



# Building Website with Drupal 7

Building Web based Application  
Quick and Easy

Hari Tjahjo

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*To my lovely wife, Nur Padilah and all kids : Hisyam, Hilwa, Rizki and Nadya*

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# Introduction

Currently, there are many web-based applications which just click to install. You do not need to learn from the basics of HTML and its programming language, no need to bother to make a dynamic web interface, how to connect to the database web server, making user management, and so on. Just download the source code, install and be a stay-run website. Call it one of Joomla, Wordpress, OSCommerce, and of course that will be discussed thoroughly in this book, voilla .. Drupal.

Drupal as one of the open source software program received tremendous support from the web developer, so you do not have to worry about losing sources of reference in studying Drupal. Thousands of modules already available and ready to be installed to meet your needs in building a website.

Although many books on how to make a website with Drupal, you will find an easier way to read and study this book. The author will emphasize the explanations with real examples so you can understand it better.

The most effective way to learn is to practice directly. So the author will explain in detail how to do everything in building website with drupal. So you can learn and clearly understand and can implement it to your own projects.

Finally, the authors hope that this book can give you a new insight on how to build a website easily and quickly, and of course reliable.

Enjoy.

# Chapter I

The demands of the current needs is an application must be web-based applications. Web-based applications have the advantages, such as the applications can be run or accessed simply by a web browser. Surely you know that almost every computer has installed adequate browser. And a lot of browser software that has advanced features that are available for free to be downloaded and installed.

## Web-based Applications

Software needed to build these applications was generally available in the form of open source software available for free easy sense. Although free does not mean it's not reliable. But It becomes the backbone of all web applications that exist today.

And not least it said that the communication tools that also has a mini mobile browser that is sufficient to access a sophisticated web-based applications.

Drupal 7 that we will study is an open source software that is very adequate to build a website. In general, the installation of an under construction website is designed on a computer or a local server, or better known as localhost. The advantage of installing in localhost is you can directly access your web applications without requiring any internet connection. This will certainly allow you to organize, reorganize, and accessing websites quickly.

## Software Required

To be able to install Drupal on localhost you need to install the software as follows:

1. Webserver.

In this book we will use [Apache](http://apache.net)<sup>1</sup> as a webserver. Webserver is a mediation between the frontend interface with database as backend.

2. Database Server

Database is widely used in the MySQL website. You can download and install MySQL on website [MySQL](http://mysql.net)<sup>2</sup>.

3. PHP

And the latter to install Drupal, we need [PHP](http://php.net)<sup>3</sup> as one of the web-based programming languages. Yes, Drupal is built on PHP.

---

<sup>1</sup><http://apache.net>

<sup>2</sup><http://mysql.net>

<sup>3</sup><http://php.net>

## Is it hard to build a web-based application?

If you are just learning to make web programming language specifically HTML and PHP, probably you will require hard work and extraordinary efforts to integrate all the needs of a website. Call it the look of the website, Access database security, user management, Web cross-browser means that every browser has different capabilities so that a web developer should be able to meet certain browser limitations.

But you need not be discouraged, there is Drupal. Yes, Drupal provides all that is needed to build a website. With easy installation, you have a website that is ready to be displayed and processed further.

## How to understand this book

Options to understand this book is to do with the installation of Server and Drupal along with your reading of this book. for that purpose, in this book author displays images suitable material covered.

There are several tips that the author presented to give you a clue how to do the same thing in a different way. Tips delivered in the following format:



### Tips

Here are the instructions how to do things.

# Chapter II

The first step in creating a website is to prepare the webserver and database server. We will use Apache as webserver and MySQL as database server.

## Installing Apache on Ubuntu Server.

Ubuntu is a Linux distribution that is a derivative of Debian. As Linux OS in general, Ubuntu has the root user as the user's administrator. But in Ubuntu, by default our installation will create its own user who acts as administrator, and unix commands it always begins with the command sudo.

From your Ubuntu, open a terminal and typing: **sudo apt-get install apache2** (in accordance with the bold sentence), then the computer will respond in accordance with the sentence below (responses may not appear exactly the same):



### Loading Terminal

To open the Terminal in Ubuntu simply press Ctrl + Alt + T

```
1 sudo apt-get install apache2
```

Typing sudo password, Ubuntu will do the installation and to check with the relevant modules.

```
1 Do you want to continue [Y / n]? Y
```

At the question Will it continue? Type in Y and enter.

