Web 服务搭建（重点）

案例一、搭建基本的 Web 服务

1.安装 **httpd**

2.重启 **httpd** 服务，设置为开机自启

```
[root@server0 ~]# systemctl restart httpd
```

```
[root@server0 ~]# systemctl enable httpd
ln -s '/usr/lib/systemd/system/httpd.service' '/etc/systemd/system/multi-user.target.
wants/httpd.service'
```

3.书写自己的页面**/var/www/html/index.html**

```
[root@server0 ~]# echo My First Web > /var/www/html/index.html
```

4.修改配置文件 **/etc/httpd/conf/httpd.conf**

```
[root@server0 ~]# vim /etc/httpd/conf/httpd.conf
# ServerName gives the name and port that the server uses to identify itself.
# This can often be determined automatically, but we recommend you specify
# it explicitly to prevent problems during startup.
#
# If your host doesn't have a registered DNS name, enter its IP address here.
#
#ServerName server0.example.com:80        ←
```

5.重启 **httpd** 服务

```
[root@server0 ~]# systemctl restart httpd
[root@server0 ~]# systemctl enable httpd
```

6.修改配置文件，指定网页文件的根路径【每次修改完配置文件都要重启服务】

```
[root@server0 ~]# vim /etc/httpd/conf/httpd.conf
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory, but
# symbolic links and aliases may be used to point to other locations.
#
DocumentRoot "/var/www/abc"
-- 插入 --                                      119,27        27%
```

```
[root@server0 ~]# systemctl restart httpd
[root@server0 ~]# systemctl enable httpd
```

```
[ root@server0 ~]# mkdir /var/www/abc
[ root@server0 ~]# echo Wo Shi abc > /var/www/abc/index.html
[ root@server0 ~]# cat /var/www/abc/index.html
Wo Shi abc
```

7.在 DocumentRoot 建立子目录

```
[ root@server0 ~]# mkdir /var/www/abc/private
[ root@server0 ~]# echo wo shi private > /var/www/abc/private/index.html
[ root@server0 ~]# cat /var/www/abc/private/index.html
wo shi private
```

8.配置一个虚拟站点【重点】[安装 httpd][单做]*****

补充：**vim** 命令模式下，复制光标行及以下的四行的命令：**4yy**，粘贴的命令：**p**（光标放在最后粘贴）

```
[ root@server0 ~]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
 ServerName www0.example.com
 DocumentRoot /var/www/qq
</VirtualHost>
<VirtualHost *:80>
 ServerName webapp0.example.com
 DocumentRoot /var/www/360
</VirtualHost>
```

```
[ root@server0 ~]# mkdir /var/www/qq
[ root@server0 ~]# mkdir /var/www/360
[ root@server0 ~]# echo wo shi qq > /var/www/qq/index.html
[ root@server0 ~]# echo wo shi 360 > /var/www/360/index.html
[ root@server0 ~]# systemctl restart httpd
```

*** 一旦使用虚拟 Web 主机功能,所有的站点都必须用虚拟 Web 主机来实现

```
[ root@server0 ~]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
 ServerName server0.example.com
 DocumentRoot /var/www/abc
</VirtualHost>
```

9.Web 访问控制

```
[ root@server0 ~]# mkdir /var/www/abc/private
[ root@server0 ~]# echo wo shi private > /var/www/abc/private/i
ndex.html
[ root@server0 ~]# vim /etc/httpd/conf.d/nsd02.conf
```

```
<Directory /var/www/abc/private>
  Require ip 172.25.0.11
</Directory>
~
```

```
[ root@server0 ~]# systemctl restart httpd
```

```
[ root@server0 ~]# yum - y install elinks
已加载插件 : langpacks
```

```
[ root@server0 ~]# elinks - dump server0. example. com/private
   wo shi private
```

