Name: Ankush H V	**SRN: PES1UG21CS091**	**Section: B**
	Date:29 Nov 2022	**Unit 4 Assignment Exercise**

PROBLEM STATEMENT1 (for odd number SRNs):

1. Create a MongoDB database **Bangalore_City** that has a collection of **Companies** having different documents (such as comp_name, comp_rank, comp_website,comp_location,employee_size, comp_revenue etc)for each company. Create a server listening to 8081. Use the POST method to insert document in to the database. Query the database to retrieve the newly inserted document.

OBJECTIVE

The objective of this exercise is to test the student on back end frame work and storage Node JS with Mongo DB. It evaluates the student's knowledge Node Js App, modules, Node Js ,HTTP modules, Reading and writing to Mongo DB through Node Js.

PREREQUISITE

In order to complete this exercise, the student needs to understand the fundamentals of JavaScript, Mongo DB Operations with Nodejs modules.

SAMPLE SCREENSHOT OF OUTPUT (Just for your reference)

SAMPLE1:

PROGRAM

Server.js:

```
var http = require('http');
var MongoClient = require('mongodb').MongoClient;
var mongoUrl = "mongodb://localhost:27017";
```

```
http.createServer(function(req, res) {
    console.log("The request type is: " + req.method);
    if(req.method == "GET") {
        // let company = req.body;
        MongoClient.connect(mongoUrl, function(err, db) {
            if (err) throw err;
            var citydb = db.db("Bangalore_City");
            citydb.collection("Companies").find({}).toArray(function(err,
result) {
                if (err) throw err;
                console.log(result);
                res.writeHead(200, { 'Content-Type': 'application/json' });
                //write the content of the file to response body
                res.write(JSON.stringify(result));
                db.close();
                res.end();
            });
        });
    }
    else { // method is POST
        // console.log(req.body);
        req.on('data', function(data) {
            console.log("The data is: " + data);
            company = JSON.parse(data);
        });
        req.on('end', function() {
            try {
                MongoClient.connect(mongoUrl, function(err, db) {
                    if (err) throw err;
                    var citydb = db.db("Bangalore_City");
                    citydb.collection("Companies").insertMany(company,
function(err, response) {
                        if (err) throw err;
                        console.log(response.insertedCount + " documents
inserted");
                        db.close();
                        res.end("Data inserted:\n" + company);
                        // res.end("\nMessage: " + JSON.stringify(response));
                    });
                });
            } catch (error) {
                res.end("Error: " + error);
            }
        });
    }
}).listen(8081, function() {
    console.log("Server is listening on port 8081");
});
```