You will do the downloading Ubuntu apache packages and dependencies are required, as well as installing Apache. To test if your webserver installation was successful, open a web browser and type in the address column: **localhost**.

So if you are installing will appear sentence **It Works**.

## Installing PHP

As in install Apache, PHP to install typing in the terminal as follows: **sudo apt-get install php5** (View in terminal or less the same).

```
1 sudo apt-get install php5
```

At the question Will it continue? Type in Y and enter.

```
1 Do you want to continue [Y / n]? Y
```

To check if your PHP installation is successful or not can be done in the following way:

1. Type the following php file from a text editor:

```
1 <? Php
2
3 / / Php function to display the configuration of the webserver and php
4 phpinfo ();
```

2. Copy file testing.php in web server DocumentRoot. Eg `** /home/hari/www/testing.php**`.
3. Testing.php file access from a web browser, so if your PHP installation properly the browser will display information about the settings and configuration of PHP and Apache.

## Installing MySQL

Next, you will need a database server to create dynamic websites. MySQL is a database server that is most widely used to build websites. How to install MySQL with previous installations. Type in your terminal:

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

Follow the prompts of the installation. You will be prompted to create a **root** password for MySQL database.

## Install PHPMyAdmin

PHPMyAdmin is a web application for accessing MySQL. To install phpMyAdmin in Ubuntu typing in your terminal apt-get as follows:

```
1 sudo apt-get install phpmyadmin
```

And follow the instructions of the installation. You will be prompted to create a password for phpmyadmin in order to access the MySQL database. And you will be prompted to enter the **root** password.

## Install XAMPP

In addition to using Apache, PHP, and MySQL separately, you can install XAMPP is already packed Apache, PHP, and MySQL into one package. XAMPP can [download] (<http://www.apachefriends.org/en/xampp.htm>) in the version of [Windows] (<http://www.apachefriends.org/en/xampp-windows.html>), [Linux] (<http://www.apachefriends.org/en/xampp-linux.html>), [Mac OS X] (<http://www.apachefriends.org/en/xampp-macosx.html>), and [Solaris] (<http://www.apachefriends.org/en/xampp-solaris.html>).

## Install XAMPP on Windows

Currently available XAMPP installer already includes Apache, MySQL, PHP, FTP Server, and Mail Server. There is also a kind of installer like WAMPP, LAMPP. Installation steps are as follows:

1. Download the XAMPP installer.
2. Double click the file xampp-win32-1.8.1-VC9-installer.exe.
3. Select the installation language, select English.



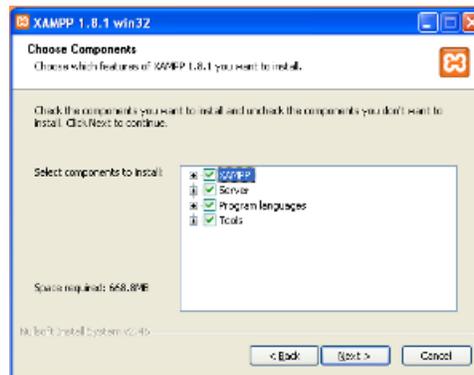
Select Language

4. Begin the installation, click next.



Welcome to the setup wizard

5. Select the components that will diinstall, select all components.

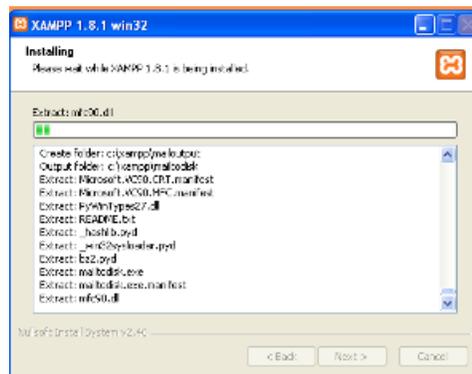


Select all components

6. Select the folder where XAMPP installation.

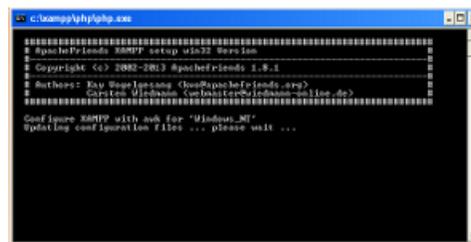
! [Default folder / installation direcoty c:\xampp\ ] (images/04-xamppw.png)

7. The installation process.



Installing xampp on Windows

8. Settings via the command prompt.



Setting XAMPP configuration

9. Installation is complete.



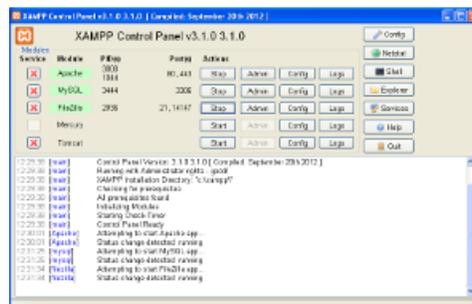
Click Finish

- Request to open the XAMPP Control Panel, select Yes.



