ShoppyGlobe Backend API Testing Documentation

This document provides step-by-step instructions and expected results for testing all required API routes using ThunderClient . Screenshots of the requests, responses, and MongoDB structure must be added below the relevant sections for submission compliance.
GitHub Repository Link: [ecommerceshoppygloby/shoppyglobe at main ·bhavanishankar7075/ecommerceshoppygloby]
Base API URL: http://localhost:5000/api

I. MongoDB Database Structure

The project uses MongoDB with the Mongoose ODM to store all persistent application data.

1. Products Collection Setup

Objective: Show the collection schema structure and initial product data insertion.
Proof: Screenshot showing the fields (**name**, **price**, **description**, **stock**, **thumbnail**, **category**) and at least one document inserted into the **products** collection.

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2. Cart Collection Structure

Objective: Show how the cart structure links a user to an array of items. The cart document must be user-specific (**user ObjectId reference**) and contain item details (**product ObjectId reference, quantity**).
Proof: Screenshot showing the Cart collection schema with the user reference field and the structure of the items array.

II. Authentication & Authorization Routes

These routes secure the application by implementing JWT-based authentication.

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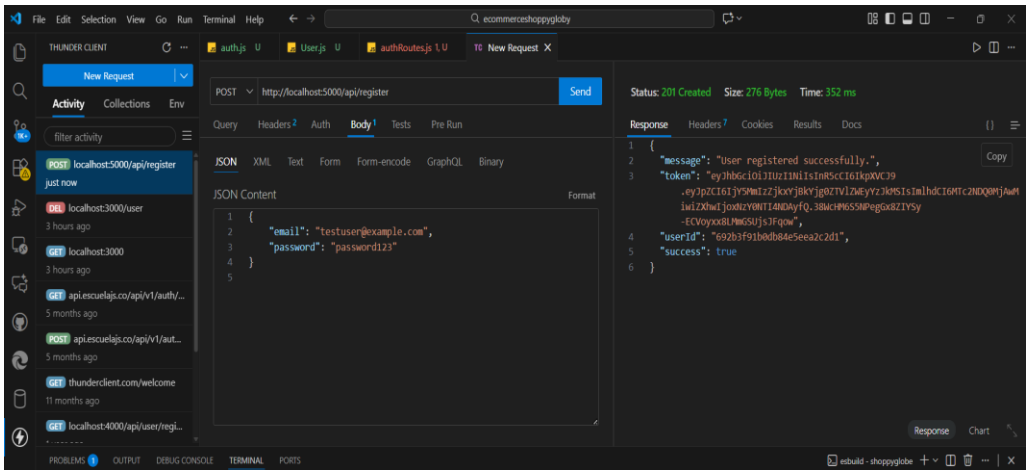
1. User Registration (POST /api/register)

Route: POST /api/register
Objective: Register a new user and receive a JWT token.
Expected Status: 201 Created
Body:

```
{
  "email": "testuser@example.com",
  "password": "password123"
}
```

Expected Response: JSON object containing success: true and the generated **token**.

Screenshot:



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2. User Login (POST /api/login)
Route: POST /api/login
Objective: Authenticate the user and receive a new JWT token.
Expected Status: 200 OK
Body: (Use the same email/password used for registration)

