

1. Project Overview

This project is a complete **E-commerce Backend API** built using **Node.js, Express, and MongoDB Atlas**, with **JWT authentication and Cart functionality**.

With this API, we can:

- Register & Login Users securely
- Fetch products from database
- Add products to cart
- Update quantity in cart
- Remove product from cart
- Get user's entire cart

All cart routes are **protected and require JWT authentication**.

Smart features used:

- Password encryption (bcrypt)
 - Token-based authentication (JWT)
-

2. Middleware Overview

a) Authentication Middleware

This middleware protects cart routes. It verifies the token sent in the request header:

- ✓ If the token is valid, it allows the request to proceed
- ✗ If invalid/missing, it returns **401 Unauthorized**

Why useful?

- Ensures only logged-in users can add/view cart items.
- Prevents unauthorized access to private data.

b) Error Handling Middleware

There are two error handlers:

notFoundHandler

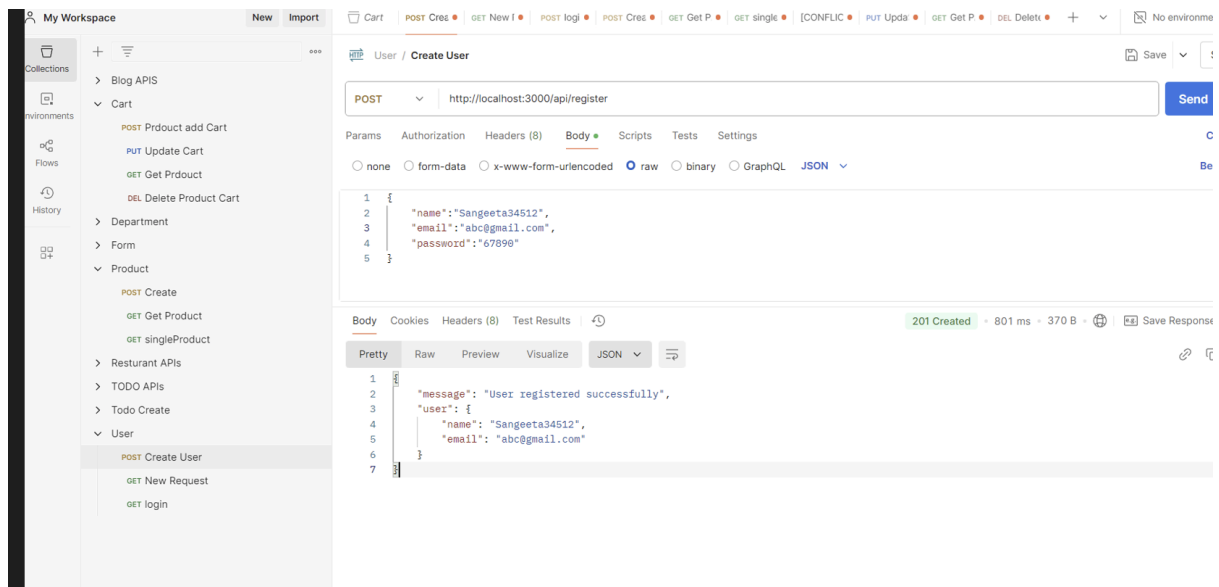
Used when a route does not exist.

"Route /unknown not found"