Select yes

- XAMPP Control Panel to run services from Apache, MySQL, FTP Server and Mail Server. To run the service in XAMPP, click the start button for each service you want to run.



Click the Start / Stop for each service

- Webbrowser access XAMPP from localhost by typing in the URL of your browser.



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Select English

## Install XAMPP on Linux

- Download<sup>4</sup> XAMPP for Linux.

<sup>4</sup><http://www.apachefriends.org/en/xampp-linux.html>

2. Press **Ctrl + Alt + T** to open a terminal and move to the directory where the downloads are. Suppose the directory where the file was downloaded `xampp Documents`, then typing:

```
1 cd Documents
```

Checks `xampp` files, typing.

```
1 ls-al | grep xampp
```

It will show the following information:

```
1 -rw-rw-r - 1 day day 2013-03-19 09:59 84,733,045 xampp-linux-1.8.1.tar.gz
```

3. Extract the file `xampp-linux-1.8.1.tar.gz` to a directory `/opt`, typing in the terminal.

```
1 sudo tar xzvf xampp-linux-1.8.1.tar.gz-C / opt
```

The above command will extract the file `xampp-linux-1.8.1.tar.gz` to the `/opt` directory. For that you have to use the `sudo` command. This extraction work well to install XAMPP on Linux. Do not do extraction using extraction Software usual for this installation, because it will not work.

4. XAMPP is installed in the directory `/opt/lampp`.
5. To run the service XAMPP, typing in the terminal:

```
1 sudo /opt/lampp/lampp start
```

It will appear like the following:

```
1 Starting XAMPP for Linux 1.8.1 ...
2 XAMPP: Starting Apache with SSL (and PHP5) ...
3 XAMPP: Starting MySQL ...
4 XAMPP: Starting ProFTPD ...
5 XAMPP for Linux started.
```

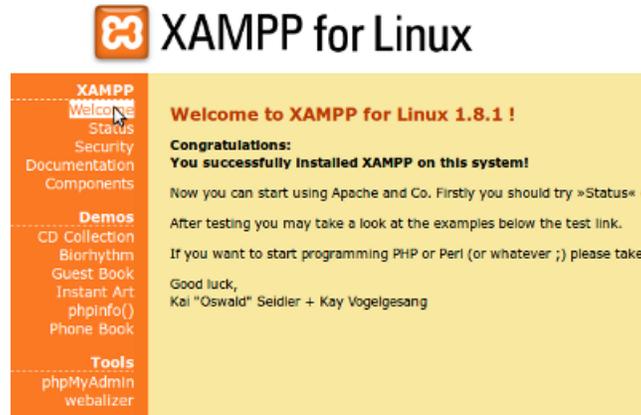
6. To access XAMPP, typing in the URL browser: `localhost`, then shall XAMPP already installed on your computer.



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Select English

7. XAMPP default view is as follows:



Display XAMPP for Linux

8. Here is the command in Linux to run the services XAMPP.

Parameter	Description
Start	Starts XAMPP.
Stop	Stops XAMPP.
Restart	Stops and starts XAMPP.
Startapache	Starts only the Apache.
Startssl	Starts the Apache SSL support. This command activates the SSL support permanently, e.g. if you restarts XAMPP in the Future SSL will stay activated.
Startmysql	Starts only the MySQL database.
Startftp	Starts the ProFTPD server. Via FTP you can upload files for Your web server (user “nobody”, password “lampp”). This Command activates the ProFTPD permanently, eg if you Restarts XAMPP in the future FTP will stay activated.
Stopapache	Stops the Apache.
Stopssl	Stops the Apache SSL support. This command deactivates the SSL support permanently, e.g. if you restarts XAMPP in the Future SSL will stay deactivated.
Stopmysql	Stops the MySQL database.
Stopftp	Stops the ProFTPD server. This command deactivates the ProFTPD permanently, e.g. if you restarts XAMPP in the Future FTP will stay deactivated.
Security	Starts a small security check program.

