

MariaDB

Author: Austin Jenner Beltran Panghulan



Act 1

For this activity I have made a couple of changes, first of all I'm not using cloud shell, instead I will be using a virtual machine that I installed MariaDB in, to do the activities, so that means that I did not use a docker to do this activity either and some parts of the activities i didn't have to do, for example the activities 1-4 i did not do.

Not only that but I changed the names of the table, database and the values to the following

Database: University=burgerking

Tables:

Department = store

Instructor = sales

Values store:

dept_name= bk_name

Building= island

Budget= Budget

Values sales:

ID= store_id

Name= Article

dept_name= bk_name

salary= price

Act 2

Here im installing MariaDB in my virtual machine, with the command that you can see in Figure 1. Also you can see in Figure 2 what version of MariaDB I am using

```
aj@aj-VirtualBox:~$ sudo apt install mariadb-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  systemd-hwe-hwdb
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  galera-4 gawk libbcgi-fast-perl libbcgi-pm-perl libconfig-inifiles-perl
  libdaxctl1 libdbd-mysql-perl libdbi-perl libfcgi-bin libfcgi-perl
  libfcgi0ldbl libhtml-template-perl libmariadb3 libmysqlclient21 libndctl6
  libpmem1 libsigsegv2 libsnappy1v5 libterm-readkey-perl liburing2
  mariadb-client-10.6 mariadb-client-core-10.6 mariadb-common
  mariadb-server-10.6 mariadb-server-core-10.6 mysql-common socat
Suggested packages:
  gawk-doc libmldbm-perl libnet-daemon-perl libsql-statement-perl
  libipc-sharedcache-perl mailx mariadb-test
The following NEW packages will be installed:
  galera-4 gawk libbcgi-fast-perl libbcgi-pm-perl libconfig-inifiles-perl
  libdaxctl1 libdbd-mysql-perl libdbi-perl libfcgi-bin libfcgi-perl
  libfcgi0ldbl libhtml-template-perl libmariadb3 libmysqlclient21 libndctl6
  libpmem1 libsigsegv2 libsnappy1v5 libterm-readkey-perl liburing2
  mariadb-client-10.6 mariadb-client-core-10.6 mariadb-common mariadb-server
  mariadb-server-10.6 mariadb-server-core-10.6 mysql-common socat
0 upgraded, 28 newly installed, 0 to remove and 384 not upgraded.
Need to get 18,7 MB of archives.
After this operation, 165 MB of additional disk space will be used.
```

Figure 1

```
aj@aj-VirtualBox:~$ sudo mysqladmin version
mysqladmin Ver 9.1 Distrib 10.6.12-MariaDB, for debian-linux-gnu on x86_64
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Server version          10.6.12-MariaDB-0ubuntu0.22.04.1
Protocol version        10
```

Figure 2

Act 3

And here in Figure 3 you can see the command that we use to finish the installation and to create the users that we will use in the sql server

```
aj@aj-VirtualBox:~$ sudo 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
haven't set the root password yet, you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password or using the unix_socket ensures that nobody
can log into the MariaDB root user without the proper authorisation.

You already have your root account protected, so you can safely answer 'n'.

Switch to unix_socket authentication [Y/n] y
Enabled successfully!
Reloading privilege tables..
... Success!
```

Figure 3

Act 4

Now I am going to enter in to the user that we made and enter in the password that we also made

```
aj@aj-VirtualBox:~$ mariadb -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 42
Server version: 10.6.12-MariaDB-0ubuntu0.22.04.1 Ubuntu 22.04

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)]> █
```

Figure 4

Act 5

Then as you can see in the next figure I make a new database, show the database and enter or use the database.

```
MariaDB [(none)]> CREATE DATABASE burgerking
-> ;
Query OK, 1 row affected (0,000 sec)

MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| burgerking |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0,000 sec)

MariaDB [(none)]>
```

Figure 5

```
MariaDB [(none)]> USE burgerking
Database changed
```

Figure 6

Act 6

Once you use the database, it's time to make new tables inside to not have in empty, in my case I created this table that's called store

```
MariaDB [burgerking]> CREATE TABLE store
-> (bk_name varchar(20),
-> island varchar(15),
-> budget numeric (12,2) check (budget > 0),
-> primary key (bk_name)
-> );
Query OK, 0 rows affected (0,007 sec)
```

