# 项目报告书

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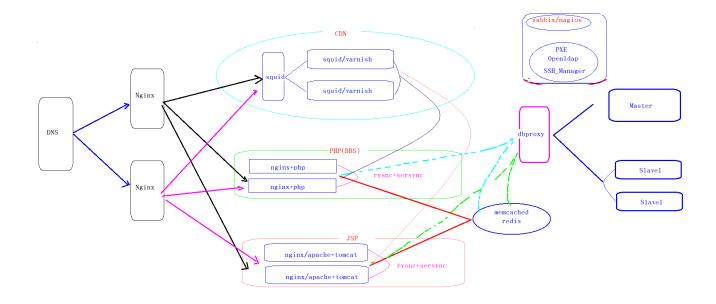
#### 摘要:

搭建过程中重温了 MYSQL 集群架构、 Nginx+tomcat 集群架构、内容分发网络(CDN)架构、Nginx 的负载均衡(LB)、分布式存储数据库、Memcached 缓存技术以及一系列服务的基本操作。

# 项目的搭建思路:

- 1) 搭建 pxe 批量安装系统(kvm 克隆)
- 2) 安装后端数据库实现 mysql 读写分离与主从复制
- 3) 安装 servsync 实现页面一致性的发布(NFS 共享存储)
- 4) 安装 nginx+php+memcache/redis(php 论坛) www.php-fX.com
- 5) 安装 nginx+tomcat+jdk+jsp+memcache(jsp 企业网站) www. jsp-fX. com
- 6) 安装 nginx 反向代理服务器(调度器)实现负载均衡(轮循)
- 7) 安装 squid 或者 varnish 实现静态缓存加速(CDN)
- 8) 安装 nginx 反向代理服务器(双机互备)
- 9) 通过 DNS 轮循访问 2 台 nginx 调度器
- 10) 设计 ssh 服务(监听内网, 使用密钥对登录, 设置跳板机)

# 项目拓扑图



```
DNS 轮询
```

Nginx 反向代理(调度) nginx-001 172.25.5.10 nginx-002 172.25.5.11 Squid 静态缓存加速器 squid-001 172. 25. 5. 12 squid-002 172. 25. 5. 13 Web 服务器: 172.25.254.221 PHP 论坛: www.php-fX.com nginx1+php1 172. 25. 5. 14 NFS(Discuz) 页面数据一致性 172.25.5.20 nginx2+php2 172.25.5.15 JSP 门户网站: www. jsp-fX. com nginx1+tomcat1 172.25.5.16 NFS(ejforum) 页面数据一致性 172.25.5.20 nginx1+tomcat1 172.25.5.17 memcached/redis 数据库缓存加速器(保证 session 一致性) 172.25.5.18 数据库: mariadb-server 172.25.5.19 主从复制/读写分类 / master1(rw) ---- slave1(r) dbproxy(读写分离) 

测试机: 172.25.254.5

第一步:

### 安装 DNS:

```
www. php-f5. com 172. 25. 5. 10
www. jsp-f5. com 172. 25. 5. 11
[root@foundation1 ~]# yum -y install bind
[root@foundation1 named]# cat /etc/named.conf
options {
listen-on port 53 { 127.0.0.1; any; };
listen-on-v6 port 53 { ::1; };
directory "/var/named";
dump-file "/var/named/data/cache_dump.db";
statistics-file "/var/named/data/named_stats.txt";
memstatistics-file "/var/named/data/named_mem_stats.txt";
allow-query { localhost; any; };
recursion yes;
dnssec-enable yes;
dnssec-validation yes;
bindkeys-file "/etc/named.iscdlv.key";
managed-keys-directory "/var/named/dynamic";
pid-file "/run/named/named.pid";
session-keyfile "/run/named/session.key";
};
logging {
channel default_debug {
file "data/named.run";
severity dynamic;
};
};
view "php" {
match-clients { 172.25.5.0/24; };
zone ". " IN {
type hint;
file "named.ca";
}:
zone "php-f5. com" IN {
type master;
file "php-f5. com. zone";
include "/etc/named.rfc1912.zones";
};
view "jsp" {
match-clients { 172.25.254.0/24; };
zone ". " IN {
type hint;
```

```
file "named.ca";
};
zone "jsp-f5.com" IN {
type master;
file "jsp-f5.com.zone";
include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
[root@foundation1 named]# cat /var/named/jsp-f5.com.zone
$TTL 1D
@ IN SOA ns1. jsp-f5. com. nsmail. jsp-f5. com. (
10; serial
1D; refresh
1H; retry
1W; expire
3H); minimum
@ NS ns1. jsp-f5. com.
ns1 A 172. 25. 254. 221
www A 172. 25. 5. 11
[root@foundation1 named]# cat /var/named/php-f5.com.zone
$TTL 1D
@ IN SOA ns1.php-f5.com. nsmail.php-f5.com. (
10; serial
1D; refresh
1H ; retry
1W; expire
3H); minimum
@ NS ns1. php-f5. com.
ns1 A 172. 25. 254. 221
www A 172. 25. 5. 10
```

```
安装数据库
```

MariaDB [(none)]> flush privileges;

```
[root@foundation1 ~]# yum -y install mariadb-server mariadb
[root@foundation1 ~]# systemctl start mariadb
[root@foundation1 ~]# systemctl enable mariadb

初始化数据库

MariaDB [(none)]> delete from mysql.user where user='';

MariaDB [(none)]> update mysql.user set password=password('uplooking') where user='root';

MariaDB [(none)]> flush privileges;

新建 BBS 论坛 JSP 网站库

MariaDB [(none)]> create database bbs default charset utf8;

MariaDB [(none)]> create database jsp default charset utf8;

MariaDB [(none)]> grant all on bbs.* to runbbs@'%' identified by '123456';

MariaDB [(none)]> grant all on jsp.* to runjsp@'%' identified by '123456';
```

```
搭建 NFS 服务,并上传页面源代码
[root@foundation1 ~]# yum -y install nfs-utils
[root@foundation1 ~]# vim /etc/exports
/webroot 172. 25. 5. 0/24 (rw, sync, no_root_squash)
[root@foundation1 ~]# mkdir /webroot
[root@foundation1 ~]# chmod 777 /webroot/
[root@foundation1 ~]# service nfs restart
[root@foundation1 ~]# service rpcbind restart
[root@foundation1]# wget
ftp://172.25.254.250/notes/project/software/Inmp/Discuz_X3.1_SC_UTF8.zip
                                                 ~]#
[root@foundation1
                                                                                    wget
ftp://172.25.254.250/notes/project/software/tomcat/ejforum-2.3.zip
[root@foundation1 ~]# unzip Discuz_X3.1_SC_UTF8.zip
[root@foundation1 ~]# mv upload/ /webroot/bbs
[root@foundation1 ~]# unzip ejforum-2.3.zip
[root@foundation1 ~]# mv ejforum-2.3/ejforum/ /webroot/jsp
```

```
推送密钥对,关闭所有节点的防火墙与 selinux (建议永久关闭)
[root@foundation1 ~]# ssh-keygen -t dsa
[root@foundation1 ~]# for i in {10..19}

> do

> ssh-copy-id root@172.25.5.$i

> done

[root@foundation1 ~]# for i in {10..19}

> do

> ssh root@172.25.5.$i "setenforce 0; iptables -F"

> done
```

```
搭建 BBS
```

```
搭建 PHP 网站:
Srvere 172, 25, 5, 14
[root@foundation1 ~]# ssh root@172.25.5.14
安装 Inp+spawn-fcgi:
[root@servere ~] # yum -y install php php-mysql
                                   ~1#
[root@servere
                                                                                     -ivh
ftp://172.25.254.250/notes/project/UP200/UP200 nginx-master/pkg/nginx-1.8.1-1.el7.ngx.x
86 64. rpm
                                   ~1#
[root@servere
                                                            rpm
ftp://172.25.254.250/notes/project/UP200/UP200_nginx-master/pkg/spawn-fcgi-1.6.3-5.el7.
x86_64. rpm
配置虚拟主机
[root@servere ~]# vim /etc/nginx/nginx.conf
worker_processes 2;
events {
use epoll;
worker_connections 1024;
}
[root@servere ~] # vim /etc/nginx/conf. d/www.php-f5.com.conf
server {
listen 80;
server_name www.php-f5.com;
root /usr/share/nginx/php-f5.com;
index index. php index. html index. htm;
location ~ \.php$ {
fastcgi pass 127.0.0.1:9000;
fastcgi_index index.php;
fastcgi_param SCRIPT_FILENAME /usr/share/nginx/php-f5.com$fastcgi_script_name;
include fastcgi_params;
}
}
[root@servere ~] # mkdir -p /usr/share/nginx/php-f5.com
[root@servere ~]#
wget lftp://172.25.254.250/notes/project/software/Inmp/Discuz_X3.1_SC_UTF8.zip
[root@servere ~] # unzip Discuz X3.1 SC UTF8.zip
[root@servere ~] #mv upload/*/usr/share/nginx/php-f5.com/
配置 php 服务(spwan-fcgi)
[root@servere ~]# vim /etc/sysconfig/spawn-fcgi
```

