#### **mariadb环境准备**

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

[root@oceanbase-mariadb ~]# systemctl status mariadb.service

● mariadb.service - MariaDB database server

 Loaded: loaded (/usr/lib/systemd/system/mariadb.service; disabled; vendor preset: disabled)

 Active: inactive (dead)

[root@oceanbase-mariadb ~]# systemctl enable mariadb.service --now

[root@oceanbase-mariadb ~]# systemctl status mariadb.service

● mariadb.service - MariaDB database server

 Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)

 Active: active (running) since Sun 2024-03-10 15:48:06 CST; 43s ago

 Process: 10440 ExecStartPost=/usr/libexec/mariadb-wait-ready $MAINPID (code=exited, status=0/SUCCESS)

 Process: 10355 ExecStartPre=/usr/libexec/mariadb-prepare-db-dir %n (code=exited, status=0/SUCCESS)

 Main PID: 10439 (mysqld\_safe)

 Tasks: 20

 CGroup: /system.slice/mariadb.service

 ├─10439 /bin/sh /usr/bin/mysqld\_safe --basedir=/usr

 └─10603 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plugin-dir=/usr/lib64/mysql/plugin --log-error=...

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: MySQL manual for more instructions.

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: Please report any problems at http://mariadb.org/jira

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: The latest information about MariaDB is available at http:/...rg/.

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: You can find additional information about the MySQL part at:

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: http://dev.mysql.com

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: Consider joining MariaDB's strong and vibrant community:

Mar 10 15:48:04 oceanbase-mariadb mariadb-prepare-db-dir[10355]: https://mariadb.org/get-involved/

Mar 10 15:48:04 oceanbase-mariadb mysqld\_safe[10439]: 240310 15:48:04 mysqld\_safe Logging to '/var/log/mariadb/mariadb.log'.

Mar 10 15:48:04 oceanbase-mariadb mysqld\_safe[10439]: 240310 15:48:04 mysqld\_safe Starting mysqld daemon with databases fro...mysql

Mar 10 15:48:06 oceanbase-mariadb systemd[1]: Started MariaDB database server.

Hint: Some lines were ellipsized, use -l to show in full.

#### **初始化mariadb**

[root@oceanbase-mariadb ~]# mysql\_secure\_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB

 SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!

In order to log into MariaDB to secure it, we'll need the current

password for the root user. If you've just installed MariaDB, and

you haven't set the root password yet, the password will be blank,

so you should just press enter here.

Enter current password for root (enter for none):

ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: YES)

Enter current password for root (enter for none):

OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MariaDB

root user without the proper authorisation.

Set root password? [Y/n] y

New password:

Re-enter new password:

Password updated successfully!

Reloading privilege tables..

 ... Success!

By default, a MariaDB installation has an anonymous user, allowing anyone

to log into MariaDB without having to have a user account created for

them. This is intended only for testing, and to make the installation

go a bit smoother. You should remove them before moving into a

production environment.

Remove anonymous users? [Y/n] y

 ... Success!

Normally, root should only be allowed to connect from 'localhost'. This

ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] y

 ... Success!

By default, MariaDB comes with a database named 'test' that anyone can

access. This is also intended only for testing, and should be removed

before moving into a production environment.

Remove test database and access to it? [Y/n] y

 - Dropping test database...

 ... Success!

 - Removing privileges on test database...

 ... Success!

Reloading the privilege tables will ensure that all changes made so far

will take effect immediately.

Reload privilege tables now? [Y/n] y

 ... Success!

Cleaning up...

All done! If you've completed all of the above steps, your MariaDB

installation should now be secure.

Thanks for using MariaDB!

