Professional eCommerce Application

**Endpoints List –**

| **#** | **Method** | **Endpoint** | **Protected** | **Roles Allowed** | **Description / Functionality** |
| --- | --- | --- | --- | --- | --- |
| **Auth & Users** |  |  |  |  |  |
| 1 | POST | /api/auth/register | NO | Public | Register a new user (Customer or Admin). |
| 2 | POST | /api/auth/login | NO | Public | Login and get JWT token. |
| 3 | GET | /api/auth/me | YES | All | Get current user profile. |
| 4 | GET | /api/users | YES | admin | Get list of all users. |
| **Categories** |  |  |  |  |  |
| 5 | GET | /api/categories | NO | Public | List all product categories. |
| 6 | POST | /api/categories | YES | admin | Create new product category. |
| 7 | PUT | /api/categories/:id | YES | admin | Update category details. |
| 8 | DELETE | /api/categories/:id | YES | admin | Delete category. |
| **Products** |  |  |  |  |  |
| 9 | GET | /api/products | NO | Public | Get list of products with pagination, search, category, price filters. |
| 10 | GET | /api/products/:id | NO | Public | Get single product details. |
| 11 | POST | /api/products | YES | admin | Create a new product. |
| 12 | PUT | /api/products/:id | YES | admin | Update product details. |
| 13 | DELETE | /api/products/:id | YES | admin | Delete a product. |
| **Orders** |  |  |  |  |  |
| 14 | POST | /api/orders | YES | customer, admin | Create new order (checkout). |
| 15 | GET | /api/orders | YES | admin | Get all orders. |
| 16 | GET | /api/orders/my | YES | customer | Get logged-in customer’s orders. |
| 17 | GET | /api/orders/:id | YES | customer, admin | Get order details. |
| 18 | PUT | /api/orders/:id/status | YES | admin | Update order status (Processing, Shipped, Delivered). |
| **Cart** |  |  |  |  |  |
| 19 | POST | /api/cart/add | YES | customer | Add product to cart. |
| 20 | GET | /api/cart | YES | customer | Get cart contents. |
| 21 | DELETE | /api/cart/:id | YES | customer | Remove product from cart. |
| **Reviews** |  |  |  |  |  |
| 22 | POST | /api/reviews/:productId | YES | customer | Add review for a product. |
| 23 | GET | /api/reviews/:productId | NO | Public | Get product reviews. |
| **Admin Dashboard (optional)** |  |  |  |  |  |
| 24 | GET | /api/admin/summary | YES | admin | Get platform metrics (total sales, users, orders, etc.). |

**Filter Endpoints List –**

* GET - Filter by Category

<http://localhost:5000/api/products?category=Electronics>

* Filter by price range

<http://localhost:5000/api/products?minPrice=500&maxPrice=5000>

* Search by keyword

<http://localhost:5000/api/products?keyword=laptop>

* Pagination

<http://localhost:5000/api/products?page=2&limit=10>

* Combined filters

<http://localhost:5000/api/products?category=Electronics&minPrice=1000&maxPrice=5000&keyword=Samsung&page=1&limit=5>

Data Structures

MongoDB Collection Structures

* Categories

{

\_id: ObjectId("68fa5d452a9bf78fad600766"),

name: 'Automotive',

slug: 'automotive',

parentId: null,

image: 'https://picsum.photos/seed/b6Vf0f1/640/480?blur=2',

\_\_v: 0,

createdAt: ISODate("2025-10-23T16:52:21.213Z"),

updatedAt: ISODate("2025-10-23T16:52:21.213Z")

}

* Products

{

\_id: ObjectId("68fa5d452a9bf78fad60077c"),

name: 'Tasty Steel Shirt',

sku: '2ccc8cfc-79bf-4eb0-85d3-6ffba5040a02',

description: 'Introducing the Mozambique-inspired Car, blending second style with local craftsmanship',

price: 5118.29,

discount: 4,

categoryId: ObjectId("68fa5d452a9bf78fad60075e"),

brand: 'Howe - Hettinger',

images: [

'https://picsum.photos/seed/CApXwcEa/640/480?blur=6',

'https://picsum.photos/seed/8dD0Sjs2/640/480'

],

stock: 88,

rating: 3.3054548016663117,

numReviews: 22,

attributes: { color: 'magenta', material: 'Plastic', warranty: '7 Months' },

isFeatured: true,

createdAt: ISODate("2025-02-07T03:29:55.259Z"),

updatedAt: ISODate("2025-10-23T16:52:21.223Z"),

\_\_v: 0

}

* Users

{

"\_id": ObjectId("..."),

"name": "John Doe",

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

"passwordHash": "$2a$10$X8L...",

"role": "customer", // enum: ["customer", "admin"]

"phone": "+91-9876543210",

"addresses": [

{

"label": "Home",

"street": "221B Baker Street",

"city": "London",

"state": "London",

"postalCode": "NW16XE",

"country": "UK",

"isDefault": true

},

{

"label": "Office",

"street": "45 Business Ave",

"city": "London",

"state": "London",

"postalCode": "NW17TR",

"country": "UK",

"isDefault": false

}

],

"createdAt": ISODate("2025-10-24T18:00:00Z"),

"updatedAt": ISODate("2025-10-24T18:10:00Z")

}

* Carts

{

"\_id": ObjectId("..."),

"userId": ObjectId("64f8e1f0b2a7c5e5b3d7c9a4"), // Reference to User

"items": [

{

"productId": ObjectId("64f8e1f0b2a7c5e5b3d7c9d2"),

"quantity": 2,

"price": 799.99

},

{

"productId": ObjectId("64f8e1f0b2a7c5e5b3d7c9e8"),

"quantity": 1,

"price": 2499.99

}

],

"totalAmount": 4099.97,

"createdAt": ISODate("2025-10-24T18:30:00Z"),

"updatedAt": ISODate("2025-10-24T18:45:00Z")

}

* Orders

{

"\_id": ObjectId("..."),

"userId": ObjectId("64f8e1f0b2a7c5e5b3d7c9a4"), // Reference to User

"items": [

{

"productId": ObjectId("64f8e1f0b2a7c5e5b3d7c9d2"),

"name": "Wireless Headphones",

"quantity": 1,

"price": 2499.99,

"total": 2499.99

},

{

"productId": ObjectId("64f8e1f0b2a7c5e5b3d7c9e8"),

"name": "Smartwatch Pro",

"quantity": 1,

"price": 4999.99,

"total": 4999.99

}

],

"shippingAddress": {

"street": "221B Baker Street",

"city": "London",

"state": "London",

"postalCode": "NW16XE",

"country": "UK"

},

"payment": {

"method": "Credit Card",

"status": "Paid",

"transactionId": "TXN\_1029384756"

},

"orderStatus": "Shipped", // default: Pending

"totalAmount": 7499.98,

"createdAt": ISODate("2025-10-24T19:00:00Z"),

"updatedAt": ISODate("2025-10-24T19:15:00Z")

}

* Reviews

{

"\_id": ObjectId("..."),

"userId": ObjectId("64f8e1f0b2a7c5e5b3d7c9a4"), // Reference to User

"productId": ObjectId("64f8e1f0b2a7c5e5b3d7c9d2"), // Reference to Product

"rating": 4,

"comment": "Great product, excellent battery life!",

"createdAt": ISODate("2025-10-24T19:20:00Z"),

"updatedAt": ISODate("2025-10-24T19:25:00Z")

}