

Creating a RESTful API using express.js and creating a database and index in MongoDB.

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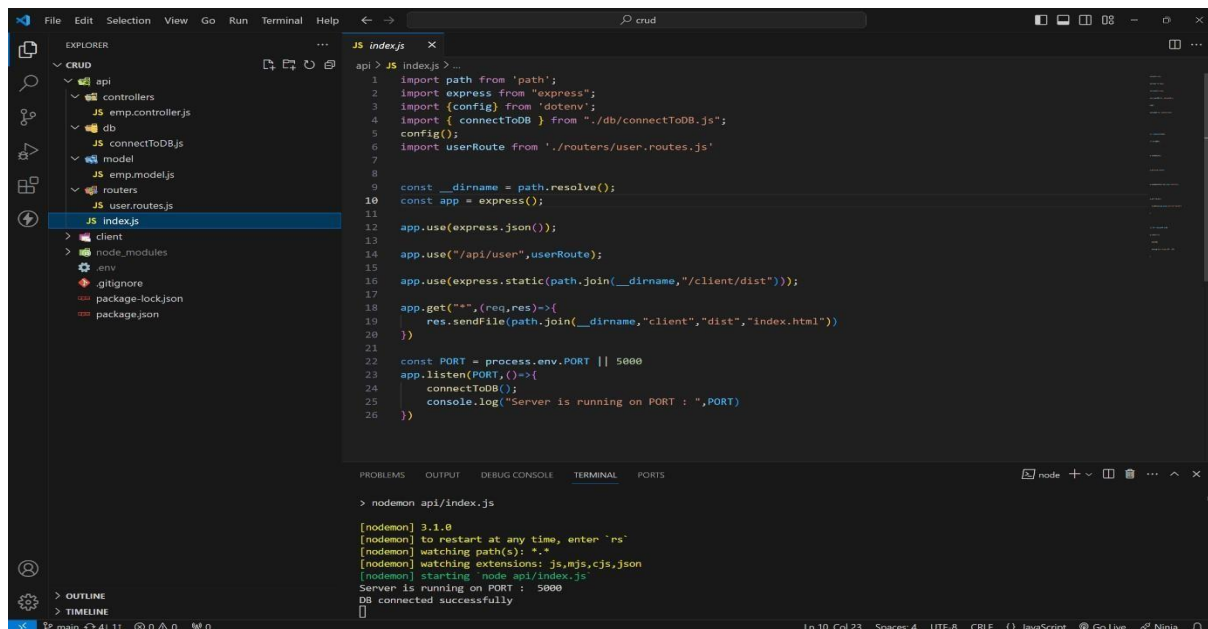
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source code :