[root@servere ~]# service spawn-fcgi startjjitrt

[root@servere ~]# chkconfig spawn-fcgi on
[root@servere ~]# netstat -tnlp | grep :9000

tcp 0 0 0.0.0:9000 0.0.0:\* LISTEN 24248/php-cgi

[root@servere ~]# chkconfig nginx on
[root@servere ~]# service nginx start

#### 修改目录权限

[root@servere ~] # cd /usr/share/nginx/php-f5.com/ [root@servere php-f5.com] # chown nginx.nginx -R./config/./data/./uc\_server/./uc\_client/

测试机 172.25.254.5: # vim /etc/hosts 172.25.5.14 www.php-f5.com

浏览器查看: http://www.php-f5.com

安装 Discuz 网页 填写数据库信息:

数据库服务器: 172.25.254.221

数据库名: bbs

数据库用户名: runbbs 数据库密码: 123456



[root@foundation1 ~]# ssh root@172.25.5.15

# 安装软件:

[root@serverf ~]# yum -y install php php-mysql

~]# [root@serverf -ivh rpm

ftp://172.25.254.250/notes/project/UP200/UP200\_nginx-master/pkg/nginx-1.8.1-1.el7.ngx.x 86 64. rpm

~1# [root@serverf rpm -ivh

ftp://172.25.254.250/notes/project/UP200/UP200\_nginx-master/pkg/spawn-fcgi-1.6.3-5.el7. x86\_64. rpm

可以将 172. 25. 5. 14 的数据同步到 172. 25. 5. 15 节点:

# nginx 配置文件

[root@servere ~]# rsync -avzR /etc/nginx/ 172.25.5.15:/

# php 配置文件

[root@servere ~] # rsync -avzR /etc/sysconfig/spawn-fcgi 172.25.5.15:/ [root@servere ~] #rsync -avzR /usr/share/nginx/php-f5.com/ root@172.25.5.15:/

[root@serverf ~]# service nginx start

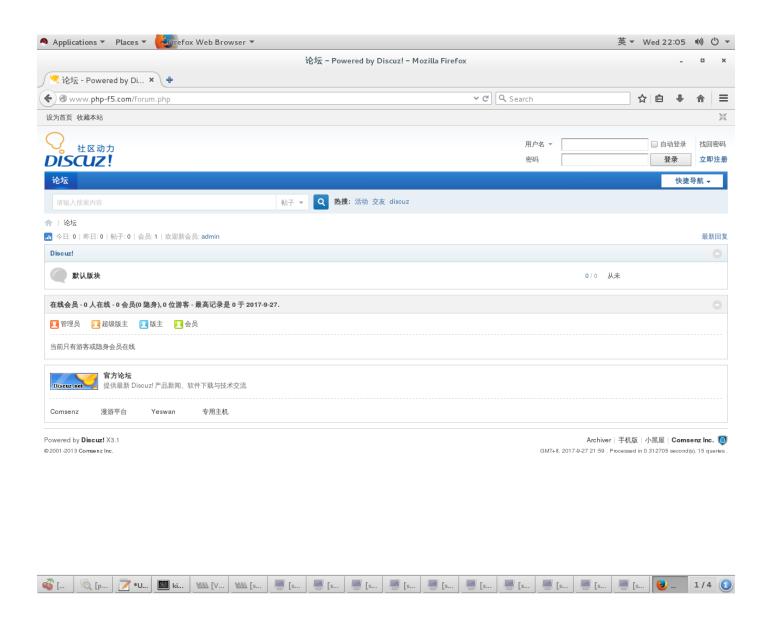
[root@serverf ~] # service spawn-fcgi start

[root@serverf ~]# chkconfig nginx on ; chkconfig spawn-fcgi on

# 使用共享存储,不需要再次安装 Disczu 论坛 直接访问检测网页, 更改客户端域名解析

测试机: 172.25.254.5 # vim /etc/hosts 172. 25. 5. 15 www. php-f5. com

访问页面: http://www.php-f5.com



# 第六步:

```
搭建 JSP 网站:
nginx+tomcat1 172.25.5.16
nginx+tomcat2 172.25.5.17
[root@foundation0 ~]# ssh root@172.25.5.16
下载 jdk 与 tomcat
[root@serverg ~] # yum -y install Iftp
[root@serverg ~]# Iftp 172.25.254.250:/notes/project/UP200/UP200 tomcat-master
Iftp 172.25.254.250:/notes/project/UP200/UP200_tomcat-master> mirror pkg/
Iftp 172.25.254.250:/notes/project/UP200/UP200 tomcat-master> exit
[root@serverg ~] # cd pkg/
[root@serverg pkg]# tar xf jdk-7u15-linux-x64.tar.gz -C /opt/
[root@serverg pkg]# mv /opt/jdk1.7.0_15/ /opt/java
[root@serverg pkg]# mkdir /usr/local/tomcat
[root@serverg pkg]# tar -xf apache-tomcat-8.0.24.tar.gz -C /usr/local/tomcat
jsvc 的方式启动:
[root@serverg bin]# groupadd -g 888 tomcat
[root@serverg bin]# useradd -g 888 -u 888 tomcat -s /sbin/nologin
[root@serverg pkg]# cd /usr/local/tomcat/apache-tomcat-8.0.24/bin/
[root@serverg bin]# tar -xf commons-daemon-native.tar.gz
[root@serverg bin]# cd commons-daemon-1.0.15-native-src/unix/
[root@serverg unix]# yum -y install gcc
[root@serverg unix]# ./configure --with-java=/opt/java
[root@serverg unix]# make
[root@serverg unix]# cp -a jsvc /usr/local/tomcat/apache-tomcat-8.0.24/bin/
优化 tomcat 命令,jsvc 的方式启动实际执行的脚本为 bin 目录下的 daemon. sh
[root@serverg unix]# cd /usr/local/tomcat/apache-tomcat-8.0.24/bin/
[root@serverg bin]# cp daemon. sh /etc/init. d/tomcat
[root@serverg bin]# vim /etc/init.d/tomcat
# chkconfig: 2345 30 20
CATALINA_HOME=/usr/local/tomcat/apache-tomcat-8.0.24
CATALINA BASE=/usr/local/tomcat/apache-tomcat-8.0.24
JAVA_HOME=/opt/java/
[root@serverg bin]# chmod +x /etc/init.d/tomcat
[root@serverg bin]# chkconfig --add tomcat
```

```
[root@serverg bin]# chown tomcat.tomcat -R /usr/local/tomcat/apache-tomcat-8.0.24/
[root@serverg bin]# service tomcat start
[root@serverg bin]# ps aux |grep tomcat
[root@serverg unix]# netstat -tnlp | grep :80
tcp6 0 0 :::8009 :::* LISTEN 2416/jsvc.exec
tcp6 0 0 :::8080 :::* LISTEN 2416/jsvc.exec
配置虚拟主机: www.jsp-f5.com
[root@serverg unix]# vim /usr/local/tomcat/apache-tomcat-8.0.24/conf/server.xml
<Host name="www.jsp-f5.com" appBase="jsp-f5.com"</pre>
unpackWARs="true" autoDeploy="true">
<Valve className="org. apache. catalina. valves. AccessLogValve" directory="logs"</pre>
prefix="jsp-f5.com_access_log" suffix=".txt"
pattern="%h %l %u %t "%r" %s %b" />
</Host>
挂载存储:
[root@serverg unix]# mkdir -p /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
[root@serverg unix]#
wget ftp://172.25.254.250/notes/project/software/tomcat/ejforum-2.3.zip
[root@serverg unix]#
mv ejforum-2.3/ejforum//usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/R00T/
[root@serverg bin]#
mv ejforum-2.3.zip /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/R00T/
[root@serverg bin]# cd /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
[root@serverg ROOT]# unzip ejforum-2.3.zip
[root@serverg ROOT]# Is
ejforum-2.3 ejforum-2.3.zip
[root@serverg ejforum]# mv * /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
[root@serverg conf]# pwd
/usr/local/tomcat/apache-tomcat-8.0.24/conf
[root@serverg ROOT]# vim /usr/local/tomcat/apache-tomcat-8.0.24/conf/server.xml
<Context path="" docBase="/usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/R00T" />
配置和数据库的连接
[root@serverg ROOT]# cd ~/pkg/
[root@serverg pkg]# tar xf mysql-connector-java-5.1.36.tar.gz -C /tmp/
[root@serverg pkg]#
cp /tmp/mysql-connector-java-5.1.36/mysql-connector-java-5.1.36-bin.jar
/usr/local/tomcat/apache-tomcat-8.0.24/lib/
数据库的帐号与密码:
username="runjsp"
password="123456"
数据库 IP 地址:
url="jdbc:mysql://172.25.254.221:3306/jsp
```

