

E-Commerce Backend API – Project Specification

Project Overview

This project is a backend service for an e-commerce application built with ASP.NET Core Web API. It provides all the essential features of a real-world online store: user authentication, product catalog, shopping cart, order processing, payment handling, and admin management.

The API is RESTful, follows clean architecture, and supports role-based access control (Customer, Admin).

Main Functionalities

1. Authentication & Authorization

- Users can register and log in using email and password.
- JWT-based authentication is used to secure API requests.
- Role-based access ensures:
 - Customers can browse, shop, and place orders.
 - Admins can manage products, categories, orders, and users.

2. Product & Category Management

Products:

- Customers can browse products with filters, sorting, and pagination.
- Customers can view detailed product information.
- Admins can create, update, and delete products.

Categories:

- Customers can view and filter products by categories.
- Admins can add, edit, or delete categories.

3. Shopping Cart

- Each customer has a persistent shopping cart.
- Customers can add, update, remove items, clear the cart, and view current contents.

4. Orders

- Customers can place, view, and cancel orders.
- Admins can view all orders and update order status (Pending, Processing, Shipped, Delivered, Cancelled).

6. Shipping & Address Management

- Customers can manage multiple shipping addresses.
- Orders store the chosen shipping address.

7. Reviews & Ratings

- Customers can submit, edit, and delete reviews.
- Admins can moderate reviews.

8. User Management

Customers:

- Can update profile and change password.

Admins:

- Can view all users, update roles, and delete accounts.

Example User Flow

1. Customer registers and logs in.
2. Browses products with filters and sorting.
3. Adds products to cart.
5. Order is created and tracked.
6. Admin manages orders and products.

