# 一、历史:

GTID复制最早是出现在MySQL数据库的分支MariaDB数据库，MySQL官方发现这个好功能，也做到MySQL5.6了，而MySQL5.7后GTID复制就更完美了。

# 二、GTID优点(为什么使用GTID的复制)

1.易于维护

2.故障切换快

# 三、传统复制模式改成GTID复制模式

## 方法:

1. 确保主从同步
2. 在master上配置read\_only，保证没有新数据写入
3. 修改master上的my.cnf，并重启服务
4. 修改slave上的my.cnf，并重启服务
5. 在slave上执行change master to并带上master\_auto\_position=1启用基于GTID的复制

## 代码:

1. 1、修改参数文件，开启GTID
2. gtid\_mode=on
3. enforce-gtid-consistency=on  #强制gtid一致性
4. log-bin=mysql-bin
5. log-slave-updates=1
7. binlog-format=ROW
8. #master-info-repository=table  （可选）
9. #relay-log-info-repository=table  （可选）
11. #2、为了安全建议，info文件全存在表里，可动态修改 （可选）
12. #set global master\_info\_repository='table';
13. #set global relay\_log\_info\_repository='table';
15. 3、传统复制向GTID迁移
16. flush tables with read lock;  --主锁住，或者停应用，保证数据一致性
17. 一致后关闭主从，更改GTID模式，停数据库
18. 重启确保GTID生效，从执行
19. change master to
20. master\_host='10.1.34.64',
21. master\_port=3306,
22. master\_user='rep',
23. master\_password='jishu8cc',
24. master\_auto\_position=1;

# 四、检查:

## 1.主库，检查状态:

root@localhost [(none)]>show variables like '%gtid%';

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

| Variable\_name | Value |

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

| binlog\_gtid\_simple\_recovery | ON |

| enforce\_gtid\_consistency | ON |

| gtid\_executed\_compression\_period | 1000 |

| gtid\_mode | ON |

| gtid\_next | AUTOMATIC |

| gtid\_owned | |

| gtid\_purged | |

| session\_track\_gtids | OFF |

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

8 rows in set (0.00 sec)

## 2.从库，检查状态:

root@localhost [(none)]>start slave;

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

root@localhost [(none)]>show variables like '%gtid%';

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

| Variable\_name | Value |

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

| binlog\_gtid\_simple\_recovery | ON |

| enforce\_gtid\_consistency | ON |

| gtid\_executed\_compression\_period | 1000 |

| gtid\_mode | OFF\_PERMISSIVE |

| gtid\_next | AUTOMATIC |

| gtid\_owned | |

| gtid\_purged | |

| session\_track\_gtids | OFF |

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

8 rows in set (0.00 sec)

root@localhost [(none)]>show slave status\G;

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

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

Master\_Host: 10.1.135.9

Master\_User: rep

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: mysql-bin.000099

Read\_Master\_Log\_Pos: 154

Relay\_Log\_File: relay-bin.000002

Relay\_Log\_Pos: 367

Relay\_Master\_Log\_File: mysql-bin.000099

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

Replicate\_Do\_DB:

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: 154

Relay\_Log\_Space: 568

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: 93306

Master\_UUID: 6d26a90a-9ff4-11e6-91e9-005056b64baa

Master\_Info\_File: /data/mysql/mysql3306/data/master.info

SQL\_Delay: 0

SQL\_Remaining\_Delay: NULL

Slave\_SQL\_Running\_State: Slave has read all relay log; waiting for more updates

Master\_Retry\_Count: 86400

Master\_Bind:

Last\_IO\_Error\_Timestamp:

Last\_SQL\_Error\_Timestamp:

Master\_SSL\_Crl:

Master\_SSL\_Crlpath:

Retrieved\_Gtid\_Set:

Executed\_Gtid\_Set:

Auto\_Position: 1

Replicate\_Rewrite\_DB:

Channel\_Name:

Master\_TLS\_Version:

1 row in set (0.00 sec)

## 3.主库，创建DB，验证

root@localhost [(none)]>CREATE DATABASE IF NOT EXISTS jishu8cc2 DEFAULT CHARSET utf8 COLLATE utf8\_general\_ci;

Query OK, 1 row affected, 1 warning (0.01 sec)

root@localhost [(none)]>show databases;

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

| Database |

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

| information\_schema |

| jishu8cc |

| jishu8cc2 |

| mysql |

| performance\_schema |

| sys |

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

6 rows in set (0.00 sec)

## 4.从库，检查是否复制过来

root@localhost [(none)]>show databases;

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

| Database |

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

| information\_schema |

| jishu8cc |

| jishu8cc2 |

| mysql |

| performance\_schema |

| sys |

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

6 rows in set (0.00 sec)

## 5.从库，检查刚才的复制是否走的GTID模式

root@localhost [(none)]>show slave status\G;

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

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

Master\_Host: 10.1.135.9

Master\_User: rep

Master\_Port: 3306

Connect\_Retry: 60

Master\_Log\_File: mysql-bin.000099

Read\_Master\_Log\_Pos: 387

Relay\_Log\_File: relay-bin.000002

Relay\_Log\_Pos: 600

Relay\_Master\_Log\_File: mysql-bin.000099

Slave\_IO\_Running: Yes

Slave\_SQL\_Running: Yes

Replicate\_Do\_DB:

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: 387

Relay\_Log\_Space: 801

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: 93306

Master\_UUID: 6d26a90a-9ff4-11e6-91e9-005056b64baa

Master\_Info\_File: /data/mysql/mysql3306/data/master.info

SQL\_Delay: 0

SQL\_Remaining\_Delay: NULL

Slave\_SQL\_Running\_State: Slave has read all relay log; waiting for more updates

Master\_Retry\_Count: 86400

Master\_Bind:

Last\_IO\_Error\_Timestamp:

Last\_SQL\_Error\_Timestamp:

Master\_SSL\_Crl:

Master\_SSL\_Crlpath:

Retrieved\_Gtid\_Set: 6d26a90a-9ff4-11e6-91e9-005056b64baa:1

Executed\_Gtid\_Set: 6d26a90a-9ff4-11e6-91e9-005056b64baa:1

Auto\_Position: 1

Replicate\_Rewrite\_DB:

Channel\_Name:

Master\_TLS\_Version:

1 row in set (0.00 sec)

# 五、总结:

从这句Executed\_Gtid\_Set: 6d26a90a-9ff4-11e6-91e9-005056b64baa:1可以确认是走的GTID模式了。6d26a90a-9ff4-11e6-91e9-005056b64baa这个是主库服务器的UUID，1代表第一个事务。这种模式可以很轻易地知道，从库都执行了哪台服务器的哪些事务，比传统复制排错更简单，而GTID启动用了master\_auto\_position=1,使重做主从，无需关注binlog是哪一个，pos是哪个位置，也降低的维护的难度。

其他参考文章:

http://www.phpchina.com/portal.php?mod=view&aid=40264