# 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**

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# 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.

**CODE:**

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

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

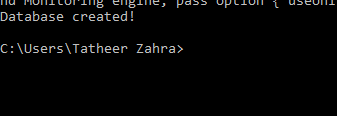
MongoClient.connect(url, function(err, db) {

if (err) throw err;

console.log("Database 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.

**CODE:**

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) {

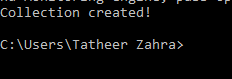
if (err) throw err;

console.log("Collection created!");

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.

**CODE:**

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 myobj = { name: "Lipton", address: "Lahore 37" };

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

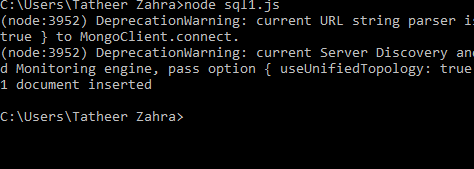
if (err) throw err;

console.log("1 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.

**CODE:**

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 myobj = [

{ name: 'Tatheer', address: 'Highway 71'},

{ name: 'Zahra', address: 'Lahore'},

{ name: 'Ali', address: 'Aaap'},

{ name: 'Abdullah', address: 'Pakistan'},

{ name: 'Rida', address: 'Valley 345'},

{ name: 'Sarah', address: 'Ocean blvd 2'},

{ name: 'Zoha', address: 'Green Grass 1'},

{ name: 'Ahmed', address: 'Sky st 331'},

{ name: 'Samar', address: 'One way 98'},

{ name: 'Veeran', address: 'Yellow Garden 2'},

{ name: 'Bilal', address: 'Park Lane 38'},

{ name: 'Waqas', address: 'Central st 954'},

{ name: 'Chaudry', address: 'Main Road 989'},

{ name: 'Veena', address: 'Sideway 1633'}

];

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

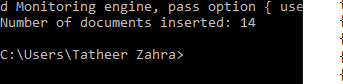
if (err) throw err;

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.

**CODE:**

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 myobj = [

{ \_id: 111, name: 'Burning brownie'},

{ \_id: 222, name: 'Lemon Tart'},

{ \_id: 333, name: 'Chocolate chip'}

];

dbo.collection("products").insertMany(myobj, function(err, res) {

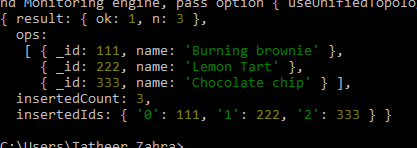
if (err) throw err;

console.log(res);

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.

**CODE:**

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) {

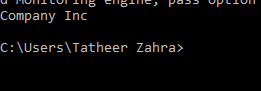
if (err) throw err;

console.log(result.name);

db.close();

});

});



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

**ALL DOCUMENTS:**

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

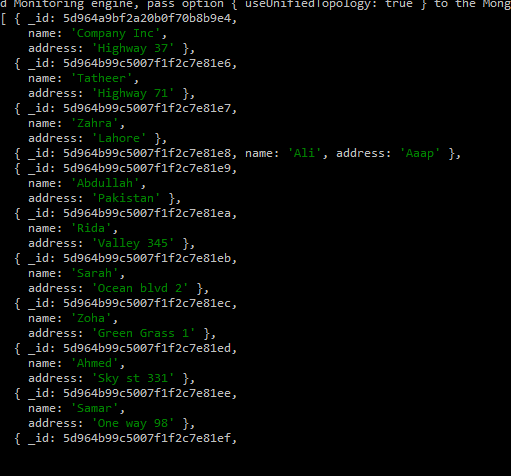
if (err) throw err;

console.log(result);

db.close();

});

});



**ONLY NAME AND ADDRESS:**

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 query = { address: "Park Lane 38" };

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

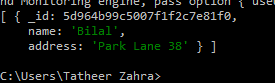
if (err) throw err;

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 mysort = { name: 1 };

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

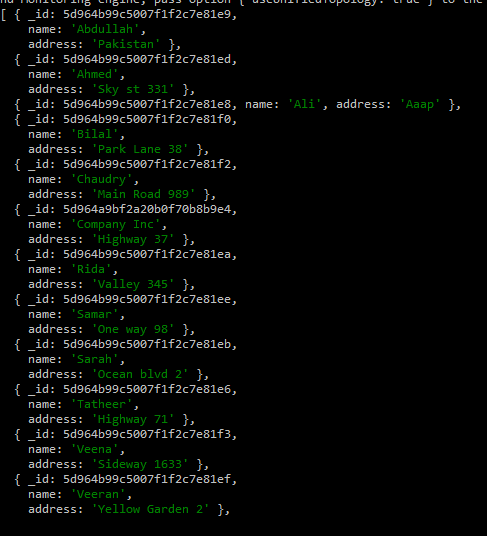
if (err) throw err;

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 myquery = { address: 'Mountain 21' };

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

if (err) throw err;

console.log("1 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 myquery = { address: /^O/ };

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

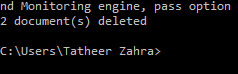
if (err) throw err;

console.log(obj.result.n + " document(s) 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.dropCollection("customers", function(err, delOK) {

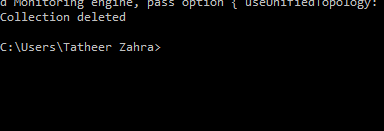
if (err) throw err;

if (delOK) 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 myquery = { address: "Valley 345" };

var newvalues = { $set: {name: "Mickey", address: "Canyon 123" } };

dbo.collection("customers").updateOne(myquery, newvalues, function(err, res) {

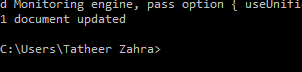
if (err) throw err;

console.log("1 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) {

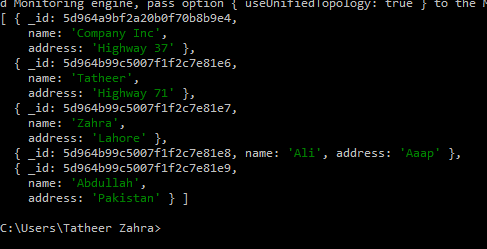
if (err) throw err;

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('orders').aggregate([

{ $lookup:

{

from: 'products',

localField: 'product\_id',

foreignField: '\_id',

as: 'orderdetails'

}

}

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

if (err) throw err;

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

db.close();

});

});