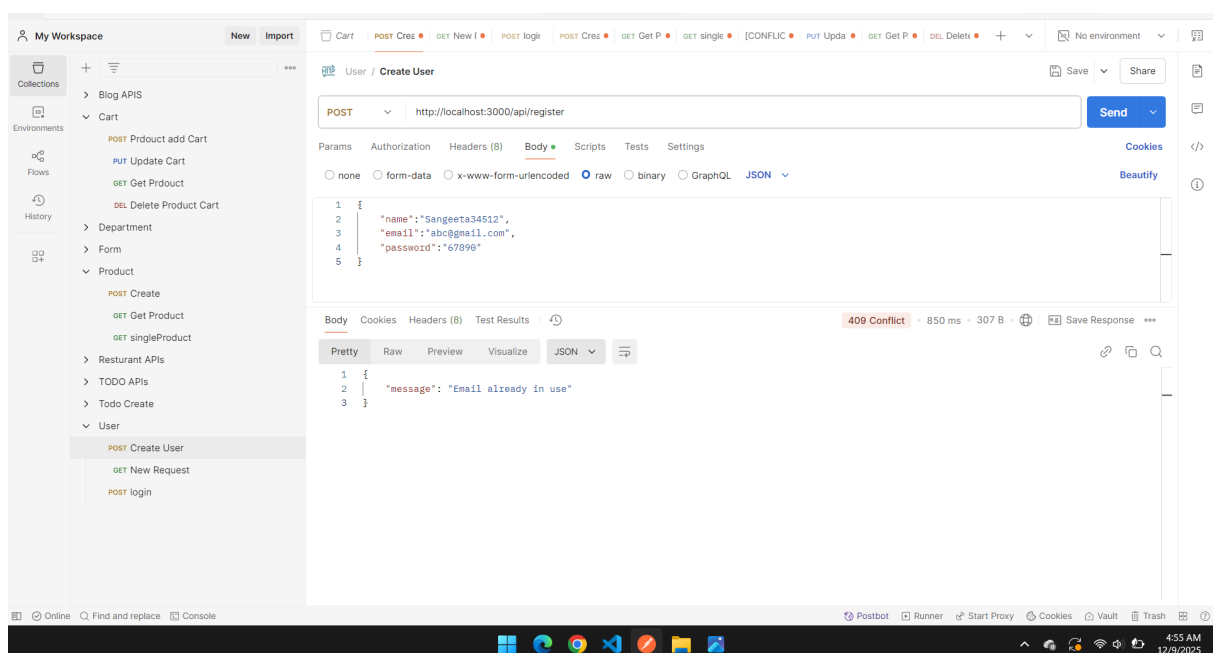
3. API Routes Explanation

User Authentication Routes

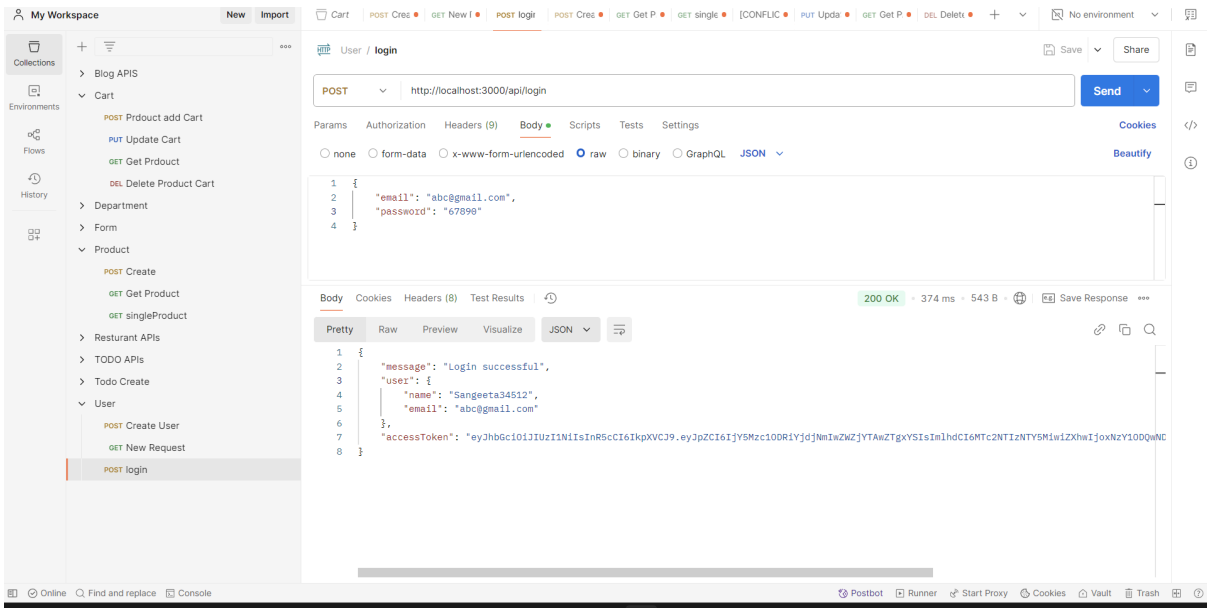