# 下载 tpcc-mysql 安装包

# 下载地址 https://github.com/Percona-Lab/tpcc-mysql

# 解压缩文件

[root@oceanbase-mariadb ~]# unzip tpcc-mysql-master.zip

# 编译，注意，需要先安装 gcc

[root@oceanbase-mariadb ~]# cd tpcc-mysql-master/

[root@oceanbase-mariadb src]# make

cc -w -O3 -g -I. `mysql\_config --include` -c load.c

cc -w -O3 -g -I. `mysql\_config --include` -c support.c

cc load.o support.o `mysql\_config --libs\_r` -lrt -o ../tpcc\_load

cc -w -O3 -g -I. `mysql\_config --include` -c main.c

cc -w -O3 -g -I. `mysql\_config --include` -c spt\_proc.c

cc -w -O3 -g -I. `mysql\_config --include` -c driver.c

cc -w -O3 -g -I. `mysql\_config --include` -c sequence.c

cc -w -O3 -g -I. `mysql\_config --include` -c rthist.c

cc -w -O3 -g -I. `mysql\_config --include` -c sb\_percentile.c

cc -w -O3 -g -I. `mysql\_config --include` -c neword.c

cc -w -O3 -g -I. `mysql\_config --include` -c payment.c

cc -w -O3 -g -I. `mysql\_config --include` -c ordstat.c

cc -w -O3 -g -I. `mysql\_config --include` -c delivery.c

cc -w -O3 -g -I. `mysql\_config --include` -c slev.c

cc main.o spt\_proc.o driver.o support.o sequence.o rthist.o sb\_percentile.o neword.o payment.o ordstat.o delivery.o slev.o `mysql\_config --libs\_r` -lrt -o ../tpcc\_start

#### **源端数据库配置**

##### **修改默认字符集**

vi /etc/my.cnf

# 在 [mysqld]下增加以下参数

max\_connections = 4096

collation-server = utf8\_general\_ci

character-set-server = utf8

# 重启 mariadb 数据库

[root@oceanbase-mariadb tpcc-mysql-master]# systemctl restart mariadb.service

# 进入数据库

[root@oceanbase-mariadb tpcc-mysql-master]# mysql -uroot -prootroot

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

Your MariaDB connection id is 3

Server version: 5.5.68-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

# 确认数据库没问题

MariaDB [(none)]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

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

# 查看字符集是否被修改成功

MariaDB [(none)]> show variables like '%character%';

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

| Variable\_name | Value |

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

| character\_set\_client | utf8 |

| character\_set\_connection | utf8 |

| character\_set\_database | utf8 |

| character\_set\_filesystem | binary |

| character\_set\_results | utf8 |

| character\_set\_server | utf8 |

| character\_set\_system | utf8 |

| character\_sets\_dir | /usr/share/mysql/charsets/ |

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

##### **创建数据库、建表**

MariaDB [(none)]> create database tpcc1000;

Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> use tpcc1000;

Database changed

MariaDB [tpcc1000]> source create\_table.sql

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.01 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

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

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

MariaDB [tpcc1000]> source add\_fkey\_idx.sql

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Records: 0 Duplicates: 0 Warnings: 0

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

MariaDB [tpcc1000]> show databases;

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

| Database |

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

| information\_schema |

| mysql |

| performance\_schema |

| tpcc1000 |

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

#### **生成测试数据**

[root@oceanbase-mariadb tpcc-mysql-master]# ./tpcc\_load -h 127.0.0.1 -P 3306 -d tpcc1000 -u root -p rootroot -w 1

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\* TPCC-mysql Data Loader \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

option h with value '127.0.0.1'

option P with value '3306'

option d with value 'tpcc1000'

option u with value 'root'

option p with value 'rootroot'

option w with value '1'

<Parameters>

 [server]: 127.0.0.1

 [port]: 3306

 [DBname]: tpcc1000

 [user]: root

 [pass]: rootroot

 [warehouse]: 1

TPCC Data Load Started...

Loading Item

.................................................. 5000

.................................................. 10000

.................................................. 15000

.................................................. 20000

.................................................. 25000

.................................................. 30000

.................................................. 35000

.................................................. 40000

.................................................. 45000

.................................................. 50000

.................................................. 55000

.................................................. 60000

.................................................. 65000

.................................................. 70000

.................................................. 75000

.................................................. 80000

.................................................. 85000

.................................................. 90000

.................................................. 95000

.................................................. 100000

Item Done.

