

# Assignment 101: 任务 1 : 安装 httpd+php+mysql

姓名：吕锴燮    学号：3120101867    老师：翁恺    开发平台：WRTnode

## 实现目的

1. 熟悉 WRTnode 在 linux 下软件的安装；
2. 掌握 httpd、php、mysql 的安装与配置。

## 实验器材

### 硬件

- WRTnode 套装
- PC ( Windows 8.1 ) 一台；
- 无线路由器一台。

### 软件

- PC 上的 SSH 软件——putty。

## 实验步骤

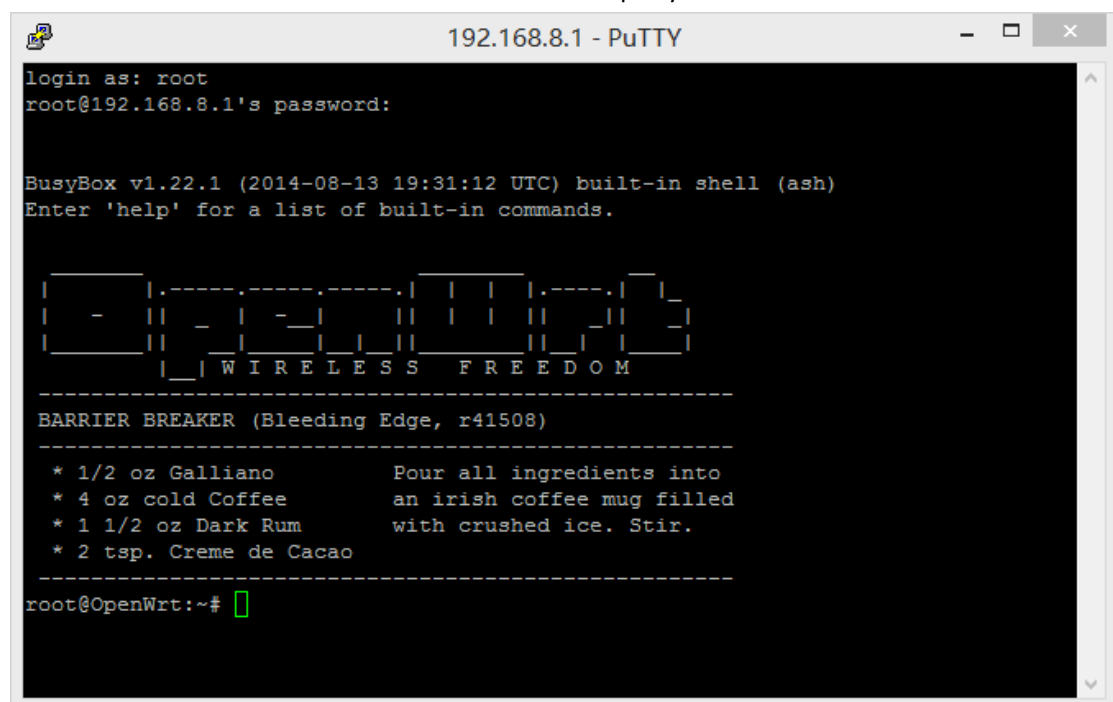
1. 在 pcDuino 上安装并配置 apache ；
2. 验证 apache 已经安装并能成功访问 ；
3. 在 pcDuino 上安装并配置 php ；
4. 写一个 php 脚本验证 php 已经安装成功 ；

5. 在 pcDuino 上安装并配置 mysql ;
6. 写一个 php 脚本访问 mysql , 验证 mysql 安装成功。

## 实验过程

首先需要说明 WRTnode 使用的 OpenWRT 系统中找不到 Apache 包, 通过阅读一些技术博客, 在这块板子上通常使用 Lighttpd 来替代 Apache 的工作。

