FUNDACIÓN FORGE

LABORATORIO 268 - 269

OPERACIONES DE TABLA DE BASE

Insertar, actualizar y eliminar datos

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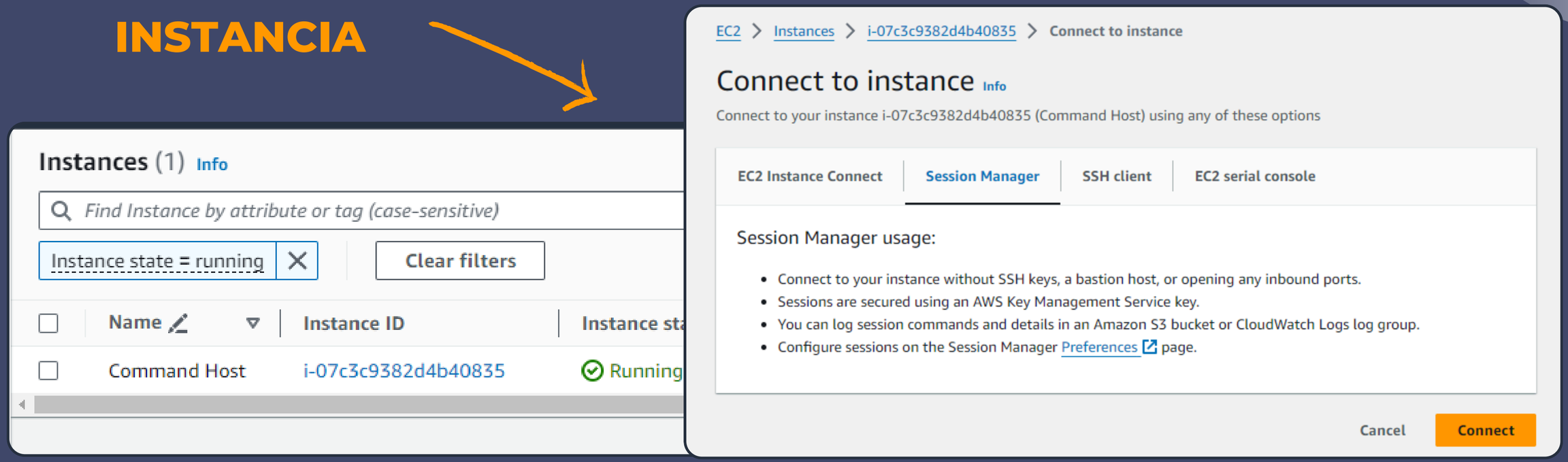
OBJETIVOS

- En este laboratorio veremos algunas operaciones de tablas y base de datos que se utilizan comunmente.
- Aprenderemos a:
  - CREATE, SHOW, ALTER Y DROP
  - INSERT, UPDATE, DELETE E IMPORT

TAREA 1:
CONECTARSE A COMMAND HOST

- En esta tarea, se conectará a una instancia de EC2 configurada con un cliente de base de datos.
- El cliente se usa para ejecutar las consultas SQL contra una base de datos relacional.
- Esta instancia se conoce como Command Host.

CONEXIÓN CON INSTANCIA




```
[root@ip-10-1-11-100 ec2-user]# sudo su
[root@ip-10-1-11-100 ec2-user]# cd /home/ec2-user/
[root@ip-10-1-11-100 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 13
Server version: 10.6.18-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.
```

ENTRANDO A LA BASE DE DATOS

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TAREA 2:

CREAR UNA BASE DE DATOS Y UNA TABLA

- En esta tarea, crearemos una base de datos llamada *world* y una tabla llamada *country*. Luego, alterararemos la tabla *country*.

