**Project Overview**:  
I built a full-featured e-commerce front-end application using React, which interacts with an extensive API. The API handles user authentication, product management (CRUD operations), and cart functionalities. My app focuses on providing a seamless shopping experience with secure login, product browsing, and an intuitive cart system.

**Technologies Used**:

* **React**: For dynamic rendering and UI development.
* **Axios**: For API communication, managing requests for login, product, and cart data.
* **React Router**: To enable navigation across different pages (product listings, cart, user profile).
* **Redux**: For managing global state, especially for cart updates and user authentication.
* **CSS/Bootstrap**: For a responsive, visually appealing design.

**Key Features**:

1. **User Authentication**: Integrated secure login and registration forms connected to the API, allowing users to log in, log out, and register.
2. **Product Management**: The app connects with the API to retrieve product details. Users can view products, filter them by category, and search for specific items.
3. **Cart System**: Users can add items to the cart, remove them, and adjust quantities, with changes immediately synced with the backend API.
4. **Order Management**: Users can proceed to order and manage their past orders via API-driven requests.

**Challenges and Solutions**:

* **Efficient State Management**: Implementing Redux for centralized state management allowed me to handle cart data and authentication state across multiple components smoothly.
* **Error Handling**: Axios interceptors were used to manage errors effectively, ensuring users received appropriate feedback in case of failed API requests (e.g., invalid credentials or network issues).
* **API Data Synchronization**: I ensured consistent syncing between front-end state and the API, especially for cart and product data, using Axios and Redux actions effectively.

**Result**:  
The application provides a fast and intuitive user experience by interacting with a robust backend API, showcasing my ability to work with real-world API integrations in a dynamic e-commerce environment.