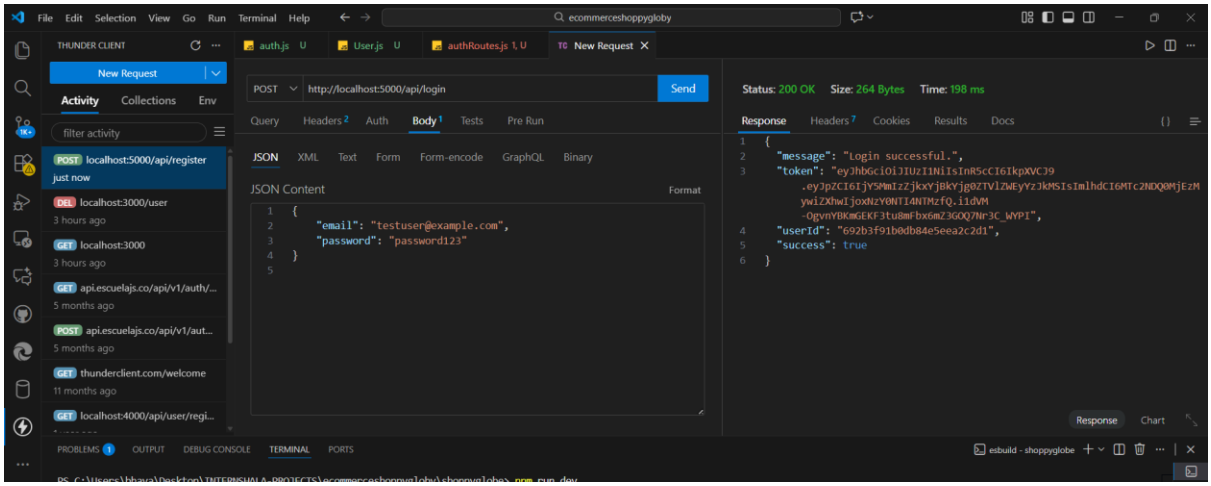
{

"email": "testuser@example.com",

"password": "password123"

}

Expected Response: JSON object containing **success: true** and the **token**. (The token must be saved for all subsequent Cart requests)
Screenshot:



III. Product Routes (Public Access)

These routes are public and allow any client (including the unauthenticated frontend) to retrieve product information.

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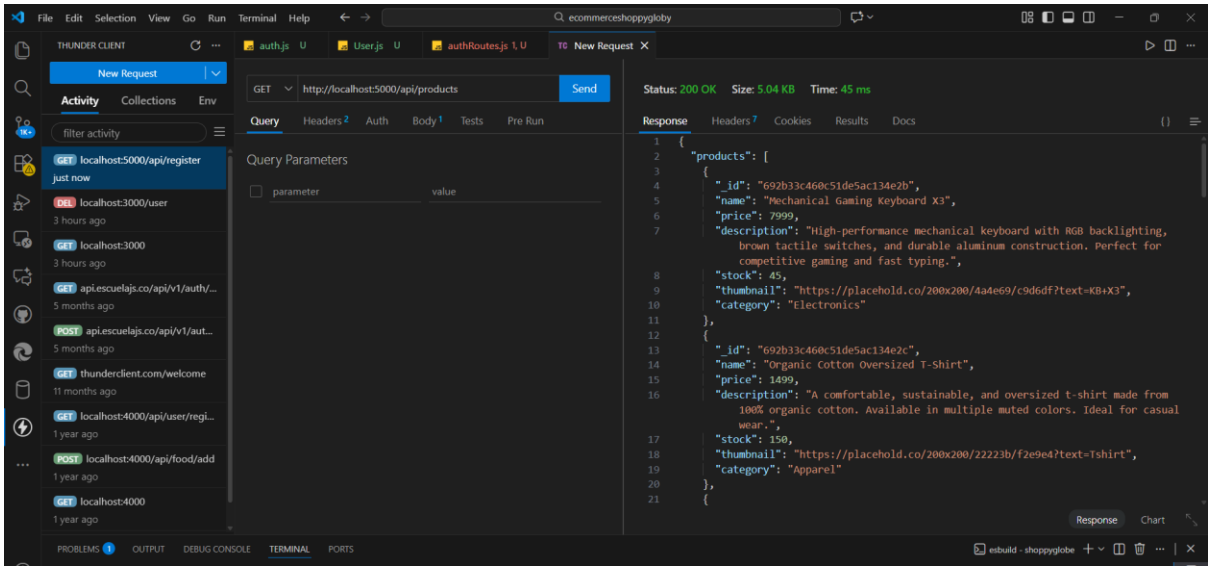
1. Fetch All Products (GET /api/products)

Route: GET /api/products
Objective: Retrieve the full list of products stored in MongoDB.
Expected Status: 200 OK
Headers: None required.
Expected Response: JSON object containing the **products array**.
Screenshot:



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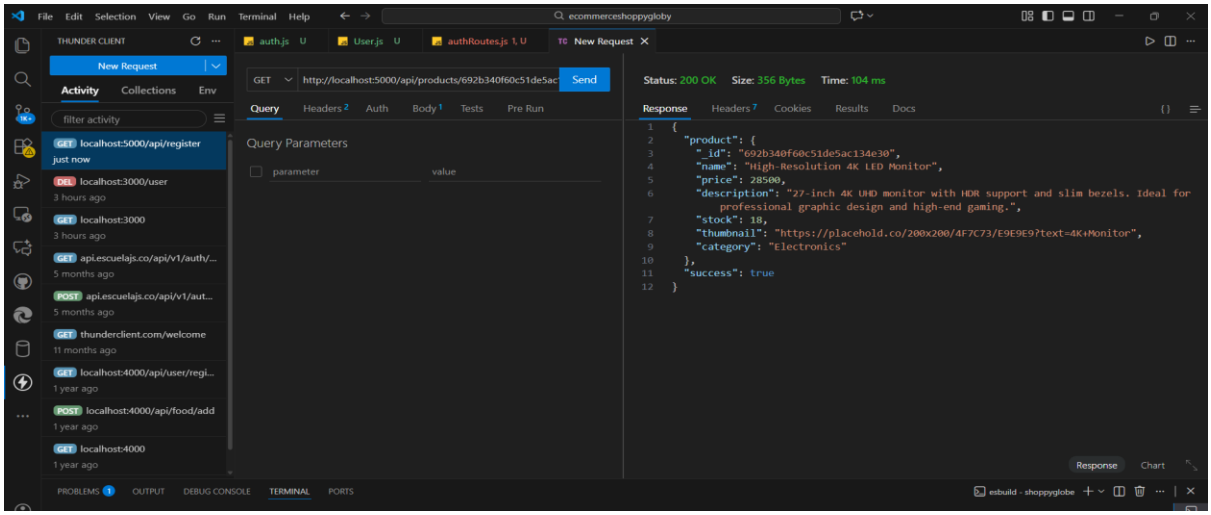
2. Fetch Single Product (GET /api/products/:id)

Route: GET /api/products/692b340f60c51de5ac134e30

Objective: Retrieve details for a single product.
Expected Status: 200 OK
Headers: None required.
Expected Response: JSON object containing the **single product object**.
Screenshot:

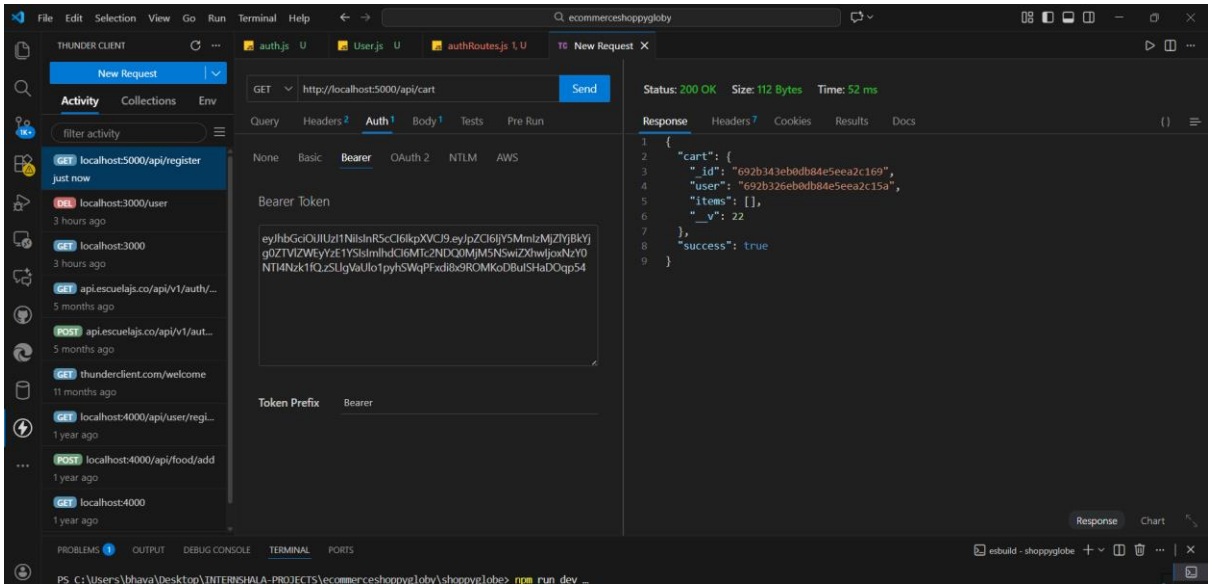


IV. Protected Cart Routes (CRUD Operations)

Crucial Requirement: All routes in this section require the JWT token to be included in the request header.
Header Required for ALL Cart Requests:
Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjY5MmIzMjZlYjBkYjg0ZTVlZWEyYzE1YSIsImlhdCI6MTc2NDQ0MjM5NSwiZXhwIjoxNzY0NTI4Nzk1fQ.zSLlgVaUlo1pyhSWqPFxdi8x9ROMKoDBuISHaDOqp54