1. to run all the service XAMPP, typing in the terminal.

```
1 sudo /opt/lampp/lampp start
```

2. Or to run its course apache service, typewriting.

```
1 sudo /opt/lampp/lampp startapache
```

3. At the beginning of the installation of XAMPP, XAMPP pages, PHPMyAdmin, MySQL, and FTP Server has not been protected by a username and password security. Click the **Security** menu, then you will find XAMPP status and other Pages in **insecure** conditions. To perform the security, open your terminal and type in: Remember you have to use the sudo command.

```
1 sudo /opt/lampp/lampp security
```

XAMPP check the security settings

```
1 XAMPP: Quick security check ...
```

```
2 XAMPP: Your XAMPP pages are NOT secured by a password.
```

XAMPP under conditions not secure (insecure), you are prompted to create a password. Press ENTER because we will give you a password for XAMPP pages. When erased, typed live again  
\*\* [yes] \*\*.

```
1 XAMPP: Do you want to set a password? [Yes]
```

Type the password someone you want. We recommend that you note your password before memorizing.

```
1 XAMPP: Password:
```

Type the password again for confirmation.

```
1 XAMPP: Password (again):
```

XAMPP page have safe / secure. To access the XAMPP use username **lampp** and password as you typed earlier.

```
1 XAMPP: Password protection active. Please use 'lampp' as user name!
```

Furthermore phpmyadmin user (pma) does not have a password. So setting the password. Press enter [yes] to create / define a password.

```
1 XAMPP: The MySQL / phpMyAdmin user pma has no password set!!!
```

```
2 XAMPP: Do you want to set a password? [Yes]
```

Type the password for the **\*\*pma\*\*** user desired.

1 XAMPP: Password:

Type the password for the **pma** user again as confirmation that your password is not a typo.

1 XAMPP: Password (again):

Here's the information that the password has been set correctly.

1 XAMPP: Setting **new** MySQL pma password.

2 XAMPP: Setting phpMyAdmin's pma password to the **new** one.

MySQL **root** user also does not have a password. So the press [yes] Enter to specify the desired password.

1 XAMPP: MySQL has no root passwort **set!!!**

2 XAMPP: Do you want to **set** a password? [Yes]

Type the password for the **root** user desired in MySQL. Remember to note the **root** password before memorized.

1 XAMPP: Write the password somewhere down to the make sure you will not forget it!

2 XAMPP: Password:

Type the password for the **root** user password again for confirmation.

1 XAMPP: Password (again):

Setting a password for the **root** user for MySQL is done.

1 XAMPP: Setting **new** MySQL root password.

2 XAMPP: Change phpMyAdmin's authentication method.

Then FTP server is still using the default password **lampp** and username **nobody**. Press enter to [yes] to create a password.

1 XAMPP: The FTP password **for** user '**nobody**' **is** still **set** to '**lampp**'.

2 XAMPP: Do you want to change the password? [Yes]

Type the password for the username **nobody** proftp desired.

1 XAMPP: Password:

Type the password for the username **nobody** proftp as confirmation.

- 1 XAMPP: Password (again):
- 2 XAMPP: Reload ProFTPD ...
- 3 XAMPP: Done.

Setting a password for proftpd finished with username **nobody** and password specified earlier.

4. XAMPP installation then you have safe / secure and complete. We will continue the installation of Drupal when using XAMPP.

## Installing Drupal with XAMPP.

Firstly, [Download] (<http://drupal.org/project/drupal>) Drupal installer.

In XAMPP, webroot directory is htdocs. So to install Drupal, drupal-7.20.tar.gz Extract files into htdocs. Use FTP client software to upload drupal-7.20.tar.gz file into htdocs directory. Here are the steps:

1. Open FTP Client that you have and do the connection to the server with the following data:  
Server = **localhost**, username = **nobody**, password = **input your Password**.
2. And paste the file drupal-7.20.tar.gz to the htdocs directory.
3. Extract drupal-7.20.tar.gz file into htdocs directory.
4. Check the results of extraction, typing.

```
1 ls -al /opt/lampp/htdocs
```

