ShopEZ: E-commerce Application

1. Introduction

Project Title: ShopEZ: E-commerce ApplicaStion

Team Members:

- Karnatapu Vishnu Saketh
- Imran Shaik
- Polani Naga Venkata Karthik
- Shanmuk Murugula

2. Project Overview

Purpose:
ShopEZ is designed to cater to the growing need for efficient and user-friendly e-commerce platforms. It bridges the gap between complex online shopping systems and user convenience by providing streamlined navigation, secure transactions, and personalized product recommendations. Additionally, the platform empowers sellers with a dashboard for managing their inventory, processing orders, and accessing analytics to drive growth.

Features:

1. **Seamless Checkout:** Secure and smooth payment process with instant order confirmations and email notifications.
2. **Effortless Product Discovery:** Advanced search capabilities, intuitive category navigation, and powerful filters to help users find exactly what they need.
3. **Personalized Recommendations:** AI-driven algorithms analyze user behavior to provide curated product suggestions.
4. **Seller Dashboard:** Comprehensive tools for inventory tracking, order processing, and analytics to monitor performance metrics.
5. **Real-time Analytics:** Data-driven insights for sellers, highlighting sales trends, customer preferences, and product performance.

3. Architecture

Frontend:

- Developed using **React.js** for its component-based architecture and state management capabilities.
- Features dynamic components like:
  - **Product Listings**: Displays products with sorting and filtering options.
  - **Cart Management**: Allows users to add, update, or remove items in their cart.
  - **User Authentication**: Login and registration pages with secure validation.
  - **Admin Panel**: Provides sellers with tools to manage inventory and view analytics.

Backend:

- Built with **Node.js** and **Express.js**, ensuring scalability and high performance.
- Features include:
  - **API Endpoints**:
    - `/products` for fetching product data.
    - `/orders` for processing customer orders.
    - `/users` for managing user authentication.
  - **Middleware** for error handling and authentication using **JWT**.

Database:

- **MongoDB** serves as the database, storing collections for:
  - **Users**: Authentication credentials, profiles, and purchase history.
  - **Products**: Information on inventory, prices, categories, and descriptions.
  - **Orders**: Details about placed orders, delivery status, and payment.

This architecture ensures modularity, scalability, and efficient data management.

4. Setup Instructions

Prerequisites:

- **Node.js**: v14 or later
- **MongoDB**: Installed locally or set up using a cloud provider like MongoDB Atlas
- **npm**: Package manager for installing dependencies

Installation:

Clone the repository:

```
https://github.com/stinastanley/stina.git
```

Navigate to the project directory:

```
cd shopEZ
```

Install dependencies for the backend and frontend:

Backend:

```
cd server
npm install
```

Frontend:

```
cd client
npm install
```

Run the servers:

Backend:

```
node index.js
```

Frontend:

```
npm start
```

5. Folder Structure

Client:

- `src/components`: Contains reusable components like **Navbar**, **ProductCard**, **CartItem**, etc.
- `src/pages`: Holds page components such as **Home**, **Cart**, **Checkout**, and **AdminPanel**.
- `src/services`: Manages API interactions for fetching and posting data.
- `src/redux`: Implements state management for cart items, user authentication, and order status.

Server:

- `routes`: Defines all RESTful API routes for users, products, and orders.
- `controllers`: Contains the logic for handling API requests and responses.
- `models`: Defines database schemas for **Users**, **Products**, and **Orders**.
- `middleware`: Handles authentication (JWT) and error management.

6. Running the Application

Frontend:

Navigate to the client directory:

```
cd client
```

Start the React application:

```
npm start
```

Backend:

Navigate to the server directory:

```
cd server
```

Start the Node.js server:

```
node index.js
```

7. API Documentation

Endpoints:

1. **GET /products**
    - Fetches the list of all products.
    - Parameters: Optional category and price filters.

Response:
json

```
[
  {
    "id": "123",
    "name": "Gold Bracelet",
    "price": 50,
    "category": "Accessories"
  }
]
```

2. **POST /orders**
    - Places a new order.
    - Parameters: User ID, product details, and quantity.

Response:
json

```
{
  "message": "Order placed successfully",
  "orderId": "456"
}
```

8. Authentication

JWT-based Authentication:

- **Login**: Issues a JWT token upon successful authentication.
- **Token Validation**: Protects private routes like `/orders` and `/admin`.
- **Logout**: Invalidates the token on the client side.

9. User Interface

Screens:

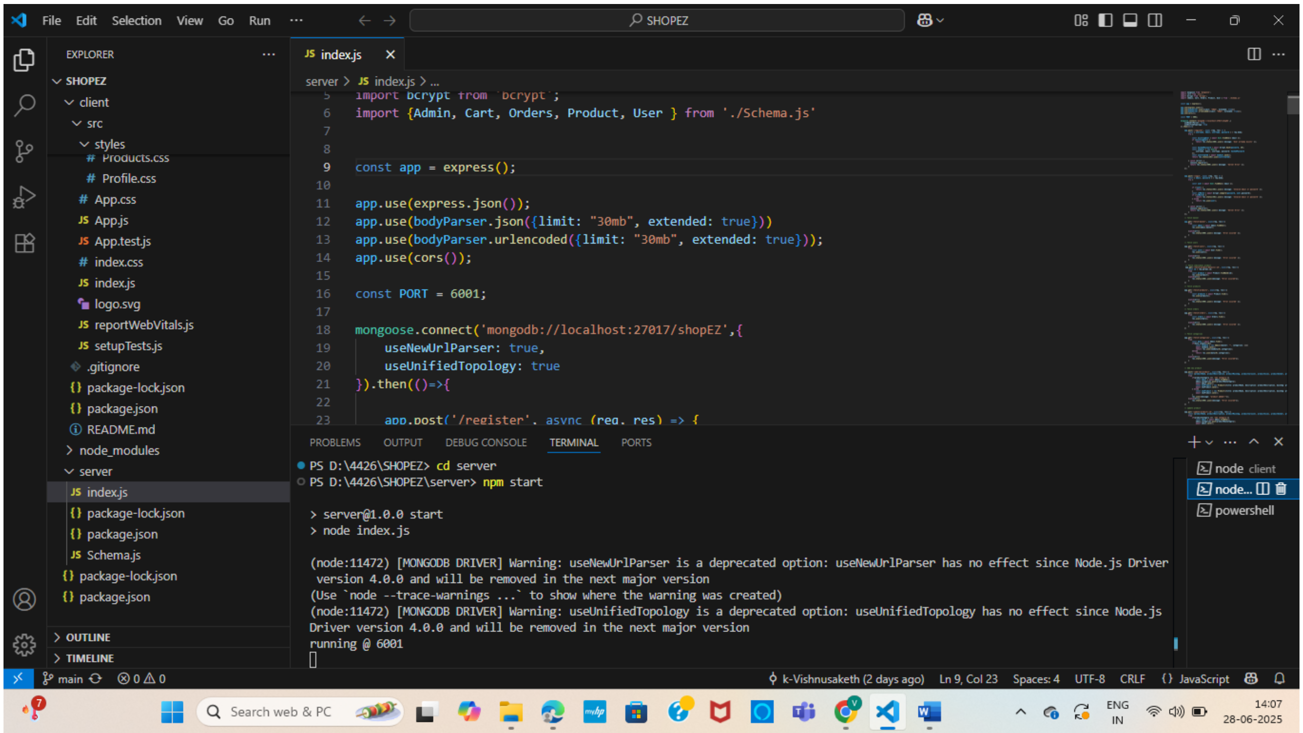
- **Home:** Displays trending products and categories.
- **Product Details:** Shows detailed information about a selected item.
- **Cart:** Summarizes selected products and their quantities.
- **Admin Dashboard:** Offers order status updates and analytics for sellers.

10. Testing

- **Unit Testing:** Conducted using **Jest** for components and backend logic.
- **API Testing:** Performed using **Postman** to validate endpoints.

