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Gr: 248-1

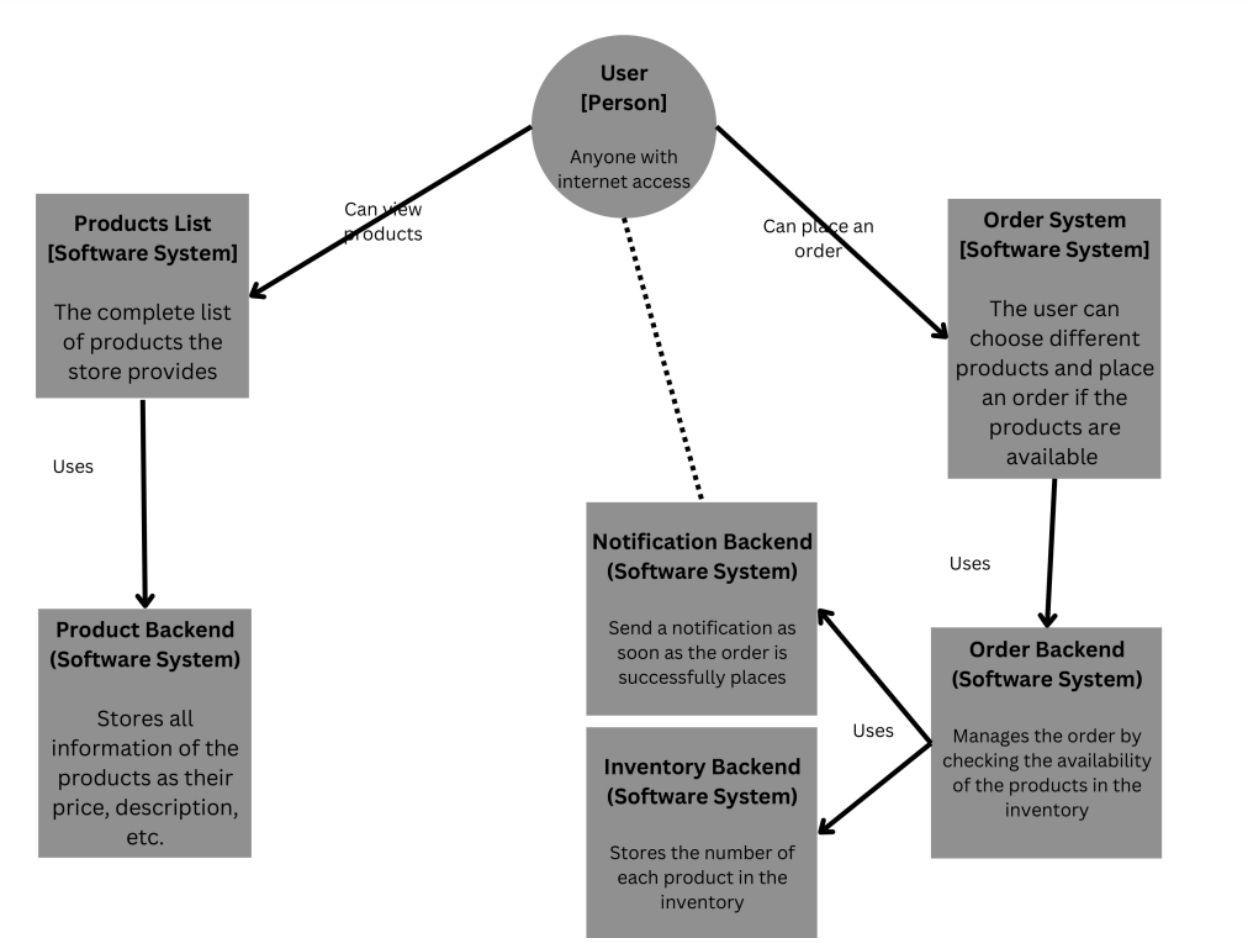
SOA Documentation

App Description:

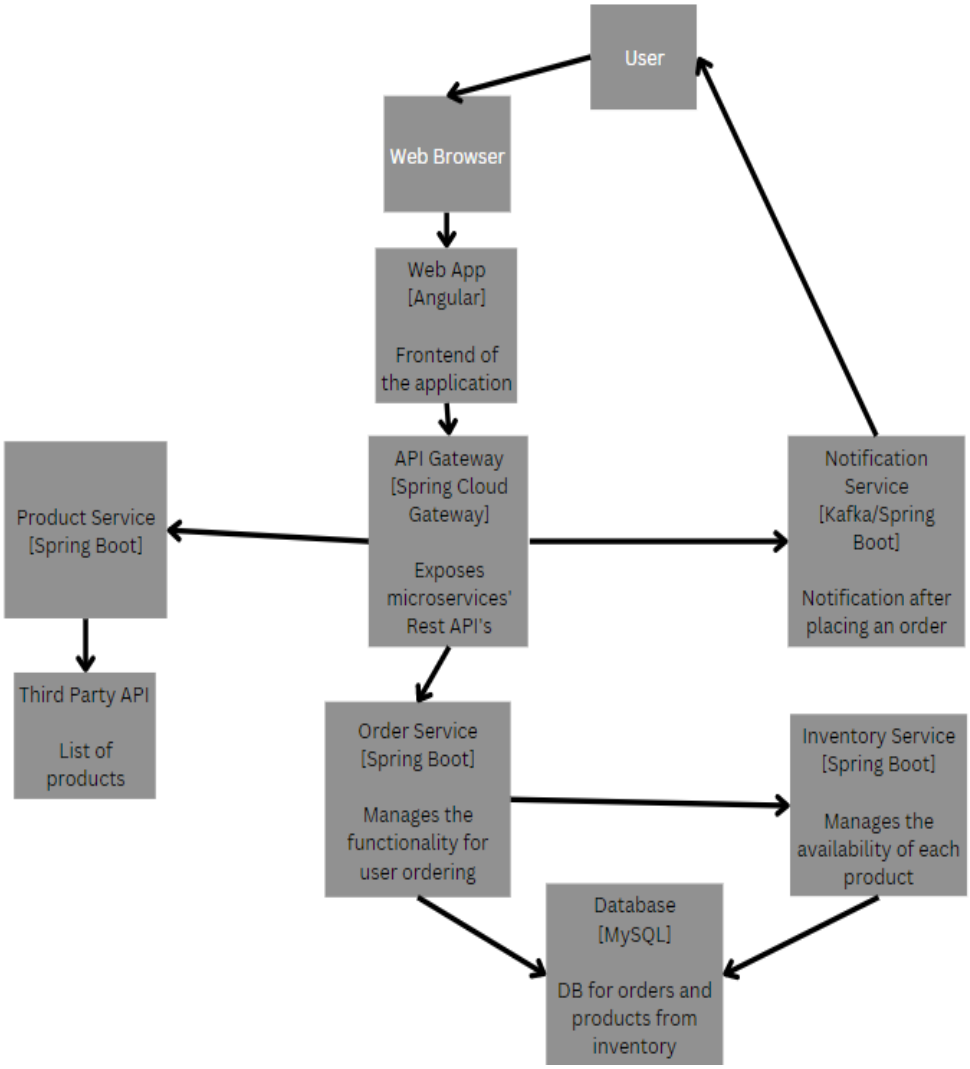
This application allows people to check the products that our store provides and let them order if they are available in our inventory. The app is split in 6 microservices: Product – for a list of products retrieved from a 3rd party API, Order – for the user to place an order of products, Inventory – manages the availability of the products in the store, Discovery – uses Eureka for load-balancing, Notification – for sending notifications to the user with Kafka, API Gateway.

Diagrams:

1. System Context

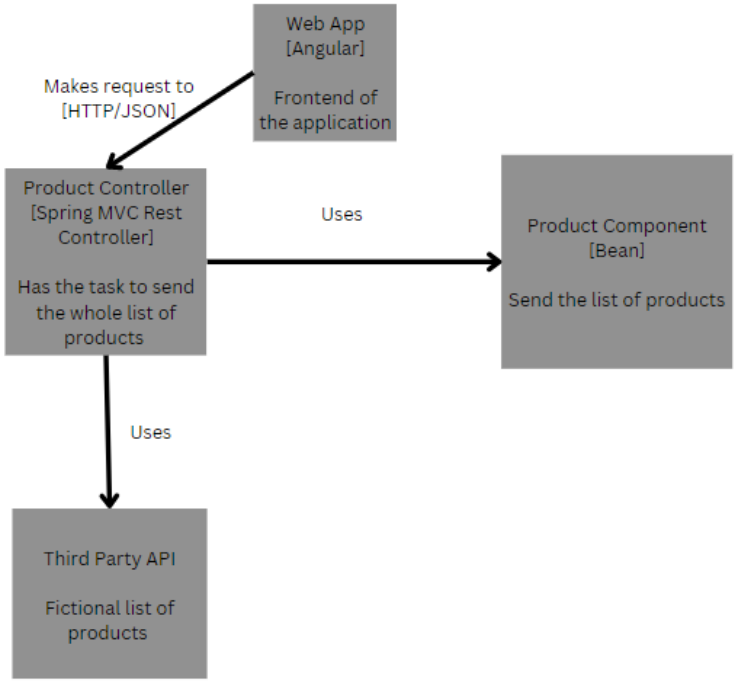


2. Containers

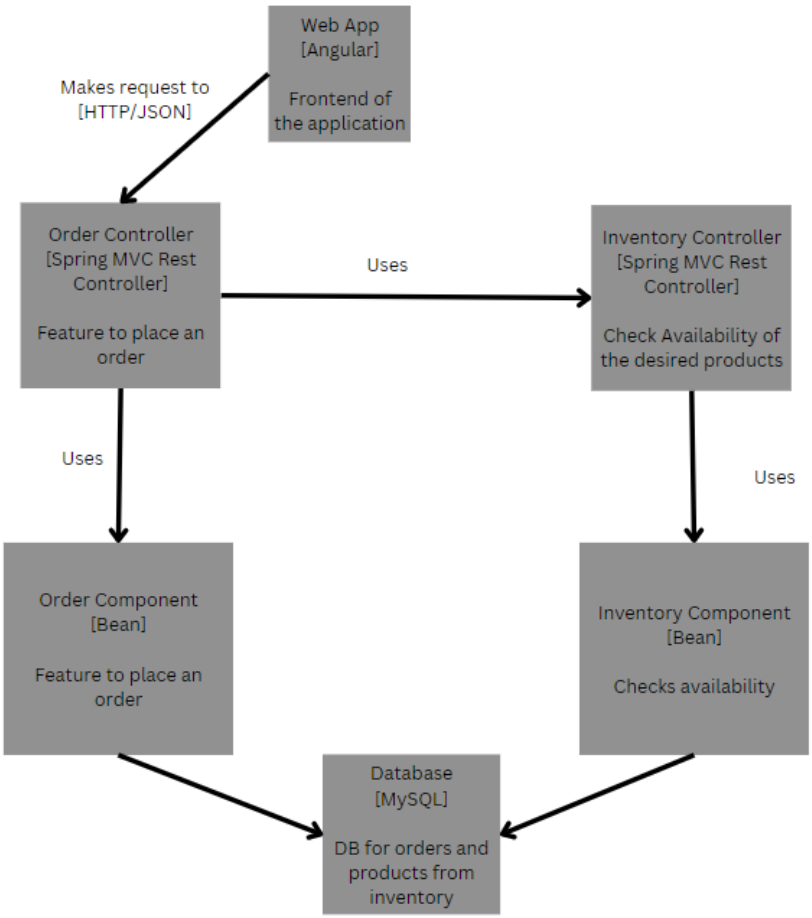


3. Components

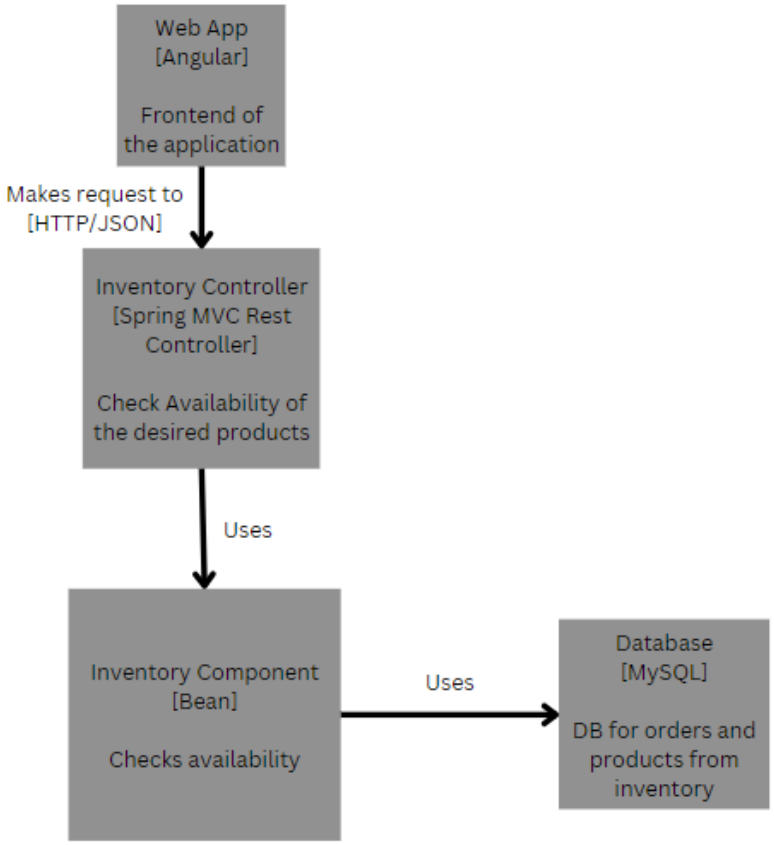