It will display the results like this:

```
1 total 3148
2 drwxr-xr-x  5 nobody root      4096 2013-03-19 23:07 .
3 drwxr-xr-x 19 root   root      4096 2012-09-30 15:43 ..
4 drwxr-xr-x  9 nobody nogroup  4096 2013-03-19 23:07 drupal-7:20
5 -rw-r-r-   1 nobody nogroup 3163257 2013-03-19 23:06 drupal-7.20.tar.gz
6 -rw-r-r-   1 root   root      30894 2007-05-11 19:40 favicon.ico
7 -rw-r-r-   1 root   root        256 2009-02-06 04:04 index.php
8 drwxr-xr-x  2 nobody root      4096 2013-03-19 13:15 webalizer
9 drwxr-xr-x  7 root   root      4096 2013-03-19 13:10 xampp
```

Drupal installer extract is in the drupal directory-7:20. If you notice, the drupal-7.20 directory has owner and group **nobody nogroup**. User **nobody** that can be read by a web server from XAMPP. For that, you must always use proftpd to move files from the local to the web server, because the Linux owner of a directory or file it is very influential.

5. Then do change the settings in httpd.conf to be recognized as DocumentRoot Drupal installation. Location of httpd.conf is in /opt/lampp/etc/httpd.conf. Typing in the terminal as follows.

```
1 sudo vim /opt/lampp/etc/httpd.conf
```



## Install vim editor

```
sudo apt-get install vim-nox
```

1. Back to the httpd.conf settings. Edit httpd.conf, and find **DocumentRoot** “/opt/lampp/htdocs” and change it to **DocumentRoot** “/opt/lampp/htdocs/drupal-7.20”.

To edit in **vim** is always initiated by pressing the keyboard / case **i**. Next do the editing as usual.

2. and **<Directory “/opt/lampp/htdocs”>** edit become **<Directory “/opt/lampp/htdocs/Drupal-7.20”>**.

Then save the file by pressing the keyboard keys : wq and press **Enter**.

3. Each time you make the webserver configuration, then you need to restart the service in question. To restart apache, keikan following command in a terminal:

```
1 sudo /opt/lampp/lampp stopapache
```

Then start **apache** again.

```
1 sudo /opt/lampp/lampp startapache
```

4. Then you can start to install Drupal by opening your browser and typing [localhost] (http://localhost). Drupal installation process is described in the next chapter.

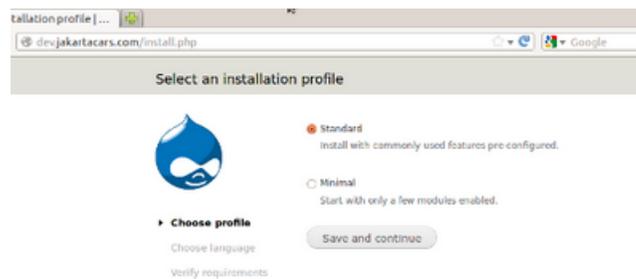
# Chapter III

As discussed in the previous chapter, make sure that the Drupal installer already on `/opt/lampp/htdocs` or on your webserver installation webroot. If you are using Ubuntu and do the installation of the webserver, mysql and php database separately, then the Drupal installer checks should be in the appropriate directory on the DocumentRoot setting on `/etc/apcahe2/sites-available/default`.

## Installing Drupal

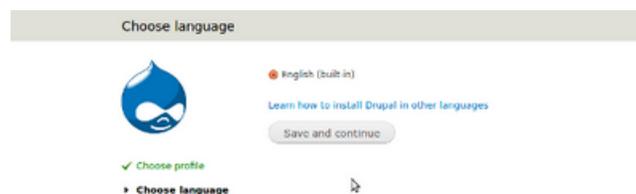
To install Drupal, open your web browser and type `localhost` address, then the installation begins in the following figure:

1. Choose your Drupal installation profile, and click **Save and continue**.



### Select the default installation profile

2. Select English as the default language of the installation, and click **Save and continue**



### Choose a language English

3. Furthermore Drupal system will verify the minimum requirements that must be met by the system. Everything is OK, except **File System** and **Settings** file.

Web server	Apache/2.2.20 (Ubuntu)
PHP	5.3.6-13ubuntu3.9
PHP register globals	Disabled
PHP extensions	Enabled
Database support	Enabled
PHP memory limit	128M
<p><b>File system</b></p> <p>The directory <code>sites/default/files</code> does not exist. An automated attempt to create this directory failed, possibly due to a permissions problem. To proceed with the installation, either create the directory and modify its permissions manually or ensure that the installer has the permissions to create it automatically. For more information, see <code>INSTALL.txt</code> or the <a href="#">online handbook</a>.</p>	
Unicode library	PHP Mbstring Extension
<p><b>Settings file</b></p> <p>The settings file does not exist.</p> <p>The Drupal installer requires that you create a settings file as part of the installation process. Copy the <code>./sites/default/default.settings.php</code> file to <code>./sites/default/settings.php</code>. More details about installing Drupal are available in <code>INSTALL.txt</code>.</p>	

Check the error messages and [proceed with the installation](#).

