mysql-mha高可用集群

环境：redhat7.5虚拟机、关闭防火墙、SELinux、搭建好yum源

拓扑：IP地址192.168.4.0网段，ip地址是51,52,53,54,55,56

其中，主库IP地址是192.168.4.51

备用主库地址是192.168.4.52、192.168.4.53

从库地址是192.168.4.54/192.168.4.55

管理节点是192.1684.56

软件采用mariadb，简单快捷，基本与MySQL一致

配置主从同步,要求如下：

51 主库 开半同步复制

52 从库（备用主库） 开半同步复制

53 从库（备用主库） 开半同步复制

54 从库 不做备用主库所以不用开半同步复制

55 从库 不做备用主库所以不用开半同步复制

数据节点之间可以互相ssh免密登录

管理节点可以免密登录数据节点

基础环境准备：

[root@room8pc205 mha]# for i in {1..6}; do scp perl-\*.rpm 192.168.4.5$i:/root; done

安装依赖包：

[root@host51 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@host51 ~]# yum -y localinstall perl-\*.rpm

[root@host52 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@host52 ~]# yum -y localinstall perl-\*.rpm

[root@host53 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@host53 ~]# yum -y localinstall perl-\*.rpm

[root@host54 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@host54 ~]# yum -y localinstall perl-\*.rpm

[root@host55 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@host55 ~]# yum -y localinstall perl-\*.rpm

[root@manager56 ~]# ls

perl-Config-Tiny-2.14-7.el7.noarch.rpm perl-Mail-Sendmail-0.79-21.el7.art.noarch.rpm

perl-Email-Date-Format-1.002-15.el7.noarch.rpm perl-MIME-Lite-3.030-1.el7.noarch.rpm

perl-Log-Dispatch-2.41-1.el7.1.noarch.rpm perl-MIME-Types-1.38-2.el7.noarch.rpm

perl-Mail-Sender-0.8.23-1.el7.noarch.rpm perl-Parallel-ForkManager-1.18-2.el7.noarch.rpm

[root@manager56 ~]# yum -y localinstall perl-\*.rpm

#免密登录

[root@host51 ~]# ssh-keygen

Generating public/private rsa key pair.

Enter file in which to save the key (/root/.ssh/id\_rsa):

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /root/.ssh/id\_rsa.

Your public key has been saved in /root/.ssh/id\_rsa.pub.

The key fingerprint is:

SHA256:5hfcv2lFCXVJircfFixOZQZ2eSf1ShIMkAdO6mW5ueQ root@host51.tedu.cn

The key's randomart image is:

+---[RSA 2048]----+

| ++.o.o+O=|

| +... +oOo=|

| . =. ..=o+=|

| . o + .+oooo|

| . S o .o.+ |

| = . . .o o|

| E . .o |

| . .o |

| .o |

+----[SHA256]-----+

[root@host51 ~]# for i in {1..5}

> do

> ssh-copy-id root@192.168.4.5$i

> done

52-55同步操作

[root@manager56 ~]# ssh-keygen

Generating public/private rsa key pair.

Enter file in which to save the key (/root/.ssh/id\_rsa):

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /root/.ssh/id\_rsa.

Your public key has been saved in /root/.ssh/id\_rsa.pub.

The key fingerprint is:

SHA256:yGOCjMDTG8MRPH2x8E3O7BYbzALOwzJbp2vdEAKwX7s root@manager56.tedu.cn

The key's randomart image is:

+---[RSA 2048]----+

| .o+oo ... |

|. +o\*.+.X |

|.+ B.O.\* X |

|.oo.X.\*.+ + |

|. o+.o=.S+ |

| o+.+ |

| E . . |

| . |

| |

+----[SHA256]-----+

[root@manager56 ~]# for i in {1..6}

> do

> ssh-copy-id root@192.168.4.5$i

> done

#数据节点安装数据库软件

[root@host51 ~]# yum -y install mariadb mariadb-server

[root@host52 ~]# yum -y install mariadb mariadb-server

[root@host53 ~]# yum -y install mariadb mariadb-server

[root@host54 ~]# yum -y install mariadb mariadb-server

[root@host55 ~]# yum -y install mariadb mariadb-server

#设置数据库root密码为123456

#修改MySQL配置文件，启动半同步复制和binlog日志

[root@host51 ~]# cat /etc/my.cnf | grep -v ^$ | grep -v ^#

[mysqld]

datadir=/var/lib/mysql

socket=/var/lib/mysql/mysql.sock

plugin-load="rpl\_semi\_sync\_master=semisync\_master.so;rpl\_semi\_sync\_slave=semisync\_slave.so"

rpl-semi-sync-master-enabled=1

rpl-semi-sync-slave-enabled=1

server\_id=51

log-bin=master51

binlog-format="mixed"

symbolic-links=0

[mysqld\_safe]

log-error=/var/log/mariadb/mariadb.log

pid-file=/var/run/mariadb/mariadb.pid

!includedir /etc/my.cnf.d

[root@host51 ~]# systemctl restart mariadb

[root@host51 ~]# ls /var/lib/mysql/

aria\_log.00000001 ib\_logfile1 mysql.sock

aria\_log\_control master51.000001 performance\_schema

ibdata1 master51.index test

ib\_logfile0 mysql

#主库授权主从同步用户

[root@host51 ~]# mysql -uroot -p123456

MariaDB [(none)]> grant replication slave on \*.\* to slaveuser@"%" identified by "123456";

Query OK, 0 rows affected (10.01 sec)

MariaDB [(none)]> flush privileges;

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> set global relay\_log\_purge=off;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> show master status;

+-----------------+----------+--------------+------------------+

| File | Position | Binlog\_Do\_DB | Binlog\_Ignore\_DB |

+-----------------+----------+--------------+------------------+

| master51.000001 | 465 | | |

+-----------------+----------+--------------+------------------+

1 row in set (0.00 sec)

MariaDB [(none)]>exit

#修改host52配置

[root@host52 ~]# cat /etc/my.cnf | grep -v ^$ | grep -v ^#

[mysqld]

datadir=/var/lib/mysql

socket=/var/lib/mysql/mysql.sock

plugin-load = "rpl\_semi\_sync\_master=semisync\_master.so;rpl\_semi\_sync\_slave=semisync\_slave.so"

rpl-semi-sync-master-enabled = 1

rpl-semi-sync-slave-enabled = 1

server\_id=52

log-bin=master52

binlog-format="mixed"

symbolic-links=0

[mysqld\_safe]

log-error=/var/log/mariadb/mariadb.log

pid-file=/var/run/mariadb/mariadb.pid

!includedir /etc/my.cnf.d

[root@host52 ~]# systemctl restart mariadb

[root@host52 ~]# ls /var/lib/mysql/

aria\_log.00000001 ibdata1 ib\_logfile1 master52.index mysql.sock test

aria\_log\_control ib\_logfile0 master52.000001 mysql performance\_schema

[root@host52 ~]# mysql -uroot -p123456

MariaDB [(none)]> set global relay\_log\_purge=off;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.04 sec)

MariaDB [(none)]> change master to master\_host="192.168.4.51", master\_user="slaveuser", master\_password="123456", master\_log\_file="master51.000001", master\_log\_pos=465;

Query OK, 0 rows affected (0.05 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> exit