BASES DE DATOS ANTES Y DESPUÉS DEL COMANDO *CREATE*

```
MariaDB [(none)]> SHOW DATABASES
    -> ;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.004 sec)
```

```
MariaDB [(none)]> CREATE DATABASE world;
Query OK, 1 row affected (0.000 sec)
```

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

```
MariaDB [(none)]> CREATE TABLE world.country (
    ->   `Code` CHAR(3) NOT NULL DEFAULT '',
    ->   `Name` CHAR(52) NOT NULL DEFAULT '',
    ->   `Conitinent` enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South  Amer
ica') NOT NULL DEFAULT 'Asia',
    ->   `Region` CHAR(26) NOT NULL DEFAULT '',
    ->   `SurfaceArea` FLOAT(10,2) NOT NULL DEFAULT '0.00',
    ->   `IndepYear` SMALLINT(6) DEFAULT NULL,
    ->   `Population` INT(11) NOT NULL DEFAULT '0',
    ->   `LifeExpectancy` FLOAT(3,1) DEFAULT NULL,
    ->   `GNP` FLOAT(10,2) DEFAULT NULL,
    ->   `GNPOld` FLOAT(10,2) DEFAULT NULL,
    ->   `LocalName` CHAR(45) NOT NULL DEFAULT '',
    ->   `GovernmentForm` CHAR(45) NOT NULL DEFAULT '',
    ->   `HeadOfState` CHAR(60) DEFAULT NULL,
    ->   `Capital` INT(11) DEFAULT NULL,
    ->   `Code2` CHAR(2) NOT NULL DEFAULT '',
    ->   PRIMARY KEY (`Code`)
    -> );
Query OK, 0 rows affected (0.010 sec)
```

```
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;
+-----------------+
| Tables_in_world |
+-----------------+
| country         |
+-----------------+
1 row in set (0.000 sec)
```

CREACIÓN DE LA TABLA *COUNTRY*

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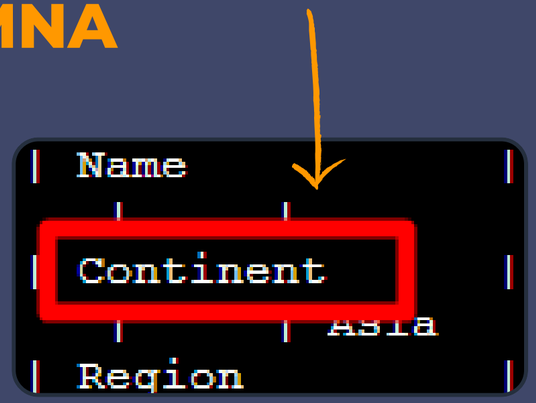
```
MariaDB [world]> SHOW COLUMNS FROM world.country;
+----------------+----------------------------------------------------------------------------------------------------+------+-----+---------+-------+
| Field          | Type                                                                                               | 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 (0.001 sec)
```

COLUMNA CON ERROR ORTOGRÁFICO

ALTERAMOS LA TABLA PARA MODIFICAR LA COLUMNA




```
MariaDB [world]> ALTER TABLE world.country RENAME COLUMN Conitinent TO Continent;
Query OK, 0 rows affected (0.010 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

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RETO 1:

CREE UNA TABLA LLAMADA *CIUDAD* Y AGREGUE DOS COLUMNAS LLAMADAS *NOMBRE* Y *REGIÓN*. AMBAS COLUMNAS DEBEN UTILIZAR EL TIPO DE DATOS *CHAR*.

```
MariaDB [world]> CREATE TABLE world.city ( `Name` CHAR(100) NOT NULL DEFAULT '', `Region` CHAR(26) NOT NULL DE
FAULT '');
Query OK, 0 rows affected (0.006 sec)
```

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TAREA 3:

ELIMINAR UNA BASE DE DATOS Y TABLA

- En esta tarea, eliminaremos la base de datos *world* y la tabla *country*.
- Son la base de datos y la tabla que creamos anteriormente.

