

# **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