Role-Based E-Commerce Web Application

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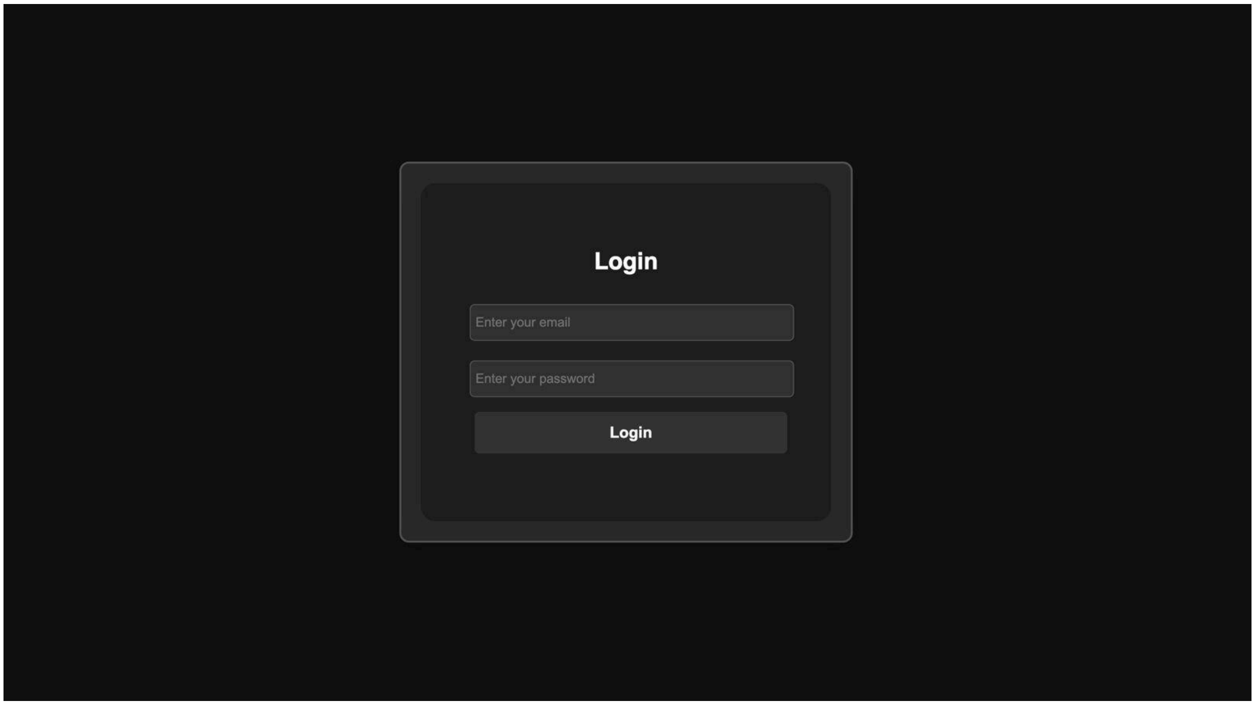
Introduction:

This project is a **Role-Based E-Commerce Web Application** that distinguishes **sellers** and **buyers** based on **email domain**. Users with **"@sastra.ac.in"** emails are identified as **sellers**, while others are classified as **buyers**.

Sellers can **add products** by entering the **name**, **quantity**, and **price**, which are displayed to buyers in **real time**. **Buyers** can **browse**, **add to cart**, and **manage their selections**.

Built with **HTML**, **CSS**, and **JavaScript**, and powered by **Supabase** for the backend, the system enables **dynamic interaction** and provides a **simple, effective model** for managing **multi-role user experiences** in an online marketplace.

