Project Design Phase
Solution Architecture

Date	10 April 2025
Team ID	SWTID1743605259
Project Name	ShopE
Maximum Marks	4 Marks

Solution Architecture:

ShopEZ's architecture uses the **MERN stack**:

- **MongoDB** – NoSQL database to store users, products, orders, etc.
- **Express.js & Node.js** – Backend RESTful API handling business logic, authentication, and admin tools.
- **React.js** – Frontend application providing dynamic, responsive user interfaces for customers, sellers, and admins.
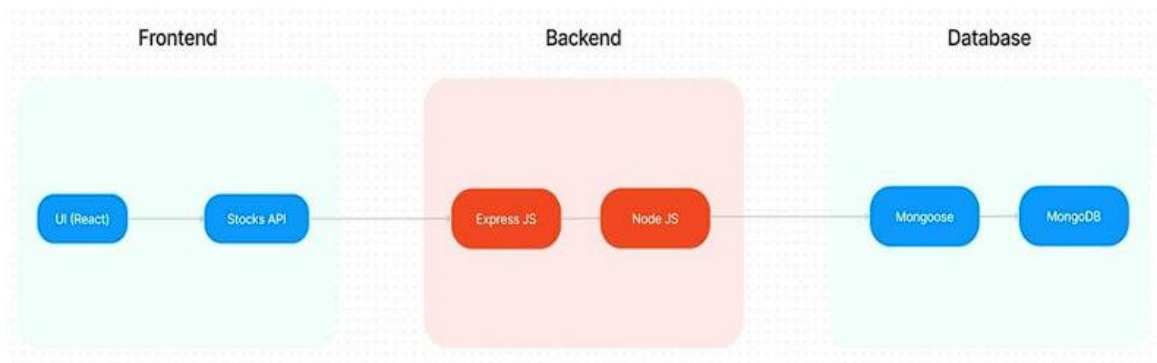
Key Features

- JWT-based secure login
- Role-based access: Customer, Seller, Admin
- Real-time product inventory management
- Responsive UI using React & Tailwind/Bootstrap
- Modular backend API
- Admin dashboard for monitoring users, orders, and product analytics

Development Phases

1. **Phase 1** – User authentication and role-based routing
2. **Phase 2** – Customer UI: product browsing, cart, checkout
3. **Phase 3** – Seller dashboard: add/update products, view orders
4. **Phase 4** – Admin dashboard: view users, manage platform
5. **Phase 5** – Payment gateway integration (future scope)

Architecture Diagram

Roles:

- **Customer** → Browse → Cart → Checkout
- **Seller** → Dashboard → Manage Products → View Orders
- **Admin** → Monitor users, sellers, products, and system logs