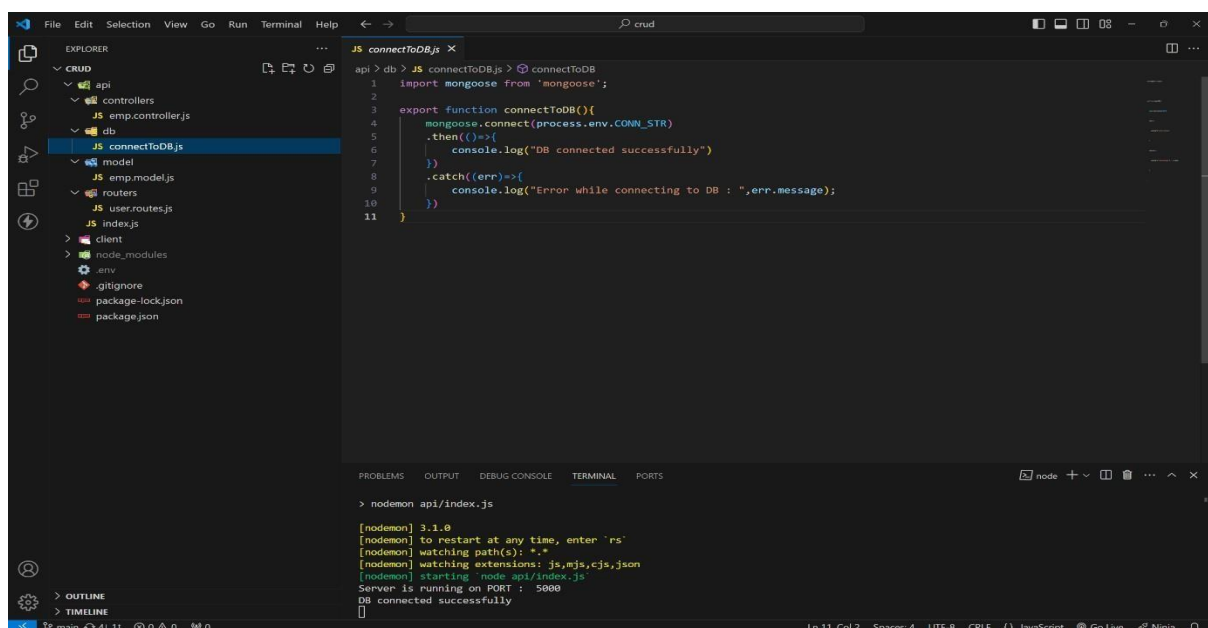
index.js file :



```
1 import path from 'path';
2 import express from 'express';
3 import {config} from 'dotenv';
4 import { connectToDB } from './db/connectToDB.js';
5 config();
6 import userRoute from './routes/user.routes.js'
7
8
9 const __dirname = path.resolve();
10 const app = express();
11
12 app.use(express.json());
13
14 app.use("/api/user",userRoute);
15
16 app.use(express.static(path.join(__dirname,"/client/dist")));
17
18 app.get("",(req,res)=>{
19     res.sendFile(path.join(__dirname,"client","dist","index.html"))
20 })
21
22 const PORT = process.env.PORT || 5000
23 app.listen(PORT,()=>{
24     connectToDB();
25     console.log("Server is running on PORT : ",PORT)
26 })
```

```
> nodemon api/index.js
[nodemon] 3.1.0
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node api/index.js'
Server is running on PORT : 5000
DB connected successfully
```