# [root@serverg pkg]# vim /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/WEB-INF/conf/config.xml <database maxActive="10" maxIdle="10" minIdle="2" maxWait="10000" username="runjsp" password="123456" driverClassName="com.mysql.jdbc.Driver" url="jdbc:mysql://172.25.254.221:3306/jsp?characterEncoding=gbk&amp;autoReconnect=true&amp;autoReconnectForPools=true&amp;zeroDateTimeBehavior=convertToNull" sqlAdapter="sql.MysqlAdapter"/> 导入数据库表结构: 〈注意:远程导入表结构〉 [root@serverg ~]# wget ftp://172.25.254.250/notes/project/software/tomcat/ejforum-2.3.zip [root@serverg ~]# unzip ejforum-2.3.zip -d /tmp/

[root@serverg script]# mysql -urunjsp -p123456 jsp -h172.25.254.221 < easyjforum\_mysql.sql

# 修改权限相关:

```
[root@serverg ~]# chown tomcat.tomcat -R /usr/local/tomcat/apache-tomcat-8.0.24/ [root@serverg ~]# service tomcat stop [root@serverg ~]# service tomcat start
```

[root@serverg ~]# cd /tmp/ejforum-2.3/install/script/

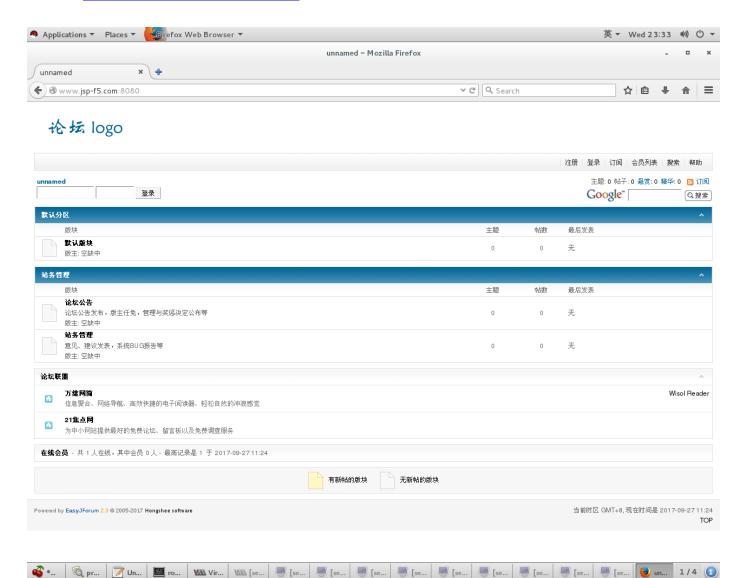
[root@serverg script]# yum -y install mariadb

测试机 172.25.254.5:

# vim /etc/hosts

172. 25. 5. 16 www. jsp-f5. com

访问: <a href="http://www.jsp-f5.com:8080/">http://www.jsp-f5.com:8080/</a>

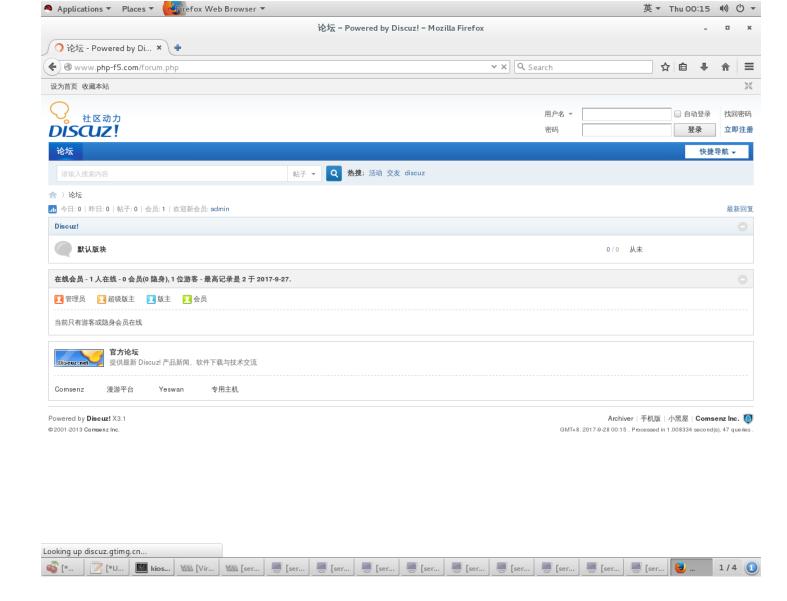


```
配置 nginx 虚拟主机,实现动静分离
通过 nginx 处理静态数据, 让用户访问 80 默认端口:
[root@serverg ~] # rpm -ivhftp://172.25.254.250/notes/project/UP200/UP200 nginx-mast
er/pkg/nginx-1.8.1-1.el7.ngx.x86_64.rpm
[root@serverg ~]# vim /etc/nginx/nginx.conf
http {
include /etc/nginx/mime.types;
default_type application/octet-stream;
upstream java_upstream { ----加入此段
server 127.0.0.1:8080 max fails=2 fail timeout=30s;
} 到此结束,此后再新增 tomcat 在括号内新增即可
log_format main '$remote_addr - $remote_user [$time_local] "$request" '
'$status $body_bytes_sent "$http_referer" '
'"$http_user_agent" "$http_x_forwarded_for"';
access_log /var/log/nginx/access.log main;
sendfile on;
#tcp_nopush on;
keepalive_timeout 65;
#gzip on;
include /etc/nginx/conf. d/*. conf;
[root@serverg ~]# vim /etc/nginx/conf. d/www.jsp-f5.com.conf
server {
listen 80;
server name www. jsp-f5.com;
location / {
root /usr/local/tomcat/apache-tomcat-8. 0. 24/jsp-f5. com/ROOT;
index index. jsp index. html index. htm;
location ~ \. jsp. * {
proxy_set_header Host $host;
proxy_set_header X-Forward-For $remote_addr;
proxy_pass http://java_upstream;
}
}
[root@serverg ~]# nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
```

