

E-Commerce Application

Objective:

Create a Mini E-Commerce Web/Mobile Application that allows users to browse, search, filter, and purchase products. (For reference, see the screenshot at the end of the document)

Features:

1. View all products by default
2. Search, filter, and sort products
3. Add and remove items from the cart
4. Login Account
5. Create Account
6. Buy/Order products
7. See ordered products

The application is divided into three parts:

1. UI/Frontend
2. Backend
3. Database

Section 1: Frontend/UI

Tech Stack: Any

Requirements:

1. Homepage:
 - a. Display all products (minimum 10 sample products)
 - b. Show product name, image, price, ratings, and “Add to Cart” button
2. Search:
 - a. Search products by name or category (case-insensitive).
3. Filter:
 - a. Filter products by:
 - i. Price range (min-max)

- ii. Rating range (min-max)
- 4. Sort:
 - a. Sort by Price (Low to high / high to low) or ratings
- 5. Cart page:
 - a. Show added products with total price
 - b. Allow removing products from the cart
 - c. Button to place an order (text: Order Now), and will move to order page
- 6. Login Account Page:
 - a. Show page if user not logged in, and before order (if not logged-in)
 - b. Show and capture Email Address, and Password Field
 - c. Add frontend validation to see email is valid, and password is provided
 - d. 'Login' button to perform login (if point 'c' validations are valid)
 - e. Show error if account does not exist
- 7. Create Account Page:
 - a. Show page if user not logged in
 - b. Show and capture First Name, Last Name, Email address, and password
 - c. Add frontend validation to First Name, Last Name, Email address, and password is given and valid
 - d. 'Create' button to create account (if point 'c' validations are valid)
 - e. Show error if account already exists
- 8. Order Page:
 - a. Show added products
 - b. Take customer delivery address, and card details
 - c. Show total products total with GST included (8%)
 - d. Button "Buy" to proceed with order
 - e. Once order is placed, show "Your order has been placed. Will arrive before {current date + 7 days}"
 - f. Along with step 'e', remove product from 'Cart'
- 9. Ordered Page
 - a. Show ordered products
 - b. Show button 'Order Again' on each ordered product to order the item again

Section 2

Goal: Develop backend APIs to manage products, cart, and orders

Tech Stack: Any

Requirements:

1. Product APIs
 - a. GET /products → Fetch all products.
 - b. GET /products/:id → Fetch single product.
 - c. Support query parameters for search, filter, and sort.
2. Cart APIs
 - a. POST /cart → Add product to cart.
 - b. GET /cart → Get cart items.
 - c. DELETE /cart/:id → Remove a product from cart.
3. Buy APIs
 - a. GET /tax-on-product/:country → Fetch GST rate based on given country
 - b. POST /order → Add product, and custom address
 - c. GET /ordered-items → Get ordered product items
4. Login APIs
 - a. POST /authentication/login → Get login credentials and perform login
5. Create Account APIs
 - a. POST /authentication/create-account → Get create account credentials and create account

Section 3: Database

Goal: Design and integrate the database for storing products, cart, and orders.

Tech Stack: MySQL / PostgreSQL

Requirements:

1. Create tables/collections for:
 - a. Products → (id, name, price, rating, category, description, imageURL, stock)
 - b. Cart → (id, userId, productId, quantity)
 - c. Orders → (id, userId, items[], totalPrice, date)
 - d. Accounts → (id, firstName, lastName, email, password)
2. Add at least 10 sample products.
3. Support queries for:
 - a. Search
 - b. Filter
 - c. Sort

Reference:

Search for products, brands and more

Login

Become a Seller

More

Cart

Electronics

TVs & Appliances

Men

Women

Baby & Kids

Home & Furniture

Sports, Books & More

Flights

Offer Zone

Filters

CLEAR ALL

X HP

CATEGORIES

Computers

Laptops

PRICE

Min

to

₹75000+

BRAND

Clear all

HP

ASUS

Home > Computers > Laptops

Laptops (Showing 1 - 24 products of 530 products)

Sort By Popularity Price -- Low to High Price -- High to Low Newest First

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