# DAD 220 Project One Template

**Date: 4/10/2024**

**Name: Carlos Bracho**

## Step One: Create a Database

1. In your online IDE (Codio), **create a database schema** called QuantigrationUpdates that will hold tables by using SQL commands.
   1. List out the database name on the screen.
   2. Provide the SQL commands you ran against MySQL to complete this step.

A screenshot of a computer

Description automatically generated

The highlighted area shows the command used to CREATE the DATABASE QuantigrationUpdates. I also included an extra query to show my available DATABASEs.

COMMANDS USED:

CREATE DATABASE QuantigrationUpdates;

SHOW DATABASES;

1. Connect to the QuantigrationUpdates schema. Using the ERD as a reference, **write SQL commands to create** the following **tables** with the appropriate attributes and keys to demonstrate relationships based on the ERD.
   1. A table named Customers to store customer information with a primary key of Customer ID. Provide the SQL commands you ran against MySQL to complete this step.

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The highlighted area shows the command used to CREATE the TABLE Customers with its respective attributes according to the ERD provided. Also, I DESCRIBEd the table to ensure that the attributes have the correct datatypes.

COMMANDS USED:

CREATE TABLE Customers (

CustomerID INT NOT NULL,

FirstName VARCHAR(25),

LastName VARCHAR(25),

Street VARCHAR(50),

City VARCHAR(50),

State VARCHAR(25),

ZipCode VARCHAR(10),

Telephone VARCHAR(15),

PRIMARY KEY (CustomerID));

DESCRIBE Customers;

* 1. A table named Ordersto store order information with a primary key of Order ID and a foreign key of Customer ID. Provide the SQL commands you ran against MySQL to complete this step.

A screenshot of a computer program

Description automatically generated

The highlighted area show the commands used to CREATE the TABLE Orders. Also, I DESCRIBEd this table to visualize the attributes and datatypes.

COMMANDS USED:

CREATE TABLE Orders (

OrderID INT PRIMARY KEY NOT NULL,

CustomerID INT NOT NULL,

SKU VARCHAR(20),

Description VARCHAR(50),

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

DESCRIBE Orders;

* 1. A table named RMA to store RMA information with a primary key of RMA ID and a foreign key of Order ID. Provide the SQL commands you ran against MySQL to complete this step.

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to CREATE the TABLE RMA. I also included a second command to visualize the table, attributes and their datatypes.

COMMANDS USED:

CREATE TABLE RMA (

RMAID INT PRIMARY KEY,

OrderID INT,

Step VARCHAR(50),

Status VARCHAR(15),

Reason VARCHAR(15),

FOREIGN KEY (OrderID) REFERENCES Orders(OrderID)

);

DESCRIBE RMA;

## Step Two: Load and Query the Data

1. **Import** the **data** from each file **into tables.** 
   1. Use the QuantigrationUpdates database, the three tables you created, and the three CSV files preloaded into Codio.
   2. Use the import utility of your database program to load the data from each file into the table of the same name. Perform this step three times, once for each table.
   3. Provide the SQL commands you ran against MySQL to complete this step.

A screenshot of a computer program

Description automatically generated

The highlighted area show the commands used to add the values from the csv files into each table.

COMMANDS USED:

LOAD DATA INFILE '/home/codio/workspace/customers.csv'

INTO TABLE Customers

FIELDS TERMINATED BY ','

LINES TERMINATED BY '\r\n';

LOAD DATA INFILE '/home/codio/workspace/orders.csv'

INTO TABLE Orders

FIELDS TERMINATED BY ','

LINES TERMINATED BY '\r\n';

LOAD DATA INFILE '/home/codio/workspace/rma.csv'

INTO TABLE RMA

FIELDS TERMINATED BY ','

LINES TERMINATED BY '\r\n';

1. **Write basic queries** against the imported tables to organize and analyze the targeted data**.** For each query, replace the bracketed text with a screenshot of the query and its output. Also, include a one- to three-sentence description of the output.
   1. Write a SQL query that returns the count of orders for customers located only in Framingham, Massachusetts.
      1. This query will use a table join between the Customers and Orders tables. The query will also use a WHERE clause.
      2. How many records were returned?

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to get the count of how many customers are in Framingham, Massachusetts. As we can see from the table, there are 505 customers located in in this city.

COMMAND USED:

SELECT COUNT(\*)

FROM Customers INNER JOIN Orders ON Customers.CustomerID = Orders.CustomerID

WHERE Customers.City = 'Framingham' AND Customers.State = 'Massachusetts';

* 1. Write a SQL query to select all of the customers located in Massachusetts.
     1. Use a WHERE clause to limit the number of records in the Customers table to only those who are located in Massachusetts.
     2. How many records were returned?