Bye

[root@host52 ~]# mysql -uroot -p123456 -e "show slave status\G" | grep -i yes

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#修改host53配置

[root@host53 ~]# cat /etc/my.cnf | grep -v ^$ | grep -v ^#

[mysqld]

datadir=/var/lib/mysql

socket=/var/lib/mysql/mysql.sock

plugin-load = "rpl\_semi\_sync\_master=semisync\_master.so;rpl\_semi\_sync\_slave=semisync\_slave.so"

rpl-semi-sync-master-enabled = 1

rpl-semi-sync-slave-enabled = 1

server\_id=53

log-bin=master53

binlog-format="mixed"

symbolic-links=0

[mysqld\_safe]

log-error=/var/log/mariadb/mariadb.log

pid-file=/var/run/mariadb/mariadb.pid

!includedir /etc/my.cnf.d

[root@host53 ~]# systemctl restart mariadb

[root@host53 ~]# ls /var/lib/mysql/

aria\_log.00000001 ib\_logfile1 mysql.sock

aria\_log\_control master53.000001 performance\_schema

ibdata1 master53.index test

ib\_logfile0 mysql

[root@host53 ~]# mysql -uroot -p123456

MariaDB [(none)]> set global relay\_log\_purge=off;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> change master to master\_host="192.168.4.51", master\_user="slaveuser", master\_password="123456", master\_log\_file="master51.000001", master\_log\_pos=465;

Query OK, 0 rows affected (0.06 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> exit

Bye

[root@host53 ~]# mysql -uroot -p123456 -e "show slave status\G" | grep -i yes

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#配置host54

[root@host54 ~]# cat /etc/my.cnf | grep -v ^$ | grep -v ^#

[mysqld]

datadir=/var/lib/mysql

socket=/var/lib/mysql/mysql.sock

server\_id=54

symbolic-links=0

[mysqld\_safe]

log-error=/var/log/mariadb/mariadb.log

pid-file=/var/run/mariadb/mariadb.pid

!includedir /etc/my.cnf.d

[root@host54 ~]# systemctl restart mariadb

[root@host54 ~]# ls /var/lib/mysql/

aria\_log.00000001 ib\_logfile0 mysql.sock

aria\_log\_control ib\_logfile1 performance\_schema

ibdata1 mysql test

[root@host54 ~]# mysql -uroot -p123456

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.03 sec)

MariaDB [(none)]> change master to master\_host="192.168.4.51", master\_user="slaveuser", master\_password="123456", master\_log\_file="master51.000001", master\_log\_pos=465;

Query OK, 0 rows affected (0.04 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> exit

Bye

[root@host54 ~]# mysql -uroot -p123456 -e "show slave status\G" | grep -i yes

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#配置host55

[root@host55 ~]# cat /etc/my.cnf | grep -v ^# | grep -v ^$

[mysqld]

datadir=/var/lib/mysql

socket=/var/lib/mysql/mysql.sock

server\_id=55

symbolic-links=0

[mysqld\_safe]

log-error=/var/log/mariadb/mariadb.log

pid-file=/var/run/mariadb/mariadb.pid

!includedir /etc/my.cnf.d

[root@host55 ~]# systemctl restart mariadb

[root@host55 ~]# mysql -uroot -p123456

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> change master to master\_host="192.168.4.51", master\_user="slaveuser", master\_password="123456", master\_log\_file="master51.000001", master\_log\_pos=465;

Query OK, 0 rows affected (0.04 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> exit

Bye

[root@host55 ~]# mysql -uroot -p123456 -e "show slave status\G" | grep -i yes

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#测试主从同步

[root@host51 ~]# mysql -uroot -p123456

MariaDB [(none)]> grant all on gamedb.\* to amdin@"%" identified by "123456";

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> flush privileges;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> create database gamedb;

Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> use gamedb

Database changed

MariaDB [gamedb]> create table t1 (id int);

Query OK, 0 rows affected (0.02 sec)

MariaDB [gamedb]> insert into t1 values (999);

Query OK, 1 row affected (0.01 sec)

MariaDB [gamedb]> insert into t1 values (888);

Query OK, 1 row affected (0.01 sec)

MariaDB [gamedb]> select \* from t1;

+------+

| id |

+------+

| 999 |

| 888 |

+------+

2 rows in set (0.01 sec)

[root@room8pc205 ~]# mysql -h192.168.4.52 -uamdin -p123456

MariaDB [(none)]> use gamedb

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

MariaDB [gamedb]> select \* from t1;

+------+

| id |

+------+

| 999 |

| 888 |

+------+

2 rows in set (0.01 sec)

[root@room8pc205 ~]# mysql -h192.168.4.53 -uamdin -p123456

MariaDB [(none)]> select \* from gamedb.t1;

+------+

| id |

+------+

| 999 |

| 888 |

+------+

2 rows in set (0.00 sec)

[root@room8pc205 ~]# mysql -h192.168.4.54 -uamdin -p123456

MariaDB [(none)]> select \* from gamedb.t1;

+------+

| id |

+------+

| 999 |

| 888 |

+------+

2 rows in set (0.01 sec)

[root@room8pc205 ~]# mysql -h192.168.4.55 -uamdin -p123456

MariaDB [(none)]> select \* from gamedb.t1;

+------+

| id |

+------+

| 999 |

| 888 |

+------+

2 rows in set (0.00 sec)

##基础结构搭建完成

##配置MHA

[root@host51 ~]# mysql -uroot -p123456

MariaDB [(none)]> grant all on \*.\* to root@"%" identified by "123456";

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> select user, host from mysql.user;

+-----------+----------------+

| user | host |

+-----------+----------------+

| amdin | % |

| root | % |

| slaveuser | % |

| root | 127.0.0.1 |

| root | ::1 |

| | host51.tedu.cn |

| root | host51.tedu.cn |

| | localhost |

| root | localhost |

+-----------+----------------+

9 rows in set (0.00 sec)

[root@manager56 ~]# yum -y install mariadb

[root@manager56 ~]# mysql -h192.168.4.51 -uroot -p123456

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 10

Server version: 5.5.56-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> exit

Bye

[root@manager56 ~]# mysql -h192.168.4.52 -uroot -p123456

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 10

Server version: 5.5.56-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> exit

Bye

[root@room8pc205 mha]# for i in {1..6}

> do

> scp mha4mysql-node-0.56-0.el6.noarch.rpm 192.168.4.5$i:/root

> done

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

mha4mysql-node-0.56-0.el6.noarch.rpm 100% 35KB 35.5KB/s 00:00

[root@room8pc205 mha]# scp mha4mysql-manager-0.56.tar.gz 192.168.4.56:/root

mha4mysql-manager-0.56.tar.gz 100% 111KB 111.2KB/s 00:00

#数据节点安装节点包

[root@host51 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

[root@host52 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

[root@host53 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

[root@host54 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

[root@host55 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

#管理节点安装节点包

[root@manager56 ~]# yum -y localinstall mha4mysql-node-0.56-0.el6.noarch.rpm

[root@manager56 ~]# yum -y install perl-ExtUtils-\* perl-CPAN-\*

[root@manager56 ~]# tar -xf mha4mysql-manager-0.56.tar.gz

[root@manager56 ~]# cd mha4mysql-manager-0.56/

[root@manager56 mha4mysql-manager-0.56]# perl Makefile.PL

\*\*\* Module::AutoInstall version 1.03

\*\*\* Checking for Perl dependencies...

[Core Features]

- DBI ...loaded. (1.627)

- DBD::mysql ...loaded. (4.023)

- Time::HiRes ...loaded. (1.9725)

- Config::Tiny ...loaded. (2.14)

- Log::Dispatch ...loaded. (2.41)

- Parallel::ForkManager ...loaded. (1.18)

- MHA::NodeConst ...loaded. (0.56)

\*\*\* Module::AutoInstall configuration finished.

Checking if your kit is complete...