Post/api/register - Register New User



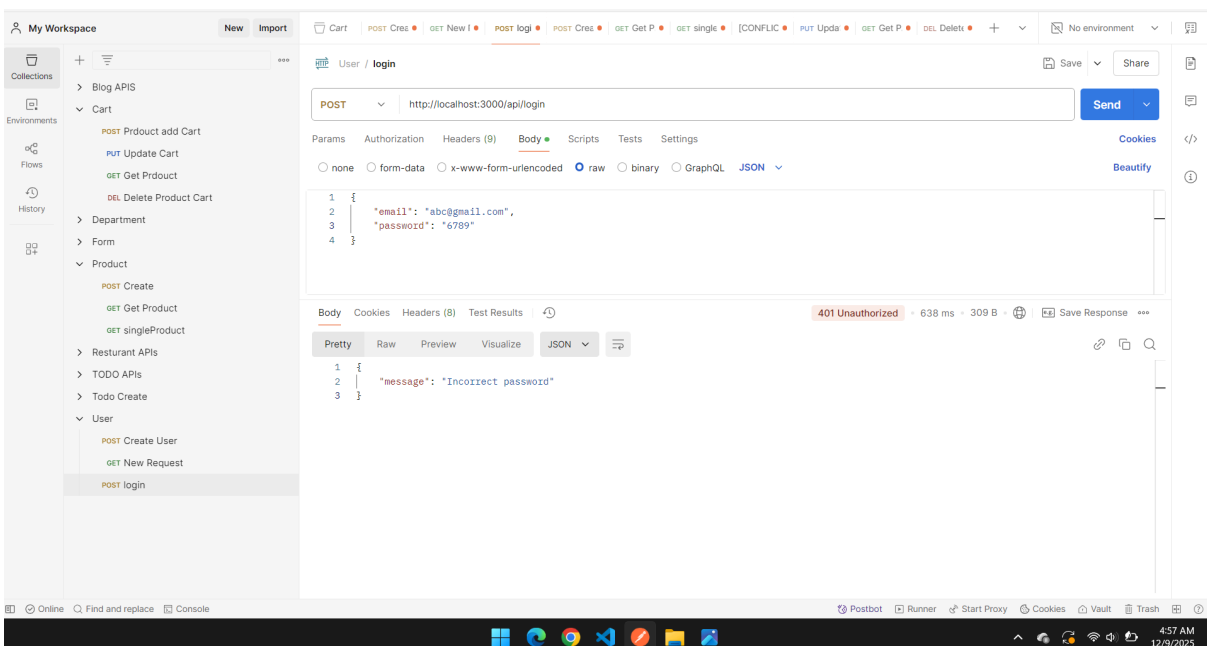
Validate Proper Email



Post/api/login -user login

