

By: Etel Sverdllov  152  262Contents 

# How To Install Linux, Apache, MySQL, PHP (LAMP) stack on Ubuntu

May 31, 2012 LAMP Stack, Apache, MySQL, PHP Ubuntu

For Ubuntu 12.04 - see [this updated tutorial for Ubuntu 14.04.](#)

## About LAMP

LAMP stack is a group of open source software used to get web servers up and running. The acronym stands for Linux, Apache, MySQL, and PHP. Since the virtual private server is already running Ubuntu, the linux part is taken care of. Here is how to install the rest.

## Set Up

The steps in this tutorial require the user to have root privileges on your VPS. You can see how to set that up in the [Initial Server Setup](#) in steps 3 and 4.

## Step One—Install Apache

Apache is a free open source software which runs over 50% of the world's web servers.

To install apache, open terminal and type in these commands:

```
sudo apt-get update
sudo apt-get install apache2
```

That's it. To check if Apache is installed, direct your browser to your server's IP address (eg. <http://12.34.56.789>). The page should display the words "It works!" like [this](#).

## How to Find your Server's IP address

You can run the following command to reveal your server's IP address.

```
ifconfig eth0 | grep inet | awk '{ print $2 }'
```

## Step Two—Install MySQL

MySQL is a powerful database management system used for organizing and retrieving data

To install MySQL, open terminal and type in these commands:

```
sudo apt-get install mysql-server libapache2-mod-auth-mysql php5-mysql
```



During the installation, MySQL will ask you to set a root password. If you miss the chance to set the password while the program is installing, it is very easy to set the password later from within the MySQL shell.

Once you have installed MySQL, we should activate it with this command:

```
sudo mysql_install_db
```

Finish up by running the MySQL set up script:

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

The prompt will ask you for your current root password.

Type it in.

```
Enter current password for root (enter for none):
```

```
OK, successfully used password, moving on...
```

Then the prompt will ask you if you want to change the root password. Go ahead and choose N and move on to the next steps.

It's easiest just to say Yes to all the options. At the end, MySQL will reload and implement the new changes.

```
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? [Y/n] 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? [Y/n] y
... Success!
```

```
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? [Y/n] y
- Dropping test database...
... Success!
- Removing privileges on test database...
```

```
... Success!
```

```
Reloading the privilege tables will ensure that all changes made so far  
will take effect immediately.
```

```
Reload privilege tables now? [Y/n] y  
... Success!
```

```
Cleaning up...
```



Once you're done with that you can finish up by installing PHP.

## Step Three—Install PHP

PHP is an open source web scripting language that is widely use to build dynamic webpages.

To install PHP, open terminal and type in this command.

```
sudo apt-get install php5 libapache2-mod-php5 php5-mcrypt
```

After you answer yes to the prompt twice, PHP will install itself.

It may also be useful to add php to the directory index, to serve the relevant php index files:

```
sudo nano /etc/apache2/mods-enabled/dir.conf
```

Add index.php to the beginning of index files. The page should now look like this:

```
<IfModule mod_dir.c>
```

```
    DirectoryIndex index.php index.html index.cgi index.pl index.
```

```
</IfModule>
```

## PHP Modules

PHP also has a variety of useful libraries and modules that you can add onto your virtual server. You can see the libraries that are available.

```
apt-cache search php5-
```

Terminal will then display the list of possible modules. The beginning looks like this:

```
php5-cgi - server-side, HTML-embedded scripting language (CGI binary)
php5-cli - command-line interpreter for the php5 scripting language
php5-common - Common files for packages built from the php5 source
php5-curl - CURL module for php5
php5-dbg - Debug symbols for PHP5
php5-dev - Files for PHP5 module development
php5-gd - GD module for php5
php5-gmp - GMP module for php5
php5-ldap - LDAP module for php5
php5-mysql - MySQL module for php5
php5-odbc - ODBC module for php5
php5-pgsql - PostgreSQL module for php5
php5-pspell - pspell module for php5
php5-recode - recode module for php5
php5-snmp - SNMP module for php5
php5-sqlite - SQLite module for php5
php5-tidy - tidy module for php5
php5-xmlrpc - XML-RPC module for php5
php5-xsl - XSL module for php5
php5-adodb - Extension optimising the ADOdb database abstraction library
php5-auth-pam - A PHP5 extension for PAM authentication
[...]
```

Once you decide to install the module, type:

```
sudo apt-get install name of the module
```

You can install multiple libraries at once by separating the name of each module with a space.

Congratulations! You now have LAMP stack on your droplet!

## Step Four—RESULTS: See PHP on your Server

Although LAMP is installed, we can still take a look and see the components online by creating a quick php info page

To set this up, first create a new file:

```
sudo nano /var/www/info.php
```

Add in the following line:

```
<?php
phpinfo();
?>
```

Then Save and Exit.

Restart apache so that all of the changes take effect:

```
sudo service apache2 restart
```

Finish up by visiting your php info page (make sure you replace the example ip address with your correct one): <http://12.34.56.789/info.php>

It should look similar to [this](#).

## See More

After installing LAMP, you can [Set Up phpMyAdmin](#), [Install WordPress](#), go on to do more with MySQL ([A Basic MySQL Tutorial](#)), [Create an SSL Certificate](#), or [Install an FTP Server](#).

