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)

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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

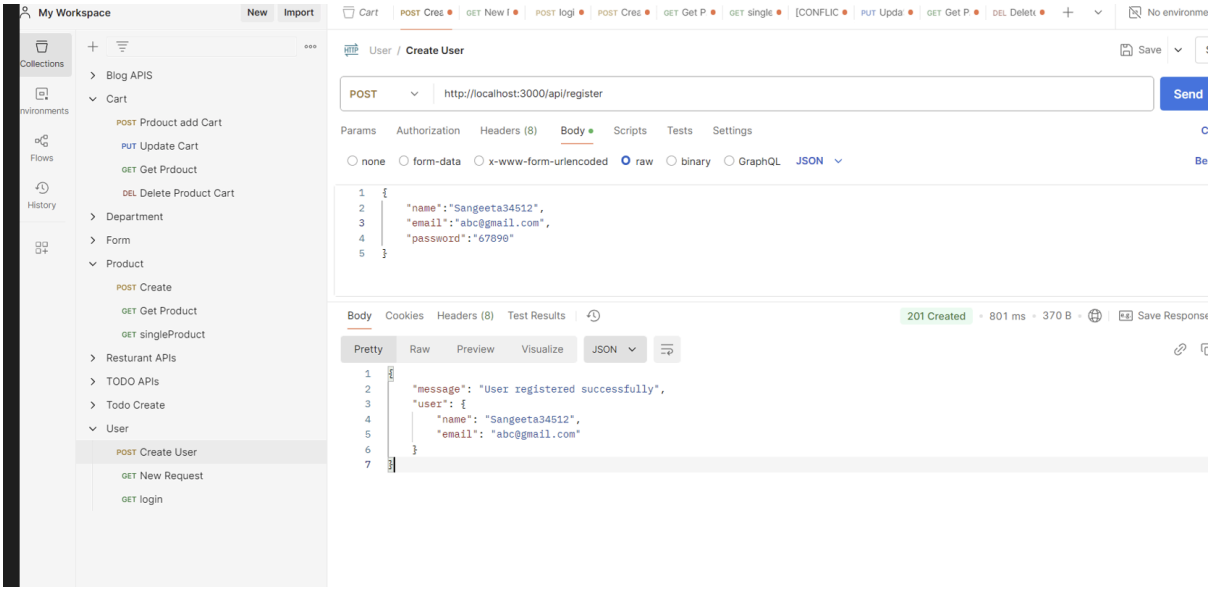
Used when a route does not exist.

"Route /unknown not found"