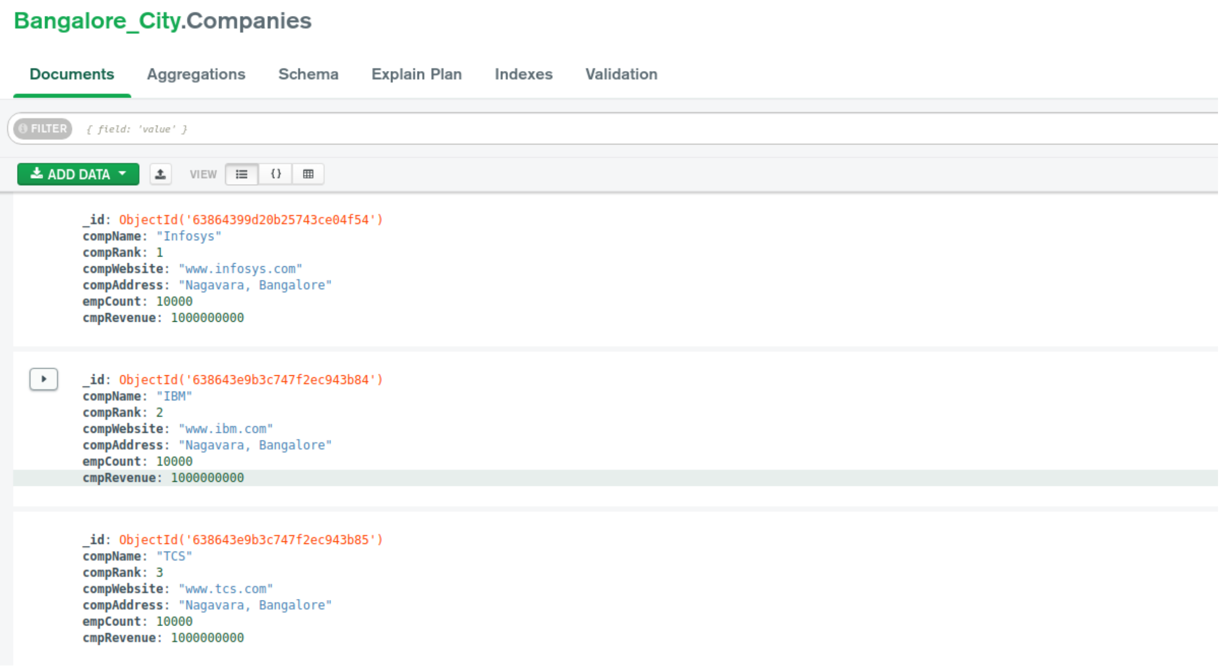
Client.js:

```
var http = require('http');
var fetch = require('node-fetch');
var url = require('url');

// gettting the data from the server
fetch('http://localhost:8081/api', {
    method: 'GET',
})
.then(res => res.json())
.then(res => {console.log("Response received on GET\n")
console.table(res)});

// posting the data to the server
fetch('http://localhost:8081/api', {
    method: 'POST',
    body: JSON.stringify([{
        "compName": "IBM",
        "compRank": 2,
        "compWebsite": "www.ibm.com",
        "compAddress": "Nagavara, Bangalore",
        "empCount": 10000,
        "cmpRevenue": 1000000000},
        {
          "compName": "TCS",
          "compRank": 3,
          "compWebsite": "www.tcs.com",
          "compAddress": "Nagavara, Bangalore",
          "empCount": 10000,
          "cmpRevenue": 1000000000
        },{
          "compName": "Wipro",
          "compRank": 4,
          "compWebsite": "www.wipro.com",
          "compAddress": "Nagavara, Bangalore",
          "empCount": 10000,
          "cmpRevenue": 1000000000
        },{
          "compName": "Accenture",
          "compRank": 5,
          "compWebsite": "www.accenture.com",
          "compAddress": "Nagavara, Bangalore",
          "empCount": 10000,
          "cmpRevenue": 1000000000
        }]),
    headers: { 'Content-Type': 'application/json' },
})
.then(res => {console.log("\nResponse Received on POST:\n")
console.log(res);});
```

