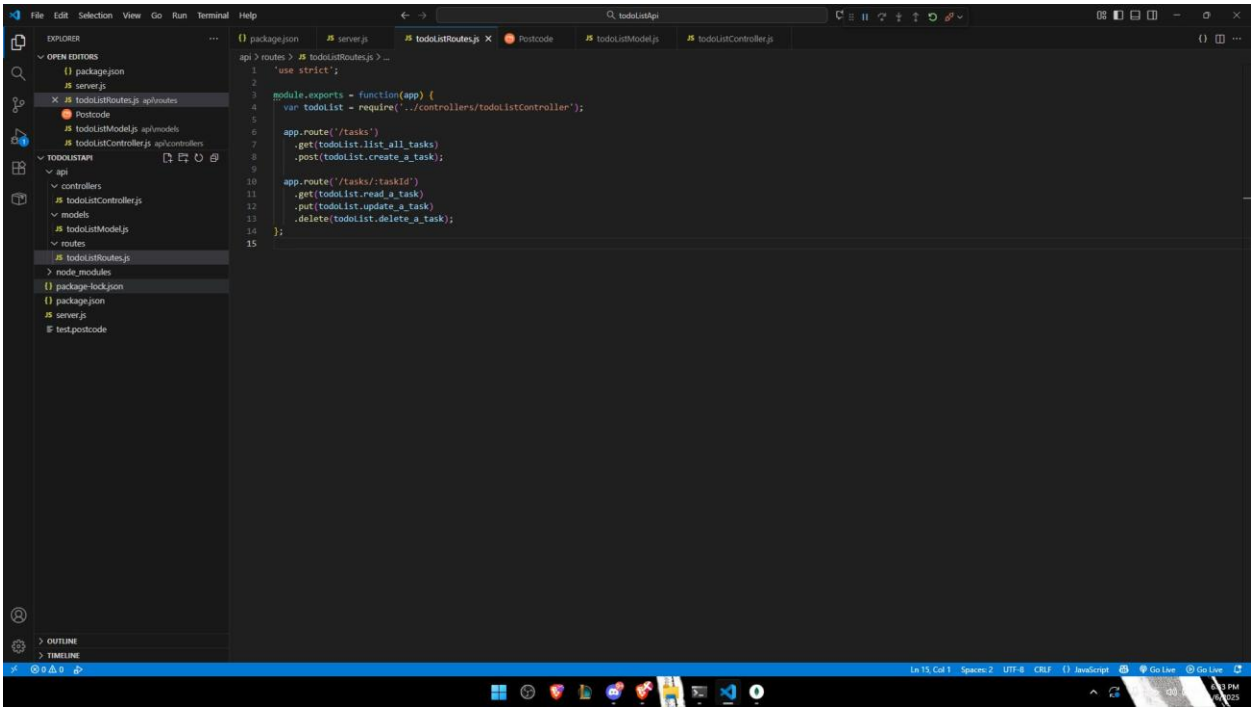
Web Programming 2 – Week 8 – Huynh Khoi Nguyen

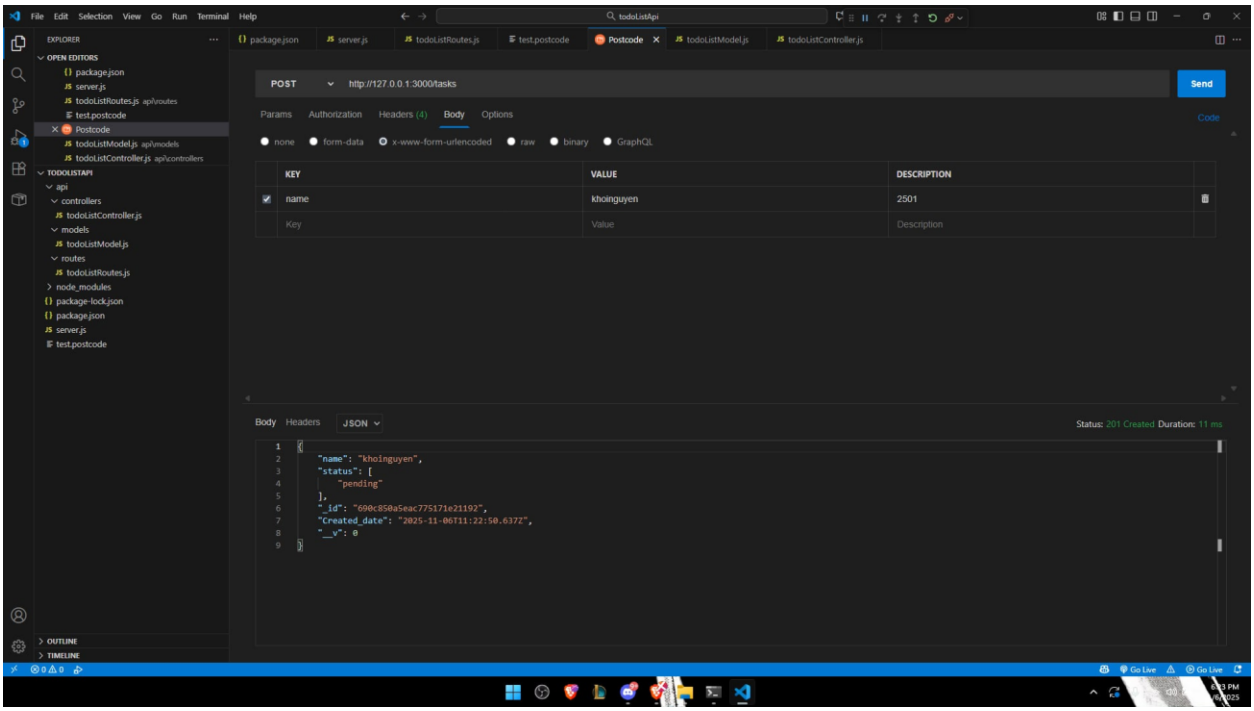
In this Lesson we went through how to implement and use RESTful API with node.js, express and MongoDB. We begin by setting up the project using the node.js console, making sure to install all necessary dependencies like Express, mongoose, and nodemon. Next, to ensure the server is operating on the correct port, we will create a folder called todoListApi, initialize it with npm init -y, configure it with a start script in package.json, then launch the server using npm run start.

