

README FILE:

Title

RESTful API USING EXPRESSJS AND MONGODB

Objective

The objective of this assignment is to familiarize yourself with building RESTful APIs

using Express.js and using MongoDB as the database to store and retrieve data.

Tech Stack

MONGODB

NODEJS

EXPRESSJS

POSTMAN-FOR TESTING ENDPOINTS OF API

Functionality

1)The package.json contains necessary dependencies along with nodemon script that will be useful to start the server automatically after saving a file.

2)The index.js file imports express package and mongoose package to connect to the database. An API route has been defined as '/api'

3)The routes.js contains various API's methods to make requests. The API's methods are:

i)POST(/post):to post student data into the database
ii)GET(/getAll): to get the entire student dataset from database
iii)GET(/getOne/:id):to get data of particular student by specifying

ID

iv)PATCH(/update/:id):to update the details of specific student
v)DELETE(/delete/:id): to delete record of one student

4)The .env file contains link of the database

5)The model.js define structure of database by using mongoose model schema. The database contains details of student like name,age,gender.

Index.js:

```
const express = require('express');
const mongoose = require('mongoose');
const app = express();

app.use(express.json());

app.listen(3008, () => {
  console.log(`Server Started at ${3008}`)
})

require('dotenv').config();

const mongoString = process.env.DATABASE_URL
mongoose.connect(mongoString);
const database = mongoose.connection
database.on('error', (error) => {
  console.log(error)
})

database.once('connected', () => {
  console.log('Database Connected');
})

const routes = require('./routes/routes');

app.use('/api', routes)
```

package.json:

```
{
  "name": "rest-assignment",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "start": "nodemon index.js",
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "dotenv": "^16.4.5",
```

```
"express": "^4.18.3",  
"mongoose": "^8.2.1",  
"nodemon": "^3.1.0"  
}  
}
```

.env file(DATABASE URL):

```
DATABASE_URL =  
mongodb+srv://bhoj.krishna02:Krishna2002@cluster0.4uevbl6.mongodb.net/
```

Model.js:

```
const mongoose = require('mongoose');  
  
const dataSchema = new mongoose.Schema({  
  name: {  
    required: true,  
    type: String  
  },  
  age: {  
    required: true,  
    type: Number  
  },  
  gender: {  
    required: true,  
    type: String  
  }  
})  
  
module.exports = mongoose.model('Data', dataSchema)
```