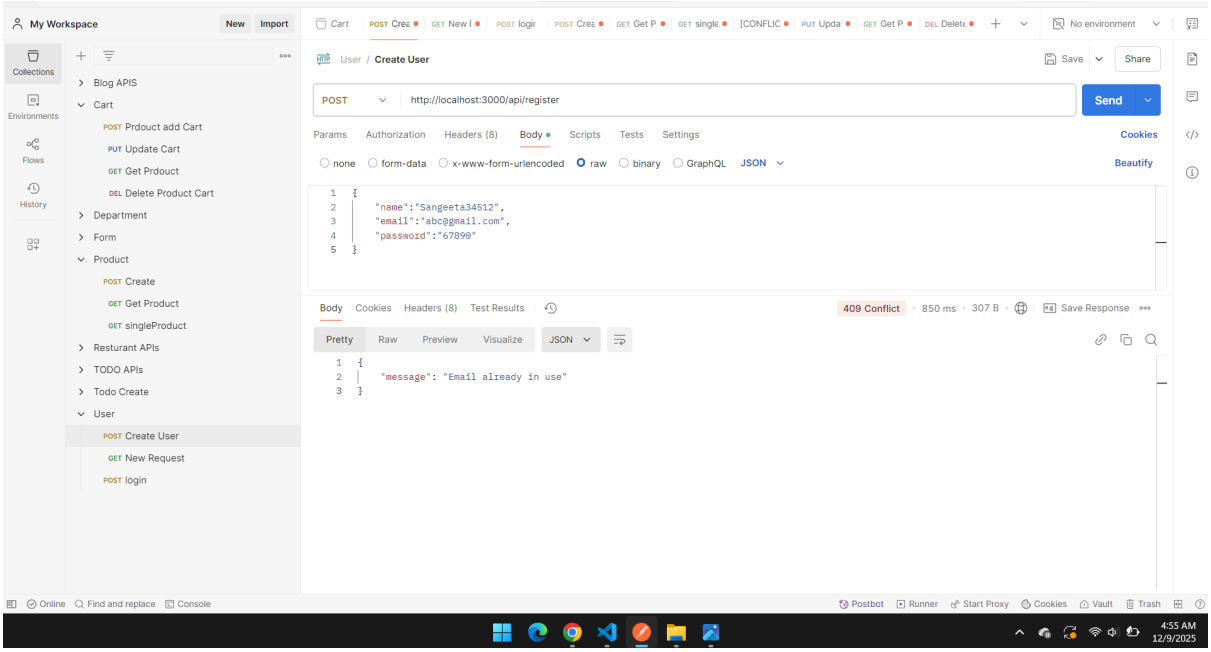
3. APi Routes Explanation

User Authentication Routes

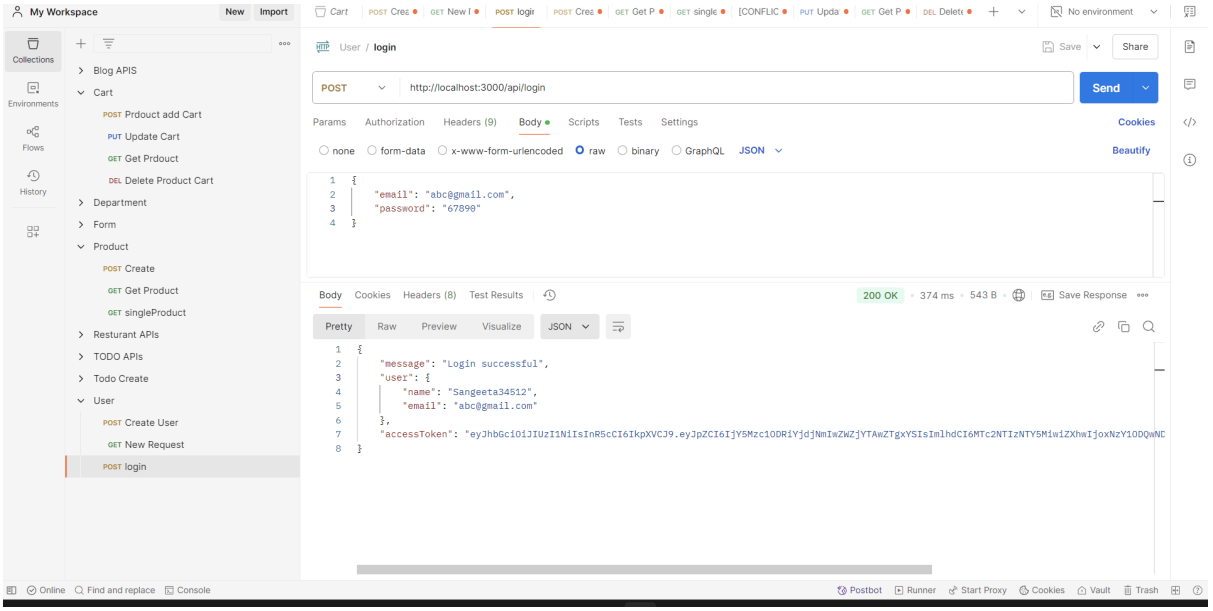
