

MariaDB数据库管理系统

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初始化MariaDB



初始化MariaDB

安装mariadb服务程序

```
[root@localhost ~]# yum -y install mariadb mariadb-server
[root@localhost ~]# systemctl start mariadb
[root@localhost ~]# systemctl enable mariadb
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service
to /usr/lib/systemd/system/mariadb.service.
[root@localhost ~]#
```

初始化MariaDB

对数据库程序进行初始化操作。这个初始化操作涉及下面5个步骤。

- 设置root管理员在数据库中的密码值（注意，该密码并非root管理员在系统中的密码，这里的密码值默认应该为空，可直接按回车键）。
- 设置root管理员在数据库中的专有密码。
- 随后删除匿名账户，并使用root管理员从远程登录数据库，以确保数据库上运行的业务的安全性。
- 删除默认的测试数据库，取消测试数据库的一系列访问权限。
- 刷新授权列表，让初始化的设定立即生效。

```
[root@localhost ~]# mysql_secure_installation
```

初始化MariaDB

登录数据库，尝试查看数据库和修改root密码

```
[root@server ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 5.5.60-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)]>
```

初始化MariaDB

在防火墙中放行3306端口

```
[root@localhost ~]# firewall-cmd --permanent --add-service=mysql  
success  
[root@localhost ~]# firewall-cmd --reload  
success
```

初始化MariaDB

登录数据库，尝试查看数据库和修改当前登录进来用户的密码

```
[root@localhost ~]# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 12
Server version: 5.5.60-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 databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
+-----+
3 rows in set (0.00 sec)

MariaDB [(none)]> SET password = PASSWORD('!QAZ2wsx');
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> exit
Bye
```


管理账户及授权



管理账户以及授权

创建用户

```
MariaDB [(none)]> CREATE USER eagle@localhost IDENTIFIED BY '!QAZ2wsx';  
Query OK, 0 rows affected (0.00 sec)
```

```
MariaDB [(none)]> use mysql  
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 [mysql]> SELECT Host,User,Password FROM user WHERE User='eagle';
```

HOST	USER	PASSWORD
localhost	eagle	*A1F1CB851D62F002C09A0C9C4A76262473432F55

```
1 row in set (0.00 sec)
```

```
MariaDB [mysql]>
```

管理账户以及授权

grant命令用于为账户进行授权

命令	作用
GRANT 权限 ON 数据库.表单名称 TO 账户名@主机名	对某个特定数据库中的特定表单给予授权
GRANT权限ON数据库.*TO账户名@主机名	对某个特定数据库中的所有表单给予授权
GRANT权限ON*.*TO账户名@主机名	对所有数据库及所有表单给予授权
GRANT权限1,权限2 ON 数据库.*TO账户名@主机名	对某个数据库中的所有表单给予多个授权
GRANT ALL PRIVILEGES ON *.*TO账户名@主机名	对所有数据库及所有表单给予全部授权（需谨慎操作）

管理账户以及授权

下面以root管理员的身份登录到数据库管理系统中，针对mysql数据库中的user表单向账户eagle授予查询、更新、删除以及插入等权限。

```
MariaDB [(none)]> use mysql
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 [mysql]> GRANT SELECT,UPDATE,DELETE,INSERT ON mysql.user TO eagle@localhost;
Query OK, 0 rows affected (0.00 sec)

MariaDB [mysql]> SHOW GRANTS FOR eagle@localhost;
+-----+
+-----+
| Grants for eagle@localhost
|
+-----+
+-----+
| GRANT USAGE ON *.* TO 'eagle'@'localhost' IDENTIFIED BY PASSWORD
'|*A1F1CB851D62F002C09A0C9C4A76262473432F55'|
| GRANT SELECT, INSERT, UPDATE, DELETE ON `mysql`.`user` TO 'eagle'@'localhost'
|
+-----+
+-----+
2 rows in set (0.00 sec)
```

管理账户以及授权

移除授权

```
MariaDB [mysql]> REVOKE SELECT,UPDATE,DELETE,INSERT ON mysql.user FROM  
eagle@localhost;  
Query OK, 0 rows affected (0.00 sec)
```

创建数据库与表单



创建数据库与表单

用于创建数据库的命令以及作用

命令	作用
CREATE DATABASE 数据库名称	创建新的数据库
DESCRIBE 表单名称	描述表单
UPDATE表单名称SET attribute=新值WHERE attribute>原始值	更新表单中的数据
USE数据库名称	指定使用的数据库
SHOW databases	显示当前已有的数据库
SHOW tables	显示当前数据库中的表单
SELECT * FROM表单名称	从表单中选中某个记录值
DELETE FROM表单名WHERE attribute=值	从表单中删除某个记录值

创建数据库与表单

现在尝试创建一个名为eagleslab的数据库，然后再查看数据库列表，此时就能看到它了

```
MariaDB [(none)]> CREATE DATABASE eagleslab;  
Query OK, 1 row affected (0.00 sec)
```

```
MariaDB [(none)]> SHOW databases;
```

```
+-----+  
| Database |  
+-----+  
| information_schema |  
| eagleslab |  
| mysql |  
| performance_schema |  
+-----+  
4 rows in set (0.00 sec)
```