10.配置一个虚拟站点【重点】[安装 httpd][单做]*****思路整理

```
[root@server0 ~]# firewall-cmd --set-default-zone=trusted
success
```

```
[root@server0 ~]# yum -y install httpd
\已加载插件 : langpacks
```

```
[root@server0 ~]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<virtualhost *:80>
 servername www0.example.com
 documentroot /var/www/qq
</virtualhost>
<virtualhost *:80>
 servername webapp0.example.com
 documentroot /var/www/360
</virtualhost>
<virtualhost *:80>
 servername server0.example.com
 documentroot /var/www/abc
</virtualhost>
```

```
[root@server0 ~]# mkdir /var/www/qq
[root@server0 ~]# mkdir /var/www/360
[root@server0 ~]# mkdir /var/www/abc
[root@server0 ~]# echo wo shi qq > /var/www/qq/index.html
[root@server0 ~]# echo wo shi 360 > /var/www/360/index.html
[root@server0 ~]# echo wo shi abc > /var/www/abc/index.html
[root@server0 ~]# systemctl restart httpd
[root@server0 ~]# mkdir /var/www/abc/private
[root@server0 ~]# echo wo shi private > /var/www/abc/private/index.html
```

```
[root@server0 ~]# vim /etc/httpd/conf.d/nsd02.conf
```

```
<directory /var/www/abc/private>
 require ip 172.25.0.11
</directory>
```

```
[root@server0 ~]# systemctl restart httpd
[root@server0 ~]# yum -y install elinks
已加载插件 : langpacks
```

```
[root@server0 ~]# elinks -dump server0.example.com/private
   wo shi private
```

10.修改 DocumentRoot 路径

1）创建新的网页目录

```
[root@server0 ~]# mkdir /webroot
[root@server0 ~]# echo wo shi webroot > /webroot/index.html
```

2）修改配置文件 /etc/httpd/conf.d/nsd01.conf

```
[root@server0 ~]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
  ServerName server0.example.com
  DocumentRoot /webroot        ←——————— 直接修改即可，不用追加
</VirtualHost>
```

3）修改配置文件

```
[root@server0 ~]# vim /etc/httpd/conf.d/nsd02.conf
```

```
<Directory /var/www/abc/private>
  Require ip 172.25.0.11
</Directory>
<Directory /webroot>            ←——————————  追加
  Require all granted
</Directory>
```

4）SELinux 策略修改，安全的上下文（标签）

```
[root@server0 ~]# ls -Zd /webroot/  ←——————
drwxr-xr-x. root root unconfined_u:object_r:default_t:s0 /webroot/
[root@server0 ~]# ls -Zd /var/www
drwxr-xr-x. root root system_u:object_r:httpd_sys_content_t:s0 /var/www
[root@server0 ~]# chcon -R --reference=/var/www /webroot  ←——————
[root@server0 ~]# ls -Zd /webroot  ←——————
drwxr-xr-x. root root system_u:object_r:httpd_sys_content_t:s0 /webroot
[root@server0 ~]# ls -Zd /var/www  ←——————
drwxr-xr-x. root root system_u:object_r:httpd_sys_content_t:s0 /var/www
```

SELinux 策略修改，安全的上下文（标签）

cp 复制会继承父目录标签值，mv 移动不会继承（会被系统认为是不安全的），所以多用复制

5）重启 httpd 服务

```
[root@server0 ~]# systemctl restart httpd
[root@server0 ~]# elinks -dump server0.example.com
   wo shi webroot
```

```
[root@desktop0 ~]# elinks -dump server0.example.com
   wo shi webroot
```

客户端
1.访问验证：#firefox http://172.25.0.11

```
[ root@desktop0 ~]# firefox http://172.25.0.11
```

2.验证测试页面

```
[ root@desktop0 ~]# yum - y install elinks
```

```
[ root@desktop0 ~]# elinks - dump server0.example.com
    My First Web
```

3.验证测试页面   **[配置完文件，指定网页文件根路径后的测试]**

```
[ root@desktop0 ~]# elinks - dump server0.example.com
    Wo Shi abc
```

4.服务端在 DocumentRoot 建立子目录后，验证测试页面

```
[ root@desktop0 ~]# elinks - dump server0.example.com/private
    wo shi private
```

5.服务端创建好虚拟站点后，客户端验证

```
[ root@desktop0 ~]# elinks - dump www0.example.com
    wo shi qq
[ root@desktop0 ~]# elinks - dump webapp0.example.com
    wo shi 360
```

6.web 访问控制后，验证

```
[ root@desktop0 ~]# elinks - dump server0.example.com/private
                                Forbidden

    You don't have permission to access /private on this server.
```

