

## Database Analysis Documentation

### Step One: Create a Database

1. Navigate to your online integrated development environment (IDE). List and record the SQL commands that you used to complete this step here:

```
Guide Terminal ×
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 5.4.0-1092-aws x86_64)

 * Documentation: https://help.ubuntu.com/
 *
 * Welcome to the Codio Terminal!
 *
 * https://docs.codio.com/develop/develop/ide/boxes/overview
 *
 * Your Codio Box domain is: leopardtripod-pressvitamin.codio.io
 *
Last login: Wed Feb  8 13:30:32 2023 from 192.168.10.93
codio@leopardtripod-pressvitamin:~/workspace$ mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 5.5.62-0ubuntu0.14.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

2. Create a database schema called QuantigrationUpdates. List out the database name. Provide the SQL commands you ran against MySQL to successfully complete this in your answer:

```
mysql> CREATE DATABASE QuantigrationUpdates;
Query OK, 1 row affected (0.01 sec)

mysql> SHOW DATABASES;
+-----+
| Database      |
+-----+
| information_schema |
| QuantigrationRMA |
| QuantigrationUpdates |
| classicmodels   |
| mysql          |
| performance_schema |
| pool           |
+-----+
7 rows in set (0.01 sec)
```

CREATE DATABASES; SHOW DATABASES;

3. Using the entity relationship diagram (ERD) as a reference, create the following tables with the appropriate attributes and keys:

```
mysql> USE QuantigrationUpdates;
Database changed
```

- a. A table named **Customers** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> CREATE TABLE Customers (
    -> CustomerID (INT) PRIMARY KEY,
    -> FirstName VARCHAR(25),
    -> LastName VARCHAR(25),
    -> Street VARCHAR(50),
    -> City VARCHAR(50),
    -> State VARCHAR(25),
    -> ZipCode INT,
    -> Telephone VARCHAR(15));
```

- b. A table named **Orders** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> CREATE TABLE Customers (
    -> CustomerID INT PRIMARY KEY,
    -> FirstName VARCHAR(25),
    -> LastName VARCHAR(25),
    -> Street VARCHAR(50),
    -> City VARCHAR(50),
    -> State VARCHAR(25),
    -> ZipCode INT,
    -> Telephone VARCHAR(15));
Query OK, 0 rows affected (0.07 sec)
```

- c. A table named **RMA** in the QuantigrationUpdates database, as defined on the project ERD. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

```
mysql> CREATE TABLE RMA (
    -> RMAID INT,
    -> PRIMARY KEY(RMAID),
    -> OrderID INT,
    -> Step VARCHAR(50),
    -> Status VARCHAR(15),
    -> Reason VARCHAR(15));
Query OK, 0 rows affected (0.06 sec)
```

Tables_in_QuantigrationUpdates
Customers
Orders
RMA

```
mysql> SHOW TABLES;
+-----+
| Tables_in_QuantigrationUpdates |
+-----+
| Customers
| Orders
| RMA
+-----+
3 rows in set (0.00 sec)
```

## Step Two: Load and Query the Data

### 1. Import the data from each file into tables.

- Use the QuantigrationUpdates database, the three tables you created, and the three CSV files preloaded into Codio.
- Use the import utility of your database program to load the data from each file into the table of the same name. You will perform this step three times, once for each table.

```
mysql> LOAD DATA INFILE '/home/codio/workspace/customers.csv'
      -> INTO TABLE Customers
      -> FIELDS TERMINATED BY ','
      -> ENCLOSED BY ""
      -> LINES TERMINATED BY '\n'
      -> IGNORE 1 ROWS;
Query OK, 37993 rows affected (0.34 sec)
Records: 37993 Deleted: 0 Skipped: 0 Warnings: 0

mysql> LOAD DATA INFILE '/home/codio/workspace/orders.csv'
      -> INTO TABLE Orders
      -> FIELDS TERMINATED BY ','
      -> ENCLOSED BY ""
      -> LINES TERMINATED BY '\n'
      -> IGNORE 1 ROWS;
Query OK, 37993 rows affected, 4173 warnings (0.26 sec)
Records: 37993 Deleted: 0 Skipped: 0 Warnings: 4173