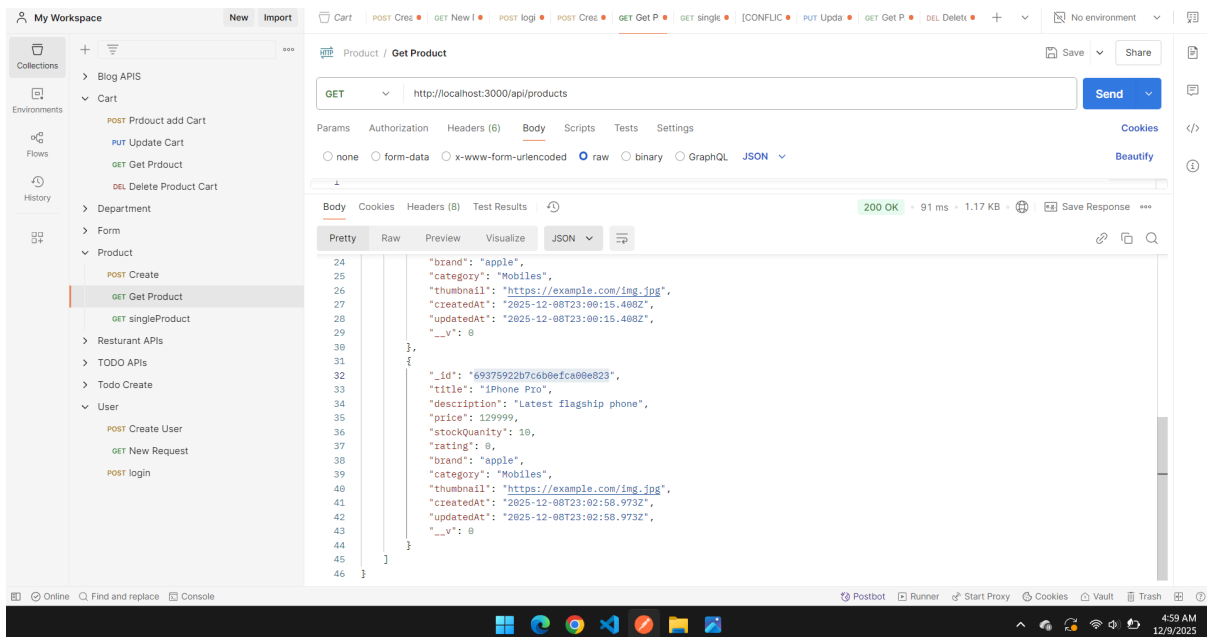


If wrong password



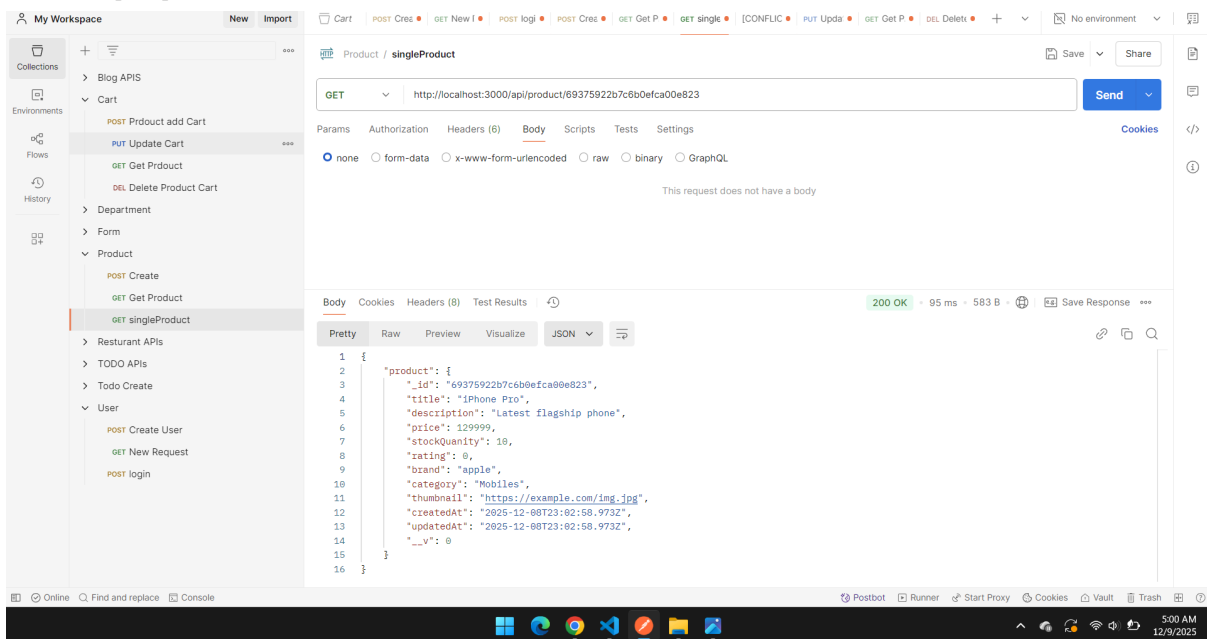
Product Routes

Get /api/products



