MySQL主从同步+过滤同步

实验环境：rhel7.3虚拟机两台，配置好ip，搭建yum，关闭防火墙，SELinux

master 192.168.4.1

slave 192.168.4.2

#安装MariaDB

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

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

#修改主服务器，启动bin-log日志

[root@master ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr1-bin

server\_id=1

datadir=/var/lib/mysql

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

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@master ~]# systemctl start mariadb.service

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

aria\_log.00000001 dbsvr1-bin.000001 dbsvr1-bin.000003 ibdata1 ib\_logfile1 mysql.sock test

aria\_log\_control dbsvr1-bin.000002 dbsvr1-bin.index ib\_logfile0 mysql performance\_schema

#授权同步用户

[root@master ~]# mysql

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

Your MariaDB connection id is 2

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> grant replication slave on \*.\* to 'slaveuser'@'192.168.4.2' identified by '123456';

Query OK, 0 rows affected (0.00 sec)

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

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

File: dbsvr1-bin.000003

Position: 402

Binlog\_Do\_DB:

Binlog\_Ignore\_DB:

1 row in set (0.00 sec)

#配置从服务器，启动bin-log日志

[root@slave ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr2-bin

server\_id=2

datadir=/var/lib/mysql

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

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@slave ~]# systemctl start mariadb.service

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

aria\_log.00000001 ib\_logfile0

aria\_log\_control ib\_logfile1

dbsvr2-bin.000001 mysql

dbsvr2-bin.000002 mysql.sock

dbsvr2-bin.000003 performance\_schema

dbsvr2-bin.index test

ibdata1

#设置主服务器信息

[root@slave ~]# mysql

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

Your MariaDB connection id is 2

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> reset slave;

Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> change master to

-> master\_host='192.168.4.1',

-> master\_user='slaveuser',

-> master\_password='123456',

-> master\_log\_file='dbsvr1-bin.000003',

-> master\_log\_pos=402;

Query OK, 0 rows affected (0.08 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected (0.00 sec)

#确认主服务器信息

[root@slave ~]# cat /var/lib/mysql/master.info | grep -v ^$

18

dbsvr1-bin.000003

402

192.168.4.1

slaveuser

123456

3306

60

0

0

1800.000

0

##测试主从同步

#主服务器创建库

[root@master ~]# mysql

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

Your MariaDB connection id is 9

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create database testdb;

Query OK, 1 row affected (0.01 sec)

MariaDB [(none)]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

| test |

| testdb |

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

5 rows in set (0.00 sec)

#从服务器验证

[root@slave ~]# mysql

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

Your MariaDB connection id is 10

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

| test |

| testdb |

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

5 rows in set (0.00 sec)

过滤复制

#环境准备

[root@slave ~]# mysql

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

Your MariaDB connection id is 10

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> drop database testdb;

Query OK, 0 rows affected (0.01 sec)

MariaDB [(none)]> create database t\_db1;

Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> create database t\_db2;

Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

| t\_db1 |

| t\_db2 |

| test |

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

6 rows in set (0.00 sec)

[root@slave ~]# mysql

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

Your MariaDB connection id is 6

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

| t\_db1 |

| t\_db2 |

| test |

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

6 rows in set (0.00 sec)

MariaDB [(none)]> stop slave;

Query OK, 0 rows affected (0.02 sec)

#过滤指定数据库

[root@master ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr1-bin

server\_id=1

binlog-do-db=t\_db1

datadir=/var/lib/mysql

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

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@master ~]# systemctl restart mariadb.service

[root@master ~]# mysql

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

Your MariaDB connection id is 2

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, 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\G

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

File: dbsvr1-bin.000005

Position: 245

Binlog\_Do\_DB: t\_db1

Binlog\_Ignore\_DB:

1 row in set (0.00 sec)

[root@slave ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr2-bin

server\_id=2

replicate\_do\_db=t\_db1

datadir=/var/lib/mysql

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

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@slave ~]# systemctl restart mariadb.service

[root@slave ~]# mysql

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

Your MariaDB connection id is 4

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, 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

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

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

Master\_Host: 192.168.4.1

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: dbsvr1-bin.000005

Read\_Master\_Log\_Pos: 245

Relay\_Log\_File: mariadb-relay-bin.000009

Relay\_Log\_Pos: 530

Relay\_Master\_Log\_File: dbsvr1-bin.000005

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

Replicate\_Do\_DB: t\_db1

Replicate\_Ignore\_DB:

Replicate\_Do\_Table:

Replicate\_Ignore\_Table:

Replicate\_Wild\_Do\_Table:

Replicate\_Wild\_Ignore\_Table:

Last\_Errno: 0

Last\_Error:

Skip\_Counter: 0

Exec\_Master\_Log\_Pos: 245

Relay\_Log\_Space: 826

Until\_Condition: None

Until\_Log\_File:

Until\_Log\_Pos: 0

Master\_SSL\_Allowed: No

Master\_SSL\_CA\_File:

Master\_SSL\_CA\_Path:

Master\_SSL\_Cert:

Master\_SSL\_Cipher:

Master\_SSL\_Key:

Seconds\_Behind\_Master: 0

Master\_SSL\_Verify\_Server\_Cert: No

Last\_IO\_Errno: 0

Last\_IO\_Error:

Last\_SQL\_Errno: 0

Last\_SQL\_Error:

Replicate\_Ignore\_Server\_Ids:

Master\_Server\_Id: 1

1 row in set (0.00 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected, 1 warning (0.00 sec)

#master操作

MariaDB [(none)]> use t\_db1

Database changed

MariaDB [t\_db1]> create table t\_t1 (

-> id int(2),

-> name varchar(16),

-> comment varchar(64));

Query OK, 0 rows affected (0.02 sec)

MariaDB [t\_db1]> user t\_db2

-> \c

MariaDB [t\_db1]> use t\_db2 ;

Database changed

MariaDB [t\_db2]> create table t\_t2 (

-> id int(2),

-> name varchar(16),

-> comment varchar(64));

Query OK, 0 rows affected (0.00 sec)

MariaDB [t\_db2]> use t\_db1

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 [t\_db1]> show tables;

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

| Tables\_in\_t\_db1 |

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

| t\_t1 |

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

1 row in set (0.00 sec)

MariaDB [t\_db1]> use t\_db2

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 [t\_db2]> show tables;

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

| Tables\_in\_t\_db2 |

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

| t\_t2 |

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

1 row in set (0.00 sec)

#slave验证

MariaDB [(none)]> use t\_db1

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 [t\_db1]> show tables;

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

| Tables\_in\_t\_db1 |

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

| t\_t1 |

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

1 row in set (0.00 sec)

MariaDB [t\_db1]> use t\_db2

Database changed

MariaDB [t\_db2]> show tables;

Empty set (0.00 sec)

#t\_db1中的新建表同步，t\_db2中的新建表未同步

##测试表过滤

#主库创建两个测试表

MariaDB [t\_db2]> use t\_db1

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 [t\_db1]> create table t\_t2 ( id int(2), name varchar(16), comment varchar(64));

Query OK, 0 rows affected (0.02 sec)

MariaDB [t\_db1]> show tables;

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

| Tables\_in\_t\_db1 |

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

| t\_t1 |

| t\_t2 |

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

2 rows in set (0.00 sec)

#从库验证

MariaDB [t\_db2]> use t\_db1

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 [t\_db1]> show tables;

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

| Tables\_in\_t\_db1 |

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

| t\_t1 |

| t\_t2 |

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

2 rows in set (0.00 sec)

#修改从库配置

MariaDB [t\_db1]> stop slave;

Query OK, 0 rows affected (0.02 sec)

[root@slave ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr2-bin

server\_id=2

replicate\_do\_table=t\_db1.t\_t1

datadir=/var/lib/mysql

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

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@slave ~]# systemctl restart mariadb.service

[root@slave ~]# mysql

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

Your MariaDB connection id is 4

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, 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

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

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

Master\_Host: 192.168.4.1

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: dbsvr1-bin.000005

Read\_Master\_Log\_Pos: 511

Relay\_Log\_File: mariadb-relay-bin.000011

Relay\_Log\_Pos: 530

Relay\_Master\_Log\_File: dbsvr1-bin.000005

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

Replicate\_Do\_DB:

Replicate\_Ignore\_DB:

Replicate\_Do\_Table: t\_db1.t\_t1

Replicate\_Ignore\_Table:

Replicate\_Wild\_Do\_Table:

Replicate\_Wild\_Ignore\_Table:

Last\_Errno: 0

Last\_Error:

Skip\_Counter: 0

Exec\_Master\_Log\_Pos: 511

Relay\_Log\_Space: 826

Until\_Condition: None

Until\_Log\_File:

Until\_Log\_Pos: 0

Master\_SSL\_Allowed: No

Master\_SSL\_CA\_File:

Master\_SSL\_CA\_Path:

Master\_SSL\_Cert:

Master\_SSL\_Cipher:

Master\_SSL\_Key:

Seconds\_Behind\_Master: 0

Master\_SSL\_Verify\_Server\_Cert: No

Last\_IO\_Errno: 0

Last\_IO\_Error:

Last\_SQL\_Errno: 0

Last\_SQL\_Error:

Replicate\_Ignore\_Server\_Ids:

Master\_Server\_Id: 1

1 row in set (0.00 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected, 1 warning (0.00 sec)

#master上写入数据

MariaDB [t\_db1]> insert into t\_t1 values(01, 'zhangsan', 'banzhang');

Query OK, 1 row affected (0.02 sec)

MariaDB [t\_db1]> insert into t\_t2 values(01, 'zhangsan', 'banzhang');

Query OK, 1 row affected (0.02 sec)

MariaDB [t\_db1]> insert into t\_t1 values(01, 'lisi', 'xuexiweiyuan');

Query OK, 1 row affected (0.02 sec)

