Creating a mysql database using Node.js

Creating the database

Creating a database for an online shop that sells t-shirts and ships to customers.
First I used the module 'mysql' that will allow me to create a mysql database.

```
var mysql = require('mysql');
```

Then I connected to the mysql database

```
var con = mysql.createConnection({host: "localhost",
user: "root",
password: "Alwaysdata2"});
```

```
con.connect(function(err) {if (err) throw err;
    console.log("Connected!");
```

Then I used a sql command to create a database called 'myshirtshopdb'

```
con.query("CREATE DATABASE myshirtshopdb", function (err, result) {
      if (err) throw err;
      console.log("Database created!");
    });
```

After running the following code, I got

```
PS C:\Users\PC\Desktop\sqlweb> node database.js
Connected!
Database created!
```

Adding Tables into the database

first I need to connect to the database I just created so I updated the code of the connection to

```
var mysql = require('mysql');

var con = mysql.createConnection({host: "localhost",
  user: "root",
  password: "Alwaysdata2",
  database: "myshirtshopdb"
});
```

adding the 'database: "myshirtshopdb" ' to connect.

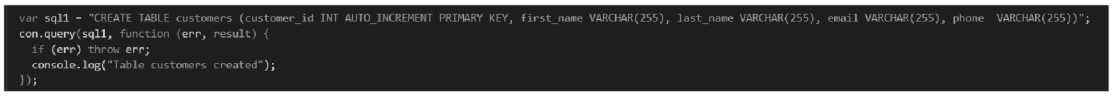
Next I used the variable con to make a connection to the database and add queries to it.

```
con.connect(function(err) {if (err) throw err;
console.log("Connected!");
```

Customers Table

Now using the con variable i will make queries in sql to add tables to my empty database. The First table is the 'customers' table which will hold information about customers in the online t-shirt shop. The information:

- customer_id **(primary key)**
- first_name
    - last_name
- email
- phone




```
var sql1 = "CREATE TABLE customers (customer_id INT AUTO_INCREMENT PRIMARY KEY,
first_name VARCHAR(255), last_name VARCHAR(255), email VARCHAR(255), phone
VARCHAR(255))";
      con.query(sql1, function (err, result) {
        if (err) throw err;
        console.log("Table customers created");
      });
```

Products Table

Using the same con variable, I wrote a sql command to create another table that will store products that the shop sell with information about them.

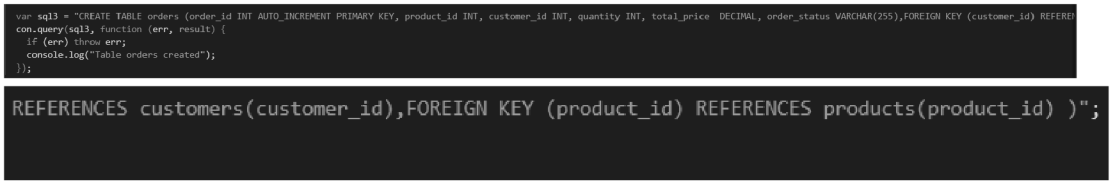
- product_id **(primary key)**
- product_name
- description
- price
- category


```
 var sql2 = "CREATE TABLE products (product_id INT AUTO_INCREMENT PRIMARY KEY,
product_name VARCHAR(255), description VARCHAR(255), price DECIMAL, category
VARCHAR(255))";
      con.query(sql2, function (err, result) {
        if (err) throw err;
        console.log("Table products created");
      });
```

Orders Table

Using the same con variable, I wrote a sql command to create another table storing the orders made by the customers and information about each order.