上电, 配置好网络环境 (在试验 1 中写明), 通过 putty 的 SSH 访问。



```
192.168.8.1 - PuTTY
login as: root
root@192.168.8.1's password:

BusyBox v1.22.1 (2014-08-13 19:31:12 UTC) built-in shell (ash)
Enter 'help' for a list of built-in commands.

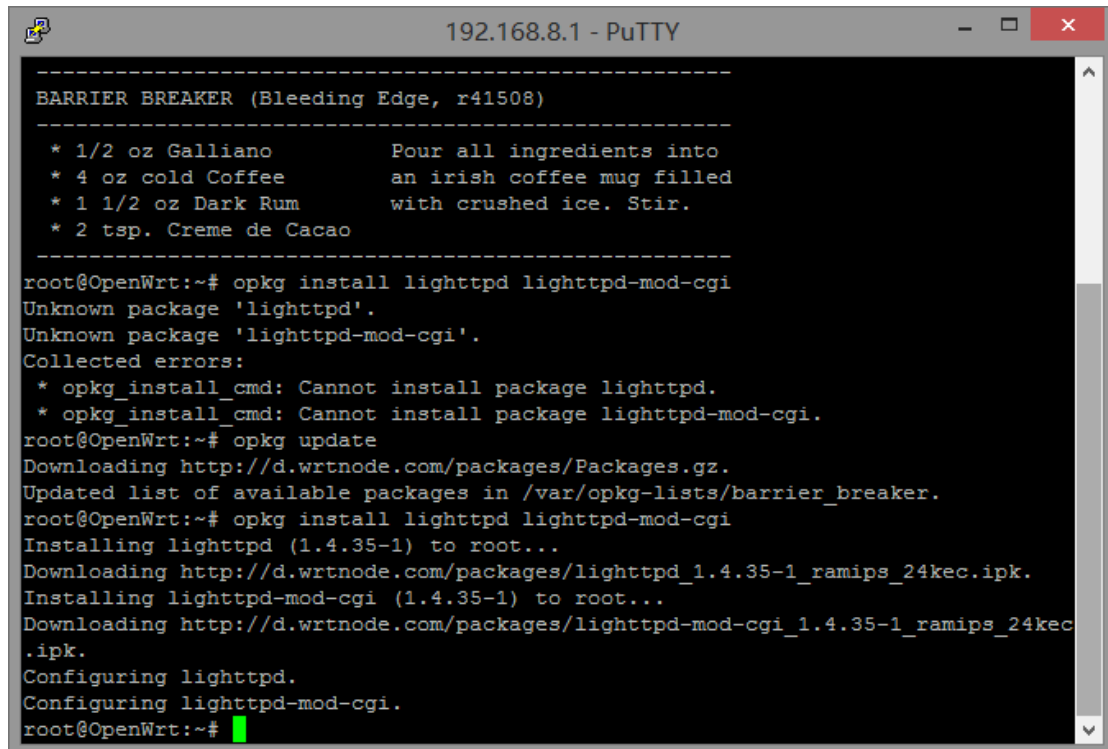
 _ _ _ _ _
|_| W I R E L E S S   F R E E D O M
|_|

-----
BARRIER BREAKER (Bleeding Edge, r41508)
-----
* 1/2 oz Galliano      Pour all ingredients into
* 4 oz cold Coffee    an irish coffee mug filled
* 1 1/2 oz Dark Rum   with crushed ice. Stir.
* 2 tsp. Creme de Cacao
-----
root@OpenWrt:~#
```

