

Lesson 05 Demo 01

Creating Databases and Tables

Objective: To demonstrate the process of creating, modifying, and managing databases and tables using MySQL commands in a terminal

Tools required: MySQL

Prerequisites: None

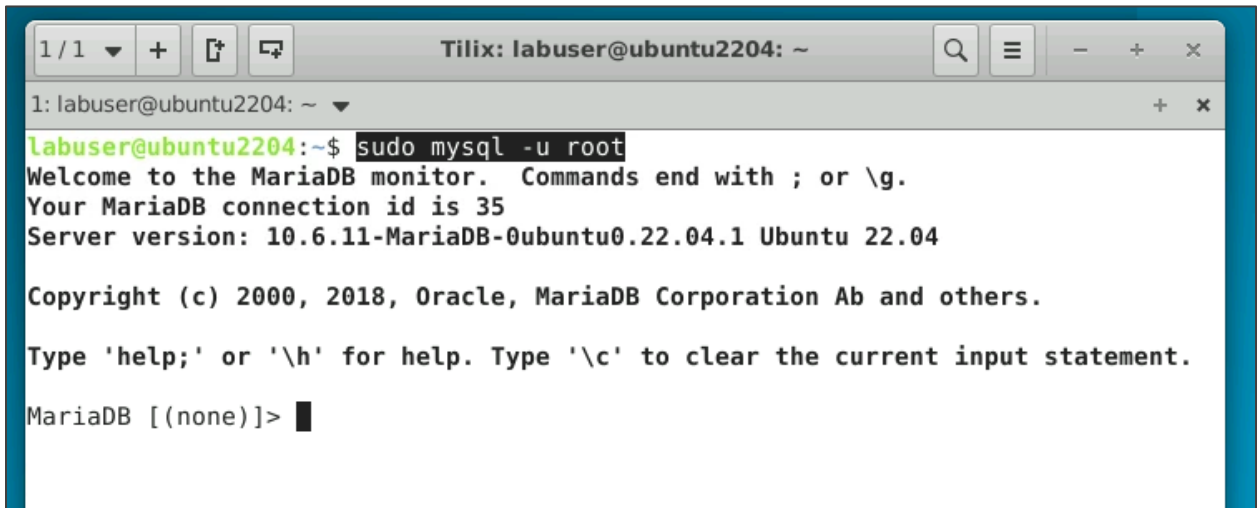
Steps to be followed:

1. Create a database and tables

Step 1: Create a database and tables

- 1.1 Open a terminal window and access MySQL as a root user using the following command:

sudo mysql -u root



```
Tilix: labuser@ubuntu2204: ~
1 / 1 ▼ + [ ] [ ]
1: labuser@ubuntu2204: ~ ▼
labuser@ubuntu2204:~$ sudo mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 35
Server version: 10.6.11-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)]>
```

- 1.2 To view all existing databases in MySQL, use the following command:
show databases;



The screenshot shows a terminal window titled 'Tilix: labuser@ubuntu2204: ~'. The user 'labuser' is at the prompt and has entered the command 'sudo mysql -u root'. The terminal output shows the MySQL prompt 'MariaDB [(none)]>' and the command 'show databases;' being executed. The output is a table with one column 'Database' and six rows: 'Agile', 'information_schema', 'mysql', 'performance_schema', 'sys', and 'techdirectarchivedb'. Below the table, it says '6 rows in set (0.018 sec)'. The prompt 'MariaDB [(none)]>' is shown again with a cursor.

```
1 / 1 ▼ + [ ] [ ] Tilix: labuser@ubuntu2204: ~ 🔍 ☰ - + ×
1: labuser@ubuntu2204: ~ ▼
labuser@ubuntu2204:~$ sudo mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 35
Server version: 10.6.11-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.

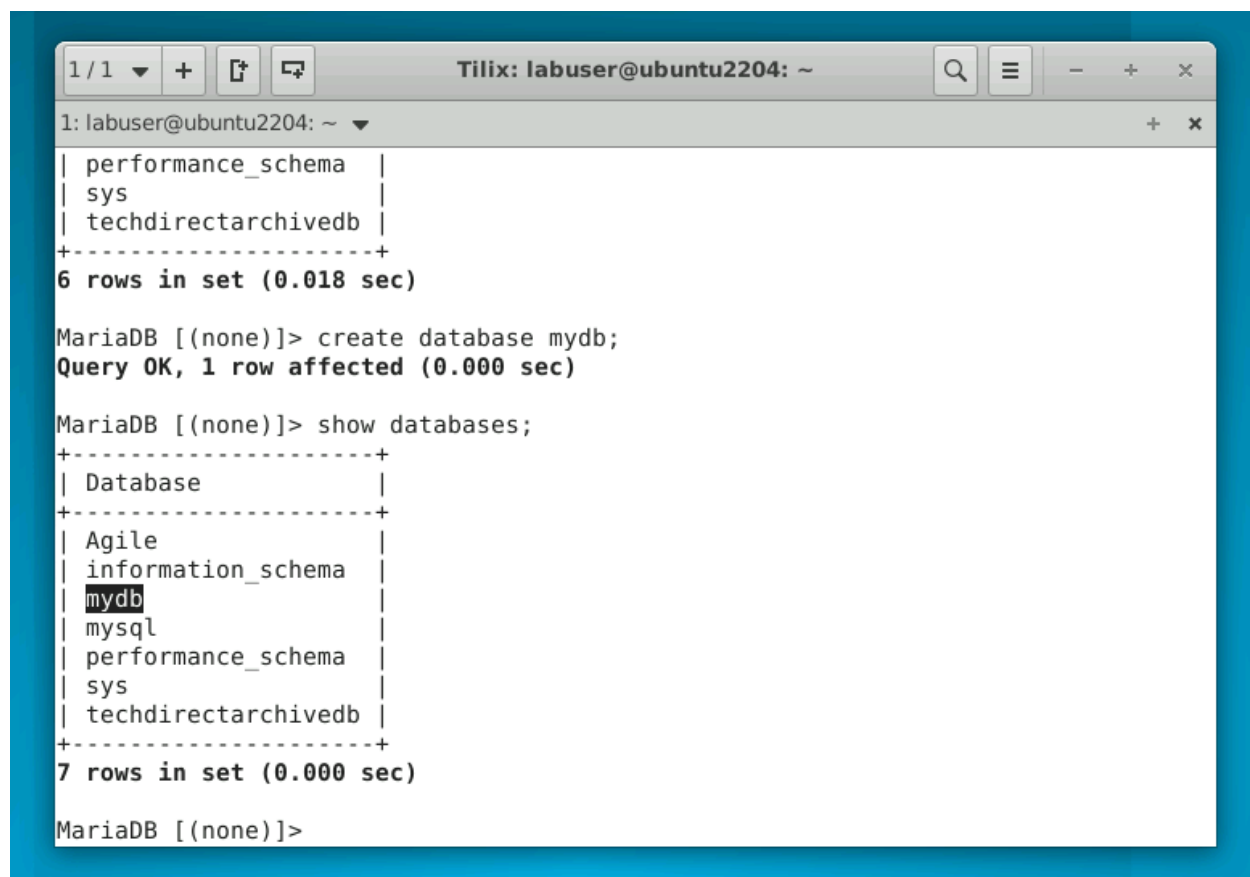
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| Agile    |
| information_schema |
| mysql    |
| performance_schema |
| sys      |
| techdirectarchivedb |
+-----+
6 rows in set (0.018 sec)

MariaDB [(none)]> █
```

1.3 Create a new database named **mydb** and verify the creation using the below commands:

create database mydb;

show databases;



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The prompt is "1: labuser@ubuntu2204: ~". The output of the first command is a table with 3 rows and 1 column, showing existing databases. The second command is executed, and the output confirms the creation of the new database. The third command is executed, and the output shows a table with 7 rows and 1 column, including the newly created database.

```
1: labuser@ubuntu2204: ~
| performance_schema |
| sys                |
| techdirectarchivedb |
+-----+
6 rows in set (0.018 sec)

MariaDB [(none)]> create database mydb;
Query OK, 1 row affected (0.000 sec)

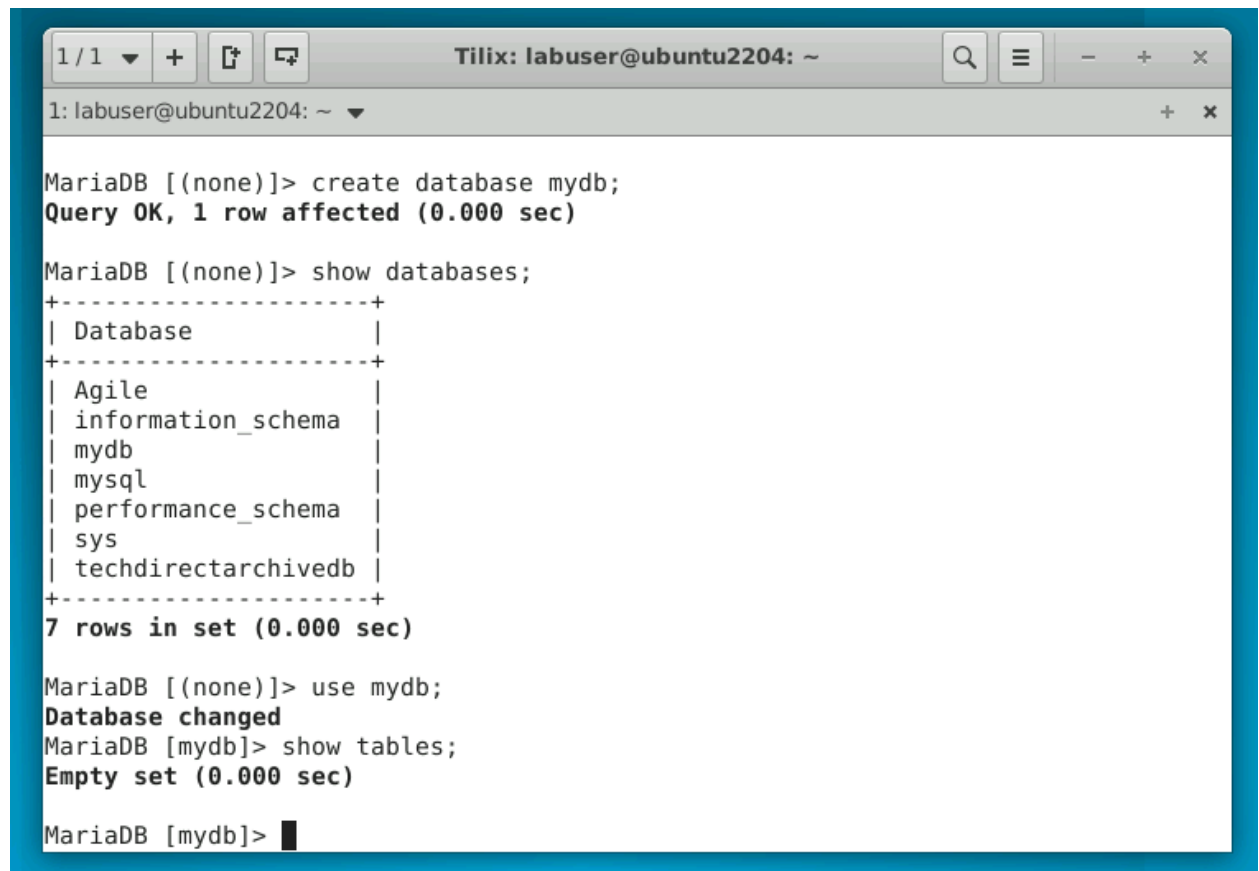
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| Agile    |
| information_schema |
| mydb     |
| mysql    |
| performance_schema |
| sys      |
| techdirectarchivedb |
+-----+
7 rows in set (0.000 sec)

MariaDB [(none)]>
```

1.4 Switch your context to the newly created **mydb** database and check if there are any tables present using these commands:

use mydb;

show tables;



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The terminal displays the following commands and output:

```
MariaDB [(none)]> create database mydb;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| Agile    |
| information_schema |
| mydb     |
| mysql    |
| performance_schema |
| sys      |
| techdirectarchivedb |
+-----+
7 rows in set (0.000 sec)

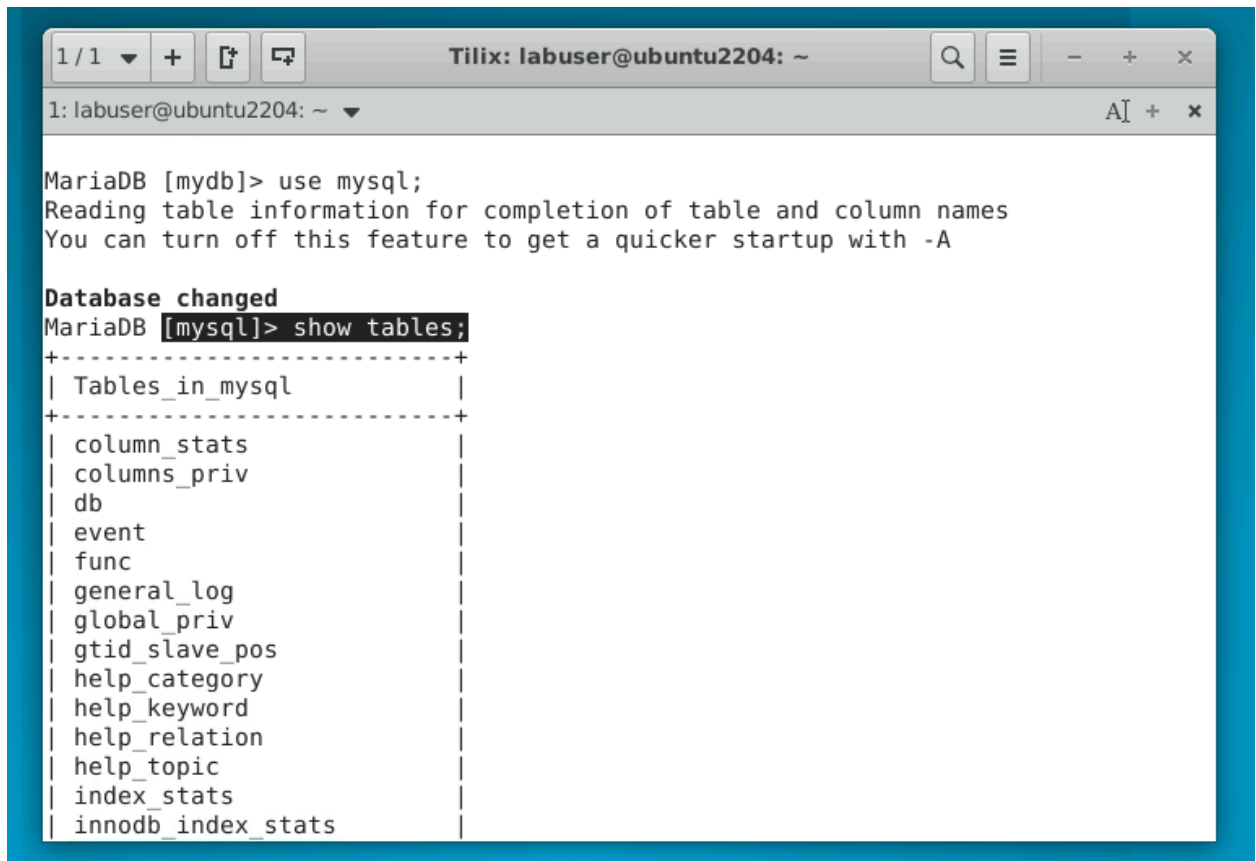
MariaDB [(none)]> use mydb;
Database changed
MariaDB [mydb]> show tables;
Empty set (0.000 sec)

MariaDB [mydb]> 
```

1.5 To see the tables in the default **mysql** database, switch to it and list its tables:

use mysql;

show tables;



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The prompt is "1: labuser@ubuntu2204: ~". The user enters the command "MariaDB [mydb]> use mysql;". The output is "Reading table information for completion of table and column names" and "You can turn off this feature to get a quicker startup with -A". The user then enters "MariaDB [mysql]> show tables;". The output is a list of tables in the mysql database, enclosed in a box with dashed lines.

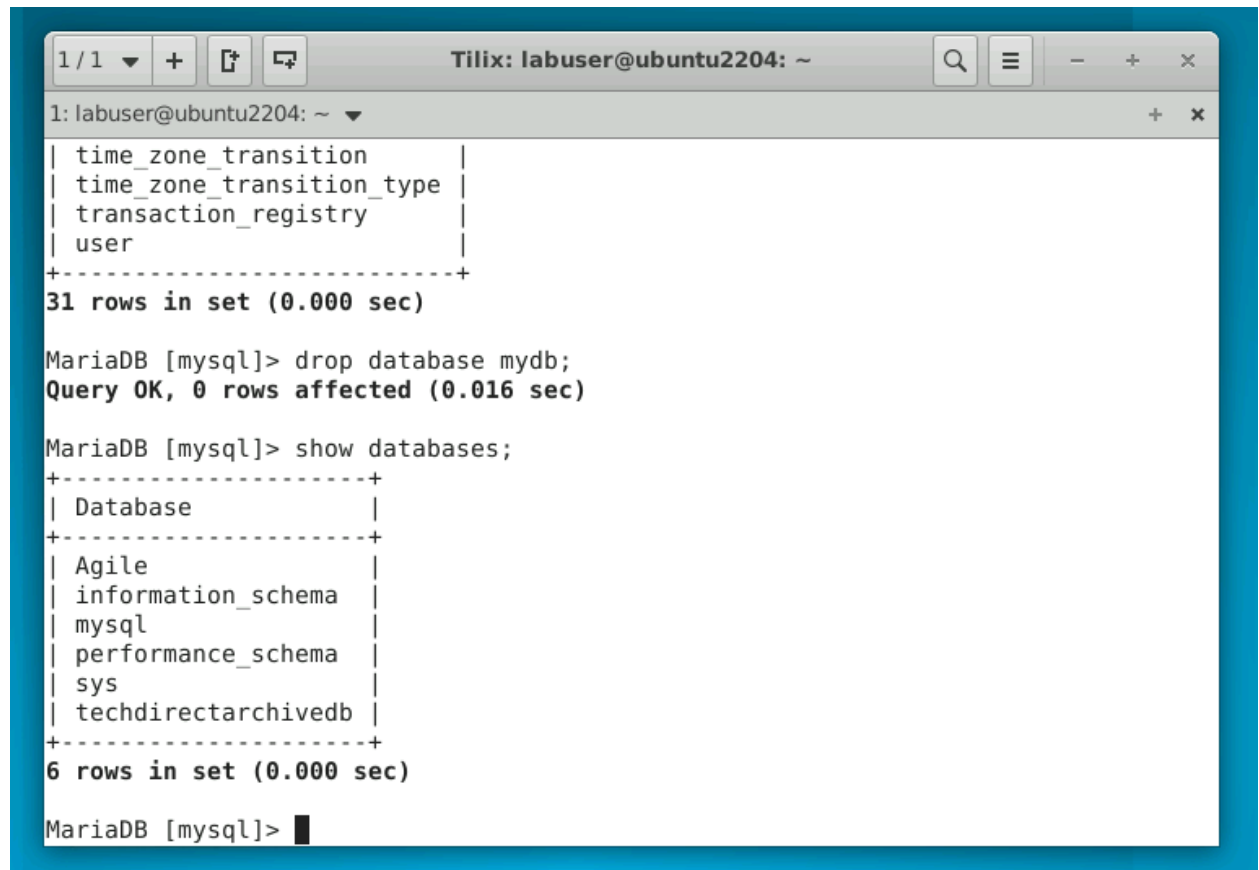
```
MariaDB [mydb]> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [mysql]> show tables;
+-----+
| Tables_in_mysql |
+-----+
| column_stats    |
| columns_priv    |
| db               |
| event           |
| func            |
| general_log      |
| global_priv     |
| gtid_slave_pos   |
| help_category    |
| help_keyword     |
| help_relation    |
| help_topic       |
| index_stats      |
| innodb_index_stats |
+-----+
```

1.6 Remove the **mydb** database from MySQL and confirm its deletion:

drop database mydb;

show databases;



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The prompt is "1: labuser@ubuntu2204: ~". The output of a previous command is a table with 4 rows and 2 columns:

time_zone_transition	
time_zone_transition_type	
transaction_registry	
user	

Below the table, it says "31 rows in set (0.000 sec)".

The user enters the command: **MariaDB [mysql]> drop database mydb;**

The output is: **Query OK, 0 rows affected (0.016 sec)**

The user enters the command: **MariaDB [mysql]> show databases;**

The output is a table with 6 rows and 2 columns:

Database	
Agile	
information_schema	
mysql	
performance_schema	
sys	
techdirectarchivedb	

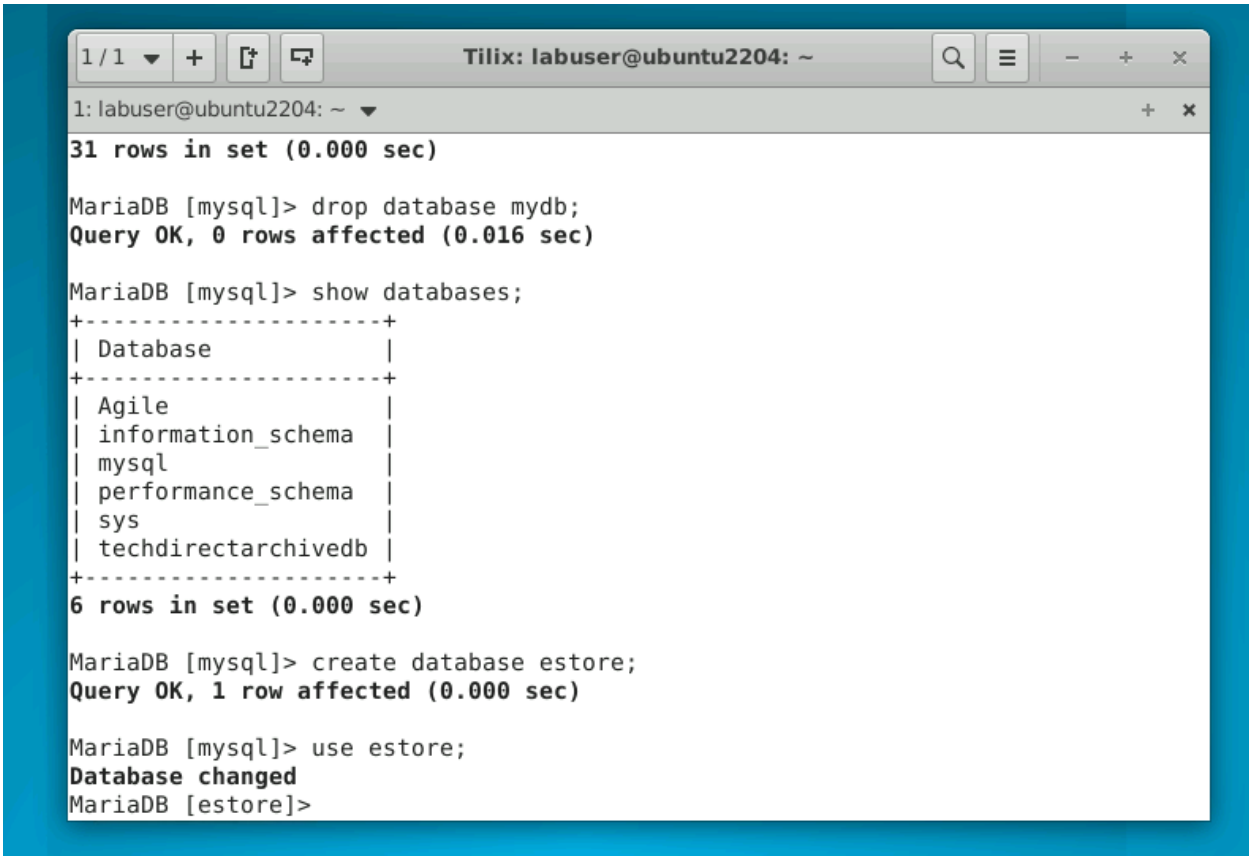
Below the table, it says "6 rows in set (0.000 sec)".

The prompt is now: **MariaDB [mysql]> █**

1.7 Create an **estore** database and switch to it:

create database estore;

use estore;



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The prompt is "1: labuser@ubuntu2204: ~". The output of the previous command is "31 rows in set (0.000 sec)". The user enters "MariaDB [mysql]> drop database mydb;" and the output is "Query OK, 0 rows affected (0.016 sec)". The user then enters "MariaDB [mysql]> show databases;" and the output is a table with 6 rows. The user then enters "MariaDB [mysql]> create database estore;" and the output is "Query OK, 1 row affected (0.000 sec)". Finally, the user enters "MariaDB [mysql]> use estore;" and the output is "Database changed". The prompt changes to "MariaDB [estore]>".

```
1 / 1 + [ ] [ ]
Tilix: labuser@ubuntu2204: ~
1: labuser@ubuntu2204: ~
31 rows in set (0.000 sec)

MariaDB [mysql]> drop database mydb;
Query OK, 0 rows affected (0.016 sec)

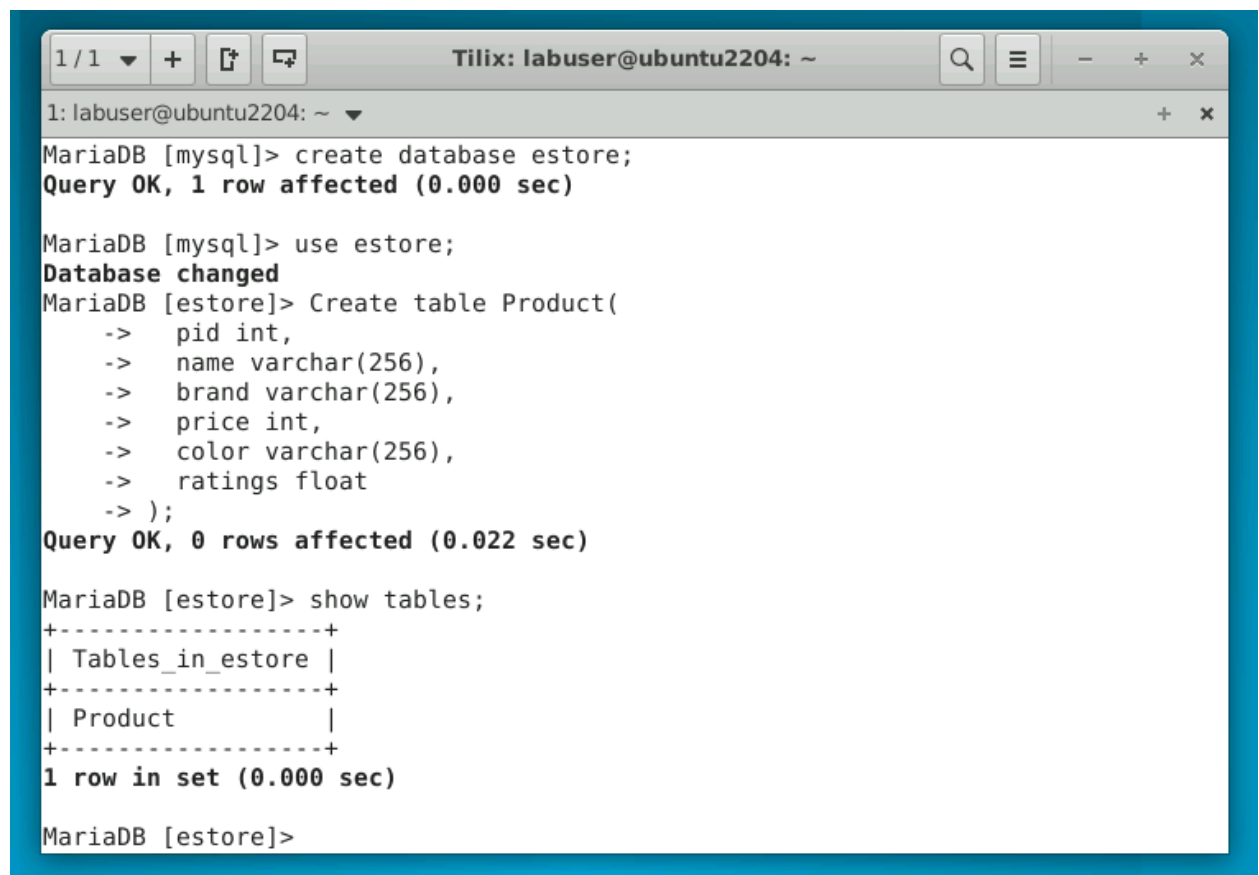
MariaDB [mysql]> show databases;
+-----+
| Database |
+-----+
| Agile    |
| information_schema |
| mysql    |
| performance_schema |
| sys      |
| techdirectarchivedb |
+-----+
6 rows in set (0.000 sec)

MariaDB [mysql]> create database estore;
Query OK, 1 row affected (0.000 sec)

MariaDB [mysql]> use estore;
Database changed
MariaDB [estore]>
```

1.8 Define and create a **Product** table in the **estore** database. Confirm its creation by listing the tables:

```
Create table Product(  
  pid int,  
  name varchar(256),  
  brand varchar(256),  
  price int,  
  color varchar(256),  
  ratings float  
);  
show tables;
```

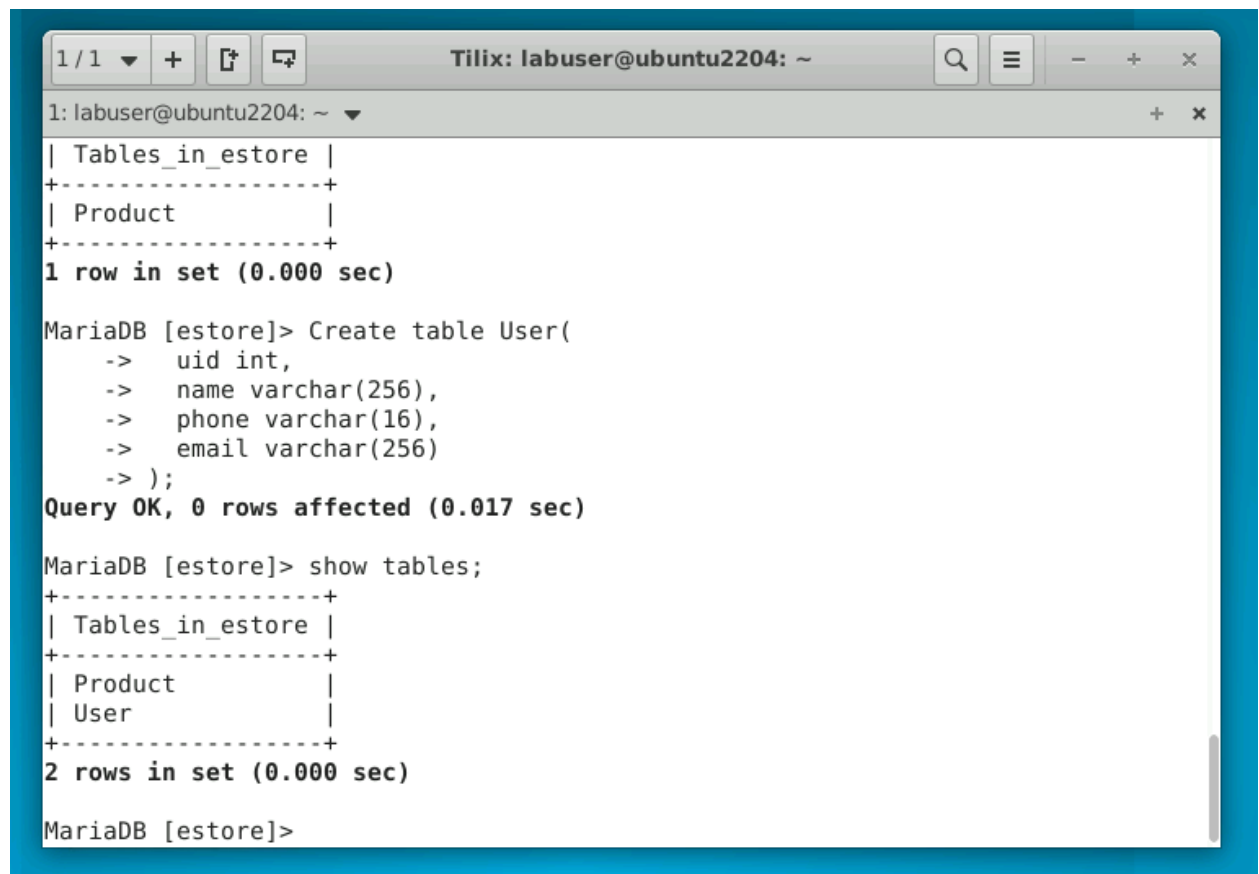


The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The prompt is "1: labuser@ubuntu2204: ~". The user enters the following commands and receives the following output:

```
MariaDB [mysql]> create database estore;  
Query OK, 1 row affected (0.000 sec)  
  
MariaDB [mysql]> use estore;  
Database changed  
MariaDB [estore]> Create table Product(  
  -> pid int,  
  -> name varchar(256),  
  -> brand varchar(256),  
  -> price int,  
  -> color varchar(256),  
  -> ratings float  
  -> );  
Query OK, 0 rows affected (0.022 sec)  
  
MariaDB [estore]> show tables;  
+-----+  
| Tables_in_estore |  
+-----+  
| Product          |  
+-----+  
1 row in set (0.000 sec)  
  
MariaDB [estore]>
```


1.9 Similarly, define and create a **User** table in the same database. Now, confirm its creation:

```
Create table User(  
  uid int,  
  name varchar(256),  
  phone varchar(16),  
  email varchar(256)  
);  
show tables;
```

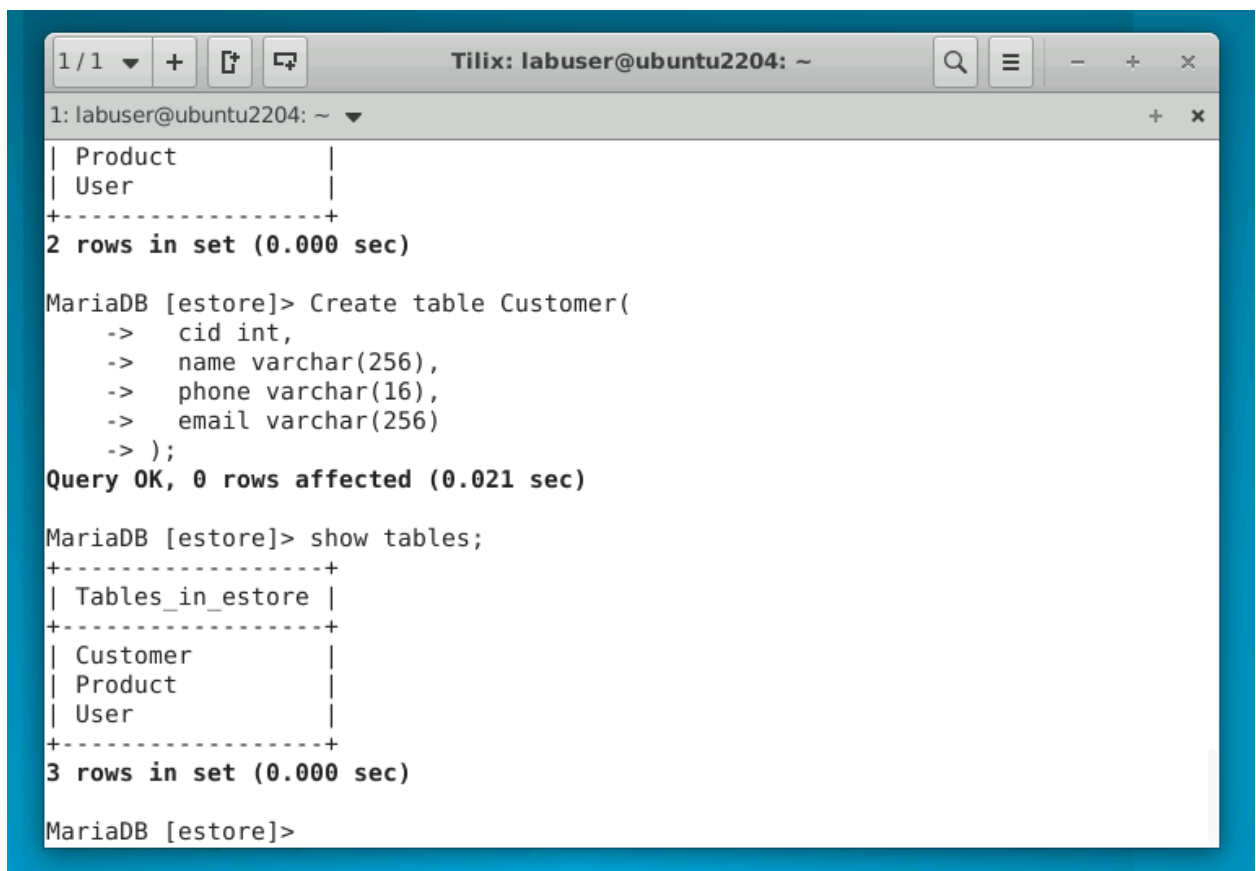


The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The terminal output is as follows:

```
1: labuser@ubuntu2204: ~  
+-----+  
| Tables_in_estore |  
+-----+  
| Product          |  
+-----+  
1 row in set (0.000 sec)  
  
MariaDB [estore]> Create table User(  
->   uid int,  
->   name varchar(256),  
->   phone varchar(16),  
->   email varchar(256)  
-> );  
Query OK, 0 rows affected (0.017 sec)  
  
MariaDB [estore]> show tables;  
+-----+  
| Tables_in_estore |  
+-----+  
| Product          |  
| User             |  
+-----+  
2 rows in set (0.000 sec)  
  
MariaDB [estore]>
```

1.10 For illustration, create a dummy table named **Customer** and check for its presence:

```
Create table Customer(  
  cid int,  
  name varchar(256),  
  phone varchar(16),  
  email varchar(256)  
);  
show tables;
```



The screenshot shows a terminal window titled "Tilix: labuser@ubuntu2204: ~". The terminal displays the output of a SQL query, followed by the creation of a table named "Customer" and a subsequent "show tables;" command. The output of "show tables;" lists three tables: "Tables_in_estore", "Customer", "Product", and "User".

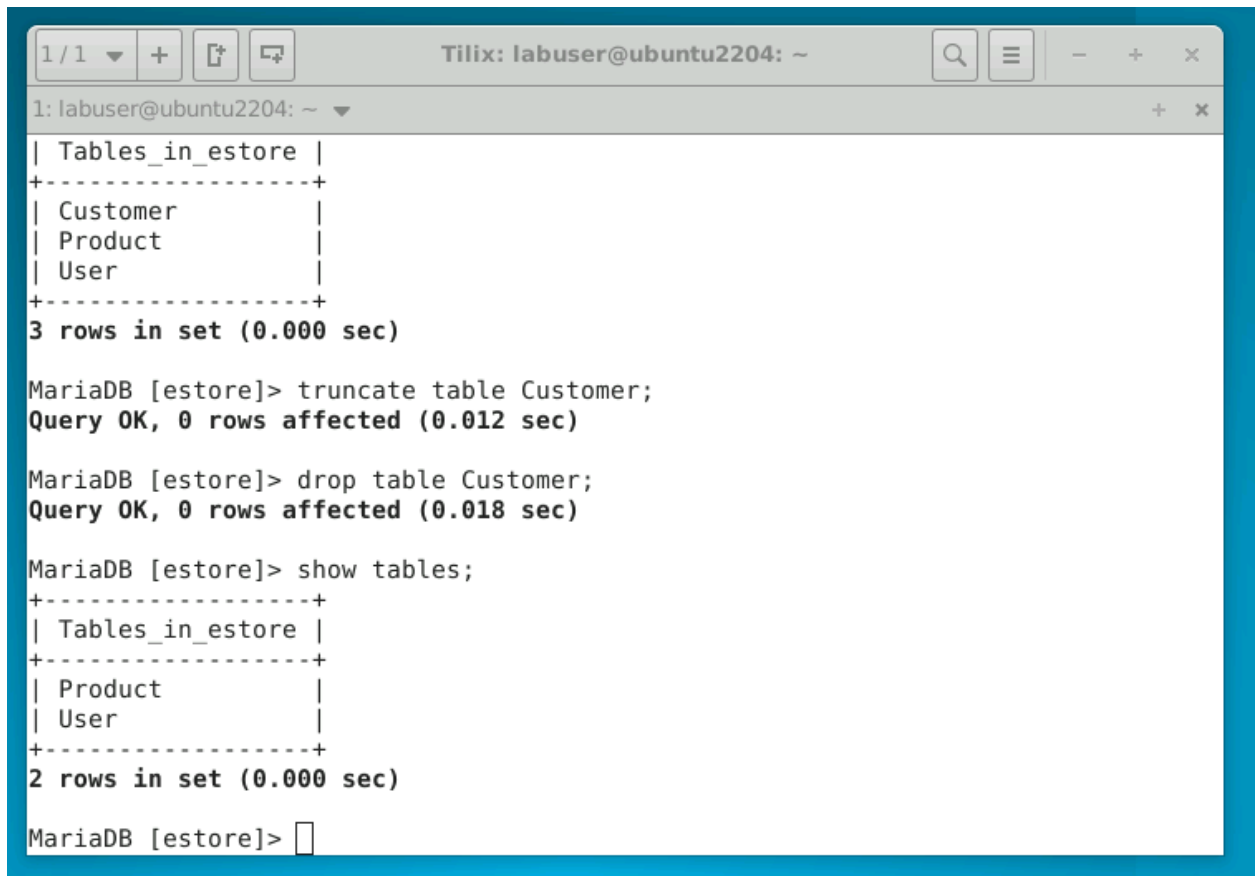
```
1 / 1  +  [?] [x]  Tilix: labuser@ubuntu2204: ~  [Q] [≡] - + x  
1: labuser@ubuntu2204: ~  + x  
| Product |  
| User |  
+-----+  
2 rows in set (0.000 sec)  
  
MariaDB [estore]> Create table Customer(  
  ->  cid int,  
  ->  name varchar(256),  
  ->  phone varchar(16),  
  ->  email varchar(256)  
  -> );  
Query OK, 0 rows affected (0.021 sec)  
  
MariaDB [estore]> show tables;  
+-----+  
| Tables_in_estore |  
+-----+  
| Customer |  
| Product |  
| User |  
+-----+  
3 rows in set (0.000 sec)  
  
MariaDB [estore]>
```

1.11 Delete the **Customer** table and verify its removal:

truncate table Customer;

drop table Customer;

show tables;



The screenshot shows a terminal window titled 'Tilix: labuser@ubuntu2204: ~'. The prompt is '1: labuser@ubuntu2204: ~'. The output of the 'show tables;' command is a table with one row: 'Tables_in_estore'. The table has three columns: 'Tables_in_estore', 'Product', and 'User'. The output is: '3 rows in set (0.000 sec)'. The user then enters 'truncate table Customer;' and the output is 'Query OK, 0 rows affected (0.012 sec)'. The user then enters 'drop table Customer;' and the output is 'Query OK, 0 rows affected (0.018 sec)'. The user then enters 'show tables;' and the output is a table with one row: 'Tables_in_estore'. The table has two columns: 'Tables_in_estore' and 'User'. The output is: '2 rows in set (0.000 sec)'. The prompt is 'MariaDB [estore]> '.

```
1 / 1 + [?] [?]
Tilix: labuser@ubuntu2204: ~
1: labuser@ubuntu2204: ~
| Tables_in_estore |
+-----+
| Customer         |
| Product          |
| User             |
+-----+
3 rows in set (0.000 sec)

MariaDB [estore]> truncate table Customer;
Query OK, 0 rows affected (0.012 sec)

MariaDB [estore]> drop table Customer;
Query OK, 0 rows affected (0.018 sec)

MariaDB [estore]> show tables;
+-----+
| Tables_in_estore |
+-----+
| Product          |
| User             |
+-----+
2 rows in set (0.000 sec)

MariaDB [estore]> 
```

By following these steps, you have successfully performed key operations in MySQL, including creating and deleting databases and tables.