### The system requirements have not been met

For that you have to make some adjustments so that Drupal installation can proceed.

- There is an error the directory `sites/default/files` does not exist. It must be made `files` directory and set the authority / permissions so that the web server can access. Open a terminal and enter the path / Drupal installation directory, then type:

```
1 mkdir sites/default/files
```

Change the authority to access the `files` directory for webserver has authorized access. Typing the following command in the terminal:

```
1 sudo chmod 777 sites/default/files
```

Authority checks the `files` directory, with `ls -al` command :

```
1 ls -al sites/default/files
```

- Next message **There is a settings file does not exist**. Copy settings files from folder `sites/default/default.settings.php` to `sites/default` and rename it to `settings.php`. as written below :

```
1 cp -i sites/default/default.settings.php sites/default/settings.php
```

Change the permissions with the command `chmod 777`.

```
1 sudo chmod 777 sites/default/settings.php
```

Check using `ls -al` command :

```
1 ls-al sites/default/settings.php
```

Then the terminal will provide information:

```
1 -rwxrwxrwx 1 23197 2013-03-15 21:27 sites/default/settings.php
```

6. Then back to the Drupal installation, and click **proceed with the installation**.
7. then set up the database. fill in the database name, username and password. Surely you must have prepared the database.

Fill in the database name, user, and password

8. If you have not created the database yet, create a database using phpmyadmin. typing the address in the browser **localhost/phpmyadmin**. Fill in username **root** and its password. Then create the database which will be used for Drupal installation.

Create database

9. Fill in the name of the database, username and its password in Drupal installation, click **Save and continue**.
10. The next step is to fill in a website profile. Enter the name of your website.

Insert name of website, for example localhost

11. Fill in your email name.

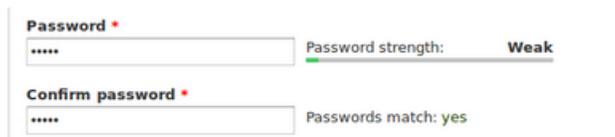
Insert email

12. Furthermore create administrator user of the website. At the beginning of the installation do not forget the username. call it **admin** as administrator user. You can change the name later if you want.

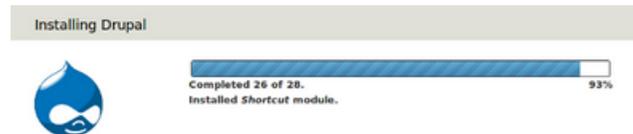


Fill in the username as administrator

13. Type and confirm the password for **admin**, and click **Save and continue**.

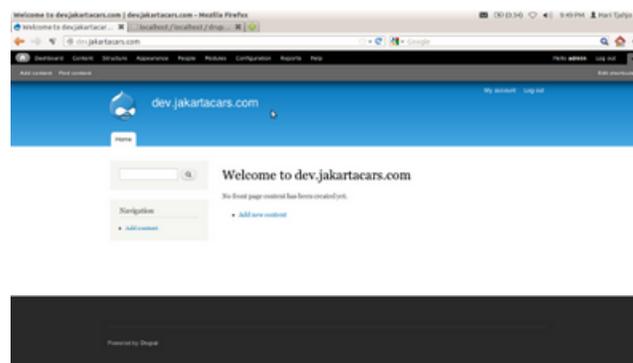


14. Drupal installs standard Tables and modules.



Create tables and install modules

15. when Installation completes, click on **Visit your new site**.



Display Drupal 7

## Installing Drupal with XAMPP for Linux

It may be easier if you're installing Drupal using XAMPP. You do not need to make adjustments related to compliance with the requirements of the **file system** and **file settings**. Because Drupal installation in `/opt/lampp/htdocs` authorized for **nobody** user.

so with the XAMPP installation process, you will pass the numbers 3,4,5 above.

## Installing Drupal with XAMPP in Windows

Similarly, the installation process Drupal with XAMPP on Linux. You just need to make sure that:

1. Drupal installer already in the **htdocs** directory (/opt/lampp/htdocs).
2. Setting DocumentRoot in **httpd.conf** httpd.com is correct (/opt/lampp/etc/httpd.conf).