routes.js:

```
const express = require('express');

const router = express.Router()
const Model = require('../models/model');

//Post Method
router.post('/post', async (req, res) => {
  const data = new Model({
    name: req.body.name,
    age: req.body.age,
    gender: req.body.gender
  })

  try{
    const dataToSave = await data.save();
    res.status(200).json(dataToSave)
  }
  catch(error){
    res.status(400).json({message: error.message})
  }
})

//Get all Method
router.get('/getAll', async (req, res) => {
  try{
    const data = await Model.find();
    res.json(data)
  }
  catch(error){
    res.status(500).json({message: error.message})
  }
})

//Get by ID Method
router.get('/getOne/:id', async (req, res) => {
  try{
    const data = await Model.findById(req.params.id);
    res.json(data)
  }
  catch(error){
    res.status(500).json({message: error.message})
  }
})
```

```

//Update by ID Method
router.patch('/update/:id', async (req, res) => {
  try {
    const id = req.params.id;
    const updatedData = req.body;
    const options = { new: true };

    const result = await Model.findByIdAndUpdate(
      id, updatedData, options
    )

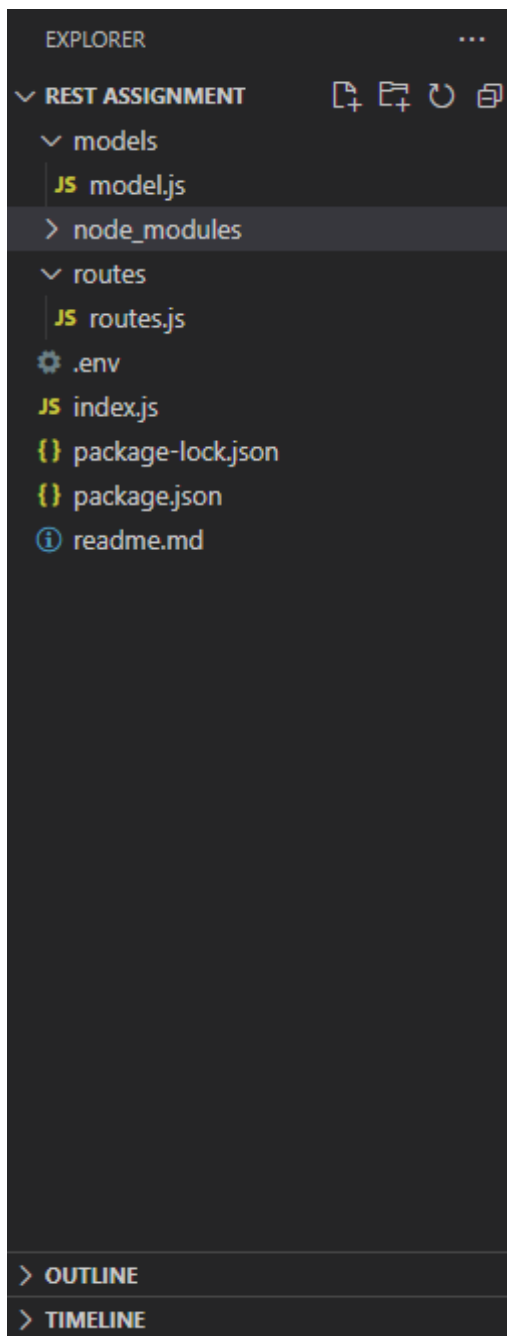
    res.send(result)
  }
  catch (error) {
    res.status(400).json({ message: error.message })
  }
})

//Delete by ID Method
router.delete('/delete/:id', async (req, res) => {
  try {
    const id = req.params.id;
    const data = await Model.findByIdAndDelete(id)
    res.send(`Document with ${data.name} has been deleted.`)
  }
  catch (error) {
    res.status(400).json({ message: error.message })
  }
})

module.exports = router;

```

Folders/Files created:



OUTPUT:

POST METHOD:

/api/post:to post student data

localhost:3008/api/post

POST localhost:3008/api/post

Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "name": "P00JA",
3   "age": 36,
4   "gender": "F"
5 }
6
7
8
```

Body Cookies Headers (7) Test Results 200 OK 55 ms 314 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "name": "P00JA",
3   "age": 36,
4   "gender": "F",
5   "_id": "65e84bf3953c0cad34eb6f33",
6   "__v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

Overview Getting started POST localhost:3008/api/po + No Environment

localhost:3008/api/post

POST localhost:3008/api/post

Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "name": "Alia",
3   "age": 18,
4   "gender": "F"
5 }
6
```

Body Cookies Headers (7) Test Results Status: 200 OK Time: 252 ms Size: 313 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "name": "Alia",
3   "age": 18,
4   "gender": "F",
5   "_id": "65e8625deee8c3da7691aa30",
6   "__v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

GET METHOD:

/api/getOne: to get one record

The screenshot shows a REST client interface with the following components:

- URL Bar:** `localhost:3008/api/getOne/65e84b12953c0cad34eb6f2b`
- Method:** `GET`
- Send Button:** A blue button labeled "Send".
- Params Tab:** A table for Query Params.
- Body Tab:** A section for the response body.

Query Params Table:

Key	Value	Description	...	Bulk Edit
Key	Value	Description		

Body Tab:

200 OK 213 ms 311 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "_id": "65e84b12953c0cad34eb6f2b",
3   "name": "BK",
4   "age": 21,
5   "gender": "M",
6   "__v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

Overview Getting started GET localhost:3008/api/getC + No Environment

localhost:3008/api/getOne/65e84be6953c0cad34eb6f31 Save

GET localhost:3008/api/getOne/65e84be6953c0cad34eb6f31 Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

Query Params

Key	Value	Description	Bulk Edit
Key	Value	Description	

Body Cookies Headers (7) Test Results Status: 200 OK Time: 51 ms Size: 315 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "_id": "65e84be6953c0cad34eb6f31",
3   "name": "KUMARI",
4   "age": 24,
5   "gender": "F",
6   "__v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

