



Faversham Associates Ltd

LAMP

Using Apache, MySQL and Python on Linux
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I'm currently trying to design a Websites using LAMP as the technology stack, with a MySQL database at the back end, so I thought I would brush off some notes I wrote about how I got on.

(I have updated things where I have noticed that they are out of date, but there may be other, unspotted things that may also need changing.)

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1 Introduction

The two predominant ‘technology stacks’ for developing Websites are the Windows based ‘WIMP’:

- W - Window, the operating system;
- I - Internet Information Server (IIS),the Web server;
- M - Microsoft SQL Server (MS-SQL), the database;
- P - the programming language;

and the Linux based LAMP:

- L - Linux, the operating system;
- A - Apache, the Web server;
- M - MySQL, the database;
- P - Python, the programming language; ¹.

This document explains how I installed and configured the different of components of the LAMP. It is mainly for my own benefit, but if it helps anyone else, then that is an added bonus.

¹The ‘P’ traditionally stood for PHP, then it was extended to include Perl and then Python, these days it can be taken to be a general ‘Programming Language



2 Installing LAMP

I'm using Ubuntu, so that's the 'L' taken care of. Python comes out of the box, (I've also installed the IPython shell) so that's 'P'. So now all that's left is to install MySQL and Apache and away we go.

(There are ways to install LAMP as one bundle, but for instruction and self-education I'm doing them all separately).

The following sections include instructions on how to install and uninstall Apache and MySQL, they also include outline instructions of how to perform some of the basic configuration and maintenance tasks such as starting and stopping the services.

2.1 Apache

2.1.1 Installing Apache

To install Apache, at the command line type:

```
$ sudo apt-get install apache2
```

2.1.2 Uninstalling Apache

To uninstall Apache, at the command line type:

```
$ sudo apt-get remove apache2
```

The above command leaves the packages and configuration files in place. If you want to remove these too use **purge** instead:

```
$ sudo apt-get purge apache2
```

2.1.3 Starting, Stopping and Restarting Apache

To start, stop and restart apache2, at the command line type:

```
$ sudo /etc/init.d/apache2 start
```

or

```
$ sudo /etc/init.d/apache2 stop
```

or



```
$ sudo /etc/init.d/apache2 restart
```

respectively.

2.1.4 Apache Configuration

Apache2 itself is installed in:

```
/etc/apache2/
```

The major configuration file is:

```
/etc/apache2/apache2.conf
```

Once installed you can open a browser and type in the address:

```
http://localhost
```

this will open the default Apache web page in your browser:

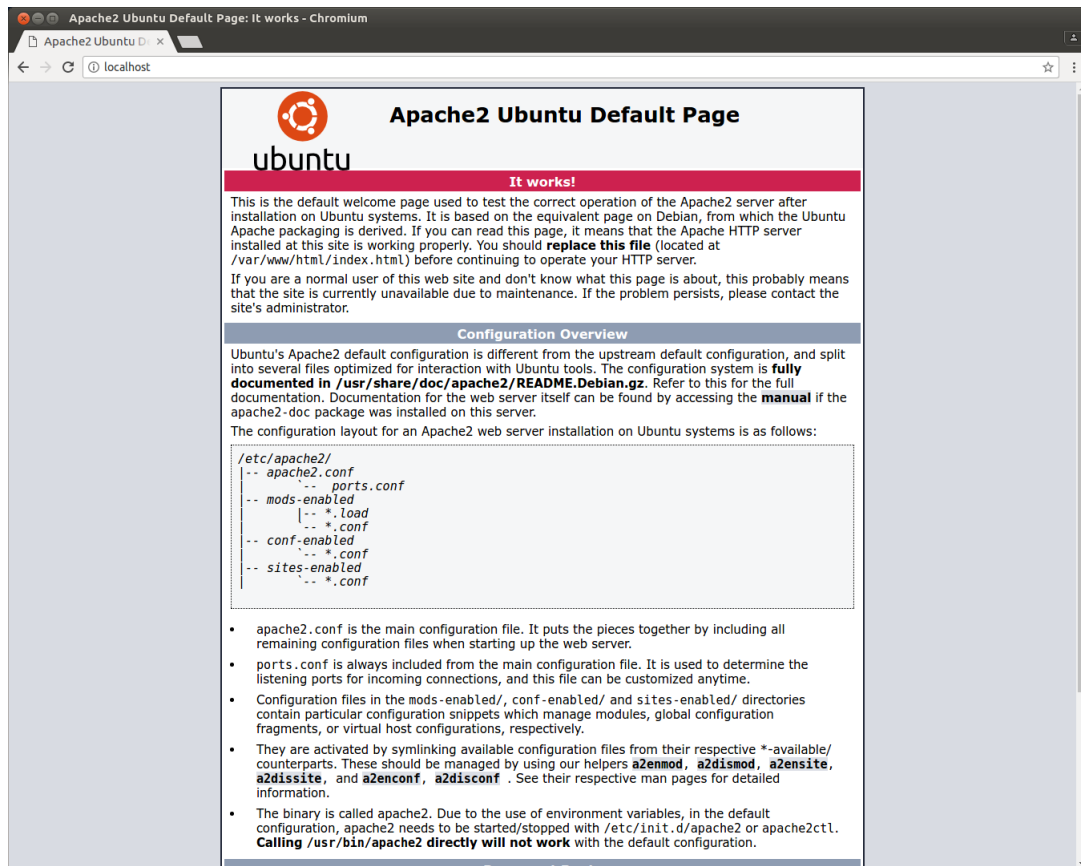


Figure 1: The Default Apache Web Page

In my installation the source for the above page is located at:

```
/var/www/index.html
```

If this does not work and you get a **404 Not Found** error, edit `/etc/apache2/apache2.conf` and add the line:

```
ServerName localhost
```

and restart Apache

```
$ sudo /etc/init.d/apache2 restart
```



2.2 MySQL

2.2.1 Installing MySQL

To install MySQL, at the command line type:

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

2.2.2 Uninstalling MySQL

To uninstall MySQL, at the command line type:

```
$ sudo apt-get remove mysql-server
```

The above command leaves the packages and configuration files in place. If you want to remove these too use **purge** instead:

```
$ sudo apt-get purge mysql-server
```

Note, when I tried the above it didn't appear to fully remove everything, when I typed `mysql` at the command line I received permission errors, so I did the following:

```
$ sudo apt-get autoremove mysql-server
```

This removed associated files such as some PHP resources. It then asked for a reboot.

2.2.3 Starting, Stopping and Restarting MySQL

To start, stop and restart MySQL, at the command line type:

```
$ sudo /etc/init.d/mysql start
```

or

```
$ sudo /etc/init.d/mysql stop
```

or

```
$ sudo /etc/init.d/mysql restart
```



respectively. You may be required to enter a password for an account with authority to turn MySQL on and/or off. I used the root account, but you could (and I probably should) set up a dedicated account.

2.2.4 Administrating MySQL

In order to make MySQL database administration easy, many hosts provide php-MyAdmin. You can easily install this tool on your Ubuntu LAMP server too using the built in package management software. At the command prompt type:

```
$ sudo apt-get install phpmyadmin
```

3 See Also

'<http://www.favershamassociates.com/Documents/mysql.pdf> - Using MySQL, A brief introduction'

'<http://www.favershamassociates.com/Documents/py-mysql.pdf> - Python and MySQL, Connecting to a MySQL database using mysqlclient'

'<http://www.favershamassociates.com/Documents/Django.pdf> - Django, Basic Installation using Python 3'

4 Copyright

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