

# **E-Commerce Site for Local Sellers**

## **Module 2: Product & Order Management**

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# Objective

The Product & Order Management Layer serves as the backbone of the E-Commerce platform. It ensures efficient handling of products, orders, and customer interactions, providing real-time updates and seamless management for both sellers and customers.

## Key Features

### Centralized Product Catalog:

- Detailed listings including product name, category, price, stock, and descriptions.
- Advanced search, filtering, and sorting for easy navigation.

### Order Workflow Management:

- Customers can place, track, and confirm orders.
- Real-time order status updates and automated notifications.

### Customer Profile & Order History:

- Secure customer profiles with personal information.
- Complete order history with details, invoices, and status updates.

### Seller Product Management (CRUD Operations):

- Sellers can create, read, update, and delete product listings.
- Manage stock levels and product availability in real-time.

## System Design

**Backend Architecture:** Built using Spring Boot, providing RESTful APIs for real-time data handling, order processing, and product management.

**Database Management:** MySQL ensures robust storage and retrieval of products, orders, and customer data.

**UI/UX Design:** Developed using Tailwind CSS / Bootstrap ensuring responsiveness.

**Workflow:** Users interact through UI → APIs handle backend communication → Data updates dynamically via React state.

**Workflow:**

User actions (adding a product, placing an order) → API calls to Spring Boot backend → Data validated and stored in MySQL → Frontend receives updated data → Real-time updates displayed.

## Logic and Implementation

- Every action triggers backend API calls for validation, storage, and retrieval.
- CRUD operations for products allow sellers to maintain accurate inventory.
- Real-time order updates ensure both customers and sellers are informed immediately.

## Advantages

- Streamlined product and order management
- Real-time data updates for accurate inventory tracking
- Scalable and maintainable architecture
- Smooth integration with front-end modules via APIs
- Enhanced user experience for both customers and sellers

## Conclusion

This module establishes a strong and efficient foundation for the E-Commerce platform's product and order management. It ensures seamless interaction between backend services and the frontend interface, enabling accurate, fast, and user-friendly operations for all stakeholders.