- order_id **(primary key)**
- product_id
- customer_id
- quantity
- total_price
- order_status




```
var sql3 = "CREATE TABLE orders (order_id INT AUTO_INCREMENT PRIMARY KEY, product_id
INT, customer_id INT, quantity INT, total_price  DECIMAL, order_status
VARCHAR(255),FOREIGN KEY (customer_id) REFERENCES customers(customer_id),FOREIGN KEY
(product_id) REFERENCES products(product_id) )";
      con.query(sql3, function (err, result) {
        if (err) throw err;
        console.log("Table orders created");
      });
```

Checking the tables using CMD

```
mysql> show tables;
+-------------------------+
| Tables_in_myshirtshopdb |
+-------------------------+
| customers               |
| orders                  |
| products                |
+-------------------------+
3 rows in set (0.01 sec)
```

Inserting Data

Inserting Customers

First inserting customers into the customers table, i inserted 4 customers with all their details using con.query as shown below.

```
var sql4 = "INSERT INTO customers (customer_id, first_name,last_name,email,phone) VALUES ?"
var values1 = [
[2003125, 'Yomna','Eskander','yomna@gmail.com','01094743592'],
[2003126, 'Jess','Houstan','jess@gmail.com','01099999'],
[2003127, 'Oliver','Queen','oliver@gmail.com','010007777'],
[2003128, 'Dean','Winchester','dean@gmail.com','0100055555']
]
    con.query(sql4, [values1], function (err, result) {
      if (err) throw err;
      console.log("Number of  customer records inserted: " + result.affectedRows);
  });
```

Inserting Products

Then I inserted the products and their details that the customers will be buying.

```
var sql5 = "INSERT INTO products (product_id, product_name,description,price,category) VALUES ?";
var values2= [
[123, 'Corn Candy Shirt', 'cute t-shirt with a corn candy print' , 20.0, 'candy' ],
[124, 'lilo Shirt', 't-shirt with a cute lilo print' , 40.0, 'animation' ],
[125, 'Gumball Shirt', 't-shirt with a cute gumball print' , 40.0, 'animation' ],
[126, 'Green Basic t-Shirt', 'green t-shirt' , 30.0, 'color' ]
]
  con.query(sql5,[values2], function (err, result) {
    if (err) throw err;
    console.log("Number of  product records inserted: " + result.affectedRows);
  });
```

Inserting Orders

Thirdly I inserted the orders customers have made with all their information.

```
var sql6 = "INSERT INTO orders (order_id,product_id,customer_id,quantity,total_price,order_status) VALUES ?";
var values3 = [
    [11,123,2003125,2,40.0,'sold' ],
    [22,124,2003126,3,120.0,'sold' ],
    [33,125,2003127,2,80.0,'sold' ],
    [44,126,2003128,2,60.0,'shipping' ]]
  con.query(sql6, [values3], function (err, result) {
    if (err) throw err;
    console.log("Number of order records inserted: " + result.affectedRows);
  });
```

Viewing all the tables with data

From CMD i got to see all the tables with the data.

```
mysql> SELECT * FROM customers;
+-------------+------------+------------+-------------------+--------------+
| customer_id | first_name | last_name  | email             | phone        |
+-------------+------------+------------+-------------------+--------------+
|     2003125 | Yomna      | Eskander   | yomna@gmail.com   | 01094743592  |
|     2003126 | Jess       | Houstan    | jess@gmail.com    | 01099999     |
|     2003127 | Oliver     | Queen      | oliver@gmail.com  | 010007777    |
|     2003128 | Dean       | Winchester | dean@gmail.com    | 0100055555   |
+-------------+------------+------------+-------------------+--------------+
4 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM products;
+------------+--------------------+-----------------------------------+-------+-----------+
| product_id | product_name       | description                       | price | category  |
+------------+--------------------+-----------------------------------+-------+-----------+
|        123 | Corn Candy Shirt   | cute t-shirt with a corn candy print |    20 | candy     |
|        124 | lilo Shirt         | t-shirt with a cute lilo print    |    40 | animation |
|        125 | Gumball Shirt      | t-shirt with a cute gumball print |    40 | animation |
|        126 | Green Basic t-Shirt | green t-shirt                     |    30 | color     |
+------------+--------------------+-----------------------------------+-------+-----------+
4 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM orders;
+----------+------------+-------------+----------+-------------+--------------+
| order_id | product_id | customer_id | quantity | total_price | order_status |
+----------+------------+-------------+----------+-------------+--------------+
|       11 |        123 |     2003125 |        2 |          40 | sold         |
|       22 |        124 |     2003126 |        3 |         120 | sold         |
|       33 |        125 |     2003127 |        2 |          80 | sold         |
|       44 |        126 |     2003128 |        2 |          60 | shipping     |
+----------+------------+-------------+----------+-------------+--------------+
4 rows in set (0.00 sec)
```