Looks good

Writing Makefile for mha4mysql::manager

Writing MYMETA.yml and MYMETA.json

[root@manager56 mha4mysql-manager-0.56]# make && make install

[root@manager56 mha4mysql-manager-0.56]# mkdir /root/bin

[root@manager56 mha4mysql-manager-0.56]# cp bin/\* /root/bin/

[root@manager56 mha4mysql-manager-0.56]# ls /root/bin/

masterha\_check\_repl masterha\_check\_status masterha\_manager masterha\_master\_switch masterha\_stop

masterha\_check\_ssh masterha\_conf\_host masterha\_master\_monitor masterha\_secondary\_check

#host51宕机以后host52或者host53升级成主库，需要host54和host55有主从同步用户

[root@host52 ~]# mysql -uroot -p123456

MariaDB [(none)]> grant replication slave on \*.\* to slaveuser@"%" identified by "123456";

[root@host53 ~]# mysql -uroot -p123456

MariaDB [(none)]> grant replication slave on \*.\* to slaveuser@"%" identified by "123456";

#修改manager配置文件

[root@manager56 mha4mysql-manager-0.56]# ls samples/

conf scripts

[root@manager56 mha4mysql-manager-0.56]# mkdir /etc/mha\_manager

[root@manager56 mha4mysql-manager-0.56]# cp samples/conf/app1.cnf /etc/mha\_manager/

#拷贝监控脚本

[root@manager56 mha4mysql-manager-0.56]# cp samples/scripts/master\_ip\_failover /etc/mha\_manager/

[root@manager56 mha4mysql-manager-0.56]# ll /etc/mha\_manager/master\_ip\_failover

-rwxr-xr-x 1 root root 3648 10月 8 17:11 /etc/mha\_manager/master\_ip\_failover

#修改manager配置文件

[root@manager56 mha4mysql-manager-0.56]# cat /etc/mha\_manager/app1.cnf | grep -v ^$

[server default]

manager\_workdir=/etc/mha\_manager/

manager\_log=/etc/mha\_manager/manager.log

master\_ip\_failover\_script=/etc/mha\_manager/master\_ip\_failover

ssh\_user=root

ssh\_port=22

repl\_user=slaveuser

repl\_password=123456

user=root

password=123456

[server1]

hostname=192.168.4.51

candidate\_master=1

[server2]

hostname=192.168.4.52

candidate\_master=1

[server3]

hostname=192.168.4.53

candidate\_master=1

[server4]

hostname=192.168.4.54

no\_master=1

[server5]

hostname=192.168.4.55

no\_master=1

#修改故障切换脚本

[root@manager56 mha4mysql-manager-0.56]# sed -n "35,38p" /etc/mha\_manager/master\_ip\_failover

my $vip = '192.168.4.100/24';

my $key = '1';

my $ssh\_start\_vip = "/sbin/ifconfig eth0:$key $vip";

my $ssh\_stop\_vip = "/sbin/ifconfig eth0:$key down";

#测试manager配置文件

[root@manager56 mha4mysql-manager-0.56]# cd

[root@manager56 ~]# vim /etc/mha\_manager/app1.cnf

[root@manager56 ~]# sed -n "5p" /etc/mha\_manager/app1.cnf

#master\_ip\_failover\_script=/etc/mha\_manager/master\_ip\_failover

[root@manager56 ~]# masterha\_check\_ssh --conf=/etc/mha\_manager/app1.cnf

Mon Oct 8 17:27:51 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 17:27:51 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 17:27:51 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 17:27:51 2018 - [info] Starting SSH connection tests..

Mon Oct 8 17:27:53 2018 - [debug]

Mon Oct 8 17:27:51 2018 - [debug] Connecting via SSH from root@192.168.4.51(192.168.4.51:22) to root@192.168.4.52(192.168.4.52:22)..

Mon Oct 8 17:27:51 2018 - [debug] ok.

Mon Oct 8 17:27:51 2018 - [debug] Connecting via SSH from root@192.168.4.51(192.168.4.51:22) to root@192.168.4.53(192.168.4.53:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.51(192.168.4.51:22) to root@192.168.4.54(192.168.4.54:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.51(192.168.4.51:22) to root@192.168.4.55(192.168.4.55:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug]

Mon Oct 8 17:27:51 2018 - [debug] Connecting via SSH from root@192.168.4.52(192.168.4.52:22) to root@192.168.4.51(192.168.4.51:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.52(192.168.4.52:22) to root@192.168.4.53(192.168.4.53:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.52(192.168.4.52:22) to root@192.168.4.54(192.168.4.54:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.52(192.168.4.52:22) to root@192.168.4.55(192.168.4.55:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:54 2018 - [debug]

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.54(192.168.4.54:22) to root@192.168.4.51(192.168.4.51:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.54(192.168.4.54:22) to root@192.168.4.52(192.168.4.52:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.54(192.168.4.54:22) to root@192.168.4.53(192.168.4.53:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:54 2018 - [debug] Connecting via SSH from root@192.168.4.54(192.168.4.54:22) to root@192.168.4.55(192.168.4.55:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:54 2018 - [debug]

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.53(192.168.4.53:22) to root@192.168.4.51(192.168.4.51:22)..

Mon Oct 8 17:27:52 2018 - [debug] ok.

Mon Oct 8 17:27:52 2018 - [debug] Connecting via SSH from root@192.168.4.53(192.168.4.53:22) to root@192.168.4.52(192.168.4.52:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.53(192.168.4.53:22) to root@192.168.4.54(192.168.4.54:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.53(192.168.4.53:22) to root@192.168.4.55(192.168.4.55:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:55 2018 - [debug]

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.55(192.168.4.55:22) to root@192.168.4.51(192.168.4.51:22)..

Mon Oct 8 17:27:53 2018 - [debug] ok.

Mon Oct 8 17:27:53 2018 - [debug] Connecting via SSH from root@192.168.4.55(192.168.4.55:22) to root@192.168.4.52(192.168.4.52:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:54 2018 - [debug] Connecting via SSH from root@192.168.4.55(192.168.4.55:22) to root@192.168.4.53(192.168.4.53:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:54 2018 - [debug] Connecting via SSH from root@192.168.4.55(192.168.4.55:22) to root@192.168.4.54(192.168.4.54:22)..

Mon Oct 8 17:27:54 2018 - [debug] ok.

Mon Oct 8 17:27:55 2018 - [info] All SSH connection tests passed successfully.

#见到all ssh successful即可，如果有报错，则证明manger无法免密登录到51-55的主机，重新配置ssh免密登录

[root@manager56 ~]# masterha\_check\_repl --conf=/etc/mha\_manager/app1.cnf

Mon Oct 8 17:33:07 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 17:33:07 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 17:33:07 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 17:33:07 2018 - [info] MHA::MasterMonitor version 0.56.

Mon Oct 8 17:33:08 2018 - [info] GTID failover mode = 0

Mon Oct 8 17:33:08 2018 - [info] Dead Servers:

Mon Oct 8 17:33:08 2018 - [info] Alive Servers:

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.53(192.168.4.53:3306)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.54(192.168.4.54:3306)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.55(192.168.4.55:3306)

Mon Oct 8 17:33:08 2018 - [info] Alive Slaves:

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.52(192.168.4.52:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 17:33:08 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.53(192.168.4.53:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 17:33:08 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.54(192.168.4.54:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 17:33:08 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 17:33:08 2018 - [info] 192.168.4.55(192.168.4.55:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 17:33:08 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 17:33:08 2018 - [info] Current Alive Master: 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 17:33:08 2018 - [info] Checking slave configurations..

Mon Oct 8 17:33:08 2018 - [info] read\_only=1 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 17:33:08 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 17:33:08 2018 - [info] read\_only=1 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 17:33:08 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 17:33:08 2018 - [info] read\_only=1 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 17:33:08 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 17:33:08 2018 - [warning] log-bin is not set on slave 192.168.4.54(192.168.4.54:3306). This host cannot be a master.

Mon Oct 8 17:33:08 2018 - [info] read\_only=1 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 17:33:08 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 17:33:08 2018 - [warning] log-bin is not set on slave 192.168.4.55(192.168.4.55:3306). This host cannot be a master.

