

# Market DotNet

Blazor, .NET, and SQL Server

**This project developed using Blazor, .NET, and SQL Server, utilizes HTML, CSS, and C# for the entire development. The project consists of two separate sections: one for users and the other for administrators.**

**For the User:**

- **The user can log in or register to create an account.**
- **They can add, update, and manage their personal addresses.**
- **They can add products to their shopping cart.**
- **They can add products to their favorite products list.**
- **They can view product details.**
- **They can complete payments for products.**
- **They can track the status of their orders.**

**For the Administrator:**

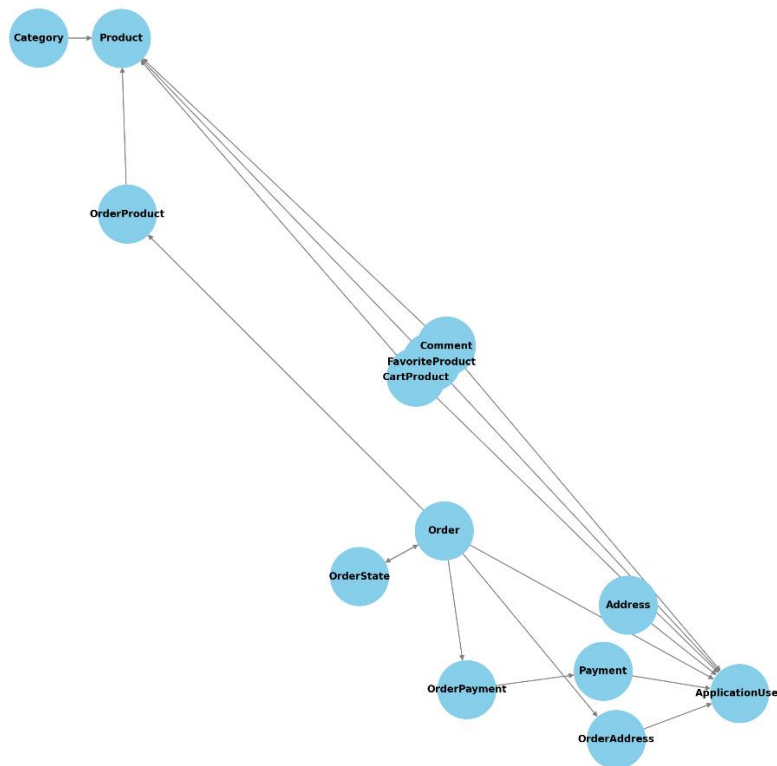
- **The administrator can manage user accounts, including updating or deleting user data.**
- **They can manage products, including adding, updating, and deleting them.**
- **They can manage product categories.**
- **They can manage orders and user payments.**
- **They can view all user orders and their statuses.**

## Market API - Controllers Overview (End User Summary)

The **Market API** provides several endpoints for users and admins to manage various e-commerce functionalities:

- **Account Operations:** Users and admins can register, log in, and manage their accounts.
- **Address Management:** Users can add, update, and delete their addresses, including setting a default address.
- **Cart & Orders:** Users can add products to their cart, view orders, and place new orders.
- **Product & Categories:** Browse, view, and add products to favorites or the shopping cart.
- **Payment Methods:** Users can add, view, and delete payment methods, including setting a default card.
- **Comments & Favorites:** Users can comment on products and manage their favorite products.
- **Profile Management:** Users and admins can update user profile information.
- **Admin Controls:** Admins have additional permissions to manage user data, products, orders, payments, and categories.

Database Relationships and Entities



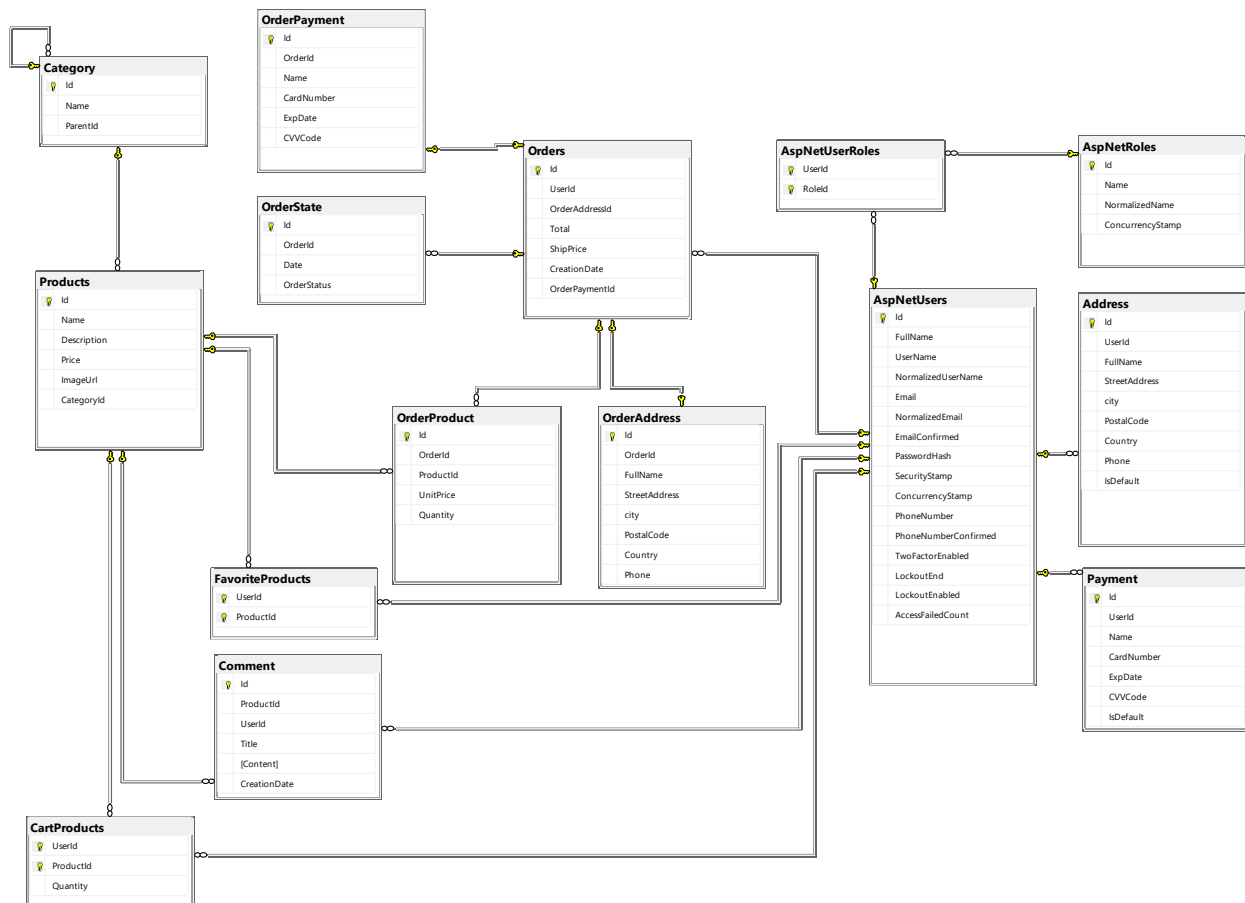


Figure 1 Database relationships

## Market API - Controllers Documentation

### 1. AccountAdminController

**Route:** api/[controller]

**Purpose:** Handles admin-level account operations.

**Endpoints:**

- **POST /register:** Registers a new admin user.
- **POST /login:** Authenticates admin credentials.

**Dependencies:** Uses AccountAdminService.

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### 2. AccountController

**Route:** api/account

**Purpose:** Handles user account operations.

**Endpoints:**

- **POST /register:** Registers a new user.
- **POST /login:** Authenticates user credentials.

**Dependencies:** Uses AccountService.

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### 3. AddressController

**Route:** api/addresses

**Authorization:** Restricted to users ([Authorize(Roles = "User")]).

**Purpose:** Manages user addresses.

**Endpoints:**

- **GET /:** Retrieves all addresses for the authenticated user.
- **GET /{id}:** Retrieves a specific address by ID.
- **GET /GetDefaultAddress:** Retrieves the default address for the authenticated user.
- **POST /:** Adds a new address.
- **POST /setDefault:** Sets an address as the default.
- **PUT /:** Updates an existing address.

- **DELETE /{id}**: Deletes an address by ID.  
**Dependencies:** Uses AddressService.
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#### 4. AdminAddressesController

**Route:** api/AdminAddresses

**Authorization:** Restricted to admins ([Authorize(Roles = "Admin")]).

**Purpose:** Allows admins to manage user addresses.

**Endpoints:**

- **GET /{userName}**: Retrieves all addresses for a specific user.  
**Dependencies:** Uses AddressService.
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#### 5. AdminCartController

**Route:** api/AdminCart

**Authorization:** Restricted to admins ([Authorize(Roles = "Admin")]).

**Purpose:** Enables admins to view user cart data.

**Endpoints:**

- **GET /{userName}**: Retrieves all products in the cart for a specific user.  
**Dependencies:** Uses CartService.
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#### 6. AdminFavoriteProductsController

**Route:** api/[controller]

**Authorization:** Accessible by both admins and users ([Authorize(Roles = "Admin,User")]).

**Purpose:** Allows viewing of favorite products for users.

**Endpoints:**

- **GET /{userName}**: Retrieves all favorite products for a specific user.  
**Dependencies:** Uses FavoriteProductService.
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#### 7. AdminOrdersController

**Route:** api/adminOrders

**Authorization:** Accessible by both admins and users ([Authorize(Roles = "Admin,User")]).

**Purpose:** Handles admin access to user orders.

**Endpoints:**

- **GET /{userName}**: Retrieves all orders for a specific user.
  - **GET /{userName}/{id}**: Retrieves a specific order by ID for a user.  
**Dependencies:** Uses OrderService.
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## 8. AdminPaymentsController

**Route:** api/AdminPayments

**Authorization:** Admin, User

**Purpose:** Allows management and retrieval of payment information.

**Endpoints:**

- **GET /{userName}**: Retrieves all payment cards for a specific user.  
**Dependencies:** Uses PaymentService.
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## 9. AdminProductController

**Route:** api/AdminProduct

**Authorization:** Admin

**Purpose:** Manages product CRUD operations.

**Endpoints:**

- **GET /GetProductsInQuery**: Retrieves products based on query parameters.
  - **GET /{id}**: Retrieves product details by ID.
  - **POST /**: Adds a new product.
  - **POST /PostImage**: Uploads a product image.
  - **PUT /**: Updates an existing product.
  - **DELETE /{id}**: Deletes a product by ID.  
**Dependencies:** Uses ProductService.
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## 10. CartController