Product Component Diagram



Order Component Diagram

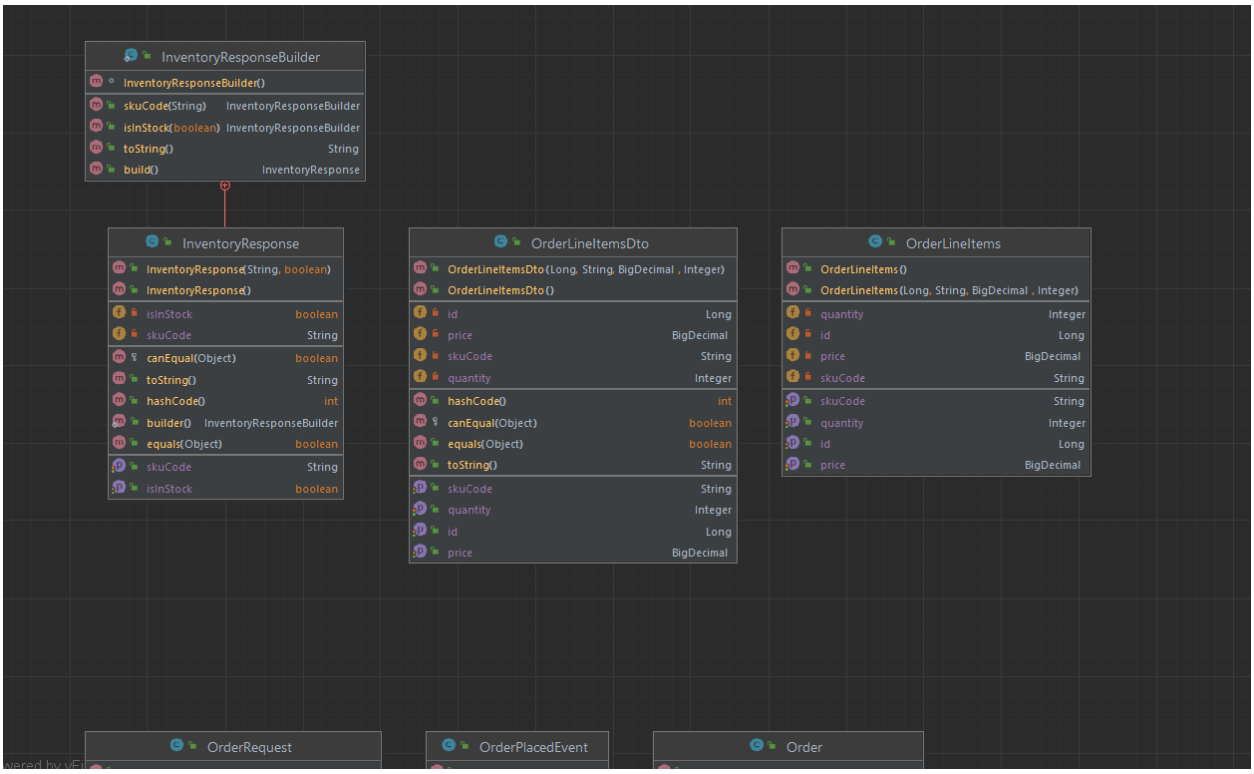


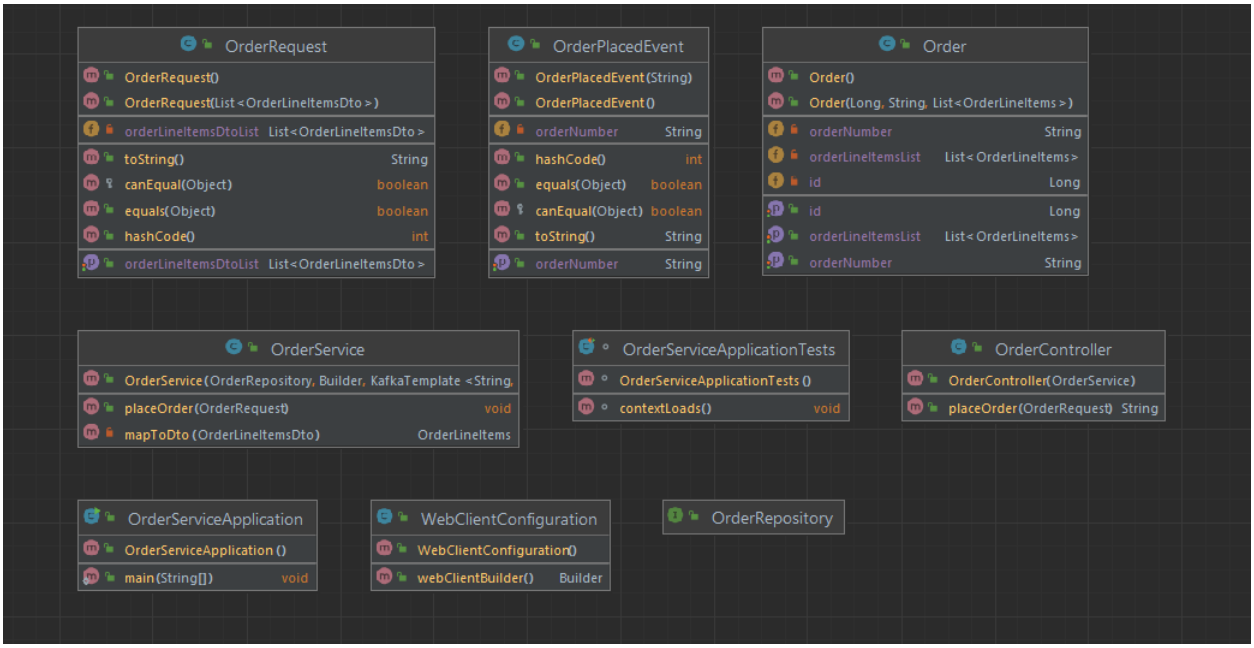
Inventory Component Diagram