SELinus 的三个方面策略：布尔值、安全上下文、默认端口

案例二、部署动态网站

1.下载 python 页面

```
[root@server0 ~]# cd /var/www/360
[root@server0 360]# wget http://172.25.254.254/pub/materials/webinfo.wsgi
--2017-12-28 15:38:04--  http://172.25.254.254/pub/materials/webinfo.wsgi
正在连接 172.25.254.254:80... 已连接。
[root@server0 360]# cat webinfo.wsgi
```

2.安装可以翻译/解释 python 页面文件的软件

```
[root@server0 360]# yum -y install mod_wsgi
已加载插件 : langpacks
```

3.方便用户的访问

```
[root@server0 360]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
  ServerName www0.example.com
  DocumentRoot /var/www/qq
</VirtualHost>
<VirtualHost *:80>
  ServerName webapp0.example.com
  DocumentRoot /var/www/360
  Alias / /var/www/360/webinfo.wsgi
</VirtualHost>
<VirtualHost *:80>
  ServerName server0.example.com
  DocumentRoot /webroot
</VirtualHost>
```

```
[root@server0 360]# systemctl restart httpd
```

4.客户端验证

```
[root@desktop0 ~]# elinks -dump webapp0.example.com            客户端验证
   #!/usr/bin/env python import time def application (environ,
   start_response): response_body = 'UNIX EPOCH time is now: %s\n' %
   time.time() status = '200 OK' response_headers = [('Content-Type',
   'text/plain'), ('Content-Length', '1'), ('Content-Length',
   str(len(response_body)))] start_response(status, response_headers) return
   [response_body]
```

5.翻译 Python 页面

```
[root@server0 360]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
 ServerName www0.example.com
 DocumentRoot /var/www/qq
</VirtualHost>
<VirtualHost *:80>
 ServerName webapp0.example.com
 DocumentRoot /var/www/360
 WsgiScriptAlias / /var/www/360/webinfo.wsgi    ⟵
</VirtualHost>
<VirtualHost *:80>
 ServerName server0.example.com
 DocumentRoot /webroot
</VirtualHost>
```

```
[root@server0 360]# systemctl restart httpd
```

6.客户端验证

```
[root@desktop0 ~]# elinks -dump webapp0.example.com
   UNIX EPOCH time is now: 1514448002.16
```

7.修改监听的端口

```
[root@server0 /]# vim /etc/httpd/conf.d/nsd01.conf
```

```
<VirtualHost *:80>
 ServerName www0.example.com
 DocumentRoot /var/www/qq
</VirtualHost>
Listen 8909    ⟵
<VirtualHost *:8909>    ⟵
 ServerName webapp0.example.com
 DocumentRoot /var/www/360
 WsgiScriptAlias / /var/www/360/webinfo.wsgi
</VirtualHost>
<VirtualHost *:80>
 ServerName server0.example.com
 DocumentRoot /webroot
</VirtualHost>
```

```
[root@server0 /]# semanage port -l | grep http
http_cache_port_t          tcp      8080, 8118, 8123, 10001-10010
http_cache_port_t          udp      3130
http_port_t                tcp      80, 81, 443, 488, 8008, 8009, 8443, 9000
pegasus_http_port_t        tcp      5988
pegasus_https_port_t       tcp      5989
```

```
[root@server0 /]# semanage port -a -t http_port_t -p tcp 8909    ⟵
[root@server0 /]# systemctl restart httpd
```

/////////////////////// **-a** 添加 **-t** 类型   **-p** 协议   ///
///当内存不足 **2G** 时，修改会失败，需要划分磁盘

```
[root@server0 /]# fdisk /dev/vdb
```

```
Last 扇区，+扇区 or +size{K,M,G} （2048-20971519，默认为 20971519）：+2G
```

```
[root@server0 /]# mkswap /dev/vdb1
正在设置交换空间版本 1，大小 = 2097148 KiB
无标签，UUID=f2fc1682-1f6e-4642-b344-5993626afb5d
[root@server0 /]# swapon /dev/vdb1
```

//

8.客户端验证

```
[root@desktop0 ~]# elinks -dump webapp0.example.com:8909
   UNIX EPOCH time is now: 1514449100.42        时间戳，从1970-1-1 0：0：0 到现在的秒数
```