Mon Oct 8 17:33:08 2018 - [info] Checking replication filtering settings..

Mon Oct 8 17:33:08 2018 - [info] binlog\_do\_db= , binlog\_ignore\_db=

Mon Oct 8 17:33:08 2018 - [info] Replication filtering check ok.

Mon Oct 8 17:33:08 2018 - [info] GTID (with auto-pos) is not supported

Mon Oct 8 17:33:08 2018 - [info] Starting SSH connection tests..

Mon Oct 8 17:33:16 2018 - [info] All SSH connection tests passed successfully.

Mon Oct 8 17:33:16 2018 - [info] Checking MHA Node version..

Mon Oct 8 17:33:18 2018 - [info] Version check ok.

Mon Oct 8 17:33:18 2018 - [info] Checking SSH publickey authentication settings on the current master..

Mon Oct 8 17:33:18 2018 - [info] HealthCheck: SSH to 192.168.4.51 is reachable.

Mon Oct 8 17:33:18 2018 - [info] Master MHA Node version is 0.56.

Mon Oct 8 17:33:18 2018 - [info] Checking recovery script configurations on 192.168.4.51(192.168.4.51:3306)..

Mon Oct 8 17:33:18 2018 - [info] Executing command: save\_binary\_logs --command=test --start\_pos=4 --binlog\_dir=/var/lib/mysql,/var/log/mysql --output\_file=/var/tmp/save\_binary\_logs\_test --manager\_version=0.56 --start\_file=master51.000001

Mon Oct 8 17:33:18 2018 - [info] Connecting to root@192.168.4.51(192.168.4.51:22)..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master51.000001

Mon Oct 8 17:33:19 2018 - [info] Binlog setting check done.

Mon Oct 8 17:33:19 2018 - [info] Checking SSH publickey authentication and checking recovery script configurations on all alive slave servers..

Mon Oct 8 17:33:19 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.52 --slave\_ip=192.168.4.52 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 17:33:19 2018 - [info] Connecting to root@192.168.4.52(192.168.4.52:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 17:33:19 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.53 --slave\_ip=192.168.4.53 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 17:33:19 2018 - [info] Connecting to root@192.168.4.53(192.168.4.53:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 17:33:21 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.54 --slave\_ip=192.168.4.54 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 17:33:21 2018 - [info] Connecting to root@192.168.4.54(192.168.4.54:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 17:33:22 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.55 --slave\_ip=192.168.4.55 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 17:33:22 2018 - [info] Connecting to root@192.168.4.55(192.168.4.55:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 17:33:23 2018 - [info] Slaves settings check done.

Mon Oct 8 17:33:23 2018 - [info]

192.168.4.51(192.168.4.51:3306) (current master)

+--192.168.4.52(192.168.4.52:3306)

+--192.168.4.53(192.168.4.53:3306)

+--192.168.4.54(192.168.4.54:3306)

+--192.168.4.55(192.168.4.55:3306)

Mon Oct 8 17:33:23 2018 - [info] Checking replication health on 192.168.4.52..

Mon Oct 8 17:33:23 2018 - [info] ok.

Mon Oct 8 17:33:23 2018 - [info] Checking replication health on 192.168.4.53..

Mon Oct 8 17:33:23 2018 - [info] ok.

Mon Oct 8 17:33:23 2018 - [info] Checking replication health on 192.168.4.54..

Mon Oct 8 17:33:23 2018 - [info] ok.

Mon Oct 8 17:33:23 2018 - [info] Checking replication health on 192.168.4.55..

Mon Oct 8 17:33:23 2018 - [info] ok.

Mon Oct 8 17:33:23 2018 - [warning] master\_ip\_failover\_script is not defined.

Mon Oct 8 17:33:23 2018 - [warning] shutdown\_script is not defined.

Mon Oct 8 17:33:23 2018 - [info] Got exit code 0 (Not master dead).

MySQL Replication Health is OK.

#见到MySQL replication health is ok表示主从同步结构无问题，注意，host52和host53的slaveuser授权问题，如果未授权，这里可能报错

#启动服务

#在当前主库上手动配置vip

[root@host51 ~]# ifconfig eth0:1 192.168.4.100/24

[root@host51 ~]# ip addr show | grep eth0

4: eth0: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc pfifo\_fast state UP group default qlen 1000

inet 192.168.4.51/24 brd 192.168.4.255 scope global noprefixroute eth0

inet 192.168.4.100/24 brd 192.168.4.255 scope global secondary eth0:1

#测试vip通信

[root@manager56 ~]# ping -c 2 192.168.4.100

PING 192.168.4.100 (192.168.4.100) 56(84) bytes of data.

64 bytes from 192.168.4.100: icmp\_seq=1 ttl=64 time=2.72 ms

64 bytes from 192.168.4.100: icmp\_seq=2 ttl=64 time=0.850 ms

--- 192.168.4.100 ping statistics ---

2 packets transmitted, 2 received, 0% packet loss, time 1002ms

rtt min/avg/max/mdev = 0.850/1.786/2.722/0.936 ms

#配置文件中去掉故障切换脚本的注释符

[root@manager56 ~]# sed -ri "/failover/s/#//" /etc/mha\_manager/app1.cnf

[root@manager56 ~]# sed -n "5p" /etc/mha\_manager/app1.cnf

master\_ip\_failover\_script=/etc/mha\_manager/master\_ip\_failover

#注意，故障检测脚本用老师给的，用源码包复制出来的有问题，具体问题后续分析

下列内容为老师给出的启动脚本的内容，课堂上仅讲了修改标红的四行，其实还定义了两个函数，绿色标记

[root@room8pc205 ~]# cat 1.txt

use strict;

use warnings FATAL => 'all';

use Getopt::Long;

use MHA::DBHelper;

my (

$command, $ssh\_user, $orig\_master\_host,

$orig\_master\_ip, $orig\_master\_port, $new\_master\_host,

$new\_master\_ip, $new\_master\_port, $new\_master\_user,

$new\_master\_password

);

my $vip = "192.168.4.100/24"

my $key = "1";

my $ssh\_start\_vip = "/sbin/ifconfig eth0:$key $vip";

my $ssh\_stop\_vip = "/sbin/ifconfig eth0:$key down";

GetOptions(

'command=s' => \$command,

'ssh\_user=s' => \$ssh\_user,

'orig\_master\_host=s' => \$orig\_master\_host,

'orig\_master\_ip=s' => \$orig\_master\_ip,

'orig\_master\_port=i' => \$orig\_master\_port,

'new\_master\_host=s' => \$new\_master\_host,

'new\_master\_ip=s' => \$new\_master\_ip,

'new\_master\_port=i' => \$new\_master\_port,

'new\_master\_user=s' => \$new\_master\_user,

'new\_master\_password=s' => \$new\_master\_password,

);

exit &main();

sub main {

if ( $command eq "stop" || $command eq "stopssh" ) {

my $exit\_code = 1;

eval {

&stop\_vip();

$exit\_code = 0;

};

if ($@) {

warn "Got Error: $@\n";

exit $exit\_code;

}

exit $exit\_code;

}

elsif ( $command eq "start" ) {

my $exit\_code = 10;

eval {

my $new\_master\_handler = new MHA::DBHelper();

$new\_master\_handler->connect( $new\_master\_ip, $new\_master\_port,

$new\_master\_user, $new\_master\_password, 1 );

$new\_master\_handler->disable\_log\_bin\_local();

print "Set read\_only=0 on the new master.\n";

$new\_master\_handler->disable\_read\_only();

print "Creating app user on the new master..\n";

$new\_master\_handler->enable\_log\_bin\_local();

$new\_master\_handler->disconnect();

&start\_vip();

$exit\_code = 0;

};

if ($@) {

warn $@;

exit $exit\_code;

