



Introduction

ReadingsGood is an online book retail company that operates only over the internet. Its main goal is to deliver books to customers from a single centralized warehouse on the same day. Therefore, stock consistency is the top priority for the vision operations. This project includes basic functions such as new customer registration, placing a new order, tracking book stocks, listing all orders of a customer, viewing order details, and querying monthly statistics.

Design

In this project, we created a Restful API using Java and Spring Framework. PostgreSQL was used for database management. The project is based on three main entities: Customer, OnlineOrder, and Book. The relationship between Customer and OnlineOrder is 1-N, and the relationship between OnlineOrder and Book is N-M. We created a separate Controller class for each of these entities and defined the basic functions in these classes.

Technologies

Java 11

Spring Boot

PostgreSQL

Spring Data JPA

Spring Security

JUnit

Mockito

Docker

Postman

API Endpoints and Features

4.1 Customer Controller:

This Controller maintains customer registrations and lists customer orders. It also performs the operation of paging to list all orders of a specific customer. The features of the endpoints are as follows:

POST /customers/login : Registers a customer with the system.

POST /customers: Creates a new customer registration.

POST /customers/{customerId}/addOrder : Add orders to customer by customer id.

GET /customers/{customerId} : Lists customer by id.

GET /customers/{customerId}/orders?page={pageNumber}&size={pageSize}: Lists all orders of a specific customer with pagination.

4.2 Book Controller:

This Controller adds new book registrations, updates book stocks, and creates book orders. The features of the endpoints are as follows:

POST /books: Creates a new book registration.

PUT /{bookId}/updateStock: Updates book stock.

GET /{bookId}: Lists book by id.

4.3 Order Controller:

This Controller adds new order registrations, updates stock records, and displays order details.

Continuation:

"it provides the functionality of paging to list all orders and order details, and querying monthly statistics. The features of the endpoints are as follows:

POST /orders: Creates a new order registration. API could add books by bookIds or pieces.

GET /orders/{orderId}: Displays the details of a specific order.

GET /orders: Lists all orders with pagination.

GET /orders/byDate?start={startDate}&end={endDate}: Queries monthly statistics

4.3.Statistic Controller:

This Controller adds a new query for displays order, book and purchased details by month.

GET /statistics/monthly: Retrieves monthly order statistics, including the number of orders and total order value.

Conclusion

This Restful API allows customers to register, place orders, track book stocks, and view their order history. It also allows ReadingIsGood to manage book registrations, order records, and stock records effectively. The API is designed to handle large volumes of customer requests while ensuring stock consistency and timely delivery of orders."

Connections:

Project GitHub Link: <https://github.com/Erdincdagli35/Read-is-Good>

LinkedIn Account Link: <https://www.linkedin.com/in/erdin%C3%A7-da%C4%9Fl%C4%B1-40613a172/>

E-mail: erdincdagli35@hotmail.com