Installing Lighttpd with PHP5 (PHP-FPM) and MySQL on Debian 8 (Jessie)

This tutorial exists for these OS versions

- Debian 7 (Wheezy)
- Debian 6 (Squeeze)
- Debian 5 (Lenny)
- Debian 4 (Etch)

On this page

Lighttpd is a secure, fast, standards-compliant

Tutorial Info

Author:	Till Brehm
Published:	Aug 11, 2015
Tags:	debian, lighttpd, web server

VMware image download

Installing Lighttpd with PHP5 (PHP-FPM) and MySQL on Debian Jessie as virtual machine image in ovf / ova format compatible with VMWare and Virtualbox.

Download

Download:	Debian_8_lighttpd_php_mysql.ova
Guide:	VMWare Image Import Guide.
Other Downloads:	List of all VMWare Images

web server designed for speed-critical environments. This tutorial shows how you can install Lighttpd on a Debian 8 (Jessie) server with PHP5 support (through PHP-FPM) and MySQL support. PHP-FPM (FastCGI Process Manager) is an alternative PHP FastCGI implementation with some additional features useful for sites of any size, especially busier sites. I use PHP-FPM in this tutorial instead of Lighttpd's spawn-fcgi.

1 Preliminary Note

In this tutorial, I use the hostname *server1.example.com* with the IP address *192.168.1.100*. These settings might differ

for you, so you have to replace them where appropriate. Use a Debian minimal server as the basis for this installation, this can either be a minimal image of your datacenter or you install one from scratch by using our Debian minimal server tutorial.

2 Installing MySQL / MariaDB

Debian 8 ships with 2 MySQL compatible databases, the traditional MySQL database and MariaDB, a MySQL fork maintained by the original MySQL inventor Monty Widenius. MariaDB is leading in regard of database speed and development activity at the moment, so I will choose it for my server.

Below I will describe the installation of MariaDB (Chapter 2.1) and MySQL (Chapter 2.2) so you can choose the database that you prefer. Just ensure that you either follow chapter 2.1 or 2.2 but not both.

2.1 Install MariaDB

To install MariaDB, run this command.

```
apt-get install mariadb-server mariadb-client
```

You will be asked to provide a password for

the MariaDB root user - this password is valid for the user *root@localhost* as well as *root@server1.example.com*, so we don't have to specify a MariaDB root password manually later on:

```
New password for the MariaDB "root" user: <-- yourrootsqlpassword
Repeat password for the MariaDB "root" user: <-- yourrootsqlpassword
```

2.2 Install MySQL

We install MySQL 5 like this:

```
apt-get install mysql-server mysql-client
```

You will be asked to provide a password for the MySQL root user - this password is valid for the user *root@localhost* as well as *root@server1.example.com*, so we don't have to specify a MySQL root password manually later on:

```
New password for the MySQL "root" user: <-- yourrootsqlpassword
Repeat password for the MySQL "root" user: <-- yourrootsqlpassword
```

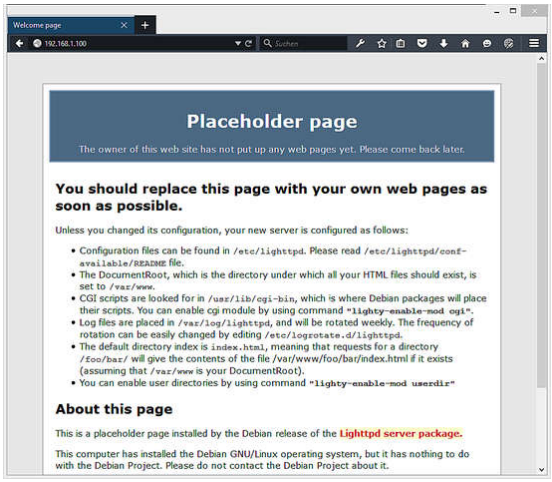
3 Installing Lighttpd

Lighttpd is available as a Debian package, therefore we can install it like this:

```
apt-get install lighttpd
```

Now direct your browser to *http://192.168.1.100/*, and you should

see the Lighttpd placeholder page:



Lighttpd's default document root is */var/www* on Debian, and the configuration file is */etc/lighttpd/lighttpd.conf*.

