

# Kredo Analytics – Software Developer Intern Assessment

## Project Submission: Online Product Catalogue & Order System

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**Project Objective :** This document details the design, implementation, and features of the "Online Product Catalogue & Order System," a full-stack web application developed as part of the Software Developer Intern assessment for Kredo Analytics. The primary objective was to build a secure, scalable, and user-friendly e-commerce platform that meets all functional and technical requirements.

- This project was completed and submitted on August 22, 2025, ahead of the official deadline of August 25, 2025, at 11:00 a.m., demonstrating strong time management and dedication to delivering quality work promptly.
  - Of course! Here is the complete, updated document from the very beginning with your specific details and the note about early submission.
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**Technical Architecture & Stack :** The application is built using a modern, robust technology stack to ensure performance, security, and maintainability.

### **Frontend: ReactJS**

- A responsive and dynamic user interface built using React's component-based architecture.
- Managed application state and the component lifecycle efficiently.
- Handled communication with the backend API to fetch and display data seamlessly.

### **Backend: Spring Boot**

- Developed a powerful and secure RESTful API to handle all business logic.
- Implemented a service-oriented architecture to separate concerns and ensure scalability.
- Leveraged JWT for robust authentication and authorization mechanisms

### **Database: MySQL Workbench**

- Designed a normalized relational database schema to store data efficiently and ensure data integrity.
- Managed data for users, products, orders, and their relationships.

### **API Design: REST API**

- Followed REST principles to create stateless, resource-oriented endpoints for clear frontend-backend communication.
- Ensured proper use of HTTP methods (GET, POST, PUT, DELETE) for all CRUD (Create, Read, Update, Delete) operations.

### **Development Tools & Environment**

- IDE for Frontend: Visual Studio Code
  - Used for developing the entire ReactJS frontend application.
- IDE for Backend: IntelliJ IDEA
  - Utilized for building and managing the Spring Boot backend services.
- Database Management: MySQL Workbench
  - Employed for designing the database schema, writing queries, and managing the database.

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## **Implemented Features**

The application successfully implements all the core and bonus features outlined in the project guidelines.

### **User Authentication & Role-Based Access Control**

- Secure Sign Up & Login: Users can register with a name, email, and password. Passwords are securely stored in the database using *hashing* to prevent unauthorized access.
- Role-Based Dashboards: The system enforces strict role separation:
  - Users can only log in and access the User Dashboard.
  - Admins are directed exclusively to the Admin Dashboard upon login.
- JWT-Based Security:
  - Upon successful login, a JSON Web Token (JWT) is generated and sent to the client.

- This token is required in the authorization header for every subsequent request to protected routes.
- The backend validates the token and the user's role before processing any request, ensuring that sensitive routes are protected at the API level.
- Access Control: Direct URL access to protected dashboards (e.g., /User/Dashboard or /AdminDashboard) is blocked for unauthenticated or unauthorized users, who are redirected to the login page.

## User Account Features

- Product Browsing & Search: Users can view a paginated list of all available products, search for products by name or description, and apply filters (e.g., by price range).
- Shopping Cart: A fully functional cart allows users to add/remove products and adjust quantities before checkout.
- Order Placement: Users can place an order by providing a delivery address. The system validates the order and updates product stock quantities accordingly.
- Order History: Registered users can view a complete history of their past orders along with their details and current status.

## Admin Account Features

- Product Management (Full CRUD): The admin has complete control over the product catalogue, with functionalities to:
    - Create new products with a name, description, price, stock quantity, and image.
    - Read (view) all products in a structured dashboard.
    - Update the details of any existing product.
    - Delete products from the catalogue.
  - Order Management: The admin can view a comprehensive list of all orders placed by all users, including customer email and the items ordered.
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## Bonus Features Implemented

To demonstrate advanced capabilities, the following optional bonus features were successfully integrated:

- *JWT Authentication with Role-Based Access:* A robust security model using JWT protects all sensitive user and admin APIs, ensuring only authenticated users with the correct role can access resources.
- *Admin Order Status Updates:* The admin/user includes a feature to updated the status of any order (e.g., from "Pending" to "Shipped" or "Delivered"), providing real-time tracking information to the user but only admin can update the status and save it.
- *Product Image Upload:* The admin can upload images for new products, which are then stored and displayed on the product catalogue and detail pages.
- *Pagination for Products:* To enhance the user experience, the application allows customers to Browse products across 8 distinct categories (e.g., Groceries, Women's Wear, Home Decore). Navigate large catalogues smoothly with **pagination** on all product pages, which improves performance by loading a limited number of items at a time.

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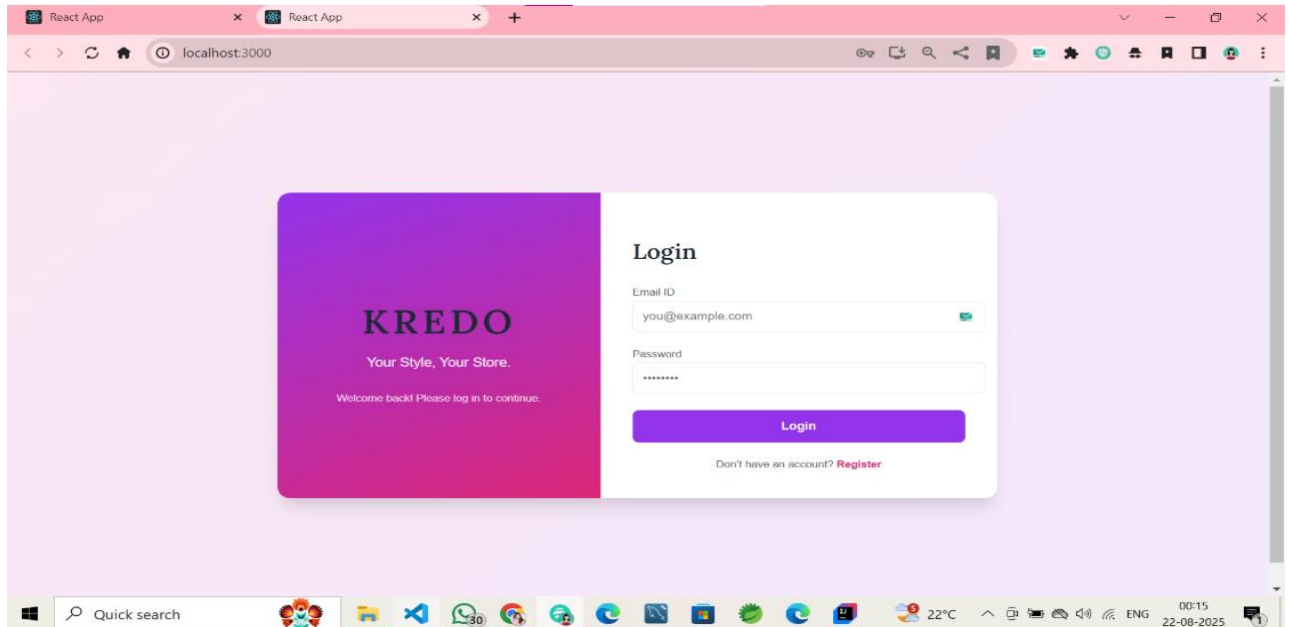
## Submission Guidelines Fulfillment

- *GitHub Repository ([Github](https://github.com/Sushmashreeps10/KredoFullstackProject)):* The complete source code for this project is available in a public GitHub repository.
  - **Link:** <https://github.com/Sushmashreeps10/KredoFullstackProject>
- *Application Deployment:*
  - Due to the project's architecture, which includes a full-fledged Spring Boot backend and a MySQL database, deploying all components on a free-tier hosting service presented significant challenges.
  - Therefore, as per the submission guidelines, screenshots of the application's key UI and output screens are provided below to demonstrate its functionality and user interface.
- *Submission Form:* The submission form has been duly filled out with all required details.