MariaDB [t\_db1]> insert into t\_t2 values(01, 'lisi', 'xuexiweiyuan');

Query OK, 1 row affected (0.01 sec)

MariaDB [t\_db1]> select \* from t\_t1;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

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

2 rows in set (0.00 sec)

MariaDB [t\_db1]> select \* from t\_t2;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

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

2 rows in set (0.00 sec)

#从库验证

MariaDB [(none)]> use t\_db1

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 [t\_db1]> select \* from t\_t1;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

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

2 rows in set (0.00 sec)

MariaDB [t\_db1]> select \* from t\_t2;

Empty set (0.00 sec)

#t\_t1同步数据，t\_t2未同步数据

##验证匹配格式

#修改slave配置

MariaDB [t\_db1]> stop slave;

Query OK, 0 rows affected (0.02 sec)

MariaDB [t\_db1]> exit

Bye

[root@slave ~]# vim /etc/my.cnf

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

[mysqld]

log-bin=dbsvr2-bin

server\_id=2

replicate\_wild\_do\_table=t\_db1.%

datadir=/var/lib/mysql

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

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@slave ~]# systemctl restart mariadb.service

[root@slave ~]# mysql

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

Your MariaDB connection id is 4

Server version: 5.5.52-MariaDB MariaDB Server

Copyright (c) 2000, 2016, 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

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

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

Master\_Host: 192.168.4.1

Master\_User: slaveuser

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: dbsvr1-bin.000005

Read\_Master\_Log\_Pos: 1355

Relay\_Log\_File: mariadb-relay-bin.000013

Relay\_Log\_Pos: 530

Relay\_Master\_Log\_File: dbsvr1-bin.000005

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

Replicate\_Do\_DB:

Replicate\_Ignore\_DB:

Replicate\_Do\_Table:

Replicate\_Ignore\_Table:

Replicate\_Wild\_Do\_Table: t\_db1.%

Replicate\_Wild\_Ignore\_Table:

Last\_Errno: 0

Last\_Error:

Skip\_Counter: 0

Exec\_Master\_Log\_Pos: 1355

Relay\_Log\_Space: 826

Until\_Condition: None

Until\_Log\_File:

Until\_Log\_Pos: 0

Master\_SSL\_Allowed: No

Master\_SSL\_CA\_File:

Master\_SSL\_CA\_Path:

Master\_SSL\_Cert:

Master\_SSL\_Cipher:

Master\_SSL\_Key:

Seconds\_Behind\_Master: 0

Master\_SSL\_Verify\_Server\_Cert: No

Last\_IO\_Errno: 0

Last\_IO\_Error:

Last\_SQL\_Errno: 0

Last\_SQL\_Error:

Replicate\_Ignore\_Server\_Ids:

Master\_Server\_Id: 1

1 row in set (0.01 sec)

MariaDB [(none)]> start slave;

Query OK, 0 rows affected, 1 warning (0.00 sec)

#master插入数据

MariaDB [t\_db1]> insert into t\_t2 values(02, 'wangwu', 'student');

Query OK, 1 row affected (0.03 sec)

MariaDB [t\_db1]> insert into t\_t1 values(02, 'wangwu', 'student');

Query OK, 1 row affected (0.01 sec)

MariaDB [t\_db1]> select \* from t\_t1;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

| 2 | wangwu | student |

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

3 rows in set (0.01 sec)

MariaDB [t\_db1]> select \* from t\_t2;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

| 2 | wangwu | student |

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

3 rows in set (0.00 sec)

#slave检测

MariaDB [(none)]> use t\_db1

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 [t\_db1]> select \* from t\_t1;

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

| id | name | comment |

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

| 1 | zhangsan | banzhang |

| 1 | lisi | xuexiweiyuan |

| 2 | wangwu | student |

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

3 rows in set (0.00 sec)

MariaDB [t\_db1]> select \* from t\_t2;

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

| id | name | comment |

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

| 2 | wangwu | student |

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

1 row in set (0.00 sec)

#t\_t1和t\_t2都同步

1.M上把事件从二进制日志中过滤

参数：binlog-do-db 只复制指定的数据库(主服务器配置文件里设置)

binlog-ignore-db 不复制指定的数据库(主服务器配置文件里设置)

这个生产上几乎没人使用

2.S上事件从中继日志中过滤

参数：replicate\_do\_db 只应用指定的数据库(从服务器配置文件里设置)

replicate\_ingore\_db 只忽略应用指定的数据库(从服务器配置文件里设置)

replicate\_do\_table 只应用指定的表(从服务器配置文件里设置)

replicate\_ignore\_table 只忽略指定的表(从服务器配置文件里设置) replicate\_wild\_do\_table 使用wild匹配来复制的指定表(从服务器配置文件里设置),比如参数设为abc.%,表示复制abc的所有表。 replicate\_wild\_ignore\_table 使用wild匹配来不复制的指定表(从服务器配置文件里设置),比如参数设为abc.%,表示不复制abc的所有表。