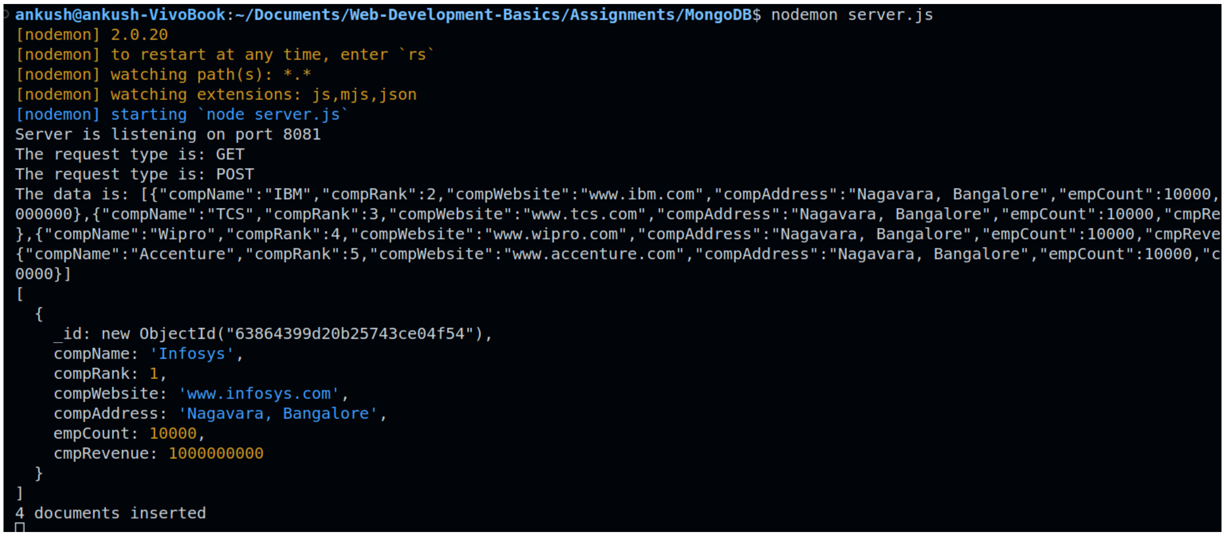
SCREENSHOT OF YOUR OUTPUT



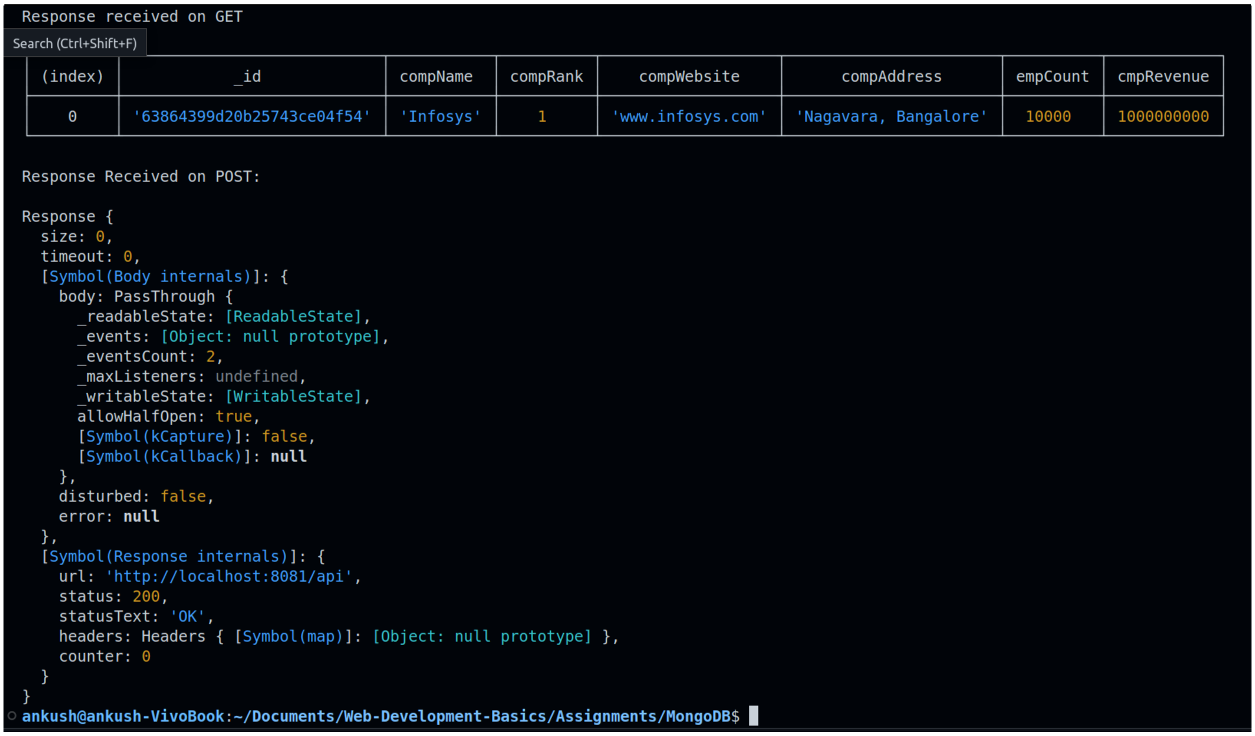
```
_id: ObjectId('63864399d20b25743ce04f54')
compName: "Infosys"
compRank: 1
compWebsite: "www.infosys.com"
compAddress: "Nagavara, Bangalore"
empCount: 10000
cmpRevenue: 1000000000

_id: ObjectId('638643e9b3c747f2ec943b84')
compName: "IBM"
compRank: 2
compWebsite: "www.ibm.com"
compAddress: "Nagavara, Bangalore"
empCount: 10000
cmpRevenue: 1000000000

_id: ObjectId('638643e9b3c747f2ec943b85')
compName: "TCS"
compRank: 3
compWebsite: "www.tcs.com"
compAddress: "Nagavara, Bangalore"
empCount: 10000
cmpRevenue: 1000000000
```



```
ankush@ankush-VivoBook:~/Documents/Web-Development-Basics/Assignments/MongoDB$ nodemon server.js
[nodemon] 2.0.20
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node server.js`
Server is listening on port 8081
The request type is: GET
The request type is: POST
The data is: [{"compName":"IBM","compRank":2,"compWebsite":"www.ibm.com","compAddress":"Nagavara, Bangalore","empCount":10000,
000000},{"compName":"TCS","compRank":3,"compWebsite":"www.tcs.com","compAddress":"Nagavara, Bangalore","empCount":10000,"cmpRe
},{"compName":"Wipro","compRank":4,"compWebsite":"www.wipro.com","compAddress":"Nagavara, Bangalore","empCount":10000,"cmpReve
{"compName":"Accenture","compRank":5,"compWebsite":"www.accenture.com","compAddress":"Nagavara, Bangalore","empCount":10000,"c
0000}]
[
  {
    _id: new ObjectId("63864399d20b25743ce04f54"),
    compName: 'Infosys',
    compRank: 1,
    compWebsite: 'www.infosys.com',
