一：集群机器介绍

四台机器：

1.balance节点安装haproxy和keepalived

机器名：

balance01 172.18.48.1

balance02 172.18.48.2

2.galera节点安装mysql数据库和galera

机器名：

galera01 172.18.48.3

galera02 172.18.48.4

操作系统：ubuntu14.04 server64

注：每台机器/etc/hosts上要写上涉及到的所有对应的ip和主机名

二：balance节点安装

balance节点安装配置haproxy和keepalived

1./etc/sysctl.conf添加

vim /etc/sysctl.conf

net.ipv4.ip\_nonlocal\_bind=1

2.加载sysctl.conf

sysctl -p

3.安装haproxy和keepalived

apt-get install -y keepalived haproxy

4.创建/var/lib/haproxy

mkdir /var/lib/haproxy

5.把/var/lib/haproxy权限改为root所有

chown root:root /var/lib/haproxy/

6.vim /etc/keepalived/keepalived.conf

balance01添加如下：

global\_defs {

notification\_email {

root@[YOUR\_DOMAIN\_NAME]

}

notification\_email\_from keepalived@[YOUR\_DOMAIN\_NAME]

smtp\_server localhost

smtp\_connect\_timeout 30

router\_id balance01

}

vrrp\_script haproxy {

script “killall -0 haproxy”

interval 2

weight 2

}

vrrp\_instance 50 {

virtual\_router\_id 50

advert\_int 1

priority 101

state MASTER

interface eth0

virtual\_ipaddress {

172.18.48.20 dev eth0

}

track\_script {

haproxy

}

}

balance02如下：

global\_defs {

notification\_email {

root@[YOUR\_DOMAIN\_NAME]

}

notification\_email\_from keepalived@[YOUR\_DOMAIN\_NAME]

smtp\_server localhost

smtp\_connect\_timeout 30

router\_id balance02

}

vrrp\_script haproxy {

script “killall -0 haproxy”

interval 2

weight 2

}

vrrp\_instance 50 {

virtual\_router\_id 50

advert\_int 1

priority 101

state MASTER

interface eth0

virtual\_ipaddress {

172.18.48.20 dev eth0

}

track\_script {

haproxy

}

}

7.vim /etc/haproxy/haproxy.cfg

balance01上添加如下：

global

chroot /var/lib/haproxy

daemon

group haproxy

log 172.18.48.1 local0

maxconn 4000

pidfile /var/run/haproxy.pid

stats socket /var/lib/haproxy/stats

user haproxy

defaults

log global

maxconn 8000

option redispatch

retries 3

timeout http-request 10s

timeout queue 1m

timeout connect 10s

timeout client 1m

timeout server 1m

timeout check 10s

listen mysql\_cluster

bind 172.18.48.20:3306

mode tcp

balance roundrobin

option mysql-check user root

option tcpka

server galera01 172.18.48.3:3306

server galera02 172.18.48.4:3306

balance02添加如下：

global

chroot /var/lib/haproxy

daemon

group haproxy

log 172.18.48.2 local0

maxconn 4000

pidfile /var/run/haproxy.pid

stats socket /var/lib/haproxy/stats

user haproxy

defaults

log global

maxconn 8000

option redispatch

retries 3

timeout http-request 10s

timeout queue 1m

timeout connect 10s

timeout client 1m

timeout server 1m

timeout check 10s

listen mysql\_cluster

bind 172.18.48.20:3306

mode tcp

balance roundrobin

option mysql-check user root

option tcpka

server galera01 172.18.48.3:3306

server galera02 172.18.48.4:3306

8.balance节点修改/etc/default/haproxy

ENABLED=1

9.启动keepalived和haproxy

service keepalived restart

service haproxy restart

三：galera节点安装

(一)安装MariaDB，所有galera节点

1.安装软件源

sudo apt-get install software-properties-common

sudo apt-key adv –recv-keys –keyserver hkp://keyserver.ubuntu.com:80 0xcbcb082a1bb943db

sudo add-apt-repository 'deb http://mirrors.hustunique.com/mariadb/repo/10.0/ubuntu trusty main'

2.安装MariaDB

sudo apt-get update

sudo apt-get install mariadb-server

(二)安装galera cluster，所有galera节点

1.安装软件安装源

apt-get install python-software-properties

apt-key adv –recv-keys –keyserver keyserver.ubuntu.com 0xcbcb082a1bb943db

add-apt-repository 'deb http://mirror3.layerjet.com/mariadb/repo/5.5/ubuntu precise main'

apt-get update

2.安装galera包

DEBIAN\_FRONTEND=noninteractive apt-get install -y rsync galera mariadb-galera-server

3.配置galera cluster

/etc/mysql/conf.d/galera.cnf

[mysqld]

mysql settings

binlog\_format=ROW

default-storage-engine=innodb

innodb\_autoinc\_lock\_mode=2

query\_cache\_size=0

query\_cache\_type=0

bind-address=0.0.0.0

galera settings

wsrep\_provider=/usr/lib/galera/libgalera\_smm.so

wsrep\_cluster\_name=“my\_wsrep\_cluster”

wsrep\_cluster\_address=“gcomm://172.18.48.3,172.18.48.4”

wsrep\_sst\_method=rsync

4.galera01和galera02关闭mysql

galera01 service mysql stop

galera02 service mysql stop

5.启动集群，第一个启动的节点要加上集群初始化命令，相当于主节点

galera01 service mysql start –wsrep-new-cluster

galera02 service mysql start

6.检查集群规模

galera01 mysql -u root -e 'SELECT VARIABLE\_VALUE as “cluster size” FROM INFORMATION\_SCHEMA.GLOBAL\_STATUS WHERE VARIABLE\_NAME=“wsrep\_cluster\_size”'

+————–+

| cluster size |

+————–+

| 2 |

+————–+

7.在galera上创建数据库，并授权允许远程访问

mysql>create database nova;

mysql>GRANT ALL ON nova.\* TO 'nova'@'%' IDENTIFIED BY 'password';

四：balance节点和galera的弹性和容灾

添加新节点时候直接重启服务即可，galera节点必须有一个主节点，即执行如下语句的节点：

service mysql start –wsrep-new-cluster