安装 Lighttpd:

```
opkg update
```

```
opkg install lighttpd lighttpd-mod-cgi
```



```
192.168.8.1 - PuTTY

-----
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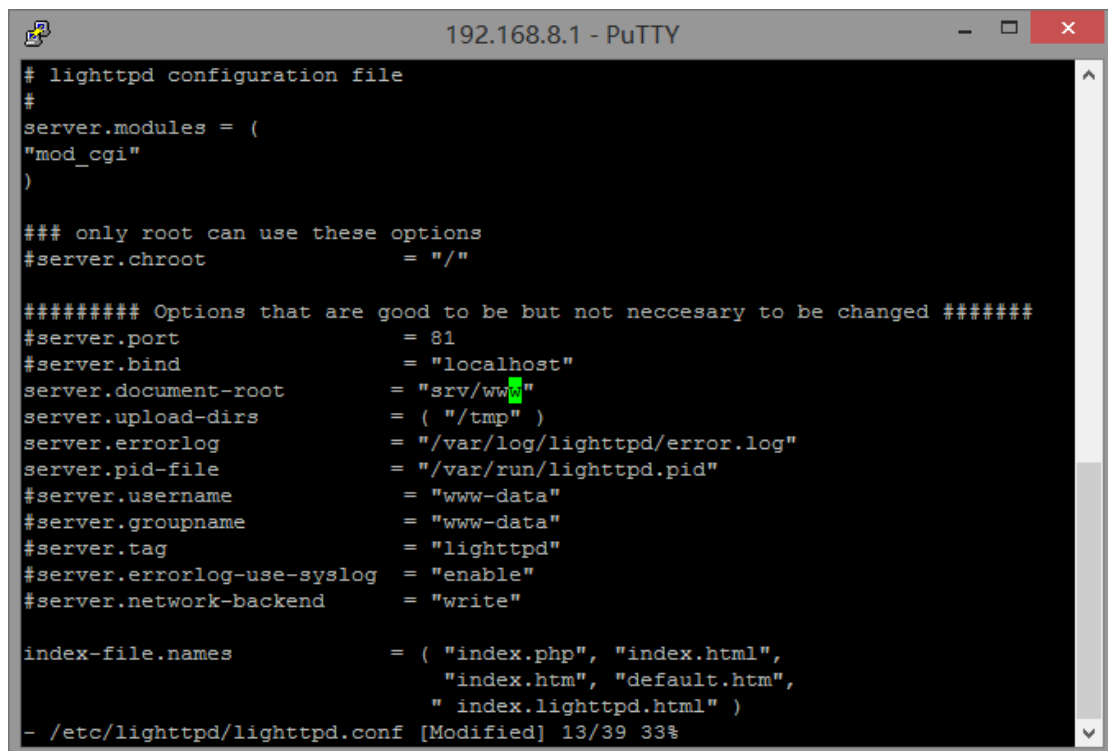
-----

root@OpenWrt:~# opkg install lighttpd lighttpd-mod-cgi
Unknown package 'lighttpd'.
Unknown package 'lighttpd-mod-cgi'.
Collected errors:
* opkg_install_cmd: Cannot install package lighttpd.
* opkg_install_cmd: Cannot install package lighttpd-mod-cgi.
root@OpenWrt:~# opkg update
Downloading http://d.wrtnode.com/packages/Packages.gz.
Updated list of available packages in /var/opkg-lists/barrier_breaker.
root@OpenWrt:~# opkg install lighttpd lighttpd-mod-cgi
Installing lighttpd (1.4.35-1) to root...
Downloading http://d.wrtnode.com/packages/lighttpd_1.4.35-1_ramips_24kec.ipk.
Installing lighttpd-mod-cgi (1.4.35-1) to root...
Downloading http://d.wrtnode.com/packages/lighttpd-mod-cgi_1.4.35-1_ramips_24kec.ipk.
Configuring lighttpd.
Configuring lighttpd-mod-cgi.
root@OpenWrt:~#
```