Login Page:

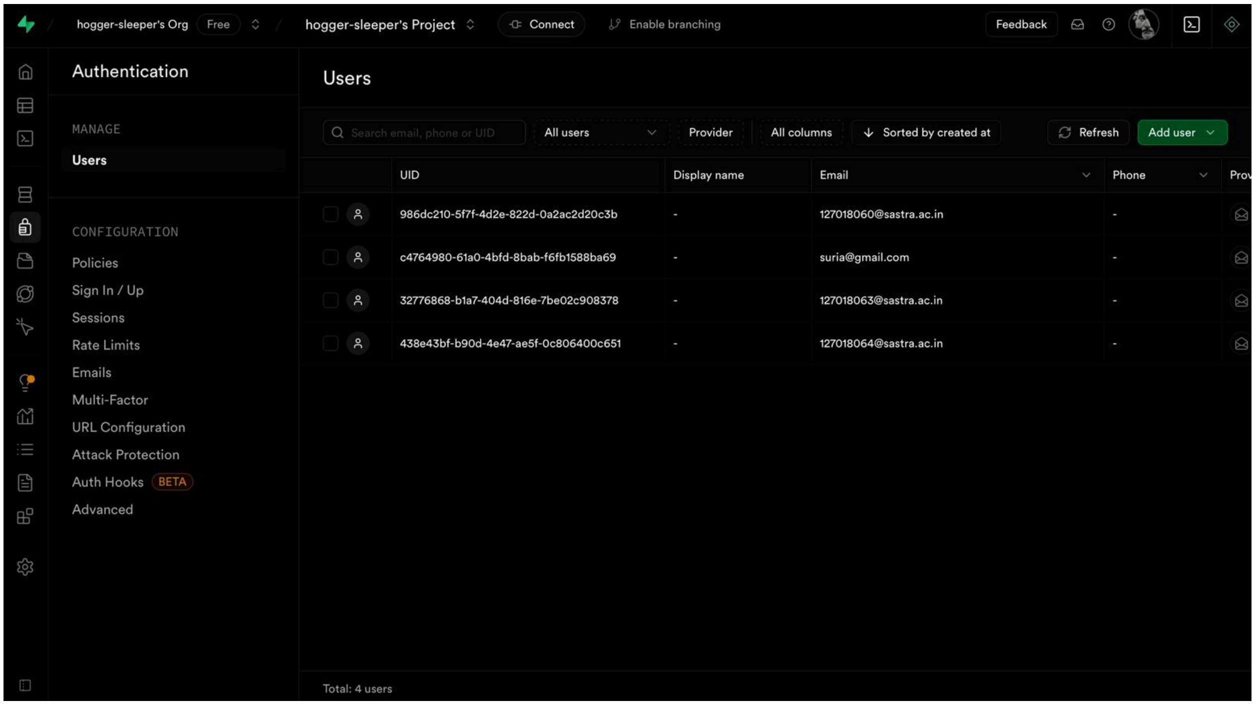


The **login page** is the gateway for both **sellers** and **buyers** on the platform. It features a clean, simple interface where users enter their **email** and **password** to access their respective **dashboards**. A key feature is **domain-based authentication**: emails ending in **”@sastra.ac.in”** identify **sellers**, while all others are classified as **buyers**. Upon successful login, users are redirected to their appropriate interfaces—**seller dashboard** or **shopping interface**.

The system ensures **secure authentication** via **Supabase** (or **Firebase**), with built-in **email format validation** to prevent unauthorized access. It displays **error messages** for invalid credentials or incorrect email formats, guiding users to correct issues. Designed with a **responsive layout**, the page works seamlessly across all screen sizes.

Overall, this login system offers a **secure**, **user-friendly**, and **role-aware** entry into the application.

Authentication:



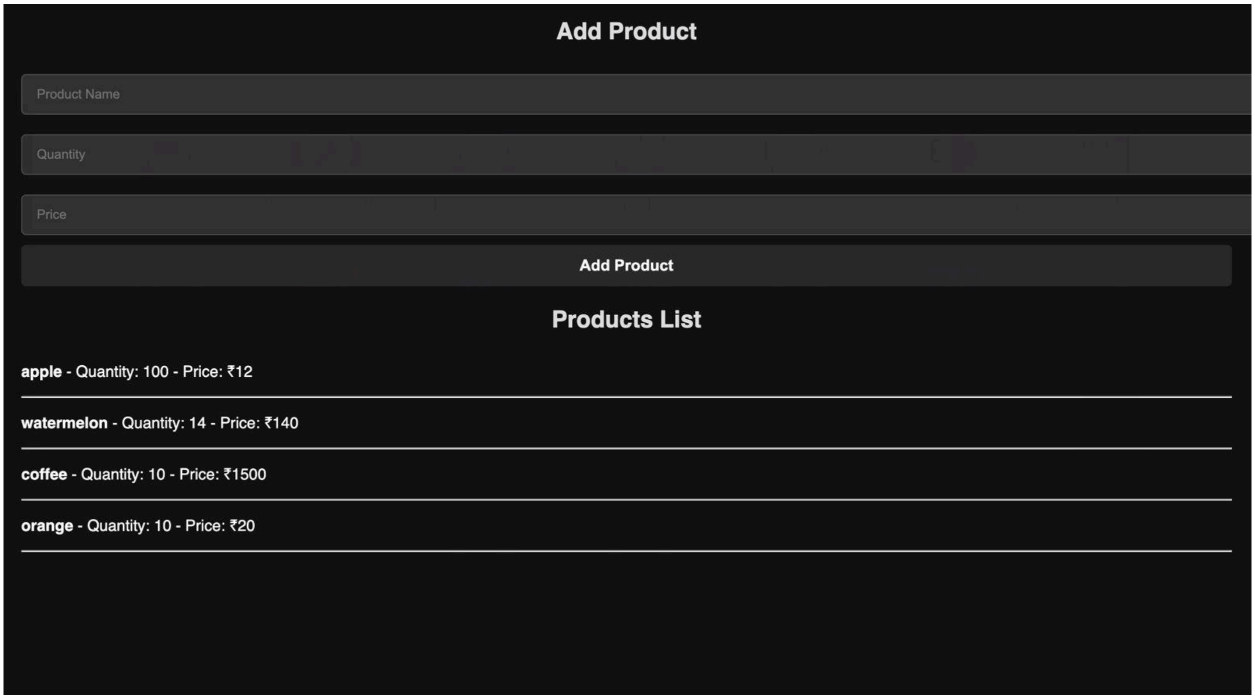
Users

UID	Display name	Email	Phone	Prov
986dc210-5f7f-4d2e-822d-0a2ac2d20c3b	-	127018060@sastra.ac.in	-	
c4764980-61a0-4bfd-8bab-f6fb1588ba69	-	suria@gmail.com	-	
32776868-b1a7-404d-816e-7be02c908378	-	127018063@sastra.ac.in	-	
438e43bf-b90d-4e47-ae5f-0c806400c651	-	127018064@sastra.ac.in	-	

Total: 4 users

Supabase offers robust **login authentication**, allowing users to securely **sign in using email and password**. It seamlessly manages **user sessions**, handles **sign-ups**, and protects sensitive routes with built-in **authentication guards**. All user-related data is stored in the auth.users table, providing a centralized way to implement **role-based access control (RBAC)**. This setup integrates effortlessly with other Supabase features like **Realtime**, **Row-Level Security (RLS)**, and **database triggers**, making it easy to build secure, scalable, and dynamic applications.

Seller Page:



apple - Quantity: 100 - Price: ₹12

watermelon - Quantity: 14 - Price: ₹140

coffee - Quantity: 10 - Price: ₹1500

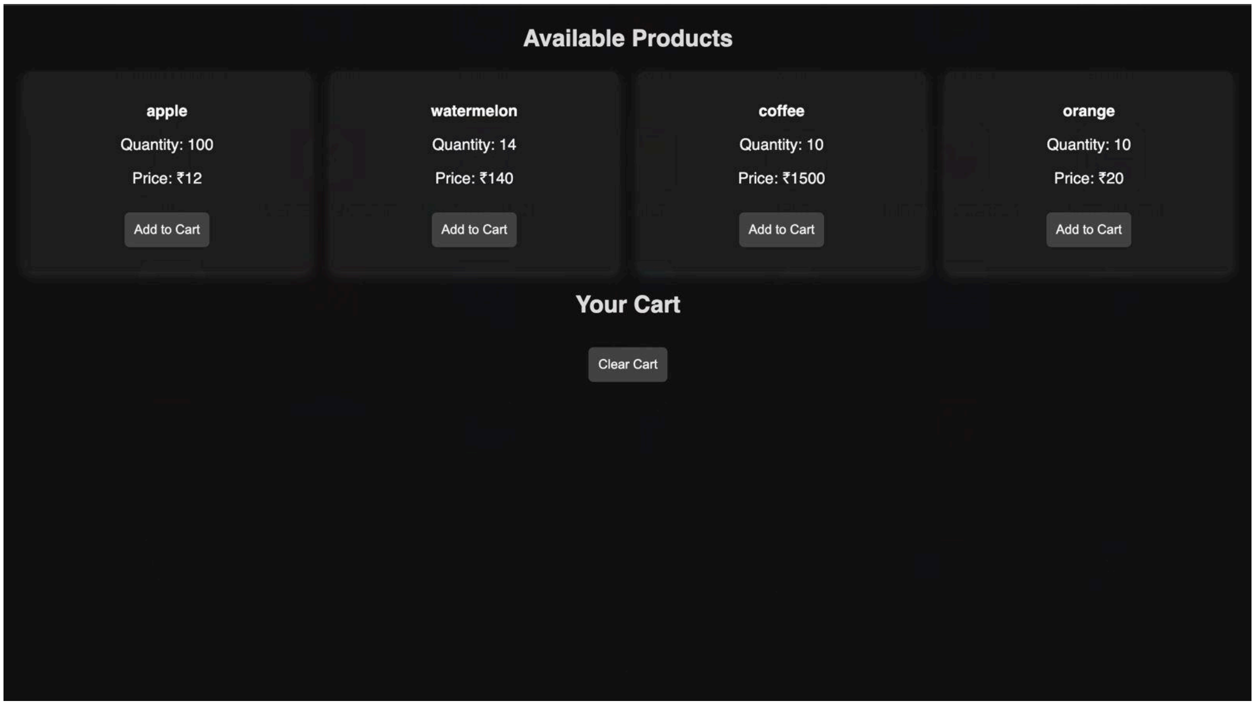
orange - Quantity: 10 - Price: ₹20

The **seller page** is a dedicated workspace for users with emails ending in **”@sastra.ac.in”**. Upon login, sellers can **add products** by entering the **name**, **quantity**, and **unit price**. Added products appear instantly in a **dynamic list or table**, offering a **real-time inventory view**.

Sellers can also **update** or **remove** products as needed. **JavaScript** ensures smooth **input validation** and interactions, while **Supabase** powers **real-time data syncing**, making products immediately visible to buyers. The **responsive design** supports desktops, tablets, and mobile devices.

A built-in **catalog preview** lets sellers view their listings as buyers would, promoting clarity and transparency. The page emphasizes **efficiency**, enabling **on-the-fly updates** without page reloads—ensuring smooth, modern **inventory management**.

Buyer Page:



Available Products

apple
Quantity: 100
Price: ₹12

watermelon
Quantity: 14
Price: ₹140

coffee
Quantity: 10
Price: ₹1500

orange
Quantity: 10
Price: ₹20

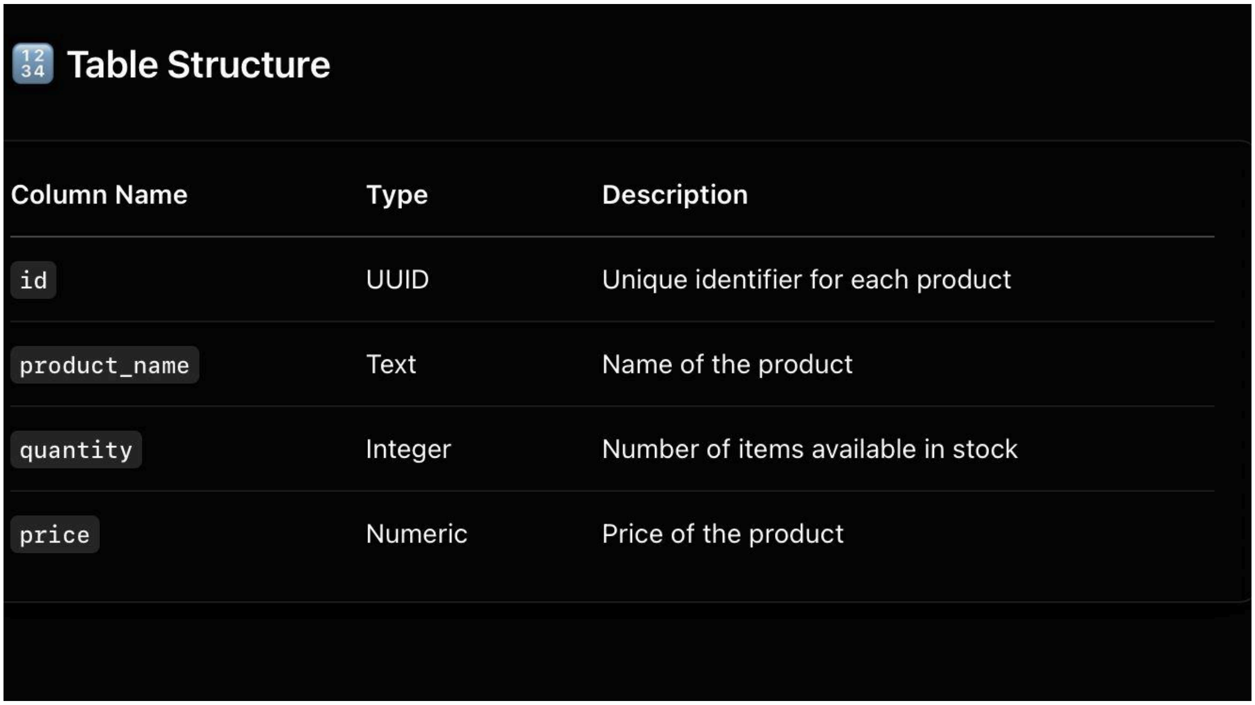
Your Cart

The **buyer page** is tailored for users whose emails **do not end with “@sastra.ac.in”**, automatically classifying them as **buyers**. After login, they are redirected to a page displaying all **available products** listed by sellers, with real-time data fetched from **Supabase**.

Each product shows its **name**, **price**, and **quantity**. Buyers can **add items to their cart**, **adjust quantities**, **view total cost**, and **remove products** — all handled via **JavaScript** for a **smooth, interactive experience** without page reloads. The system enforces **stock limits**, preventing users from exceeding available quantities.

Designed with a **responsive layout**, the page offers a **seamless shopping experience** across all devices. It serves as the central hub connecting buyers with seller offerings and is built to support **future enhancements** like checkout or order history, ensuring a **hassle-free** and scalable e-commerce interface.

Table Structure:



🔢 Table Structure

Column Name	Type	Description
`id`	UUID	Unique identifier for each product
`product_name`	Text	Name of the product
`quantity`	Integer	Number of items available in stock
`price`	Numeric	Price of the product

The product table stores all the items listed by **sellers** on the platform. It contains essential **product details** such as name, description, price, images, and stock status—information that **buyers** can view while browsing and shopping.

Purpose:

- Enables **sellers** to add, update, and manage products available for purchase.
- Allows **buyers** to browse listed items and add them to their **cart** for potential purchase.
- Serves as a core component for powering **product discovery**, **inventory display**, and the overall **shopping experience**.

Conclusion:

This **role-based e-commerce web application** effectively demonstrates **dynamic user role assignment** based on **email domains**. Using **Supabase** for the backend and **HTML**, **CSS**, and **JavaScript** for the frontend, it ensures **seamless interaction** between **sellers** and **buyers**.

Sellers can easily **manage products**, while **buyers** benefit from **real-time product visibility** and **cart functionality**. The platform's **clean structure**, **live updates**, and **intuitive design** make it **scalable** and ready for future features like **checkout**, **order history**, or **admin controls**. It offers a strong foundation for **modern web-based marketplace solutions**.