Capstone 2 - E-commerce API - Requirements and Model Design

Develop your **own models** for an **E-Commerce API**

Capstone making in progress...

Objectives

At the end of the session, the students are expected to:

- ✅ Understand the requirements of an E-commerce API MVP

- ✅ Design models suitable for the MVP

- ✅ Replicate user registration, authentication, and JWT implementation from course booking API

Today's Deliverables

- Data Model Design

- User Registration

- User Authentication

E-commerce API MVP requirements

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Minimum Requirements

- User registration
- User authentication
- Create Product (Admin only)
- Retrieve all products
- Retrieve all active products
- Retrieve single product
- Update Product information (Admin only)
- Archive Product (Admin only)
- Activate Product (Admin only)
- Non-admin User checkout (Create Order)
- **Retrieve User Details**

Stretch Goal

- Set user as admin (Admin only)
- Retrieve authenticated user's orders
- Retrieve all orders (Admin only)
- Add to Cart
  - Added Products
  - Change product quantities
  - Remove products from cart
  - Subtotal for each item
  - Total price for all items

Capstone 2 Development Timeline

E-commerce API

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Timeline

Session	Deliverables
Session 42	- Data Model Design - User registration - User authentication
Session 43	- Create Product (Admin only) - Retrieve all products - Retrieve all active products
Session 44	- Retrieve single product - Update Product information (Admin only) - Archive Product (Admin only)
Session 45	- Non-admin User checkout (Create Order) - Retrieve User Details **Initial deployment of API to Render**

Timeline

Session	Deliverables
Session 46	● Capstone Presentation

Data Model Requirements

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Option 1

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Data Model Requirements - Option 1

- **User**
  - **Email (String)**
  - **Password (String)**
  - **isAdmin (Boolean - defaults to false)**
  - **ordereredProduct (Array of Objects)**
    - **products (Array of Objects)**
      - **productId(ObjectId)**
      - **productName (String)**
      - **quantity (Number)**
    - **totalAmount (Number)**
    - **purchasedOn (Date - defaults to current timestamp)**

Data Model Requirements - Option 1

- **Product**
  - **Name (String)**
  - **Description (String)**
  - **Price (Number)**
  - **isActive (Boolean - defaults to true)**
  - **createdOn (Date - defaults to current timestamp)**
  - **userOrders (Array of Objects)**
    - **userId(ObjectId)**
    - **orderId (String) - this can be optional**

Option 2

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Data Model Requirements - Option 2

- **User**
  - **Email (String)**
  - **Password (String)**
  - **isAdmin (Boolean - defaults to false)**
- **Product**
  - **Name (String)**
  - **Description (String)**
  - **Price (Number)**
  - **isActive (Boolean - defaults to true)**
  - **createdOn (Date - defaults to current timestamp)**

Data Model Requirements - Option 2

- Order
  - userId (ObjectId)
    - Must be associated with user who owns the order
  - products (Array of Objects)
    - productId (ObjectId)
    - quantity (Number)
  - totalAmount (Number)
  - purchasedOn (Date - defaults to current timestamp)