Loading Warehouse

Loading Stock Wid=1

.................................................. 5000

.................................................. 10000

.................................................. 15000

.................................................. 20000

.................................................. 25000

.................................................. 30000

.................................................. 35000

.................................................. 40000

.................................................. 45000

.................................................. 50000

.................................................. 55000

.................................................. 60000

.................................................. 65000

.................................................. 70000

.................................................. 75000

.................................................. 80000

.................................................. 85000

.................................................. 90000

.................................................. 95000

.................................................. 100000

 Stock Done.

Loading District

Loading Customer for DID=1, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=2, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=3, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=4, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=5, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=6, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=7, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=8, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=9, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Customer for DID=10, WID=1

.......... 1000

.......... 2000

.......... 3000

Customer Done.

Loading Orders for D=1, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=2, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=3, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=4, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=5, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=6, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=7, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=8, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=9, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

Loading Orders for D=10, W= 1

.......... 1000

.......... 2000

.......... 3000

Orders Done.

...DATA LOADING COMPLETED SUCCESSFULLY.

# 查看数据是否创建成功

MariaDB [tpcc1000]> select count(\*) from item;

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

| count(\*) |

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

| 100000 |

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

1 row in set (0.01 sec)

MariaDB [tpcc1000]> desc item;

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

| Field | Type | Null | Key | Default | Extra |

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

| i\_id | int(11) | NO | PRI | NULL | |

| i\_im\_id | int(11) | YES | | NULL | |

| i\_name | varchar(24) | YES | | NULL | |

| i\_price | decimal(5,2) | YES | | NULL | |

| i\_data | varchar(50) | YES | | NULL | |

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

MariaDB [tpcc1000]> select count(\*) from warehouse;

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

| count(\*) |

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

| 1 |

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

MariaDB [tpcc1000]> show tables;

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

| Tables\_in\_tpcc1000 |

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

| customer |

| district |

| history |

| item |

| new\_orders |

| order\_line |

| orders |

| stock |

| warehouse |

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

MariaDB [tpcc1000]> select count(\*) from customer;

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

| count(\*) |

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

| 30000 |

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

MariaDB [tpcc1000]> select count(\*) from history;

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

| count(\*) |

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

| 30000 |

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

MariaDB [tpcc1000]> select count(\*) from stock;

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

| count(\*) |

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

| 100000 |

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

#### **mysqldump导出表结构和数据**

# 导出指定数据库的表结构（不包括数据）

[root@oceanbase-mariadb tpcc-mysql-master]# mysqldump -uroot -prootroot -d tpcc1000 --compact > /home/admin/tpcc1000\_ddl.sql

#导出指定数据库的表数据（不包括结构）

[root@oceanbase-mariadb tpcc-mysql-master]# mysqldump -uroot -prootroot -t tpcc1000 > /home/admin/tpcc1000\_data.sql

# 登录ob集群

[root@oceanbase-single ~]# su - admin

[admin@oceanbase-single ~]$ obclient -h127.0.0.1 -P2883 -uroot@sys -Doceanbase -A

# 创建数据库

obclient [oceanbase]> create database tpcc1000\_ob default character set=utf8;

obclient [oceanbase]> show databases;

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

| Database |

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

| information\_schema |

| LBACSYS |

| mysql |

| oceanbase |

| ocs |

| ORAAUDITOR |

| SYS |

| test |

| test2 |

| tpcc1000\_ob |

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

# 导入表结构和数据

obclient [tpcc1000\_ob]> source tpcc1000\_ddl.sql;

obclient [tpcc1000\_ob]> source tpcc1000\_data.sql;

# 查看导出后的数据

obclient [tpcc1000\_ob]> select count(\*) from item;

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

| count(\*) |

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

| 100000 |

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