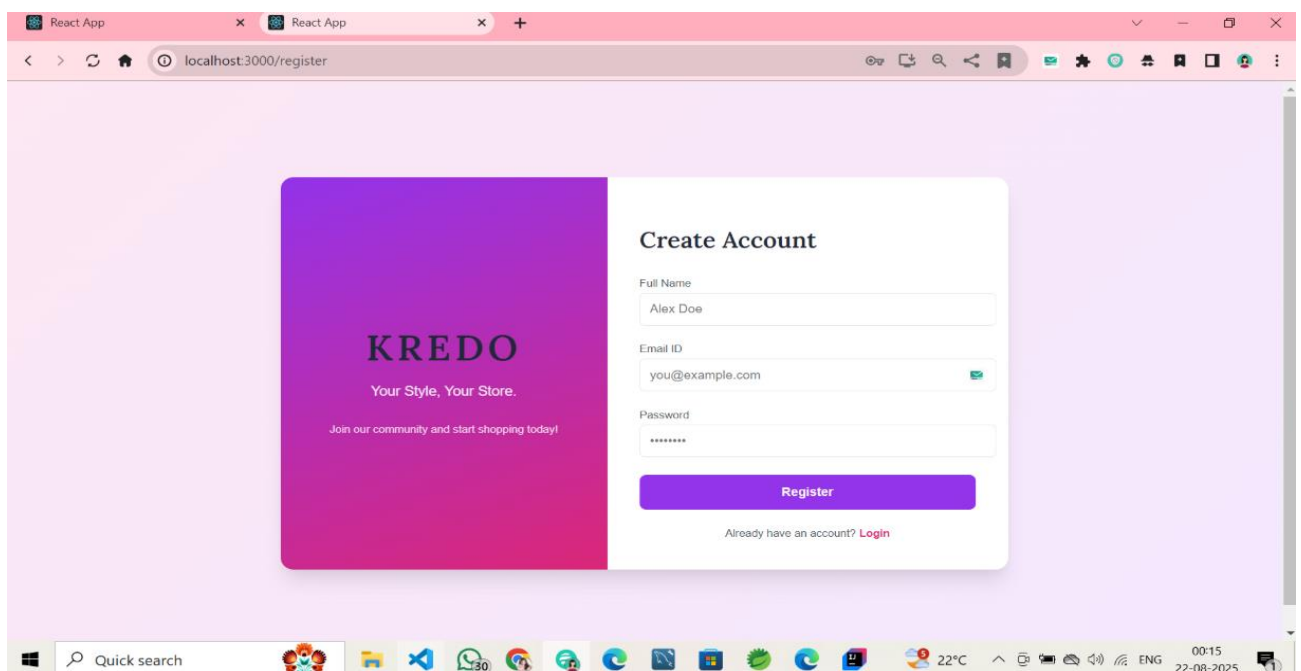
## Application Screenshots

### Authentication & Public Pages

- Login Page
  - *Description: Clean interface for both user and admin login.*

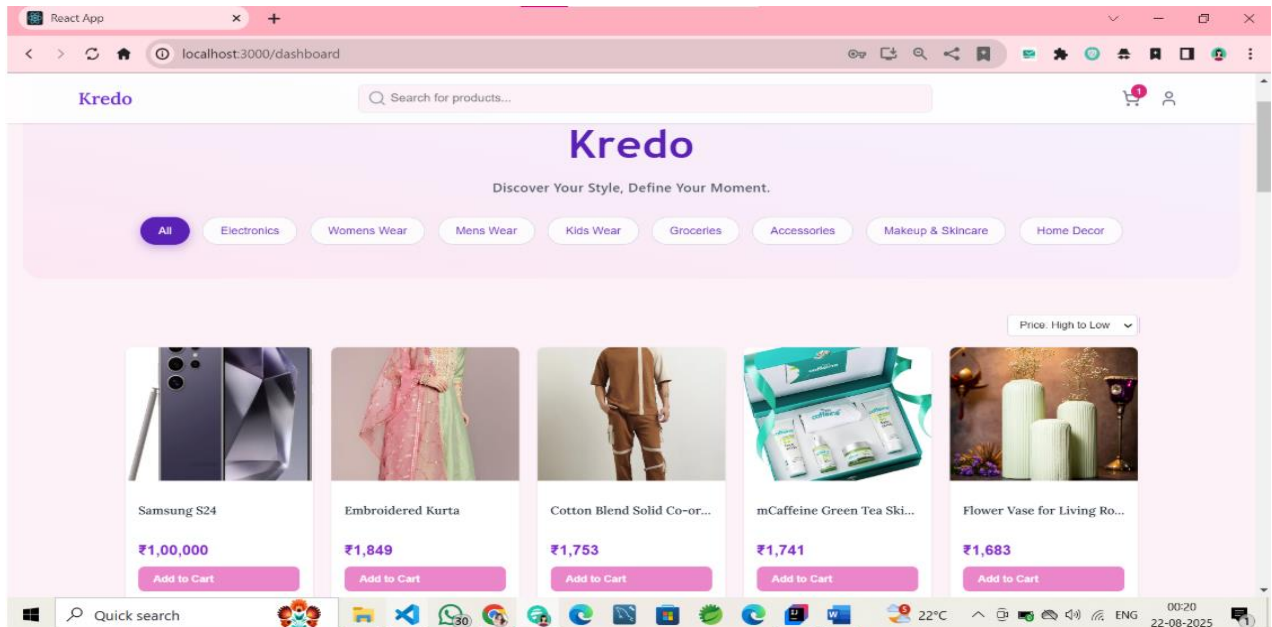


- User Sign Up Page
  - *Description: Registration form with name, email, and password fields*

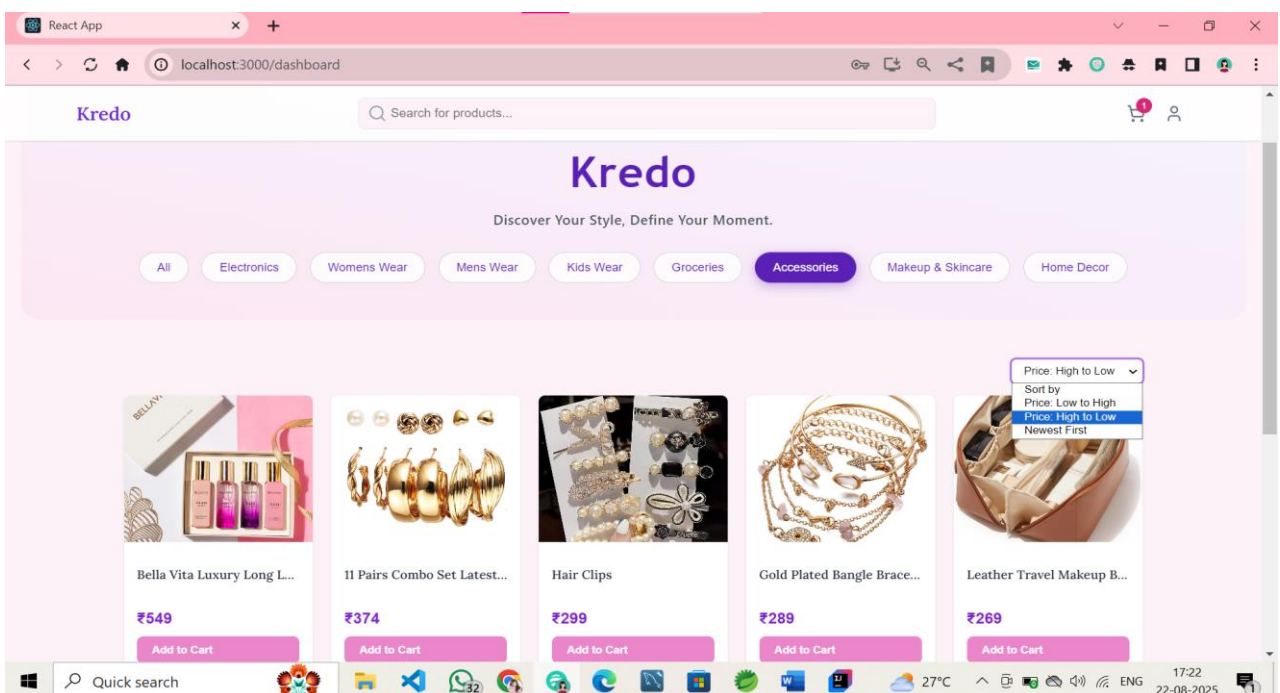


## User Dashboard & Features

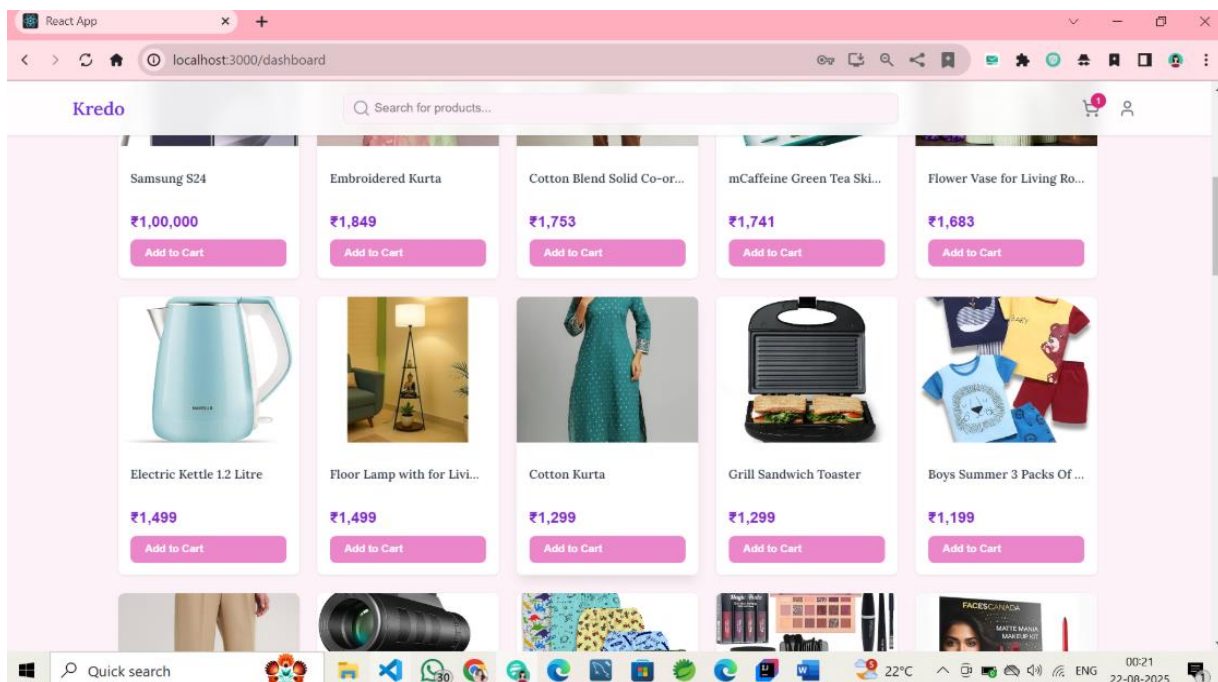
- Product Catalogue Page
  - *Description: Main view showing a paginated grid of products with search and filter options.*



users can filter the product catalogue by a specific category to easily narrow their search. From there, they can dynamically sort the results by various options like price (Low to High, High to Low) or newest first for a fully customized browsing experience.