Overview Getting started GET localhost:3008/api/getC + No Environment

localhost:3008/api/getOne/65e864ae0e6c441996e1d39a Save

GET localhost:3008/api/getOne/65e864ae0e6c441996e1d39a Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL JSON Beautify

Body Cookies Headers (7) Test Results Status: 200 OK Time: 277 ms Size: 313 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "_id": "65e864ae0e6c441996e1d39a",
3   "name": "Ramu",
4   "age": 26,
5   "gender": "M",
6   "__v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

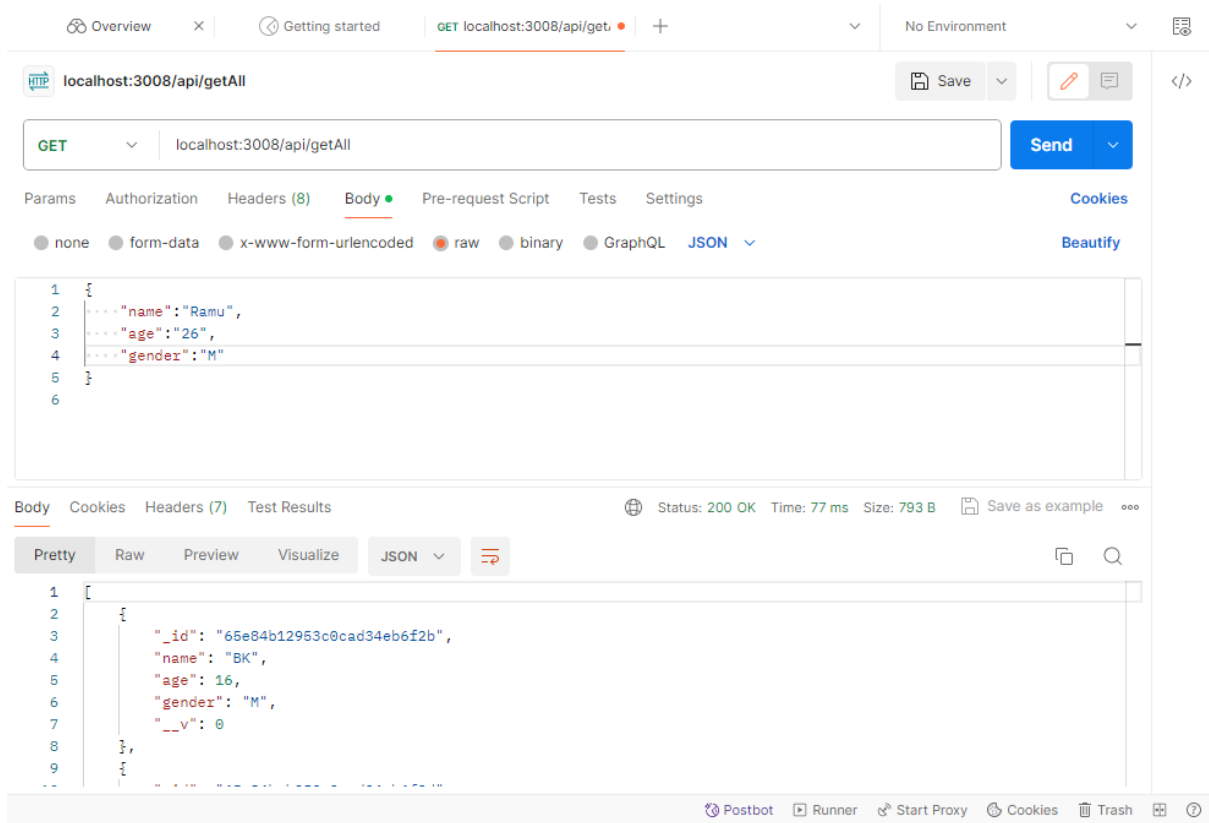
/api/getAll: to get entire student dataset.

