

# Project Design Phase

## Solution Architecture

Date: 06-12-2025

Team ID:  
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Project Name: ShopEase – E-Commerce Web Application

Maximum Marks: 4 Marks

### Solution Architecture Overview:

The architecture ensures high performance, security, scalability, and efficient order processing.

### Key Architecture Features:

- Smooth product browsing
- search functionality
- JWT-based authentication
- Secure order placement
- Admin inventory & order management
- Scalable MERN architecture

### Architecture Components:

Frontend (React + Bootstrap):

- Product listing
- Search & filters
- Cart & checkout
- Responsive UI
- Admin dashboard

Backend (Node.js + Express):

- Authentication
- Product CRUD

- Order API

Database (MongoDB):

- Users
- Products
- Categories
- Orders
- Cart

### **Architecture Diagram (Text Format):**

Frontend (React)

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REST API

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Backend (Node.js)

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MongoDB Database