**Route:** api/cart

**Authorization:** Admin, User

**Purpose:** Manages the user's shopping cart.

**Endpoints:**

- **GET /products:** Retrieves all products in the user's cart.
  - **POST /{productId}:** Adds a product to the user's cart.
  - **POST /quantity/{productId}:** Updates the quantity of a product in the cart.
  - **DELETE /{productId}:** Removes a product from the cart.  
**Dependencies:** Uses CartService.
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## 11. CategoryController

**Route:** api/categories

**Authorization:** Admin, User

**Purpose:** Manages product categories.

**Endpoints:**

- **GET /:** Retrieves all categories.
  - **POST /:** Adds a new category.
  - **GET /{id}:** Retrieves a category by ID.
  - **PUT /{id}:** Updates a category's name by ID.  
**Dependencies:** Uses CategoryService.
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## 12. CommentController

**Route:** api/comments

**Authorization:** User (for certain actions)

**Purpose:** Manages product comments.

**Endpoints:**

- **GET /{productId}:** Retrieves comments for a specific product.
  - **POST /{productId}:** Adds a new comment to a product.
  - **DELETE /{id}:** Deletes a comment by ID.  
**Dependencies:** Uses CommentService.
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## 13. FavoriteProductController



**Route:** api/favoriteProducts

**Authorization:** User

**Purpose:** Manages the user's favorite products.

**Endpoints:**

- **GET /:** Retrieves all favorite products.
- **POST /:** Adds a product to the user's favorites.
- **DELETE /{productId}:** Removes a product from the user's favorites.

**Dependencies:** Uses FavoriteProductService.

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## 14. OrderController

**Route:** api/orders

**Authorization:** User

**Purpose:** Manages user orders.

**Endpoints:**

- **GET /:** Retrieves all orders for the current user.
- **GET /{id}:** Retrieves details of a specific order.
- **POST /:** Places a new order.

**Dependencies:** Uses OrderService.

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## 15. PaymentController

**Route:** api/payments

**Authorization:** User

**Purpose:** Manages user payment methods.

**Endpoints:**

- **GET /:** Retrieves all payment methods for the current user.
- **GET /{id}:** Retrieves a payment method by ID.
- **GET /GetDefaultAddress:** Retrieves the user's default payment method.
- **POST /:** Adds a new payment method.
- **POST /setDefault:** Sets a payment method as default.

- **DELETE /{id}**: Deletes a payment method by ID.  
**Dependencies**: Uses PaymentService.
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## 16. ProductController

**Route**: api/products

**Authorization**: User

**Purpose**: Allows users to browse and query products.

**Endpoints**:

- **POST /GetProductsInQuery**: Retrieves products based on query parameters.
  - **GET /{id}**: Retrieves product details by ID.  
**Dependencies**: Uses ProductService.
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## 17. ProfileController

**Route**: api/profile

**Authorization**: Accessible by both admins and users ([Authorize(Roles = "Admin,User")]).

**Purpose**: Manages user profile information.

**Endpoints**:

- **GET /**: Retrieves the current user's profile information.
  - **PUT /**: Updates the current user's profile information.  
**Dependencies**: Uses ProfileService.
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## 18. UsersController

**Route**: api/users

**Authorization**: Restricted to admins ([Authorize(Roles = "Admin")]).

**Purpose**: Manages user information at the admin level.

**Endpoints**:

- **GET /**: Retrieves all users.
- **GET /{id}**: Retrieves details of a specific user by ID.
- **PUT /{id}**: Updates user information.
- **DELETE /{id}**: Deletes a user by ID.  
**Dependencies**: Uses UserService.

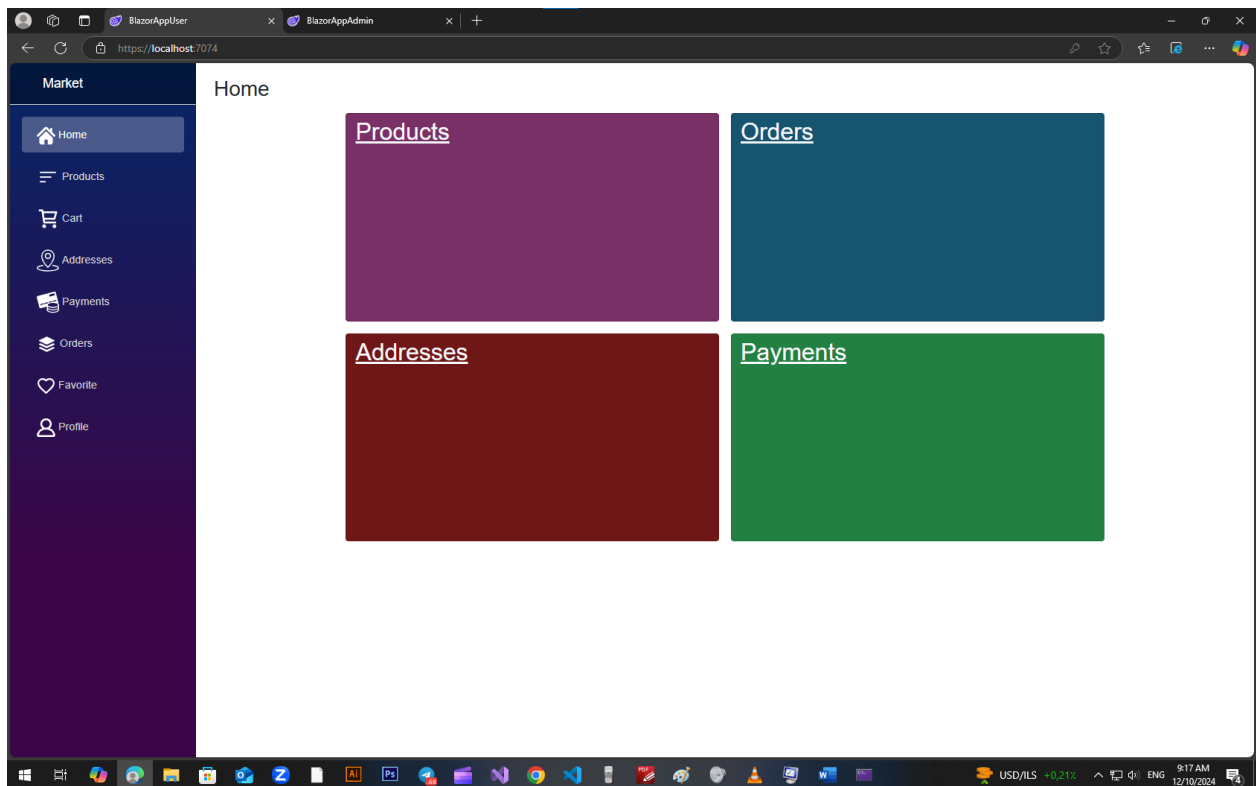


Figure 2 This is the home page for the user.

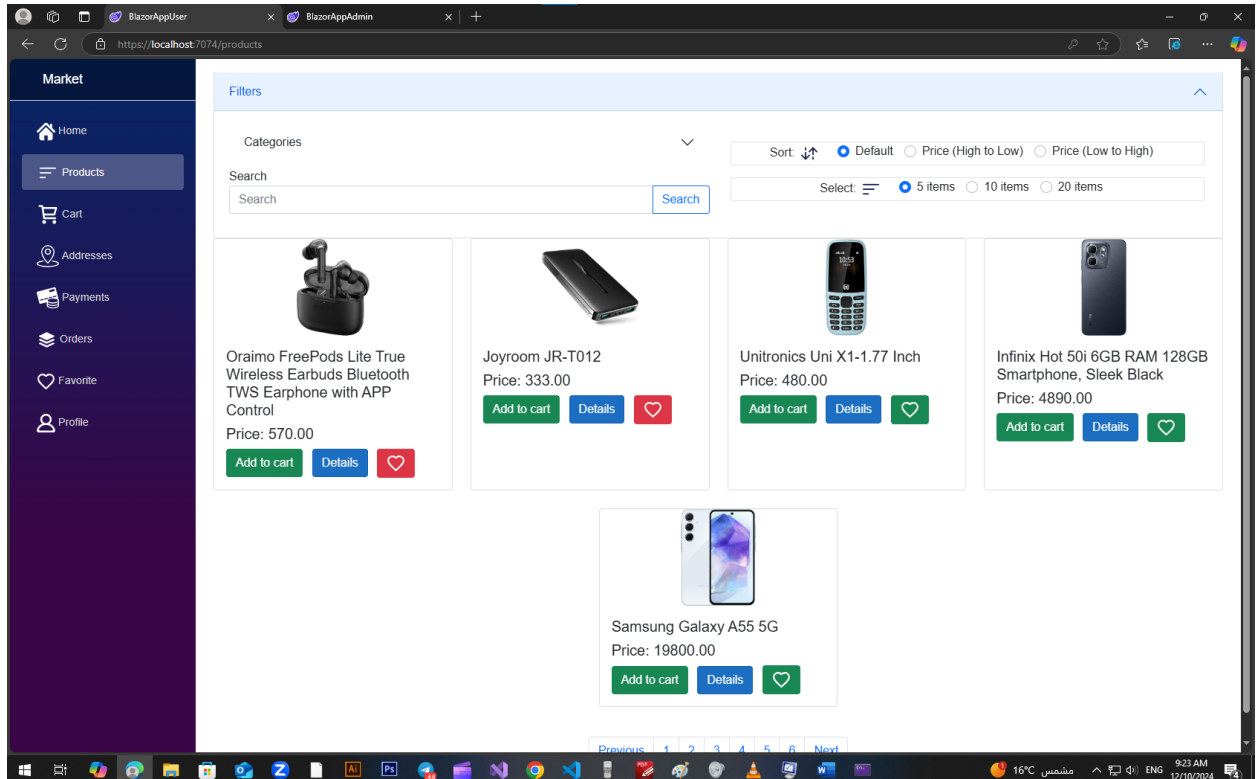


Figure 3 This is the product listing page.

