# 基础环境配置

exam1:10.0.0.1 exam2:10.0.0.2

## 配置主机名(exam1,exam2)

#hostnamectl set-hostname exam1

#hostnamectl set-hostname exam2 (exam2主机)

#vi /etc/hosts

20.0.0.40 exam1

20.0.0.41 exam2

selinux为disabled关闭防火墙

配置yum

vi /etc/yum.repos.d/local.repo

[keep]

name=keep

baseurl=ftp://172.24.2.11/keepcache

enabled=1

gpgcheck=0

## jdk的安装

rpm -ich jdk-7u67-linux-x64.rpm

# mysql数据库灾备

## 安装mysql(exam1, exam2)

#yum install mariadb mariadb-server mysql-connector-java -y

## 基础配置mysql(exam1, exam2)

# vi /etc/my.cnf

[mysqld]

default-storage-engine = innodb

innodb\_file\_per\_table

collation-server = utf8\_general\_ci

init-connect = 'SET NAMES utf8'

character-set-server = utf8

max\_connections=10000

max\_allowed\_packet = 4M

## 启动设置mysql密码(exam1, exam2)

#systemctl enable mariadb

#systemctl start mariadb

mysqladmin -uroot password 'Xiandian55Guosai2015'

## 创建mysql用户

### exam1

mysql -uroot -pXiandian55Guosai2015

mysql> CREATE USER 'exam1'@'%';

mysql> GRANT REPLICATION SLAVE ON \*.\* TO 'exam1'@'%' IDENTIFIED BY 'Xiandian55Guosai2015';

mysql>grant all privileges on \*.\* to 'root'@'%' identified by 'Xiandian55Guosai2015';

### exam2

mysql -uroot -pXiandian55Guosai2015

mysql> CREATE USER 'exam2'@'%';

mysql> GRANT REPLICATION SLAVE ON \*.\* TO 'exam2'@'%' IDENTIFIED BY 'Xiandian55Guosai2015';

mysql>grant all privileges on \*.\* to 'root'@'%' identified by 'Xiandian55Guosai2015';

## 配置mysql灾备配置(exam1,exam2)

# vi /etc/my.cnf （exam2 server-id=2）

修改

[mysqld]

server-id=1

log-bin=mysql-bin

auto-increment-increment=2

auto-increment-offset=1

binlog\_format=mixed

修改完成重启服务

# systemctl restart mariadb

## 配置mysql灾备连接

### exam1

# mysql -uroot -pXiandian55Guosai2015

mysql> CHANGE MASTER TO MASTER\_HOST='10.0.0.2',MASTER\_USER='exam2',MASTER\_PASSWORD='Xiandian55Guosai2015';

mysql> start slave;

### exam2

# mysql -uroot -pXiandian55Guosai2015

mysql>CHANGE MASTER TO MASTER\_HOST='10.0.0.1',MASTER\_USER='exam1',MASTER\_PASSWORD='Xiandian55Guosai2015';

mysql> start slave;

## 检查

#mysql -uroot -pXiandian55Guosai2015

show master status;

