shellMySQL 数据库分支 Mariadb数据库管理系统

前言

MariaDB的目的是完全兼容MySQL，包括API和命令行
MariaDB虽然被视为MySQL数据库的替代品，但它在扩展功能、存储引擎以及一些新的功能改进方面都强过MySQL。而且从MySQL迁移到MariaDB也是非常简单的：
1、数据和表定义文件（.frm）是二进制兼容的
2、所有客户端API、协议和结构都是完全一致的
3、所有文件名、二进制、路径、端口等都是一致的
4、所有的MySQL连接器，比如PHP、Perl、Python、Java、.NET、MyODBC、Ruby以及MySQL C connector等在MariaDB中都保持不变
5、mysql-client包在MariaDB服务器中也能够正常运行
6、共享的客户端库与MySQL也是二进制兼容的
也就是说，在大多数情况下，你完全可以卸载MySQL然后安装MariaDB，然后就可以像之前一样正常的运行。

> 引用百度词条https://baike.baidu.com/item/mariaDB/6466119?fr=aladdin

正文

一、安装与测试

① 安装mariadb相关包

```
yum install -y mariadb*
或者 yum -y install mariadb mariadb-server
```

② 启动Mariadb 并设置开机自启

```
systemctl enable mariadb --now          ## rhel8新特性 rhel7请使用下面的命令
或者
systemctl start mariadb
systemctl enable mariadb
```

③ 进行Mariadb 安全配置

Ⅰ、mysql_secure_installation

首先是设置密码，会提示先输入密码.。

Enter current password for root (enter for none):<–初次运行直接回车

Ⅱ、设置密码

Set root password? [Y/n] <– 是否设置root用户密码，输入y并回车或直接回车

New password: <– 设置root用户的密码　　//测试用密码111111
Re-enter new password: <– 再输入一次你设置的密码

Ⅲ、其他配置

Remove anonymous users? [Y/n] <– 是否删除匿名用户，回车

Disallow root login remotely? [Y/n] <–是否禁止root远程登录,回车,
Remove test database and access to it? [Y/n] <– 是否删除test数据库，回车
Reload privilege tables now? [Y/n] <– 是否重新加载权限表，回车
初始化MariaDB完成

Ⅳ、测试登录

mysql -uroot -p密码（注意-p和密码之间没有空格）

④ 配置MariaDB字符集

Ⅰ、修改/etc/my.cnf文件

```
vim /etc/my.cnf                                    #若无vim编辑器则使用vi编辑器
##在my.cnf中添加以下内容
##若无[mysqld]标签，添加一个[mysqld]标签
[mysqld]
init_connect='SET collation_connection = utf8_unicode_ci'
init_connect='SET NAMES utf8'
character-set-server=utf8
collation-server=utf8_unicode_ci
skip-character-set-client-handshake
```

Ⅱ、修改/etc/my.cnf.d/client.cnf文件

```
vim /etc/my.cnf.d/client.cnf                       #若无vim编辑器则使用vi编辑器
##在[client]标签中添加
default-character-set=utf8
```

Ⅲ、修改/etc/my.cnf.d/mysql-clients.cnf文件

```
vim /etc/my.cnf.d/mysql-clients.cnf                #若无vim编辑器则使用vi编辑器
##在[mysql]标签中添加
default-character-set=utf8
```

Ⅳ、配置完成字符集，重启mariadb

```
systemctl restart mariadb
```

Ⅵ、进入Mariadb查看字符集

```
[root@localhost ~]# mysql -uroot -p111111
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.3.17-MariaDB MariaDB Server

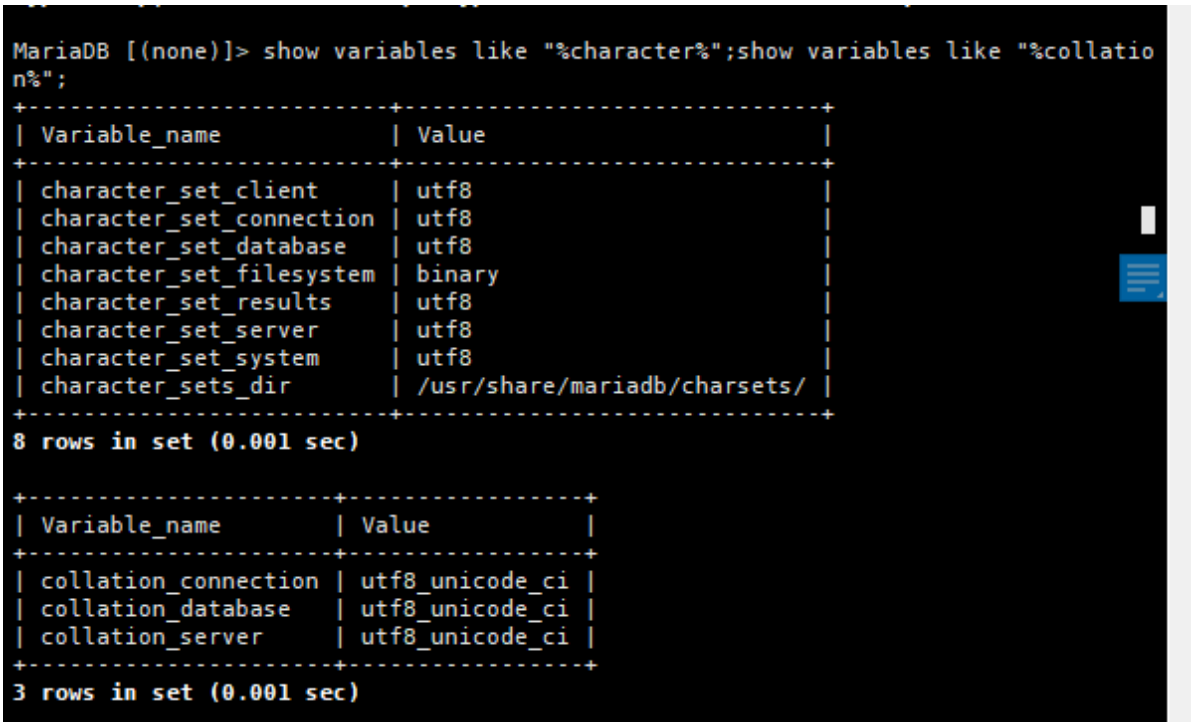
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> show variables like "%character%";show variables like
"%collation%";
```

```
+--------------------------+-------------------------------+
| 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/mariadb/charsets/ |
+--------------------------+-------------------------------+
8 rows in set (0.001 sec)

+----------------------+-----------------+
| Variable_name        | Value           |
+----------------------+-----------------+
| collation_connection | utf8_unicode_ci |
| collation_database   | utf8_unicode_ci |
| collation_server     | utf8_unicode_ci |
+----------------------+-----------------+
3 rows in set (0.001 sec)
```