}

exit $exit\_code;

}

elsif ( $command eq "status" ) {

exit 0;

}

else {

&usage();

exit 1;

}

}

sub start\_vip() {

`ssh $ssh\_user\@$new\_master\_host \" $ssh\_start\_vip \"`;

}

sub stop\_vip() {

return 0 unless ($ssh\_user);

`ssh $ssh\_user\@$orig\_master\_host \" $ssh\_stop\_vip \"`;

}

sub usage {

print

"Usage: master\_ip\_failover --command=start|stop|stopssh|status --orig\_master\_host=host --orig\_master\_ip=ip --orig\_master\_port=port --new\_master\_host=host --new\_master\_ip=ip --new\_master\_port=port\n";

}

[root@manager56 ~]# rm -rf /etc/mha\_manager/master\_ip\_failover

[root@manager56 ~]# mv /root/master\_ip\_failover /etc/mha\_manager/

#启动服务

[root@manager56 ~]# masterha\_manager --conf=/etc/mha\_manager/app1.cnf --remove\_dead\_master\_conf --ignore\_last\_failover

Mon Oct 8 18:29:21 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 18:29:21 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 18:29:21 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

#验证服务状态

[root@manager56 ~]# masterha\_check\_status --conf=/etc/mha\_manager/app1.cnf

app1 (pid:6183) is running(0:PING\_OK), master:192.168.4.51

[root@manager56 ~]# cat /etc/mha\_manager/manager.log

Mon Oct 8 18:42:17 2018 - [info] MHA::MasterMonitor version 0.56.

Mon Oct 8 18:42:19 2018 - [info] GTID failover mode = 0

Mon Oct 8 18:42:19 2018 - [info] Dead Servers:

Mon Oct 8 18:42:19 2018 - [info] Alive Servers:

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.53(192.168.4.53:3306)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.54(192.168.4.54:3306)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.55(192.168.4.55:3306)

Mon Oct 8 18:42:19 2018 - [info] Alive Slaves:

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.52(192.168.4.52:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 18:42:19 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.53(192.168.4.53:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 18:42:19 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.54(192.168.4.54:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 18:42:19 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 18:42:19 2018 - [info] 192.168.4.55(192.168.4.55:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 18:42:19 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 18:42:19 2018 - [info] Current Alive Master: 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 18:42:19 2018 - [info] Checking slave configurations..

Mon Oct 8 18:42:19 2018 - [info] read\_only=1 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 18:42:19 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 18:42:19 2018 - [info] read\_only=1 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 18:42:19 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 18:42:19 2018 - [info] read\_only=1 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 18:42:19 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 18:42:19 2018 - [warning] log-bin is not set on slave 192.168.4.54(192.168.4.54:3306). This host cannot be a master.

Mon Oct 8 18:42:19 2018 - [info] read\_only=1 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 18:42:19 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 18:42:19 2018 - [warning] log-bin is not set on slave 192.168.4.55(192.168.4.55:3306). This host cannot be a master.

Mon Oct 8 18:42:19 2018 - [info] Checking replication filtering settings..

Mon Oct 8 18:42:19 2018 - [info] binlog\_do\_db= , binlog\_ignore\_db=

Mon Oct 8 18:42:19 2018 - [info] Replication filtering check ok.

Mon Oct 8 18:42:19 2018 - [info] GTID (with auto-pos) is not supported

Mon Oct 8 18:42:19 2018 - [info] Starting SSH connection tests..

Mon Oct 8 18:42:23 2018 - [info] All SSH connection tests passed successfully.

Mon Oct 8 18:42:23 2018 - [info] Checking MHA Node version..

Mon Oct 8 18:42:24 2018 - [info] Version check ok.

Mon Oct 8 18:42:24 2018 - [info] Checking SSH publickey authentication settings on the current master..

Mon Oct 8 18:42:24 2018 - [info] HealthCheck: SSH to 192.168.4.51 is reachable.

Mon Oct 8 18:42:25 2018 - [info] Master MHA Node version is 0.56.

Mon Oct 8 18:42:25 2018 - [info] Checking recovery script configurations on 192.168.4.51(192.168.4.51:3306)..

Mon Oct 8 18:42:25 2018 - [info] Executing command: save\_binary\_logs --command=test --start\_pos=4 --binlog\_dir=/var/lib/mysql,/var/log/mysql --output\_file=/var/tmp/save\_binary\_logs\_test --manager\_version=0.56 --start\_file=master51.000001

Mon Oct 8 18:42:25 2018 - [info] Connecting to root@192.168.4.51(192.168.4.51:22)..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master51.000001

Mon Oct 8 18:42:25 2018 - [info] Binlog setting check done.

Mon Oct 8 18:42:25 2018 - [info] Checking SSH publickey authentication and checking recovery script configurations on all alive slave servers..

Mon Oct 8 18:42:25 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.52 --slave\_ip=192.168.4.52 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 18:42:25 2018 - [info] Connecting to root@192.168.4.52(192.168.4.52:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 18:42:25 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.53 --slave\_ip=192.168.4.53 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 18:42:25 2018 - [info] Connecting to root@192.168.4.53(192.168.4.53:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 18:42:26 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.54 --slave\_ip=192.168.4.54 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 18:42:26 2018 - [info] Connecting to root@192.168.4.54(192.168.4.54:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 18:42:26 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.55 --slave\_ip=192.168.4.55 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 18:42:26 2018 - [info] Connecting to root@192.168.4.55(192.168.4.55:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 18:42:26 2018 - [info] Slaves settings check done.

Mon Oct 8 18:42:26 2018 - [info]

192.168.4.51(192.168.4.51:3306) (current master)

+--192.168.4.52(192.168.4.52:3306)

+--192.168.4.53(192.168.4.53:3306)

+--192.168.4.54(192.168.4.54:3306)

+--192.168.4.55(192.168.4.55:3306)

Mon Oct 8 18:42:26 2018 - [info] Checking master\_ip\_failover\_script status:

Mon Oct 8 18:42:26 2018 - [info] /etc/mha\_manager/master\_ip\_failover --command=status --ssh\_user=root --orig\_master\_host=192.168.4.51 --orig\_master\_ip=192.168.4.51 --orig\_master\_port=3306

Mon Oct 8 18:42:26 2018 - [info] OK.

Mon Oct 8 18:42:26 2018 - [warning] shutdown\_script is not defined.

Mon Oct 8 18:42:26 2018 - [info] Set master ping interval 3 seconds.

Mon Oct 8 18:42:26 2018 - [warning] secondary\_check\_script is not defined. It is highly recommended setting it to check master reachability from two or more routes.

Mon Oct 8 18:42:26 2018 - [info] Starting ping health check on 192.168.4.51(192.168.4.51:3306)..

Mon Oct 8 18:42:26 2018 - [info] Ping(SELECT) succeeded, waiting until MySQL doesn't respond..