show slave status\G

# KeepAlive高可用

## 安装keepalive(exam1, exam2)

#yum -y install ipvsadm keepalived

## 修改内核(exam1, exam2)

#vi /etc/sysctl.conf

net.ipv4.ip\_forward = 1

net.ipv4.conf.lo.arp\_ignore= 1

net.ipv4.conf.lo.arp\_announce= 2

#sysctl -p

## 配置数据库高可以用并启动

### exam1

#vi /etc/keepalived/keepalived.conf

global\_defs {

router\_id exam1

}

vrrp\_instance VI\_1 {

state BACKUP

interface eth0

virtual\_router\_id 60

priority 100

advert\_int 1

nopreempt

authentication {

auth\_type PASS

auth\_pass xiandian

}

virtual\_ipaddress {

10.0.0.200

}

}

virtual\_server 10.0.0.200 3306 {

delay\_loop 2

lb\_algo wrr

lb\_kind DR

persistence\_timeout 50

protocol TCP

real\_server 10.0.0.1 3306 {

weight 1

notify\_down /etc/keepalived/mysql.sh

TCP\_CHECK {

connect\_timeout 10

nb\_get\_retry 3

connect\_port 3306

}

}

}

#systemctl restart keepalived

#systemctl enable keepalived

### exam2

#vi /etc/keepalived/keepalived.conf

global\_defs {

router\_id exam2

}

vrrp\_instance VI\_1 {

state BACKUP

interface eth0

virtual\_router\_id 60

priority 90

advert\_int 1

nopreempt

authentication {

auth\_type PASS

auth\_pass xiandian

}

virtual\_ipaddress {

10.0.0.200

}

}

virtual\_server 10.0.0.200 3306 {

delay\_loop 2

lb\_algo wrr

lb\_kind DR

persistence\_timeout 50

protocol TCP

real\_server 10.0.0.2 3306 {

weight 1

notify\_down /etc/keepalived/mysql.sh

TCP\_CHECK {

connect\_timeout 10

nb\_get\_retry 3

connect\_port 3306

}

}

}

#systemctl restart keepalived

#systemctl enable keepalived

## 编写故障脚本(exam1, exam2)

#vi /etc/keepalived/mysql.sh

#!/bin/bash

pkill keepalived

#chmod +x /etc/keepalived/mysql.sh

## 测试虚拟地址远程数据库访问

#mysql -h 10.0.0.200 -uroot -pXiandian55Guosai2015

# apache web服务器

## 安装unzip(exam1, exam2)

yum install -y unzip

## 解压Tomcat，删除webapps/下所有文件(exam1, exam2)

#cd /opt/

#unzip apache-tomcat-7.0.56.zip

## 解压exam包(exam1,exam2)

#unzip exam.zip

#cd /opt/apache-tomcat-7.0.56/webapps/

#rm -rf ROOT

### exam1

#mv /opt/exam /opt/apache-tomcat-6.0.20/webapps/

## 修改连接数和优化(exam1, exam2)

# vi /opt/apache-tomcat-6.0.20/conf/server.xml

jvmRoute=' worker1' (exam2--worker2)

<Connector port="8080" protocol="HTTP/1.1"

URIEncoding="utf-8"

maxThreads="400"

minSpareThreads="25"

maxSpareThreads="75"

acceptCount="300"

#vi /opt/apache-tomcat-6.0.20/bin/catalina.sh

JAVA\_OPTS="-server -Xms1024m -Xmx2048m -XX:PermSize=256M -XX:MaxPermSize=256m"

# HDFS 部署

## 配置ambari yum源(exam1,exam2)

#vi /etc/yum.repos.d/ambari.repo

[centos7]

name=centos7

baseurl=ftp://172.24.2.11/centos7/

enabled=1

gpgcheck=0

[ambari]

name=ambari

baseurl=ftp://172.24.2.11/bigdata/ambari-2.6.0.0/

enabled=1

gpgcheck=0

## 安装配置ntp

### exam1

#yum install ntp -y

注释或者删除以下四行

server 0.centos.pool.ntp.org iburst

server 1.centos.pool.ntp.org iburst

server 2.centos.pool.ntp.org iburst

server 3.centos.pool.ntp.org iburst

添加以下两行

server 127.127.1.0

fudge 127.127.1.0 stratum 10

systemctl start ntpd

systemctl enable ntpd

### exam2

#yum -y install ntpdate -y

#ntpdate exam1

#systemctl enable ntpdate

## 优化(exam1,exam2)

#echo never > /sys/kernel/mm/transparent\_hugepage/enabled

# echo never > /sys/kernel/mm/transparent\_hugepage/defrag

## 安装ambari创建数据库(exam1)

#yum -y install ambari-server

#mysql -uroot -pXiandian55Guosai2015

create database ambari;