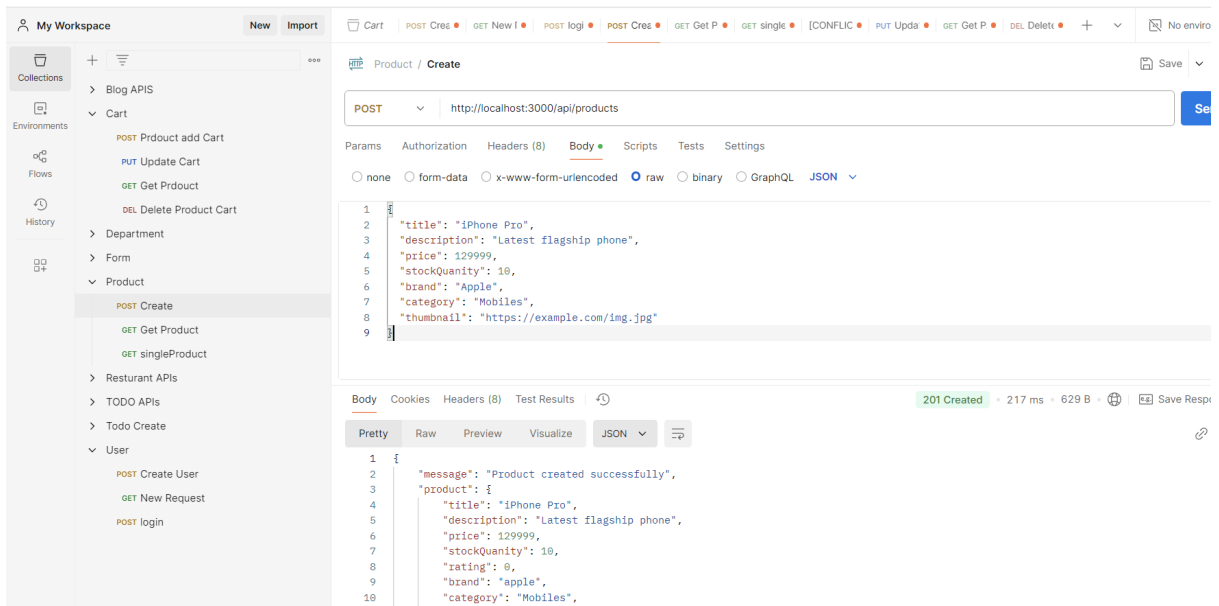
Fetch Single Product By id

Get /api/product/:id



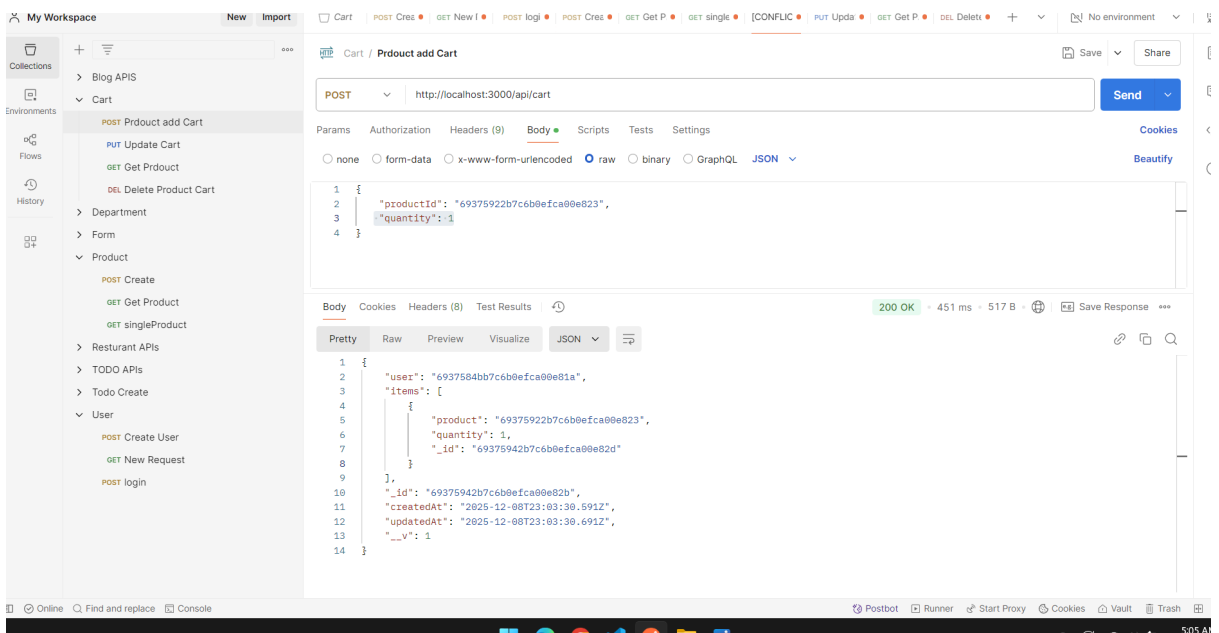