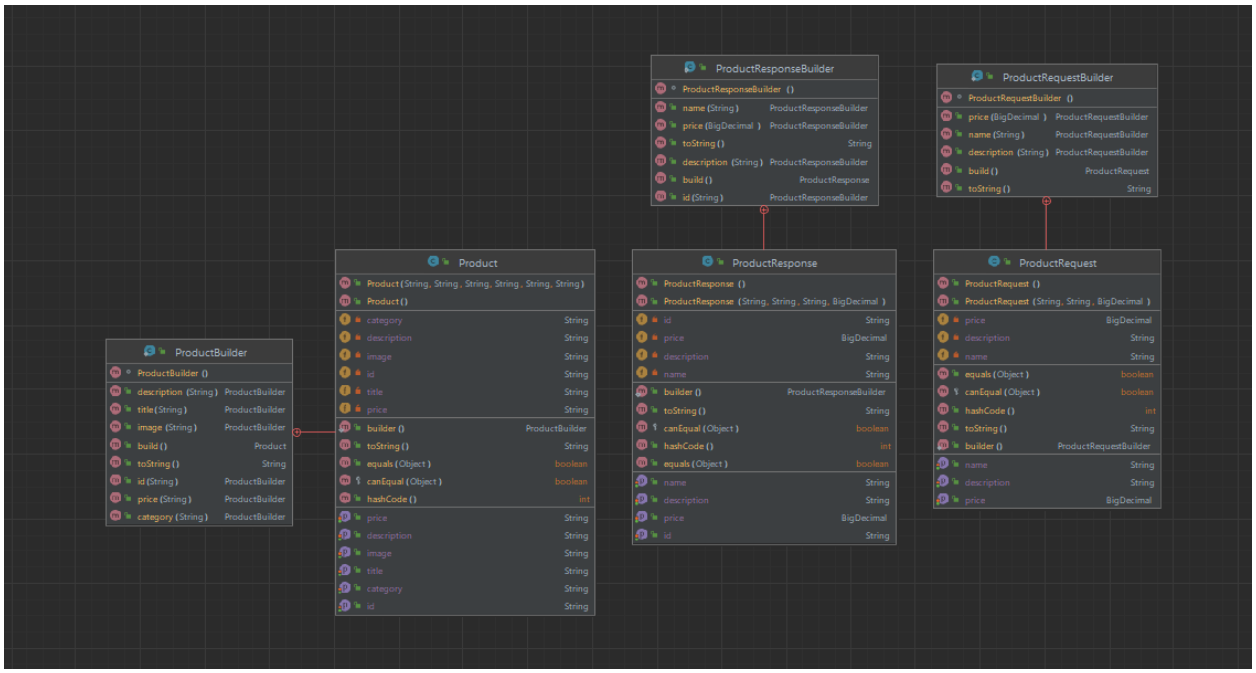
4. Code Diagrams

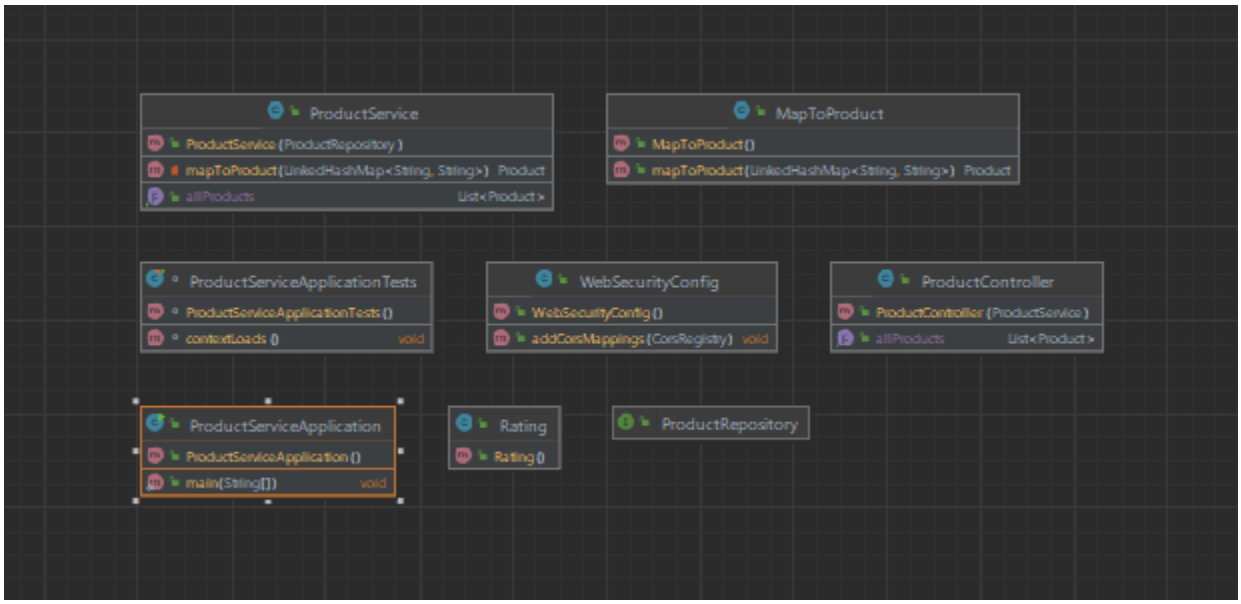
Order Microservice Code Diagram