grant all privileges on ambari.\* to 'ambari'@'localhost' identified by 'bigdata';

grant all privileges on ambari.\* to 'ambari'@'10.0.0.1' identified by 'bigdata';

use ambari;

source /var/lib/ambari-server/resources/Ambari-DDL-MySQL-CREATE.sql

#systemctl restart mariadb

## 配置ambari-server(exam1)

# ambari-server setup

Customize user account for ambari-server daemon [y/n] (n)? y

Enter user account for ambari-server daemon (root):

[1] Oracle JDK 1.8 + Java Cryptography Extension (JCE) Policy Files 8

[2] Oracle JDK 1.7 + Java Cryptography Extension (JCE) Policy Files 7

[3] Custom JDK

==============================================================================

Enter choice (1): 3

Path to JAVA\_HOME: /usr/java/jdk1.7.0\_67

Enter advanced database configuration [y/n] (n)? y

==============================================================================

Choose one of the following options:

[1] - PostgreSQL (Embedded)

[2] - Oracle

[3] - MySQL / MariaDB

[4] - PostgreSQL

[5] - Microsoft SQL Server (Tech Preview)

[6] - SQL Anywhere

[7] - BDB

==============================================================================

Enter choice (1): 3

Hostname (localhost): 10.0.0.100

Port (3306):

Database name (ambari):

Username (ambari):

Enter Database Password (bigdata):

Proceed with configuring remote database connection properties [y/n] (y)? y

Extracting system views...

ambari-admin-2.6.0.0.0.jar

Adjusting ambari-server permissions and ownership...

Ambari Server 'setup' completed successfully.

#ambari-server setup --jdbc-db=mysql --jdbc-driver=/usr/share/java/mysql-connector-java.jar

## 修改ambari登入端口号(exam1)

vi /etc/ambari-server/conf/ambari.properties (添加)

client.api.port=8888

## 运行ambari(exam1)

ambari-server start

## 部署ambari客户端(exam1,exam2)

#yum -y install ambari-agent

#vi /etc/ambari-agent/conf/ambari-agent.ini

[server]