1. Get Cart Items (GET /api/cart)

Route: GET /api/cart
Objective: Retrieve the current cart contents for the authenticated user.
Expected Status: 200 OK
Initial Expected Response:
{"cart": {"items": []}, "success": true} (If the user's cart is empty).
Screenshot:



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2. Add Product to Cart (POST /api/cart)

Route: POST /api/cart
Objective: Add a product (e.g., quantity 2) to the user's cart.
Expected Status: 201 Created
Body:

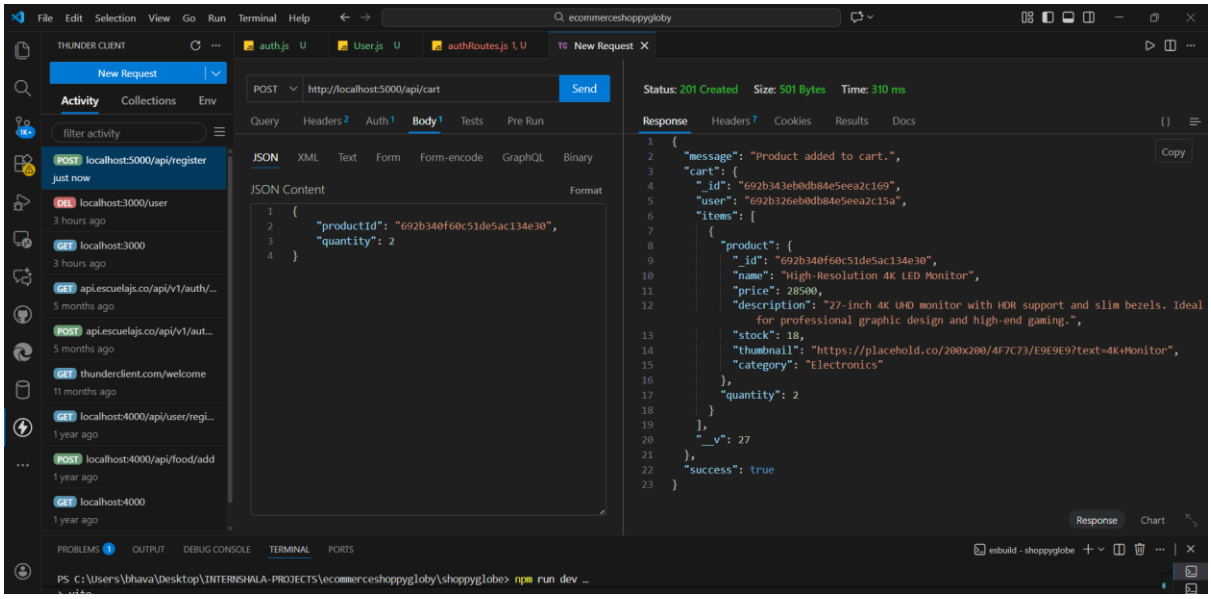
{

"productId": "692b340f60c51de5ac134e30",

"quantity": 2

}

Expected Response: JSON object containing the updated cart with the new item.
Screenshot:



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3. Update Cart Quantity (PUT /api/cart/:productId)