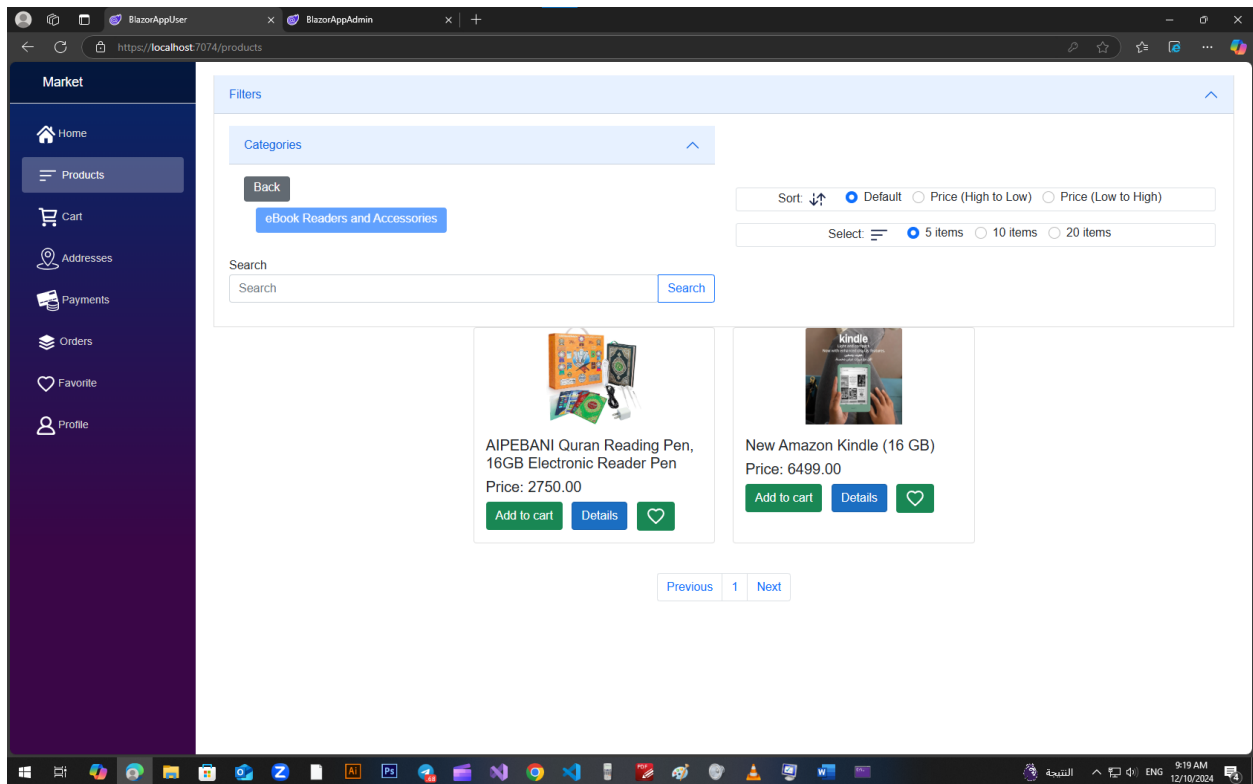


Figure 4 Here, I have selected the category "eBook Readers and Accessories."

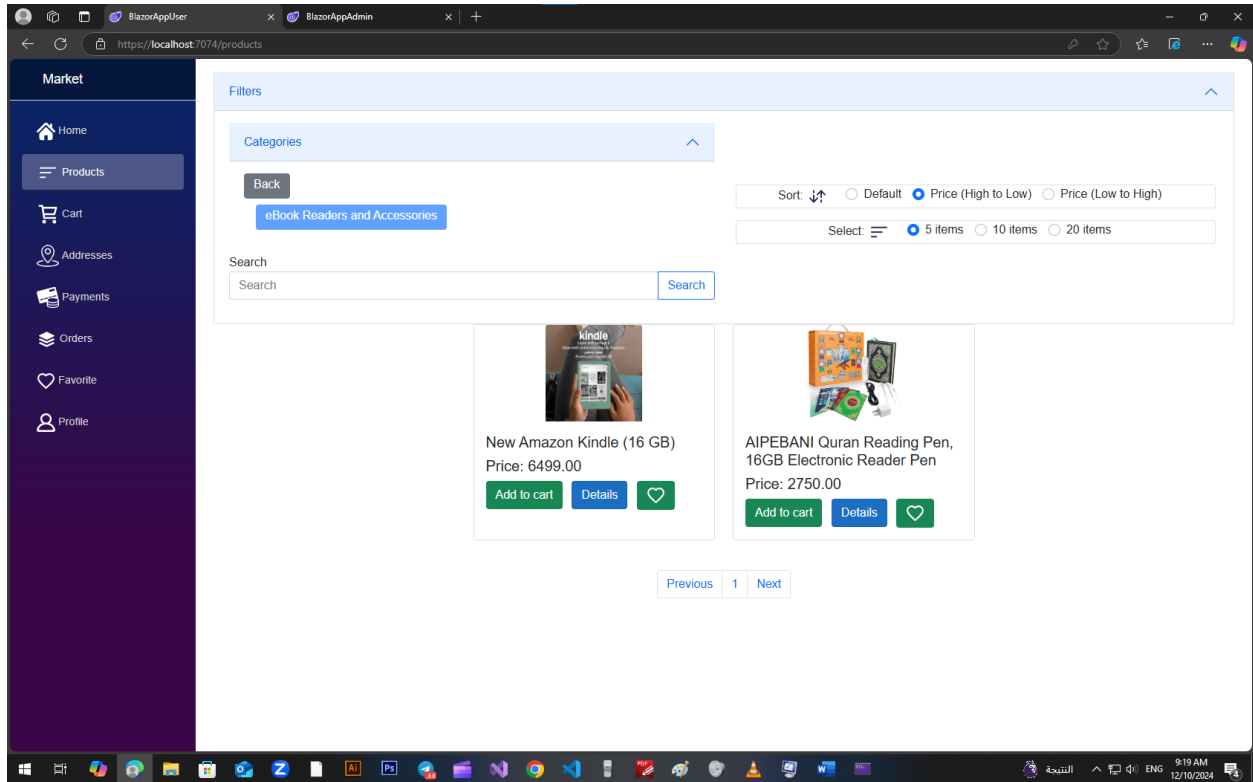


Figure 5 I have sorted the products from the lowest price to the highest.

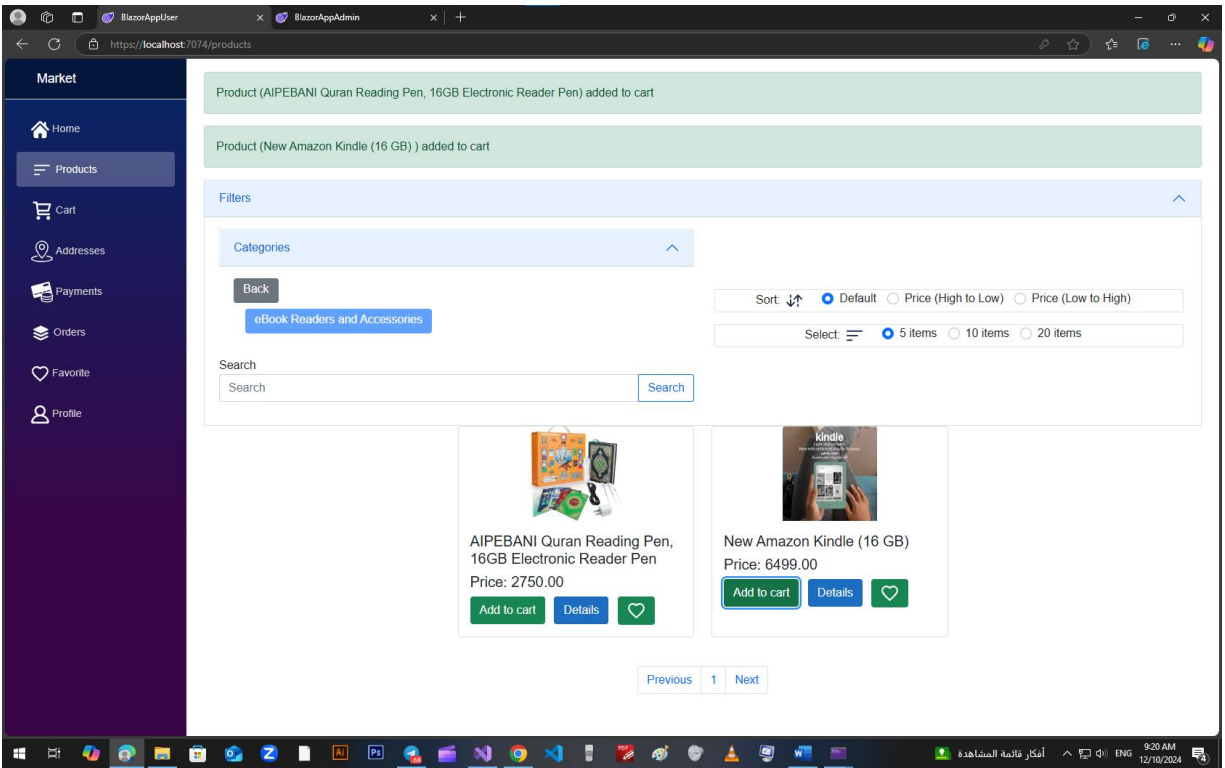


Figure 6 I clicked on the "Add to Cart" button, and a message appeared confirming that the product has been successfully added to the cart.

