E-commerce Catalogue with Nested Documents (MongoDB & Node.js)

Project Overview

This project demonstrates a simple e-commerce catalogue using Node.js, Express, and MongoDB with nested documents for product variants. Each product has fields like name, price, category, and an array of variants containing colour, size, and stock.

Features

- Add a new product with multiple variants
- Retrieve all products
- Filter products by category
- Filter products by variant colour

Prerequisites

- ➢ Node.js installed
- ➢ MongoDB installed and running locally (or MongoDB Atlas account)
- ➢ Postman (for API testing)

Installation & Setup

1. Install all the dependencies that a project need

npm install

2. Start MongoDB (if using local MongoDB):

mongod

3. Run the server:

node server.js

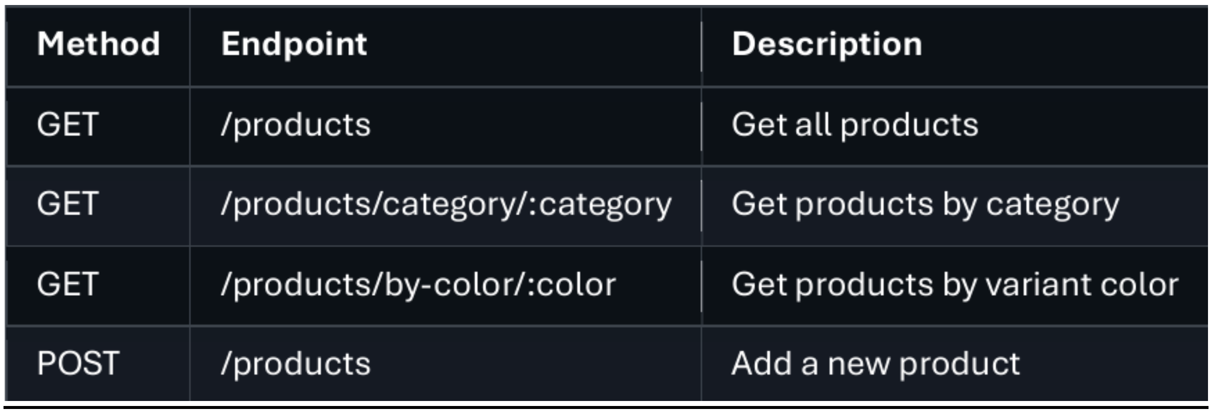
Code

script.js

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

const mongoose = require('mongoose');

const bodyParser = require('body-parser');

const app = express();

app.use(bodyParser.json());

mongoose.connect('mongodb://127.0.0.1:27017/ecommerce')

.then(() => console.log('MongoDB connected'))