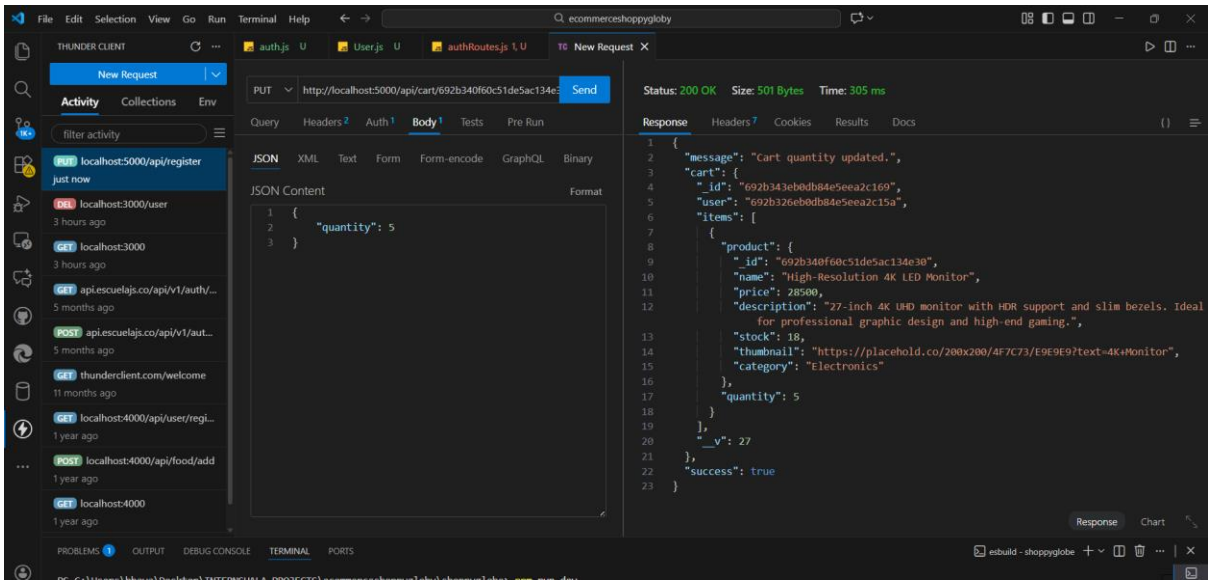
Route: PUT /api/cart/692b340f60c51de5ac134e30
Objective: Change the quantity of Product 1 (already in the cart) to 5.
Expected Status: 200 OK
Body:

{

"quantity": 5

}

Expected Response: JSON object containing