ASSIGNMENT - 3

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OBJECTIVE :

- CREATING A RESTFUL API USING EXPRESS JS
- RETRIEVING THE DATA USING MANGO DATA BASE

The objective of this assignment is to familiarize yourself with building RESTful API using Express.js and using MongoDB as the database to store and retrieve data.

Creating a folder in express js:

Create a new folder for my project:mkdir your-api-project
cd your-api-project Inside my project folder,

create the following folders and files:
mkdir src
cd src

touch app.jsNow, i place my Express.js code in the app.js file.Copy the Express.js code from the previous response into app.js.Install Express (if not installed already) and initialize my project:

npm init -y
npm install express Update my package.json file to include a start script:
Open package.json and add or update the "scripts" section:

```
"scripts": {
  "start": "node src/app.js"
}
```

To run my API, use the following command:
npm startNow you have a basic folder structure for your Express.js API project. I can expand this structure as my project grows, adding routes, controllers, models, etc., based on your my specific requirements.

We need to update our app.js to connect to MongoDB, so I was Modifying my app.js file to include the MongoDB connection using mangoose

```
const express = require('express');
const mongoose = require('mongoose');
require('dotenv').config();

const app = express();
const port = 3000;
```

Creating restful api using express js :

```
const express = require('express');
const app = express();
const port = 3000;

app.use(express.json());

// Sample data
let data = [
  { id: 1, name: 'Item 1' },
  { id: 2, name: 'Item 2' },
];
```

Creating restful api using express js :

```
Get all items
app.get('/api/items', (req, res) => {
  res.json(data);
});

// Get a specific item by ID
app.get('/api/items/:id', (req, res) => {
  const itemId = parseInt(req.params.id);
  const item = data.find(item => item.id === itemId);

  if (!item) {
    return res.status(404).json({ message: 'Item not found' });
  }

  res.json(item);
});

// Create a new item
app.post('/api/items', (req, res) => {
  const newItem = req.body;
  data.push(newItem);
  res.status(201).json(newItem);
});

// Update an existing item
app.put('/api/items/:id', (req, res) => {
  const itemId = parseInt(req.params.id);
  const updatedItem = req.body;

  data = data.map(item => (item.id === itemId ? updatedItem : item));

  res.json(updatedItem);
});

// Delete an item
app.delete('/api/items/:id', (req, res) => {
  const itemId = parseInt(req.params.id);
  data = data.filter(item => item.id !== itemId);

  res.json({ message: 'Item deleted successfully' });
});

// Start the server
app.listen(port, () => {
  console.log(`Server is running on port ${port}`);
})
```

Connecting to mango database :

We need to update our app.js to connect to MongoDB, so I was Modifying my app.js file to include the MongoDB connection using mangoose

CODE FOR CONECTION :

```
const express = require('express');
const mongoose = require('mongoose');
require('dotenv').config();

const app = express();
const port = 3000;

app.use(express.json());

// Connect to MongoDB
mongoose.connect(process.env.MONGODB_URI, { useNewUrlParser: true,
useUnifiedTopology: true });

const db = mongoose.connection;
db.on('error', console.error.bind(console, 'MongoDB connection error:'));
db.once('open', () => {
  console.log('Connected to MongoDB');
});

// ... Your existing routes and code

// Start the server
app.listen(port, () => {
  console.log(`Server is running on port ${port}`);
});
```

CONCLUSION :

In conclusion, WE set up a basic Express.js API with a folder structure for organization. By integrating MongoDB using Mongoose, MY API is now capable of performing CRUD operations with a database.
All the creation of rest api and connection to the mago data base are done then we have our fully functional database