

## Project Design Phase

### Solution Architecture

Date	31 January 2025
Team ID	LTVIP2026TMIDS24270
Project Name	ShopEZ: One-Stop Shop for Online Purchases
Maximum Marks	4 Marks

#### **Solution Architecture:**

The solution architecture for **ShopSmart** ensures a **scalable, secure, and user-friendly platform** that connects customers with **local grocery stores**. The system is built using the **MERN stack** (MongoDB, Express.js, React.js, Node.js) and includes **separate modules for user, vendor (store), and admin roles**.

#### **The architecture emphasizes:**

- Seamless grocery shopping and store discovery
- Real-time cart, inventory, and order management
- Secure login for users, vendors, and admins with role-based routing
- Scalable and modular backend APIs built using RESTful principles
- Structured data flow between the React frontend, Node backend, and MongoDB
- Conditional rendering and access control based on user roles (user/vendor/admin)
- Admin tools for promoting stores, managing users, and maintaining platform quality

#### **Example - Solution Architecture Diagram:**

# Solution Architecture

## ShopSmart