Post/api/register - Register New User



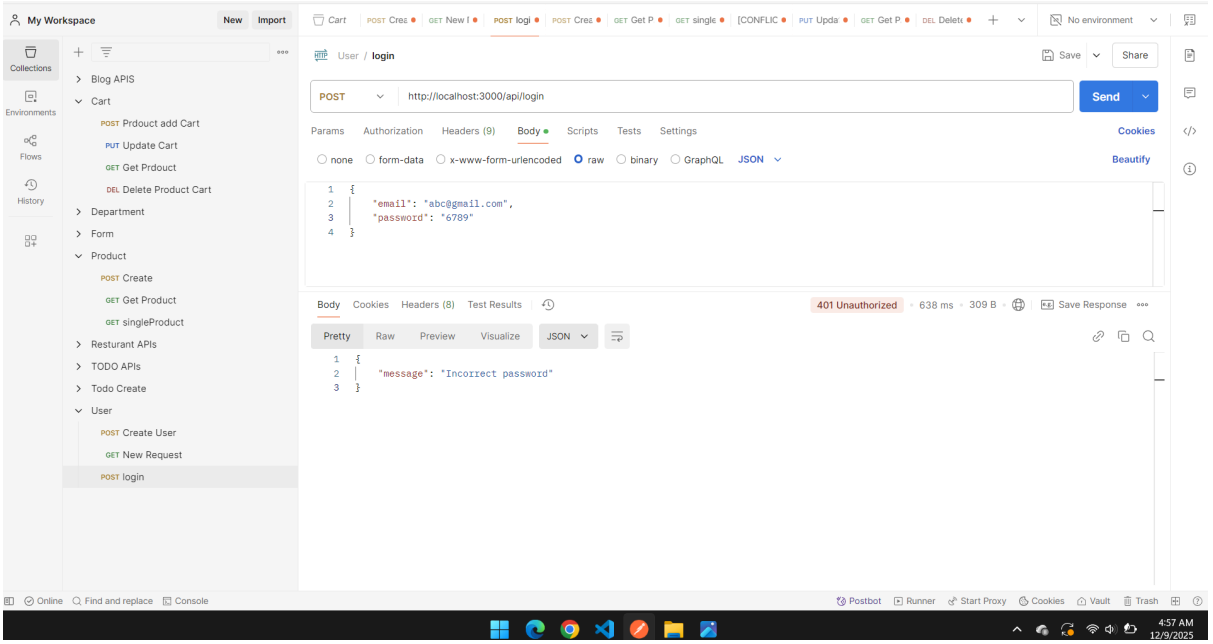
Validate Proper Email



Post/api/login -user login

