# Department of Computing

**CS-213: Advanced Programming**

**Class: BSCS 7AB**

# Lab 5: Node.js MySQL

**Date: 3rd October, 2019**

**Time: 10:00-01:00pm & 02:00-05:00pm**

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**Lab Tasks:**

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| Solution |
| Task 1: Start by creating a connection to the database. Use the username and password from your MySQL database.  **var mysql = require('mysql');**  **var con = mysql.createConnection({**  **host: "localhost",**  **user: "root",**  **password: "seecs@123"**  **});**    Task 2: Use SQL statements to read from (or write to) a MySQL database. The query method takes an sql statements as a parameter and returns the result.  **var mysql = require('mysql');**  **var con = mysql.createConnection({**  **host: "localhost",**  **user: "root",**  **password: "seecs@123",**  **database: "mydb"**  **});**  **con.connect(function(err) {**  **if (err) throw err;**  **console.log("Connected!");**  **var sql = "CREATE TABLE customers (name VARCHAR(255), address VARCHAR(255))";**  **con.query(sql, function (err, result) {**  **if (err) throw err;**  **console.log("Table created");**  **});**  **});**    Task 3: Create a database named "mydb". Save the code in a file called "demo\_create\_db.js" and run the file.  ****var mysql = require('mysql');****  **var con = mysql.createConnection({**  **host: "localhost",**  **user: "root",**  **password: "seecs@123"**  **});**  **con.connect(function(err) {   if (err) throw err;   console.log("Connected!");   con.query("create database mydb", function (err, result) {     if (err) throw err;     console.log("Database created");   }); });**    Task 4: Create a table named "customers". Save the code above in a file called "demo\_create\_table.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  console.log("Connected!");  var sql = "CREATE TABLE customers (name VARCHAR(255), address VARCHAR(255))";  con.query(sql, function (err, result) {  if (err) throw err;  console.log("Table created");  });  });    Task 5: Create primary key when creating the table. If the table already exists, use the ALTER TABLE keyword.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  console.log("Connected!");  var sql = "CREATE TABLE sellers (name VARCHAR(255) Primary key, address VARCHAR(255))";  con.query(sql, function (err, result) {  if (err) throw err;  console.log("Table created");  });  });    Task 6: Insert a record in the "customers" table. Save the code above in a file called "demo\_db\_insert.js", and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  console.log("Connected!");  var sql = "INSERT INTO customers (name, address) VALUES ('Suhaib', 'DHA')";  con.query(sql, function (err, result) {  if (err) throw err;  console.log("1 record inserted");  });  });    Task 7: Fill the "customers" table with multiple data. Save the code above in a file called "demo\_db\_insert\_multple.js", and run the file. Return the number of affected rows.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  console.log("Connected!");  var sql = "INSERT INTO customers (name, address) VALUES ?";  var vals = [  ['HAfiz sahab', 'Razi'],  ['Farukh', 'Hostel'],  ['Ibrahim','Attar 2'],  ];  con.query(sql, [vals], function (err, result) {  if (err) throw err;  console.log("Inserted rows= " + result.affectedRows);  });  });    Task 8: Select all records from the "customers" table, and display the result object. Save the code above in a file called "demo\_db\_select.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT \* FROM customers", function (err, result, fields) {  if (err) throw err;  console.log(result);  });  });    Task 9: Select name and address from the "customers" table, and display the return object. Save the code above in a file called "demo\_db\_select2.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT name,address FROM customers", function (err, result, fields) {  if (err) throw err;  console.log(result);  });  });    Task 10: Select all records from the "customers" table, and display the fields object. Save the code above in a file called "demo\_db\_select\_fields.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT \* FROM customers", function (err, result, fields) {  if (err) throw err;  console.log(fields);  });  });    Task11: Select record(s) with the address "Park Lane 38". Save the code above in a file called "demo\_db\_where.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT \* FROM customers where address LIKE 'Hostel' ", function (err, result, fields) {  if (err) throw err;  console.log(result);  });  });    Task 12: Select records where the address starts with the letter 'S'. Save the code above in a file called "demo\_db\_where\_s.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT \* FROM customers where address LIKE '%S' ", function (err, result, fields) {  if (err) throw err;  console.log(result);  });  });    Task 13: Sort the result alphabetically by name. Save the code above in a file called "demo\_db\_orderby.js" and run the file  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("SELECT \* FROM customers Order by name ", function (err, result, fields) {  if (err) throw err;  console.log(result);  });  });    Task 14: Delete any record with the address "Mountain 21". Save the code above in a file called "demo\_db\_delete.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("Delete FROM customers where address = 'hostel' ", function (err, result, fields) {  if (err) throw err;  console.log(result);  console.log("row deleted");  });  });    Task 15: Delete the table "customers". Save the code above in a file called "demo\_db\_drop\_table\_if.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  con.query("Drop Table customers ", function (err, result, fields) {  if (err) throw err;  console.log(result);  console.log("Table Deleted");  });  });    Task 16: Overwrite the address column from "Valley 345" to "Canyon 123". Save the code above in a file called "demo\_db\_update.js" and run the file.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  console.log("Connected!");  var sql = "UPDATE sellers set name='suhaib' where address='DHA'";  con.query(sql, function (err, result) {  if (err) throw err;  console.log("1 record updated");  });  });    Task 17: Select the 5 first records in the "customers" table. Save the code above in a file called "demo\_db\_limit.js" and run the file. Now Start from position 3, and return the next 5 records.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  var sql = "SELECT \* FROM sellers LIMIT 5 OFFSET 2";  con.query(sql, function (err, result) {  if (err) throw err;  console.log(result);  });  });    Task 18: Practice the Join operations on different tables.  var mysql = require('mysql');  var con = mysql.createConnection({  host: "localhost",  user: "root",  password: "seecs@123",  database: "mydb"  });  con.connect(function(err) {  if (err) throw err;  var sql = "SELECT \* FROM sellers join employer using(name)";  con.query(sql, function (err, result) {  if (err) throw err;  console.log(result);  });  }); |