

TECHNICAL SPECIFICATION

Online Store Backend System

Study Project (Term Paper)

Year: 2026

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1. General Information

Project: Online Store (E-commerce system)

Project Type: Study project (term paper)

Purpose: Demonstration of backend development skills

2. Technology Stack

- Backend: Django + Django REST Framework
- Database: PostgreSQL
- Cache: Redis
- Authentication: Argon2
- Admin Panel: Django Admin
- Containerization: Docker
- Version Control System: GitHub
- Frontend: Any framework from the Top-5 (optional)

3. Functional Requirements

3.1 Users

- User registration
- User authentication

- Role-based access:
 - User
 - Administrator

3.2 Products

- Product creation (administrator only)
- Viewing the list of products
- Viewing a product details page
- Editing a product (administrator only)
- Deleting a product (administrator only)

3.3 Shopping Cart

- Adding a product to the cart
- Changing product quantity in the cart
- Removing a product from the cart
- Shopping cart data storage using Redis

3.4 Orders

- Creating an order based on the shopping cart
- Viewing user orders
- Viewing all orders (administrator only)

Order statuses:

- Created
- Completed
- Cancelled

3.5 Admin Panel

- Product management
- Order management
- User management

4. Non-Functional Requirements

- Backend must provide a RESTful API
- Input data validation must be implemented
- The project must be runnable using Docker Compose
- A README file with launch instructions must be provided

5. Restrictions

- The use of artificial intelligence tools during development is prohibited
- Project deadlines are determined by the student