[root@manager56 ~]# netstat -antpu | grep perl

tcp 0 0 192.168.4.56:39416 192.168.4.51:3306 ESTABLISHED 6183/perl

#测试vip是否可用

[root@host51 ~]# mysql -uroot -p123456

MariaDB [(none)]> create database mhatest1;

Query OK, 1 row affected (0.02 sec)

MariaDB [(none)]> grant all on mhatest1.\* to webuser@'%' identified by "123456";

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> flush privileges;

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> use mhatest1

Database changed

MariaDB [mhatest1]> create table t1 (id int);

Query OK, 0 rows affected (0.02 sec)

MariaDB [mhatest1]> insert into t1 values(1111);

Query OK, 1 row affected (0.01 sec)

MariaDB [mhatest1]> insert into t1 values(2222);

Query OK, 1 row affected (0.01 sec)

[root@room8pc205 mha]# mysql -h192.168.4.100 -uwebuser -p123456

MariaDB [(none)]> select @@hostname;

+----------------+

| @@hostname |

+----------------+

| host51.tedu.cn |

+----------------+

1 row in set (0.00 sec)

MariaDB [(none)]> select \* from mhatest1.t1;

+------+

| id |

+------+

| 1111 |

| 2222 |

+------+

2 rows in set (0.00 sec)

MariaDB [(none)]> use mhatest1

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

MariaDB [mhatest1]> insert into t1 values(3333);

Query OK, 1 row affected (0.02 sec)

MariaDB [mhatest1]> select \* from mhatest1.t1;

+------+

| id |

+------+

| 1111 |

| 2222 |

| 3333 |

+------+

3 rows in set (0.00 sec)

#从库验证

[root@host52 ~]# mysql -uroot -p123456

MariaDB [(none)]> select \* from gamedb.t1;

+------+

| id |

+------+

| 999 |

| 888 |

| 777 |

+------+

3 rows in set (0.00 sec)

[root@host54 ~]# mysql -uroot -p123456

MariaDB [(none)]> select \* from mhatest1.t1;

+------+

| id |

+------+

| 1111 |

| 2222 |

| 3333 |

+------+

3 rows in set (0.00 sec)

##测试mha高可用

#手动停止host51的mariadb服务

[root@host51 ~]# systemctl stop mariadb

#查看监控节点服务状态

[root@manager56 ~]# masterha\_manager --conf=/etc/mha\_manager/app1.cnf --remove\_dead\_master\_conf --ignore\_last\_failover

Mon Oct 8 18:42:17 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 18:42:17 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 18:42:17 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master51.000001

Mon Oct 8 18:58:07 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 18:58:07 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 18:58:07 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

[root@manager56 ~]#

[root@manager56 ~]# tail -5 /etc/mha\_manager/manager.log

192.168.4.55(192.168.4.55:3306): OK: Applying all logs succeeded. Slave started, replicating from 192.168.4.52(192.168.4.52:3306)

192.168.4.53(192.168.4.53:3306): OK: Applying all logs succeeded. Slave started, replicating from 192.168.4.52(192.168.4.52:3306)

192.168.4.54(192.168.4.54:3306): OK: Applying all logs succeeded. Slave started, replicating from 192.168.4.52(192.168.4.52:3306)

192.168.4.52(192.168.4.52:3306): Resetting slave info succeeded.

Master failover to 192.168.4.52(192.168.4.52:3306) completed successfully.

#查看vip是否漂移

[root@host51 ~]# ip addr show | grep eth0

4: eth0: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc pfifo\_fast state UP group default qlen 1000

inet 192.168.4.51/24 brd 192.168.4.255 scope global noprefixroute eth0

[root@host52 ~]# ip addr show | grep eth0

4: eth0: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc pfifo\_fast state UP group default qlen 1000

inet 192.168.4.52/24 brd 192.168.4.255 scope global noprefixroute eth0

inet 192.168.4.100/24 brd 192.168.4.255 scope global secondary eth0:1

#测试客户端连接

[root@room8pc205 mha]# mysql -h192.168.4.100 -uwebuser -p123456

MariaDB [(none)]> select @@hostname;

+----------------+

| @@hostname |

+----------------+

| host52.tedu.cn |

+----------------+

1 row in set (0.00 sec)

#监控节点上server1的配置已经被删除

[root@manager56 ~]# cat /etc/mha\_manager/app1.cnf | grep -v ^$

[server default]

manager\_log=/etc/mha\_manager/manager.log

manager\_workdir=/etc/mha\_manager/

master\_ip\_failover\_script=/etc/mha\_manager/master\_ip\_failover

password=123456

repl\_password=123456

repl\_user=slaveuser

ssh\_port=22

ssh\_user=root

user=root

[server2]

candidate\_master=1

hostname=192.168.4.52

[server3]

candidate\_master=1

hostname=192.168.4.53

[server4]

hostname=192.168.4.54

no\_master=1

[server5]

hostname=192.168.4.55

no\_master=1

#host52成为新的主库

[root@host52 ~]# mysql -uroot -p123456

MariaDB [(none)]> show slave status \G

Empty set (0.00 sec)

[root@host53 ~]# mysql -uroot -p123456

MariaDB [(none)]> show slave status\G

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1. row \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Slave\_IO\_State: Waiting for master to send event

Master\_Host: 192.168.4.52

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: master52.000001

Read\_Master\_Log\_Pos: 390

Relay\_Log\_File: mariadb-relay-bin.000002

Relay\_Log\_Pos: 528

Relay\_Master\_Log\_File: master52.000001

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#host52成为53/54/55的新的主库

##将修复的服务器重新添加到集群中

[root@host52 ~]# mysql -uroot -p123456

MariaDB [(none)]> show master status\G

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1. row \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

File: master52.000001

Position: 390

Binlog\_Do\_DB:

Binlog\_Ignore\_DB:

1 row in set (0.00 sec)

[root@host51 ~]# systemctl start mariadb

[root@host51 ~]# mysql -uroot -p123456

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> change master to master\_host="192.168.4.52", master\_user="slaveuser", master\_password="123456", master\_log\_file="master52.000001", master\_log\_pos=390;

Query OK, 0 rows affected (0.04 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> show slave status \G

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1. row \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Slave\_IO\_State: Waiting for master to send event

Master\_Host: 192.168.4.52

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: master52.000001

Read\_Master\_Log\_Pos: 390

Relay\_Log\_File: mariadb-relay-bin.000002

Relay\_Log\_Pos: 528

Relay\_Master\_Log\_File: master52.000001

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

#将修复的host51添加回集群配置

[root@manager56 ~]# cat /etc/mha\_manager/app1.cnf | grep -v ^$

[server default]

manager\_log=/etc/mha\_manager/manager.log

manager\_workdir=/etc/mha\_manager/

master\_ip\_failover\_script=/etc/mha\_manager/master\_ip\_failover

password=123456

repl\_password=123456

repl\_user=slaveuser

ssh\_port=22

ssh\_user=root

user=root

[server1]

candidate\_master=1

hostname=192.168.4.51

[server2]

candidate\_master=1

hostname=192.168.4.52

[server3]

candidate\_master=1

hostname=192.168.4.53

[server4]

hostname=192.168.4.54

no\_master=1

[server5]

hostname=192.168.4.55

no\_master=1

#测试主从是否健康

[root@manager56 ~]# masterha\_check\_repl --conf=/etc/mha\_manager/app1.cnf

Mon Oct 8 19:15:11 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 19:15:11 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 19:15:11 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 19:15:11 2018 - [info] MHA::MasterMonitor version 0.56.

Mon Oct 8 19:15:12 2018 - [info] GTID failover mode = 0

Mon Oct 8 19:15:12 2018 - [info] Dead Servers:

Mon Oct 8 19:15:12 2018 - [info] Alive Servers:

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.53(192.168.4.53:3306)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.54(192.168.4.54:3306)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.55(192.168.4.55:3306)

Mon Oct 8 19:15:12 2018 - [info] Alive Slaves:

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.51(192.168.4.51:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 19:15:12 2018 - [info] Replicating from 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.53(192.168.4.53:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 19:15:12 2018 - [info] Replicating from 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.54(192.168.4.54:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 19:15:12 2018 - [info] Replicating from 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 19:15:12 2018 - [info] 192.168.4.55(192.168.4.55:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 19:15:12 2018 - [info] Replicating from 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 19:15:12 2018 - [info] Current Alive Master: 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 19:15:12 2018 - [info] Checking slave configurations..

Mon Oct 8 19:15:12 2018 - [info] read\_only=1 is not set on slave 192.168.4.51(192.168.4.51:3306).

Mon Oct 8 19:15:12 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.51(192.168.4.51:3306).