11. Screenshots or Demo

Screenshots of key UI components and admin panel.



```
import bcrypt from 'bcrypt';
import {Admin, Cart, Orders, Product, User } from './Schema.js'


const app = express();

app.use(express.json());
app.use(bodyParser.json({limit: "30mb", extended: true}))
app.use(bodyParser.urlencoded({limit: "30mb", extended: true}));
app.use(cors());

const PORT = 6001;

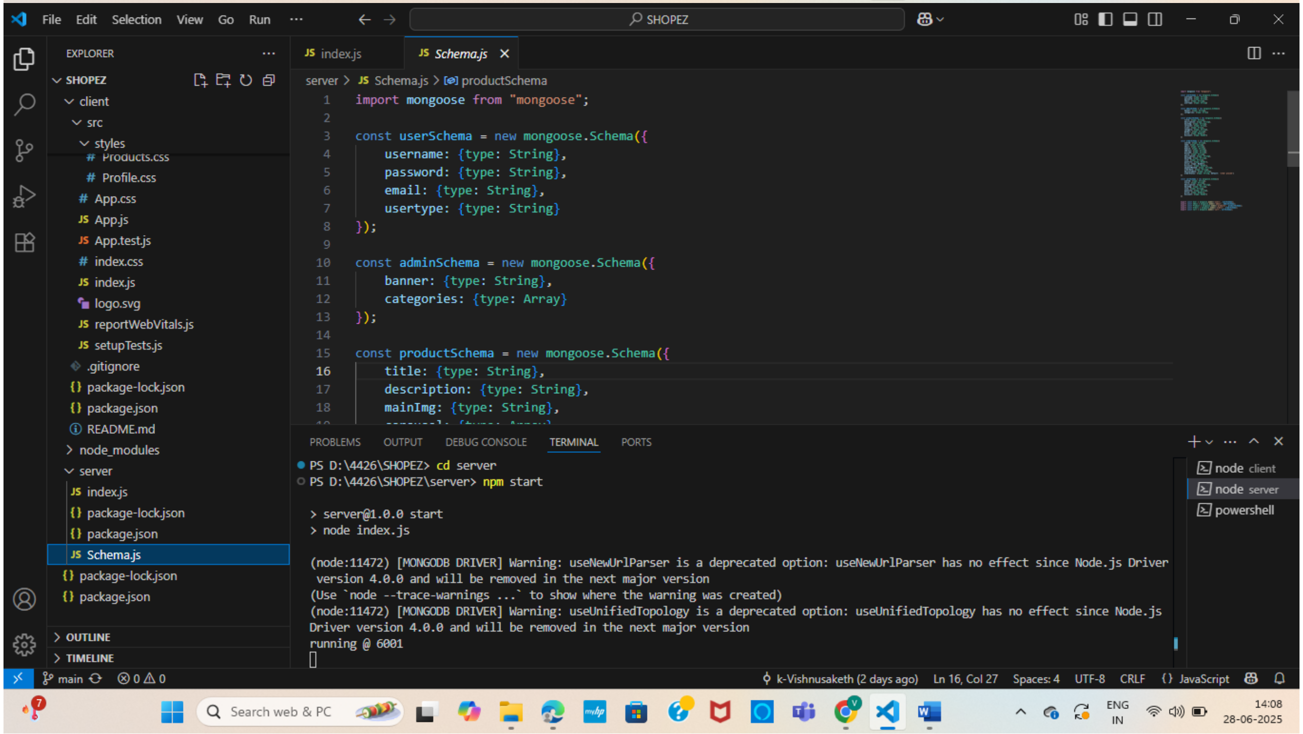
mongoose.connect('mongodb://localhost:27017/shopEZ',{
    useNewUrlParser: true,
    useUnifiedTopology: true
}).then(()=>{

    app.post('/register', async (req, res) => {
```

```
PS D:\4426\SHOPEZ> cd server
PS D:\4426\SHOPEZ\server> npm start

> server@1.0.0 start
> node index.js

(node:11472) [MONGODB DRIVER] Warning: useNewUrlParser is a deprecated option: useNewUrlParser has no effect since Node.js Driver
 version 4.0.0 and will be removed in the next major version
(Use `node --trace-warnings ...` to show where the warning was created)
(node:11472) [MONGODB DRIVER] Warning: useUnifiedTopology is a deprecated option: useUnifiedTopology has no effect since Node.js
Driver version 4.0.0 and will be removed in the next major version
running @ 6001
```



```
import mongoose from "mongoose";

const userSchema = new mongoose.Schema({
    username: {type: String},
    password: {type: String},
    email: {type: String},
    usertype: {type: String}
});

const adminSchema = new mongoose.Schema({
    banner: {type: String},
    categories: {type: Array}
});

const productSchema = new mongoose.Schema({
    title: {type: String},
    description: {type: String},
    mainImg: {type: String},
    carousel: {type: Array},
```

```
PS D:\4426\SHOPEZ> cd server
PS D:\4426\SHOPEZ\server> npm start

> server@1.0.0 start
> node index.js

(node:11472) [MONGODB DRIVER] Warning: useNewUrlParser is a deprecated option: useNewUrlParser has no effect since Node.js Driver
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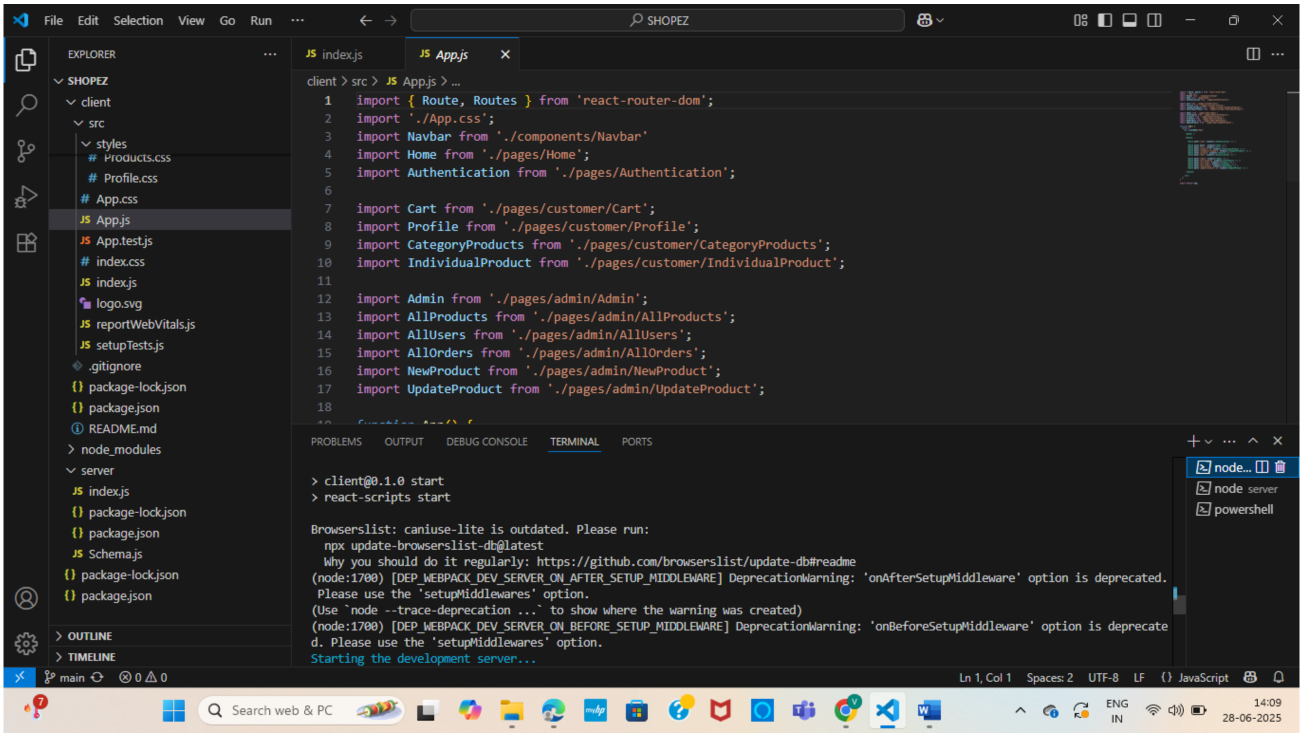