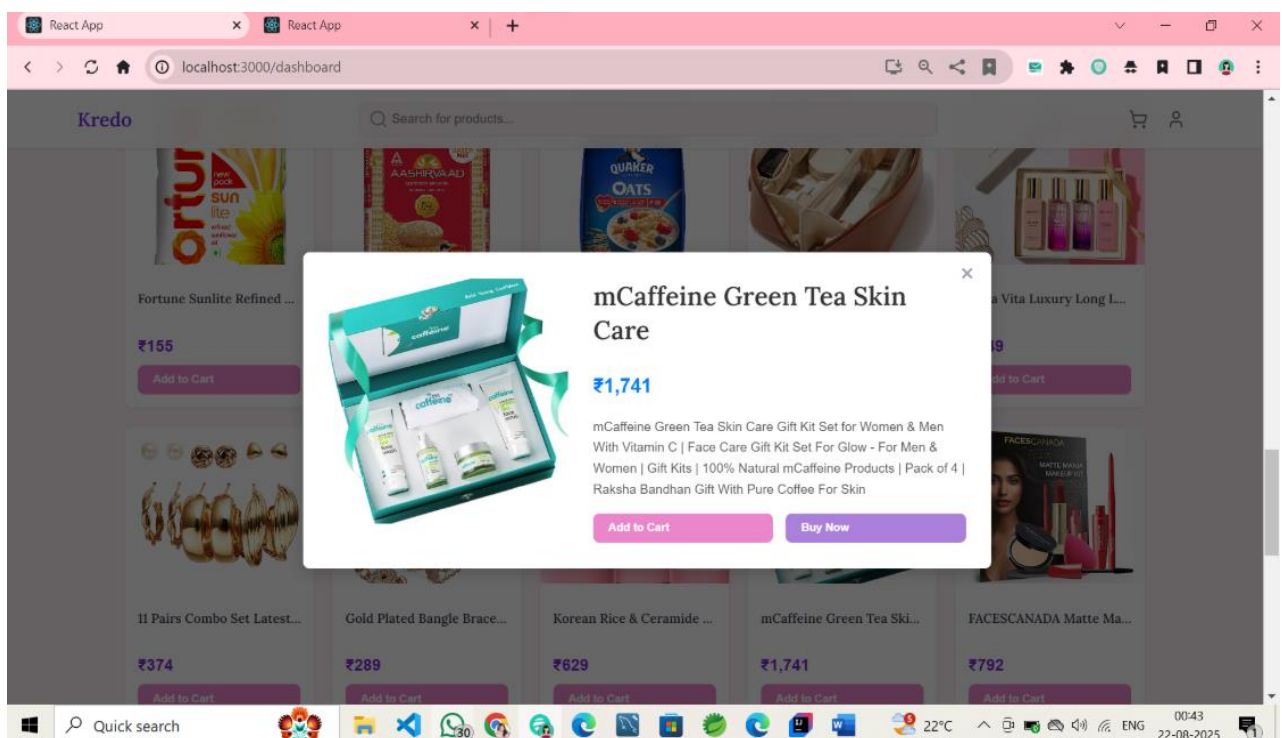






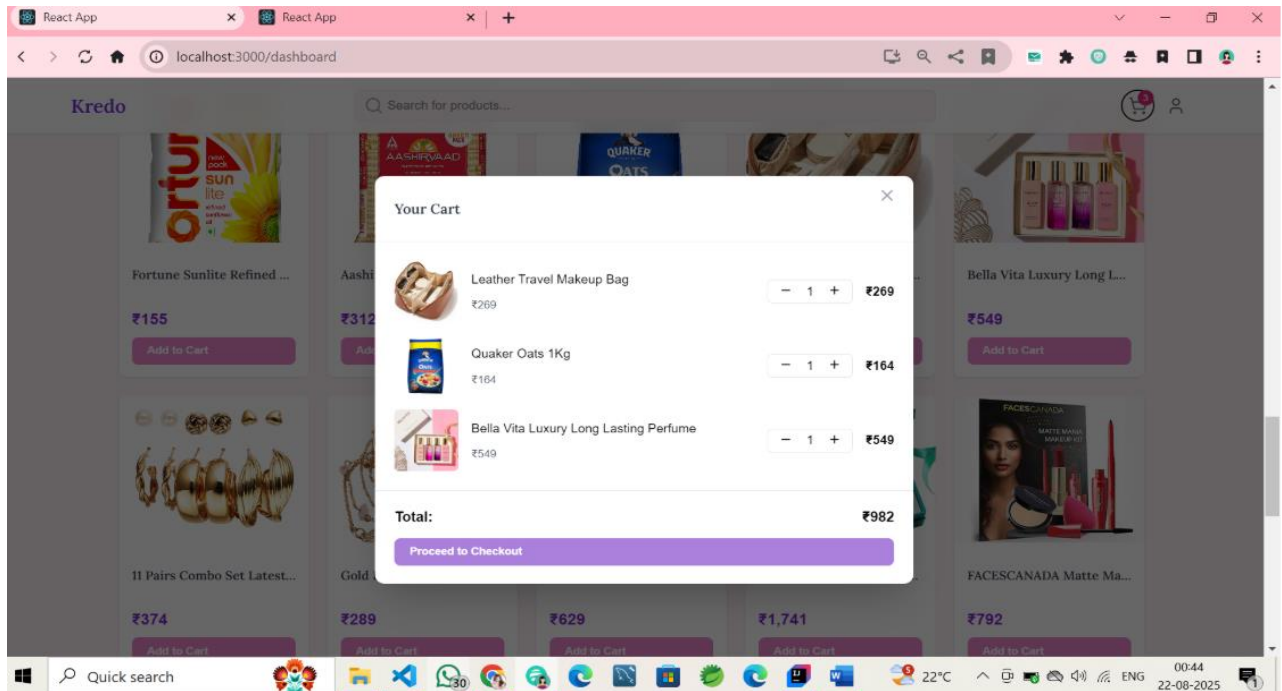
## Product Detail Page

- *Description: Detailed view of a single product with description, price, and "Add to Cart" button.*