Additional configurations are stored in files in the */etc/lighttpd/conf-available* directory - these configurations can be enabled with the *lighttpd-enable-mod* command which creates a symlink from the */etc/lighttpd/conf-enabled* directory to the appropriate configuration file in */etc/lighttpd/conf-available*. You can disable configurations with the *lighttpd-disable-mod* command.

4 Installing PHP5

We can make PHP5 work in Lighttpd through PHP-FPM which we install like this:

```
apt-get install php5-fpm php5
```

PHP-FPM is a daemon process (with the init script */etc/init.d/php5-fpm*) that runs a FastCGI server on the socket */var/run/php5-fpm.sock*.

5 Configuring Lighttpd and PHP5

To enable PHP5 in Lighttpd, we must modify */etc/php5/fpm/php.ini* and uncomment the line *cgi.fix_pathinfo=1*:

```
nano /etc/php5/fpm/php.ini
```

```
[...]
; cgi.fix_pathinfo provides *real* PAT
H_INFO/PATH_TRANSLATED support for CGI
.  PHP's
; previous behaviour was to set PATH_T
RANSLATED to SCRIPT_FILENAME, and to n
ot grok
; what PATH_INFO is.  For more informa
tion on PATH_INFO, see the cgi specs.
 Setting
; this to 1 will cause PHP CGI to fix
its paths to conform to the spec.  A s
etting
; of zero causes PHP to behave as befo
re.  Default is 1.  You should fix you
r scripts
; to use SCRIPT_FILENAME rather than P
ATH_TRANSLATED.
; http://php.net/cgi.fix-pathinfo
cgi.fix_pathinfo=1
[...]
```

And restart the php5-fpm service to apply the configuration change:

```
systemctl restart php5-fpm.service
```

The Lighttpd configuration file for PHP */etc/lighttpd/conf-available/15-fastcgi-php.conf* is suitable for use with spawn-fcgi, however, we want to use PHP-FPM, therefore we create a backup of the file (named *15-fastcgi-php-spawnfcgi.conf*) and modify *15-fastcgi-php.conf* as follows:

```
cd /etc/lighttpd/conf-available/
```

```
cp 15-fastcgi-php.conf 15-fastcgi-
php-spawnfcgi.conf
nano 15-fastcgi-php.conf
```

```
# -*- depends: fastcgi -*-
# /usr/share/doc/lighttpd/fastcgi.txt.
gz
# http://redmine.lighttpd.net/projects
/lighttpd/wiki/Docs:ConfigurationOptio
ns#mod_fastcgi-fastcgi

## Start an FastCGI server for php (ne
eds the php5-cgi package)
fastcgi.server += ( ".php" =>
        ((
                "socket" => "/var/run/
php5-fpm.sock",
                "broken-scriptfilename
" => "enable"
        ))
)
```

To enable the fastcgi configuration, run the following commands:

```
lighttpd-enable-mod fastcgi
lighttpd-enable-mod fastcgi-php
```

This creates the symlinks */etc/lighttpd/conf-enabled/10-fastcgi.conf* which points to */etc/lighttpd/conf-available/10-fastcgi.conf* and */etc/lighttpd/conf-enabled/15-fastcgi-php.conf* which points to */etc/lighttpd/conf-available/15-fastcgi-php.conf*:

```
ls -l /etc/lighttpd/conf-enabled
```

```
root@server1:/etc/lighttpd/conf-
available# ls -l /etc/lighttpd
/conf-enabled
total 0
lrwxrwxrwx 1 root root 33 Aug 11
08:20 10-fastcgi.conf -> ../conf-
available/10-fastcgi.conf
lrwxrwxrwx 1 root root 37 Aug 11
08:20 15-fastcgi-php.conf ->
../conf-available/15-fastcgi-
```

php.conf

Then we reload Lighttpd:

```
systemctl force-reload lighttpd.service
```

6 Testing PHP5 / Getting Details About Your PHP5 Installation

The document root of the default website is */var/www*. We will now create a small PHP file (*info.php*) in that directory and call it in a browser. The file will display lots of useful details about our PHP installation, such as the installed PHP version.