Create Products

Post /api/products



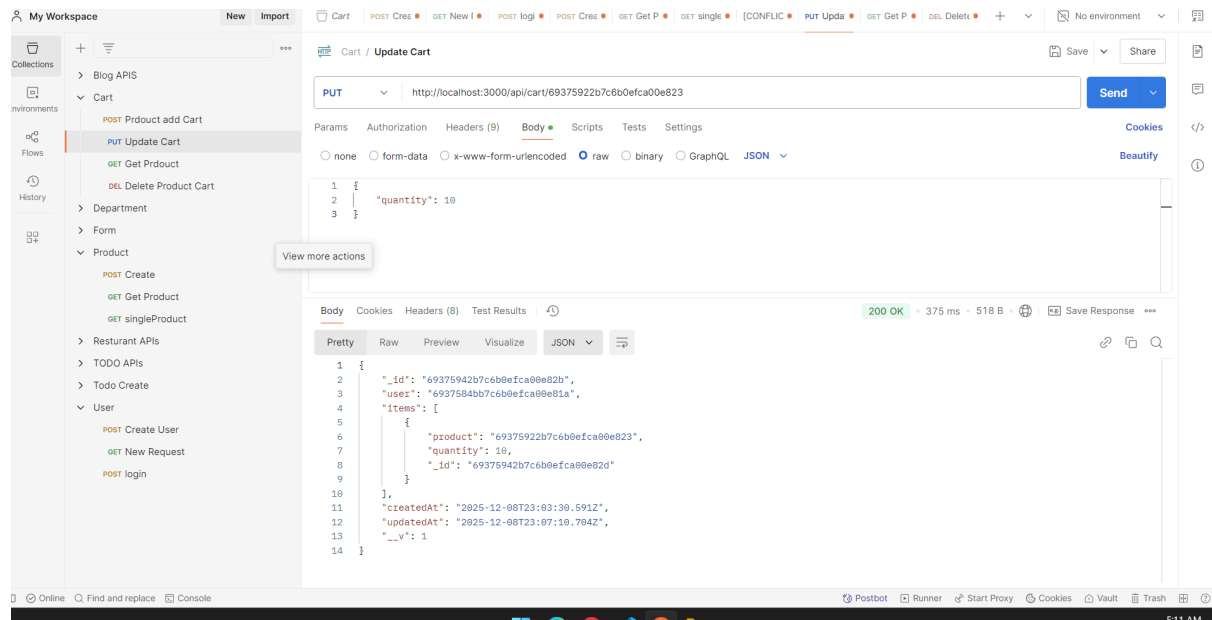
Cart Routes

Post/api/cart -(product Add to cart)



