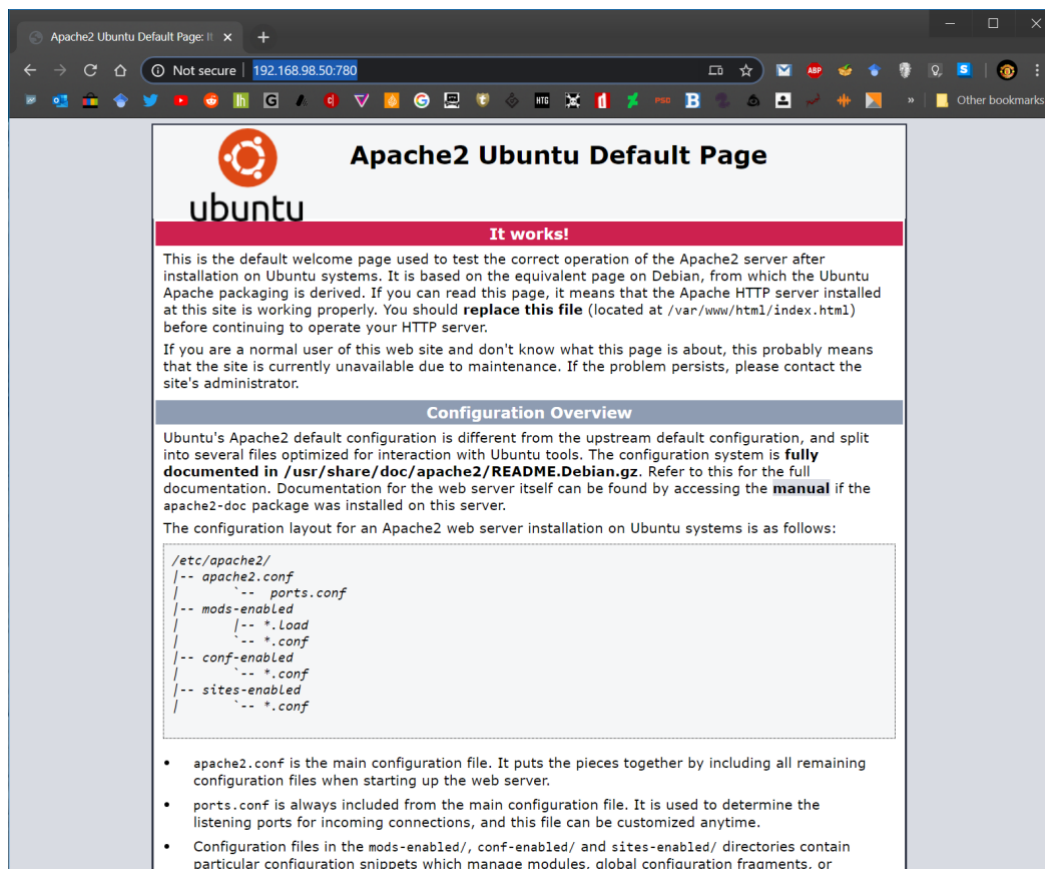
```
sudo apt-get install apache2 -y
```

```
sudo systemctl start apache2.service
```

Verify that Apache was installed without errors by accessing it from your local browser.

E.g. `http://vm_server_ip:780`

You should see the following web page:



2 Step 2: Install MySQL

2.1 Enter the following into the shell prompt.

```
sudo apt-get install mysql-server -y
```

This will install the MariaDB database server (a fork of MySQL).

Once installed, run:

```
sudo /usr/bin/mysql_secure_installation
```

Press "y" when prompted.

.

2.2 When prompted answer following the questions as illustrated below:

```
Estimated strength of the password: 50
Do you wish to continue with the password provided?(Press y|Y for Yes, any other key for No) : y
By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL without having to have
a user account created for them. This is intended only for
testing, and to make the installation go a bit smoother.
You should remove them before moving into a production
environment.

Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
Success.

Normally, root should only be allowed to connect from
'localhost'. This ensures that someone cannot guess at
the root password from the network.

Disallow root login remotely? (Press y|Y for Yes, any other key for No) : n
... skipping.
By default, MySQL comes with a database named 'test' that
anyone can access. This is also intended only for testing,
and should be removed before moving into a production
environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : n
... skipping.
Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
```

2.3 Next you must start the MySQL service with the following command:

```
sudo systemctl start mysql
```

- 2.4 Now you can login and test MySQL with the following command (you will be asked for the password you set in step 2.1):

```
sudo mysql -u root -p
```

- 2.5 To end your mysql session enter the “exit” or “quit” command and press return. This will end your mysql session and return you to the terminal.

3 Step 3: Install PHP

- 3.1 Install PHP:

```
sudo apt-get install php -y
```

- 3.2 Then install common the PHP extensions such as GD, MySQL, and so forth.

```
sudo apt-get install -y php-{bcmath,bz2,intl,gd,mbstring,mysql,zip} && sudo apt-get install libapache2-mod-php -y
```

4 Step 4: Starting Apache and MySQL on boot

- 4.1 It is necessary to start your web environment on boot (basically automatically run the apache and mysql services whenever the server boots up). To do that run the following commands:

```
sudo systemctl enable apache2.service
```

```
sudo systemctl enable mysql.service
```

- 4.2 Finally, restart Apache to allow PHP to run.

```
sudo systemctl restart apache2.service
```

That's it! You've successfully installed the full LAMP stack on your Ubuntu VM Server. Test it out.