[root@serverg ~]# service nginx start
[root@serverg ~]# chkconfig nginx on

# 再次测试:

测试机 172. 25. 254. 5 访问 www. php-f5. com



```
将 tomcat1 与 nginx1 (程序, 配置文件, 挂共享存储, 启动脚本) 同步 tomcat2 (172.25.5.17)
[root@serverg ~]# service tomcat stop
[root@serverg ~]# service nginx stop
[root@serverg ~] # umount /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
[root@serverg ~]# rsync -avzR /opt/java/ root@172.25.5.17:/
[root@serverg ~] # rsync -avzR /usr/local/tomcat/ root@172.25.5.17:/
[root@serverg ~]# rsync -avzR /etc/rc.d/init.d/tomcat root@172.25.5.17:/
[root@serverg ~] # rsync -avzR /etc/nginx/ root@172.25.5.17:/
启动 tomcat 服务
[root@serverg ~]# mount -a
[root@serverg ~]# df -h |tail -1
172. 25. 254. 221:/webroot/jsp
                                      216G
                                                     102G
                                                                     114G
                                                                                    48%
/usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT
[root@serverg ~]# service tomcat start
[root@serverg ~]# service nginx start
再启动 tomcat2
安装 nginx
[root@serverh ~] # rpm -ivh ftp://172.25.254.250/notes/project/UP200/UP200 nginx-mas
ter/pkg/nginx-1.8.1-1.el7.ngx.x86_64.rpm
[root@serverg ~]# rsync -avzR /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
root@172. 25. 5. 17:/
[root@serverh ~]# groupadd -g 888 tomcat
[root@serverh ~] # useradd -u 888 -g 888 -s /sbin/nologin tomcat
[root@serverh ~]# service tomcat start
[root@serverh ~]# service nginx start
```

测试:

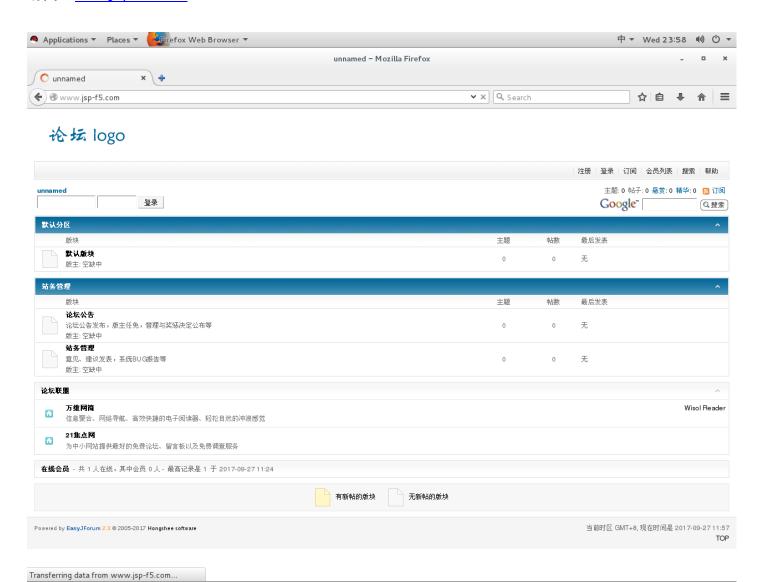
测试机. 172. 25. 254. 5

修改 hosts 文件

[root@foundation0 ~]# vim /etc/hosts

172.25.5.17 www.jsp-f5.com

访问: www. jsp-f5. com



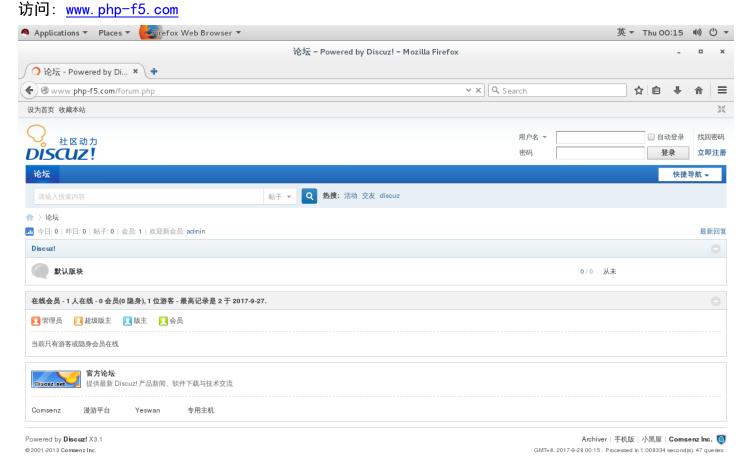
```
第七步:安装调度器(负载均衡)
      1.10 /---> nginx+php1 1.14
   nginx1 (*. php)
   / \ \---> nginx+php2 1.15
DNS 轮询丨
   nginx2 (*. jsp)
      1.11 /---> nginx+tomcat2 1.17
[root@foundation0 ~]# ssh root@172.25.5.10
关于 nginx1 调度 php 轮询
[root@servera ~]# rpm -ivh ftp://172.25.254.250/notes/project/UP200/UP200 nginx-mast
er/pkg/nginx-1.8.1-1.el7.ngx.x86_64.rpm
[root@servera ~]# vim /etc/nginx/nginx.conf
http {
include /etc/nginx/mime.types;
default_type application/octet-stream;
upstream php {
server 172.25.5.14:80 weight=1 max_fails=2 fail_timeout=1s;
server 172.25.5.15:80 weight=1 max_fails=2 fail_timeout=1s;
log_format main '$remote_addr - $remote_user [$time_local] "$request" '
'$status $body_bytes_sent "$http_referer" '
'"$http_user_agent" "$http_x_forwarded_for"';
access_log /var/log/nginx/access.log main;
sendfile on:
tcp_nopush on;
keepalive_timeout 65;
gzip on;
include /etc/nginx/conf. d/*. conf;
}
[root@servera ~]# vim /etc/nginx/conf. d/default. conf
server {
listen 80;
server_name 127. 0. 0. 1;
```

location ~ .\*\.php\$ {

```
proxy_pass http://php;
proxy_set_header Host $host;
proxy_set_header X-Forwarded-For $remote_addr;
}
location / {
  index index.php index.html index.htm;
proxy_pass http://php;
proxy_set_header Host $host;
proxy_set_header X-Forwarded-For $remote_addr;
}

[root@servera ~] # nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
[root@servera ~] # service nginx restart
```