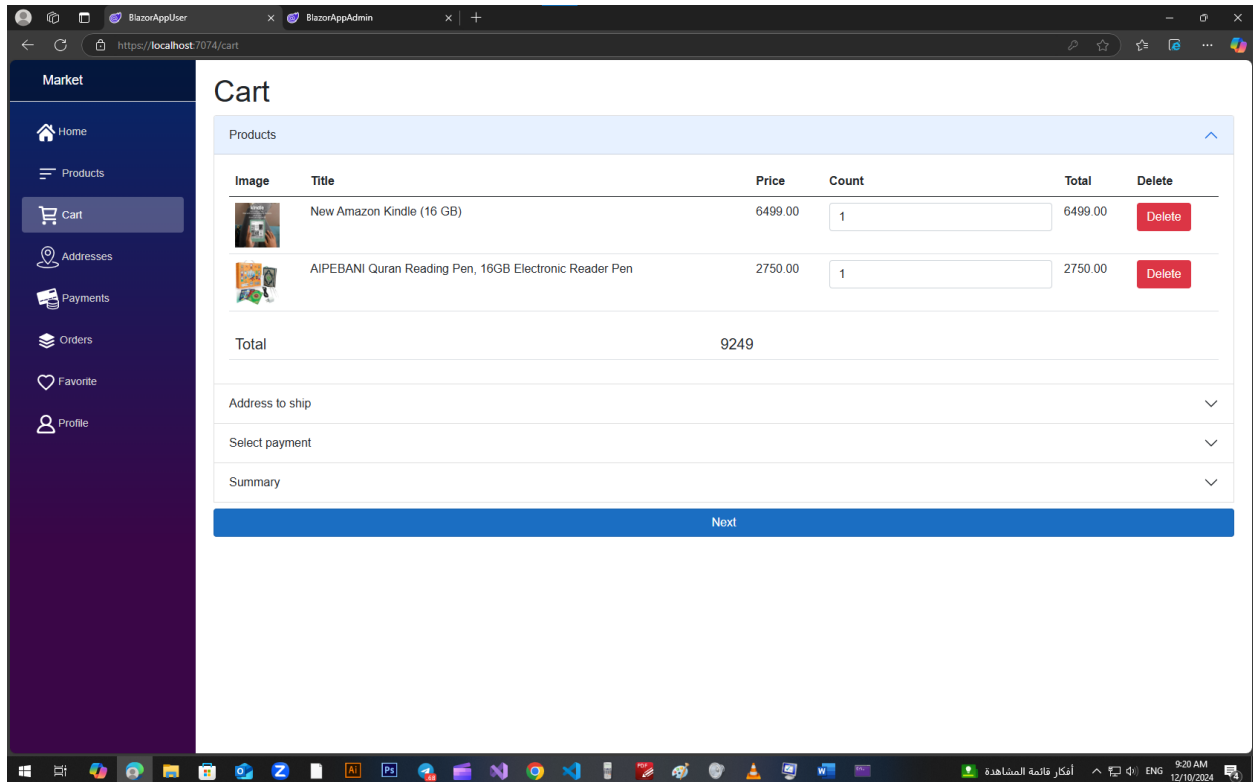


Figure 7 Cart Page

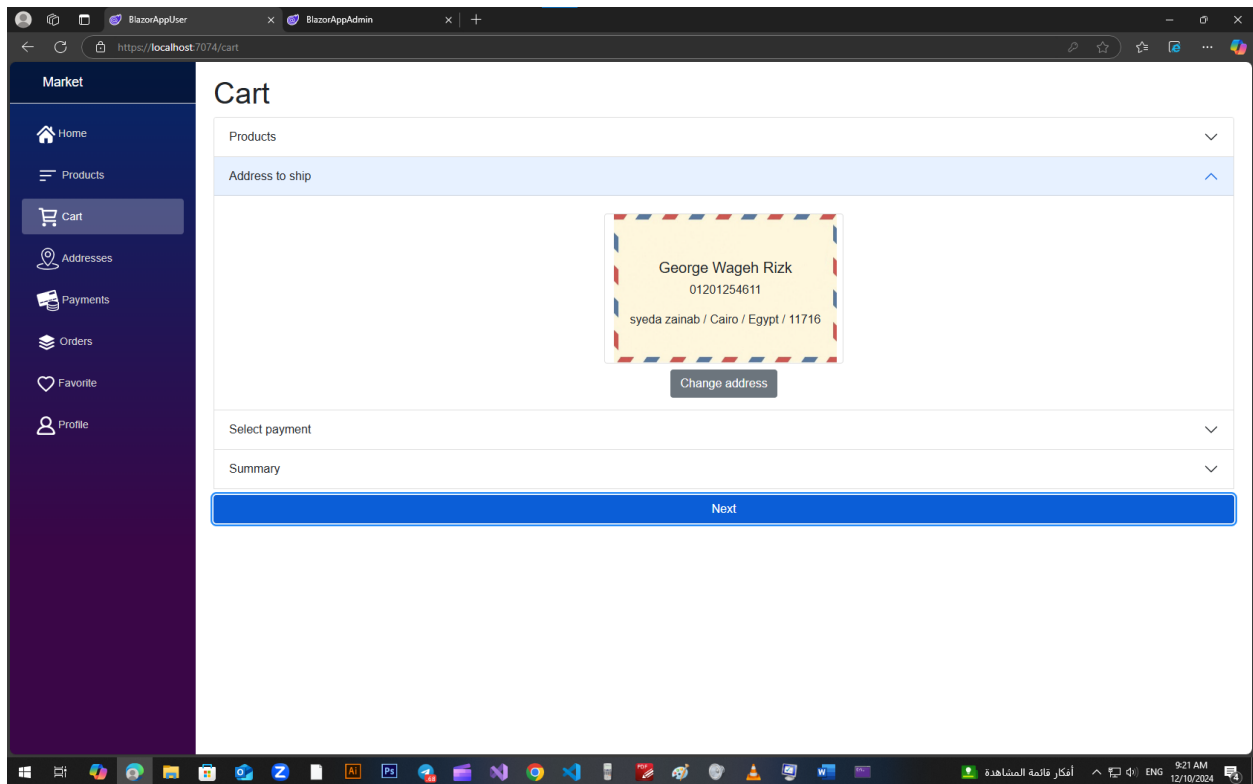


Figure 8 Here, we select the shipping address.

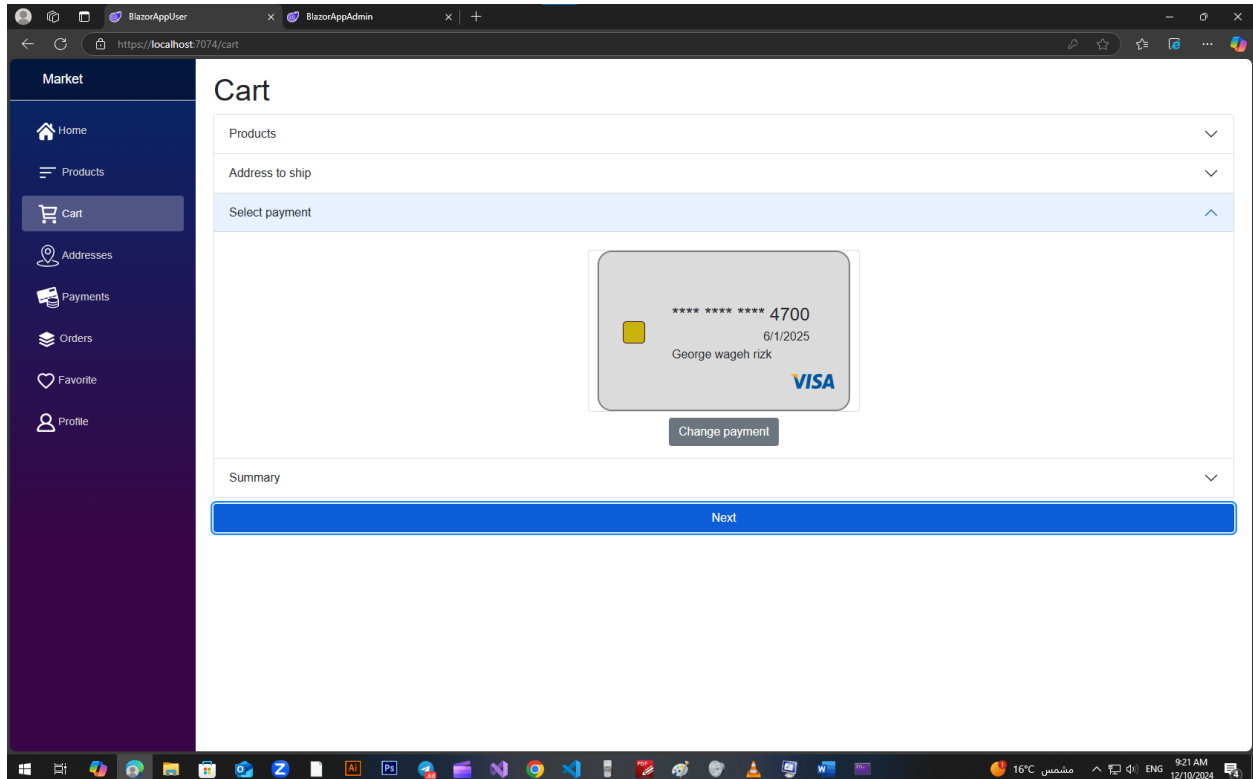


Figure 9 Here, we select the payment method.