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to show the number of customers that live in the State of Massachusetts. In this case, we got 982 customers. This makes sense because we are not selecting a specific city in Massachusetts, but the whole State.

COMMAND USED:

SELECT COUNT(\*)

FROM Customers INNER JOIN Orders ON Customers.CustomerID = Orders.CustomerID

WHERE Customers.State = 'Massachusetts';

* 1. Write a SQL query to insert four new records into the Orders and Customers tables using the data below:

**Customers Table**

| **CustomerID** | **FirstName** | **LastName** | **StreetAddress** | **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 | Torrence | CA | 90501 | 310-555-5678 |

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to INSERT the provided VALUES INTO the table Customers. I made sure that the values were put in the correct format by describing the table first.

COMMAND USED:

INSERT INTO Customers VALUES

(100004, 'Luke', 'Skywalker', '15 Maiden Lane', 'New York', 'New York', '10222', '212-555-1234'),

(100005, 'Winston', 'Smith','123 Sycamore Street', 'Greensboro', 'North Carolina', '27401', '919-555-6623'),

(100006, 'MaryAnne', 'Jenkins', '1 Coconut Way', 'Jupiter', 'Florida', '33458', '321-555-8907'),

(100007, 'Janet', 'Williams', '55 Redondo Beach Blvd', 'Torrence', 'California', '90501', '310-555-5678');

**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 |

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to add the VALUES provided INTO the Orders TABLE. Also, I got an error when I tried to INSERT them the first time. The data on the 2nd row and on the 4th attribute was too large. I fixed that by changing the datatype to VARCHAR(70).

COMMANDS USED:

ALTER TABLE Orders MODIFY Description VARCHAR(70);

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');

* 1. In the Customers table, perform a query to count all records where the city is Woonsocket and the state is Rhode Island.
     1. How many records are in the Customers table where the field "city" equals "Woonsocket"?

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to COUNT the number of customers in Woonsocket, Rhode Island. As we can see from the table, there are only 7 customers.

COMMAND USED:

SELECT COUNT(\*) FROM Customers

WHERE State = 'Rhode Island' AND City = 'Woonsocket';

* 1. In the RMA database, update a customer's records.
     1. Write a SQL statement to select the current fields of status and step for the record in the RMA table with an OrderID value of "5175".
        1. What are the current status and step?

A screenshot of a computer program

Description automatically generated

The highlighted area shows the command used to show the Status and Step of Order 5175. As we can see from the TABLE, the Status is “Pending”, and the Step is “Awaiting customer Documentation”.

COMMAND USED:

SELECT OrderID, Status, Step FROM RMA

WHERE OrderID = 5175;

* + 1. Write a 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?

A computer screen shot of a program

Description automatically generated

The highlighted area shows the command used to UPDATE the RMA TABLE to have different values where the OrderID is 5175. After the changes, the order 5175 has Status = Complete and Step = Credit Customer Account. We can also visualize that in the highlighted area.

COMMAND USED:

UPDATE RMA

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

WHERE OrderID = 5175;

SELECT OrderID, Status, Step FROM RMA

WHERE OrderID = 5175;

* 1. Delete RMA records.
     1. Write a SQL statement to delete all records with a reason of "Rejected".
        1. How many records were deleted?

A computer screen shot of a program

Description automatically generated

The highlighted area shows the command used to DELETE the records where the reason is Rejected. As we can see, 596 records were DELETEd.

COMMAND USED:

DELETE FROM RMA

WHERE Reason = 'Rejected';

1. **Update your existing tables** from "Customer" to "Collaborator" using SQL based on this change in requirements. Copy and paste the SQL you write to do the following action:
   1. Rename all instances of "Customer" to "Collaborator".

A screenshot of a computer

Description automatically generated

The highlighted area shows the command used to CREATE a VIEW called Collaborator where all the instances of “Customers” have been changed to “Collaborator”. I also DESCRIBEd the TABLE to SHOW my progress.

COMMANDS USED:

CREATE VIEW Collaborator AS

SELECT CustomerID AS CollaboratorID, FirstName, LastName, Street, City, State, ZipCode, Telephone

FROM Customers;

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

A screenshot of a computer

Description automatically generated

The highlighted area in red shows the command used to create a CSV file called OrdersList. This file contains all the values of the TABLE Orders. Also, the highlighted area in yellow shows the file in the workspace.

COMMAND USED:

SELECT \* FROM Orders

INTO OUTFILE '/home/codio/workspace/OrdersList.csv'

FIELDS TERMINATED BY ','

LINES TERMINATED BY '\r\n';