测试机 172.25.254.5 # vim /etc/hosts 172.25.5.10 www.php-f5.com



```
[root@foundation0 Desktop]# ssh root@172.25.5.11
[root@serverb ~] # rpm -ivh ftp://172.25.254.250/notes/project/UP200/UP200_nginx-maste
r/pkg/nginx-1.8.1-1.el7.ngx.x86_64.rpm
[root@serverb ~]# vim /etc/nginx/nginx.conf
upstream static-jsp {
server 172.25.5.16:80 weight=1 max_fails=2 fail_timeout=1s;
server 172.25.5.17:80 weight=1 max_fails=2 fail_timeout=1s;
}
upstream tomcat {
server 172.25.5.16:8080 weight=1 max_fails=2 fail_timeout=1s;
server 172.25.5.17:8080 weight=1 max_fails=2 fail_timeout=1s;
}
[root@serverb ~] # vim /etc/nginx/conf. d/default. conf
server {
listen 80:
server name 127. 0. 0. 1;
location ~ .*\. jsp$ {
proxy_pass http://tomcat;
proxy_set_header Host $host;
proxy_set_header X-Forwarded-For $remote_addr;
location / {
index index. jsp index. html index. htm;
proxy_pass http://static-jsp;
proxy set header Host $host;
proxy_set_header X-Forwarded-For $remote_addr;
location ^{\sim} ^{\sim} forum-[0-9]-[0-9]-[0-9]\. html$ {
proxy_pass http://tomcat;
proxy_set_header Host $host;
proxy set header X-Forwarded-For $remote addr;
}
}
[root@serverb ~]# service nginx restart
```

测试机 172.25.254.5:

# vim /etc/hosts

论坛联盟

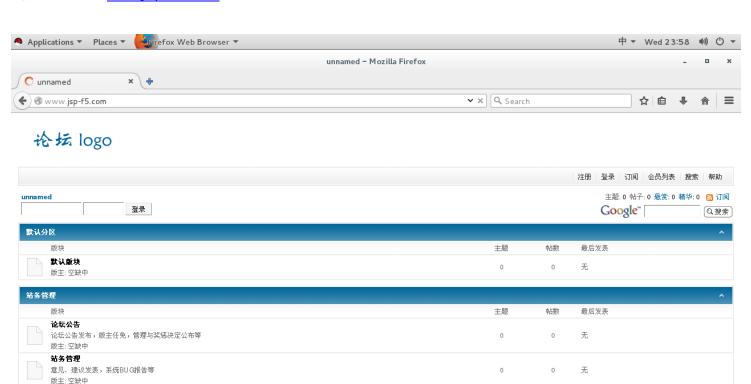
21焦点网

信息聚合、网络导航、高效快捷的电子阅读器、轻松自然的冲浪感觉

为中小网站提供最好的免费论坛、留言板以及免费调查服务 在线会员 - 共 1 人在线,其中会员 0 人 - 最高记录是 1 于 2017-09-27 11:24

172.25.5.11 www.jsp-f5.com

浏览器访问: www. jsp-f5. com





Wisol Reader



```
第八步:
安装内存缓存服务器 memcached
memcached+php(memcache.so) ----> 缓存加速
memcached+tomcat(memcache.jar[*.class]) ---> session 一致
[root@foundation0 ~]# ssh root@172.25.5.18
[root@serveri ~]# yum -y install memcached
[root@serveri ~]# systemctl start memcached
[root@serveri ~]# systemctl enable memcached
上传 memcached 的 jar 文件到 tomcat
[root@foundation0 ~]# ssh root@172.25.5.16
[root@serverg ~]# Iftp 172.25.254.250:/notes/project/software/tomcat soft> mirror msm/
[root@serverg ~]# cp msm/* /usr/local/tomcat/apache-tomcat-8.0.24/lib/
[root@serverg ~] # vim /usr/local/tomcat/apache-tomcat-8.0.24/conf/context.xml
<?xml version='1.0' encoding='utf-8'?>
<Context>
<WatchedResource>WEB-INF/web.xml</WatchedResource>
<WatchedResource>$ {catalina.base} /conf/web.xml</WatchedResource>
<Manager className="de.javakaffee.web.msm.MemcachedBackupSessionManager"</p>
memcachedNodes="n1:172.25.5.18:11211"
lockingMode="auto"
sticky="false"
requestUriIgnorePattern= ".*\. (png|gif|jpg|css|js)$"
sessionBackupAsync= "false"
sessionBackupTimeout= "100"
copyCollectionsForSerialization="true"
transcoderFactoryClass="de.javakaffee.web.msm.serializer.kryo.KryoTranscoderFactory"/>
</Context>
[root@serverg ~]# service tomcat stop; service tomcat start
测试页面:
[root@serverg ~] # vim /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/R00T/test.jsp
<html>
<body bgcolor="red">
<%out. print(request. getSession(). getId()) ;%>
<h1>Tomcat</h1>
</body>
</html>
```

# 上传 tomcat2

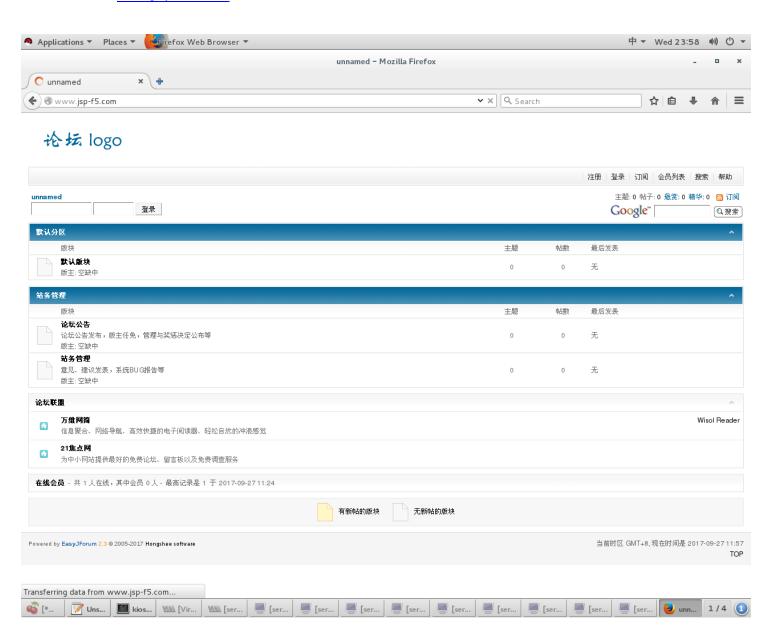
[root@serverg ~]# scp msm/\* 172.25.5.17:/usr/local/tomcat/apache-tomcat-8.0.24/lib/ [root@serverg ~]# rsync -avzR /usr/local/tomcat/apache-tomcat-8.0.24/conf/context.xmlroot@172.25.5.17:/

[root@serverg~]# ssh root@172.25.5.17 "service tomcat stop && service tomcat start"

#### 测试机 172.25.254.5:

vim /etc/hosts

172. 25. 5. 17 www. jsp-f5. com



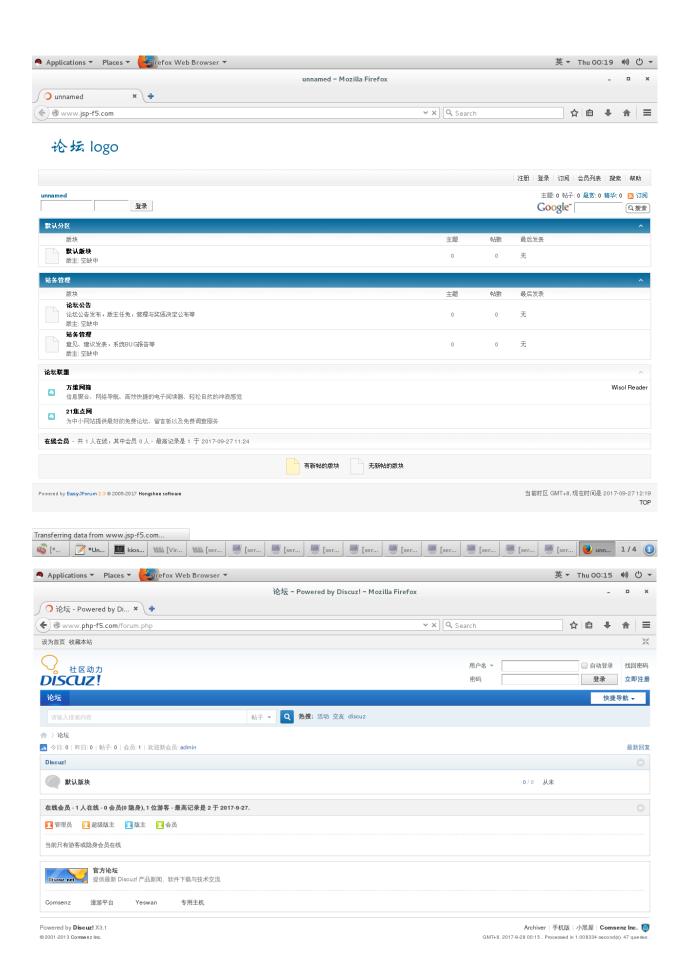
[root@foundation0  $^{\sim}$ ]# elinks http://www.jsp-f5.com/test.jsp -dump 8F9741F4860A28BFFE95738CBC2D9AC7-n1

