**Department of Computing**

**CS-213: Advanced Programming**

**Class: BSCS 7AB**

**Lab 06: Node.js MongoDB**

**Date: 3rd October, 2019**

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

**Name: Arbaz Ghani**

**CMS ID: 211312**

**Class: BSCS 7B**

**Instructor: Dr. Sidra Sultana**

**Lab Engineer: Ms. Ayesha Asif**

**Lab 06: Node.js MongoDB**

**Lab Tasks**

**Task 1:** Create a database named "mydb". Save the code in a file called "demo\_create\_mongo\_db.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/mydb";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

console.log("Created!");

db.close();

});



**Task 2:** Create a collection called "customers". Save the code in a file called "demo\_mongodb\_createcollection.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.createCollection("customers", function(err, res) {

if (err) throw err;

console.log("Created the collection!");

db.close();

});

});



**Task 3:** Insert a document in the "customers" collection. Save the code in a file called "demo\_mongodb\_insert.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var obj = { name: "Immad Amir", address: "DHA Lahore" };

dbo.collection("customers").insertOne(obj, function(err, res) {

if (err) throw err;

console.log("Document inserted");

db.close();

});

});



**Task 4:** Insert multiple documents in the "customers" collection. Save the code in a file called "demo\_mongodb\_insert\_multiple.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var obj = [

{ name: 'Amna Muqeem', address: 'Gulshan Colony'},

{ name: 'Hannan Faryad', address: 'DHA Islamabad'},

{ name: 'Umaid Zafar', address: 'I8'} ];

dbo.collection("customers").insertMany(obj, function(err, res) {

if (err) throw err;

console.log("Number of documents inserted: " + res.insertedCount);

db.close();

});

});



**Task 5:** Insert three records in a "products" table, with specified \_id fields. Save the code in a file called "demo\_mongodb\_insert\_id.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var obj = [

{ \_id: 111, name: 'Colgate'},

{ \_id: 112, name: 'Nestle Juice'},

{ \_id: 113, name: 'Vaseline'}];

dbo.collection("products").insertMany(obj, function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 6:** Find the first document in the customer’s collection. Save the code in a file called "demo\_mongodb\_findone.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.collection("customers").findOne({}, function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 7:** Return the fields "name" and "address" of all documents in the customers collection.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.collection("customers").find({}, { projection: { \_id: 0, name: 1, address: 1 } }).toArray(function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 8:** Find documents with the address "Park Lane 38". Save the code in a file called "demo\_mongodb\_query.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var findq = { address: "Gulshan Colony" };

dbo.collection("customers").find(findq).toArray(function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 9:** Sort the result alphabetically by name. Save the code in a file called "demo\_sort.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var namesort = { name: 1 };

dbo.collection("customers").find().sort(namesort).toArray(function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 10:** Delete the document with the address "Mountain 21". Save the code in a file called "demo\_delete.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var deleteq = { address: 'DHA Islamabad' };

dbo.collection("customers").deleteOne(deleteq, function(err, obj) {

if (err) throw err;

console.log("Document deleted.");

db.close();

});

});



**Task 11:** Delete all documents were the address starts with the letter "O". Save the code in a file called "demo\_delete\_many.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var delq = { address: /^D/ };

dbo.collection("customers").deleteMany(delq, function(err, obj) {

if (err) throw err;

console.log(obj.result.n + " documents deleted");

db.close();

});

});



**Task 12:** Delete the "customers" table. Save the code in a file called "demo\_drop.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.collection("customers").drop(function(err, del) {

if (err) throw err;

if (del) console.log("Collection deleted.");

db.close();

});

});



**Task 13:** Update the document with the address "Valley 345" to name="Mickey" and address="Canyon 123". Save the code in a file called "demo\_update\_one.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://127.0.0.1:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

var uquery = { address: "I8" };

var val = { $set: {name: "Sabayna Ali", address: "G11" } };

dbo.collection("customers").updateOne(uquery, val, function(err, result) {

if (err) throw err;

console.log("Document updated.");

db.close();

});

});



**Task 14:** Consider you have a "customers" collection. Limit the result to only return 5 documents. Save the code above in a file called "demo\_mongodb\_limit.js" and run the file.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://localhost:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.collection("customers").find().limit(5).toArray(function(err, result) {

if (err) throw err;

console.log(result);

db.close();

});

});



**Task 15:** Practice the Join operations on different tables.

var MongoClient = require('mongodb').MongoClient;

var url = "mongodb://127.0.0.1:27017/";

MongoClient.connect(url, function(err, db) {

if (err) throw err;

var dbo = db.db("mydb");

dbo.collection('customer').aggregate([

{ $lookup:

{

from: 'products',

localField: '\_id',

foreignField: '\_id',

as: 'productbought'

}

}

]).toArray(function(err, result) {

if (err) throw err;

console.log(JSON.stringify(result));

db.close();

});

});