the updated cart showing the new quantity.
Screenshot:



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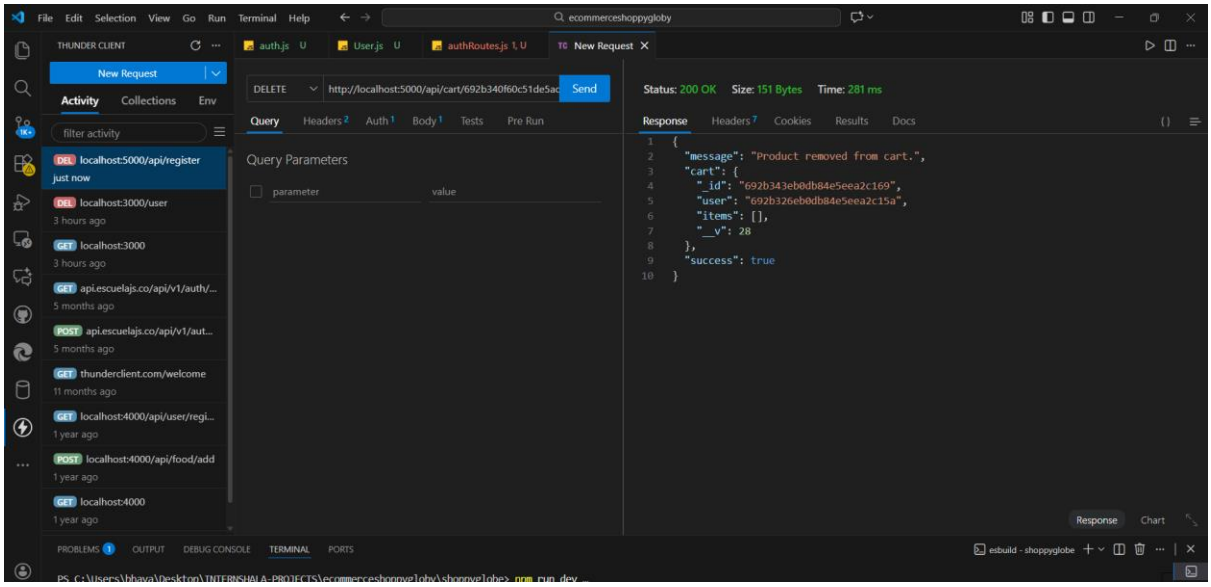
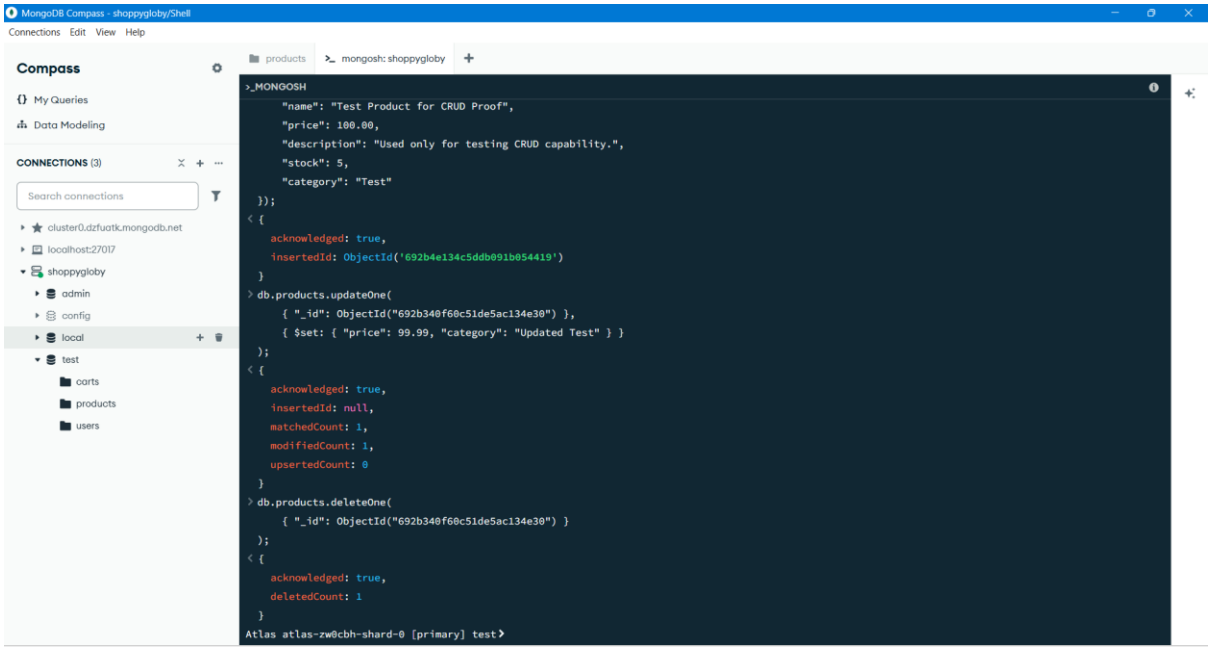
4. Remove Product from Cart (DELETE /api/cart/:productId)