```
import { Route, Routes } from 'react-router-dom';
import './App.css';
import Navbar from './components/Navbar'
import Home from './pages/Home';
import Authentication from './pages/Authentication';

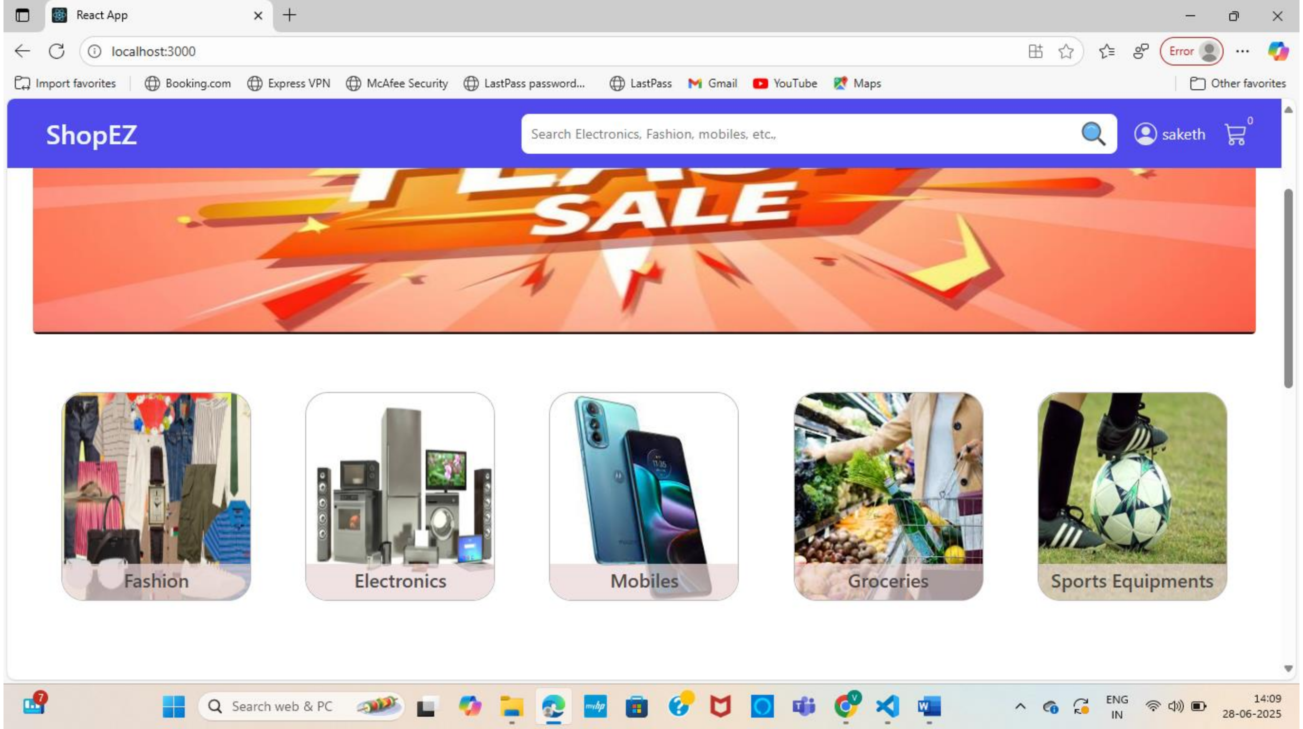
import Cart from './pages/customer/Cart';
import Profile from './pages/customer/Profile';
import CategoryProducts from './pages/customer/CategoryProducts';
import IndividualProduct from './pages/customer/IndividualProduct';

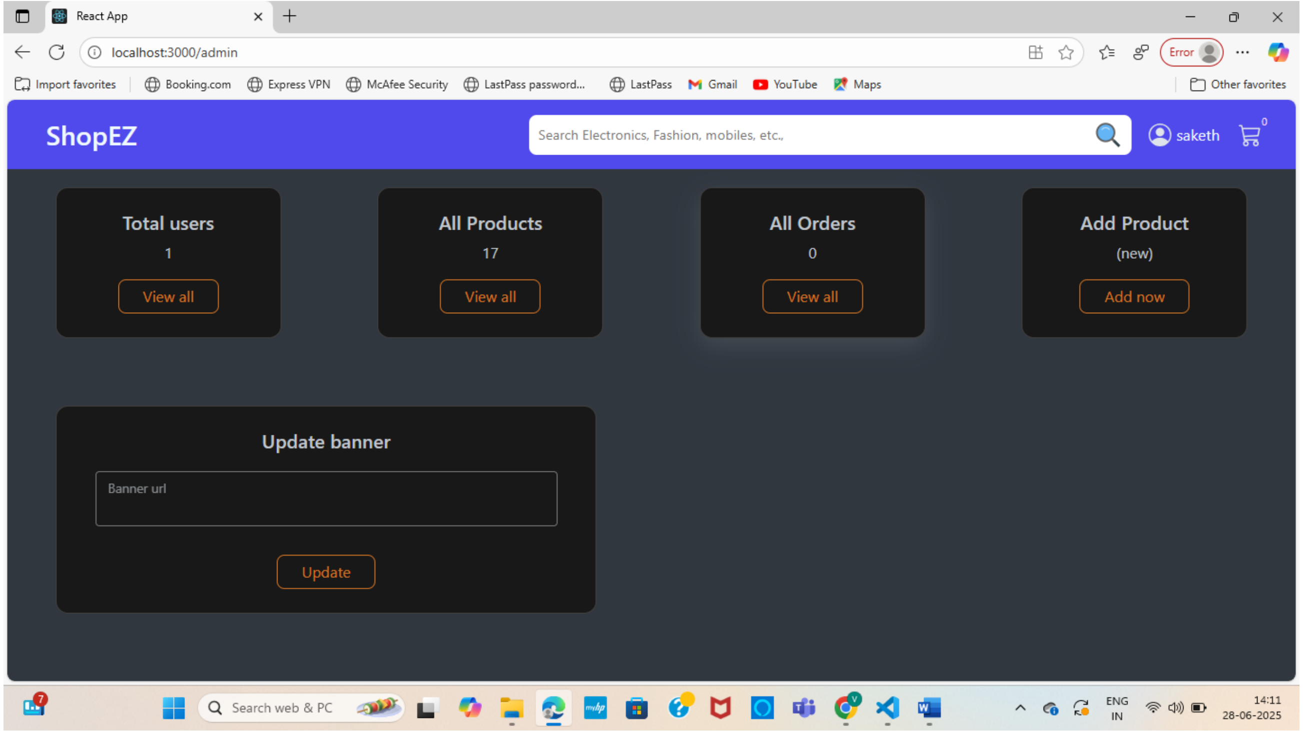
import Admin from './pages/admin/Admin';
import AllProducts from './pages/admin/AllProducts';
import AllUsers from './pages/admin/AllUsers';
import AllOrders from './pages/admin/AllOrders';
import NewProduct from './pages/admin/NewProduct';
import UpdateProduct from './pages/admin/UpdateProduct';

```