创建数据库与表单

进行表单的初始化，即定义存储数据内容的结构

```
MariaDB [(none)]> use eagleslab
Database changed
MariaDB [eagleslab]> CREATE TABLE student (name char(15),school char(15),age
int);
Query OK, 0 rows affected (0.00 sec)
```

```
MariaDB [eagleslab]> DESCRIBE student;
```

Field	Type	Null	Key	Default	Extra
name	char(15)	YES		NULL	
school	char(15)	YES		NULL	
age	int(11)	YES		NULL	

```
3 rows in set (0.01 sec)
```

管理表单及数据

增、删、改、查

管理表单及数据

插入一条学生信息（增）

```
MariaDB [eagleslab]> INSERT INTO student(name,school,age) VALUES('chensong','jiangsu university',50);
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
MariaDB [eagleslab]> SELECT * FROM student;
```

name	school	age
chensong	jiangsu univers	50

```
1 row in set (0.00 sec)
```

```
MariaDB [eagleslab]>
```

管理表单及数据

修改这条信息（改）

```
MariaDB [eagleslab]> UPDATE student SET age=18;  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
MariaDB [eagleslab]> SELECT name,age FROM student;  
+-----+-----+  
| name      | age  |  
+-----+-----+  
| chensong  | 18   |  
+-----+-----+  
1 row in set (0.00 sec)
```

管理表单及数据

删除数据表单中内容

```
MariaDB [eagleslab]> DELETE FROM student;  
Query OK, 1 row affected (0.01 sec)
```

```
MariaDB [eagleslab]> SELECT * FROM student;  
Empty set (0.00 sec)
```

管理表单及数据

使用insert插入多条信息

```
MariaDB [eagleslab]> INSERT INTO student(name,school,age) VALUES('chensong','jiangsu university','50');  
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
MariaDB [eagleslab]> INSERT INTO student(name,school,age) VALUES('chenpeng','jiangsu university','18');  
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
MariaDB [eagleslab]> INSERT INTO student(name,school,age) VALUES('xuwendzhe','Jiangsu University Of  
Science And Technology','20');  
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
MariaDB [eagleslab]> INSERT INTO student(name,school,age) VALUES('zhaozhiqiang','Jiangsu University Of  
Science And Technology','19');  
Query OK, 1 row affected, 1 warning (0.00 sec)
```

```
MariaDB [eagleslab]> SELECT * FROM student;
```

```
+-----+-----+-----+  
| name      | school          | age  |  
+-----+-----+-----+  
| chensong   | jiangsu univers | 50  |  
| chenpeng   | jiangsu univers | 18  |  
| xuwendzhe  | Jiangsu Univers | 20  |  
| zhaozhiqiang | Jiangsu Univers | 19  |  
+-----+-----+-----+  
4 rows in set (0.00 sec)
```

管理表单及数据

查找某条信息，要想让查询结果更加精准，就需要结合使用select与where命令了。其中，where命令是在数据库中进行匹配查询的条件命令。通过设置查询条件，就可以仅查找出符合该条件的数据（查）

参数	作用
=	相等
<>或!=	不相等
>	大于
<	小于
>=	大于或等于
<=	小于或等于
BETWEEN	在某个范围内
LIKE	搜索一个例子
IN	在列中搜索多个值

管理表单及数据

查找年纪大于19岁或不等于50岁的同学

```
MariaDB [eagleslab]> SELECT * FROM student WHERE age>19;
```

name	school	age
chensong	jiangsu univers	50
xuwendzhe	Jiangsu Univers	20

```
2 rows in set (0.00 sec)
```

```
MariaDB [eagleslab]> SELECT * FROM student WHERE age!=50;
```

name	school	age
chenpeng	jiangsu univers	18
xuwendzhe	Jiangsu Univers	20
zhaozhiqiang	Jiangsu Univers	19

```
3 rows in set (0.00 sec)
```

```
MariaDB [eagleslab]> exit
```

```
Bye
```


数据库的备份及恢复



数据库的备份及恢复

mysqldump命令用于备份数据库数据，格式为“mysqldump [参数] [数据库名称]”。其中参数与mysql命令大致相同，-u参数用于定义登录数据库的账户名称，-p参数代表密码提示符

```
[root@localhost ~]# mysqldump -u root -p eagleslab > /root/eagleslabDB.dump  
Enter password:
```

数据库的备份及恢复

尝试删除eagleslab数据库，然后再恢复

```
MariaDB [(none)]> DROP DATABASE eagleslab;  
Query OK, 1 row affected (0.01 sec)  
  
MariaDB [(none)]> SHOW databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
+-----+  
3 rows in set (0.00 sec)  
  
MariaDB [(none)]> CREATE DATABASE eagleslab;  
Query OK, 1 row affected (0.00 sec)
```

数据库的备份及恢复

导入数据库

```
[root@localhost ~]# mysql -u root -p eagleslab < /root/eagleslabDB.dump
Enter password:
[root@localhost ~]# mysql -u root -p
Enter password:
```

```
MariaDB [(none)]> use eagleslab
```

```
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 [eagleslab]> SHOW tables;
```

```
+-----+
| Tables_in_eagleslab |
+-----+
| student              |
+-----+
1 row in set (0.00 sec)
```

```
MariaDB [eagleslab]> DESCRIBE student;
```

```
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| name  | char(15) | YES  |     | NULL    |       |
| school | char(15) | YES  |     | NULL    |       |
| age   | int(11) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