Mon Oct 8 19:15:12 2018 - [info] read\_only=1 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 19:15:12 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 19:15:12 2018 - [info] read\_only=1 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 19:15:12 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 19:15:12 2018 - [warning] log-bin is not set on slave 192.168.4.54(192.168.4.54:3306). This host cannot be a master.

Mon Oct 8 19:15:12 2018 - [info] read\_only=1 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 19:15:12 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 19:15:12 2018 - [warning] log-bin is not set on slave 192.168.4.55(192.168.4.55:3306). This host cannot be a master.

Mon Oct 8 19:15:12 2018 - [info] Checking replication filtering settings..

Mon Oct 8 19:15:12 2018 - [info] binlog\_do\_db= , binlog\_ignore\_db=

Mon Oct 8 19:15:12 2018 - [info] Replication filtering check ok.

Mon Oct 8 19:15:12 2018 - [info] GTID (with auto-pos) is not supported

Mon Oct 8 19:15:12 2018 - [info] Starting SSH connection tests..

Mon Oct 8 19:15:35 2018 - [info] All SSH connection tests passed successfully.

Mon Oct 8 19:15:35 2018 - [info] Checking MHA Node version..

Mon Oct 8 19:15:37 2018 - [info] Version check ok.

Mon Oct 8 19:15:37 2018 - [info] Checking SSH publickey authentication settings on the current master..

Mon Oct 8 19:15:37 2018 - [info] HealthCheck: SSH to 192.168.4.52 is reachable.

Mon Oct 8 19:15:37 2018 - [info] Master MHA Node version is 0.56.

Mon Oct 8 19:15:37 2018 - [info] Checking recovery script configurations on 192.168.4.52(192.168.4.52:3306)..

Mon Oct 8 19:15:37 2018 - [info] Executing command: save\_binary\_logs --command=test --start\_pos=4 --binlog\_dir=/var/lib/mysql,/var/log/mysql --output\_file=/var/tmp/save\_binary\_logs\_test --manager\_version=0.56 --start\_file=master52.000001

Mon Oct 8 19:15:37 2018 - [info] Connecting to root@192.168.4.52(192.168.4.52:22)..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master52.000001

Mon Oct 8 19:15:37 2018 - [info] Binlog setting check done.

Mon Oct 8 19:15:37 2018 - [info] Checking SSH publickey authentication and checking recovery script configurations on all alive slave servers..

Mon Oct 8 19:15:37 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.51 --slave\_ip=192.168.4.51 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 19:15:37 2018 - [info] Connecting to root@192.168.4.51(192.168.4.51:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 19:15:39 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.53 --slave\_ip=192.168.4.53 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 19:15:39 2018 - [info] Connecting to root@192.168.4.53(192.168.4.53:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 19:15:39 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.54 --slave\_ip=192.168.4.54 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 19:15:39 2018 - [info] Connecting to root@192.168.4.54(192.168.4.54:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 19:15:39 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.55 --slave\_ip=192.168.4.55 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 19:15:39 2018 - [info] Connecting to root@192.168.4.55(192.168.4.55:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 19:15:39 2018 - [info] Slaves settings check done.

Mon Oct 8 19:15:39 2018 - [info]

192.168.4.52(192.168.4.52:3306) (current master)

+--192.168.4.51(192.168.4.51:3306)

+--192.168.4.53(192.168.4.53:3306)

+--192.168.4.54(192.168.4.54:3306)

+--192.168.4.55(192.168.4.55:3306)

Mon Oct 8 19:15:39 2018 - [info] Checking replication health on 192.168.4.51..

Mon Oct 8 19:15:40 2018 - [info] ok.

Mon Oct 8 19:15:40 2018 - [info] Checking replication health on 192.168.4.53..

Mon Oct 8 19:15:40 2018 - [info] ok.

Mon Oct 8 19:15:40 2018 - [info] Checking replication health on 192.168.4.54..

Mon Oct 8 19:15:40 2018 - [info] ok.

Mon Oct 8 19:15:40 2018 - [info] Checking replication health on 192.168.4.55..

Mon Oct 8 19:15:40 2018 - [info] ok.

Mon Oct 8 19:15:40 2018 - [info] Checking master\_ip\_failover\_script status:

Mon Oct 8 19:15:40 2018 - [info] /etc/mha\_manager/master\_ip\_failover --command=status --ssh\_user=root --orig\_master\_host=192.168.4.52 --orig\_master\_ip=192.168.4.52 --orig\_master\_port=3306

Mon Oct 8 19:15:40 2018 - [info] OK.

Mon Oct 8 19:15:40 2018 - [warning] shutdown\_script is not defined.

Mon Oct 8 19:15:40 2018 - [info] Got exit code 0 (Not master dead).

MySQL Replication Health is OK.

[root@manager56 ~]# masterha\_manager --conf=/etc/mha\_manager/app1.cnf --remove\_dead\_master\_conf --ignore\_last\_failover

Mon Oct 8 19:20:45 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 19:20:45 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 19:20:45 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

[root@manager56 ~]# masterha\_check\_status --conf=/etc/mha\_manager/app1.cnf

app1 (pid:7235) is running(0:PING\_OK), master:192.168.4.52

#故障切换测试

[root@host52 ~]# systemctl stop mariadb

[root@manager56 ~]# masterha\_manager --conf=/etc/mha\_manager/app1.cnf --remove\_dead\_master\_conf --ignore\_last\_failover

Mon Oct 8 19:20:45 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 19:20:45 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 19:20:45 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master52.000001

Mon Oct 8 20:27:29 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 20:27:29 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 20:27:29 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

[root@room8pc205 mha]# mysql -h192.168.4.100 -uwebuser -p123456

MariaDB [(none)]> select @@hostname;

+----------------+

| @@hostname |

+----------------+

| host51.tedu.cn |

+----------------+

1 row in set (0.00 sec)

[root@host51 ~]# ip addr show | grep eth0

4: eth0: <BROADCAST,MULTICAST,UP,LOWER\_UP> mtu 1500 qdisc pfifo\_fast state UP group default qlen 1000

inet 192.168.4.51/24 brd 192.168.4.255 scope global noprefixroute eth0

inet 192.168.4.100/24 brd 192.168.4.255 scope global secondary eth0:1

#修复宕机数据库

[root@host51 ~]# mysql -uroot -p123456

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 21

Server version: 5.5.56-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show master status ;

+-----------------+----------+--------------+------------------+

| File | Position | Binlog\_Do\_DB | Binlog\_Ignore\_DB |

+-----------------+----------+--------------+------------------+

| master51.000002 | 245 | | |

+-----------------+----------+--------------+------------------+

1 row in set (0.00 sec)

[root@host52 ~]# systemctl start mariadb

[root@host52 ~]# mysql -uroot -p123456

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 2

Server version: 5.5.56-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show slave status\G

Empty set (0.00 sec)

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> change master to

-> master\_host="192.168.4.51",

-> master\_user="slaveuser",

-> master\_password="123456",

-> master\_log\_file="master51.000002"

-> ,master\_log\_pos=245;

Query OK, 0 rows affected (0.06 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> show slave status \G

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1. row \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Slave\_IO\_State: Waiting for master to send event

Master\_Host: 192.168.4.51

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: master51.000002

Read\_Master\_Log\_Pos: 245

Relay\_Log\_File: mariadb-relay-bin.000002

Relay\_Log\_Pos: 528

Relay\_Master\_Log\_File: master51.000002

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

[root@manager56 ~]# vim /etc/mha\_manager/app1.cnf

[root@manager56 ~]# masterha\_check\_repl --conf=/etc/mha\_manager/app1.cnf

Mon Oct 8 20:34:21 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 20:34:21 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 20:34:21 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 20:34:21 2018 - [info] MHA::MasterMonitor version 0.56.