修改配置:

```
Vim /etc/lighttpd/lighttpd.conf
```

```
//主要修改端口号（80 号端口已经被占用），目录（这个可以不改）
```



```
192.168.8.1 - PuTTY

# lighttpd configuration file
#
server.modules = (
    "mod_cgi"
)

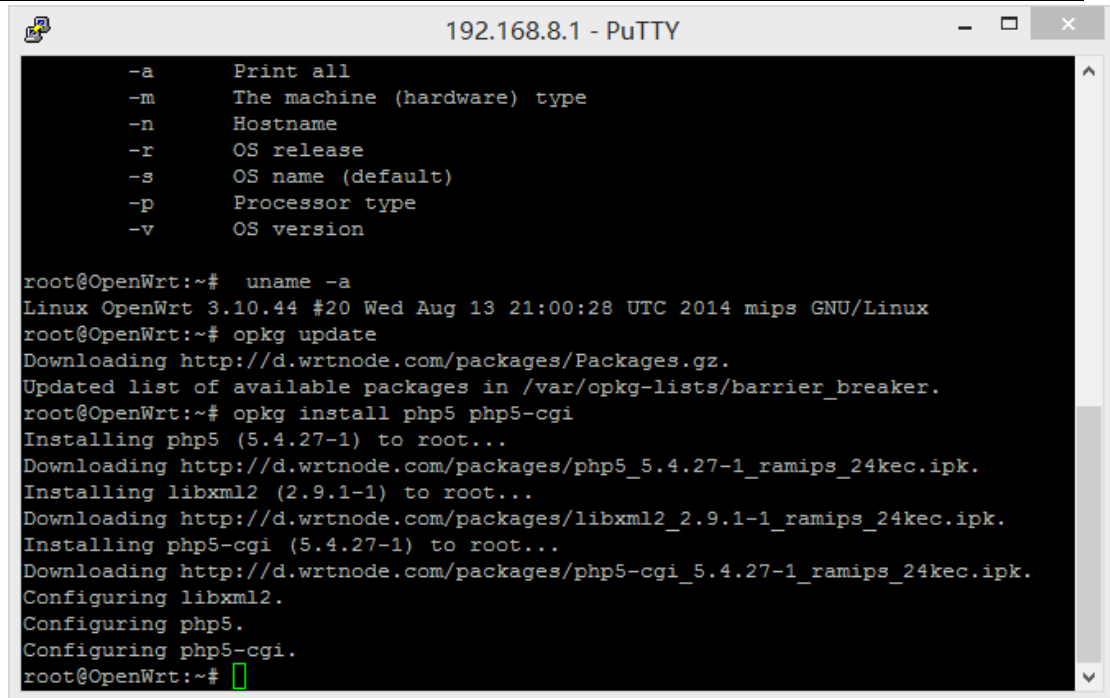
### only root can use these options
#server.chroot = "/"

##### Options that are good to be but not necessary to be changed #####
#server.port = 81
#server.bind = "localhost"
server.document-root = "srv/www"
server.upload-dirs = ( "/tmp" )
server.errorlog = "/var/log/lighttpd/error.log"
server.pid-file = "/var/run/lighttpd.pid"
#server.username = "www-data"
#server.groupname = "www-data"
#server.tag = "lighttpd"
#server.errorlog-use-syslog = "enable"
#server.network-backend = "write"

index-file.names = ( "index.php", "index.html",
                    "index.htm", "default.htm",
                    "index.lighttpd.html" )
- /etc/lighttpd/lighttpd.conf [Modified] 13/39 33%
```

安装 php:

```
opkg install php5 php5-cgi
```



```
192.168.8.1 - PuTTY

-a      Print all
-m      The machine (hardware) type
-n      Hostname
-r      OS release
-s      OS name (default)
-p      Processor type
-v      OS version

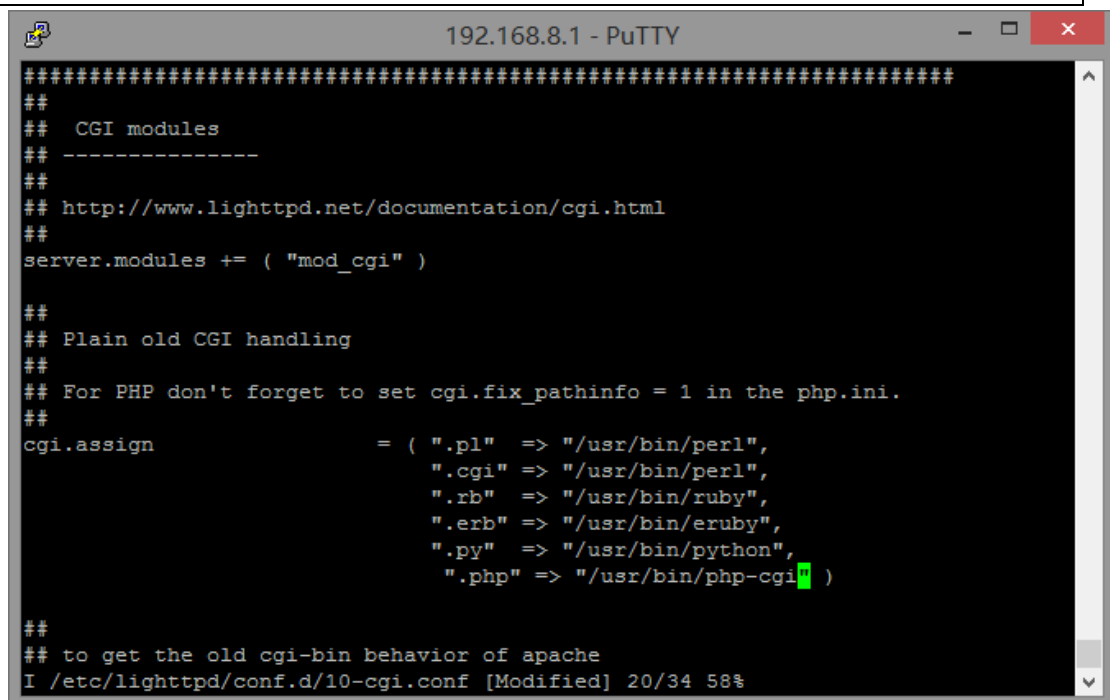
root@OpenWrt:~# uname -a
Linux OpenWrt 3.10.44 #20 Wed Aug 13 21:00:28 UTC 2014 mips GNU/Linux
root@OpenWrt:~# opkg update
Downloading http://d.wrtnode.com/packages/Packages.gz.
Updated list of available packages in /var/opkg-lists/barrier_breaker.
root@OpenWrt:~# opkg install php5 php5-cgi
Installing php5 (5.4.27-1) to root...
Downloading http://d.wrtnode.com/packages/php5_5.4.27-1_ramips_24kec.ipk.
Installing libxml2 (2.9.1-1) to root...
Downloading http://d.wrtnode.com/packages/libxml2_2.9.1-1_ramips_24kec.ipk.
Installing php5-cgi (5.4.27-1) to root...
Downloading http://d.wrtnode.com/packages/php5-cgi_5.4.27-1_ramips_24kec.ipk.
Configuring libxml2.
Configuring php5.
Configuring php5-cgi.
root@OpenWrt:~#
```