mysql> LOAD DATA INFILE '/home/codio/workspace/rma.csv'
      -> INTO TABLE RMA
      -> FIELDS TERMINATED BY ','
      -> ENCLOSED BY ""
      -> LINES TERMINATED BY '\n'
      -> IGNORE 1 ROWS;
Query OK, 38161 rows affected (0.30 sec)
Records: 38161 Deleted: 0 Skipped: 0 Warnings: 0
```

### 2. Write basic queries against imported tables to organize and analyze targeted data.

For each query, replace the bracketed text with a screenshot of the query and its output. You should also include a 1- to 3-sentence description of the output.

- Write an SQL query that returns the **count** of orders for customers located only in the city of Framingham, Massachusetts.

- How many records were returned?

[505 records returned from this query:](#)

```
mysql> SELECT COUNT(*) FROM Orders JOIN Customers
      -> ON Orders.CustomerID = Customers.CustomerID
      -> WHERE City LIKE '%Framingham%'
      -> AND (State = 'MA' OR State = 'Massachusetts')
      -> ;
+-----+
| COUNT(*) |
+-----+
|      505 |
+-----+
1 row in set (0.07 sec)
```



- Write an SQL query to **select all** of the Customers located in the state of Massachusetts.
  - i. Use a WHERE clause to limit the number of records in the Customers table to only those who are located in Massachusetts.
  - ii. Record an answer to the following question: How many records were returned?

982 returned records (customers) returned from this query:

```
mysql> SELECT * FROM Customers
-> WHERE State = 'Massachusetts';
+-----+-----+-----+-----+-----+-----+-----+
| CustomerID | FirstName | LastName | Street | City | State | ZipCode | Telephone |
+-----+-----+-----+-----+-----+-----+-----+
| 74086 | Donna | Hanson | 977 West White Milton Drive | Framingham | Massachusetts | 1701 | 4732778731
| 74091 | Micheal | Webster | 75 Second Freeway | Raleigh | Massachusetts | 34903 | 449-7371707
| 74101 | Harvey | Cispero | 234 North Fabien Fabien Freeway | Framingham | Massachusetts | 1701 | 555-9792825
...
| 99890 | Barbara | Harris | 234 Cowley Road | Framingham | Massachusetts | 1701 | 876-4451555
| 99896 | Nicole | Berg | 31 East Second Drive | Framingham | Massachusetts | 1701 | 8374554956
| 99942 | Mandi | Lam | 59 Fabien Road | Wichita | Massachusetts | 47379 | 379884-7041
+-----+-----+-----+-----+-----+-----+-----+
982 rows in set (0.03 sec)
```

```
SELECT * FROM Customers
WHERE State = 'Massachusetts';
```

- Write a SQL query to insert four new records into the Orders and Customers tables using the following data:

**Customers Table**

CustomerID	FirstName	LastName	Street	City	State	ZipCode	Telephone
100004	Luke	Skywalker	15 Maiden Lane	New York	NY	10222	212-555-1234
100005	Winston	Smith	123 Sycamore Street	Greensboro	NC	27401	919-555-6623
100006	MaryAnne	Jenkins	1 Coconut Way	Jupiter	FL	33458	321-555-8907
100007	Janet	Williams	55 Redondo Beach Blvd	Torrance	CA	90501	310-555-5678

```
mysql> INSERT INTO Customers VALUES
-> (100004,'Luke','Skywalker','15 Maiden Lane','New York','NY',10222,'212-555-1234'),
-> (100005,'Winston','Smith','123 Sycamore Street','Greensboro','NC',27401,'919-555-6623'),
-> (100006,'MaryAnne','Jenkins','1 Coconut Way','Jupiter','FL',33458,'321-555-8907'),
-> (100007,'Janet','Williams','55 Redondo Beach Blvd','Torrance','CA',90501,'310-555-5678');
Query OK, 4 rows affected (0.03 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

