

# 第一周：学籍备案以及环境准备

## 个人资料



- 知识星球中的编号: 1371
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- 联系方式: 382615666(QQ)
- 目前职业: 前端 (4年)
- 所在地区: 长沙
- 熟悉的编程语言: javascript
- 自我介绍: 前端, 擅长html, css, 业余骑行, 背包客

## 环境准备

1. 安装虚拟机vmware
2. 虚拟机安装centos 7
  - 判断是否能联网, 结果是不能

```
service network status
```

- 修改网卡开机启动, 并且启动服务

```
vi /etc/sysconfig/network-scripts/ifcfg-ens33
service network restart
```

### 3. yum 安装 nginx

- 配置安装源

```
rpm -ivh http://nginx.org/packages/centos/7/noarch/RPMS/nginx-release-centos-7-0.el7ngx.noarch.rpm
```

- 安装nginx

```
yum install -y nginx
```

- 启动nginx

```
nginx
```

- 本机查看是否启动，结果是成功的

```
curl 127.0.0.1
```

- 宿主机无法访问，由此判断防火墙端口未开放。开放linux防火墙端口

```
firewall-cmd --zone=public --add-port=80/tcp --permanent
```

- 重启防火墙，外网访问成功

```
service firewalld restart
```

- 开机自动启动

```
systemctl enable nginx
```

### 4. yum 安装 php-fpm

- 直接安装

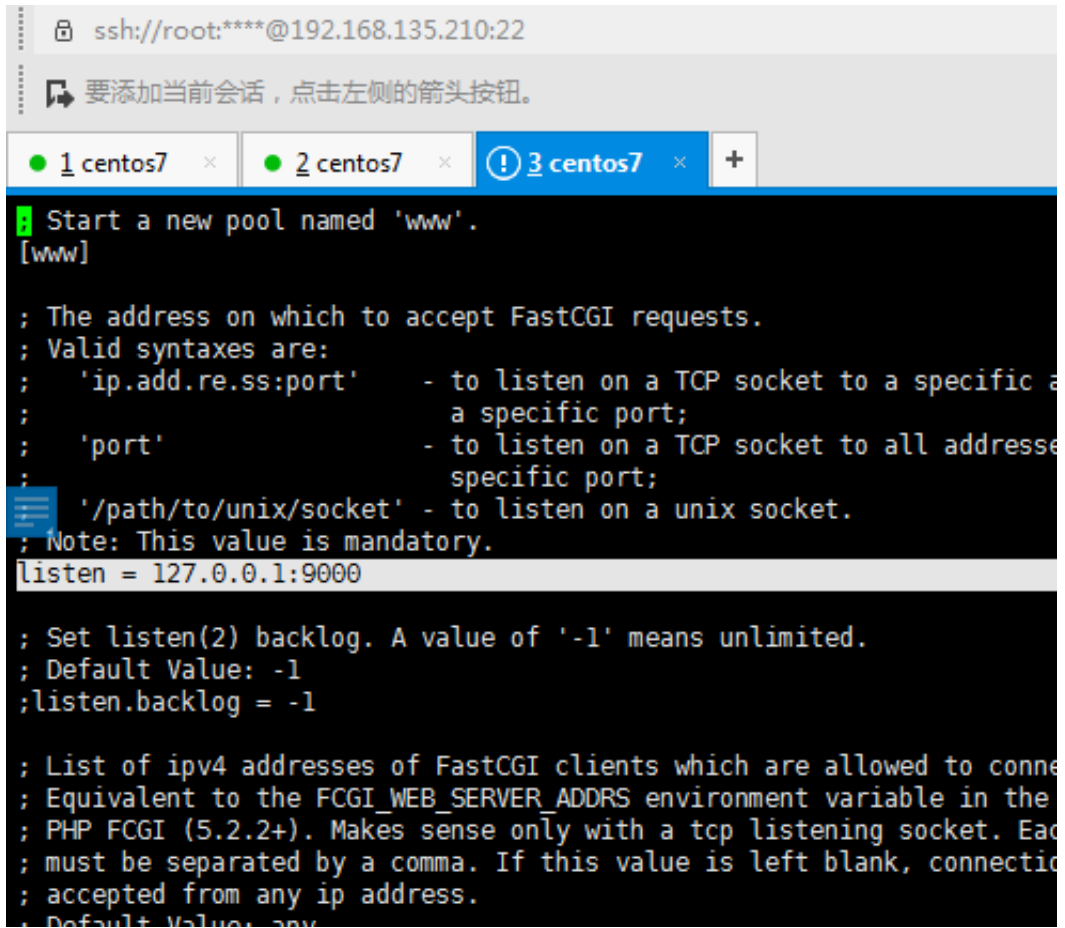
```
yum install -y php-fpm
```

- 查看是否安装成功，查看监听端口

```
php-fpm
whereis php-fpm
cat /etc/php-fpm.conf
```

```
; files from a glob(3) pattern. This directive can  
; file.  
include=/etc/php-fpm.d/*.conf
```

```
cat /etc/php-fpm.d/www.conf
```



```
ssh://root:****@192.168.135.210:22  
要添加当前会话，点击左侧的箭头按钮。  
1 centos7 x 2 centos7 x 3 centos7 x +  
Start a new pool named 'www'.  
[www]  
  
; The address on which to accept FastCGI requests.  
; Valid syntaxes are:  
; 'ip.add.re.ss:port'   - to listen on a TCP socket to a specific a  
;                       a specific port;  
; 'port'               - to listen on a TCP socket to all addresse  
;                       specific port;  
; '/path/to/unix/socket' - to listen on a unix socket.  
; Note: This value is mandatory.  
listen = 127.0.0.1:9000  
  
; Set listen(2) backlog. A value of '-1' means unlimited.  
; Default Value: -1  
listen.backlog = -1  
  
; List of ipv4 addresses of FastCGI clients which are allowed to conne  