.catch(err => console.log(err));
```

```
const variantSchema = new mongoose.Schema({
color: String,
size: String,
stock: Number
});
const productSchema = new mongoose.Schema({
name: String,
  price: Number,
  category: String,
  variants: [variantSchema]
});
const Product = mongoose.model('Product', productSchema);
app.post('/products', async (req, res) => {
  try {
    const product = new Product(req.body);
    await product.save();
    res.send(product);
  } catch (err) {
    res.status(400).send(err);
  }
});
app.get('/products', async (req, res) => {
  try {
    const products = await Product.find();
    res.send(products);
  } catch (err) {
    res.status(500).send(err);
  }
});
app.get('/products/category/:category', async (req, res) => {
  try {
        const products = await Product.find({ category: req.params.category });
        res.send(products);
    } catch (err) {
        res.status(500).send(err);
    }
});
app.get('/products/by-color/:color', async (req, res) => {
    try {
        const products = await Product.find({ 'variants.color': req.params.color });
        res.send(products);
    } catch (err) {
        res.status(500).send(err);
    }
});
app.listen(3000, () => console.log('Server running on port 3000'));
```

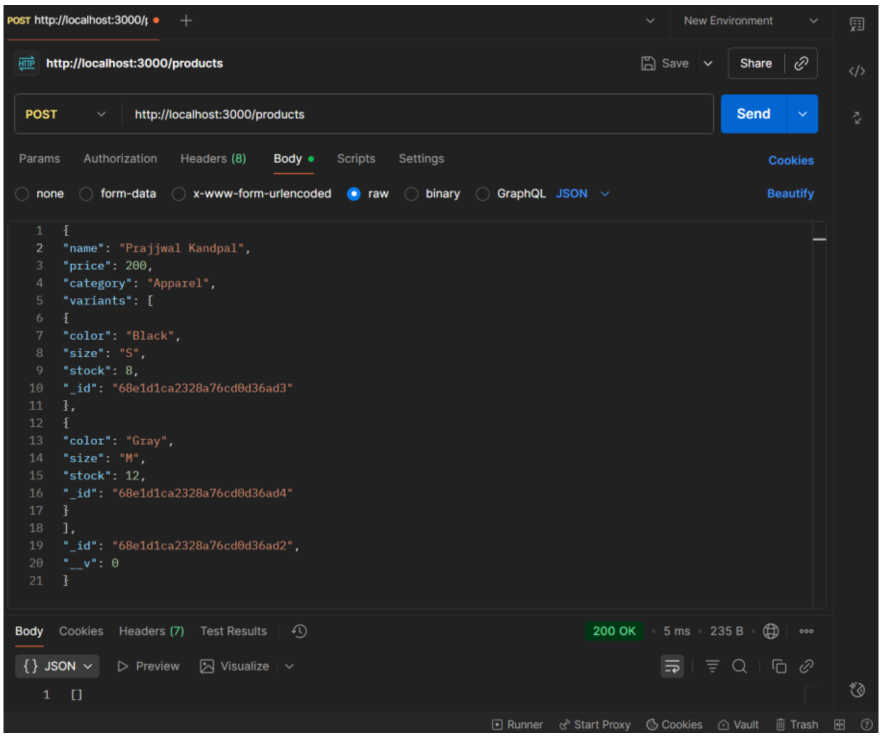
API Endpoints



Method	Endpoint	Description
GET	/products	Get all products
GET	/products/category/:category	Get products by category
GET	/products/by-color/:color	Get products by variant color
POST	/products	Add a new product

Screen Shots

1. Add a new product (POST)



http://localhost:3000/products

POST http://localhost:3000/products

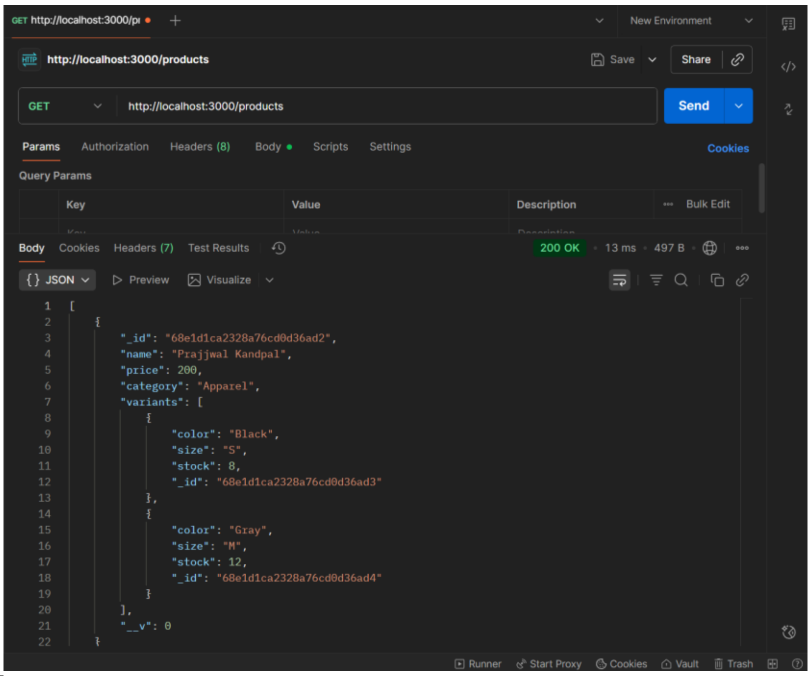
```
{
"name": "Prajjwal Kandpal",
"price": 200,
"category": "Apparel",
"variants": [
{
"color": "Black",
"size": "S",
"stock": 8,
"_id": "68e1d1ca2328a76cd0d36ad3"
},
{
"color": "Gray",
"size": "M",
"stock": 12,
"_id": "68e1d1ca2328a76cd0d36ad4"
}
],
"_id": "68e1d1ca2328a76cd0d36ad2",
"__v": 0
}
```

200 OK · 5 ms · 235 B

Body: JSON

```
[]
```

2. Get all products



http://localhost:3000/products

GET http://localhost:3000/products

200 OK · 13 ms · 497 B

Body: JSON

```
[
    {
        "_id": "68e1d1ca2328a76cd0d36ad2",
        "name": "Prajjwal Kandpal",
        "price": 200,
        "category": "Apparel",
        "variants": [
            {
                "color": "Black",
                "size": "S",
                "stock": 8,
                "_id": "68e1d1ca2328a76cd0d36ad3"
            },
            {
                "color": "Gray",
                "size": "M",
                "stock": 12,
                "_id": "68e1d1ca2328a76cd0d36ad4"
            }
        ],
        "__v": 0
    }
```

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