## Orders Table

OrderID	CustomerID	SKU	Description
1204305	100004	ADV-24-10C	Advanced Switch 10GigE Copper 24 port
1204306	100005	ADV-48-10F	Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber
1204307	100006	ENT-24-10F	Enterprise Switch 10GigE SFP+ 24 Port
1204308	100007	ENT-48-10F	Enterprise Switch 10GigE SFP+ 48 port

```
mysql> INSERT INTO Orders VALUES
-> (1204305,100004,'ADV-24-10C','Advanced Switch 10GigE Copper 24 port'),
-> (1204306,100005,'ADV-48-10F','Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber'),
-> (1204307,100006,'ENT-24-10F','Enterprise Switch 10GigE SFP+ 24 Port'),
-> (1204308,100007,'ENT-48-10F','Enterprise Switch 10GigE SFP+ 48 port');
Query OK, 4 rows affected, 1 warning (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 1
```

- In the Customers table, perform a query to count all records where the city is Woonsocket, Rhode Island.

- How many records are in the Customers table where the field “city” equals “Woonsocket”?

**7 records returned from this query:**

```
mysql> SELECT COUNT(*) FROM Customers
-> WHERE City = 'Woonsocket'
-> AND State = 'Rhode Island';
+-----+
| COUNT(*) |
+-----+
|      7   |
+-----+
1 row in set (0.01 sec)
```

- In the RMA database, update a customer’s records.

- Write an SQL statement to select the current fields of **status** and **step** for the record in the **RMA** table with an **orderid** value of “5175.”

- What are the current status and step?

```
mysql> SELECT Status, Step
-> FROM RMA
-> WHERE OrderID = 5175;
+-----+-----+
| Status | Step  |
+-----+-----+
| Pending | Awaiting customer Documentation |
+-----+-----+
1 row in set (0.01 sec)
```

**Status = ‘Pending’**

**Step = ‘Awaiting customer Documentation’**

- ii. Write an SQL statement to update the **status** and **step** for the **OrderID**, 5175 to **status** = "Complete" and **step** = "Credit Customer Account."
1. What are the updated **status** and **step** values for this record?

```
mysql> UPDATE RMA
      -> SET Status = 'Complete',
      -> Step = 'Credit Customer Account'
      -> WHERE OrderID = 5175;
Query OK, 0 rows affected (0.04 sec)
Rows matched: 1  Changed: 0  Warnings: 0

Status = 'Complete'
Step = 'Credit Customer Account'

mysql> SELECT Status, Step
      -> FROM RMA
      -> WHERE OrderID = 5175;
+-----+
| Status | Step          |
+-----+
| Complete | Credit Customer Account |
+-----+
1 row in set (0.01 sec)
```

- Delete RMA records.
- i. Write an SQL statement to delete all records with a reason of "Rejected."

1. How many records were deleted?

```
mysql> DELETE FROM RMA
      -> WHERE Reason = 'Rejected'
      -> OR Reason = 'rejected';
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> DELETE FROM RMA WHERE Reason LIKE '_ejected%';
Query OK, 595 rows affected (0.04 sec)
```

**595 records deleted from this query.**

3. **Update your existing tables** from "Customer" to "Collaborator" using SQL based on this change in requirements. Provide the SQL commands you ran against MySQL to complete this successfully in your answer:

- a. Rename all instances of "Customer" to "Collaborator."

```
mysql> ALTER TABLE Customers
      -> RENAME TO Collaborators;
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> ALTER TABLE Collaborators
      -> CHANGE CustomerID CollaboratorID INT;
Query OK, 37997 rows affected (0.50 sec)
Records: 37997  Duplicates: 0  Warnings: 0
```

```
mysql> ALTER TABLE Orders
      -> CHANGE CustomerID CollaboratorID INT;
Query OK, 37997 rows affected (0.42 sec)
Records: 37997  Duplicates: 0  Warnings: 0
```

4. **Create an output file of the required query results.** Write an SQL statement to list the contents of the **Orders** table and send the output to a file that has a .csv extension.

```
mysql> SELECT * FROM Orders
-> INTO OUTFILE '/home/codio/workspace/orders_copy.csv'
-> FIELDS ENCLOSED BY ""
-> TERMINATED BY ','
-> LINES TERMINATED BY '\n';
Query OK, 37997 rows affected (0.04 sec)
```