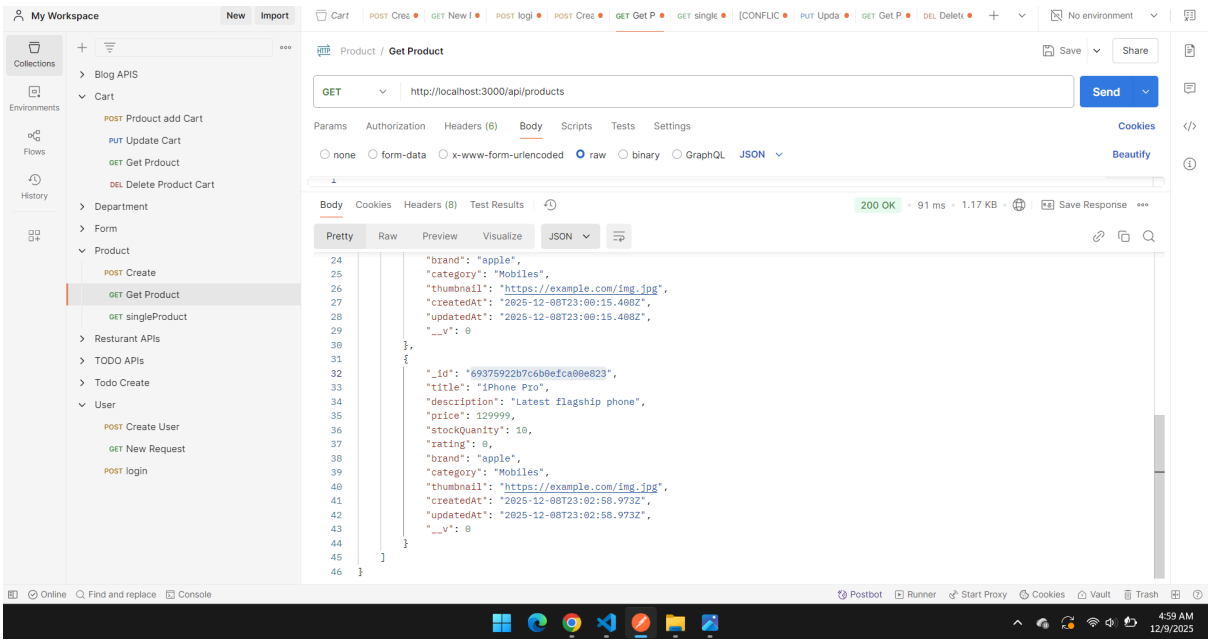


If wrong password



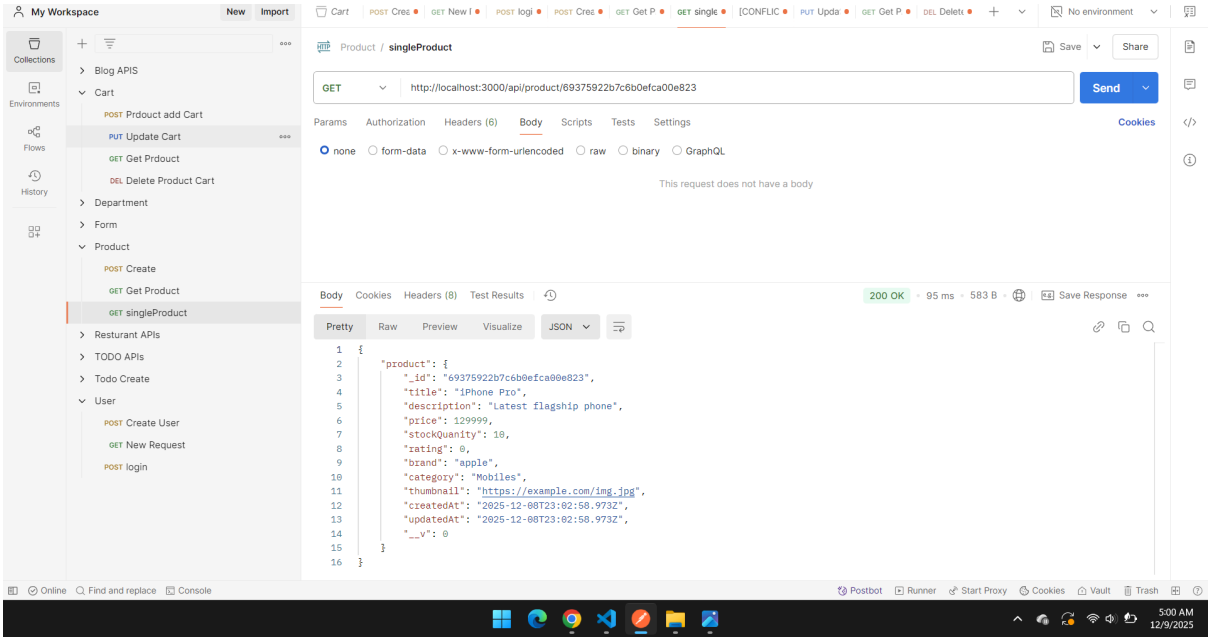
Product Routes

Get /api/products