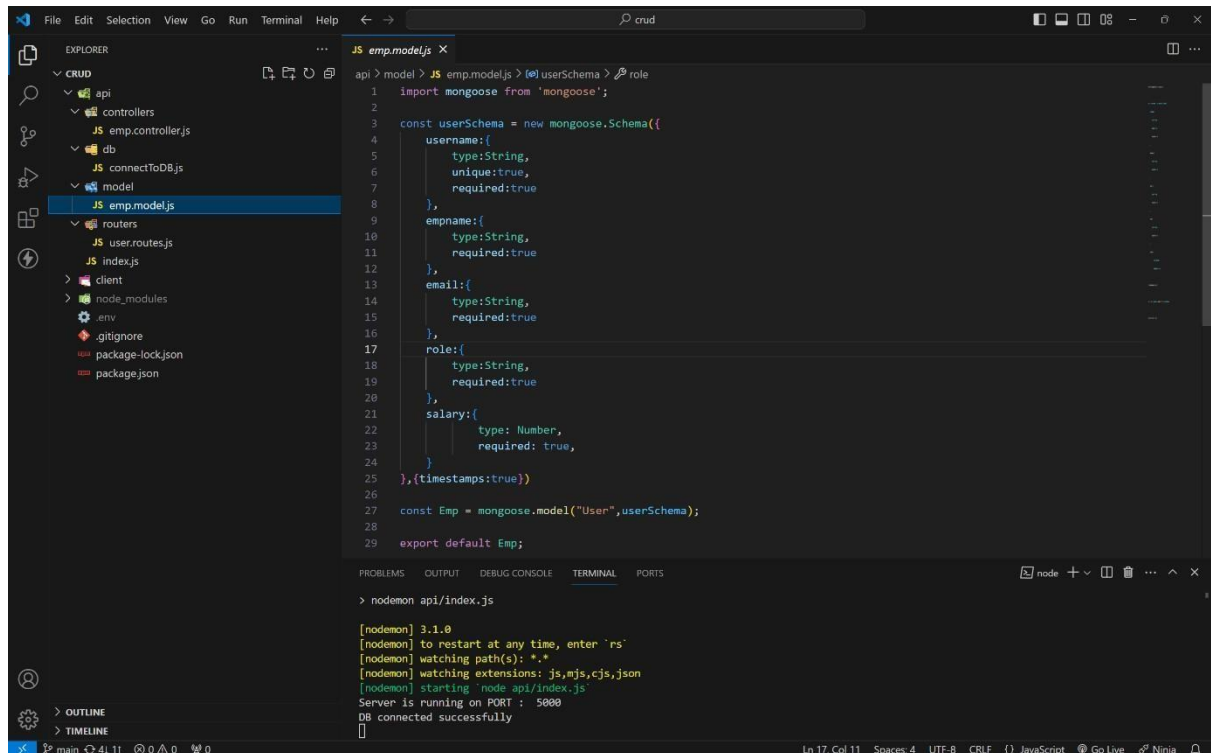
MONGODB CONNECTION :



```
1 import mongoose from 'mongoose';
2
3 export function connectToDB(){
4     mongoose.connect(process.env.CONN_STR)
5     .then(()=>{
6         console.log("DB connected successfully")
7     })
8     .catch(err=>{
9         console.log("Error while connecting to DB : ",err.message);
10     })
11 }
```

```
> nodemon api/index.js
[nodemon] 3.1.0
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node api/index.js'
Server is running on PORT : 5000
DB connected successfully
```

MODEL :



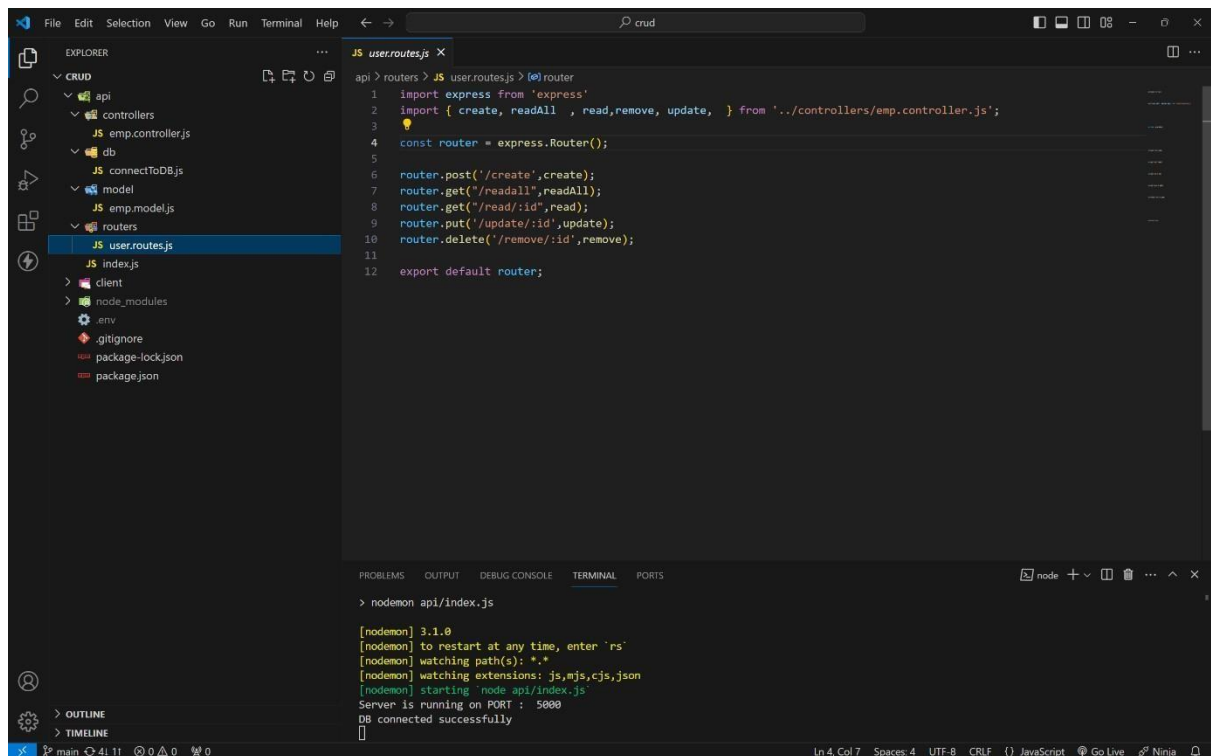
The screenshot shows the VS Code editor with the file explorer on the left. The file `emp.model.js` is selected under the `model` directory. The main editor displays the following code:

```
1 import mongoose from 'mongoose';
2
3 const userSchema = new mongoose.Schema({
4   username: {
5     type: String,
6     unique: true,
7     required: true
8   },
9   empname: {
10    type: String,
11    required: true
12  },
13   email: {
14    type: String,
15    required: true
16  },
17   role: {
18    type: String,
19    required: true
20  },
21   salary: {
22    type: Number,
23    required: true,
24  }
25 }, { timestamps: true });
26
27 const Emp = mongoose.model("User", userSchema);
28
29 export default Emp;
```