Mon Oct 8 20:34:22 2018 - [info] GTID failover mode = 0

Mon Oct 8 20:34:22 2018 - [info] Dead Servers:

Mon Oct 8 20:34:22 2018 - [info] Alive Servers:

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.52(192.168.4.52:3306)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.53(192.168.4.53:3306)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.54(192.168.4.54:3306)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.55(192.168.4.55:3306)

Mon Oct 8 20:34:22 2018 - [info] Alive Slaves:

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.52(192.168.4.52:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 20:34:22 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.53(192.168.4.53:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:enabled

Mon Oct 8 20:34:22 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] Primary candidate for the new Master (candidate\_master is set)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.54(192.168.4.54:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 20:34:22 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 20:34:22 2018 - [info] 192.168.4.55(192.168.4.55:3306) Version=5.5.56-MariaDB (oldest major version between slaves) log-bin:disabled

Mon Oct 8 20:34:22 2018 - [info] Replicating from 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] Not candidate for the new Master (no\_master is set)

Mon Oct 8 20:34:22 2018 - [info] Current Alive Master: 192.168.4.51(192.168.4.51:3306)

Mon Oct 8 20:34:22 2018 - [info] Checking slave configurations..

Mon Oct 8 20:34:22 2018 - [info] read\_only=1 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 20:34:22 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.52(192.168.4.52:3306).

Mon Oct 8 20:34:22 2018 - [info] read\_only=1 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 20:34:22 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.53(192.168.4.53:3306).

Mon Oct 8 20:34:22 2018 - [info] read\_only=1 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 20:34:22 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.54(192.168.4.54:3306).

Mon Oct 8 20:34:22 2018 - [warning] log-bin is not set on slave 192.168.4.54(192.168.4.54:3306). This host cannot be a master.

Mon Oct 8 20:34:22 2018 - [info] read\_only=1 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 20:34:22 2018 - [warning] relay\_log\_purge=0 is not set on slave 192.168.4.55(192.168.4.55:3306).

Mon Oct 8 20:34:22 2018 - [warning] log-bin is not set on slave 192.168.4.55(192.168.4.55:3306). This host cannot be a master.

Mon Oct 8 20:34:22 2018 - [info] Checking replication filtering settings..

Mon Oct 8 20:34:22 2018 - [info] binlog\_do\_db= , binlog\_ignore\_db=

Mon Oct 8 20:34:22 2018 - [info] Replication filtering check ok.

Mon Oct 8 20:34:22 2018 - [info] GTID (with auto-pos) is not supported

Mon Oct 8 20:34:22 2018 - [info] Starting SSH connection tests..

Mon Oct 8 20:34:26 2018 - [info] All SSH connection tests passed successfully.

Mon Oct 8 20:34:26 2018 - [info] Checking MHA Node version..

Mon Oct 8 20:34:28 2018 - [info] Version check ok.

Mon Oct 8 20:34:28 2018 - [info] Checking SSH publickey authentication settings on the current master..

Mon Oct 8 20:34:28 2018 - [info] HealthCheck: SSH to 192.168.4.51 is reachable.

Mon Oct 8 20:34:28 2018 - [info] Master MHA Node version is 0.56.

Mon Oct 8 20:34:28 2018 - [info] Checking recovery script configurations on 192.168.4.51(192.168.4.51:3306)..

Mon Oct 8 20:34:28 2018 - [info] Executing command: save\_binary\_logs --command=test --start\_pos=4 --binlog\_dir=/var/lib/mysql,/var/log/mysql --output\_file=/var/tmp/save\_binary\_logs\_test --manager\_version=0.56 --start\_file=master51.000002

Mon Oct 8 20:34:28 2018 - [info] Connecting to root@192.168.4.51(192.168.4.51:22)..

Creating /var/tmp if not exists.. ok.

Checking output directory is accessible or not..

ok.

Binlog found at /var/lib/mysql, up to master51.000002

Mon Oct 8 20:34:28 2018 - [info] Binlog setting check done.

Mon Oct 8 20:34:28 2018 - [info] Checking SSH publickey authentication and checking recovery script configurations on all alive slave servers..

Mon Oct 8 20:34:28 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.52 --slave\_ip=192.168.4.52 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 20:34:28 2018 - [info] Connecting to root@192.168.4.52(192.168.4.52:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 20:34:29 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.53 --slave\_ip=192.168.4.53 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 20:34:29 2018 - [info] Connecting to root@192.168.4.53(192.168.4.53:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 20:34:29 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.54 --slave\_ip=192.168.4.54 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 20:34:29 2018 - [info] Connecting to root@192.168.4.54(192.168.4.54:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 20:34:29 2018 - [info] Executing command : apply\_diff\_relay\_logs --command=test --slave\_user='root' --slave\_host=192.168.4.55 --slave\_ip=192.168.4.55 --slave\_port=3306 --workdir=/var/tmp --target\_version=5.5.56-MariaDB --manager\_version=0.56 --relay\_log\_info=/var/lib/mysql/relay-log.info --relay\_dir=/var/lib/mysql/ --slave\_pass=xxx

Mon Oct 8 20:34:29 2018 - [info] Connecting to root@192.168.4.55(192.168.4.55:22)..

Checking slave recovery environment settings..

Opening /var/lib/mysql/relay-log.info ... ok.

Relay log found at /var/lib/mysql, up to mariadb-relay-bin.000002

Temporary relay log file is /var/lib/mysql/mariadb-relay-bin.000002

Testing mysql connection and privileges.. done.

Testing mysqlbinlog output.. done.

Cleaning up test file(s).. done.

Mon Oct 8 20:34:30 2018 - [info] Slaves settings check done.

Mon Oct 8 20:34:30 2018 - [info]

192.168.4.51(192.168.4.51:3306) (current master)

+--192.168.4.52(192.168.4.52:3306)

+--192.168.4.53(192.168.4.53:3306)

+--192.168.4.54(192.168.4.54:3306)

+--192.168.4.55(192.168.4.55:3306)

Mon Oct 8 20:34:30 2018 - [info] Checking replication health on 192.168.4.52..

Mon Oct 8 20:34:30 2018 - [info] ok.

Mon Oct 8 20:34:30 2018 - [info] Checking replication health on 192.168.4.53..

Mon Oct 8 20:34:30 2018 - [info] ok.

Mon Oct 8 20:34:30 2018 - [info] Checking replication health on 192.168.4.54..

Mon Oct 8 20:34:30 2018 - [info] ok.

Mon Oct 8 20:34:30 2018 - [info] Checking replication health on 192.168.4.55..

Mon Oct 8 20:34:30 2018 - [info] ok.

Mon Oct 8 20:34:30 2018 - [info] Checking master\_ip\_failover\_script status:

Mon Oct 8 20:34:30 2018 - [info] /etc/mha\_manager/master\_ip\_failover --command=status --ssh\_user=root --orig\_master\_host=192.168.4.51 --orig\_master\_ip=192.168.4.51 --orig\_master\_port=3306

Mon Oct 8 20:34:30 2018 - [info] OK.

Mon Oct 8 20:34:30 2018 - [warning] shutdown\_script is not defined.

Mon Oct 8 20:34:30 2018 - [info] Got exit code 0 (Not master dead).

MySQL Replication Health is OK.

[root@manager56 ~]# masterha\_manager --conf=/etc/mha\_manager/app1.cnf --remove\_dead\_master\_conf --ignore\_last\_failover

Mon Oct 8 20:34:37 2018 - [warning] Global configuration file /etc/masterha\_default.cnf not found. Skipping.

Mon Oct 8 20:34:37 2018 - [info] Reading application default configuration from /etc/mha\_manager/app1.cnf..

Mon Oct 8 20:34:37 2018 - [info] Reading server configuration from /etc/mha\_manager/app1.cnf..