Tomcat

# 第九步:

# 配置静态缓存服务器:

```
squid1: 172.25.5.12
squid2: 172.25.5.13
[root@foundation0 ~]# ssh root@172.25.5.12
[root@serverc ~]# yum -y install squid
[root@serverc ~]# systemctl start squid
[root@serverc ~]# vim /etc/squid/squid.conf
56 http access allow all
59 http_port 3128 accel vhost vport
60 cache_dir ufs /var/spool/squid 256 16 256
61 cache peer 172.25.5.14 parent 80 0 no-query originserver name=web1
62 cache_peer 172.25.5.15 parent 80 0 no-query originserver name=web2
63 cache peer 172.25.5.16 parent 80 0 no-query originserver name=web3
64 cache peer 172.25.5.17 parent 80 0 no-query originserver name=web4
65 cache_peer_domain web1 www.php-f5.com
66 cache_peer_domain web2 www.php-f5.com
67 cache_peer_domain web1 172. 25. 5. 14
68 cache peer domain web2 172.25.5.15
69 cache_peer_domain web3 www.jsp-f5.com
70 cache peer domain web4 www. jsp-f5.com
71 cache_peer_domain web3 172. 25. 5. 16
72 cache peer domain web4 172.25.5.17
[root@serverc ~]# systemctl start squid
测试机 172.25.254.5:
执行 squid 缓存:
# curl - I http://www.php-f5.com:3128/static/image/common/logo.png
# curl -I http://www.jsp-f5.com:3128/images/answer.gif
# vim /etc/hosts
172. 25. 5. 12 www. php-f5. com
172. 25. 5. 12 www. jsp-f5. com
```



# 远程部属 squid2:

[root@serverc ~]# ssh root@172.25.5.13 "yum -y install squid"

[root@serverc ~]# rsync -avzR /etc/squid/squid.conf root@172.25.5.13:/

[root@serverc ~]# ssh root@172.25.5.13 "service squid start"

# 测试机 172.25.254.5:

# vim /etc/hosts

172. 25. 5. 13 www. php-f5. com

172. 25. 5. 13 www. jsp-f5. com

# curl -I http://www.php-f5.com:3128/static/image/common/logo.png

HTTP/1.1 200 OK Server: nginx/1.8.1

Date: Thu, 28 Sep 2017 07:09:46 GMT

Content-Type: image/png Content-Length: 4425

Last-Modified: Fri, 28 Feb 2014 19:52:18 GMT

ETag: "5310e8f2-1149" Accept-Ranges: bytes

X-Cache: MISS from serverc.pod5.example.com ----MISS 未成功,再试

X-Cache-Lookup: MISS from serverc.pod5.example.com:3128

Via: 1.1 serverc. pod5. example. com (squid/3.3.8)

Connection: keep-alive

# curl -I http://www.php-f5.com:3128/static/image/common/logo.png

HTTP/1.1 200 OK Server: nginx/1.8.1

Date: Thu, 28 Sep 2017 07:09:46 GMT

Content-Type: image/png Content-Length: 4425

Last-Modified: Fri, 28 Feb 2014 19:52:18 GMT

ETag: "5310e8f2-1149" Accept-Ranges: bytes

Age: 9

X-Cache: HIT from serverc.pod5.example.com ----HIT已成功X-Cache-Lookup: HIT from serverc.pod5.example.com:3128

Via: 1.1 serverc. pod5. example. com (squid/3.3.8)

Connection: keep-alive

# curl - I http://www.jsp-f5.com:3128/images/answer.gif

HTTP/1.1 200 OK Server: nginx/1.8.1

Date: Thu, 28 Sep 2017 07:10:01 GMT

Content-Type: image/gif Content-Length: 864

Last-Modified: Wed, 16 Apr 2008 22:29:56 GMT

ETag: "48067de4-360" Accept-Ranges: bytes

X-Cache: MISS from serverc. pod5. example. com ----MISS 未成功, 再试

X-Cache-Lookup: MISS from serverc.pod5.example.com:3128

Via: 1.1 serverc. pod5. example. com (squid/3.3.8)

Connection: keep-alive

# curl -I http://www.jsp-f5.com:3128/images/answer.gif

HTTP/1.1 200 OK Server: nginx/1.8.1

Date: Thu, 28 Sep 2017 07:10:01 GMT

Content-Type: image/gif

Content-Length: 864

Last-Modified: Wed, 16 Apr 2008 22:29:56 GMT

ETag: "48067de4-360" Accept-Ranges: bytes

Age: 4

X-Cache: HIT from serverc.pod5.example.com ----HIT已成功X-Cache-Lookup: HIT from serverc.pod5.example.com:3128

Via: 1.1 serverc. pod5. example. com (squid/3.3.8)

Connection: keep-alive

# 第十步:

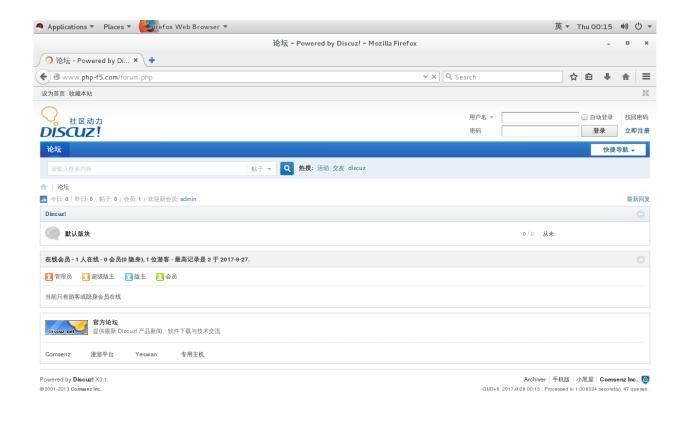
如果是静态数据 通过调度器 squid\_upstream 轮询;如果是 PHP 动态数据 通过调度器 php upstream 轮询;如果是 JSP 动态数据 通过调度器 jsp upstream 轮询

```
servera: 172, 25, 5, 10
serverb: 172.25.5.11
[root@foundation0 ~]# ssh root@172.25.5.10
[root@servera ~]# vim /etc/nginx/nginx.conf
upstream squid_upstream {
server 172.25.5.12:3128 weight=1 max_fails=2 fail_timeout=1s;
server 172. 25. 5. 13:3128 weight=1 max fails=2 fail timeout=1s;
}
upstream php_upstream {
server 172.25.5.14:80 weight=1 max_fails=2 fail_timeout=1s;
server 172.25.5.15:80 weight=1 max fails=2 fail timeout=1s;
}
upstream jsp_upstream {
server 172.25.5.16:8080 weight=1 max_fails=2 fail_timeout=1s;
server 172.25.5.17:8080 weight=1 max_fails=2 fail_timeout=1s;
}
[root@servera ~]# vim /etc/nginx/conf. d/default. conf
server {
listen 80:
server_name 127. 0. 0. 1;
location / {
index index.php index.jsp index.html index.htm;
proxy pass http://squid upstream;
proxy_set_header Host $host;
proxy set header X-Forwarded-For $remote addr;
}
location \tilde{\ } . *\. php$ {
proxy_pass http://php_upstream;
proxy_set_header Host $host;
proxy set header X-Forwarded-For $remote addr;
}
location ~ .*\. jsp$ {
proxy_pass http://jsp_upstream;
proxy set header Host $host;
proxy_set_header X-Forwarded-For $remote_addr;
}
}
```