```
> client@0.1.0 start
> react-scripts start

Browserslist: caniuse-lite is outdated. Please run:
  npx update-browserslist-db@latest
  Why you should do it regularly: https://github.com/browserslist/update-db#readme
(node:1700) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated.
 Please use the 'setupMiddlewares' option.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:1700) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecate
d. Please use the 'setupMiddlewares' option.
Starting the development server...
```





Total users

1

View all

All Products

17

View all

All Orders

0

View all

Add Product

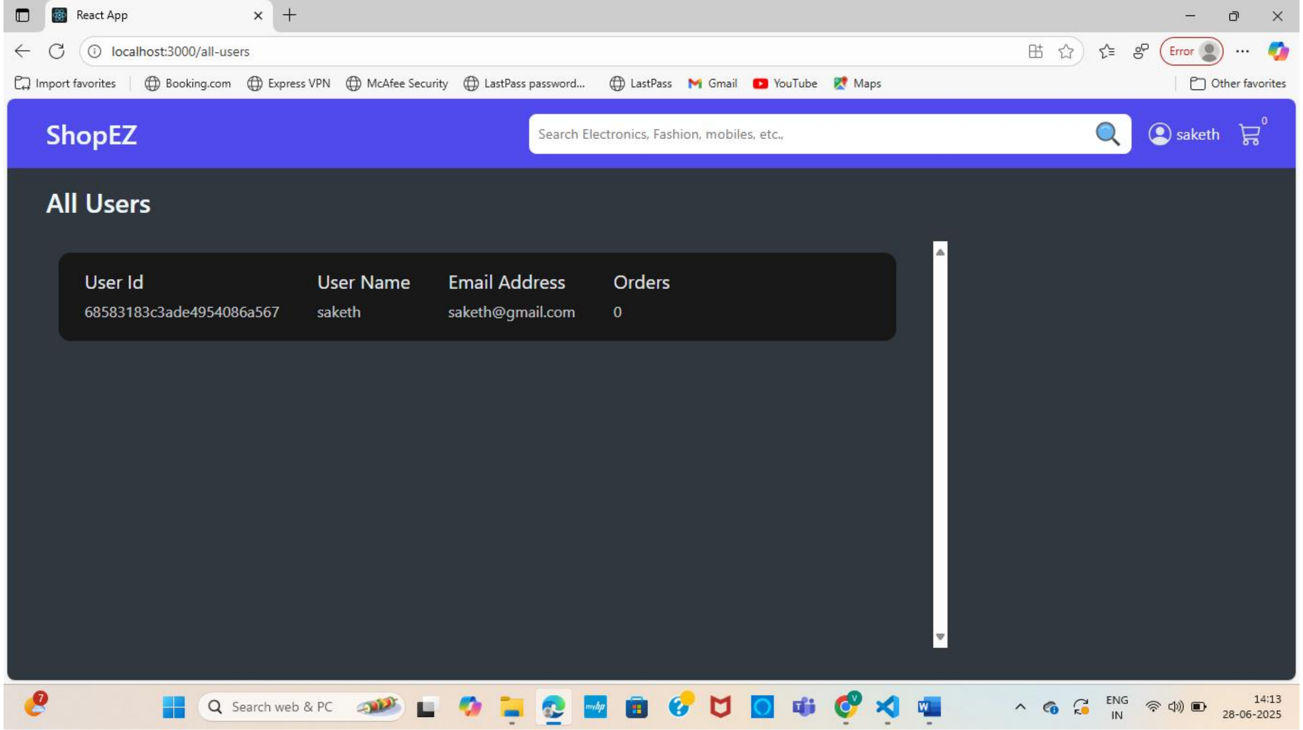
(new)

Add now

Update banner

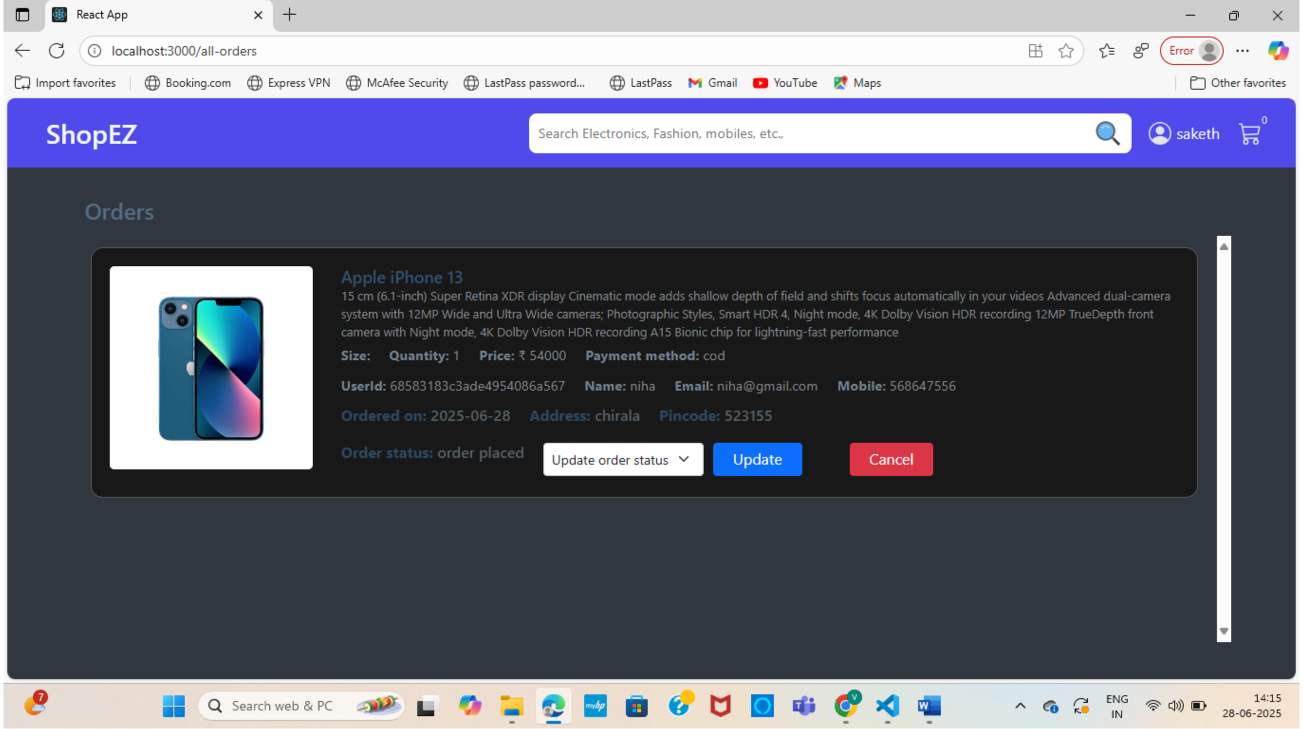
Banner url

Update



All Users

User Id	User Name	Email Address	Orders
68583183c3ade4954086a567	saketh	saketh@gmail.com	0



Orders

Apple iPhone 13

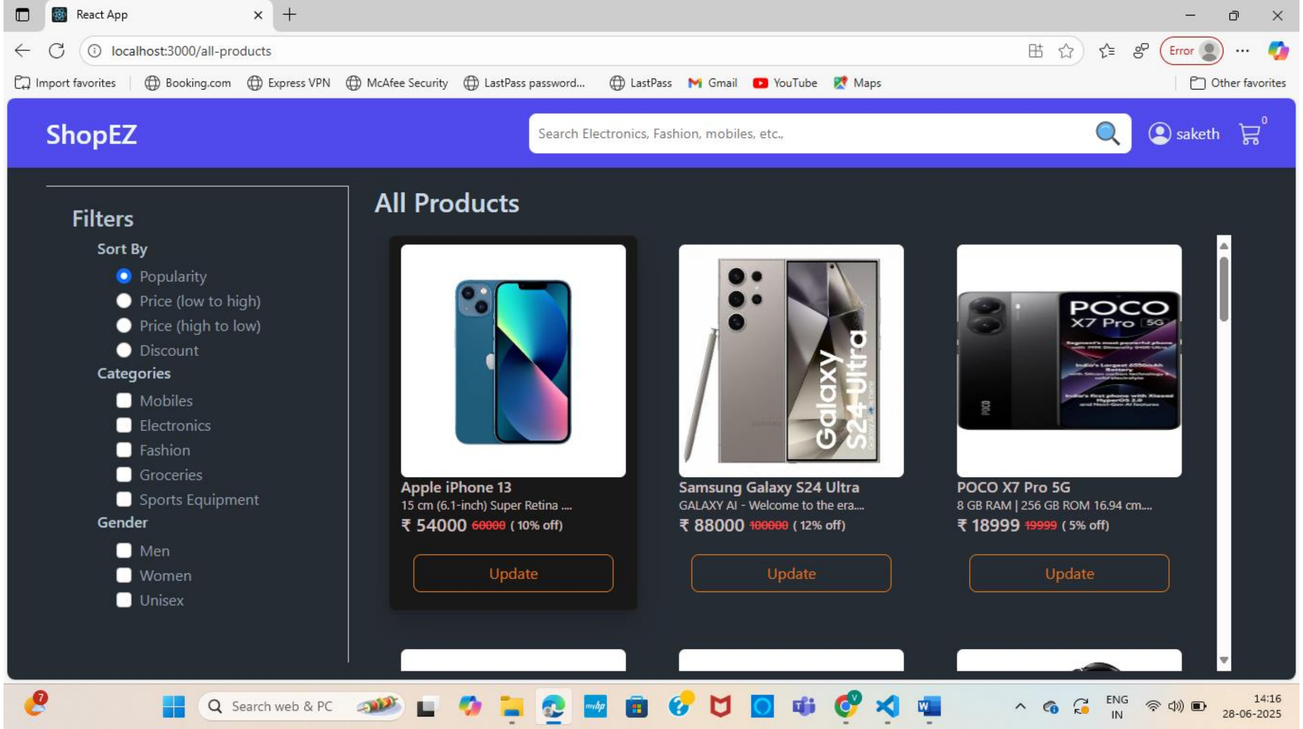
15 cm (6.1-inch) Super Retina XDR display Cinematic mode adds shallow depth of field and shifts focus automatically in your videos Advanced dual-camera system with 12MP Wide and Ultra Wide cameras; Photographic Styles, Smart HDR 4, Night mode, 4K Dolby Vision HDR recording 12MP TrueDepth front camera with Night mode, 4K Dolby Vision HDR recording A15 Bionic chip for lightning-fast performance

Size: **Quantity:** 1 **Price:** ₹ 54000 **Payment method:** cod

UserId: 68583183c3ade4954086a567 **Name:** niha **Email:** niha@gmail.com **Mobile:** 568647556

Ordered on: 2025-06-28 **Address:** chirala **Pincode:** 523155

Order status: order placed



Filters

Sort By

● Popularity
○ Price (low to high)
○ Price (high to low)
○ Discount

Categories

□ Mobiles
□ Electronics
□ Fashion
□ Groceries
□ Sports Equipment

Gender

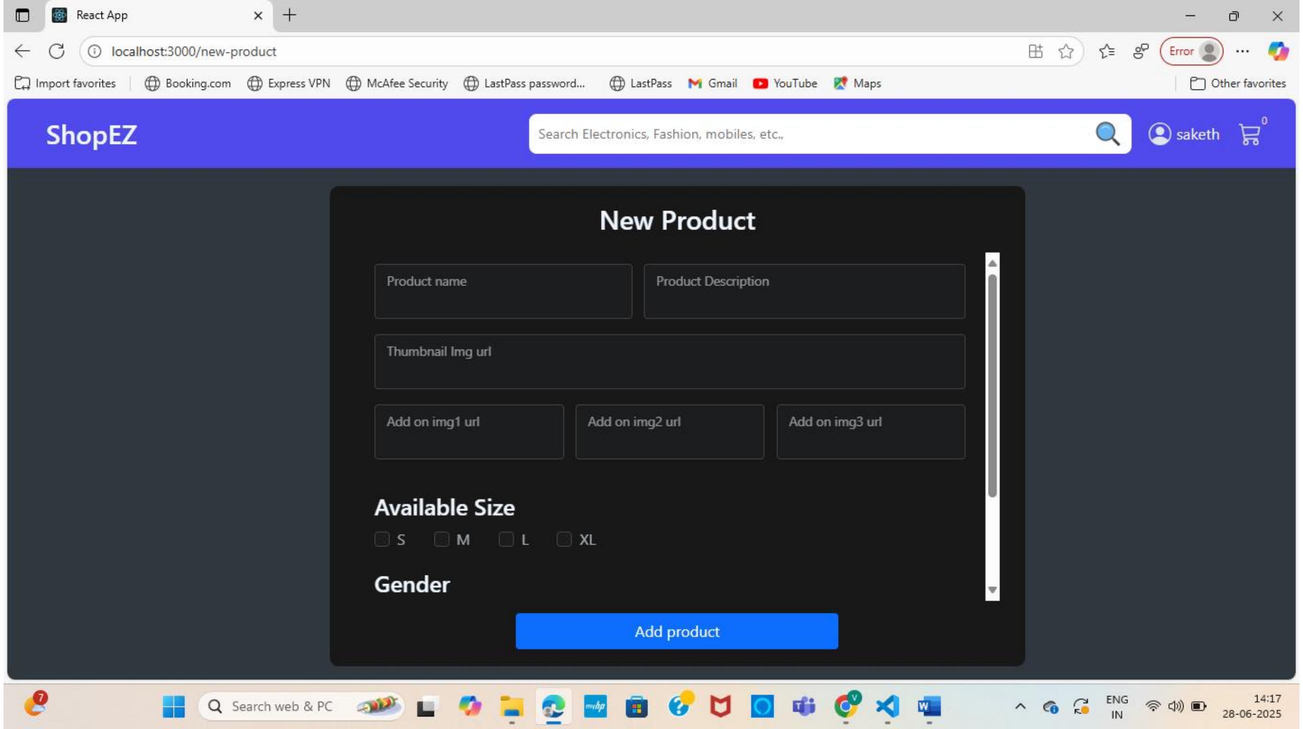
□ Men
□ Women
□ Unisex

All Products