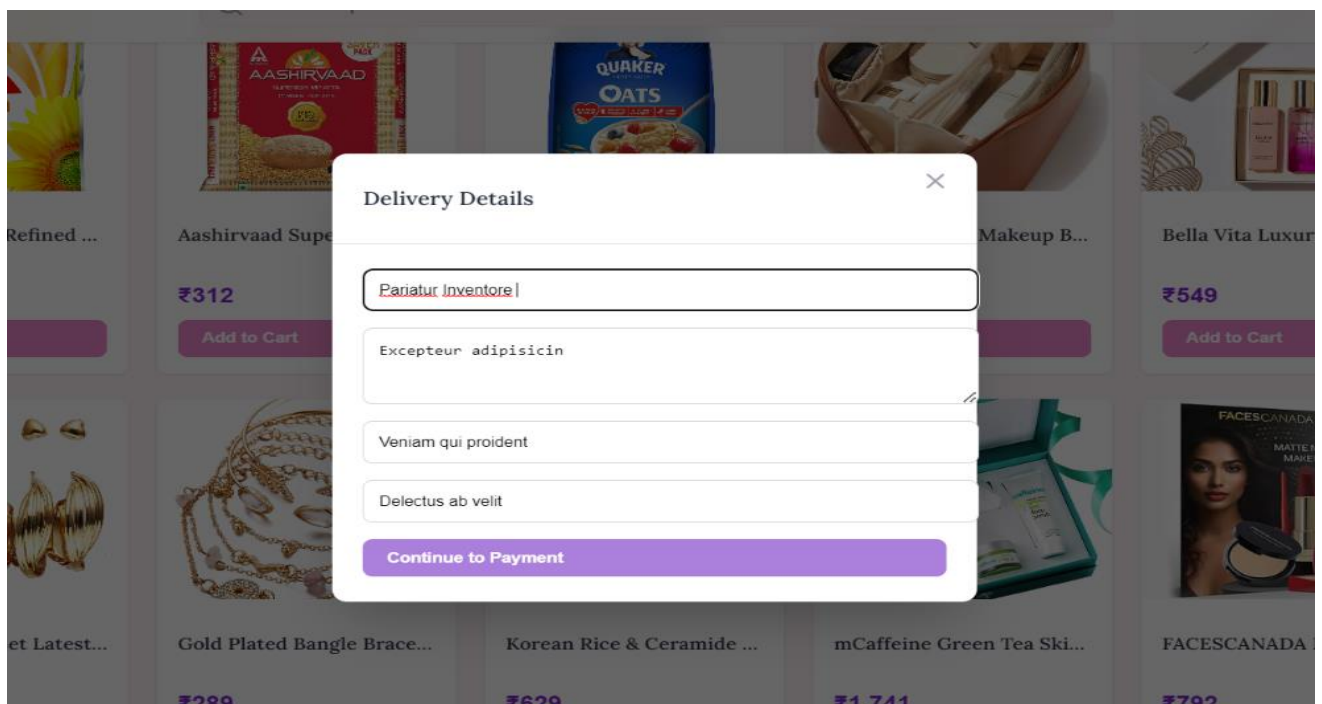
## Shopping Cart

- *Description: User's cart showing added items, quantities, and total price.*

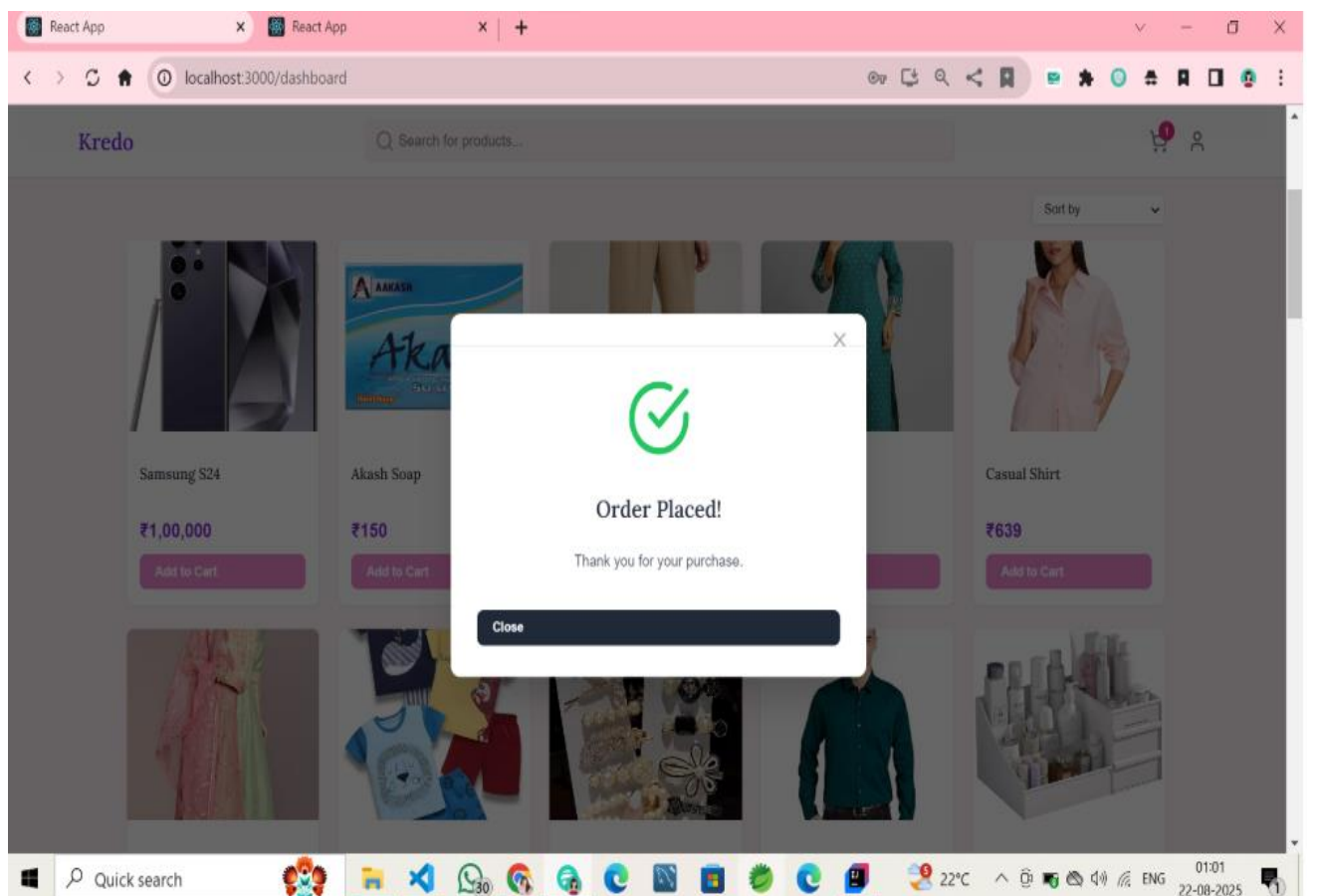
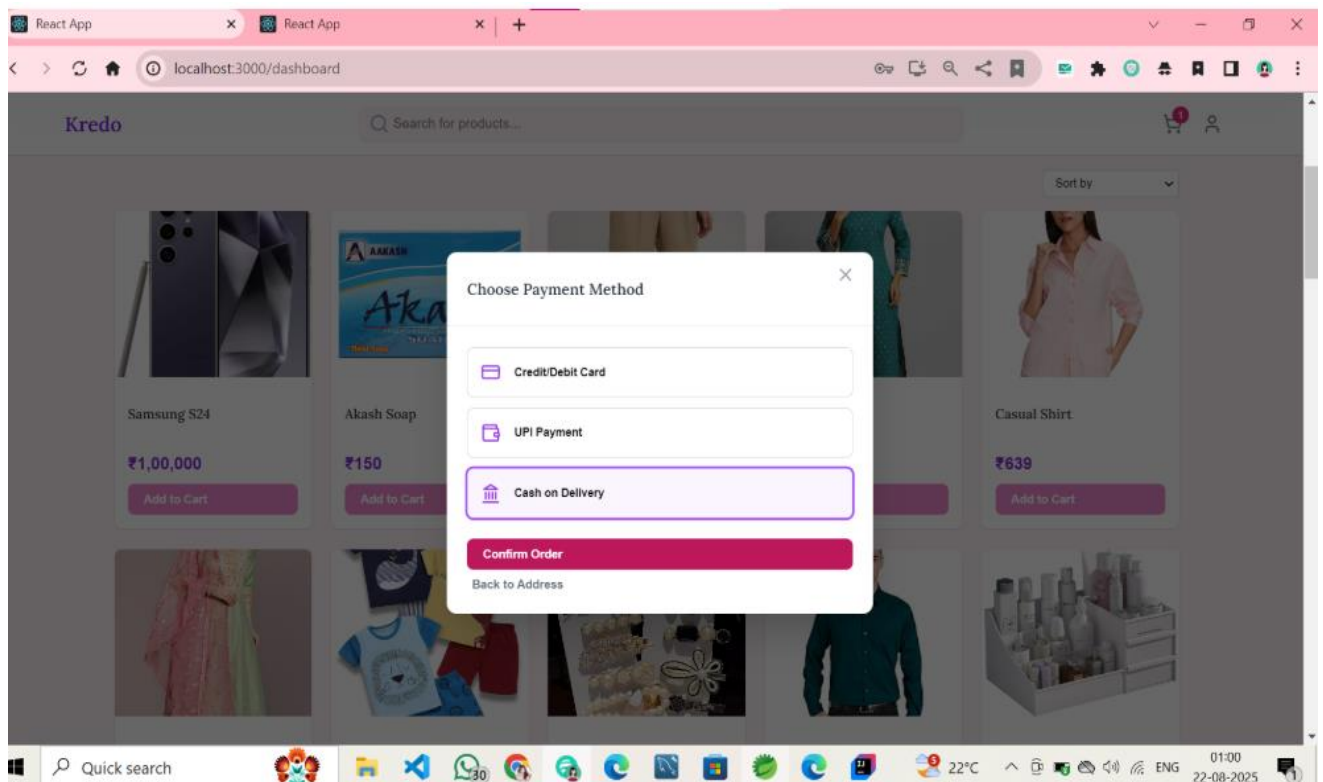


## Order Placement / Address Form

- *Description: Form for the user to input their delivery address before confirming the order.*







## User Profile

Kredo

Kasimir Wong  
rylifefoxi@mailinator.com

Profile Details

Order History

Customer Service

Logout

Profile Details

Full Name	Email Address	User ID
Kasimir Wong	rylifefoxi@mailinator.com	8
Account Role	USER	

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## User Order History

Kredo

Kasimir Wong  
rylifefoxi@mailinator.com

Profile Details

Order History

Customer Service

Logout

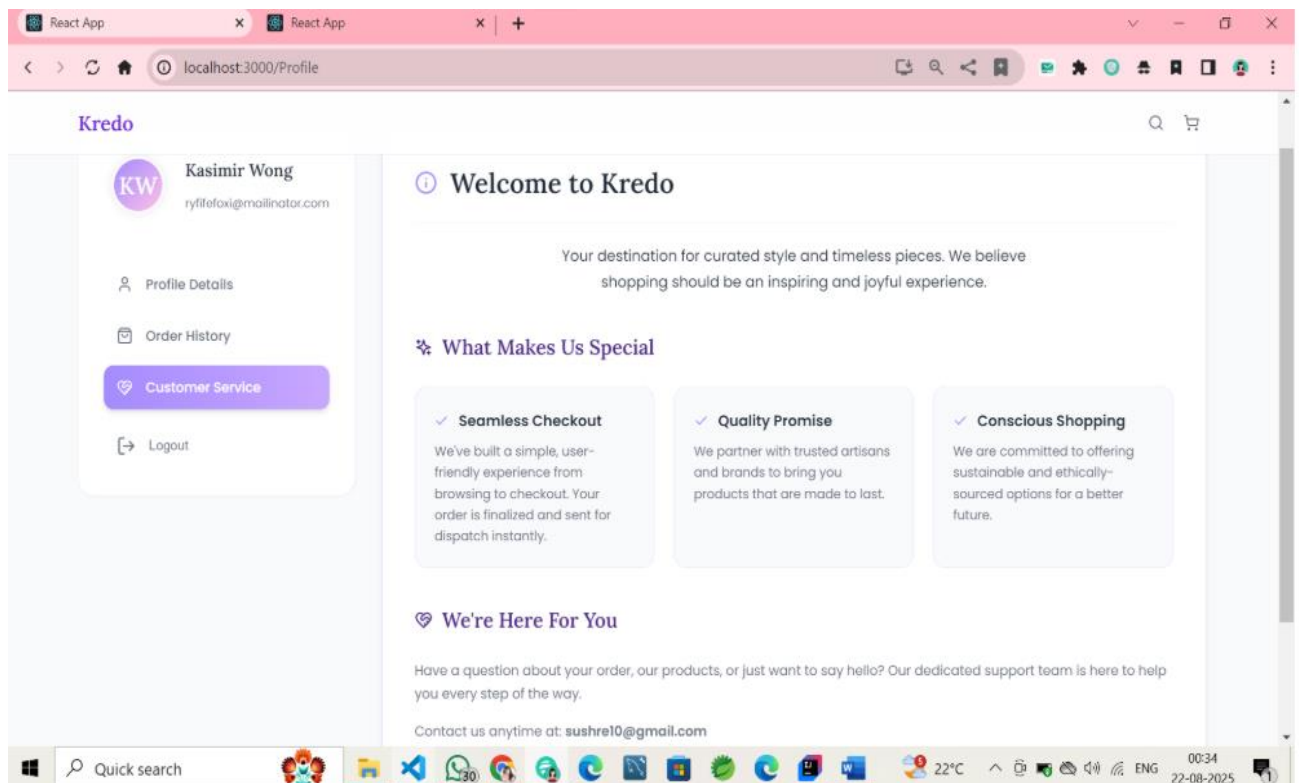
Order History

#45	8/22/2025	Pending
Samsung S24 xl		
		₹1,00,000

#46	8/22/2025	Shipped
Samsung S24 xl		
		₹1,00,000

#47	8/22/2025	Pending
Leather Travel Makeup Bag xl, Quaker Oats 1Kg xl, Bella Vita Luxury Long Lasting Perfume xl		
		₹982