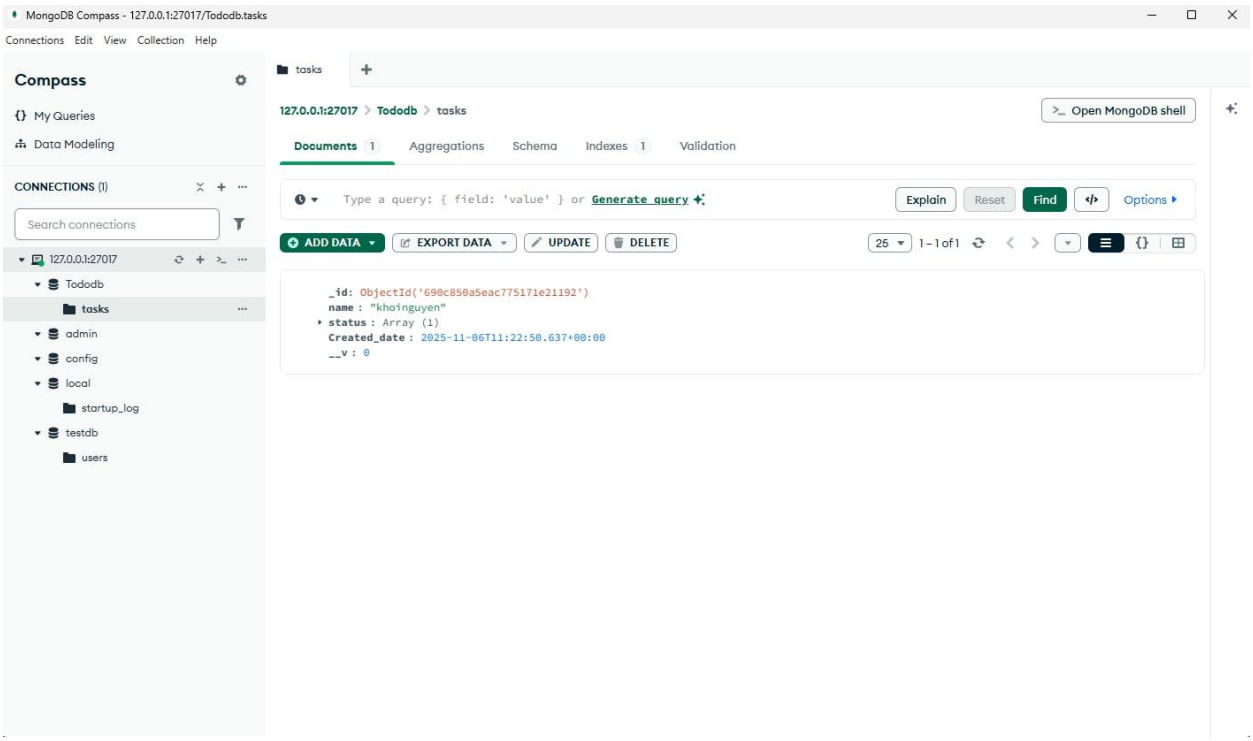
```
> todolistapi@1.0.0 start
> nodemon server.js

[nodemon] 3.1.10
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node server.js`
Todo List REST API started on port: 3000
Process PID: 30484
```

The next step is to construct the essential parts of the API by making the following folders: todoListModel.js, todoListController.js, and todoListRoutes.js. We use mongoose to establish the schema for our "task" with the necessary fields, including name, date, and status. Using Mongoose methods like find and save, the file todoListController.js manages CRUD operations including create, read, update, and remove tasks. Next, we configure endpoints like /tasks and /tasks/:taskid in the todoListRoutes.js to connect them to the todoListController.js.



We test our API using the Postcode plugin in Visual Studio Code after connecting everything in server.js and establishing a connection to MongoDB Compass via the localhost connection string. To ensure that our data is successfully infused and appears in the database, we sent GET and POST. The fundamentals of comprehending API functionality and client-server communication are emphasized in this lab exercise.




MongoDB Compass - 127.0.0.1:27017/Tododb.tasks
Connections Edit View Collection Help
Compass
My Queries
Data Modeling
CONNECTIONS (1)
Search connections
127.0.0.1:27017
Tododb
tasks
admin
config
local
startup_log
testdb
users
tasks
127.0.0.1:27017 > Tododb > tasks
Open MongoDB shell
Documents 1
Aggregations
Schema
Indexes 1
Validation
Type a query: { field: 'value' } or Generate query
Explain
Reset
Find
Options
ADD DATA
EXPORT DATA
UPDATE
DELETE
25
1 - 1 of 1
_id: ObjectId('690c850a5eac775171e21192')
name : "khoinguyen"
status : Array (1)
Created_date : 2025-11-06T11:22:50.637+00:00
__v : 0