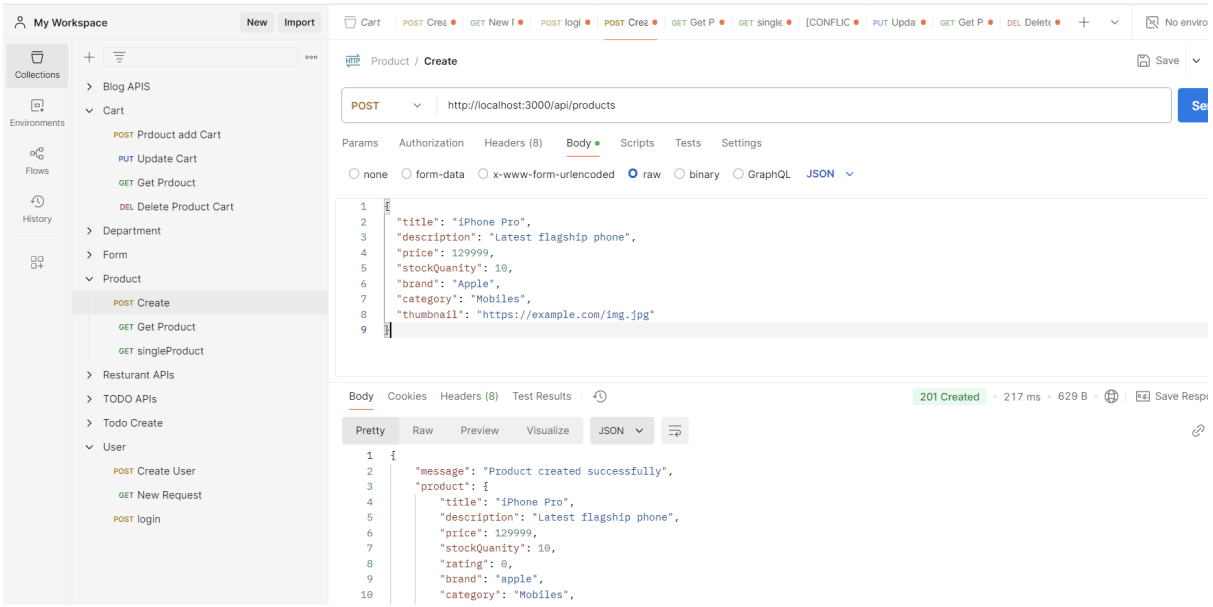
Fetch Single Product By id

Get /api/product/:id



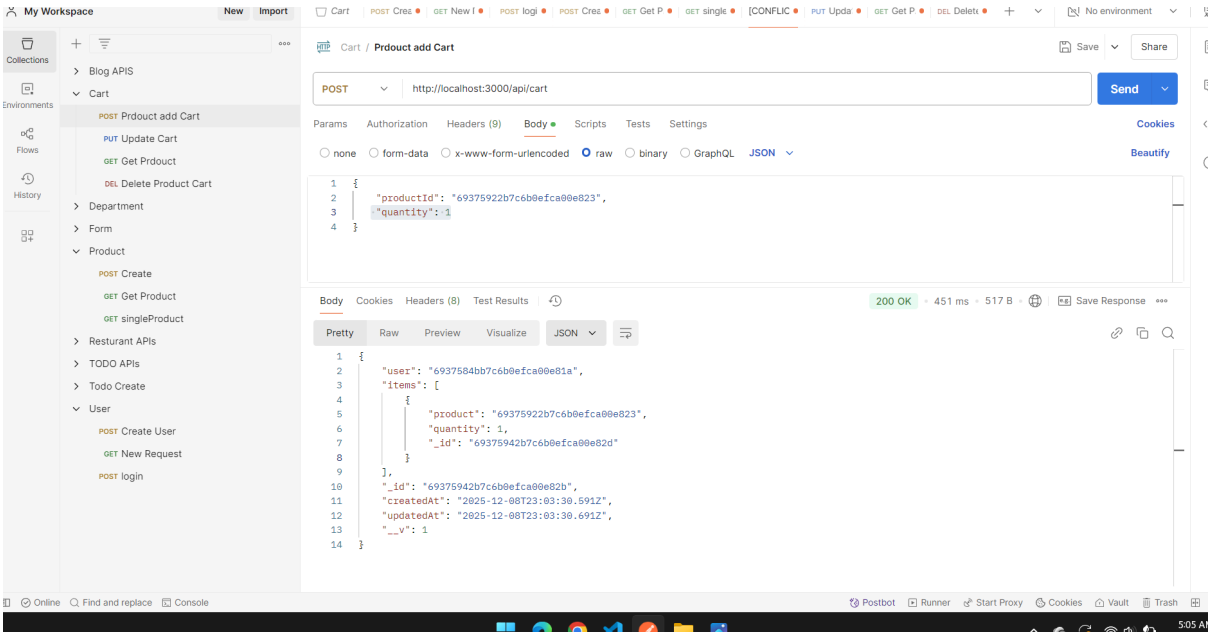
Create Products

Post /api/products