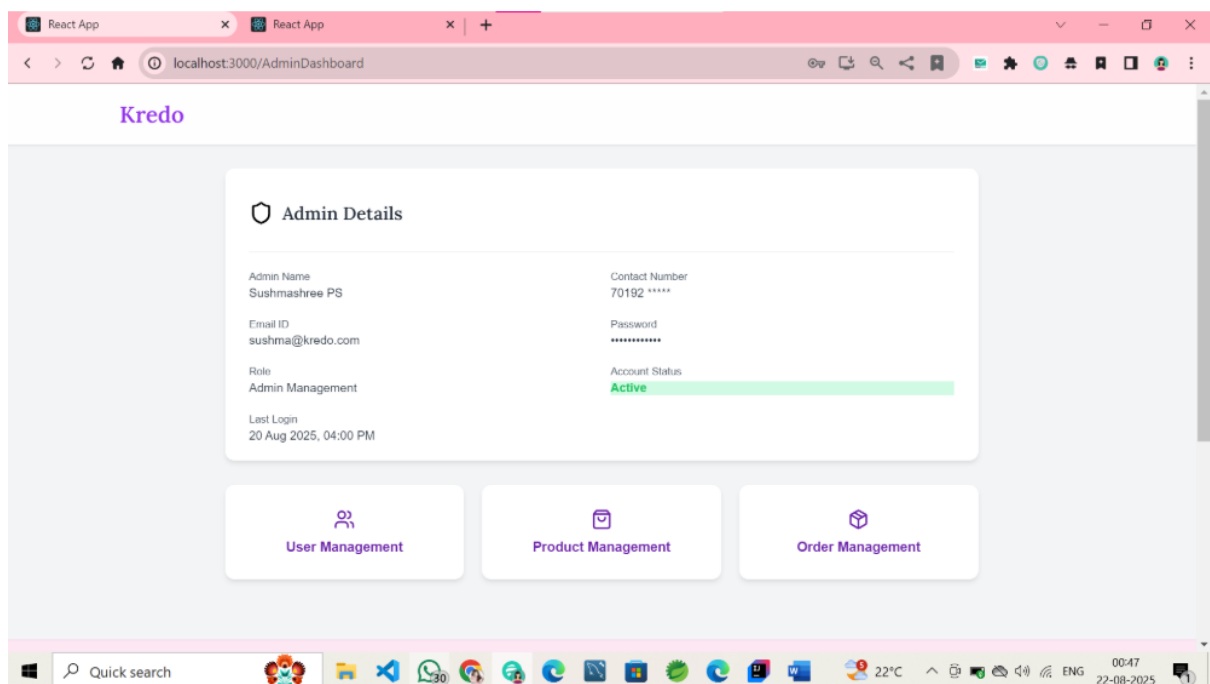
## Customer Service



## Admin Dashboard & Features

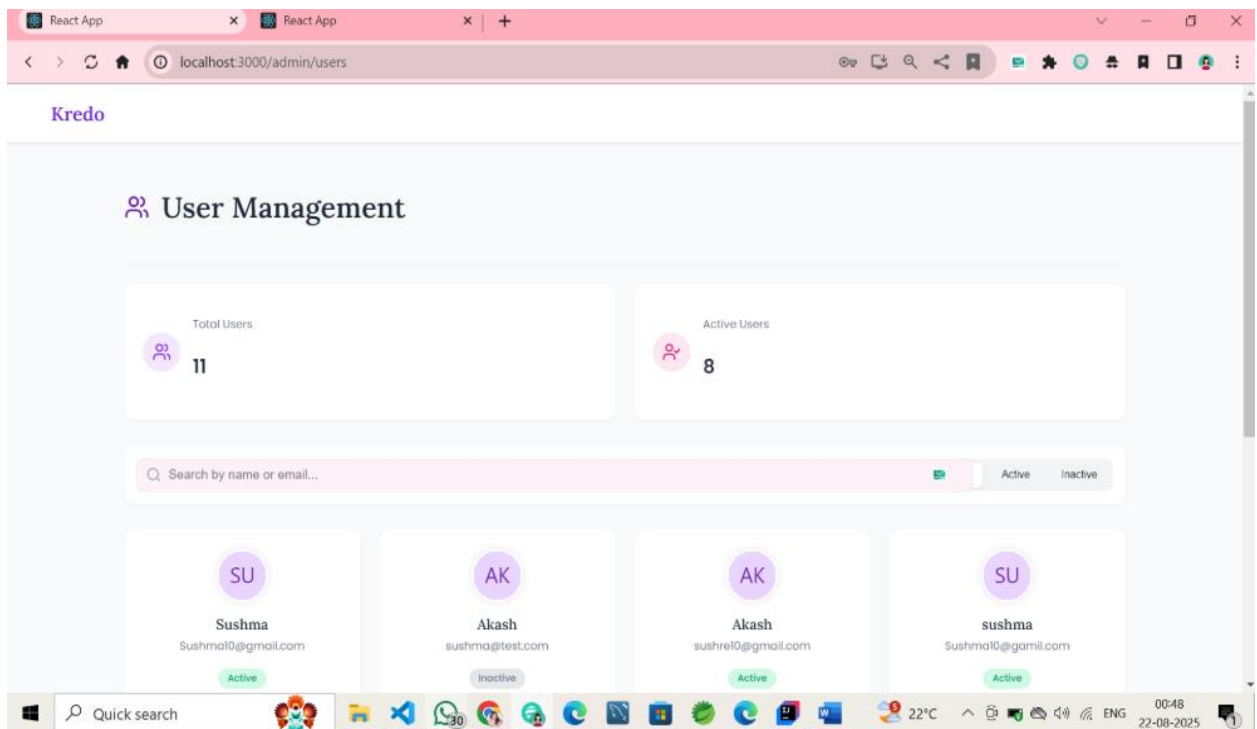
### Admin Dashboard – User Management

- *Description: Admin view showing a user , product , orders*

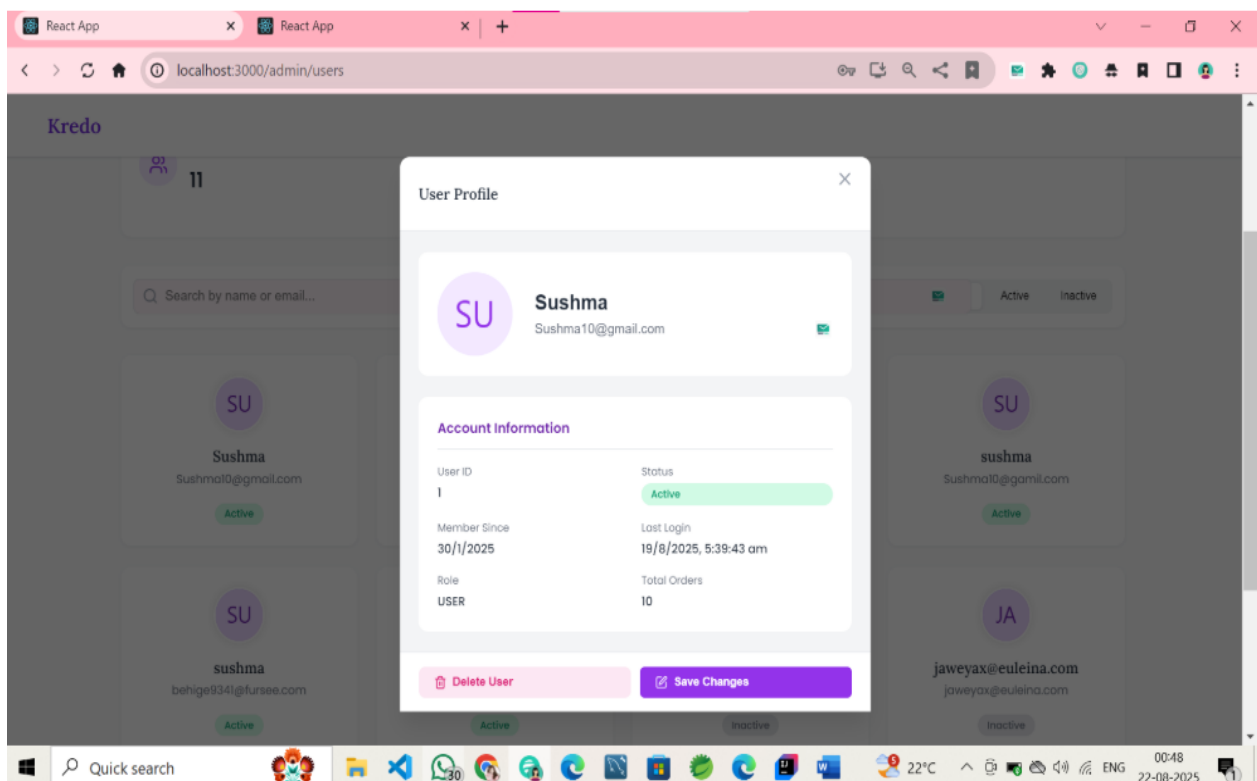


