

# 安装httpd+php+mysql

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我现在拿到的板子是wrtnode,所以这次实验在wrtnode的环境下进行。

## 实验目的

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板一块;  
5V/1A电源一个;  
microUSB线一根;  
USB-TTL串口线一根 (FT232RL芯片或PL2303芯片)。

以下为自备 (可选) 器材:

PC(Windows/Mac OS/Linux)一台;  
以太网线一根 (可能还需要路由器等)。

### 软件

PC上的USB-TTL串口线配套的驱动程序;  
PC上的串口终端软件, 如minicom、picocom、putty等;  
PC上的SSH软件, 如putty等。

## 实验步骤

### 1.在wrtnode上安装并配置apache

连接上wrtnode的wifi之后ssh过去设置好网络, 然后我计划安装lighttpd的server。  
每次开机进行软件包管理之前都需要先opkg update一下。然后就可以开始安装

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

```
i.wrtno.de - PuTTY
root@OpenWrt:~# ping baidu.com
PING baidu.com (180.149.132.47): 56 data bytes
64 bytes from 180.149.132.47: seq=0 ttl=50 time=30.784 ms
64 bytes from 180.149.132.47: seq=1 ttl=50 time=33.807 ms
64 bytes from 180.149.132.47: seq=2 ttl=50 time=30.430 ms
64 bytes from 180.149.132.47: seq=3 ttl=50 time=30.881 ms
^C
--- baidu.com ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 30.430/31.475/33.807 ms
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.
```

然后就是要配置lighttpd，主要修改 /etc/lighttpd/lighttpd.conf 文件

```
i.wrtno.de - 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    = "/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",
I /etc/lighttpd/lighttpd.conf [Modified] 14/39 35%
```

然后就可以把server开起来了

```
/etc/init.d/lighttpd start
/etc/init.d/lighttpd enable
```

这个时候我遇到了报错 `can't bind to port: 80 Address already in use`，是80端口已经被占用的错误。google了挺久也没有解决问题，最后发现原来openwrt上已经有了uhttpd并且开机启动了