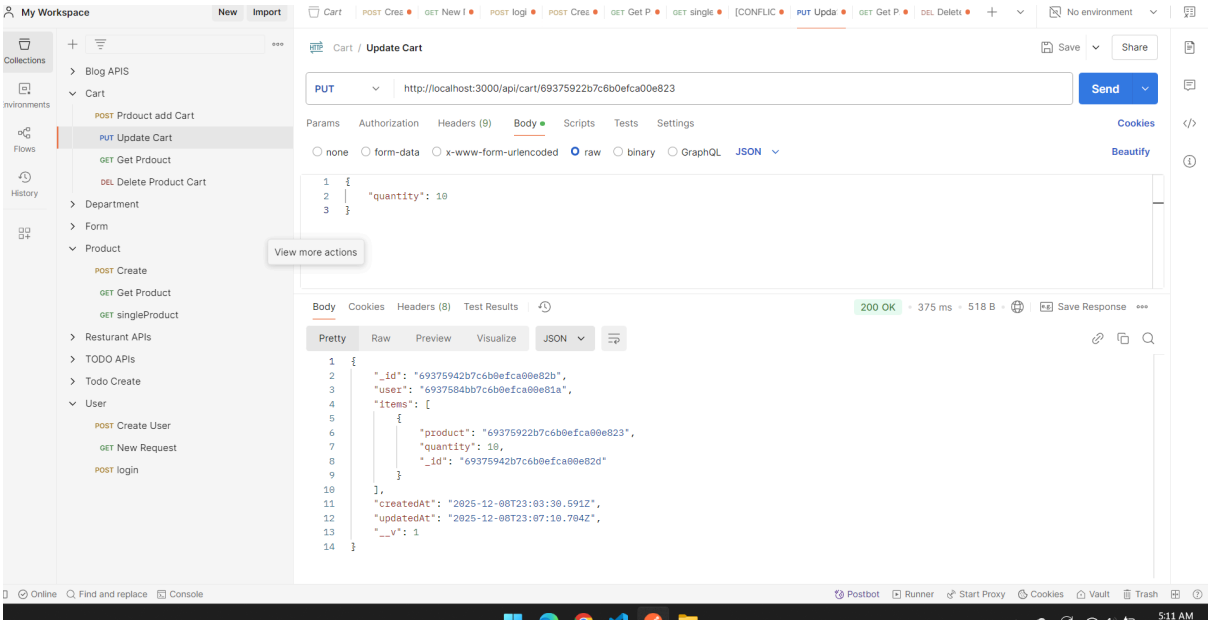


Cart Routes

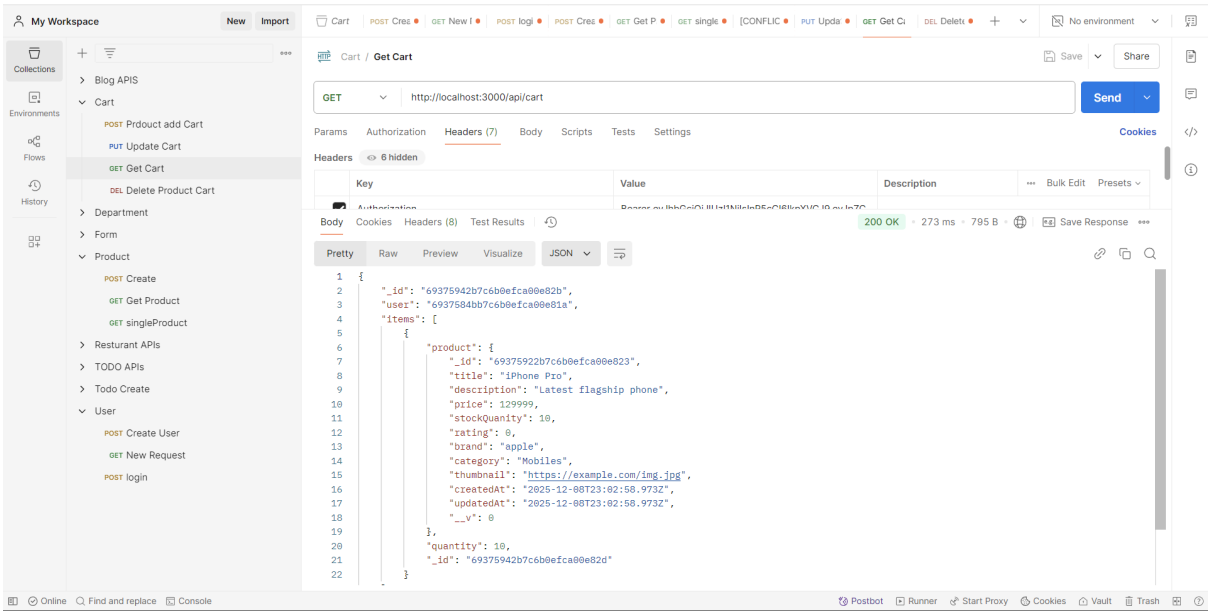
Post/api/cart -(product Add to cart)