; Equivalent to the FCGI_WEB_SERVER_ADDRS environment variable in the  
; PHP FCGI (5.2.2+). Makes sense only with a tcp listening socket. Eac  
; must be separated by a comma. If this value is left blank, connectio  
; accepted from any ip address.  
; Default Value: none
```

- 启动 php-fpm

```
service php-fpm start
```

- 开机自动启动

```
systemctl enable php-fpm
```

## 5. 修改nginx配置

- 修改nginx配置

```
vi /etc/nginx/conf.d/default.conf
```

- 配置php，修改 root fastcgi\_param 配置

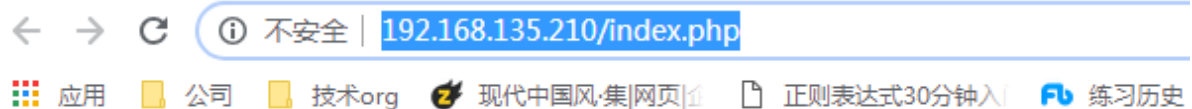
```
#
#location ~ /\.php$ {
#    root    html;
#    fastcgi_pass 127.0.0.1:9000;
#    fastcgi_index index.php;
#    fastcgi_param SCRIPT_FILENAME /scripts$fastcgi_script_name;
#    include fastcgi_params;
#}
```

```
location ~ /\.php$ {
    root    /usr/share/nginx/html;
    fastcgi_pass 127.0.0.1:9000;
    fastcgi_index index.php;
    fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
    include fastcgi_params;
}
```

- 重启nginx

```
nginx -s reload
```

- 在 /usr/share/nginx/html 创建index.php
- 在宿主机访问 <http://192.168.135.210/index.php>



# My first PHP page

Hello World!

## 6. 安装mysql

- 安装mysql

```
wget https://repo.mysql.com//mysql80-community-release-el7-3.noarch.rpm
rpm -ivh ./mysql80-community-release-el7-3.noarch.rpm
yum install -y mysql-server
```

- 查看初始化密码

```
cat /var/log/mysqld.log
```

- 修改密码

```
alter USER 'root'@'localhost' IDENTIFIED BY '_R123oo456t';
```

- 开放3306端口

```
firewall-cmd --zone=public --add-port=3306/tcp --permanent
```

- 查看所有用户是否可以远程连接

```
select host, user, authentication_string, plugin from user;
```

- 修改root用户host值, 使root用户可以远程登录

```
update user set host = "%" where user='root';  
flush privileges;
```

- navicat 无法连接

```
alter USER 'root'@'%' IDENTIFIED WITH mysql_native_password BY  
'_R123oo456t';  
flush privileges;
```

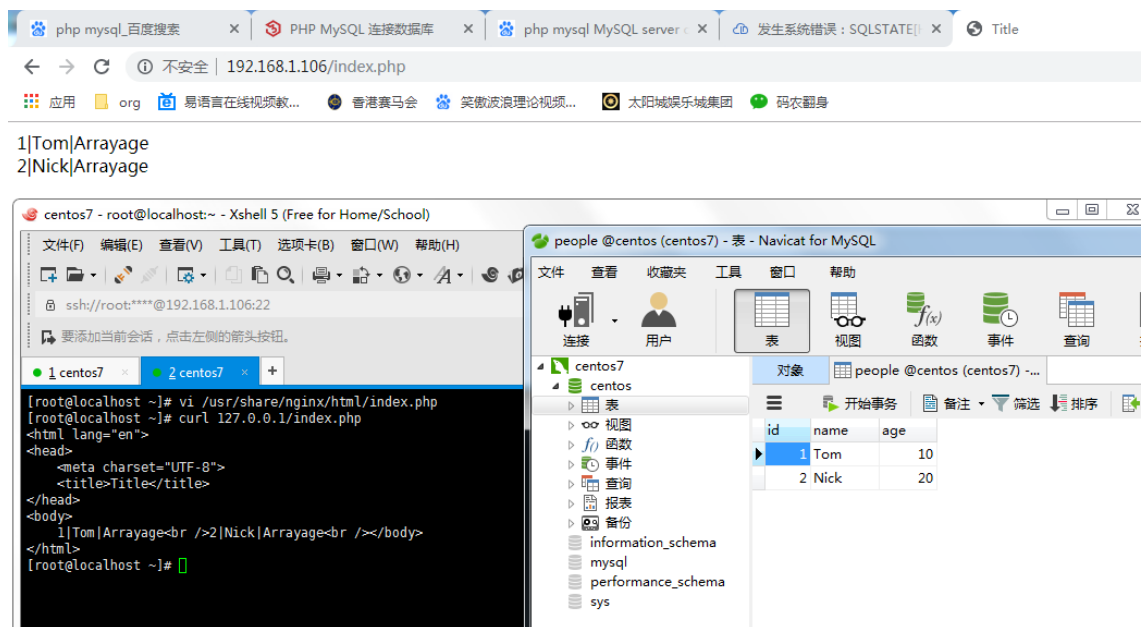
- 设置开机启动

```
systemctl enable mysqld
```