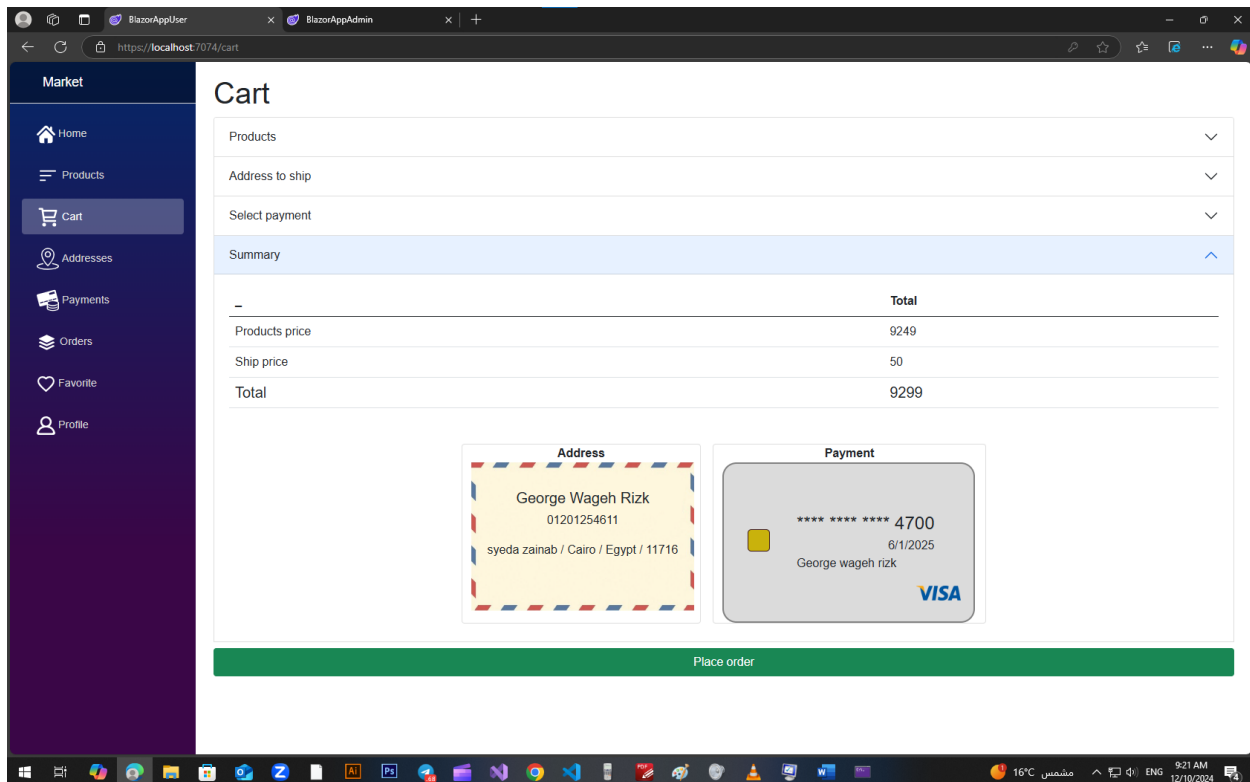


Figure 10 Place Order

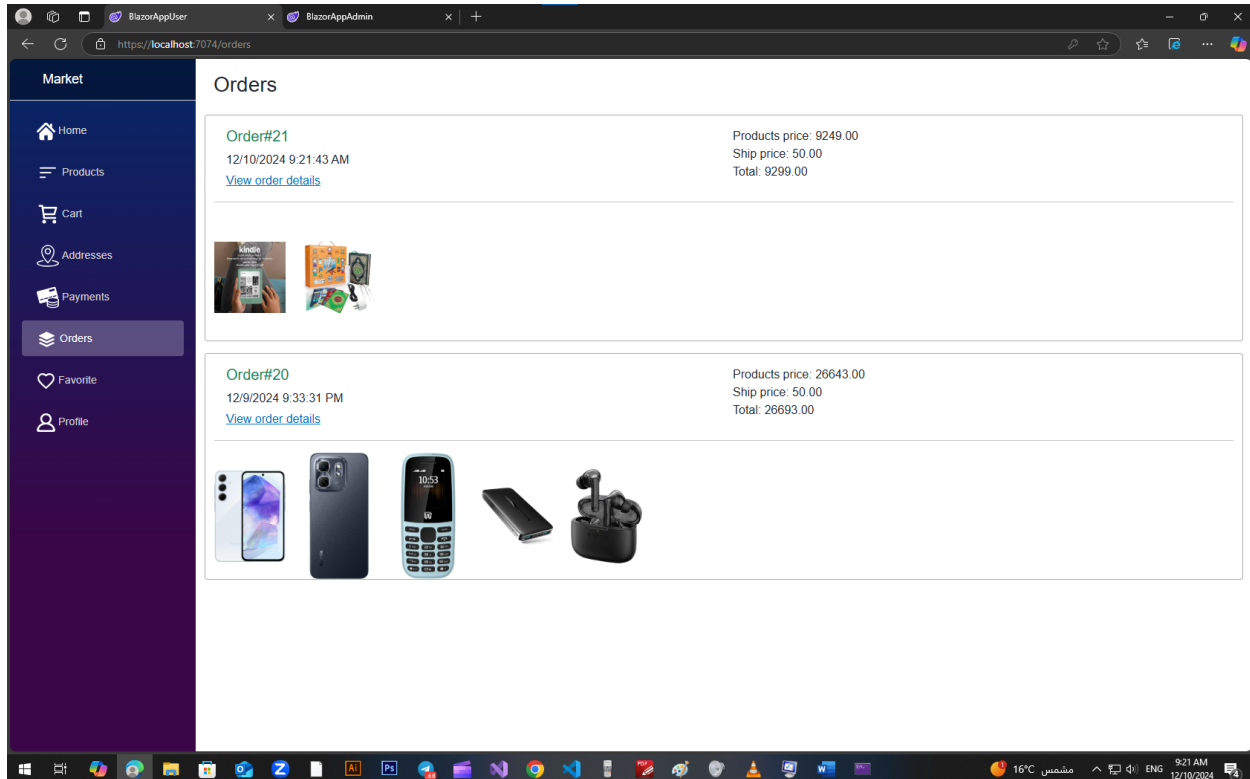


Figure 11 Manage Orders.