```
MariaDB [world]> DROP TABLE world.city;
Query OK, 0 rows affected (0.005 sec)
```

```
MariaDB [world]> DROP TABLE world.country;
Query OK, 0 rows affected (0.005 sec)
```

ELIMINAMOS LAS DOS TABLAS DE LA BD *WORLD*

MOSTRAMOS LAS TABLAS DE LA BD *WORLD*, NO HAY NINGUNA

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

TAREA 4:
INSERTAR DATOS EN UNA TABLA

- En esta tarea, insertaremos datos de muestra en la tabla *country*.

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```
MariaDB [(none)]> INSERT INTO world.country VALUES (
    -> 'IRL','Ireland','Europe','British Islands',
    -> 70273.00,1921,3775100,76.8,75921.00,73132.00,
    -> 'Ireland/Éire','Republic',1447,'IE');
```

INSERTAMOS LOS DATOS DE IRLANDA Y AUSTRALIA

```
MariaDB [(none)]> INSERT INTO world.country VALUES (
    -> 'AUS','Australia','Oceania','Australia and New Zealand',
    -> 7741220.00,1901,18886000,79.8,351182.00,392911.00,
    -> 'Australia','Constitutional Monarchy, Federation',135,'AU');
```

VEMOS LOS DATOS INSERTADOS HACIENDO UN *SELECT*

```
MariaDB [(none)]> SELECT * FROM world.country;
+------+-----------+-----------+-----------------------------+-------------+-----------+------------+------------+-----------
-----+-----------+-----------+-----------+-----------------------------+-------------------------------------+---------+-------+
| Code | Name      | Continent | Region                      | SurfaceArea | IndepYear | Population | LifeExpect
ancy | GNP       | GNPOld    | LocalName     | GovernmentForm                      | Capital | Code2 |
+------+-----------+-----------+-----------------------------+-------------+-----------+------------+------------+-----------
-----+-----------+-----------+---------------+-------------------------------------+---------+-------+
| AUS  | Australia | Oceania   | Australia and New Zealand |  7741220.00 |      1901 |   18886000 |
79.8 | 351182.00 | 392911.00 | Australia     | Constitutional Monarchy, Federation |     135 | AU    |
| IRL  | Ireland   | Europe    | British Islands           |    70273.00 |      1921 |    3775100 |
76.8 |  75921.00 |  73132.00 | Ireland/Éire  | Republic                            |    1447 | IE    |
+------+-----------+-----------+-----------------------------+-------------+-----------+------------+------------+-----------
-----+-----------+-----------+---------------+-------------------------------------+---------+-------+
2 rows in set (0.001 sec)
```

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TAREA 5:
ACTUALIZAR FILAS EN UNA TABLA

- En esta tarea, actualizará ambas filas en la tabla *country* usand una statement *UPDATE*.

```
MariaDB [(none)]> UPDATE world.country SET Population = 0;
Query OK, 2 rows affected (0.001 sec)
Rows matched: 2  Changed: 2  Warnings: 0
```

```
+------------+
| Population |
+------------+
|          0 |
|          0 |
+------------+
```

ACTUALIZAMOS LOS DATOS Y LOS MOSTRAMOS

ACTUALIZAMOS LOS DATOS NUEVAMENTE Y OBSERVAMOS EL CAMBIO

```
--+
Population |
  |
-----------+
--+
        100 |
  |
        100 |
  |
-----------+
```

```
MariaDB [(none)]> UPDATE world.country SET Population = 100, SurfaceArea = 100
    -> ;
Query OK, 2 rows affected (0.002 sec)
Rows matched: 2  Changed: 2  Warnings: 0
```

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TAREA 6:
ELIMINAR FILAS DE UNA TABLA

- En esta tarea, actualizaremos ambas filas en la tabla *country* usando una statement *DELETE*.
- Tendremos cuidado al usar statements de manipulación de datos como UPDATE y DELETE ya que estos cambios pueden no ser reversibles.