## 7. 编写php代码

```
<?php  
$con = mysql_connect('localhost', 'root', '_R123oo456t');  
if (!$con) {  
    die('Could not connect: ' . mysql_error());  
}  
mysql_select_db('centos', $con);  
$result = mysql_query('select * from people');  
while ($row = mysql_fetch_array($result)) {  
    echo $row['id'] . '|' . $row['name'] . '|' . $row.age;  
    echo '<br />';  
}  
mysql_close($con);  
?>
```

- 查询成功



## 遇到的问题

### 1. 下载mysql rpm 403

- 虚拟机网络模式错误，使用的NAT，mysql官网将wget 请求识别为爬虫引擎，修改虚拟机网卡为桥接模式

### 2. 宿主机无法请求php

- 先判断虚拟机能否curl获得响应
- 不能，则需要查看日志
  - nginx: /etc/log/nginx/xxx.log
  - php-fpm: /etc/log/php-fpm/xxx.log
- 能，则需要打开防火墙端口，centos 7 的防火墙是firewalld服务

### 3. navicat无法连接数据库

- 先将防火墙打开端口
- 修改root用户host值，使root用户可以远程登录

```
update user set host = "%" where user='root';
flush privileges;
```

- navicat 无法连接

```
alter USER 'root'@'%' IDENTIFIED WITH mysql_native_password BY
'_R123oo456t';
flush privileges;
```

### 4. 虚拟机无法联网

- 先看网卡是否启动，修改onboot=on，重启网络服务

### 5. php无法连接mysql

- server\_name使用 127.0.0.1 无法连接，后面修改为 localhost 连接成功

### 6. mysql连接未定义

```
yum install -y php-mysql
service php-fpm restart
```

## 服务器加固

- 查看服务器开放端口，关闭非必要端口

```
firewall-cmd --zone=public --list-ports
firewall-cmd --zone=public --remove-port=xx/tcp --permanent
```

- 对未经过安全认证的RPM包进行安全检查

```
rpm -qp xxx.rpm --scripts
```

- 修改账户口令设置

```
vi /etc/login.defs

PASS_MAX_DAYS    99999
PASS_MIN_DAYS    90
PASS_MIN_LEN     8
PASS_WARN_AGE    30
```

- 修改ssh的设置

```
vi /etc/ssh/sshd_config

# ssh 登录端口号
Port 51866
# 禁止root ssh远程登录
PermitRootLogin no
# 限定用户必须在指定时间内认真成功
LoginGraceTime 30
# 登录尝试次数
MaxAuthTries 3
# 禁止root登录
PermitRootLogin no
# 超时登出
vi /etc/profile
export TMOUT=90
source /etc/profile
# 查看开机启动服务，禁用不要的服务
systemctl list-unit-files | grep enabled
```

- 修改nginx配置

```
http {
    # 不允许列出整个目录
    autoindex off;
    # 隐藏nginx版本号
    server_tokens off;
    # 读取header头超时时间
    client_header_timeout 15;
    # 读取body超时时间
    client_body_timeout 15;
    # 上传文件大小限制
    client_max_body_size 100m;
    # 响应客户端超时时间
    send_timeout 600;
    # 客户端保持会话超时时间
    keepalive_timeout 60;
}
server {
    # 禁止访问以下后缀名文件
    location ~.*\.(sql|log|txt|jar|war|sh|py) {
        deny all;
    }
}
```

## 参考资料

- [CentOS 7使用yum安装Nginx](#)
- [centos 7安装mysql](#)
- [w3school.php 教程](#)
- [菜鸟自学网.php 教程](#)
- [php mysql\\_connect连接mysql失败解决方案](#)
- [127.0.0.1与localhost区别](#)
- [linux安全策略资料传送门](#)
- [nginx安全策略传送门](#)