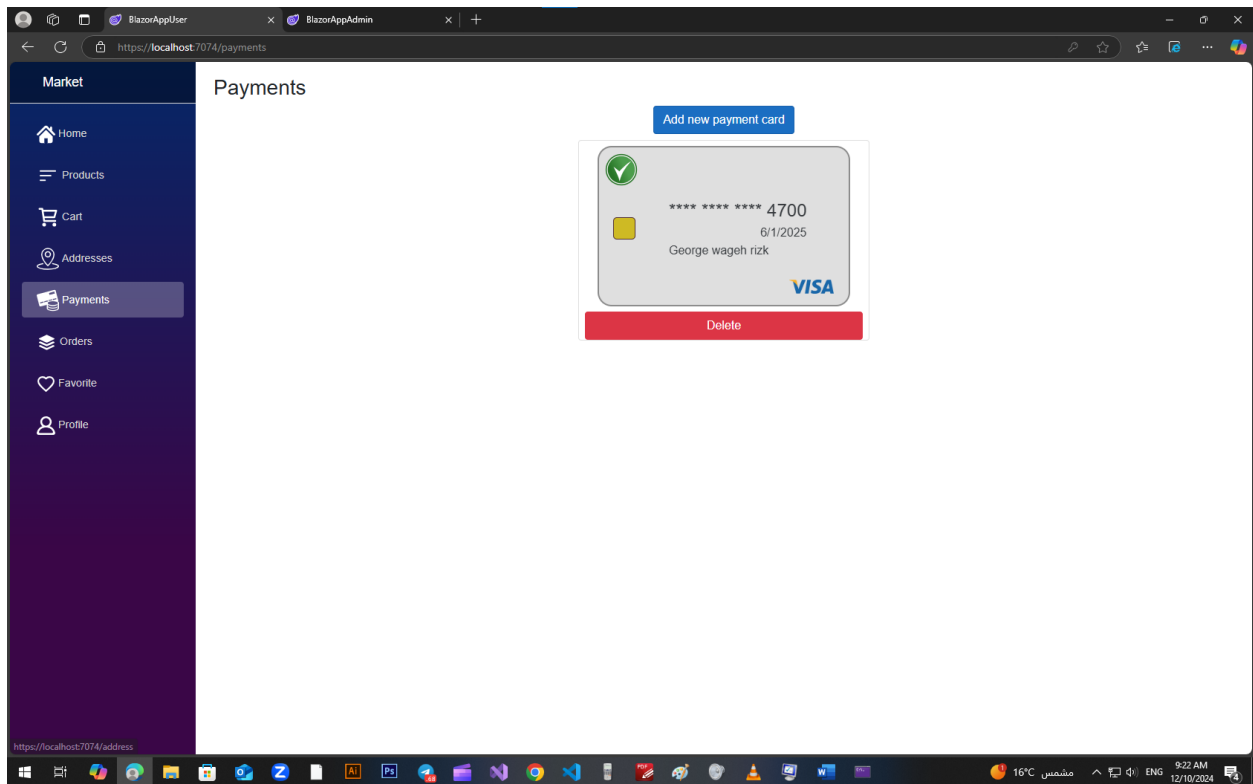


Figure 12 Manage Payments

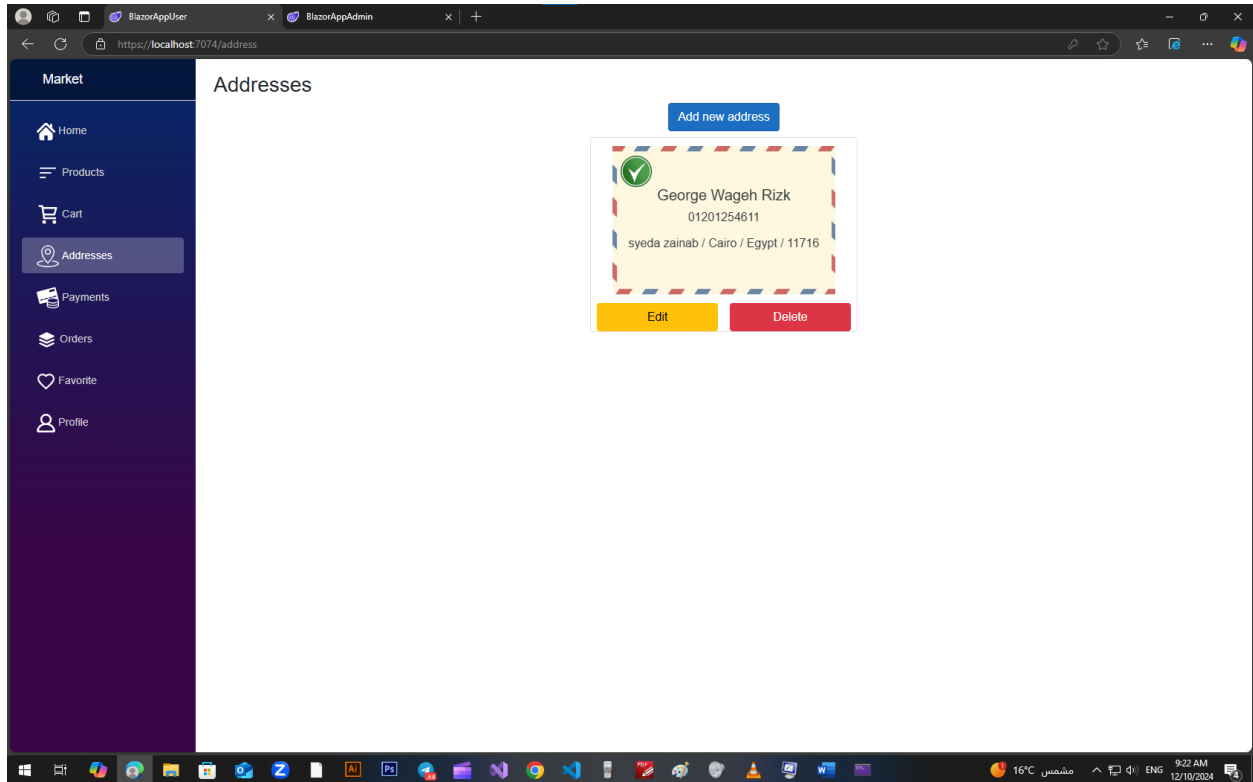


Figure 13 Manage Addressed



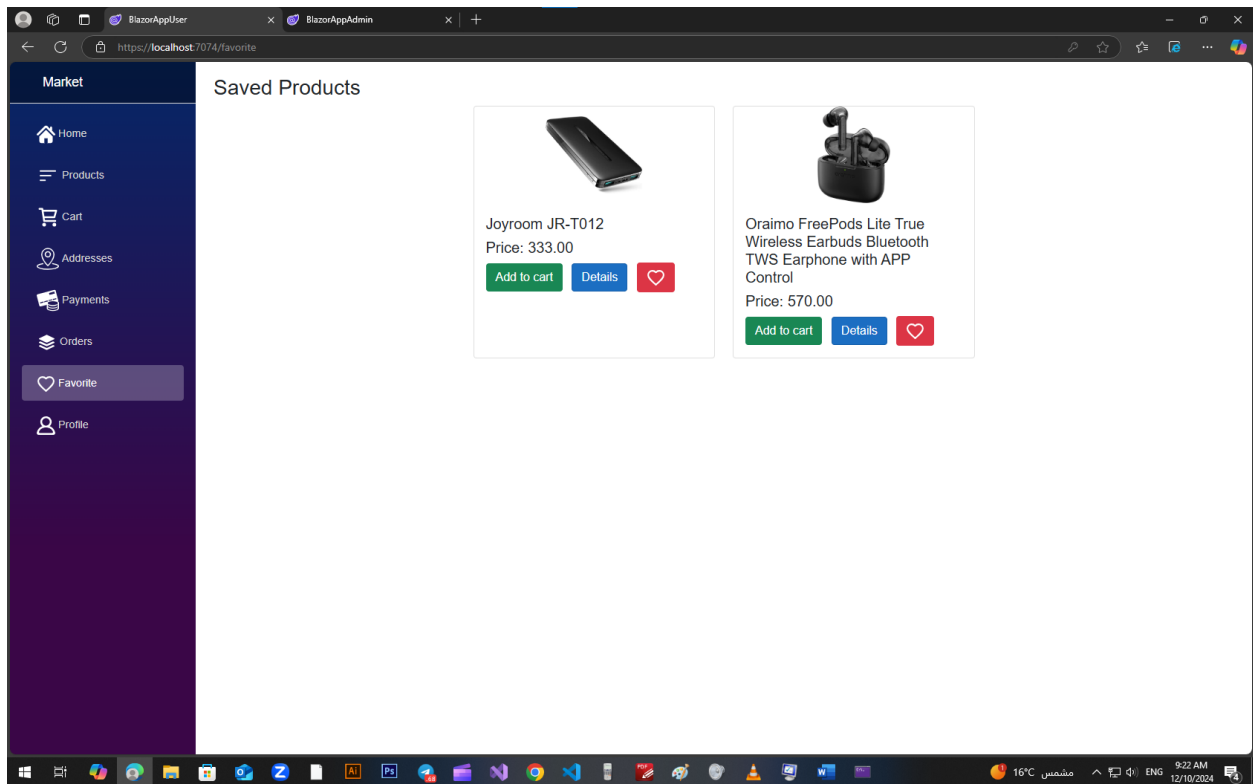


Figure 14 Manage Favorite Products.

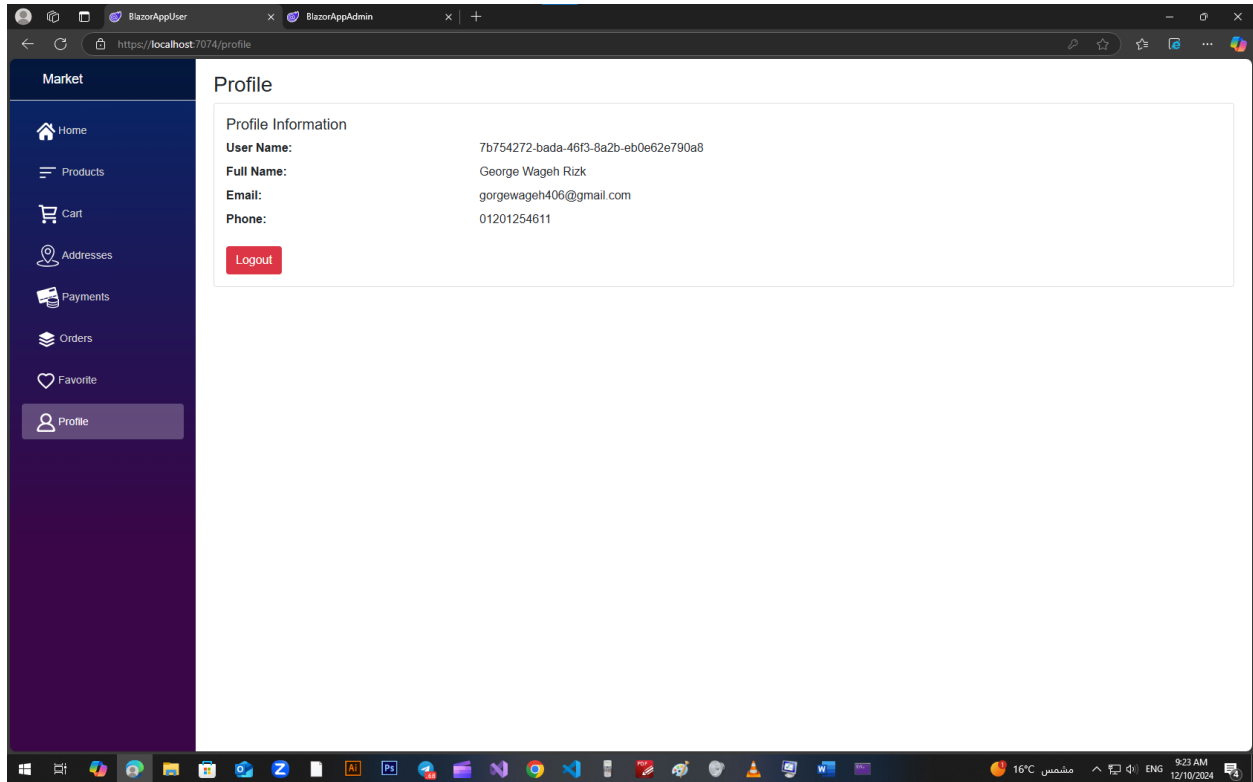


Figure 15 Profile page

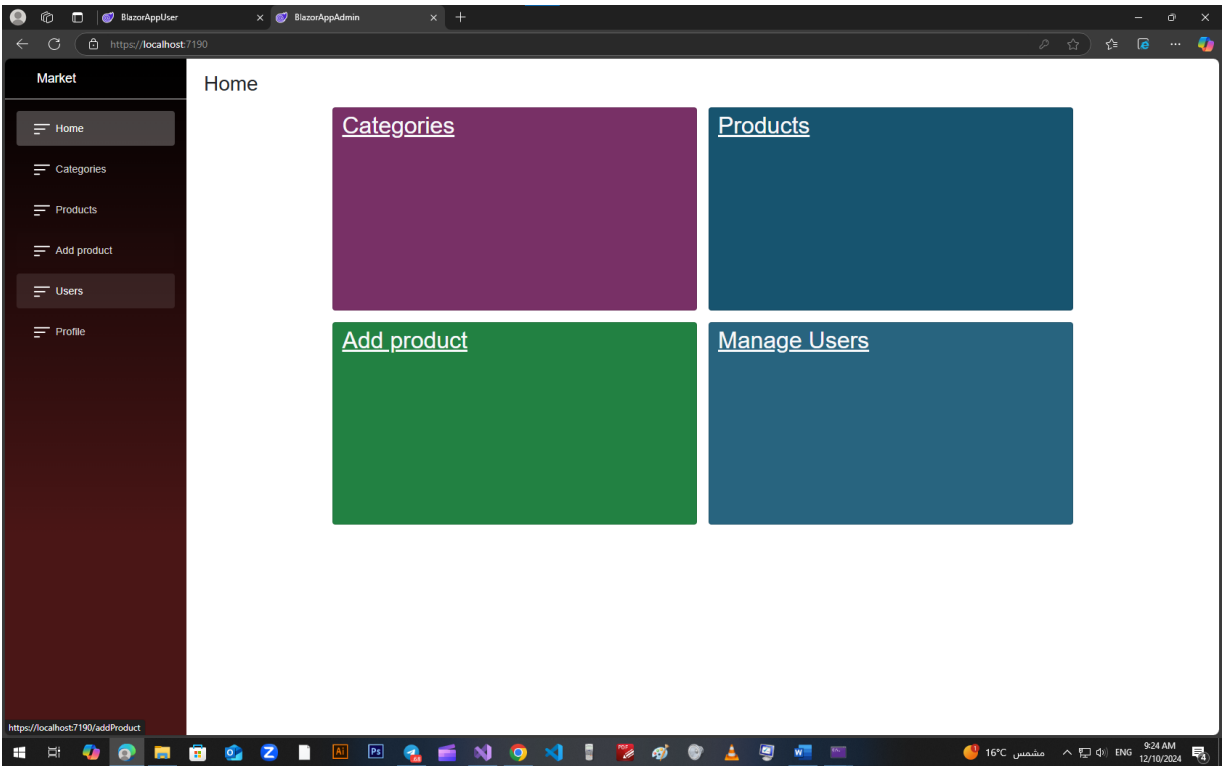


Figure 16 This is the home page for the admin.