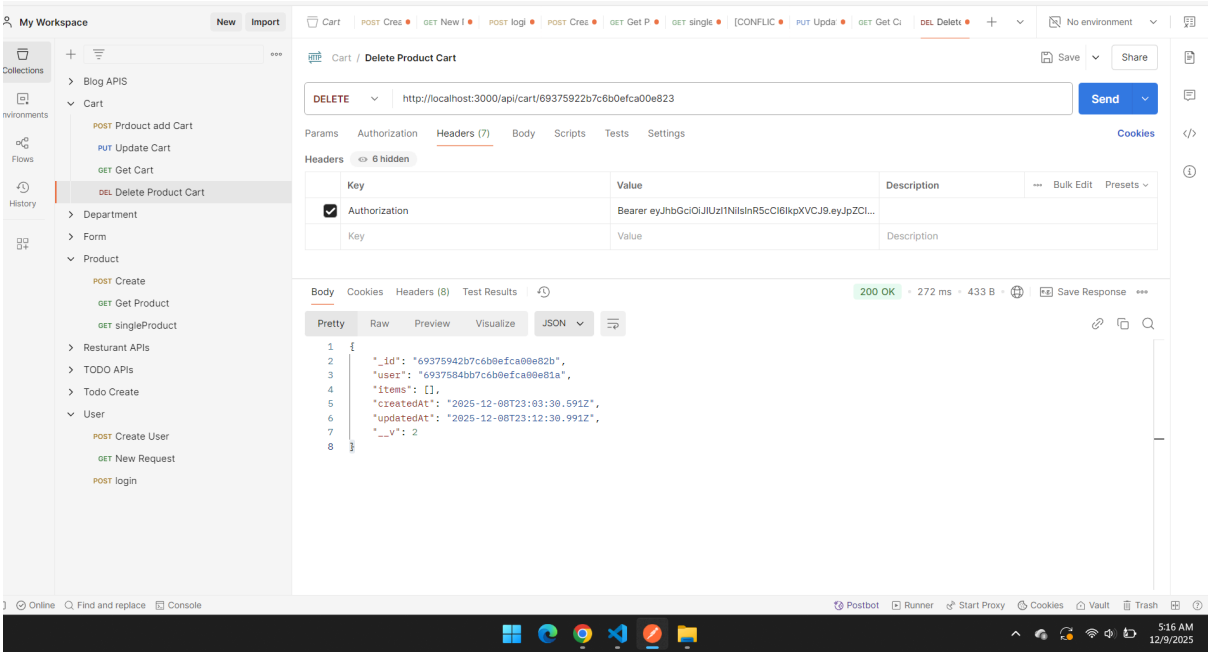
Update Product Quantity Cart
Put/api/cart /productid