By Etel Sverdlov

♡ Heart 152

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Author:  
Etel Sverdlov

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## 262 Comments

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pauldmoran *July 30, 2012*

On the droplets that have lower memory foot prints (256MB RAM) please note that the default Ubuntu install of MySQL requires the addition of the line:

```
innodb_buffer_pool_size = 32M
```

In the `/etc/mysql/my.cnf` file to make it start up.



info1 *August 17, 2012*

pauldmoran

I have Size: 256 Mb | image: Ubuntu 12.04 x32 Server and havn't needed to change the



innodb\_buffer and MySQL is running mysql 2759 0.1 13.6 326656 34036 ? Ssl 12:54 0:00  
/usr/sbin/mysqld



moisey *August 17, 2012*

The defaults should be good for the majority of users, we will be writing additional MySQL articles specifically geared towards tuning it for higher performance and explaining some of the most common tune variables.



2

aladagemre *August 22, 2012*

For enabling PHP, I think we also have to install this: libapache2-mod-php5



trialtest11 *August 22, 2012*

Thank you for the recommendation: I have added libapache2-mod-php5 to the tutorial.



madlittlemods *September 13, 2012*

Thanks for the tutorial! Got my droplet up and running ;)



igor.kandyba *November 11, 2012*

After adding innodb\_buffer\_pool\_size = 32M to my config solved the annoying PDO error - was unable to connect to the db via socket, thanks for the advice!



onrweb *January 18, 2013*

Hi,

I take an error message when I tried to connect MySQL DB from my Play Framework application:

"Cannot connected to the database, Communications link failure The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any packets from the server."

and solved the problem like this:

It related with mysql configuration file. You must open `/etc/mysql/my.cnf`:

```
sudo nano /etc/mysql/my.cnf
```

and change bind-address's default value (127.0.0.1) with your ip address:

bind-address = `?.?.?.?`

then problem will be solved.

Maybe It can help to some people encounter the same problem.



teddy98891 *February 15, 2013*

Wouldn't it just be easier to type 'tasksel', scroll down to lamp server, hit spacebar to select it, tab to OK and press enter? It does everything for you, including prompt for a new mysql password.



mike102855 *February 22, 2013*

teddy, I much prefer that they give the actual methods for installing these from the cmd line, rather than suggesting an automated install. You don't learn anything doing it through tasksel.



c0smicalninja *March 7, 2013*

Instead of using prefork MPM, you can use the worker or event MPM and process php via FastCGI process manager. Instructions are given here: <http://www.failover.co/blog/quick-setup-apache-worker-fastcgi-php-fpm-and-apc>



mathsteck *March 11, 2013*

When I try to install MySQL the follow error appears: "Unable to set password for root...". I already tried to reinstall but without success... Anyone can help me?



mathsteck *March 12, 2013*

The complete error: "Unable to set password for the MySQL "root" user. An error occurred while setting the password for the MySQL administrative user. This may have happened

because the account already has a password, or because of a communication problem with the MySQL server."



showfom *April 26, 2013*

tasksel install lamp-server

it's very simple in Ubuntu



ayushman *December 2, 2015*

sudo apt-get install tasksel

sudo tasksel install lamp-server



bailet3 *April 28, 2013*

I don't know about you guys but I prefer to install LAMP in a single click after reading about other methods.

Don't know if you are allowed to link to other guides here or not but this one seemed to help as it had alot of screenshots, <http://draalin.com/installing-lamp-on-ubuntu/>

They had two different installation methods there too which was nice.



eliot *June 3, 2013*

Followed these directions to the T with a clean droplet. Getting this error during the apt-get installs:

apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.0.1 for ServerName

The server appears to be working correctly, though.



johnellison *July 16, 2015*

I had that error as well. Go to

and type

```
sudo nano servername.conf
```

and in that file add the line

```
ServerName localhost
```

save and exit.

Then go ahead and type this command to active the configuration file

```
sudo a2enconf servername
```

and restart apache.



helvatican *October 6, 2015*

Hmm .. I see your "I had that error as well. Go to" but no following argument. Goto where?



winstonhepoh *January 8, 2016*

Go to either httpd.conf or apache2.conf in /etc/apache2 and add ServerName localhost at the bottom. Full answer given by someone else here:

<http://askubuntu.com/questions/256013/could-not-reliably-determine-the-servers-fully-qualified-domain-name>

However, for me this only suppressed the message. php page still did not show. I fixed it by moving the info.php file into the html folder.



laviniamanzanares *June 5, 2013*

This is really useful. Thank you



kamaln7 *June 8, 2013*

@Eliot Landrum: That is just a warning, you can ignore it --everything will work just fine.



nogbor *June 8, 2013*

@Eliot Landrum: If you want to get rid of the error then edit /etc/hosts

```
sudo nano /etc/hosts
```

Change the file to read:

```
127.0.0.1 localhost
```

```
'IP' 'server name' 'hostname'
```

For example if your droplet is on IP 12.34.56.78, your Domain is 'example.com' and hostname is 'myhost' then it will read:

```
127.0.0.1 localhost
```

```
12.34.56.78 example.com myhost
```

Save this file and then edit /etc/hostname

```
sudo nano /etc/hostname
```

Delete whatever is in this file and type in your hostname (myhost in the example above)  
Save the file and reboot and the warning should be gone

HTH :-))

\*Can an admin delete my reply above as it stripped the important bits out\*



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