Apple iPhone 13
15 cm (6.1-inch) Super Retina ....
₹ 54000 ~~60000~~ (10% off)

Samsung Galaxy S24 Ultra
GALAXY AI - Welcome to the era....
₹ 88000 ~~100000~~ (12% off)

POCO X7 Pro 5G
8 GB RAM | 256 GB ROM 16.94 cm....
₹ 18999 ~~19999~~ (5% off)



New Product

Product name

Product Description

Thumbnail Img url

Add on img1 url

Add on img2 url

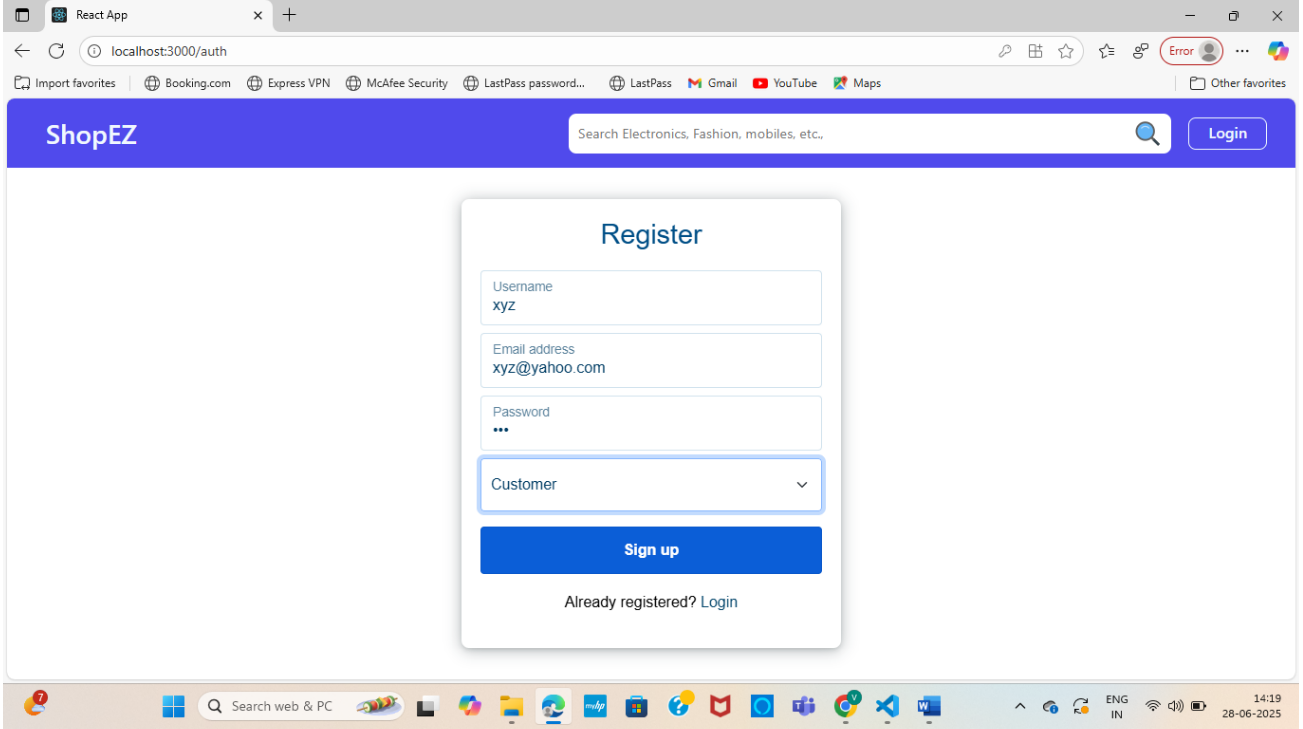
Add on img3 url

Available Size

□ S □ M □ L □ XL

Gender

Add product



Register

Username: xyz

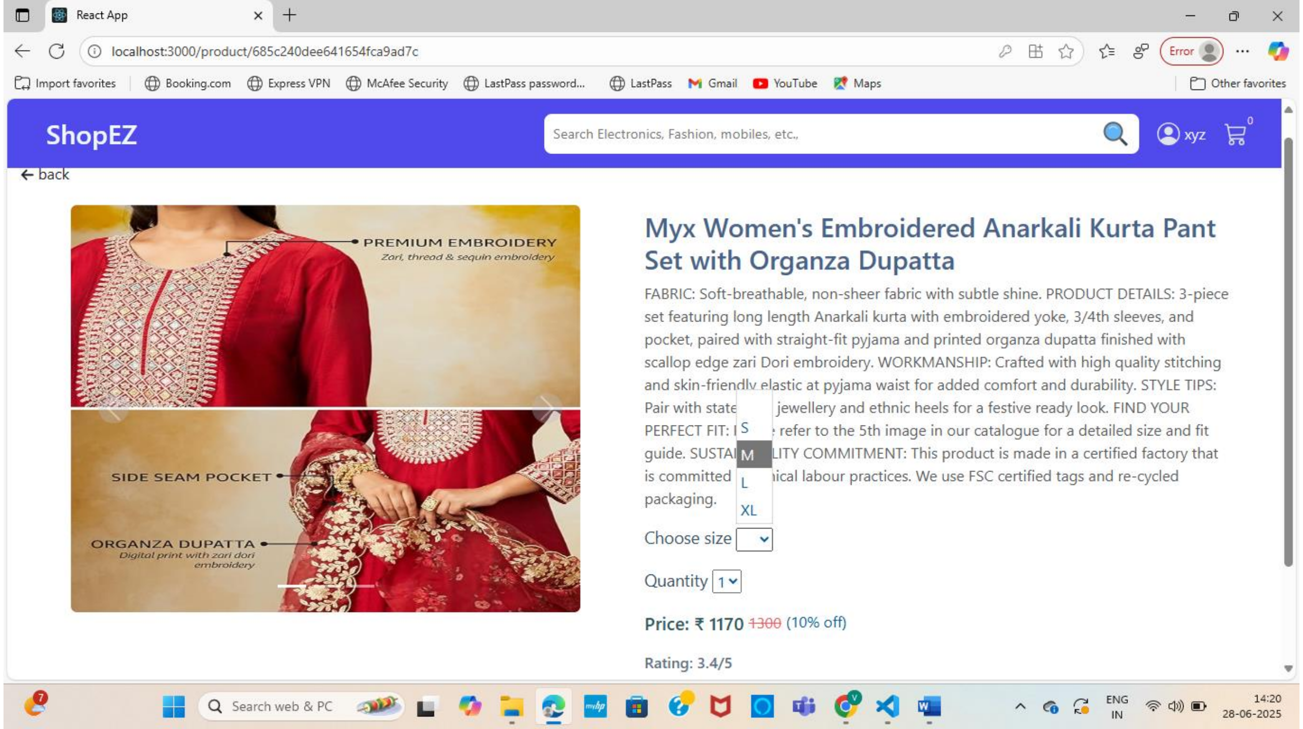
Email address: xyz@yahoo.com

Password: •••

Customer

Sign up

Already registered? Login



ShopEZ

← back

Myx Women's Embroidered Anarkali Kurta Pant Set with Organza Dupatta

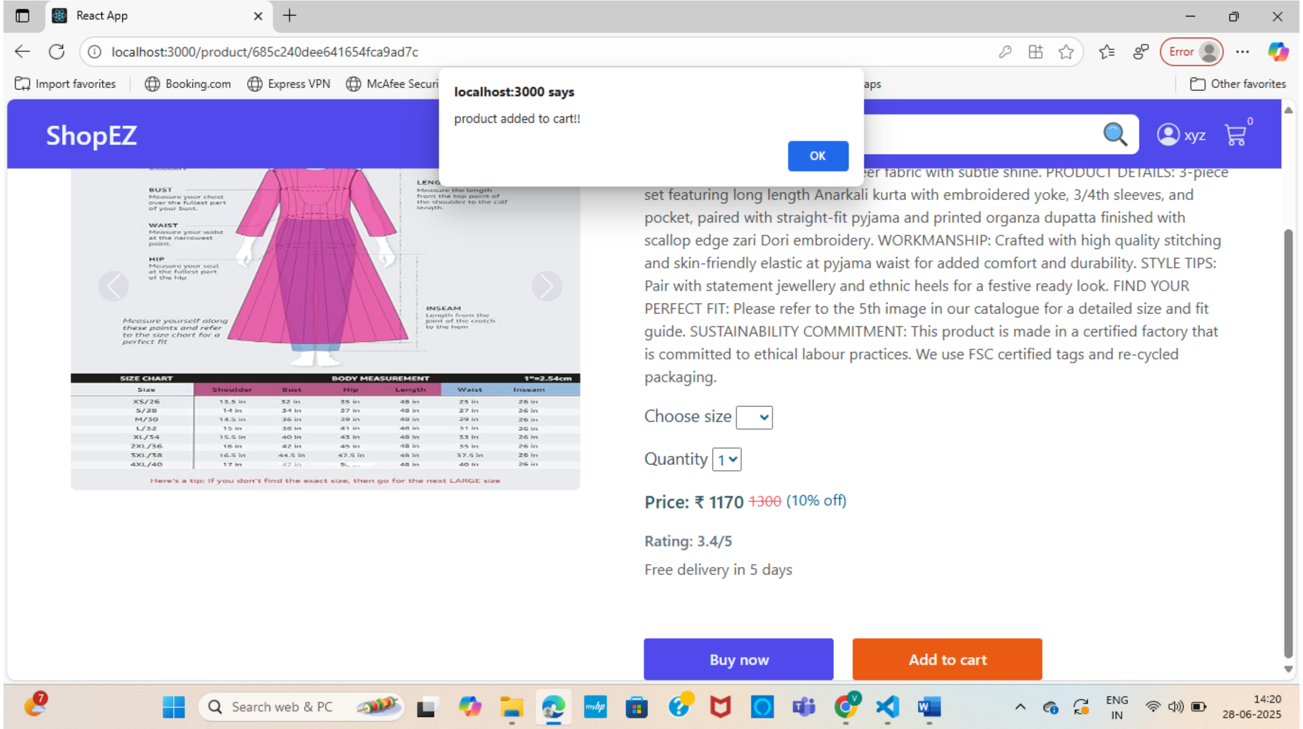
FABRIC: Soft-breathable, non-sheer fabric with subtle shine. PRODUCT DETAILS: 3-piece set featuring long length Anarkali kurta with embroidered yoke, 3/4th sleeves, and pocket, paired with straight-fit pyjama and printed organza dupatta finished with scallop edge zari Dori embroidery. WORKMANSHIP: Crafted with high quality stitching and skin-friendly elastic at pyjama waist for added comfort and durability. STYLE TIPS: Pair with state jewellery and ethnic heels for a festive ready look. FIND YOUR PERFECT FIT: I refer to the 5th image in our catalogue for a detailed size and fit guide. SUSTAI LITY COMMITMENT: This product is made in a certified factory that is committed ical labour practices. We use FSC certified tags and re-cycled packaging.

Choose size

Quantity 1

Price: ₹ 1170 ~~1300~~ (10% off)

Rating: 3.4/5


React App
localhost:3000/product/685c240dee641654fca9ad7c
Error
Import favorites
Booking.com
Express VPN
McAfee Securi
aps
Other favorites
xyz
0
BUST
Measure your chest over the fullest part of your bust.
WAIST
Measure your waist at the narrowest point.
HIP