用 `netstat -nlp | grep 80` 可以查看80端口的使用情况。

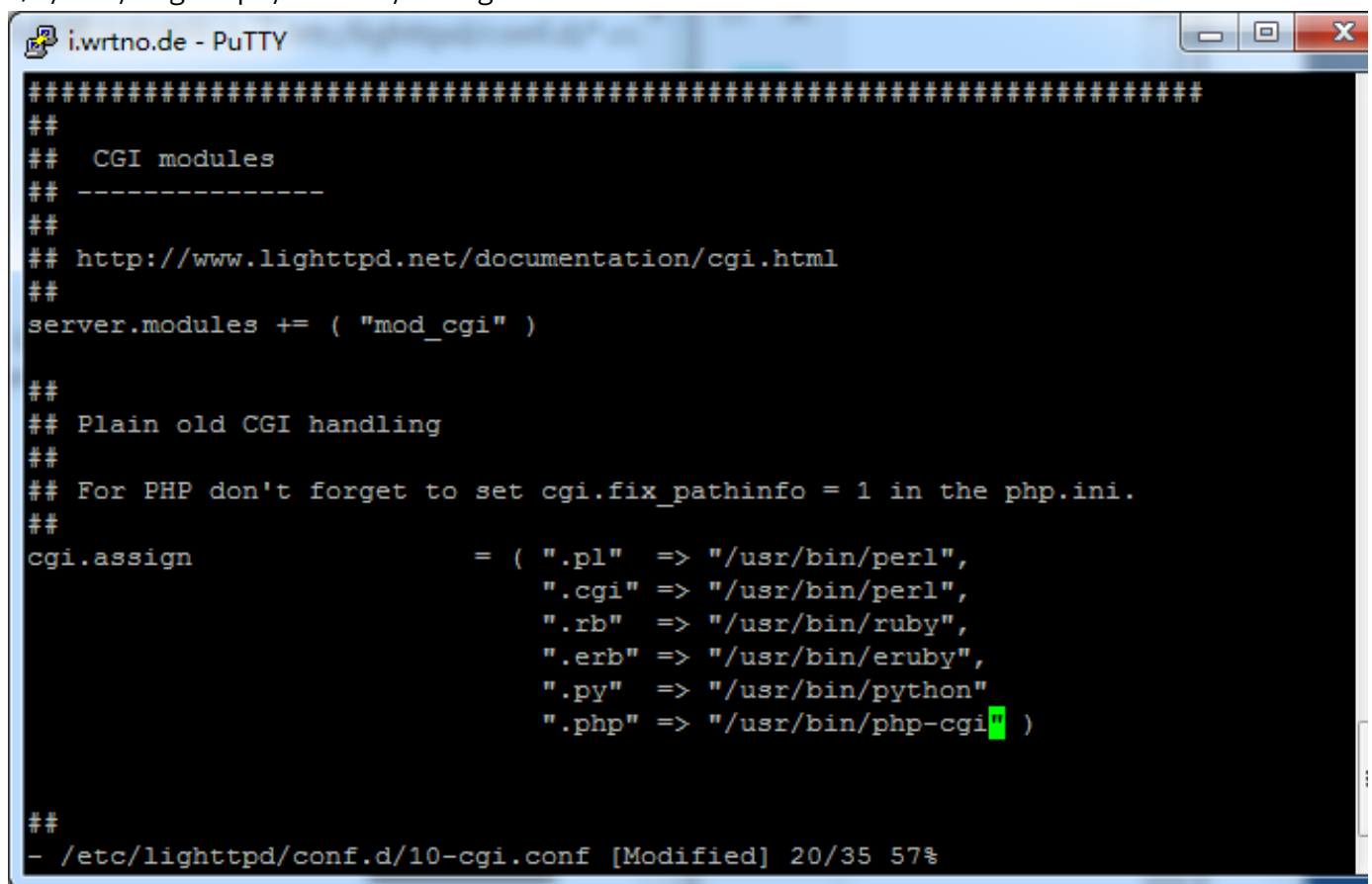
然后我就直接remove了uhttpd，重启之后正常的开启了lighttpd

## 2. 安装PHP

命令:

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

然后配置一下 `/etc/php.ini` 文件设置一下`doc_root`，然后再配置一下 `/etc/lighttpd/conf.d/10-cgi.conf`