Figure 7

Act 7

And here i created the table sales

```
MariaDB [burgerking]> CREATE TABLE sales (  
->   Store_id varchar(5),  
->   Article varchar(20) not null,  
->   bk_name varchar(20),  
->   price numeric(8,2),  
->   primary key (Store_id),  
->   foreign key (bk_name) references store (bk_name) on delete set null  
-> );  
Query OK, 0 rows affected (0,007 sec)
```

Figure 8

Act 8

Now, once you have created the table it's time to generate some values inside those tables. I inserted some values in the table store with the commands in the following figure

```
MariaDB [burgerking]> insert into store values ('Plaza España', 'Mallorca', '53421');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> insert into store values ('Porto Pi', 'Mallorca', '358715');  
Query OK, 1 row affected (0,003 sec)  
  
MariaDB [burgerking]> insert into store values ('Inca II', 'Mallorca', '52123');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> insert into store values ('Levante', 'Mallorca', '297021');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> insert into store values ('Ibiza Puerto', 'Ibiza', '34790');  
Query OK, 1 row affected (0,002 sec)  
  
MariaDB [burgerking]> insert into store values ('Sant Antonio', 'Ibiza', '365712');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> insert into store values ('Kiosco', 'Ibiza', '93617');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> insert into store values ('Playa de Bossa', 'Ibiza', '217201');  
Query OK, 1 row affected (0,009 sec)  
  
MariaDB [burgerking]> SELECT * FROM store  
-> ;  
+-----+-----+-----+  
| bk_name      | island  | budget |  
+-----+-----+-----+  
| Ibiza Puerto  | Ibiza   | 34790.00 |  
| Inca II       | Mallorca | 52123.00 |  
| Kiosco        | Ibiza   | 93617.00 |  
| Levante       | Mallorca | 297021.00 |  
| Playa de Bossa | Ibiza   | 217201.00 |  
| Plaza España  | Mallorca | 53421.00 |  
| Porto Pi      | Mallorca | 358715.00 |  
| Sant Antonio  | Ibiza   | 365712.00 |  
+-----+-----+-----+  
8 rows in set (0,000 sec)
```

Figure 9

Act 9

Then its the same but with the table sales

```
MariaDB [burgerking]> insert into sales values ('75124', 'King Jr.', 'Ibiza Puerto', '5.62');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('75124', 'Steack house', 'Inca II', '7.80');
ERROR 1062 (23000): Duplicate entry '75124' for key 'PRIMARY'
MariaDB [burgerking]> insert into sales values ('42153', 'Steack house', 'Inca II', '7.80');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('96542', 'Big Bang', 'Levante', '8.00');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('75395', 'Whooper', 'Kiosco', '4.20');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('86321', 'Whooper Jr.', 'Kiosco', '3.20');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('14785', 'Bacon Blast', 'Playa de Bossa', '5.50'
);
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('63217', 'Baconator', 'Plaza España', '6.90');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> insert into sales values ('24158', 'King Chicken', 'Porto Pi', '4.70');
Query OK, 1 row affected (0,009 sec)

MariaDB [burgerking]> SELECT * FROM sales
-> ;
+-----+-----+-----+-----+
| Store_id | Article      | bk_name      | price |
+-----+-----+-----+-----+
| 14785    | Bacon Blast  | Playa de Bossa | 5.50 |
| 24158    | King Chicken | Porto Pi      | 4.70 |
| 42153    | Steack house | Inca II       | 7.80 |
| 63217    | Baconator    | Plaza España  | 6.90 |
| 75124    | King Jr.     | Ibiza Puerto  | 5.62 |
| 75395    | Whooper      | Kiosco        | 4.20 |
| 86321    | Whooper Jr.  | Kiosco        | 3.20 |
| 96542    | Big Bang     | Levante       | 8.00 |
+-----+-----+-----+-----+
8 rows in set (0,000 sec)
```

Figure 10

In the following activities i will be doing the instructions that is provided for me in the document

Act 10 Show the name of the instructors.

in my case it would be the articles from the sales table

```
MariaDB [burgerking]> SELECT Article FROM sales
-> ;
+-----+
| Article |
+-----+
| Bacon Blast |
| King Chicken |
| Steak house |
| Baconator |
| King Jr. |
| Whooper |
| Whooper Jr. |
| Big Bang |
+-----+
8 rows in set (0,000 sec)
```

Figure 11

Act 11 Show the name of the instructor and the name of the building in which the instructor works.