Queries to access the database using Nodejs

1 - Getting the **Last Name** and **Email** of every customer

```
con.connect(function(err) {
  if (err) throw err;
  console.log("Connected!");
  const sqlQuery1 = 'SELECT last_name, email FROM customers';
  con.query(sqlQuery1, function (err, result1, fields) {
    if (err) throw err;
    console.log(result1);
  });
```

Output of first query

```
Node.js v18.15.0
PS C:\Users\PC\Desktop\sqlweb> node selecting.js
Connected!
[
  RowDataPacket { last_name: 'Eskander', email: 'yomna@gmail.com' },
  RowDataPacket { last_name: 'Houstan', email: 'jess@gmail.com' },
  RowDataPacket { last_name: 'Queen', email: 'oliver@gmail.com' },
  RowDataPacket { last_name: 'Winchester', email: 'dean@gmail.com' }
]
```

2- Getting the **Product Name** and **description** of every product

```
const sqlQuery2 = 'SELECT product_name, description FROM products';
con.query(sqlQuery2, function (err, result2, fields) {
  if (err) throw err;
  console.log(result2);
});
```

Output of second query

```
[
  RowDataPacket {
    product_name: 'Corn Candy Shirt',
    description: 'cute t-shirt with a corn candy print'
  },
  RowDataPacket {
    product_name: 'lilo Shirt',
    description: 't-shirt with a cute lilo print'
  },
  RowDataPacket {
    product_name: 'Gumball Shirt',
    description: 't-shirt with a cute gumball print'
  },
  RowDataPacket {
    product_name: 'Green Basic t-Shirt',
    description: 'green t-shirt'
  }
]
```

3 - Getting all the orders that has **total price more than 100**

```
const sqlQuery3 = 'SELECT * FROM orders WHERE total_price>=100';
con.query(sqlQuery3, function (err, result3, fields) {
  if (err) throw err;
  console.log(result3);
});
```

Output of third query

```
[
  RowDataPacket {
    order_id: 22,
    product_id: 124,
    customer_id: 2003126,
    quantity: 3,
    total_price: 120,
    order_status: 'sold'
  }
]
```

4- Getting all the customers orders details (the details of every order + the customer who bought it with the details of the customer)

```
const sqlquery4='SELECT * FROM customers INNER JOIN orders ON customers.customer_id = orders.customer_id';
  con.query(sqlquery4, function (err, result4, fields) {
    if (err) throw err;
    console.log(result4);
  });
```