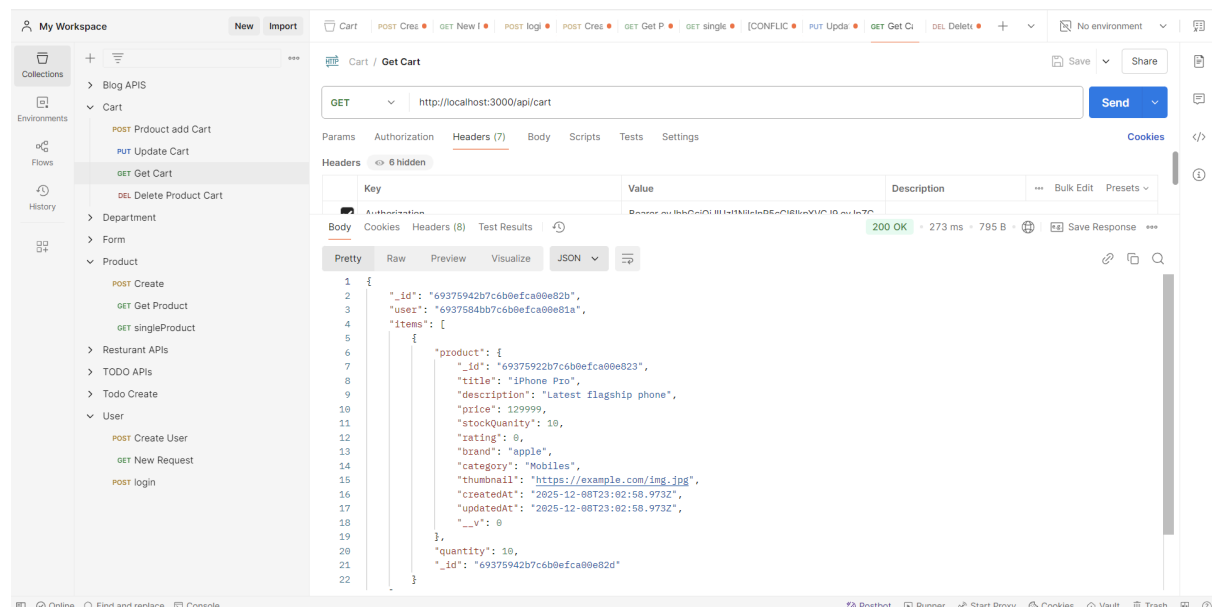
Update Product Quantity Cart

Put/api/cart /productid



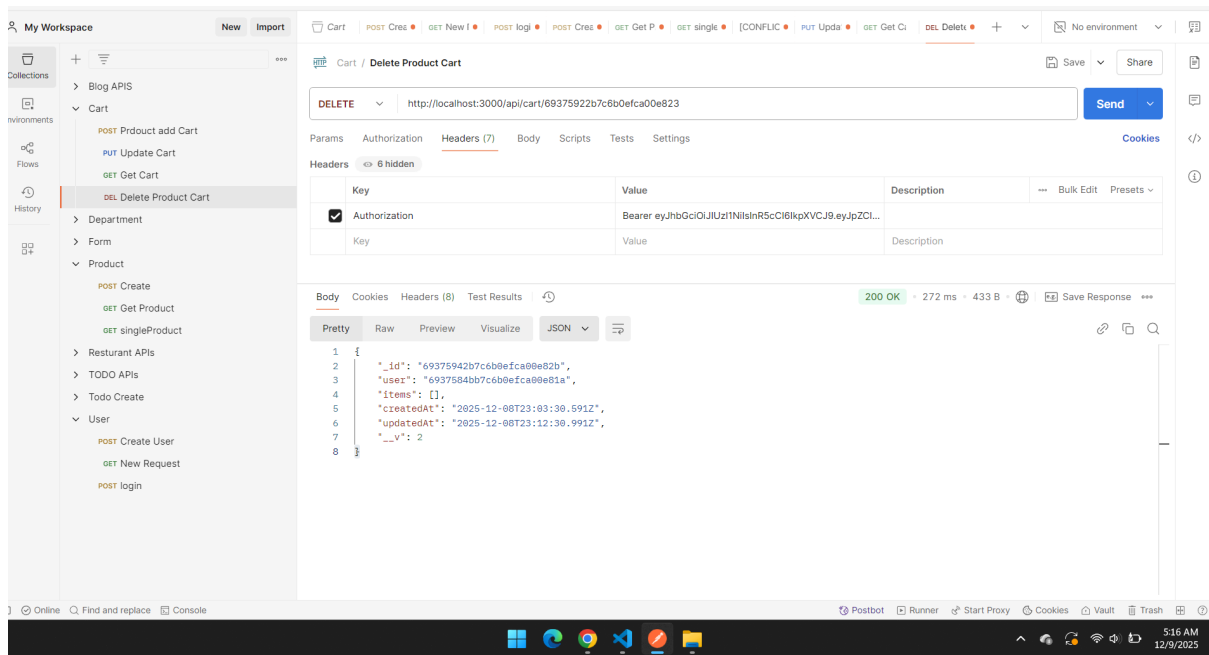
Get Product Quantity Cart

get/api/cart



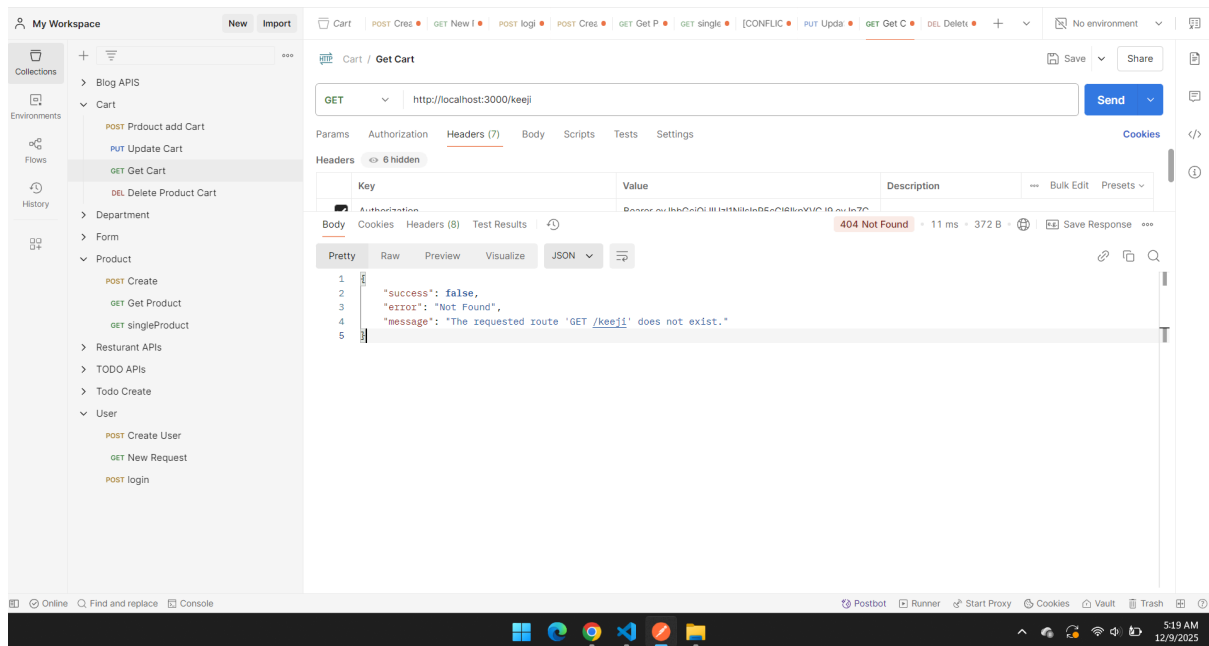
Delete Product Cart

Delete/api/cart



4. Error Handling

If path not found -404



.proper status code

400 (Bad Request)

401 (Unauthorized)

404 (Not Found)

500 (Internal Server Error)