Measure your seat at the fullest part of the hip
LENG
Measure the length from the top point of the shoulder to the calf length.
INSEAM
Length from the joint of the crotch to the hem
Measure yourself along these points and refer to the size chart for a perfect fit
Search web & PC
ENG
IN
14:20
28-06-2025

localhost:3000 says

product added to cart!!

OK

ShopEZ

SIZE CHART	BODY MEASUREMENT					1"=2.54cm
Size	Shoulder	Bust	Hip	Length	Waist	Inseam
XS/26	13.5 in	32 in	35 in	48 in	25 in	26 in
S/28	14 in	34 in	37 in	48 in	27 in	26 in
M/30	14.5 in	36 in	39 in	48 in	29 in	26 in
L/32	15 in	38 in	41 in	48 in	31 in	26 in
XL/34	15.5 in	40 in	43 in	48 in	33 in	26 in
2XL/36	16 in	42 in	45 in	48 in	35 in	26 in
3XL/38	16.5 in	44.5 in	47.5 in	48 in	37.5 in	26 in
4XL/40	17 in	47 in	[illegible]	48 in	40 in	26 in

Here's a tip: If you don't find the exact size, then go for the next LARGE size

er fabric with subtle shine. PRODUCT DETAILS: 3-piece set featuring long length Anarkali kurta with embroidered yoke, 3/4th sleeves, and pocket, paired with straight-fit pyjama and printed organza dupatta finished with scallop edge zari Dori embroidery. WORKMANSHIP: Crafted with high quality stitching and skin-friendly elastic at pyjama waist for added comfort and durability. STYLE TIPS: Pair with statement jewellery and ethnic heels for a festive ready look. FIND YOUR PERFECT FIT: Please refer to the 5th image in our catalogue for a detailed size and fit guide. SUSTAINABILITY COMMITMENT: This product is made in a certified factory that is committed to ethical labour practices. We use FSC certified tags and re-cycled packaging.

Choose size

Quantity 1

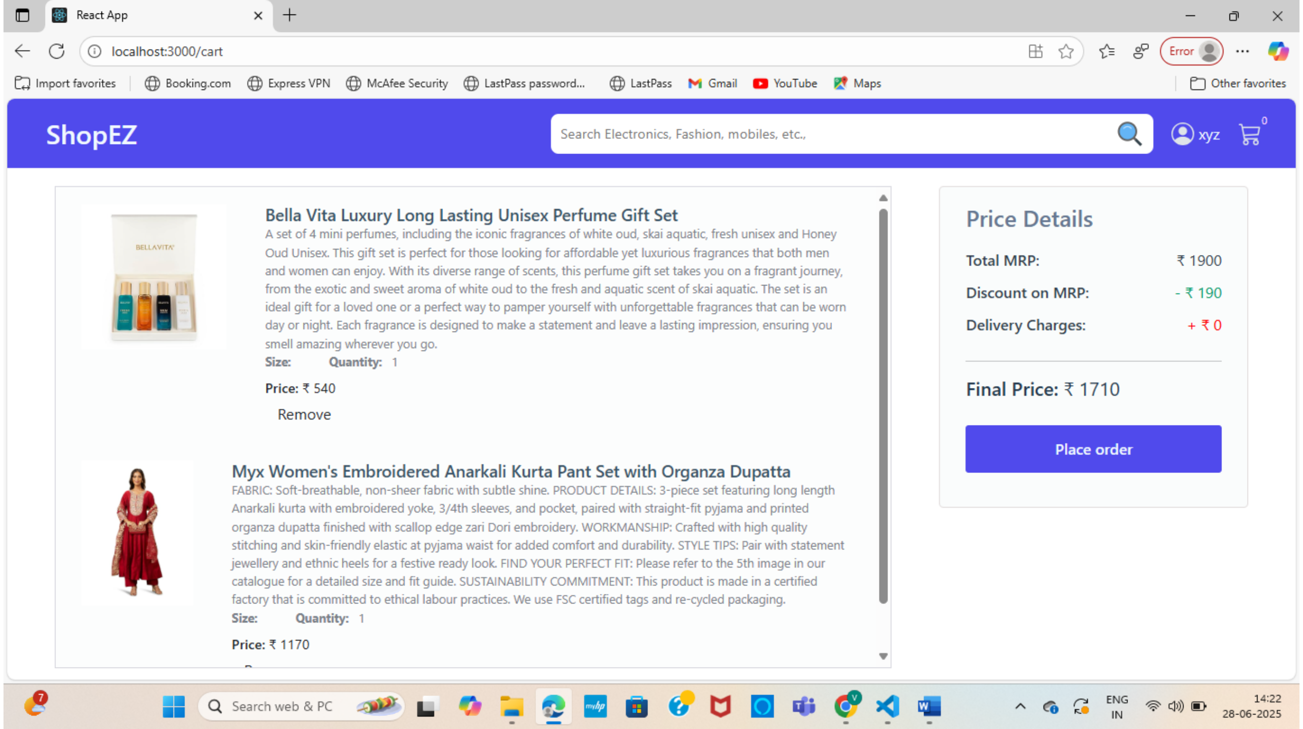
Price: ₹ 1170 ~~1300~~ (10% off)

Rating: 3.4/5

Free delivery in 5 days

Buy now

Add to cart



ShopEZ

Bella Vita Luxury Long Lasting Unisex Perfume Gift Set

