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PROBLEM STATEMENT(Even SRN's)

1. Create a MongoDB database that has a collection of employees having different documents (such as emp_id, emp_name, emp_dob,emp_type, emp_dept etc)for each employee. Create a server listening to 8081 that checks the query string submitted to it and retrieves the Employee ID and full names of all employees sorted based on the parameter (either dept or eid only) passed to it. For instance, the URLhttp://localhost:8081/?dept=Salesshould display Employee ID and names of employees working in sales. The URLhttp://localhost:8081/?eid=2 should display Employee ID and names of employees with Employee ID 2.
2. Create a custom module to generate random numbers and import it in your application and display the random numbers.

OBJECTIVE

The objective of this exercise is to test the student on NodeJS and MongoDB.It evaluates the student's knowledge ofhttp server creation using Node, Reading from MongoDB and NodeJS MongoDB driver.

PREREQUISITE

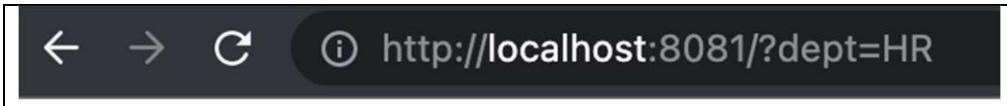
In order to complete this exercise, the student needs to understand the fundamentals of HTML,CSS, and JavaScript

DATABASE CREATION

```
> use newdb
switched to db newdb
> db.createCollection("employee")
{
        "ok" : 0,
        "errmsg" : "Collection already exists. NS: newdb.employee",
        "code" : 48,
        "codeName" : "NamespaceExists"
}
> db.employee.insert({"emp_id":"068","emp_name":"arunvenkat","emp_dob":"09-02-2003","emp_type":"Manager","emp_dept":"Technical"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"007","emp_name":"mohan","emp_dob":"30-01-2002","emp_type":"Manager","emp_dept":"Sales"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"022","emp_name":"george","emp_dob":"2-10-2002","emp_type":"Employee","emp_dept":"Admin"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"217","emp_name":"john","emp_dob":"2-10-2000","emp_type":"Employee","emp_dept":"Sales"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"498","emp_name":"luca","emp_dob":"26-09-2000","emp_type":"Employee","emp_dept":"Technical"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"077","emp_name":"matt","emp_dob":"13-04-2000","emp_type":"Employee","emp_dept":"Sales"})
WriteResult({ "nInserted" : 1 })
> db.employee.insert({"emp_id":"2","emp_name":"mike","emp_dob":"1-01-2001","emp_type":"Employee","emp_dept":"Admin"})
WriteResult({ "nInserted" : 1 })
>
```

SAMPLE SCREENSHOT OF OUTPUT (Just for your reference)

2:BobB



2:BobB

3:JohnJ

9:AlexaA

PROGRAM

Client.js:

```
var http=require('http')
var options={
    host:'localhost',
    port:'8081',
    path:'/sample.txt'
};
var callback=function(response){
    var body='';
    response.on('data',function(data){
        body+=data;
    })
    .on('end',function(){
        console.log(body);
    })
}
var req=http.request(options,callback);
req.end();
```

Server.js:

```
var url = require('url');
var http = require('http');
var fs = require('fs');
var qs = require('querystring')
var MongoClient = require('mongodb').MongoClient;
var mdb = require('mongodb')
```

```
var MongoClient = mdb.MongoClient
http.createServer(function(request,response){
    if(request.method=='GET'){
        var myurl = url.parse(request.url,true)
        var pathname = myurl.pathname;
        if(pathname=='/'){
            pathname="/index.html"
        }
            var query = myurl.query;
            var s=myurl.search;
            if(s=='?dept=Sales'){
            var qobj = qs.parse(query);
            MongoClient.connect('mongodb://localhost:27017',{
                    useUnifiedTopology:true
                }, function(err,client){
                    if(err) throw err;
                    const db = client.db('newdb');
                   db.collection('employee').find({"emp_dept":"Sales"}).toArray(
                        function(err,docs){
                            response.writeHead(200,{'Content-
type':'application/json'});
                            response.write(JSON.stringify(docs));
                            client.close();
                            response.end();
                        })
                })
            }
            if(s=='?eid=2'){
                var qobj = qs.parse(query);
            MongoClient.connect('mongodb://localhost:27017',{
                    useUnifiedTopology:true
                }, function(err,client){
                    if(err) throw err;
                    const db = client.db('newdb');
                   db.collection('employee').find({"emp_id":"2"}).toArray(
                        function(err,docs){
                            response.writeHead(200,{'Content-
type':'application/json'});
                            response.write(JSON.stringify(docs));
                            client.close();
                            response.end();
                        })
```

```
            })
        }
    }

}).listen(8081);
console.log('server is up and running');
```

Random.js:

```
//Random number generated:
console.log('random number:');
exports.random_no=function getRandomNumberBetween(min,max){
    return Math.floor(Math.random()*(max-min+1)+min);
}
```

Randomserver.js:

```
var random=require("./random.js");
console.log(random.random_no(50,100));
```

SCREENSHOT OF YOUR OUTPUT

[{"_id":"619b9e19847195d85accdc1b","emp_id":"007","emp_name":"mohan","emp_dob":"30-01-2002","emp_type":"Manager","emp_dept":"Sales"},
{"_id":"619b9e23847195d85accdc1d","emp_id":"217","emp_name":"john","emp_dob":"2-10-2000","emp_type":"Employee","emp_dept":"Sales"},{"_id":"619b9e2a847195d85accdc1f","emp_id":"077","emp_name":"matt","emp_dob":"13-04-2000","emp_type":"Employee","emp_dept":"Sales"}]

[{"_id":"619baf3a847195d85accdc20","emp_id":"2","emp_name":"mike","emp_dob":"1-01-2001","emp_type":"Employee","emp_dept":"Admin"}]