The terminal at the bottom shows the command `nodemon api/index.js` and its output:

```
[nodemon] 3.1.0
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node api/index.js'
Server is running on PORT : 5000
DB connected successfully
```

ROUTES:



The screenshot shows the VS Code editor with the file explorer on the left. The file `user.routes.js` is selected under the `routes` directory. The main editor displays the following code:

```
1 import express from 'express'
2 import { create, readAll, read, remove, update, } from '../controllers/emp.controller.js';
3
4 const router = express.Router();
5
6 router.post('/create', create);
7 router.get("/readall", readAll);
8 router.get("/read/:id", read);
9 router.put('/update/:id', update);
10 router.delete('/remove/:id', remove);
11
12 export default router;
```

The terminal at the bottom shows the command `nodemon api/index.js` and its output:

```
[nodemon] 3.1.0
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node api/index.js'
Server is running on PORT : 5000
DB connected successfully
```

CONTROLLERS :

CREATE :

The screenshot shows the VS Code editor with the file explorer on the left. The file explorer shows a project structure with folders like api, controllers, db, model, routers, and client. The file emp.controller.js is selected. The main editor shows the code for the create function. The code is as follows:

```
api > controllers > JS emp.controller.js > remove
1 import Emp from "../model/emp.model.js";
2
3 export async function create(req,res){
4   try {
5     const {username,empname,email,role,salary} = req.body;
6
7     console.log(req.body);
8     const emp = await Emp.findOne({username});
9
10    if(emp) return res.status(400).json({error:"username is already exists"});
11
12    const newEmp = new Emp({
13      username,
14      empname,
15      email,
16      role,
17      salary
18    });
19
20    if(newEmp){
21      await newEmp.save();
22
23      res.status(201).json({
24        _id : newEmp._id,
25        username : newEmp.username,
26        empname : newEmp.empname,
27        email : newEmp.email,
28        role : newEmp.role,
29        salary : newEmp.salary
30      })
31    }else{
32      res.status(400).json({error:"Invalid emp data"});
33    }
34  } catch (error) {
35    console.log("Error in create controller : ",error.message);
36    res.status(500).json({message :error.message})
37  }
38 }
39
40
41
```

READALL:

The screenshot shows the VS Code editor with the file explorer on the left. The file explorer shows a project structure with folders like api, controllers, db, model, routers, and client. The file emp.controller.js is selected. The main editor shows the code for the readAll function. The code is as follows:

```
api > controllers > JS emp.controller.js > remove
1 import Emp from "../model/emp.model.js";
2
3 export async function create(req,res){...
40 }
41
42 export async function read(req,res){...
43 }
44
45 export async function readAll(req,res){
46   try {
47     const emps = await Emp.find();
48
49     if(!emps || !emps.length ) return res.status(404).json({error:" no emp data found!"});
50
51     res.status(201).json({
52       emps
53     })
54   } catch (error) {
55     console.log("Error in create controller : ",error.message);
56     res.status(500).json({error:"Internal server Error"})
57   }
58 }
59
60 export async function update(req,res){...
61 }
62
63 export async function remove(req,res){...
64 }
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```

READONE :

```
api > controllers > JS emp.controller.js > remove
1  import Emp from "../model/emp.model.js";
2
3  > export async function create(req,res){...
40 }
41
42 > export async function read(req,res){
43   try {
44     const {id} = req.params;
45
46     const emp = await Emp.findById({_id:id});
47
48     if(!emp) return res.status(404).json({error:"emp not found!"});
49
50     res.status(201).json({
51       emp
52     })
53   } catch (error) {
54     console.log("Error in create controller : ",error.message);
55     res.status(500).json({error:"Internal server Error"})
56   }
57 }
58
59
60 > export async function readAll(req,res){...
75 }
76
77 > export async function update(req,res){...
94 }
95
96 > export async function remove(req,res){...
110 }
```

UPDATE :

```
api > controllers > JS emp.controller.js > remove
1  import Emp from "../model/emp.model.js";
2
3  > export async function create(req,res){...
40 }
41
42 > export async function read(req,res){...
58 }
59
60 > export async function readAll(req,res){...
75 }
76
77 > export async function update(req,res){
78   try {
79     const {id} = req.params;
80
81     const emp = await Emp.findById({_id:id});
82
83     if(!emp) return res.status(404).json({error:"emp not found!"});
84
85     const newEmp = await Emp.findByIdAndUpdate({_id:id},{...req.body},{new:true});
86
87     res.status(201).json({
88       newEmp
89     })
90   } catch (error) {
91     console.log("Error in create controller : ",error.message);
92     res.status(500).json({error:"Internal server Error"})
93   }
94 }
95
96 > export async function remove(req,res){...
110 }
```

DELETE :

This screenshot shows the VS Code editor with the file explorer on the left displaying a project structure for a CRUD application. The main editor window is open to `api > controllers > JS emp.controller.js`. The code implements the `remove` function, which uses `req.params` to find an employee by ID and delete it from the database. It returns a 201 status for success and a 500 status for an internal server error.

```
api > controllers > JS emp.controller.js > remove
1  import Emp from "../model/emp.model.js";
2
3  > export async function create(req,res){...
40 }
41
42 > export async function read(req,res){...
58 }
59
60 > export async function readAll(req,res){...
75 }
76
77 > export async function update(req,res){...
94 }
95
96 export async function remove(req,res){
97   try {
98     const {id} = req.params;
99
100     await Emp.findByIdAndDelete({_id:id});
101
102     res.status(201).json({
103       id,
104       message : 'deleted successfully..',
105     })
106   } catch (error) {
107     console.log("Error in create controller : ",error.message);
108     res.status(500).json({error:"Internal server Error"})
109   }
110 }
```

This screenshot shows the VS Code editor with the `.env` file open. It contains the port and MongoDB connection string. Below the editor, the terminal shows the output of a successful database insertion, displaying the employee details.

`.env`

```
1 PORT = 5000
2 CONN_STR =mongodb://localhost:27017/<database>
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
username: 'jack',
empname: 'jack rider',
email: 'jack@gmail.com',
role: 'Front End Developer',
salary: 60000
```