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## User Management

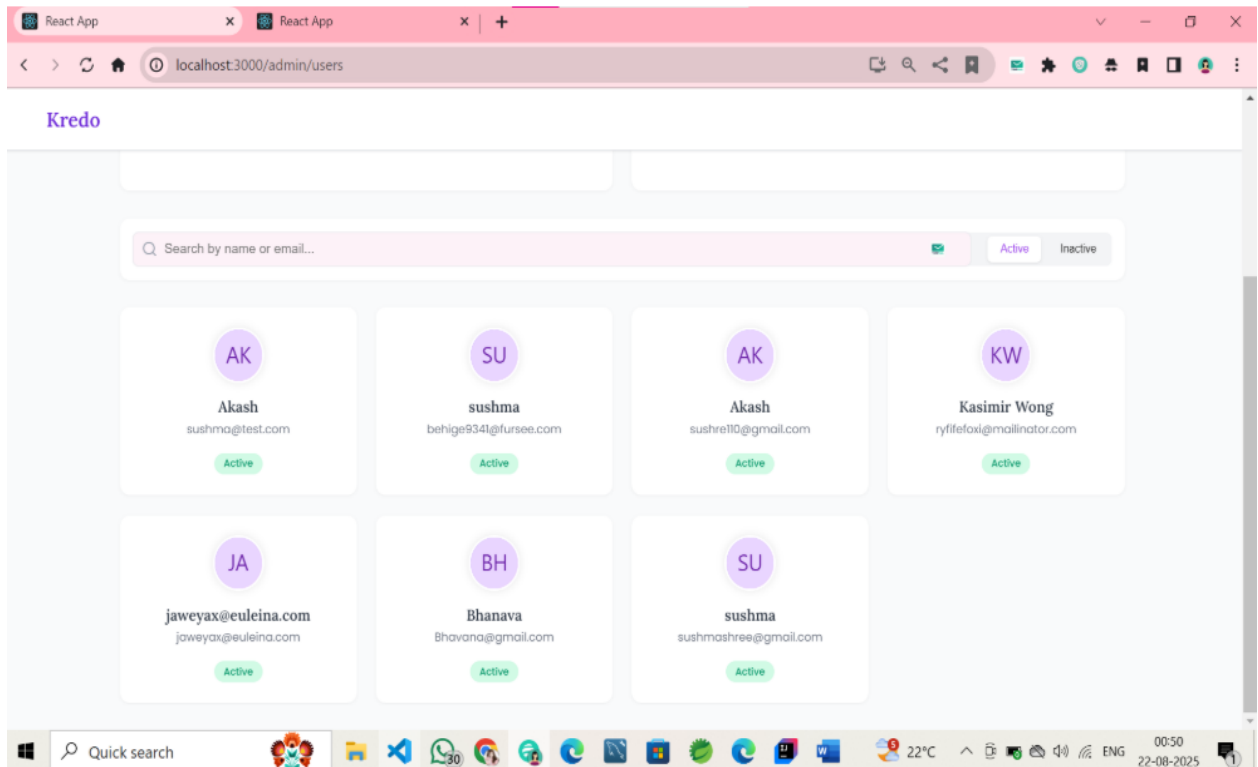


## Update/Edit User Profile

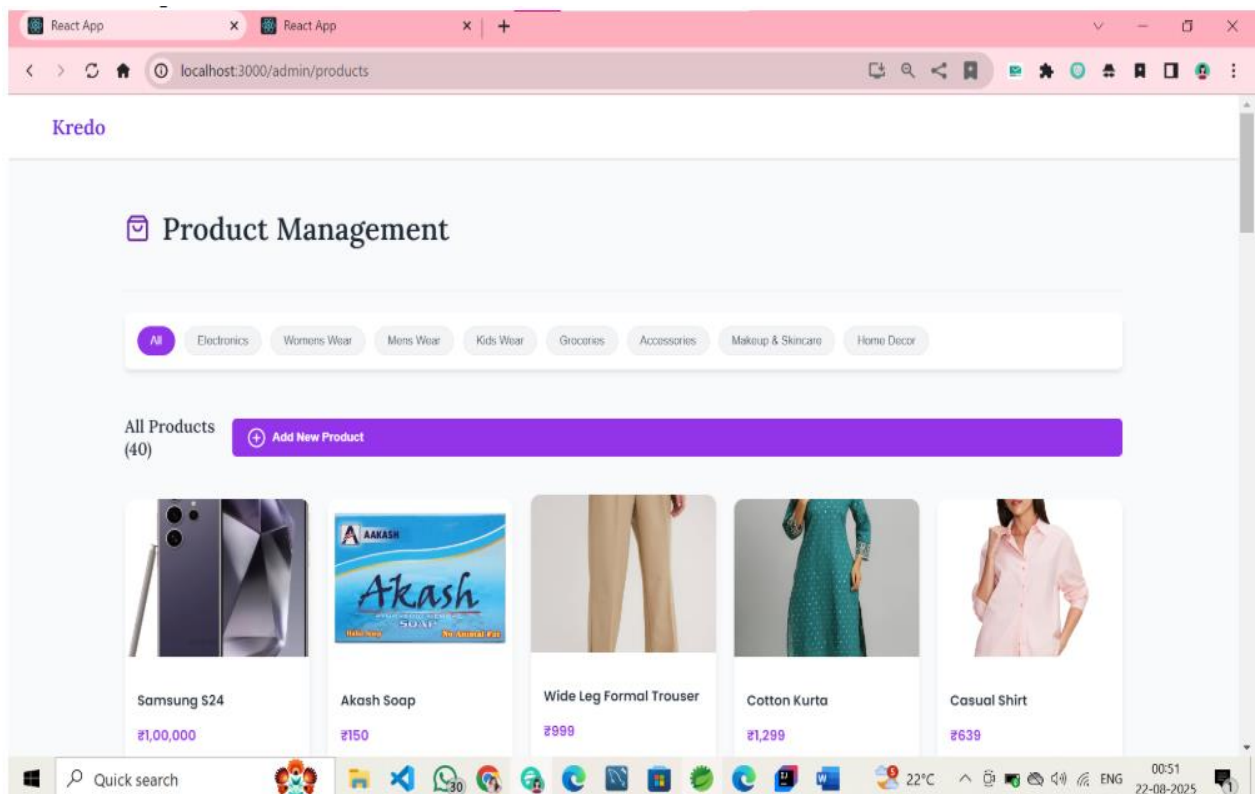


Sushmashree PS  
Sushre10@gmail.com

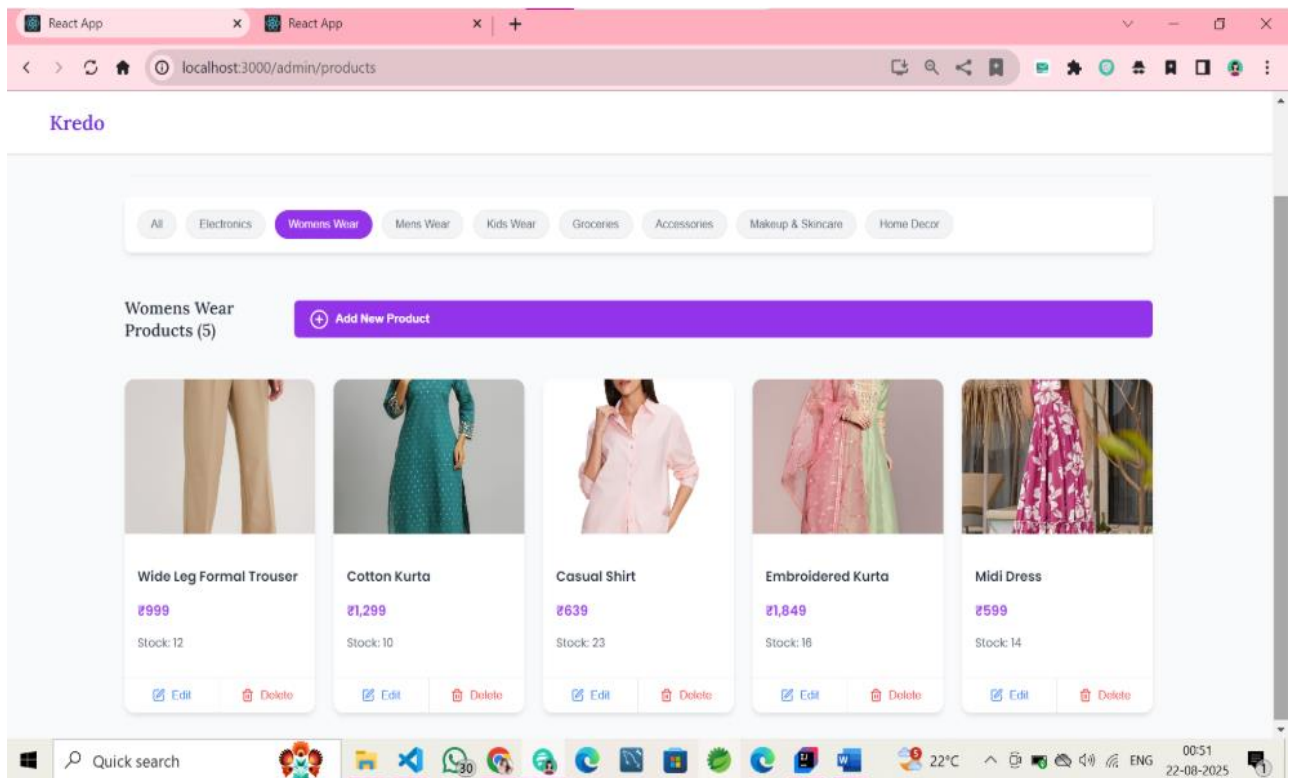
## Active Users (Inactive users can be filtered)