# 将配置文件同步 nginx2:

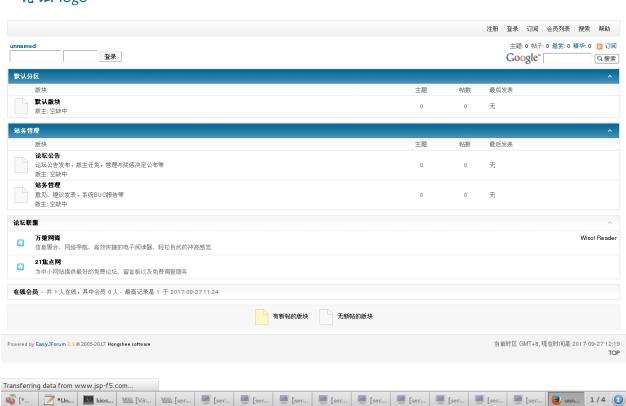
[root@servera ~]# rsync -avzR /etc/nginx/ 172.25.5.11:/
[root@servera ~]# ssh root@172.25.5.11 "service nginx restart"

测试机 172. 25. 254. 5: # vim /etc/hosts 172. 25. 5. 11 www. jsp-f5. com 172. 25. 5. 10 www. php-f5. com





# 论坛 logo



# 配置 php、jsp 的 rsync 同步 Servere 与 serverf 进行以下相同操作、配置文件一致

```
[root@servere ~]# yum -y install rsync
[{\tt root@servere~\tilde{}}] \# {\tt chown~nginx.nginx~/usr/share/nginx/php-f5.com/}
[root@servere ~]# chmod 775 /usr/share/nginx/php-f5.com/
[root@servere ~]# vim /etc/rsyncd.conf
uid=nginx
gid=nginx
use chroot=yes
port 873
log file=/var/log/rsyncd.log
pid file=/var/run/rsyncd.pid
hosts allow=172.25.0.0/16
motd file=/etc/rsyncd.welcome
[php]
path=/usr/share/nginx/php-f5.com
comment= web root share with rsync
read only=no
dont compress=*.gz *.bz2 *.tgz *.rar *.zip *.rpm
auth users=user01 user02
secrets file=/etc/rsyncd_user.db
[root@servere ~]# vim /etc/rsyncd_user.db
user01:123
user02:456
[root@servere ~]# chmod 600 /etc/rsyncd user.db
[root@servere ~]# vim /etc/rc.local
/usr/bin/rsync --daemon
[root@servere ~]# source /etc/rc.local
[root@servere ~] # netstat -tnlp | grep :873
tcp 0 0 0.0.0.0:873 0.0.0.0:* LISTEN 1265/rsync
tcp6 0 0 :::873 :::* LISTEN 1265/rsync
```

# serverg 与 serverh 进行以下操作、配置文件一致

```
[root@serverg ~]# yum -y install rsync
[root@serverg ~] # chown tomcat.tomcat /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com
/R00T/
[root@serverg ~] # chmod 775 /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT/
[root@serverg ~]# vim /etc/rsyncd.conf
uid=tomcat
gid=tomcat
use chroot=yes
port 873
log file=/var/log/rsyncd.log
pid file=/var/run/rsyncd.pid
hosts allow=172.25.0.0/16
motd file=/etc/rsyncd.welcome
[jsp]
path=/usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/ROOT
comment= web root share with rsync
read only=no
dont compress=*.gz *.bz2 *.tgz *.rar *.zip *.rpm
auth users=user01 user02
secrets file=/etc/rsyncd user.db
[root@serverg ~]# vim /etc/rsyncd_user.db
user01:123
user02:456
[root@serverg ~]# chmod 600 /etc/rsyncd_user.db
[root@serverg ~]# vim /etc/rc.local
/usr/bin/rsync --daemon
[root@serverg ~]# source /etc/rc.local
[root@serverg ~] # netstat -tnlp | grep :873
tcp 0 0 0.0.0.0:873 0.0.0.0:* LISTEN 1473/rsync
tcp6 0 0 :::873 :::* LISTEN 1473/rsync
```

# 配置独立的 servsync 172. 25. 5. 18

#### 1) 下载软件包

[root@localhost ~]# ssh root@172.25.5.18
[root@serveri ~]# rpm -q rsync
rsync-3.0.9-15.el7.x86\_64
[root@serveri ~]# yum -y install lftp
[root@serveri ~]# lftp 172.25.254.250
Iftp 172.25.254.250:~> cd notes/project/software/
cd ok, cwd=/notes/project/software
Iftp 172.25.254.250:/notes/project/software> mirror sersync/
Total: 2 directories, 3 files, 0 symlinks
New: 3 files, 0 symlinks
2539632 bytes transferred
Iftp 172.25.254.250:/notes/project/software> exit

# 2) 安装

[root@serveri ~] # tar xf sersync/sersync2.5.4\_64bit\_binary\_stable\_final.tar.gz -C /opt/ [root@serveri ~] # mv /opt/GNU-Linux-x86/ /opt/servsync

# 3) 测试 能否与 rsyncd 同步数据

[root@serveri ~]# mkdir /webserver/jsp
[root@serveri ~]# mkdir /webserver/php
[root@serveri ~]# chown nobody. /webserver/ -R
[root@serveri ~]# chmod 775 /webserver/ -R