    compAddress: 'Nagavara, Bangalore',
    empCount: 10000,
    cmpRevenue: 1000000000
  }
]
4 documents inserted
```



```
Response received on GET
Search (Ctrl+Shift+F)
┌─────────┬────────────────────────────┬───────────┬──────────┬─────────────────────┬───────────────────────┬──────────┬──────────────┐
│ (index) │            _id             │ compName  │ compRank │     compWebsite     │      compAddress      │ empCount │  cmpRevenue  │
├─────────┼────────────────────────────┼───────────┼──────────┼─────────────────────┼───────────────────────┼──────────┼──────────────┤
│    0    │ '63864399d20b25743ce04f54' │ 'Infosys' │    1     │ 'www.infosys.com'   │ 'Nagavara, Bangalore' │  10000   │  1000000000  │
└─────────┴────────────────────────────┴───────────┴──────────┴─────────────────────┴───────────────────────┴──────────┴──────────────┘

Response Received on POST:

Response {
  size: 0,
  timeout: 0,
  [Symbol(Body internals)]: {
    body: PassThrough {
      _readableState: [ReadableState],
      _events: [Object: null prototype],
      _eventsCount: 2,
      _maxListeners: undefined,
      _writableState: [WritableState],
      allowHalfOpen: true,
      [Symbol(kCapture)]: false,
      [Symbol(kCallback)]: null
    },
    disturbed: false,
    error: null
  },
  [Symbol(Response internals)]: {
    url: 'http://localhost:8081/api',
    status: 200,
    statusText: 'OK',
    headers: Headers { [Symbol(map)]: [Object: null prototype] },
    counter: 0
  }
}
ankush@ankush-VivoBook:~/Documents/Web-Development-Basics/Assignments/MongoDB$ 
```