## Admin Dashboard – User Management

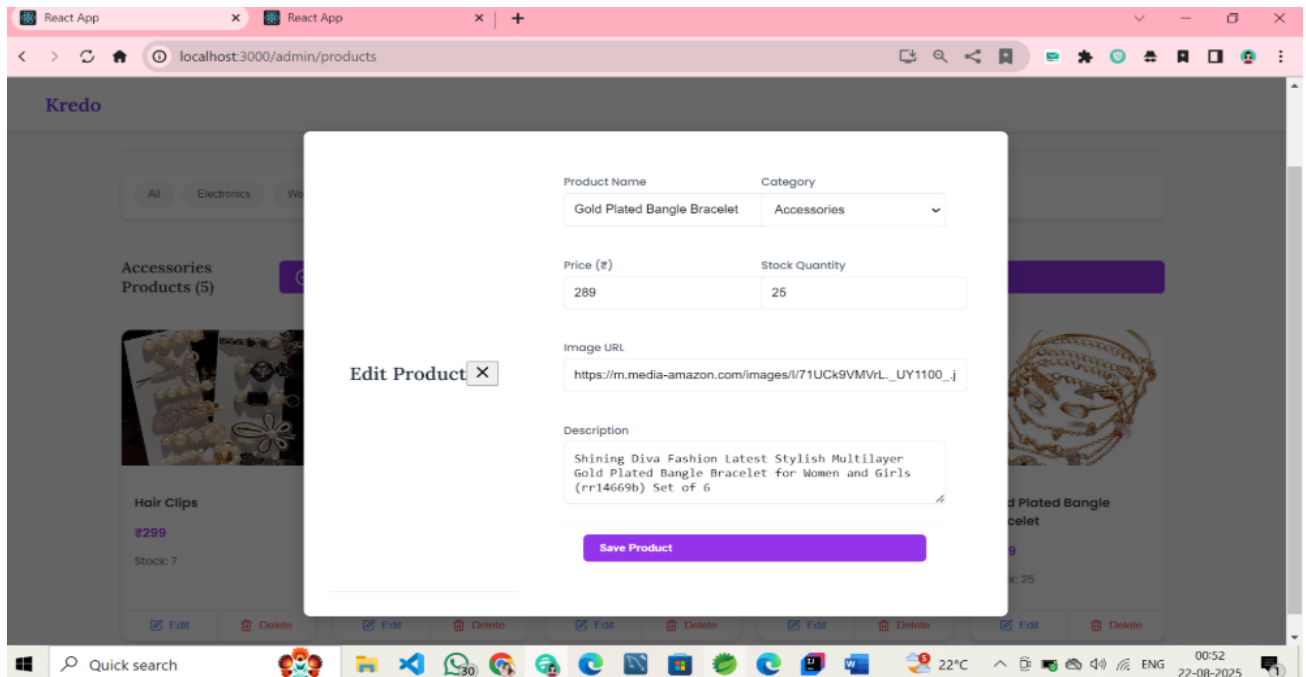






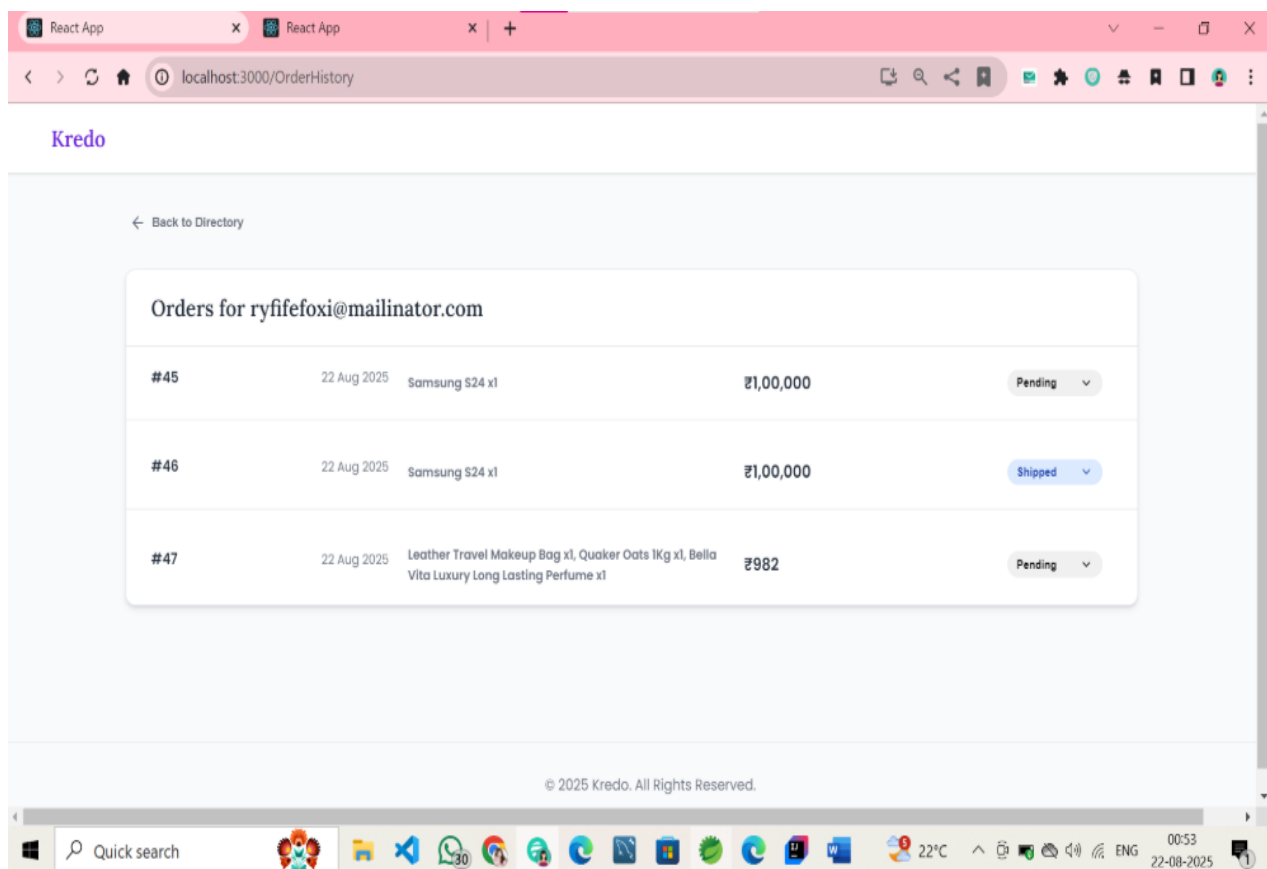
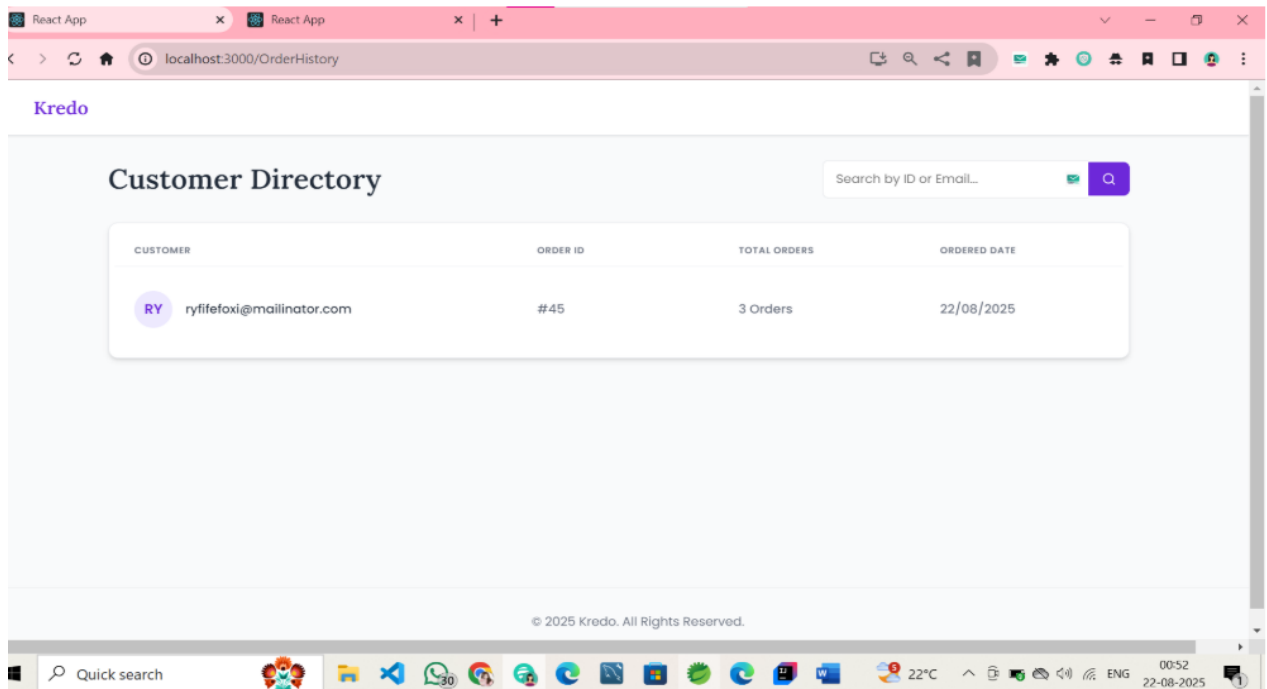
### Add/Edit Product Form