Route: DELETE /api/cart/692b340f60c51de5ac134e30
Objective: Remove Product 1 entirely from the cart.
Expected Status: 200 OK
Body: None.
Expected Response: JSON object containing the updated cart with the item removed.
Screenshot:

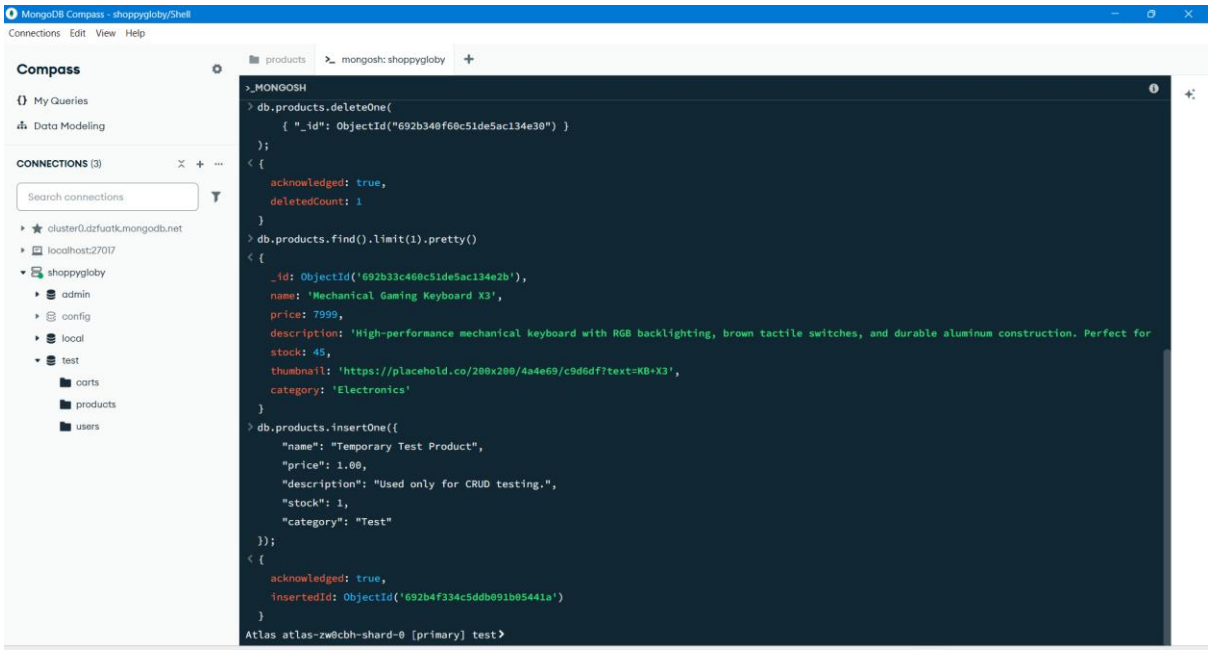


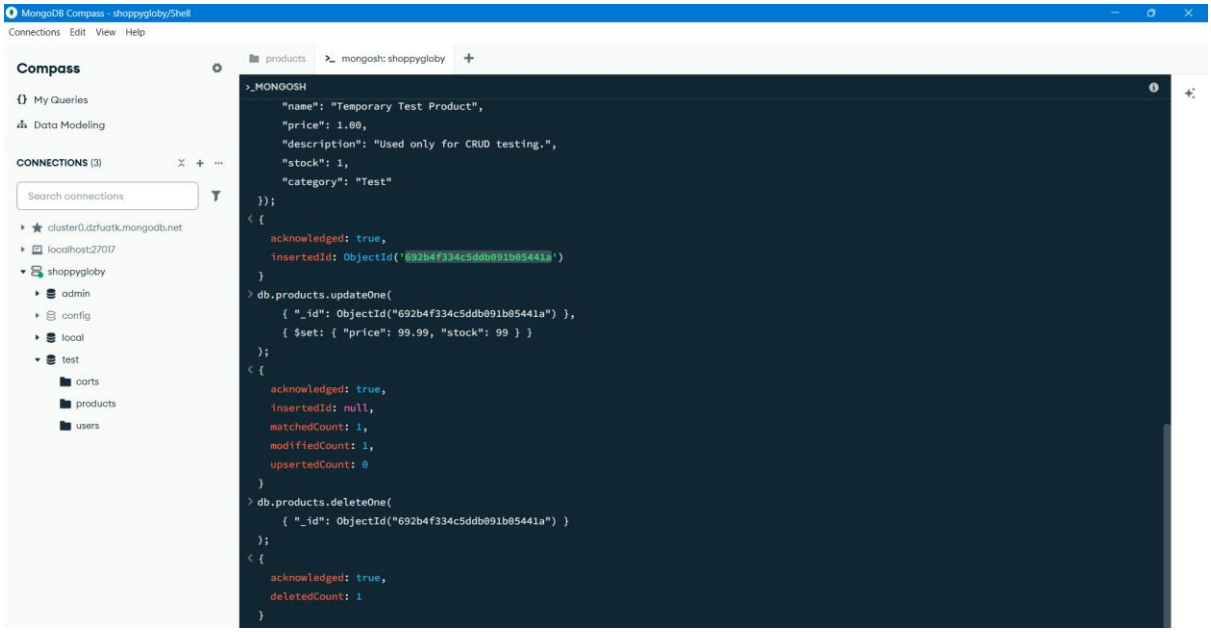
Implement CRUD operations on MongoDB collections

ALL CRUD OPERATION ON THE CART



CRUD OPERATIONS ON THE PRODUCTLIST




MongoDB Compass - shoppygloby/Shell
Connections Edit View Help
Compass
My Queries
Data Modeling
CONNECTIONS (3)
Search connections
cluster0.dzfuatk.mongodb.net
localhost:27017
shoppygloby
admin
config
local
test
carts
products
users
products
mongosh: shoppygloby
>_MONGOSH
"name": "Temporary Test Product",
"price": 1.00,
"description": "Used only for CRUD testing.",
"stock": 1,
"category": "Test"
});
{
acknowledged: true,
insertedId: ObjectId('692b4f334c5ddb091b05441a')
}
db.products.updateOne(
{ "_id": ObjectId("692b4f334c5ddb091b05441a") },
{ $set: { "price": 99.99, "stock": 99 } }
);
{
acknowledged: true,
insertedId: null,
matchedCount: 1,
modifiedCount: 1,
upsertedCount: 0
}
db.products.deleteOne(
{ "_id": ObjectId("692b4f334c5ddb091b05441a") }
);
{
acknowledged: true,
deletedCount: 1
}