Ⅶ 报错解决

```
MariaDB [(none)]> show variables like "%character%";show variables like
"%collation%";
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near
'“%character%”' at line 1
```

键入命令后1064报错

其实这个问题就是语法上的错误，回头仔细检查一下语法编写，然后在执行命令就好了

> 参考引用网址 https://blog.csdn.net/weixin_44092289/article/details/85640601

⑤测试题目

创建名为myDB的数据库，在该库中创建一个名为baseinfo的表，其表结构如下图“baseinfo结构表”所示；并自行插入五条数据，记录内容满足表中字段的要求即可

表 13：baseinfo 结构表

Field	Type	Null	Key	Default
studentID	int	NO	PRI	NULL
name	varchar(10)	YES		NULL

---

sex	char(1)	YES		M
birthday	date	YES		NULL
school	char(20)	YES		NULL

Ⅰ、进入数据库

```
[root@localhost ~]# mysql -uroot -p111111
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 12
Server version: 10.3.17-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.

MariaDB [(none)]>
```

Ⅱ、创建 myDB 并使用

```
MariaDB [(none)]> create database myDB;
Query OK, 1 row affected (0.001 sec)
MariaDB [myDB]> use myDB;
Database changed
```

Ⅲ、按照要求创建baseinfo表

```
MariaDB [myDB]> create table baseinfo(studentID int NOT NULL PRIMARY KEY ,name
varchar(10),sex char(1),birthday date,school char(20));
Query OK, 0 rows affected (0.023 sec)
```

Ⅳ、自行随机插入数据

```
MariaDB [myDB]> insert into baseinfo values('1','nm1','男','1999-10-
12','PekingUniversity');
Query OK, 1 row affected (0.001 sec)

MariaDB [myDB]> insert into baseinfo values('2','nm2','男','2001-5-
18','PekingUniversity');
Query OK, 1 row affected (0.008 sec)

MariaDB [myDB]> insert into baseinfo values('3','nm3','男','2001-2-
28','PekingUniversity');
Query OK, 1 row affected (0.001 sec)

MariaDB [myDB]> insert into baseinfo values('4','nm4','男','2001-12-
19','PekingUniversity');
Query OK, 1 row affected (0.002 sec)

MariaDB [myDB]> insert into baseinfo values('5','nm5','男','2001-07-
25','PekingUniversity');
Query OK, 1 row affected (0.001 sec)
```

Ⅴ、查看数据

数据表结构如下⬇

```
MariaDB [myDB]> desc baseinfo;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| studentID | int(11)     | NO   | PRI | NULL    |       |
| name      | varchar(10) | YES  |     | NULL    |       |
| sex       | char(1)     | YES  |     | NULL    |       |
| birthday  | date        | YES  |     | NULL    |       |
| school    | char(20)    | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
5 rows in set (0.021 sec)
```

表内数据如下⬇

```
MariaDB [myDB]> select * from baseinfo;
+-----------+------+------+------------+------------------+
| studentID | name | sex  | birthday   | school           |
+-----------+------+------+------------+------------------+
|         1 | nm1  | 男   | 1999-10-12 | PekingUniversity |
|         2 | nm2  | 男   | 2001-05-18 | PekingUniversity |
|         3 | nm3  | 男   | 2001-02-28 | PekingUniversity |
|         4 | nm4  | 男   | 2001-12-19 | PekingUniversity |
|         5 | nm5  | 男   | 2001-07-25 | PekingUniversity |
+-----------+------+------+------------+------------------+
5 rows in set (0.001 sec)
```

VI、备份

```
mysqldump -uroot -p111111 myDB baseinfo > /root/mysql.sql
```