- *Description: Modal or page for the admin to add a new product or update an existing one, including the image upload field.*

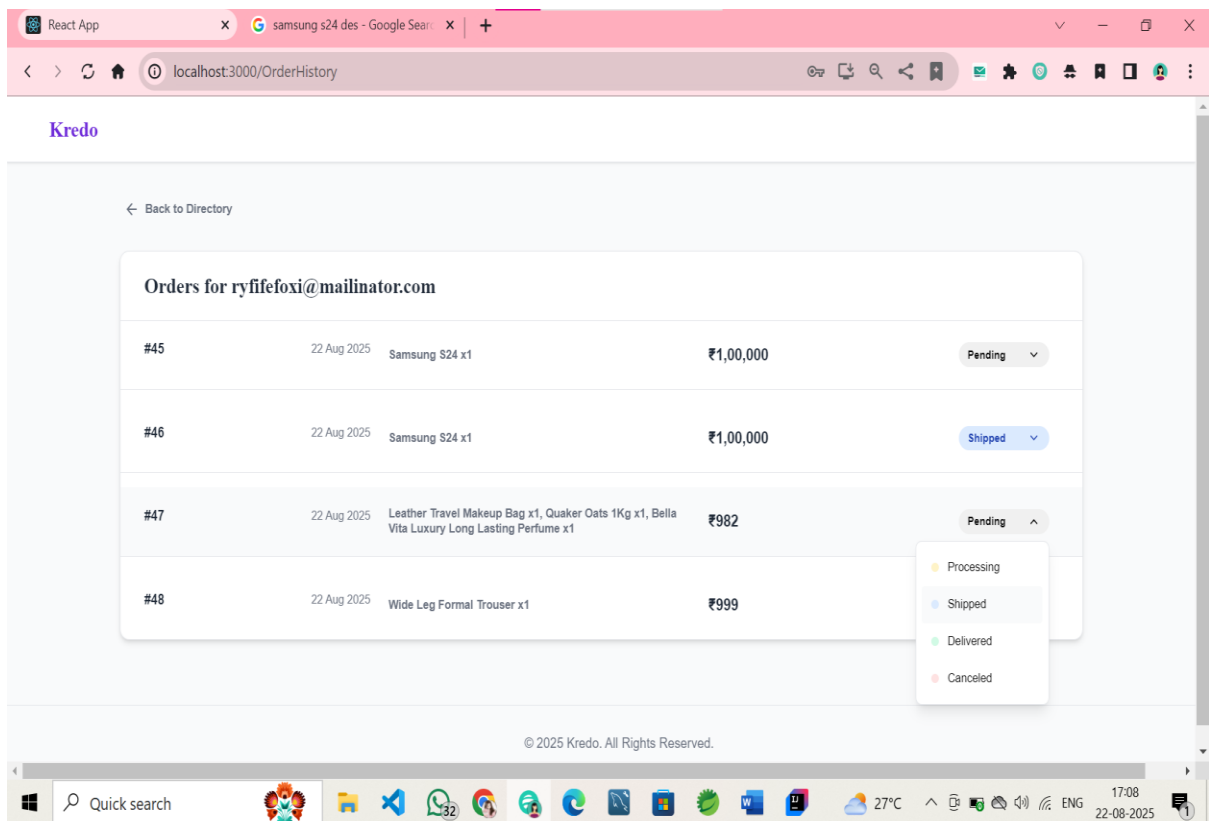


## **Admin Dashboard - Order Management**

- *Description: Admin view displaying all user orders with customer details and the option to update order status.*

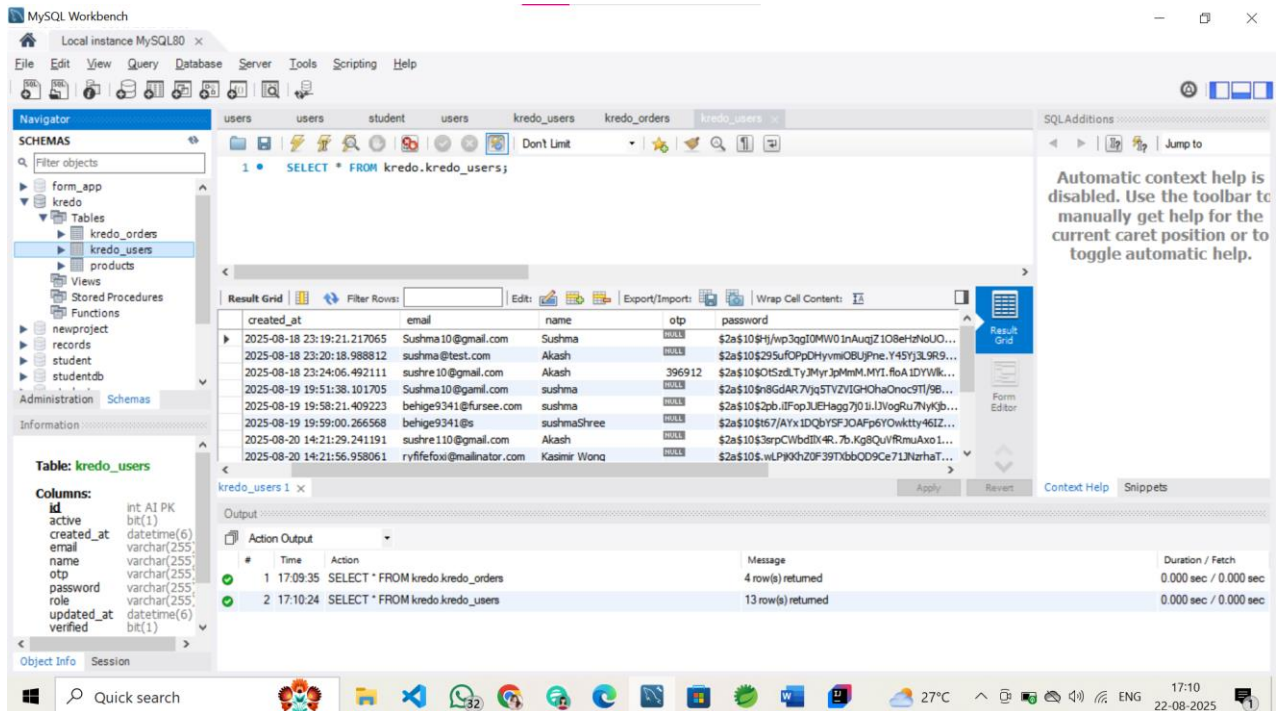


## Can Update delivery status



## User Database

*Password stored in hashcode*



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## Order Database

The screenshot shows the MySQL Workbench interface with the 'kredo' database selected. The 'kredo\_orders' table is highlighted in the Navigator. The SQL editor contains the query: `SELECT * FROM kredo.kredo_orders;`. The Result Grid displays 4 rows of order data.

order_id	customer_email	customer_name	items	order_date	status
45	rylifefoxi@mailinator.com	Guest	Samsung S24 x1	2025-08-22 00:30:20.337244	Pending
46	rylifefoxi@mailinator.com	Guest	Samsung S24 x1	2025-08-22 00:33:18.991838	Shipped
47	rylifefoxi@mailinator.com	Guest	Leather Travel Makeup Bag x1, Quaker Oats 1K...	2025-08-22 00:45:21.909459	Pending
48	rylifefoxi@mailinator.com	Guest	Wide Leg Formal Trousers x1	2025-08-22 01:01:10.944514	Pending

The Output pane shows the execution of the query, returning 4 rows in 0.000 seconds.

## Product Database

The screenshot shows the MySQL Workbench interface with the 'kredo' database selected. The 'products' table is highlighted in the Navigator. The SQL editor contains the query: `SELECT * FROM kredo.products;`. The Result Grid displays 12 rows of product data.

id	category	description	image_url	name
1	Electronics	Materials: The phone boasts an Armor Aluminu...	https://m.media-amazon.com/images/I/714Dut...	Samsung S24
6	Groceries	Buy Alash Ayurvedic Herbal Soap 75 gm at Bes...	https://images.apollo247.in/pub/media/catalog/...	Alash Soap
7	Womens Wear	Amazon Brand - Symbol Women's Wide Leg For...	https://m.media-amazon.com/images/I/81an60...	Wide Leg Formal
8	Womens Wear	W for Women Women's Cotton Regular Fit Cassa...	https://m.media-amazon.com/images/I/61bqR...	Cotton Kurta
9	Womens Wear	Amazon Brand - Myx Women's Oversized Cot...	https://m.media-amazon.com/images/I/61830v...	Casual Shirt
10	Womens Wear	Amazon Brand - Myx Women's Embroidered Kur...	https://m.media-amazon.com/images/I/61P1-Cl...	Embroidered Kur
11	Kids Wear	Toonypart Boys Summer 3 Packs Of T-shirts an...	https://m.media-amazon.com/images/I/618PyG...	Boys Summer 3F
12	Accessories	Annacreation Korean Fashion Style Pearl Rhine...	https://m.media-amazon.com/images/I/8127cO...	Hair Clips

The Output pane shows the execution of the query, returning 12 rows in 0.000 seconds.