A set of 4 mini perfumes, including the iconic fragrances of white oud, skai aquatic, fresh unisex and Honey Oud Unisex. This gift set is perfect for those looking for affordable yet luxurious fragrances that both men and women can enjoy. With its diverse range of scents, this perfume gift set takes you on a fragrant journey, from the exotic and sweet aroma of white oud to the fresh and aquatic scent of skai aquatic. The set is an ideal gift for a loved one or a perfect way to pamper yourself with unforgettable fragrances that can be worn day or night. Each fragrance is designed to make a statement and leave a lasting impression, ensuring you smell amazing wherever you go.

Size: **Quantity:** 1

Price: ₹ 540

Remove

Myx Women's Embroidered Anarkali Kurta Pant Set with Organza Dupatta

FABRIC: Soft-breathable, non-sheer fabric with subtle shine. PRODUCT DETAILS: 3-piece set featuring long length Anarkali kurta with embroidered yoke, 3/4th sleeves, and pocket, paired with straight-fit pyjama and printed organza dupatta finished with scallop edge zari Dori embroidery. WORKMANSHIP: Crafted with high quality stitching and skin-friendly elastic at pyjama waist for added comfort and durability. STYLE TIPS: Pair with statement jewellery and ethnic heels for a festive ready look. FIND YOUR PERFECT FIT: Please refer to the 5th image in our catalogue for a detailed size and fit guide. SUSTAINABILITY COMMITMENT: This product is made in a certified factory that is committed to ethical labour practices. We use FSC certified tags and re-cycled packaging.

Size: **Quantity:** 1

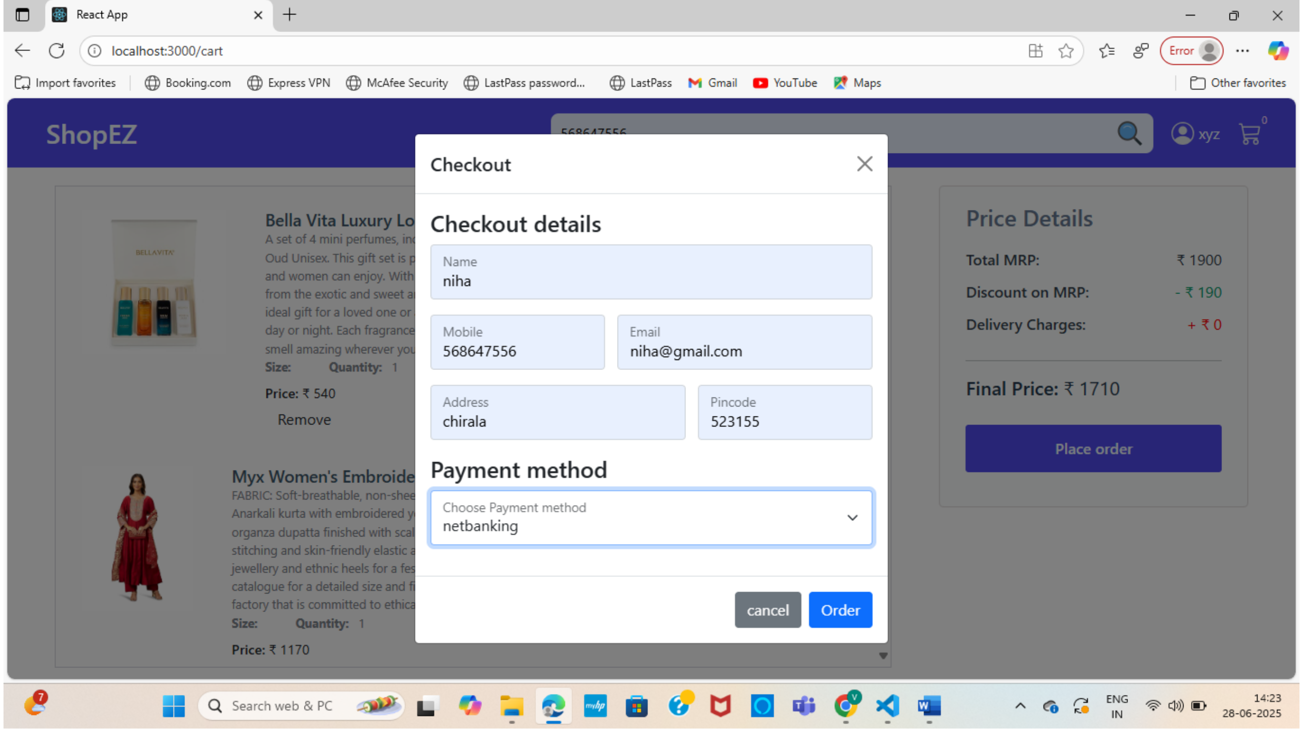
Price: ₹ 1170

Price Details

Total MRP:	₹ 1900
Discount on MRP:	- ₹ 190
Delivery Charges:	+ ₹ 0

Final Price: ₹ 1710

Place order



ShopEZ

Checkout

Checkout details

Name
niha

Mobile
568647556

Email
niha@gmail.com