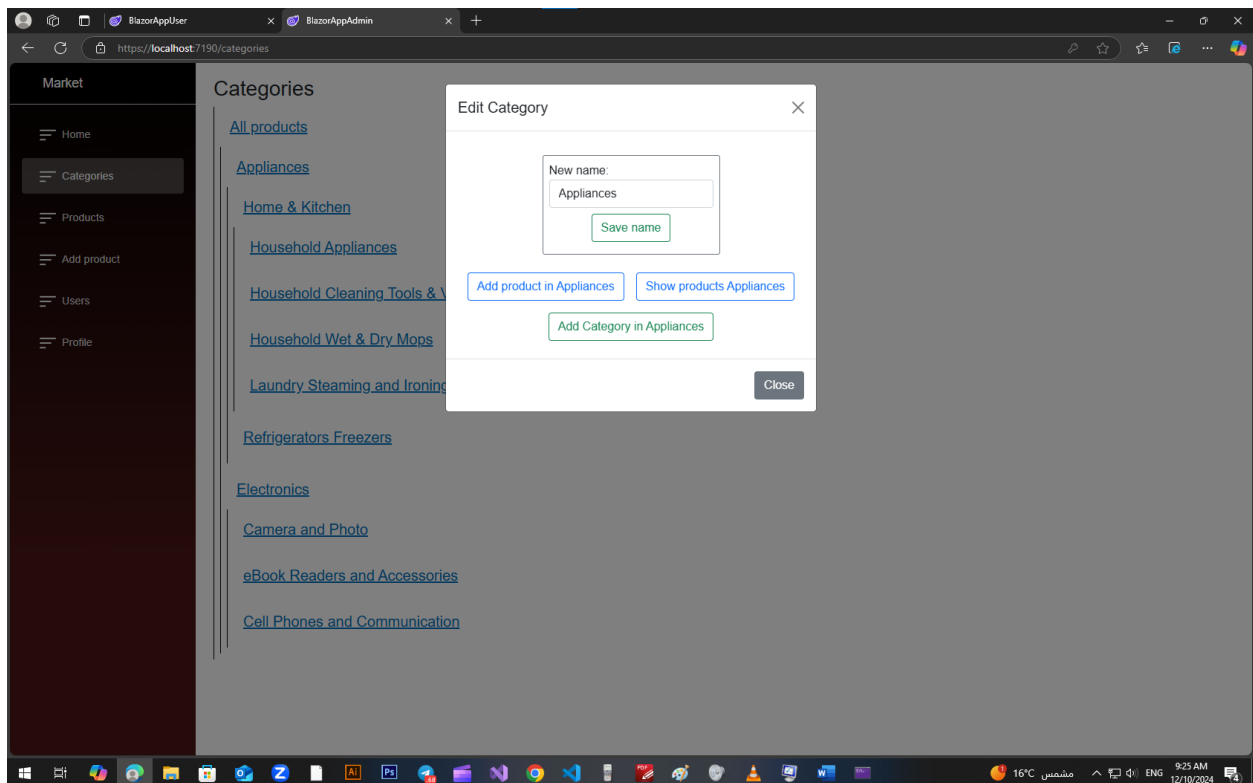


Figure 17 Here is the category management page. You can change the name of a category, add a subcategory within it, or view all the products in this category. You can also add a product within this category.

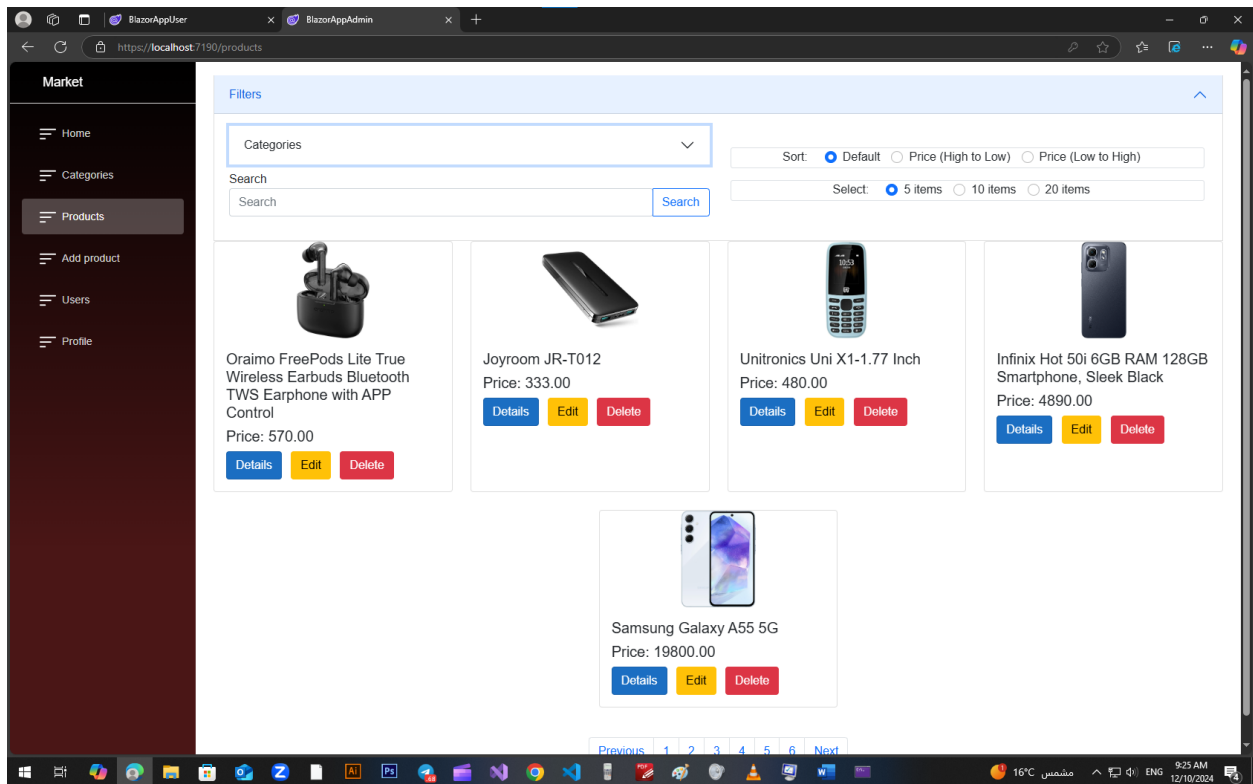


Figure 18 This is the product listing page.

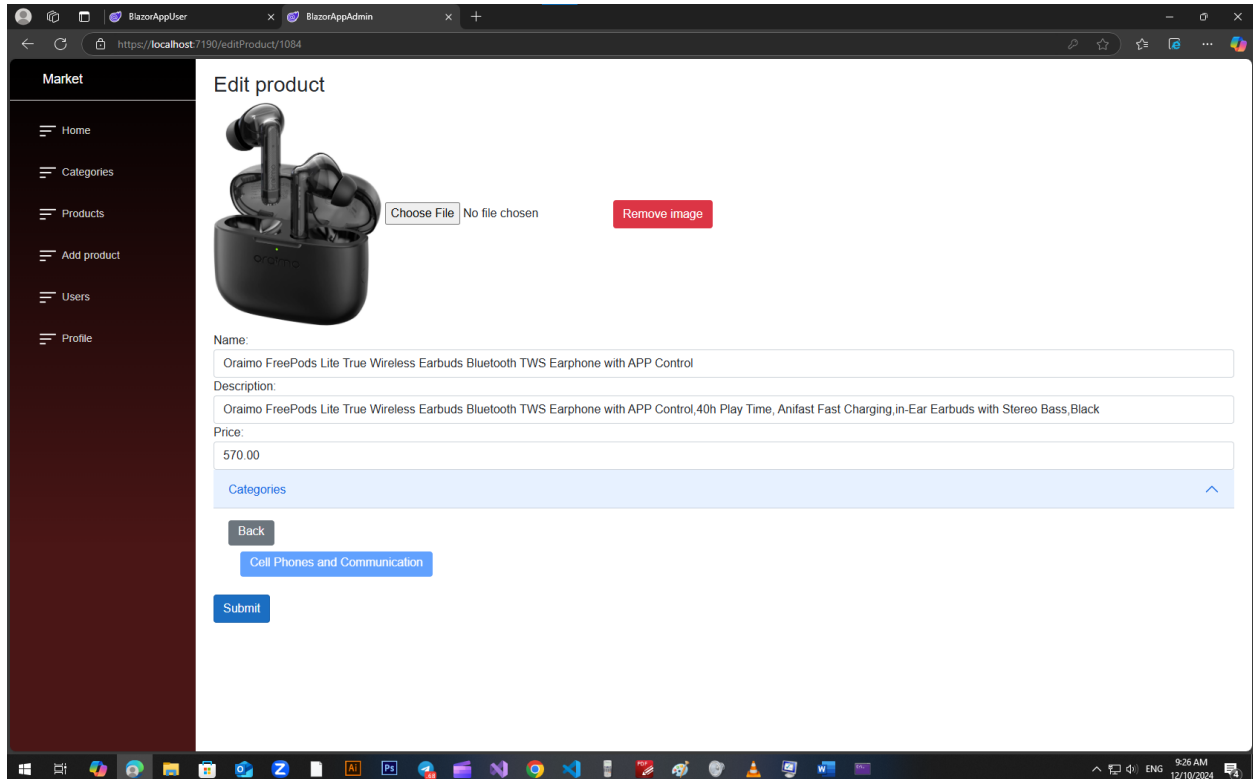


Figure 19 Edit Product.