Get Product Quantity Cart
get/api/cart

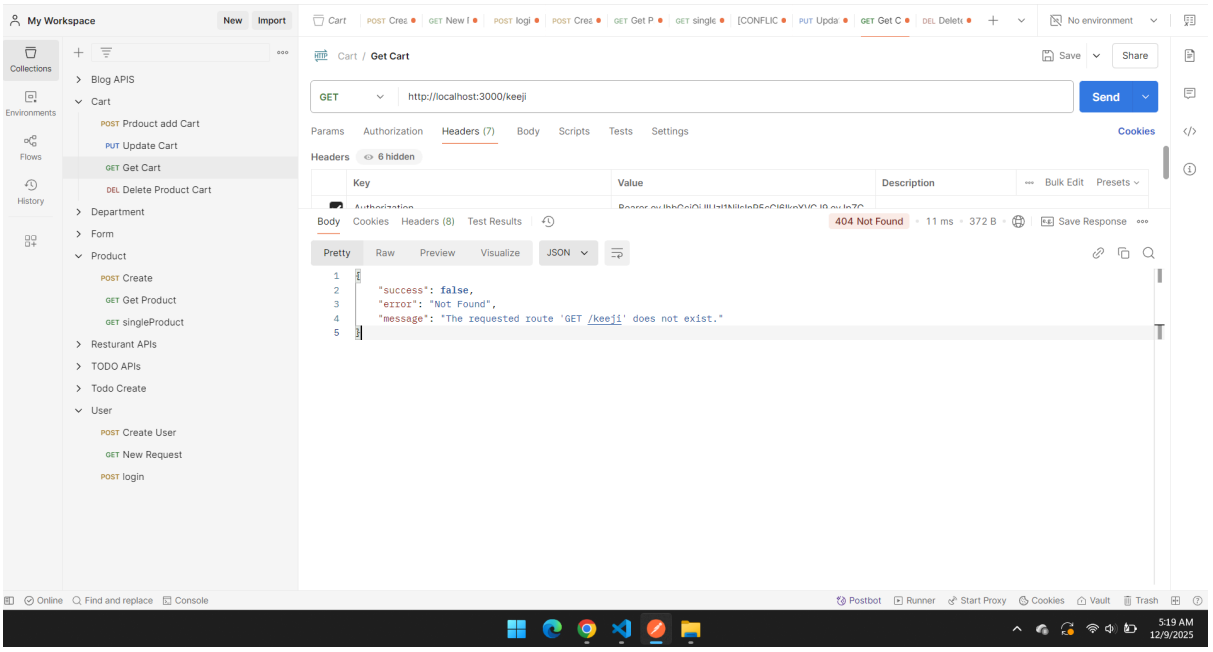


Delete Product Cart
Delete/api/cart



4. Error Handleing

If path not found -404

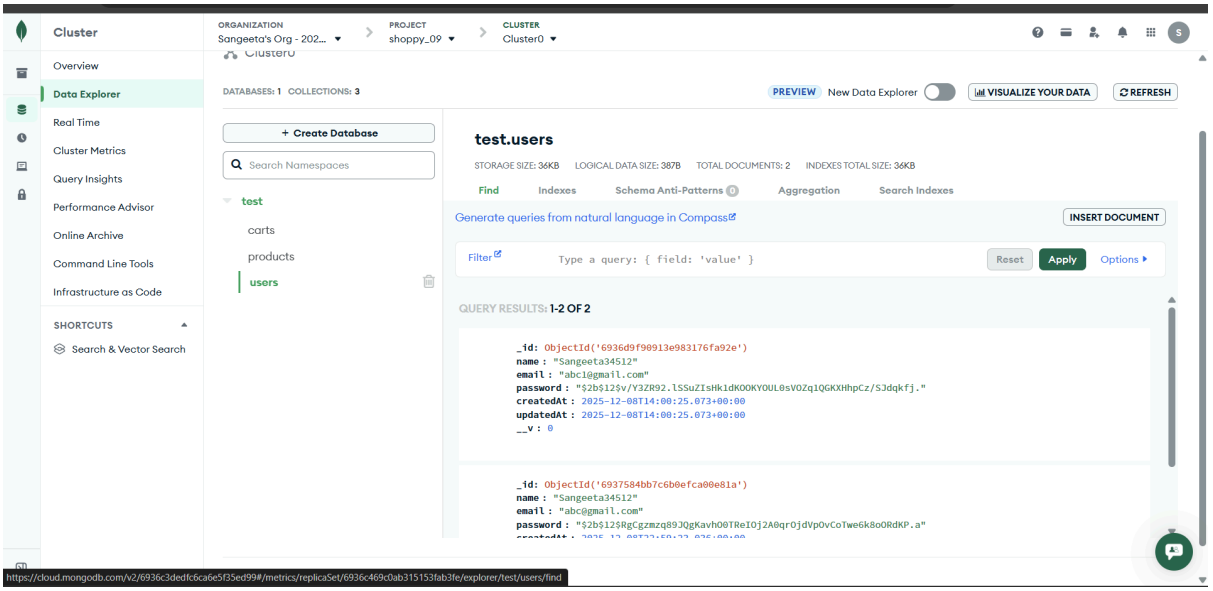


.proper status code

400 (Bad Request)
401 (Unauthorized)
404 (Not Found)

500 (Internal Server Error)

//user data



//product