In my case it would be the articles of sales and the names of the islands

```
MariaDB [burgerking]> SELECT Article, Island
-> FROM sales
-> JOIN store ON sales.bk_name=store.bk_name;
+-----+-----+
| Article | Island |
+-----+-----+
| Bacon Blast | Ibiza |
| King Chicken | Mallorca |
| Steak house | Mallorca |
| Baconator | Mallorca |
| King Jr. | Ibiza |
| Whooper | Ibiza |
| Whooper Jr. | Ibiza |
| Big Bang | Mallorca |
+-----+-----+
8 rows in set (0,000 sec)
```

Figure 12

Act 12 Select the union of the names of the instructors of the physics department and the name of the instructors of the music department.

In my case it would be select the articles from sales from the bk kiosco and the article from the bk Inca II

```
MariaDB [burgerking]> (SELECT Article FROM sales WHERE bk_name ='kiosco') UNION (SELECT Article
FROM sales WHERE bk_name='Inca II');
+-----+
| Article |
+-----+
| Whooper |
| Whooper Jr. |
| Steak house |
+-----+
3 rows in set (0,001 sec)
```

Figure 13

Act 13 Select the name of the instructors that work for the physics department or the music department.

```
MariaDB [burgerking]> SELECT Article FROM sales WHERE bk_name='Porto PI' OR bk_name='Kiosco'
-> ;
+-----+
| Article |
+-----+
| Whooper |
| Whooper Jr. |
| King Chicken |
+-----+
3 rows in set (0,000 sec)
```

Figure 14

Act 14 Select the union of the names of the instructors and the names of the departments.

```
MariaDB [burgerking]> (SELECT Article FROM sales) UNION (SELECT bk_name FROM store);
+-----+
| Article |
+-----+
| Bacon Blast |
| King Chicken |
| Steak house |
| Baconator |
| King Jr. |
| Whooper |
| Whooper Jr. |
| Big Bang |
| Ibiza Puerto |
| Inca II |
| Kiosco |
| Levante |
| Playa de Bossa |
| Plaza España |
| Porto Pi |
| Sant Antonio |
+-----+
16 rows in set (0,000 sec)
```

Figure 15

Act 15 Select the names of the instructors that work for the computer science department.

```
MariaDB [burgerking]> SELECT Article FROM sales WHERE bk_name='Levante'
-> ;
+-----+
| Article |
+-----+
| Big Bang |
+-----+
1 row in set (0,000 sec)
```

Figure 16

Act 16 Select the names of the instructors with a salary higher than \$70000.

```
MariaDB [burgerking]> SELECT Article FROM sales WHERE price>6.00;
+-----+
| Article      |
+-----+
| Steack house |
| Baconator    |
| Big Bang     |
+-----+
3 rows in set (0,000 sec)
```

Figure 17

Act 17 Select the intersection of the names of the instructors of the computer science department and the names of the instructors with a salary higher than \$70000.

```
MariaDB [burgerking]> (SELECT Article FROM sales WHERE bk_name='Kiosco') INTERSECT (SELECT Article FROM sales WHERE price>4.00);
+-----+
| Article |
+-----+
| Whooper |
+-----+
1 row in set (0,000 sec)
```

Figure 18

Act 18 Select the names of the instructors that work for the computer science department and have a salary higher than 70000.

```
MariaDB [burgerking]> SELECT Article FROM sales WHERE bk_name='Porto pi' AND price>4.00;
+-----+
| Article |
+-----+
| King Chicken |
+-----+
1 row in set (0,000 sec)
```

Figure 19

Act 19 Select the names of the instructors that work for the computer science department except those that have a salary higher than 70000.

```
MariaDB [burgerking]> (SELECT Article FROM sales WHERE bk_name='Kiosco') EXCEPT (SELECT Article
FROM sales WHERE price>4.00);
+-----+
| Article |
+-----+
| Whooper Jr. |
+-----+
1 row in set (0,000 sec)
```

Figure 20

Act 20 Select the names of the instructors of the finance department with a salary smaller than 85000.

```
MariaDB [burgerking]> SELECT Article FROM sales WHERE bk_name='Plaza España' AND price<7.00;
+-----+
| Article |
+-----+
| Baconator |
+-----+
1 row in set (0,000 sec)
```

Figure 21

Act 21 Select the names of the instructors that work in the Taylor building with a salary smaller than 85000

```
MariaDB [burgerking]> SELECT Article
-> FROM sales
-> JOIN store ON sales.bk_name = store.bk_name
-> WHERE store.Island = 'Mallorca' AND sales.price <8.00;
+-----+
| Article |
+-----+
| King Chicken |
| Steak house |
| Baconator |
+-----+
3 rows in set (0,000 sec)
```

Figure 22