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

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

Now we call that file in a browser (e.g. *http://192.168.1.100/info.php*):

System	Linux server1 3.16.0-4-amd64 #1 SMP Debian 3.16.7-ckt9-2 (2015-04-13) x86_64
Build Date	Jun 5 2015 11:03:25
Server API	FPM/FastCGI
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php5/fpm
Loaded Configuration File	/etc/php5/fpm/php.ini
Scan this dir for additional .ini files	/etc/php5/fpm/conf.d
Additional .ini files parsed	/etc/php5/fpm/conf.d/05-opcache.ini, /etc/php5/fpm/conf.d/10-pdo.ini, /etc/php5/fpm/conf.d/20-json.ini, /etc/php5/fpm/conf.d/20-readline.ini
PHP API	20131106
PHP Extension	20131226
Zend Extension	220131226
Zend Extension Build	API220131226,NTS
PHP Extension Build	API20131226,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	disabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring
IPv6 Support	enabled
DTrace Support	enabled
Registered PHP Streams	https, ftps, compress.zlib, compress.bzip2, php, file, glob, data, http, ftp, phar, zip
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, sslv3, tls, tlsv1.0, tlsv1.1, tlsv1.2
Registered Stream Filters	zlib.*, bzip2.*, convert.iconv.*, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, consumed, dechunk

As you see, PHP5 is working, and it's working through FPM/FastCGI, as shown in the *Server API* line. If you scroll further down, you will see all modules that are already enabled in PHP5. MySQL is not listed there which means we don't have MySQL support in PHP5 yet.

7 Getting MySQL Support in PHP5

To get MySQL support in PHP, we can install the *php5-mysqlnd* package. That's a new database driver that is compatible with MySQL and MariaDB. It's a good idea to install some other PHP5 modules as well as you might need them for your applications. You can search for available PHP5 modules like this:

```
apt-cache search php5
```

Pick the ones you need and install them like this:

```
apt-get install php5-mysqlnd php5-curl
php5-gd php5-intl php-pear php5-imagick
php5-imap php5-mcrypt php5-memcache
php5-pspell php5-recode php5-sqlite
php5-tidy php5-xmlrpc php5-xsl
```

Xcache is a free and open PHP opcode cacher for caching and optimizing PHP intermediate code. It's similar to other PHP opcode cachers, such as eAccelerator and APC. It is strongly recommended to have one of these installed to speed up your PHP page.

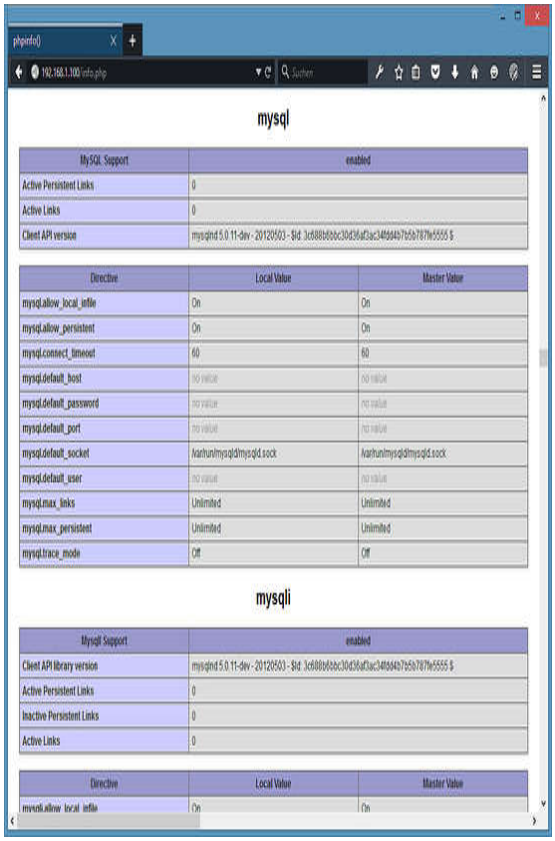
Xcache can be installed as follows:

```
apt-get install php5-xcache
```