SE ELIMINAN TODAS LAS TUPLAS DE LA TABLA *COUNTRY*

```
MariaDB [(none)]> DELETE FROM world.country;
Query OK, 2 rows affected (0.001 sec)

MariaDB [(none)]> SELECT * FROM world.country;
Empty set (0.000 sec)
```

TAREA 7:

IMPORTAR DATOS USANDO UN ARCHIVO SQL

- En esta tarea, insertará datos de muestra en la tabla *country* usando un archivo SQL.

```
MariaDB [(none)]> QUIT;
Bye
```

SALIMOS DE LA BASE DE DATOS

```
[root@ip-10-1-11-80 ec2-user]# ls
logs   world.sql
```

NOS FIJAMOS EN EL ARCHIVO A IMPORTAR: *WORLD.SQL*

NOS CONECTAMOS A *MYSQL* IMPORTANDO EL ARCHIVO

```
mysql -u root --password='re:St@rt!9' < /home/ec2-user/world.sql
```

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PARTE DEL CONTENIDO DEL *WORLD.SQL*

```
-- MariaDB dump 10.19  Distrib 10.6.5-MariaDB, for Linux (x86_64)
--
-- Host: localhost    Database: world
-- ------------------------------------------------------
-- Server version       10.6.5-MariaDB

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;

DROP DATABASE IF EXISTS `world`;
CREATE DATABASE `world` DEFAULT CHARACTER SET utf8mb4;

USE `world`;

--
-- Table structure for table `city`
--

DROP TABLE IF EXISTS `city`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
/*!40101 SET character_set_client = utf8 */;
CREATE TABLE `city` (
  `ID` int(11) NOT NULL AUTO_INCREMENT,
  `Name` char(35) NOT NULL DEFAULT '',
  `CountryCode` char(3) NOT NULL DEFAULT '',
  `District` char(20) NOT NULL DEFAULT '',
  `Population` int(11) NOT NULL DEFAULT 0,
  PRIMARY KEY (`ID`),
  KEY `CountryCode` (`CountryCode`),
  CONSTRAINT `city_ibfk_1` FOREIGN KEY (`CountryCode`) REFERENCES `country` (`Code`)
) ENGINE=InnoDB AUTO_INCREMENT=4080 DEFAULT CHARSET=utf8mb4;
/*!40101 SET character_set_client = @saved_cs_client */;
```

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```
Database changed
MariaDB [world]> SHOW TABLES;
+-----------------+
| Tables_in_world |
+-----------------+
| city            |
| country         |
| countrylanguage |
+-----------------+
3 rows in set (0.000 sec)
```

SE CAMBIÓ EL CONTENIDO DE LA BD *WORLD*

```
| UGA  | Uganda
 |   21778000 |            42.9 |    6313.00
                                 |    3425 | UG
| UKR  | Ukraine
 |   50456000 |            66.0 |   42168.00
                                 |    3426 | UA
| UMI  | United States Minor Outlying Islan
 |          0 |            NULL |       0.00
ry of the US                     |    NULL | UM
| URY  | Uruguay
 |    3337000 |            75.2 |   20831.00
                                 |    3492 | UY
| USA  | United States
 |  278357000 |            77.1 | 8510700.00
                                 |    3813 | US
| UZB  | Uzbekistan
 |   24318000 |            63.7 |   14194.00
                                 |    3503 | UZ
| VAT  | Holy See (Vatican City State)
```

```
| CHE  | Switzerland
 |    7160400 |
 CHL  | Chile
 |   15211000 |
| CHN  | China
 | 1277558000 |
```

```
| PCN  | Pitcairn
 |         50 |
ry of the UK
| PER  | Peru
 |   25662000 |
| PHL  | Philippines
 |   75967000 |
```

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¡GRACIAS POR SU ATENCIÓN!

SEBASTIÁN AGUILERA, VALENTINA DUFFARD,
AGUSTÍN ESTECHE, IGNACIO SUÁREZ, GABRIEL PORLEY PÉREZ

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