Output of fourth query

```
[
  RowDataPacket {
    customer_id: 2003125,
    first_name: 'Yomna',
    last_name: 'Eskander',
    email: 'yomna@gmail.com',
    phone: '01094743592',
    order_id: 11,
    product_id: 123,
    quantity: 2,
    total_price: 40,
    order_status: 'sold'
  },
  RowDataPacket {
    customer_id: 2003126,
    first_name: 'Jess',
    last_name: 'Houstan',
    email: 'jess@gmail.com',
    phone: '01099999',
    order_id: 22,
    product_id: 124,
    quantity: 3,
    total_price: 120,
    order_status: 'sold'
  },
```

```
  },
  RowDataPacket {
    customer_id: 2003127,
    first_name: 'Oliver',
    last_name: 'Queen',
    email: 'oliver@gmail.com',
    phone: '010007777',
    order_id: 33,
    product_id: 125,
    quantity: 2,
    total_price: 80,
    order_status: 'sold'
  },
  RowDataPacket {
    customer_id: 2003128,
    first_name: 'Dean',
    last_name: 'Winchester',
    email: 'dean@gmail.com',
    phone: '0100055555',
    order_id: 44,
    product_id: 126,
    quantity: 2,
    total_price: 60,
    order_status: 'shipping'
  }
]
```

```
var mysql = require('mysql');

var con = mysql.createConnection({host: "localhost",
 user: "root",
 password: "Alwaysdata2",
 database: "myshirtshopdb"
});


con.connect(function(err) {if (err) throw err;
console.log("Connected!");

con.query("CREATE DATABASE myshirtshopdb", function (err, result) {
        //if (err) throw err;
        //console.log("Database created!");
      //});


      var sql1 = "CREATE TABLE customers (customer_id INT AUTO_INCREMENT PRIMARY
KEY, first_name VARCHAR(255), last_name VARCHAR(255), email VARCHAR(255),
phone  VARCHAR(255))";
      con.query(sql1, function (err, result) {
        if (err) throw err;
        console.log("Table customers created");
      });

      var sql2 = "CREATE TABLE products (product_id INT AUTO_INCREMENT PRIMARY
KEY, product_name VARCHAR(255), description VARCHAR(255), price DECIMAL,
category  VARCHAR(255))";
      con.query(sql2, function (err, result) {
        if (err) throw err;
        console.log("Table products created");
      });

      var sql3 = "CREATE TABLE orders (order_id INT AUTO_INCREMENT PRIMARY KEY,
product_id INT, customer_id INT, quantity INT, total_price  DECIMAL, order_status
VARCHAR(255),FOREIGN KEY (customer_id) REFERENCES customers(customer_id),FOREIGN
KEY (product_id) REFERENCES products(product_id) )";
      con.query(sql3, function (err, result) {
        if (err) throw err;
        console.log("Table orders created");
      });
```

```
var sql4 = "INSERT INTO customers (customer_id, first_name,last_name,email,phone)
VALUES ?"
var values1 = [
[2003125, 'Yomna','Eskander','yomna@gmail.com','01094743592'],
[2003126, 'Jess','Houstan','jess@gmail.com','01099999'],
[2003127, 'Oliver','Queen','oliver@gmail.com','010007777'],
[2003128, 'Dean','Winchester','dean@gmail.com','0100055555']
]
      con.query(sql4, [values1], function (err, result) {
        if (err) throw err;
        console.log("Number of  customer records inserted: " +
result.affectedRows);
  });

var sql5 = "INSERT INTO products (product_id,
product_name,description,price,category) VALUES ?";
var values2= [
[123, 'Corn Candy Shirt', 'cute t-shirt with a corn candy print' , 20.0, 'candy'
],
[124, 'lilo Shirt', 't-shirt with a cute lilo print' , 40.0, 'animation' ],
[125, 'Gumball Shirt', 't-shirt with a cute gumball print' , 40.0, 'animation' ],
[126, 'Green Basic t-Shirt', 'green t-shirt' , 30.0, 'color' ]
]
  con.query(sql5,[values2], function (err, result) {
    if (err) throw err;
    console.log("Number of  product records inserted: " + result.affectedRows);
  });


var sql6 = "INSERT INTO orders
(order_id,product_id,customer_id,quantity,total_price,order_status) VALUES ?";
var values3 = [
    [11,123,2003125,2,40.0,'sold' ],
    [22,124,2003126,3,120.0,'sold' ],
    [33,125,2003127,2,80.0,'sold' ],
    [44,126,2003128,2,60.0,'shipping' ]]
  con.query(sql6, [values3], function (err, result) {
    if (err) throw err;
    console.log("Number of order records inserted: " + result.affectedRows);
  });

;})});
con.end()
```

```
var mysql = require('mysql');

var con = mysql.createConnection({
  host: "localhost",
  user: "root",
  password: "Alwaysdata2",
  database: "myshirtshopdb"
});

con.connect(function(err) {
  if (err) throw err;
  console.log("Connected!");
  const sqlQuery1 = 'SELECT last_name, email FROM customers';
  con.query(sqlQuery1, function (err, result1, fields) {
    if (err) throw err;
    console.log(result1);
  });
  const sqlQuery2 = 'SELECT product_name, description FROM products';
  con.query(sqlQuery2, function (err, result2, fields) {
    if (err) throw err;
    console.log(result2);
  });
  const sqlQuery3 = 'SELECT * FROM orders WHERE total_price>=100';
  con.query(sqlQuery3, function (err, result3, fields) {
    if (err) throw err;
    console.log(result3);
  });
const sqlquery4='SELECT * FROM customers INNER JOIN orders ON
customers.customer_id = orders.customer_id';
  con.query(sqlquery4, function (err, result4, fields) {
    if (err) throw err;
    console.log(result4);
  });


});
```