Now reload PHP-FPM:

```
systemctl restart php5-fpm.service
```

Now reload *http://192.168.1.100 /info.php* in your browser and scroll down to the modules section again. You should now find lots of new modules there, including the MySQL module:



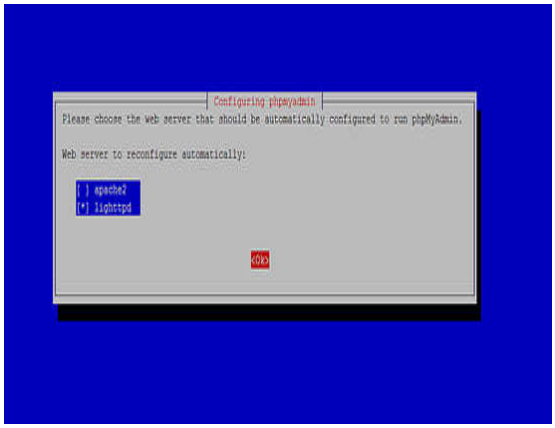
8 phpMyAdmin

phpMyAdmin is a web interface through which you can manage your MySQL databases. It's a good idea to install it:

```
apt-get install phpmyadmin
```

You will see the following questions:

Web server to reconfigure automatically: **<-- lighttpd**



Configure database for phpmyadmin with dbconfig-common? ***<-- Yes***
Password of the database's administrative user: ***<--*** *yourrootsqlpassword*
MySQL application password for phpmyadmin: ***<-- Press <enter>***

Afterward, you can access phpMyAdmin under *http://192.168.1.100/phpmyadmin/*:

9 Making PHP-FPM Use A TCP Connection

By default PHP-FPM is listening on the socket */var/run/php5-fpm.sock*. It is also possible to make PHP-FPM use a TCP connection. To do this, open */etc/php5/fpm/pool.d/www.conf*...

```
nano /etc/php5/fpm/pool.d/www.conf
```

... and make the *listen* line look as follows:

```
[...]
;listen = /var/run/php5-fpm.sock
listen = 127.0.0.1:9000
[...]
```

This will make PHP-FPM listen on port *9000* on the IP *127.0.0.1* (*localhost*). Make sure you use a port that is not in use on your system.

Then reload PHP-FPM:

```
systemctl restart php5-fpm.service
```

Next open Lighttpd's PHP configuration file */etc/lighttpd/conf-available/15-fastcgi-php.conf* and replace the *socket* line with *host* and *port* lines:

```
nano /etc/lighttpd/conf-available
/15-fastcgi-php.conf
```

```
# -*- depends: fastcgi -*-
# /usr/share/doc/lighttpd/fastcgi.txt.
gz
# http://redmine.lighttpd.net/projects
/lighttpd/wiki/Docs:ConfigurationOptio
ns#mod_fastcgi-fastcgi

## Start an FastCGI server for php (ne
eds the php5-cgi package)
```

```
fastcgi.server += ( ".php" =>
        ((
                "host" => "127.0.0.1",
                "port" => "9000",
                "broken-scriptfilename
" => "enable"
        ))
)
```

Finally reload Lighttpd:

```
systemctl force-reload lighttpd.service
```

10 Links

- Lighttpd: http://www.lighttpd.net/
- PHP: http://www.php.net/
- PHP-FPM: http://php-fpm.org/
- MySQL: http://www.mysql.com/
- Debian: http://www.debian.org/
- phpMyAdmin: http://www.phpmyadmin.net/

1 Comment(s)

p

I'm not a robot

reCAPTCHA
Privacy - Terms

Submit comment

Comments

From: Steven **at:** 2015-10-05 13:10:56 Reply

Installed all the packages as this tutotial described. But when I try to connect the remote mariadb from PHP by
$db = new mysqli(...);
I got 500 internal server error.
i looked up the lighttpd error log, got
(mod_fastcgi.c.2562) unexpected end-of-file (perhaps the fastc
gi process died): pid: 0 socket: unix:/var /run/php5-fpm.sock
Can anybody tell me how to fix this?

Tutorials Installing Lighttpd with PHP5 (...