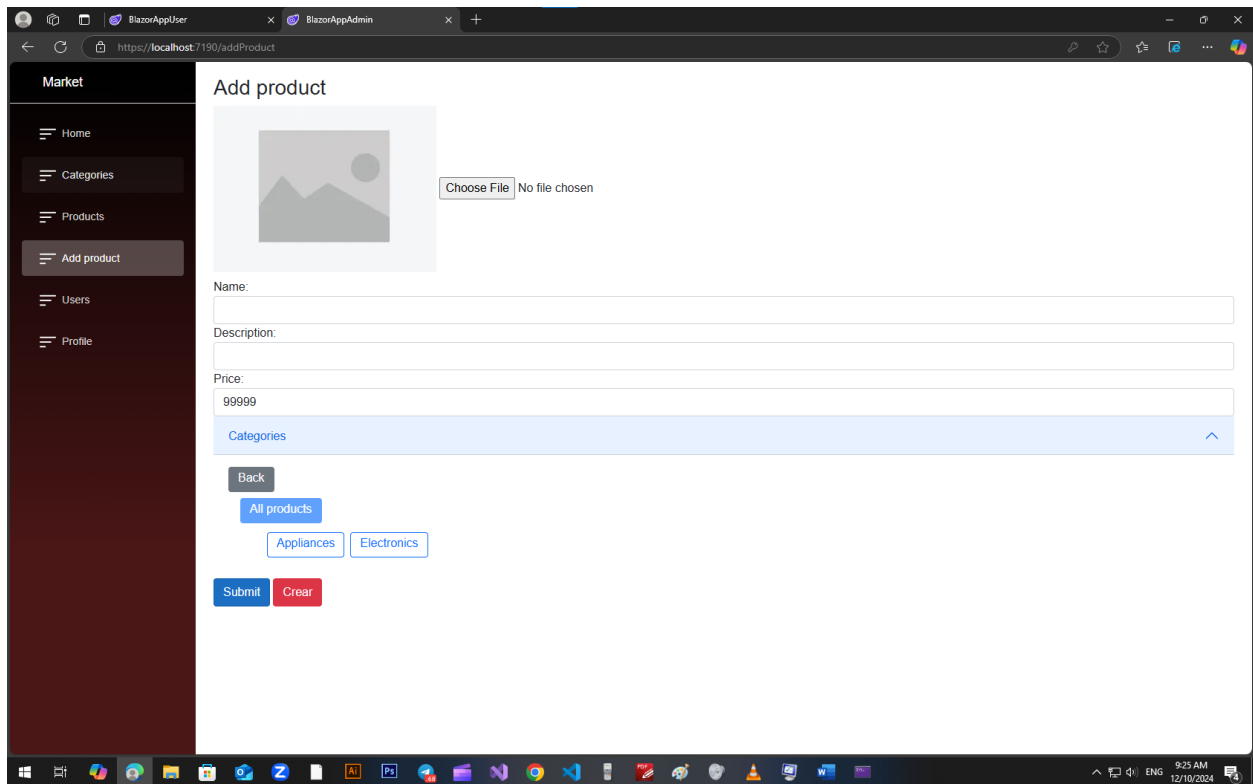


Figure 20 Add new product

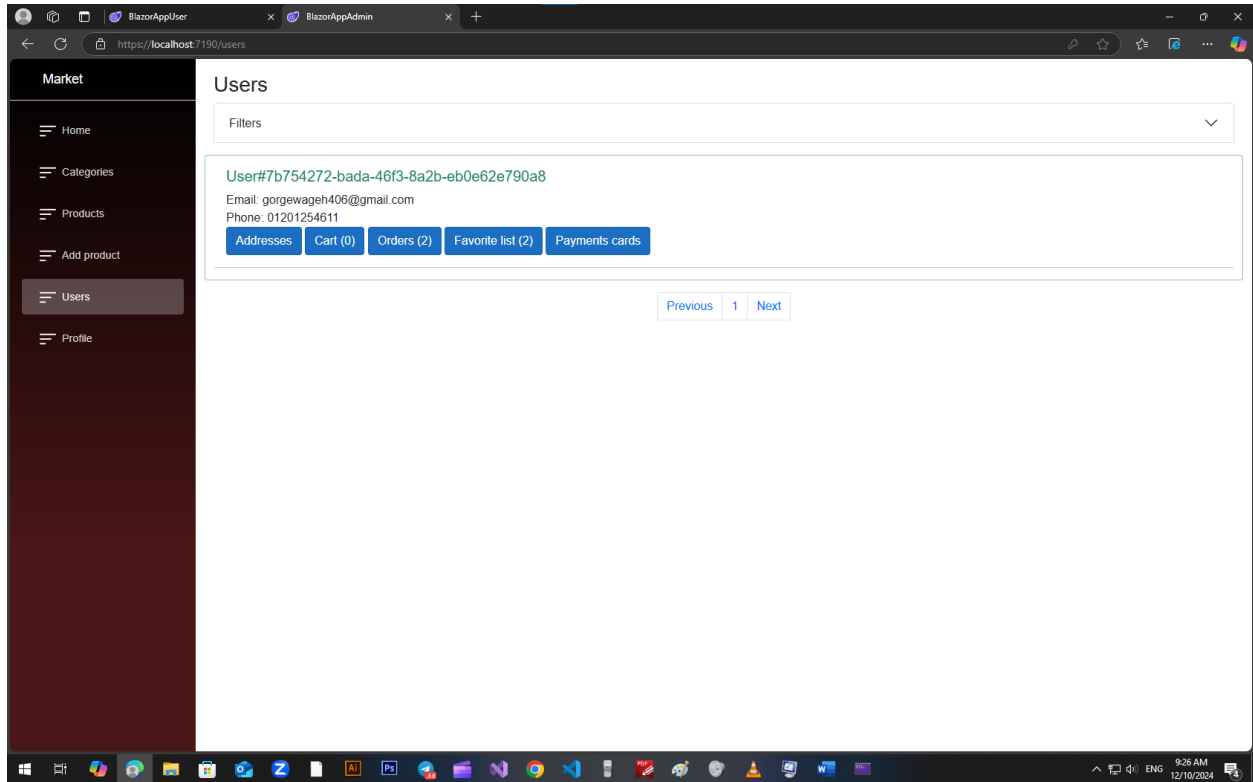


Figure 21 Manage users.

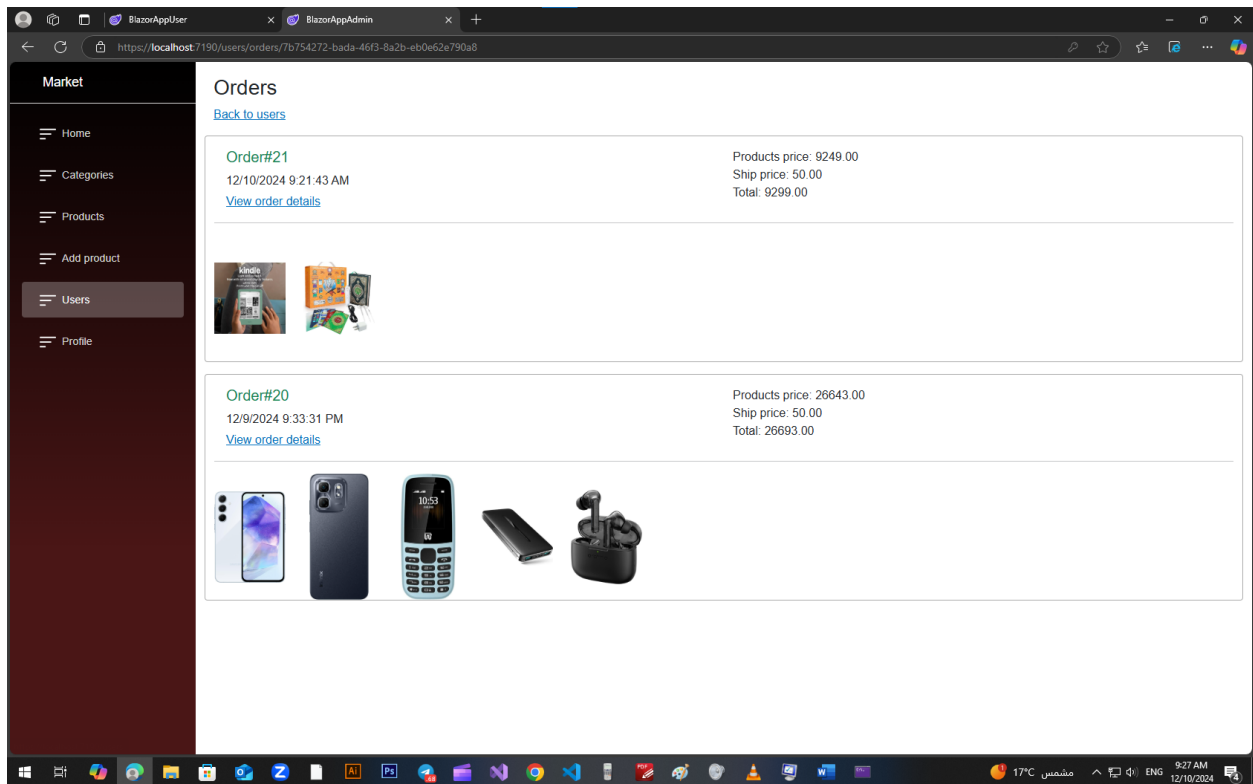


Figure 22 Show all orders.

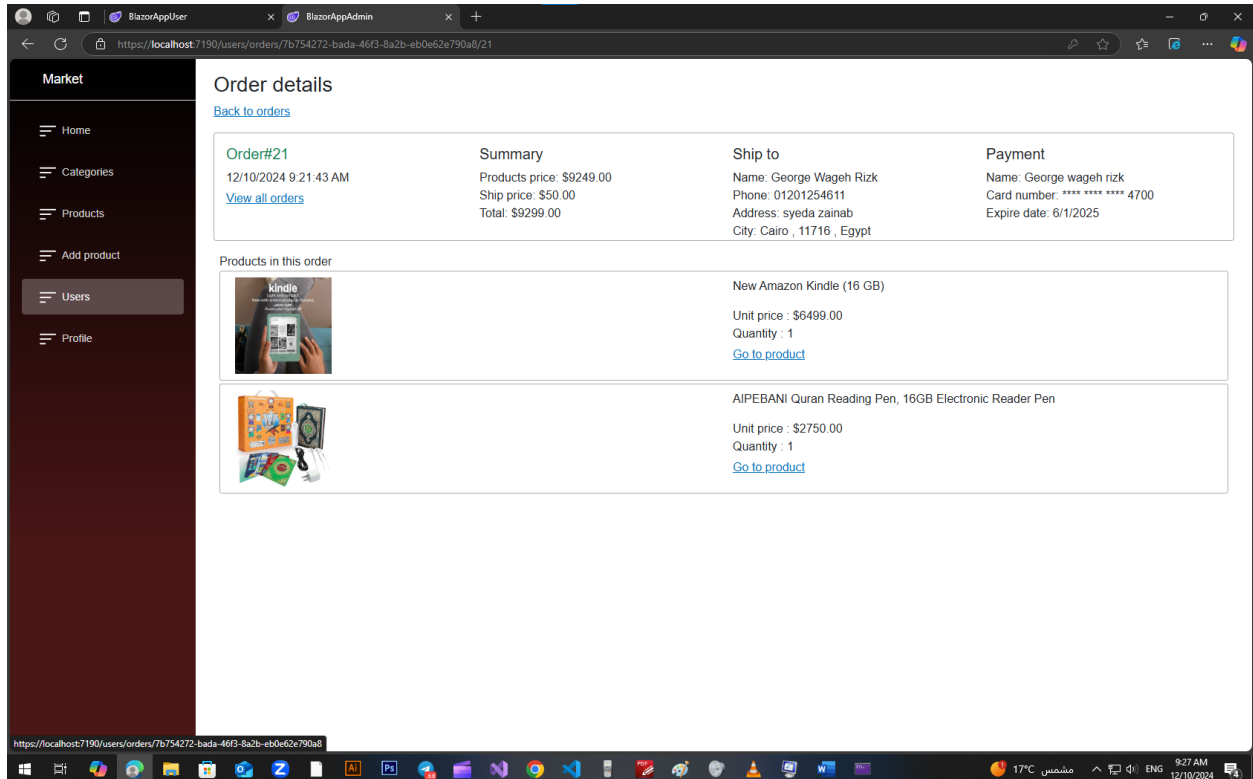


Figure 23 show order details.