hostname=exam1

#ambari-agent start

## 页面部署HDFS



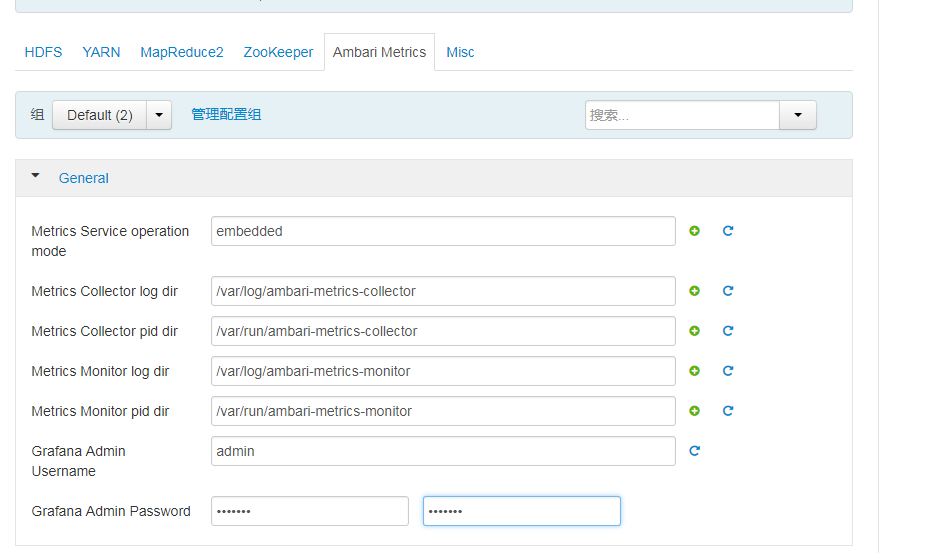


















## 修改大数据平台密码





设置密码Xiandian55Guosai2015

## 给予HDFS读写权限(exam1)

hadoop fs -ls /

su hdfs

hadoop fs -chmod -R 777 /

hadoop fs -ls /

# 数据同步备份

## 安装数据库备份(exam1,exam2)

#yum install -y rsync\* xinetd

#vi /etc/xinetd.d/rsync

service rsync

{

disable = no

flags = IPv6

socket\_type = stream

wait = no

user = root

server = /usr/bin/rsync

server\_args = --daemon

}

## 创建备份目录和文件(exam2)

#mkdir -p /mnt/exam1/exam

#vi /etc/rsyncd.conf

uid = root

gid = root

use chroot = no

max connections=0

log file=/var/log/rsyncd.log

pid file=/var/run/rsyncd.pid

lock file=/var/run/rsyncd.lock

[exam]

path = /mnt/exam1/exam

comment = rsync from 10.0.0.1

read only = no

list = no

auth users =xiandian

secrets file =/etc/root.pass

## 创建密码文件并启动

### exam1

#vi /etc/root.pass

Xiandian55Guosai2015

#chmod 600 /etc/root.pass

#systemctl restart xinetd

#systemctl enable xinetd

### exam2

# vi /etc/root.pass

xiandian:Xiandian55Guosai2015

# chmod 600 /etc/root.pass

# systemctl restart xinetd

#rsync --port=873 --address=10.0.0.2 --daemon

## 安装依赖包编译(exam1)

#yum -y install glibc-headers gcc-c++ glibc-headers gcc-c++ apr-devel apr-util-devel

## 安装inotify工具(exam1)

tar zxvf inotify-tools-3.14.tar.gz

cd inotify-tools-3.14

./configure&&make&&make install

## 创建故障转移脚本(exam1)

#vi exam1\_exam2.sh

#!/bin/sh

#function:rysnc 10.0.0.1 to 10.0.0.2

if [ ! -f /etc/root.pass ];then

echo "Xiandian55Guosai2015">/etc/root.pass

chmod 600 /etc/root.pass

fi

log=/var/log/rsyncd/rsync.log

src="/opt/apache-tomcat-6.0.20/webapps/exam/"

host="10.0.0.2"

module="exam"

inotifywait -mr --timefmt '%d/%m/%y %H:%M' --format '%T %w %f' -e close\_write,modify,delete,create,attrib $src |

while read DATE TIME DIR FILE; do

FILECHANGE=${DIR}${FILE}

rsync -avH --progress --password-file=/etc/root.pass $src xiandian@$host::$module &echo "At ${TIME} on

${DATE}, file $FILECHANGE was backed up via rsync" >> $log

done

# chmod +x exam1\_exam2.sh

#mkdir -p /var/log/rsyncd/

#touch /var/log/rsyncd/rsync.log

#./exam1\_exam2.sh

## 测试(exam1克隆会话)

touch /opt/apache-tomcat-6.0.20/webapps/exam/test.txt

# exam的配置

## 创建exam数据库(exam1)

#mysql -h10.0.0.200 -uroot -pXiandian55Guosai2015

create database classexam;

use classexam

source /opt/classexam.sql;

## 创建软连接(exam2)

cd /opt/apache-tomcat-6.0.20/webapps

ln -s /mnt/exam1/exam exam

## 配置exam数据库连接(exam1)

# vi /opt/apache-tomcat-6.0.20/webapps/exam/WEB-INF/classes/jdbc.properties

database.url=jdbc:mysql://10.0.0.100:3306/classexam?autoReconnect=true&useUnicode=true&characterEncoding=UTF-8&zeroDateTimeBehavior=convertToNull