Address
chirala

Pincode
523155

Payment method

Choose Payment method
netbanking

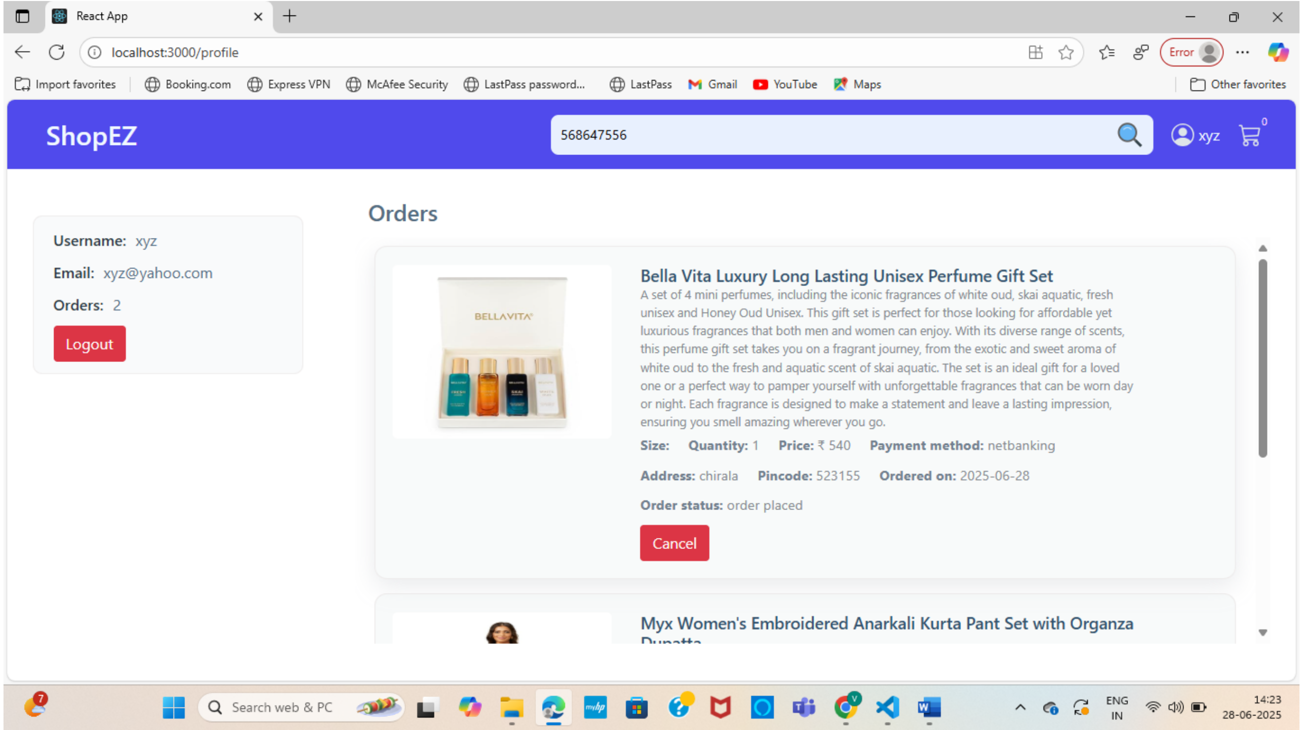
cancel Order

Price Details

Total MRP:	₹ 1900
Discount on MRP:	- ₹ 190
Delivery Charges:	+ ₹ 0

Final Price: ₹ 1710

Place order



ShopEZ

568647556

xyz

Orders

Username: xyz

Email: xyz@yahoo.com

Orders: 2

Logout

Bella Vita Luxury Long Lasting Unisex Perfume Gift Set

A set of 4 mini perfumes, including the iconic fragrances of white oud, skai aquatic, fresh unisex and Honey Oud Unisex. This gift set is perfect for those looking for affordable yet luxurious fragrances that both men and women can enjoy. With its diverse range of scents, this perfume gift set takes you on a fragrant journey, from the exotic and sweet aroma of white oud to the fresh and aquatic scent of skai aquatic. The set is an ideal gift for a loved one or a perfect way to pamper yourself with unforgettable fragrances that can be worn day or night. Each fragrance is designed to make a statement and leave a lasting impression, ensuring you smell amazing wherever you go.

Size: **Quantity:** 1 **Price:** ₹ 540 **Payment method:** netbanking

Address: chirala **Pincode:** 523155 **Ordered on:** 2025-06-28

Order status: order placed

Cancel

Myx Women's Embroidered Anarkali Kurta Pant Set with Organza Dupatta

Link to a live demo.

Demo Video.mp4 /
https://drive.google.com/file/d/1N8XFq0oLG3CWWQjCECu8hO5v17nd2mnz/view?usp=sharing

12. Known Issues

- **Slow Search Performance:** Optimization is required for large product datasets.
- **UI Bugs:** Minor alignment issues on smaller screens.

13. Future Enhancements

- **Voice Search:** Enable users to search using voice commands.
- **Mobile App:** Create a cross-platform app using React Native.
- **Multi-language Support:** Expand accessibility for global audiences.