#### 4) 定义 sersync 配置文件

### 指定 php 配置文件

[root@serveri ~]# vim /opt/servsync/confxml.xml <?xml version="1.0" encoding="ISO-8859-1"?> <head version="2.5"> <host hostip="localhost" port="8008"></host> <debug start="false"/> <fileSystem xfs="false"/> <filter start="ture"> <exclude expression="(.\*)\.svn"></exclude> <exclude expression="(.\*)\.gz"></exclude> <exclude expression="^info/\*"></exclude> <exclude expression="^static/\*"></exclude> <exclude expression="(.\*)\.mp3"></exclude> </filter> <inotify> <delete start="true"/> <createFolder start="true"/> <createFile start="true"/> <closeWrite start="true"/>

```
<moveFrom start="true"/>
<moveTo start="true"/>
<attrib start="false"/>
<modify start="true"/>
</inotify>
<sersync>
<localpath watch="/webserver/php">
<remote ip="172.25.5.14" name="php"/>
<remote ip="172.25.5.15" name="php"/>
</localpath>
<rsvnc>
<commonParams params="-az"/>
\langleauth start="true" users="user01" passwordfile="/etc/rsync.pas"/\rangle
<userDefinedPort start="false" port="874"/><!-- port=874 -->
<timeout start="false" time="100"/><!-- timeout=100 -->
<ssh start="false"/>
</rsync>
<failLog path="/tmp/rsync_fail_log.sh" timeToExecute="60"/><!--default</pre>
every 60mins execute once-->
<crontab start="false" schedule="600"><!--600mins-->
<crontabfilter start="false">
<exclude expression="*.php"></exclude>
<exclude expression="info/*"></exclude>
</crontabfilter>
</crontab>
<plugin start="false" name="command"/>
</sersync>
<plugin name="command">
<param prefix="/bin/sh" suffix="" ignoreError="true"/> <!--prefix</pre>
/opt/tongbu/mmm.sh suffix-->
<filter start="false">
<include expression="(.*)\.php"/>
<include expression="(.*)\.sh"/>
</filter>
</plugin>
<plugin name="socket">
<localpath watch="/opt/tongbu">
<deshost ip="192.168.138.20" port="8009"/>
</localpath>
</plugin>
<plugin name="refreshCDN">
<localpath watch="/data0/htdocs/cms.xoyo.com/site/">
<cdninfo domainname="ccms.chinacache.com" port="80"</pre>
username="xxxx" passwd="xxxx"/>
<sendurl base="">http://pic.xoyo.com/cms"/>
<regexurl regex="false"</pre>
```

```
match="cms. xoyo. com/site([/a-zA-Z0-9]*). xoyo. com/images"/>
</localpath>
</plugin>
</head>
指定 jsp 配置文件
[root@serveri ~]# vim /opt/servsync/confxml2.xml
<?xml version="1.0" encoding="ISO-8859-1"?>
<head version="2.5">
<host hostip="localhost" port="8009"></host>
<debug start="false"/>
<fileSystem xfs="false"/>
<filter start="ture">
<exclude expression="(.*)\.svn"></exclude>
<exclude expression="(.*)\.gz"></exclude>
<exclude expression="^info/*"></exclude>
<exclude expression="^static/*"></exclude>
<exclude expression="(.*)\.mp3"></exclude>
</filter>
<inotify>
<delete start="true"/>
<createFolder start="true"/>
<createFile start="true"/>
<closeWrite start="true"/>
<moveFrom start="true"/>
<moveTo start="true"/>
<attrib start="false"/>
<modify start="true"/>
</inotify>
<sersync>
<localpath watch="/webserver/jsp">
<remote ip="172.25.5.16" name="jsp"/>
<remote ip="172.25.5.17" name="jsp"/>
</localpath>
<rsync>
<commonParams params="-az"/>
<auth start="true" users="user01" passwordfile="/etc/rsync.pas"/>
<userDefinedPort start="false" port="874"/><!-- port=874 -->
<timeout start="false" time="100"/><!-- timeout=100 -->
<ssh start="false"/>
</rsync>
<failLog path="/tmp/rsync_fail_log.sh" timeToExecute="60"/><!--default</pre>
every 60mins execute once-->
<crontab start="false" schedule="600"><!--600mins-->
<crontabfilter start="false">
<exclude expression="*.php"></exclude>
<exclude expression="info/*"></exclude>
</crontabfilter>
```

```
</crontab>
<plugin start="false" name="command"/>
</sersync>
<plusion name="command">
<param prefix="/bin/sh" suffix="" ignoreError="true"/> <!--prefix</pre>
/opt/tongbu/mmm.sh suffix-->
<filter start="false">
\langle include expression="(.*) \. php"/>
<include expression="(.*)\.sh"/>
</filter>
</plugin>
<plugin name="socket">
<localpath watch="/opt/tongbu">
<deshost ip="192.168.138.20" port="8009"/>
</localpath>
</plugin>
<plugin name="refreshCDN">
<localpath watch="/data0/htdocs/cms.xoyo.com/site/">
<cdninfo domainname="ccms.chinacache.com" port="80"</pre>
username="xxxx" passwd="xxxx"/>
<sendurl base="">http://pic.xoyo.com/cms"/>
<regexurl regex="false"</pre>
match="cms. xoyo. com/site([/a-zA-Z0-9]*). xoyo. com/images"/>
</localpath>
</plugin>
</head>
设置 rsync daemon 通道
[root@serveri ~]# echo 123 > /etc/rsync.pas
[root@serveri ~]# chmod 600 /etc/rsync.pas
5) 启动
[root@serveri ~]# /opt/servsync/sersync2 -h
set the system param
execute: echo 50000000 > /proc/sys/fs/inotify/max_user_watches
execute: echo 327679 > /proc/sys/fs/inotify/max_queued_events
parse the command param
参数-d:启用守护进程模式
参数-r:在监控前,将监控目录与远程主机用 rsync 命令推送一遍
c 参数-n: 指定开启守护线程的数量, 默认为 10 个
参数-o:指定配置文件,默认使用 confxml. xml 文件
参数-m:单独启用其他模块,使用 -m refreshCDN 开启刷新 CDN 模块
参数-m:单独启用其他模块,使用 -m socket 开启 socket 模块
参数-m:单独启用其他模块,使用 -m http 开启 http 模块
不加-m 参数,则默认执行同步程序
```

```
[root@serveri ~]# /opt/servsync/sersync2 -d -n 12 -o /opt/servsync/confxml.xml ----php
set the system param
execute: echo 50000000 > /proc/sys/fs/inotify/max_user_watches
execute: echo 327679 > /proc/sys/fs/inotify/max_queued_events
parse the command param
option: -d run as a daemon
option: -r rsync all the local files to the remote servers before the sersync work
option: -n thread num is: 12
option: -o config xml name: /opt/servsync/confxml.xml
parse xml config file
host ip : localhost host port: 8008
will ignore the inotify createFile event
daemon start, sersync run behind the console
use rsync password-file:
user is user01
passwordfile is /etc/rsync.pas
config xml parse success
please set /etc/rsyncd.conf max connections=0 Manually
sersync working thread 14 = 1 (primary thread) + 1 (fail retry thread) + 12 (daemon sub threads)
Max threads numbers is: 38 = 14(Thread pool nums) + 24(Sub threads)
please according your cpu, use -n param to adjust the cpu rate
rsync the directory recursivly to the remote servers once
working please wait...
execute command: cd /webserver/php && rsync -az -R --delete ./ user01@172.25.5.14::php
--password-file=/etc/rsync.pas >/dev/null 2>&1
[root@serveri ~]# run the sersync:
watch path is: /webserver/php
[root@serveri php]# /opt/servsync/sersync2 -d -n 12 -o /opt/servsync/confxml2.xml
----tomcat
set the system param
execute: echo 50000000 > /proc/sys/fs/inotify/max_user_watches
execute: echo 327679 > /proc/sys/fs/inotify/max queued events
parse the command param
option: -d run as a daemon
option: -r rsync all the local files to the remote servers before the sersync work
option: -n thread num is: 12
option: -o config xml name: /opt/servsync/confxml2.xml
parse xml config file
host ip: localhost host port: 8009
will ignore the inotify createFile event
daemon start, sersync run behind the console
use rsync password-file:
user is user01
passwordfile is /etc/rsync.pas
config xml parse success
please set /etc/rsyncd.conf max connections=0 Manually
```

# 验证 php 是否成功同步:

[root@serveri ~]# cd /webserver/php/
[root@serveri php]# touch 123
[kiosk@foundation5 Desktop]\$ ssh root@172.25.5.14
[root@servere ~]# Is /usr/share/nginx/php-f5.com/
123 api archiver install source static template

# 验证 jsp 是否成功同步:

[root@serveri php]# cd ../jsp/
[root@serveri jsp]# touch 345
[root@serveri jsp]# ls
345 forum.jsp login.jsp report.jsp topic.jsp
admin help manage.jsp resetpwd.jsp upload
advsearch.jsp images member search\_result.jsp userlist.jsp
error.jsp include perform.jsp spec\_topics.jsp uspace.jsp
feeds.jsp index.jsp post.jsp stat WEB-INF
findpwd.jsp js register.jsp styles

# [root@serverg R00T]# pwd /usr/local/tomcat/apache-tomcat-8.0.24/jsp-f5.com/R00T [root@serverg R00T]# ls 345 forum.jsp login.jsp report.jsp topic.jsp admin help manage.jsp resetpwd.jsp upload advsearch.jsp images member search\_result.jsp userlist.jsp error.jsp include perform.jsp spec\_topics.jsp uspace.jsp feeds.jsp index.jsp post.jsp stat WEB-INF findpwd.jsp js register.jsp styles