database.username=root

database.password=Xiandian55Guosai2015

## 安装启动memcached(exam1, exam2)

#yum -y install memcached

#systemctl start memcached

#chkconfig --level 2345 memcached on

## url地址的修改(exam1)

#vi /opt/apache-tomcat-6.0.20/webapps/exam/WEB-INF/classes/xd.properties

#user center

ucurl=http\://10.0.0.100/base

#cas

sso=false

ssoserver=http\://10.0.0.100/cas/

ssoclient=http\://10.0.0.100/exam/

#hadoop的存储配置

hdfs=hdfs://192.168.0.99:8020

#实现图片预览/下载的HTTP地址，地址最后不能含有“/”

hdfs\_img\_prefix=http://192.168.0.99:50075/webhdfs/v1

hdfs\_img\_suffix=?op=OPEN&namenoderpcaddress=192.168.0.99:8020

## 启动apache(exam1,exam2)

cd /opt/apache-tomcat-6.0.20/bin/

chmod +x \*.sh

./startup.sh

## 页面访问

http://172.24.13.162:8080/exam/

http://172.24.13.163:8080/exam/

# nginx负载均衡(exam1)

## 安装nginx

yum install nginx -y

## 配置nginx

[root@exam1 bin]# vi /etc/nginx/nginx.conf

user nginx;

worker\_processes auto;

error\_log /var/log/nginx/error.log warn;

pid /var/run/nginx.pid;

events {

accept\_mutex on;

multi\_accept on;

worker\_connections 1024;

}

http {

include /etc/nginx/mime.types;

default\_type application/octet-stream;

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;

tcp\_nodelay on;

keepalive\_timeout 65;

types\_hash\_max\_size 2048;

gzip on;

include /etc/nginx/conf.d/\*.conf;

}

## 修改代理

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

location / {

proxy\_pass http://172.24.13.162/;

}

## 负载均衡(轮询)

vi /etc/nginx/nginx.conf

http {

upstream 172.24.13.162{

ip\_hash;

server 172.24.13.163:8080;

server 172.24.13.162:8080;

}

}

## 启动nginx

systemctl restart nginx

systemctl enable nginx

## 页面访问

http://172.24.13.162/exam/

# 定时备份

## 监控exam1的tomcat是否存活脚本(exam1)

监控exam1的tomcat服务是否运行，如果不运行则自动结束自动同步备份exam包，并把监控脚本加入crontab中，每一分钟执行检查一次。

vi /etc/keepalived/tomcatalive.sh

#!/bin/bash

tomcat=`ps -ef|grep "java"|grep -v "grep"|awk '{print $2} '`

rsync=`ps -ef|grep "exam1\_exam2.sh"|grep -v "grep"|awk '{print $2} '`

DATE=`date +%Y%m%d\_%H%M%S`

if test -z "$tomcat"

then

kill -9 $rsync

echo $DATE " tomcat is shutdown, exam2 is work !"

else

echo $DATE "tomcat is well !"

fi

## 添加定时任务(exam1)

vi /etc/crontab

\*/1 \* \* \* \* root /etc/keepalived/tomcatalive.sh >>/var/log/tomcatalive.log

touch /var/log/tomcatalive.log

service crond restart

## 自动定时备份mysql数据库和exam包文件文件(exam2)

# mkdir /mnt/autobackup/

# vi /mnt/autobackup.sh

#!/bin/sh

DATE=`date +%Y%m%d\_%H%M%S`

backup\_dir=/mnt/autobackup

ROOT\_rsync=/mnt/exam1/exam

mysqldump --opt -h10.0.0.200 -uroot -pXiandian55Guosai2015 exam > /$backup\_dir/exam\_backup.$DATE.sql

tar zcf /$backup\_dir/exam\_ROOT.$DATE.tar.gz $ROOT\_rsync

## 添加定时任务

# chmod +x /mnt/autobackup.sh

# vi /etc/crontab

\*/20 \* \* \* \* root /mnt/autobackup.sh

# service crond restart