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

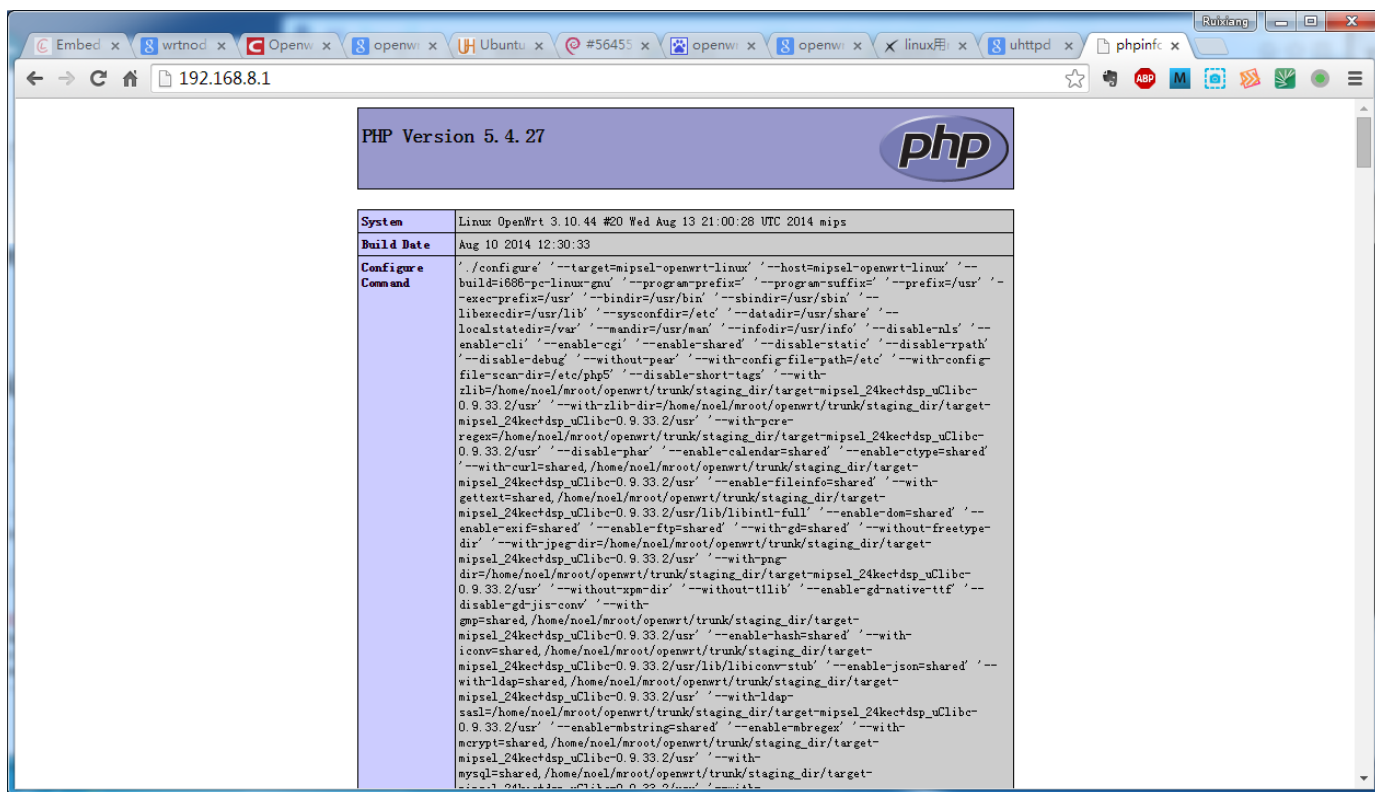
##
## Plain old CGI handling
##
## For PHP don't forget to set cgi.fix_pathinfo = 1 in the php.ini.
##
cgi.assign          = ( ".pl"   => "/usr/bin/perl",
                        ".cgi"  => "/usr/bin/perl",
                        ".rb"   => "/usr/bin/ruby",
                        ".erb"  => "/usr/bin/eruby",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

##
- /etc/lighttpd/conf.d/10-cgi.conf [Modified] 20/35 57%
```

重启lighttpd之后，在/www下写了一个简单的 `index.php` 来测试php是否成功安装。

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

pc访问 `192.168.8.1` 就可以看到



### 3. 安装MYSQL

命令:

```
opkg update
opkg install libpthread libncurses libreadline mysql-server
opkg install php5-mod-mysql
```

然后就是mysql的初始化工作