编辑/etc/php.ini, 设置 doc\_root = "/srv/www".

需要注意的是下面一步, 执行

```
Vim /etc/lighttpd/lighttpd.conf
```

```
//添加 cgi.assign=(“.php”=> “/usr/bin/php-cgi”)这行
```



```
192.168.8.1 - PuTTY

#####
##
##  CGI modules
##  -----
##
##  http://www.lighttpd.net/documentation/cgi.html
##
server.modules += ( "mod_cgi" )

##
##  Plain old CGI handling
##
##  For PHP don't forget to set cgi.fix_pathinfo = 1 in the php.ini.
##
cgi.assign      = ( ".pl" => "/usr/bin/perl",
                    ".cgi" => "/usr/bin/perl",
                    ".rb"  => "/usr/bin/ruby",
                    ".erb" => "/usr/bin/eruby",
                    ".py"  => "/usr/bin/python",
                    ".php" => "/usr/bin/php-cgi" )

##
##  to get the old cgi-bin behavior of apache
I /etc/lighttpd/conf.d/10-cgi.conf [Modified] 20/34 58%
```

验证 php 安装:

写一个简单的 php 测试脚本。

```
#index.php
```

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

在 PC 上通过浏览器访问。



安装 mysql:

```
opkg install libpthread libncurses libreadline mysql-server
```

配置 mysql:

这部分步骤挺多的, 参考了 [http://blog.csdn.net/just\\_young/article/details/41979089](http://blog.csdn.net/just_young/article/details/41979089)

的配置过程。

```
sed -i 's,^datadir.*,datadir' = "/srv/mysql",g' /etc/my.cnf
sed -i 's,^tmpdir.*,tmpdir' = "/tmp",g' /etc/my.cnf
mkdir -p /srv/mysql
mysql_install_db --force
/etc/init.d/mysql start
/etc/init.d/mysql enable
```

```
mysqladmin -u root password '123456'
```

## 安装使 PHP 和 MySQL 协同作业的组件:

```
opkg install php5-mod-mysql
```

分别配置 php 和 MySQL:

```
sed -i 's,;extension=mysql.so,extension=mysql.so,g' /etc/php.ini
```

```
sed -i 's,;extension=mysqli.so,extension=mysqli.so,g' /etc/php.ini
```

将/etc/my.conf 文件中数据库 SOCKET 地址配置到/etc/php.ini 文件中。

以上完成了 Mysql 的配置并使得 PHP 可以和它一同工作。

### 编写 PHP 脚本检验:

[illegible]

结果:

