Database Table Operations

Scenario

The database operations team for an organization has configured a relational database instance. The team has asked you to practice creating and dropping (deleting) databases and tables.

Lab overview and objectives

This lab demonstrates how to use some common database and table operations.

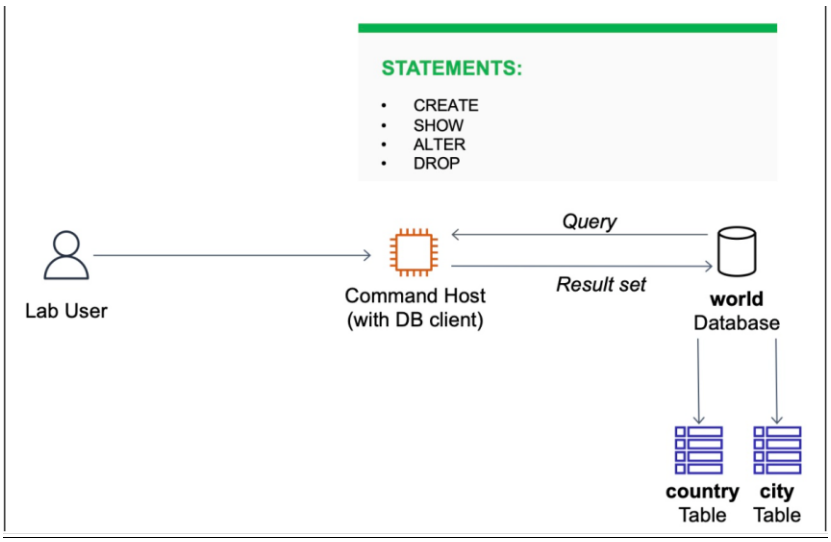
After completing this lab, you should be able to:

- Use the **CREATE** statement to create databases and tables
- Use the **SHOW** statement to view available databases and tables
- Use the **ALTER** statement to alter the structure of a table
- Use the **DROP** statement to delete databases and tables

When you start the lab, the following resources are already created for you:

A database client is installed on an instance.

At the end of this lab, you will have completed some common database and table operations:



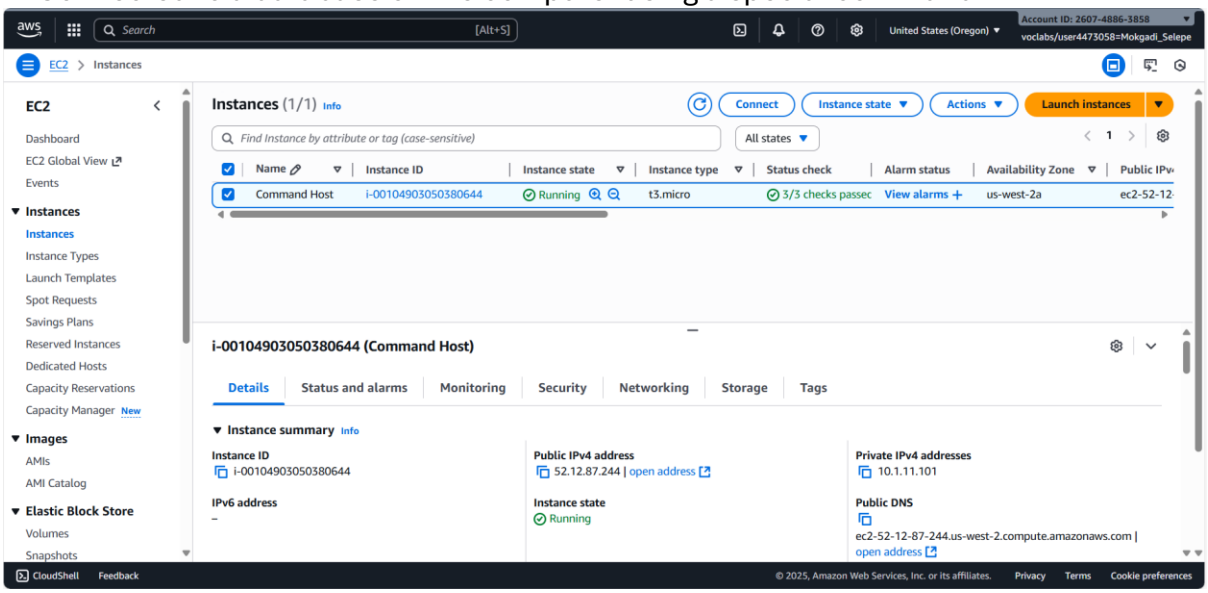
A lab user creates a database and tables. Other displayed statements are SHOW, ALTER, and DROP.
Sample data in this course is taken from Statistics Finland, general regional statistics, February 4, 2022.

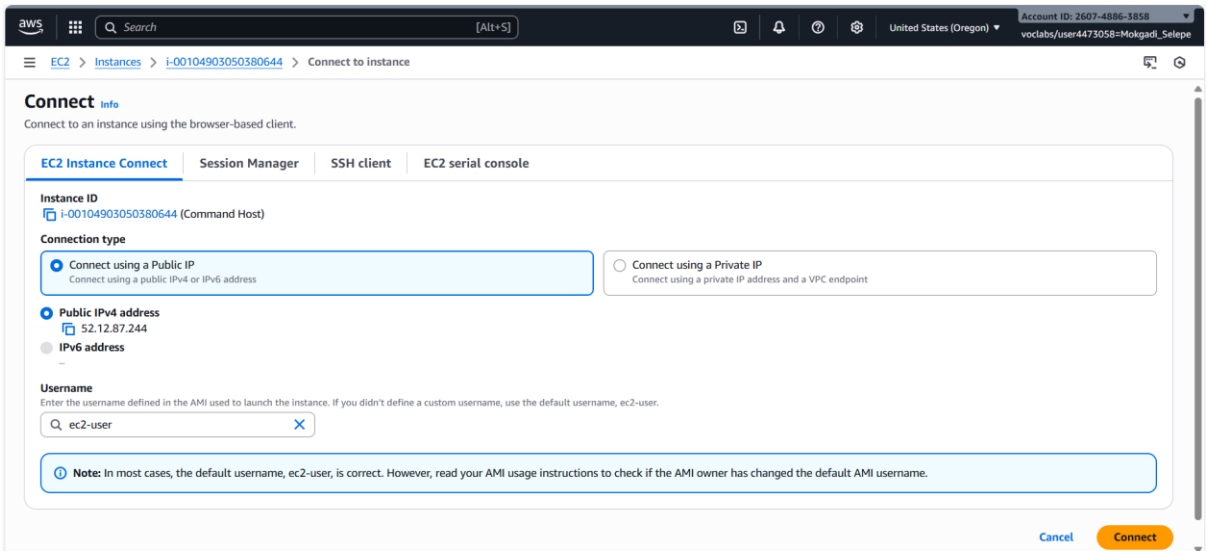
1. Connect to the Command Host

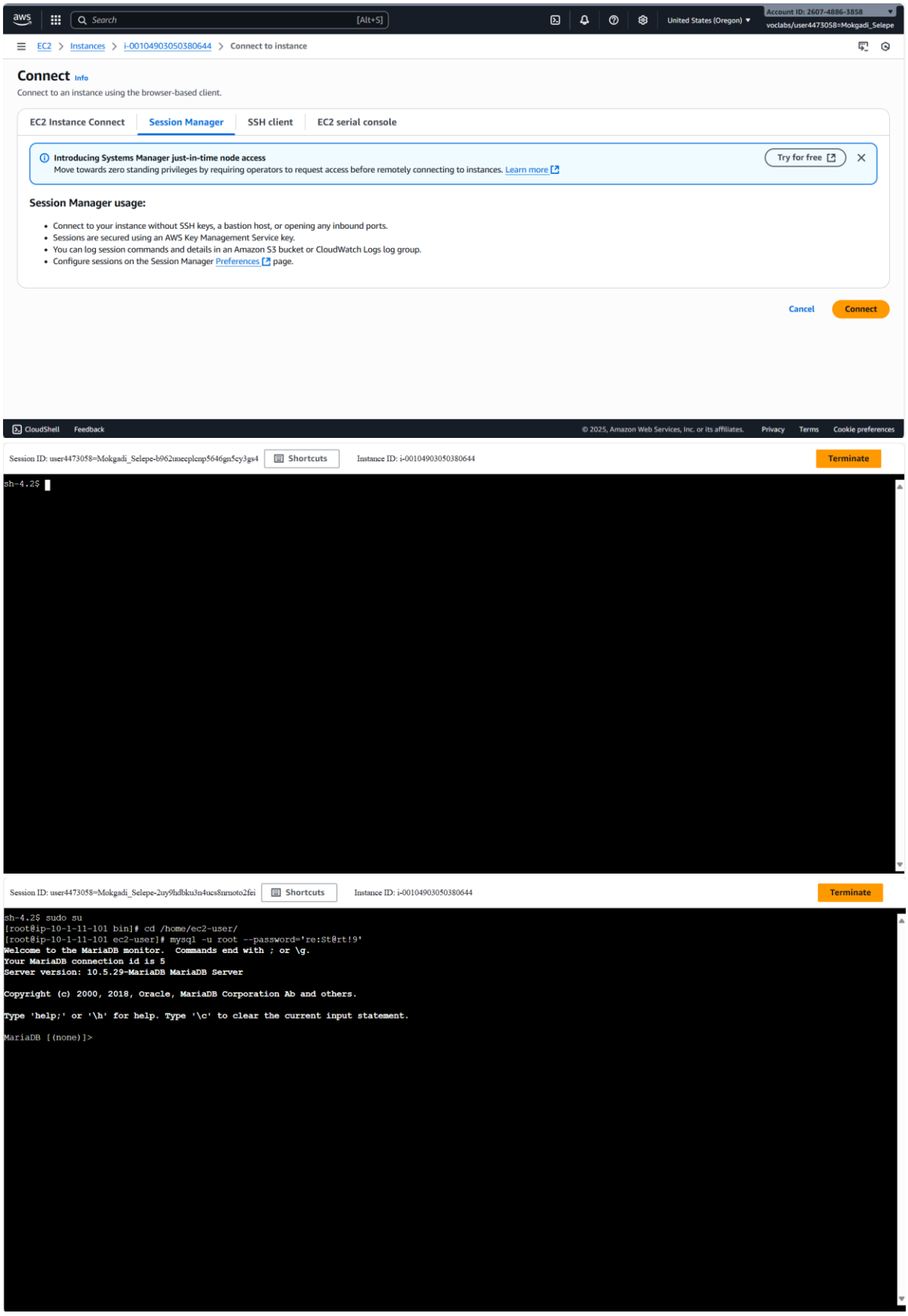
I connected to a remote computer (called a Command Host) on Amazon Web Services (AWS).

To do this, I:

1. Logged into AWS and found the Command Host computer.
2. Opened a connection to the computer, which gave me a terminal window.
3. Told the computer to give me access to certain tools and files.
4. Connected to a database on the computer using a special command.






aws
Search
[Alt+S]
United States (Oregon)
Account ID: 2607-4886-3858
voclabs/user4473058=Mokgadi_Selepe
EC2 > Instances > i-00104903050380644 > Connect to instance
Connect Info
Connect to an instance using the browser-based client.
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Introducing Systems Manager just-in-time node access
Move towards zero standing privileges by requiring operators to request access before remotely connecting to instances. Learn more
Try for free
Session Manager usage:
Connect to your instance without SSH keys, a bastion host, or opening any inbound ports.
Sessions are secured using an AWS Key Management Service key.
You can log session commands and details in an Amazon S3 bucket or CloudWatch Logs log group.
Configure sessions on the Session Manager Preferences page.
Cancel
Connect
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Session ID: user4473058=Mokgadi_Selepe-b962uueeplcnp5646gn5cy3gs4
Shortcuts
Instance ID: i-00104903050380644
Terminate
sh-4.2$
Session ID: user4473058=Mokgadi_Selepe-2uy9ldbku3n4ucs8nrnoto2fei
Shortcuts
Instance ID: i-00104903050380644
Terminate
sh-4.2$ sudo su
[root@ip-10-1-11-101 bin]# cd /home/ec2-user/
[root@ip-10-1-11-101 ec2-user]# mysql -u root --password='re:St@rt!9'
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 5
Server version: 10.5.29-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)]>

2. Create a database and a table

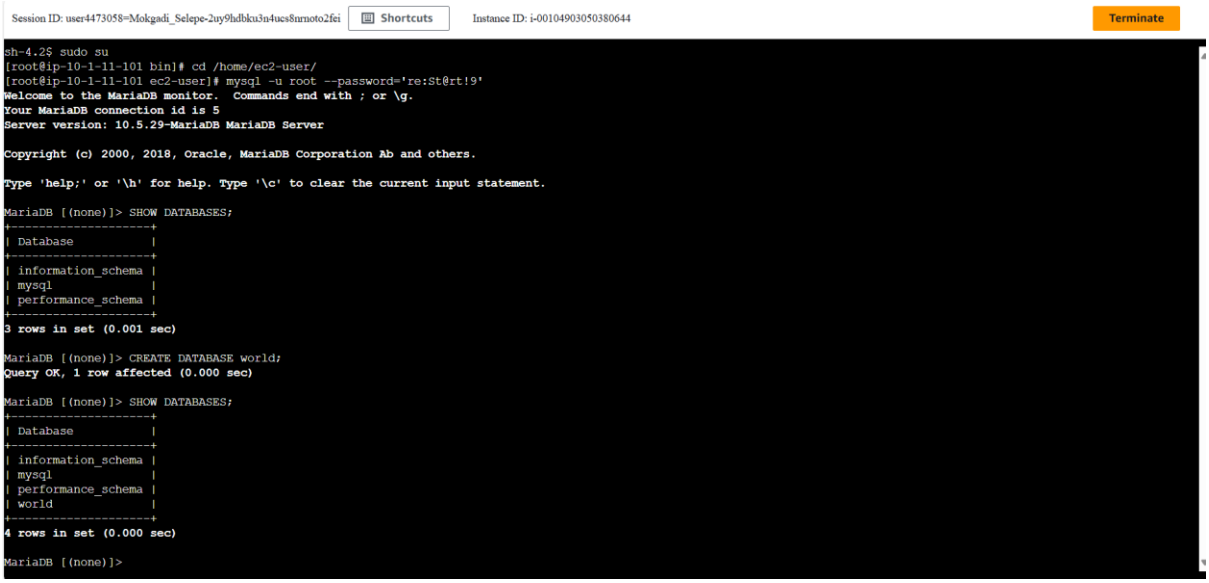
I created a database and a table.

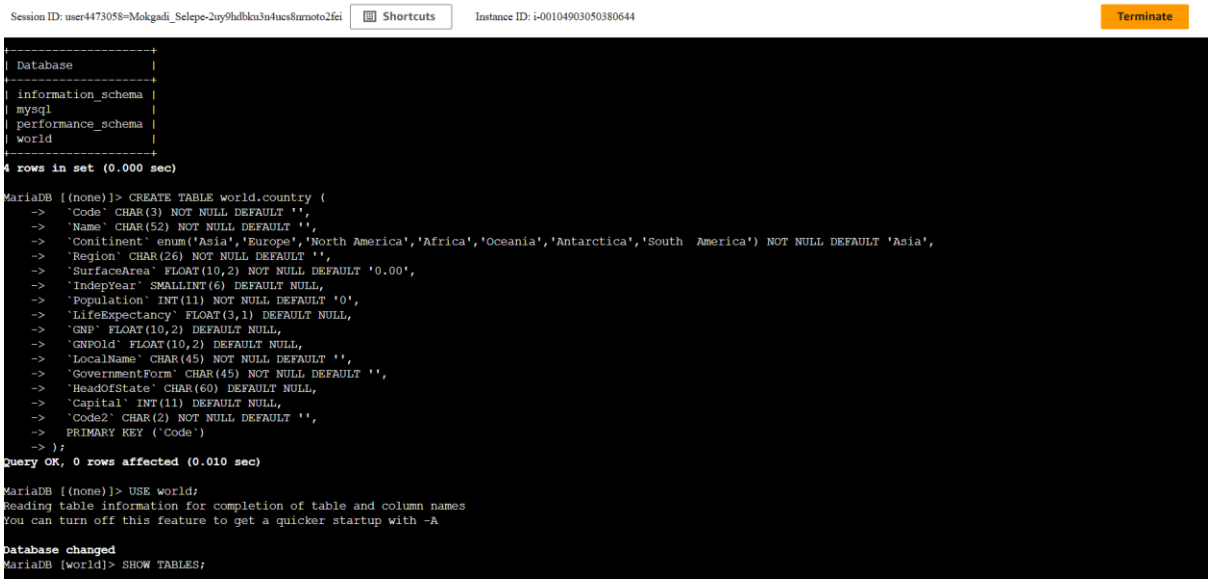
1. Checked existing databases: Listed the databases I already had.
2. Created a new database: Made a new database named "world".
3. Created a table: Made a table named "country" with many columns (like "Code", "Name", "Continent", etc.) to store data.
4. Found a mistake: The "Continent" column was misspelled as "Conitinent".
5. Fixed the mistake: Corrected the spelling of the "Continent" column.

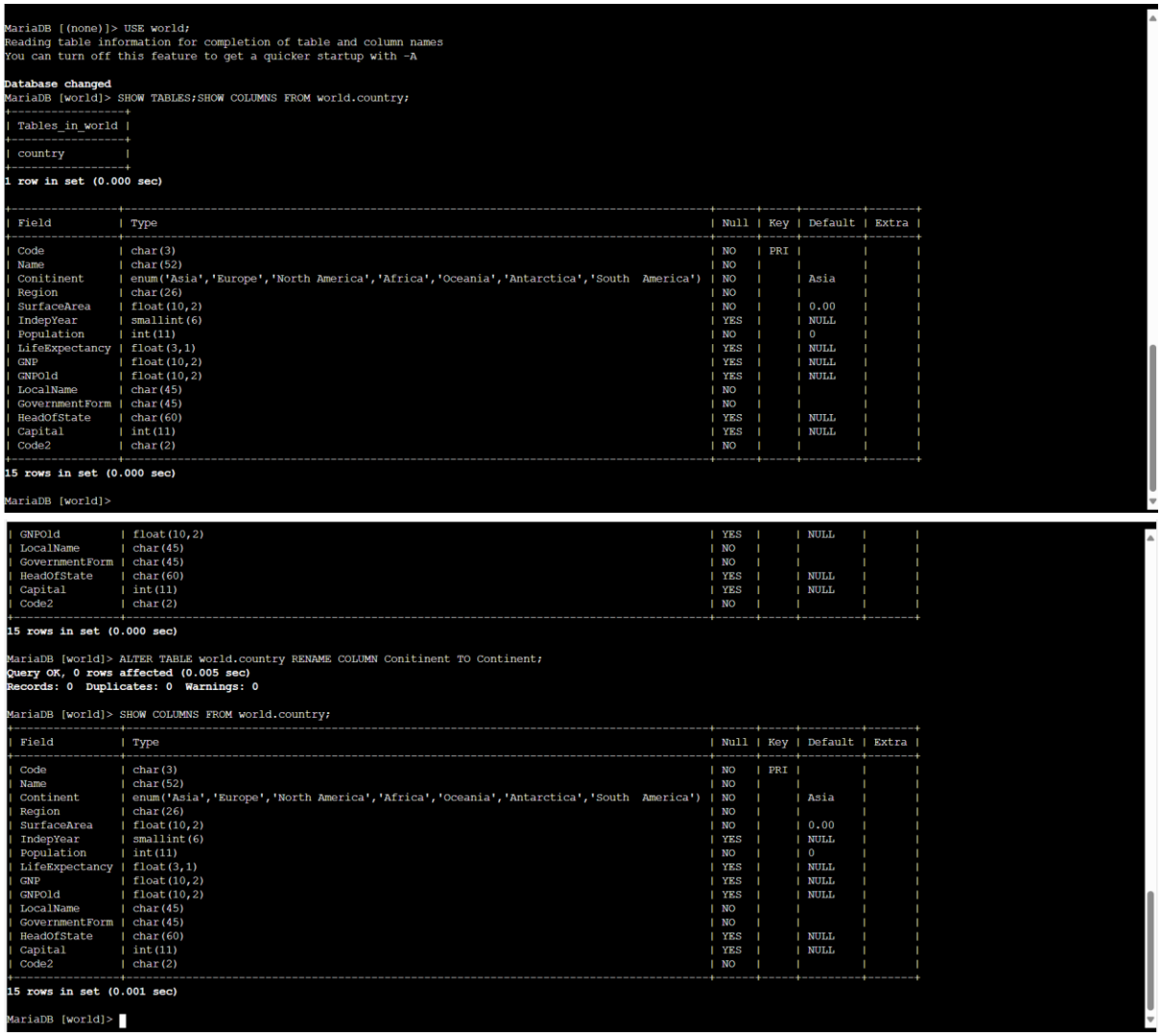
In short, I:

- Created a database named "world"
- Created a table named "country" with many columns
- Fixed a spelling mistake in one of the column names

Now I have a database and table set up and ready to use!







```
MariaDB [(none)]> USE world;
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 [world]> SHOW TABLES;SHOW COLUMNS FROM world.country;
+-----------------+
| Tables_in_world |
+-----------------+
| country         |
+-----------------+
1 row in set (0.000 sec)

+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
| Field         | Type                                                                                  | Null | Key | Default | Extra |
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
| Code          | char(3)                                                                               | NO   | PRI |         |       |
| Name          | char(52)                                                                              | NO   |     |         |       |
| Conitinent    | enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South  America') | NO   |     | Asia    |       |
| Region        | char(26)                                                                              | NO   |     |         |       |
| SurfaceArea   | float(10,2)                                                                           | NO   |     | 0.00    |       |
| IndepYear     | smallint(6)                                                                           | YES  |     | NULL    |       |
| Population    | int(11)                                                                               | NO   |     | 0       |       |
| LifeExpectancy| float(3,1)                                                                            | YES  |     | NULL    |       |
| GNP           | float(10,2)                                                                           | YES  |     | NULL    |       |
| GNPOld        | float(10,2)                                                                           | YES  |     | NULL    |       |
| LocalName     | char(45)                                                                              | NO   |     |         |       |
| GovernmentForm| char(45)                                                                              | NO   |     |         |       |
| HeadOfState   | char(60)                                                                              | YES  |     | NULL    |       |
| Capital       | int(11)                                                                               | YES  |     | NULL    |       |
| Code2         | char(2)                                                                               | NO   |     |         |       |
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
15 rows in set (0.000 sec)

MariaDB [world]>
```



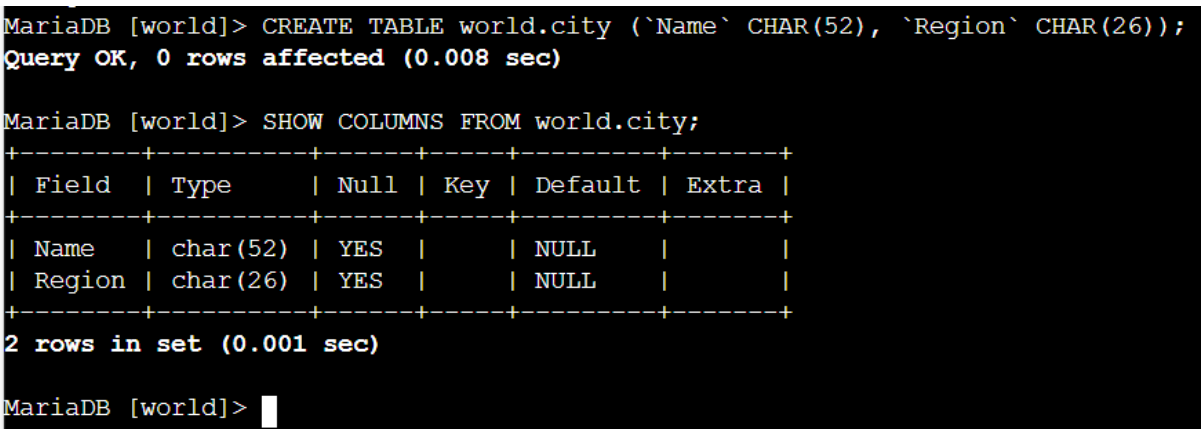
```
| GNPOld        | float(10,2)                                                                           | YES  |     | NULL    |       |
| LocalName     | char(45)                                                                              | NO   |     |         |       |
| GovernmentForm| char(45)                                                                              | NO   |     |         |       |
| HeadOfState   | char(60)                                                                              | YES  |     | NULL    |       |
| Capital       | int(11)                                                                               | YES  |     | NULL    |       |
| Code2         | char(2)                                                                               | NO   |     |         |       |
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
15 rows in set (0.000 sec)

MariaDB [world]> ALTER TABLE world.country RENAME COLUMN Conitinent TO Continent;
Query OK, 0 rows affected (0.005 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [world]> SHOW COLUMNS FROM world.country;
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
| Field         | Type                                                                                  | Null | Key | Default | Extra |
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
| Code          | char(3)                                                                               | NO   | PRI |         |       |
| Name          | char(52)                                                                              | NO   |     |         |       |
| Continent     | enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South  America') | NO   |     | Asia    |       |
| Region        | char(26)                                                                              | NO   |     |         |       |
| SurfaceArea   | float(10,2)                                                                           | NO   |     | 0.00    |       |
| IndepYear     | smallint(6)                                                                           | YES  |     | NULL    |       |
| Population    | int(11)                                                                               | NO   |     | 0       |       |
| LifeExpectancy| float(3,1)                                                                            | YES  |     | NULL    |       |
| GNP           | float(10,2)                                                                           | YES  |     | NULL    |       |
| GNPOld        | float(10,2)                                                                           | YES  |     | NULL    |       |
| LocalName     | char(45)                                                                              | NO   |     |         |       |
| GovernmentForm| char(45)                                                                              | NO   |     |         |       |
| HeadOfState   | char(60)                                                                              | YES  |     | NULL    |       |
| Capital       | int(11)                                                                               | YES  |     | NULL    |       |
| Code2         | char(2)                                                                               | NO   |     |         |       |
+---------------+---------------------------------------------------------------------------------------+------+-----+---------+-------+
15 rows in set (0.001 sec)

MariaDB [world]>
```

Challenge: 1



```
MariaDB [world]> CREATE TABLE world.city (`Name` CHAR(52), `Region` CHAR(26));
Query OK, 0 rows affected (0.008 sec)

MariaDB [world]> SHOW COLUMNS FROM world.city;
+--------+----------+------+-----+---------+-------+
| Field  | Type     | Null | Key | Default | Extra |
+--------+----------+------+-----+---------+-------+
| Name   | char(52) | YES  |     | NULL    |       |
| Region | char(26) | YES  |     | NULL    |       |
+--------+----------+------+-----+---------+-------+
2 rows in set (0.001 sec)

MariaDB [world]>
```

I created a table named "city" with two columns:

1. Name: This column can hold up to 52 characters (letters, numbers, etc.).
2. Region: This column can hold up to 26 characters.

Both columns use the CHAR data type, which means they store fixed-length strings.

The table is created in the "world" database.

The code used to create this table is:

```
CREATE TABLE world.city (
  `Name` CHAR(52),
  `Region` CHAR(26)
);
```

```
MariaDB [world]> DROP TABLE world.city;
Query OK, 0 rows affected (0.006 sec)
```

I deleted a table.

The table that was deleted is named "city" and it's located in the "world" database.

The command used to delete the table is:

DROP TABLE world.city;

What this means:

- The table "city" is now gone and can't be used anymore.
- Any data stored in the "city" table is deleted and can't be recovered unless there's a backup.

Note that the entire "world" database wasn't deleted, just the "city" table within it. If you want to delete the entire database, you would use a different command, like DROP DATABASE world;.

Challenge: 2

```
MariaDB [world]> DROP TABLE world.country;
Query OK, 0 rows affected (0.007 sec)
```

I deleted the "country" table.

The table that was deleted is named "country" and it's located in the "world" database.

The command used to delete the table is:

DROP TABLE world.country;

What this means:

- The "country" table is now gone and can't be used anymore.
- Any data stored in the "country" table is deleted and can't be recovered.

The table is permanently removed from the database.

```
  Region C...' at line 2
MariaDB [world]> CREATE TABLE world.city (`Name` CHAR(52), `Region` CHAR(26));
Query OK, 0 rows affected (0.008 sec)

MariaDB [world]> SHOW COLUMNS FROM world.city;
+--------+----------+------+-----+---------+-------+
| Field  | Type     | Null | Key | Default | Extra |
+--------+----------+------+-----+---------+-------+
| Name   | char(52) | YES  |     | NULL    |       |
| Region | char(26) | YES  |     | NULL    |       |
+--------+----------+------+-----+---------+-------+
2 rows in set (0.001 sec)

MariaDB [world]> DROP TABLE world.city;
Query OK, 0 rows affected (0.006 sec)

MariaDB [world]> DROP TABLE world.country;
Query OK, 0 rows affected (0.007 sec)

MariaDB [world]> SHOW TABLES;
Empty set (0.000 sec)

MariaDB [world]> DROP DATABASE world;
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
+--------------------+
3 rows in set (0.000 sec)

MariaDB [(none)]>
```

I did three things:

1. Verified tables are deleted: I checked if the tables ("country" and "city") were deleted from the "world" database by running SHOW TABLES;.
2. Deleted the "world" database: I used the command DROP DATABASE world; to delete the entire "world" database.

3. Verified database deletion: I checked if the "world" database was successfully deleted by running SHOW DATABASES;.

What this means:

- The "world" database and all its tables (including "country" and "city") are now gone and can't be used anymore.
- All data stored in the "world" database is deleted and can't be recovered.

Everything is removed and cleaned up!

Conclusion

I completed a task and learned some things:

I successfully:

1. Created databases and tables using the CREATE statement.
2. Viewed databases and tables using the SHOW statement.
3. Changed a table's structure using the ALTER statement.
4. Deleted databases and tables using the DROP statement.

What this means:

I now know the basics of managing databases and tables using SQL commands. I can create, view, modify, and delete databases and tables.