The screenshot shows a REST client interface with the following components:

- URL Bar:** Displays `localhost:3008/api/getAll` with a `GET` method selected.
- Buttons:** Includes `Save`, `Send`, and a `</>` icon.
- Tabs:** `Params`, `Authorization`, `Headers (8)`, `Body` (selected), `Pre-request Script`, `Tests`, `Settings`, and `Cookies`.
- Query Params Table:**

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		
- Body Section:**
 - Body Tab:** Selected, showing a `200 OK` status, `69 ms` time, and `635 B` size. Includes `Save as example` and a search icon.
 - Viewers:** `Pretty` (selected), `Raw`, `Preview`, `Visualize`, and a `JSON` dropdown.
 - JSON Response:**

```
[
  {
    "_id": "65e84b12953c0cad34eb6f2b",
    "name": "BK",
    "age": 21,
    "gender": "M",
    "__v": 0
  },
  {
    "name": "BK",
    "age": 21,
    "gender": "M",
    "__v": 0
  }
]
```
- Footer:** Includes `Postbot`, `Runner`, `Start Proxy`, `Cookies`, `Trash`, and a help icon.



```
[
  {
    "_id": "65e84b12953c0cad34eb6f2b",
    "name": "BK",
    "age": 16,
    "gender": "M",
    "__v": 0
  },
  {
    "_id": "65e84bcb953c0cad34eb6f2d",
    "name": "PK",
    "age": 22,
```

```
"gender": "M",
  "__v": 0
},
{
  "_id": "65e84bdb953c0cad34eb6f2f",
  "name": "RADHIKA",
  "age": 36,
  "gender": "F",
  "__v": 0
},
{
  "_id": "65e84be6953c0cad34eb6f31",
  "name": "KUMARI",
  "age": 26,
  "gender": "F",
  "__v": 0
},
{
  "_id": "65e84bf3953c0cad34eb6f33",
  "name": "POOJA",
  "age": 36,
  "gender": "F",
  "__v": 0
},
```

```
{
  "_id": "65e8625deee8c3da7691aa30",
  "name": "Alia",
  "age": 18,
  "gender": "F",
  "__v": 0
},
{
  "_id": "65e864ae0e6c441996e1d39a",
  "name": "Ramu",
  "age": 26,
  "gender": "M",
  "__v": 0
}
]
```

PATCH METHOD(/api/update/:id): to update single student record

Overview Getting started PATCH localhost:3008/api/up/ + No Environment

localhost:3008/api/update/65e84b12953c0cad34eb6f2b Save

PATCH localhost:3008/api/update/65e84b12953c0cad34eb6f2b Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "age": 16
3 }
4
5
6
```

Body Cookies Headers (7) Test Results Status: 200 OK Time: 155 ms Size: 311 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "_id": "65e84b12953c0cad34eb6f2b",
3   "name": "BK",
4   "age": 16,
5   "gender": "M",
6   "_v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

Overview Getting started PATCH localhost:3008/api/up/ + No Environment

localhost:3008/api/update/65e84be6953c0cad34eb6f31 Save

PATCH localhost:3008/api/update/65e84be6953c0cad34eb6f31 Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Beautify

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "age": 26
3 }
4
```

Body Cookies Headers (7) Test Results Status: 200 OK Time: 165 ms Size: 315 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "_id": "65e84be6953c0cad34eb6f31",
3   "name": "KUMARI",
4   "age": 26,
5   "gender": "F",
6   "_v": 0
7 }
```

Postbot Runner Start Proxy Cookies Trash

DELETE METHOD(/api/delete/:id): to delete a student record.

OverviewGetting startedDEL localhost:3008/api/dele+No Environment

localhost:3008/api/delete/65e86143f3051965abe0b829SaveSend

DELETElocalhost:3008/api/delete/65e86143f3051965abe0b829Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

Query Params

Key	Value	Description	Bulk Edit
Key	Value	Description	

BodyCookiesHeaders (7)Test ResultsStatus: 200 OKTime: 85 msSize: 265 BSave as example

PrettyRawPreviewVisualizeHTML

1 Document with Alia has been deleted..

PostbotRunnerStart ProxyCookiesTrash

Overview

Getting started

DEL localhost:3008/api/dele

+

No Environment

localhost:3008/api/delete/65e865d9147c3439a04c83d2

Save

DELETE

localhost:3008/api/delete/65e865d9147c3439a04c83d2

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

Cookies

Headers (7)

Test Results

Status: 200 OK

Time: 61 ms

Size: 263 B

Save as example

Pretty

Raw

Preview

Visualize

HTML

1

Document with Rk has been deleted..

Postbot

Runner

Start Proxy

Cookies

Trash