```
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/mysqld start
/etc/init.d/mysqld enable
mysqladmin -u root password {root_passwd}
```

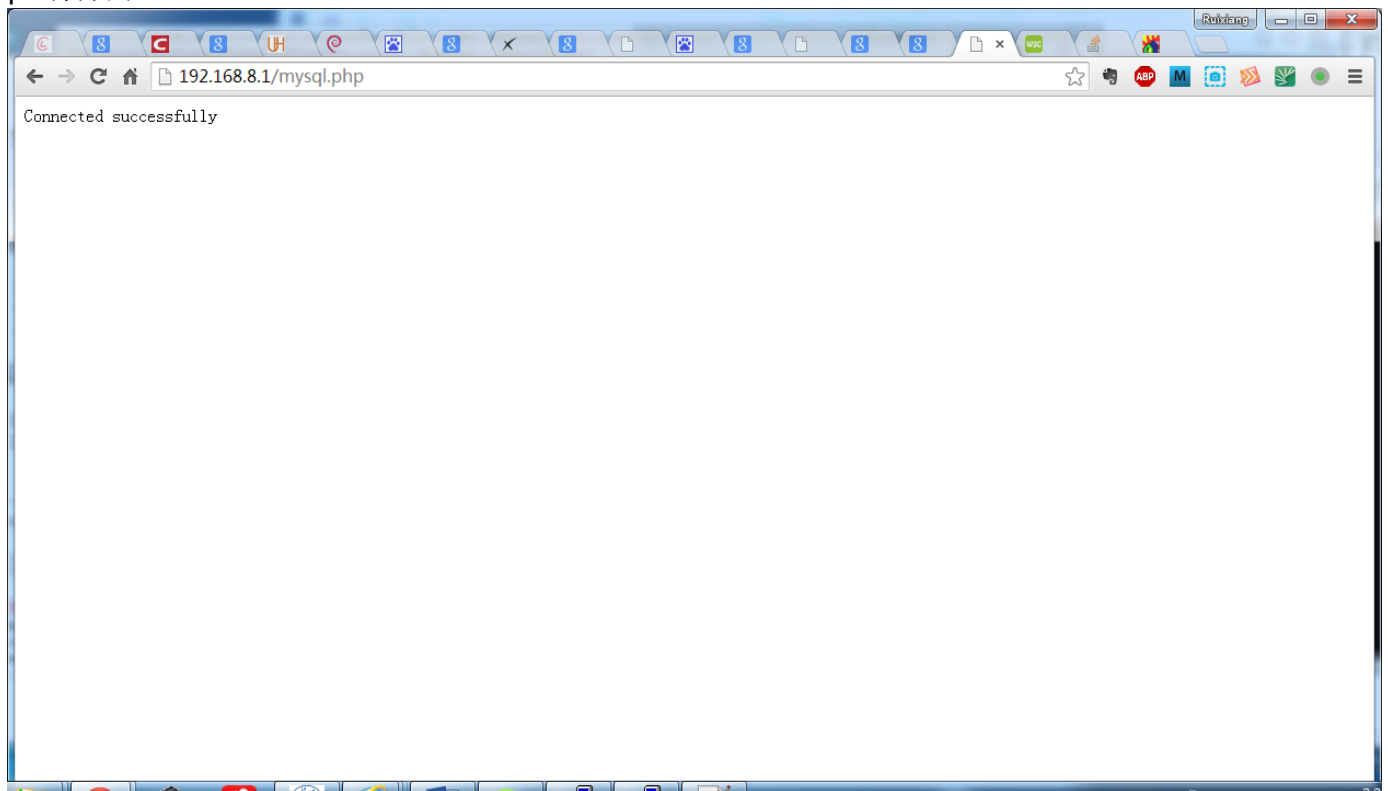
配置 /etc/php.ini

```
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
```

然后再修改 `/etc/my.cnf` 配置socket为 `/var/run/mysqld.sock`  
为了测试mysql是否安装成功，我写了一个简单的php脚本连接到数据库

```
<html>
<head>
<title>Connecting MySQL Server</title>
</head>
<body>
<?php
    $dbhost = 'localhost';
    $dbuser = 'root';
    $dbpass = 'momo';
    $conn = mysql_connect($dbhost, $dbuser, $dbpass);
    if(! $conn )
    {
        die('Could not connect: ' . mysql_error());
    }
    echo 'Connected successfully';
    mysql_close($conn);
?>
</body>
</html>
```

### pc端访问



至此完成了httpd+php+mysql的环境的搭建工作。

### 实验感悟

这次实验过程中遇到了比较多的错误和困难，需要读文档和搜索才能解决掉大部分的问题。所以多动手才是最主要的。