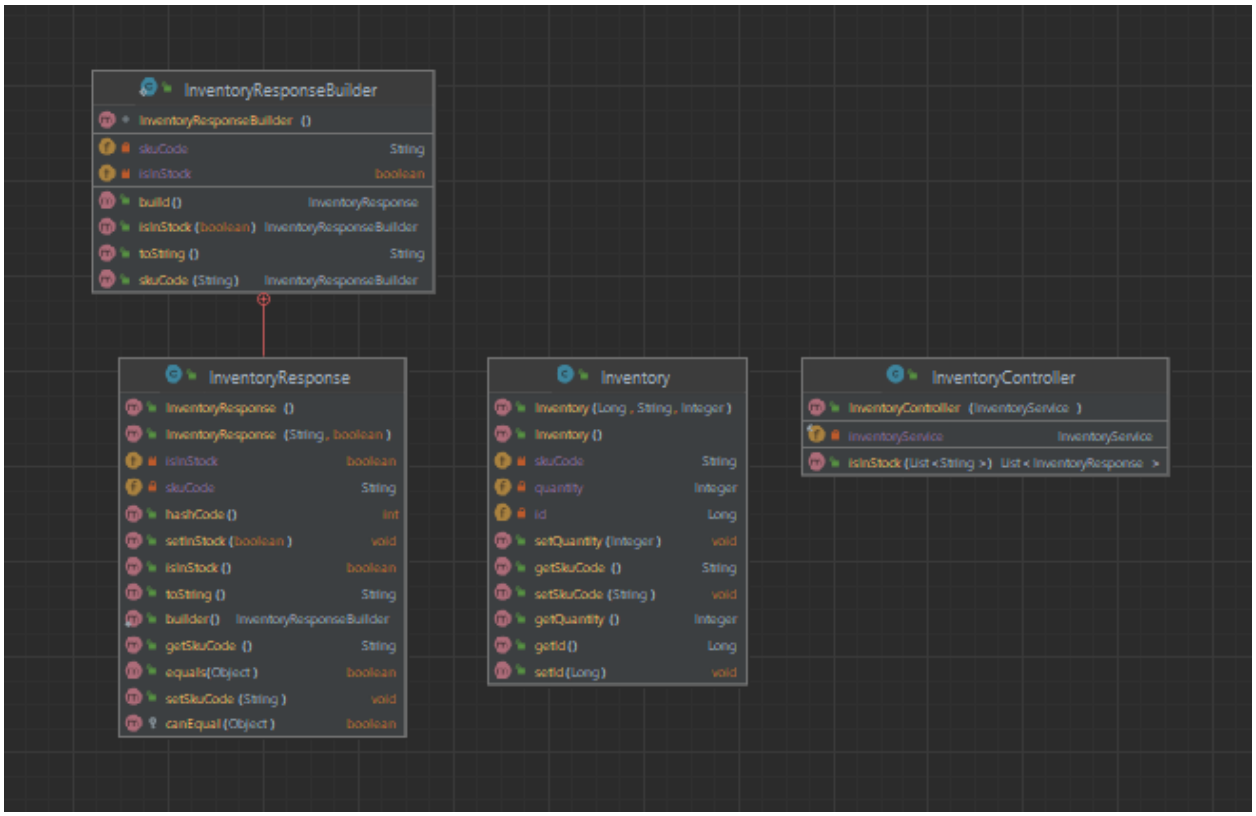


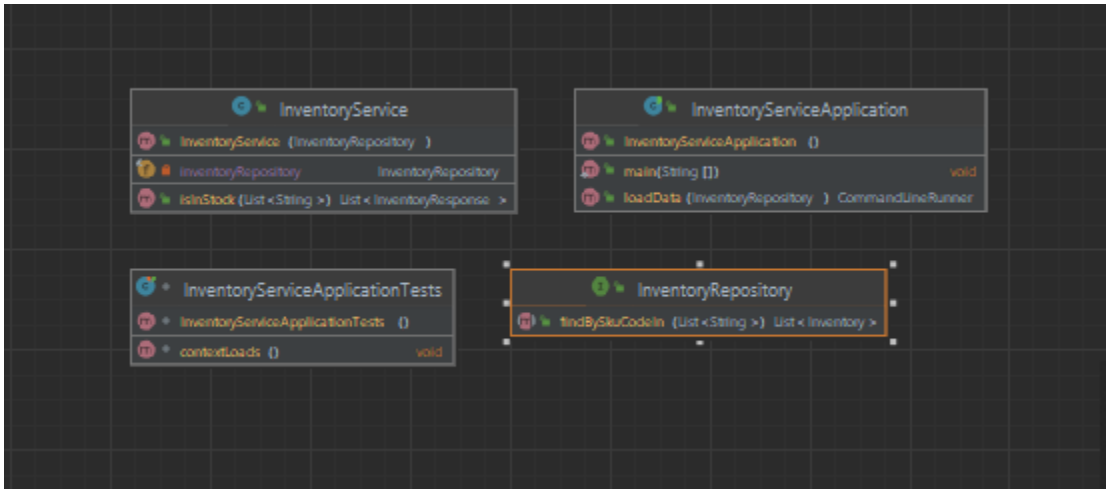
Product Microservice Code Diagram





Inventory Microservice Code Diagram





SOA Pattern used:

- Microservices pattern: my microservices are Product, Order, Inventory, Notification, Discovery, API Gateway
- Integration Pattern: integrating the API for a fictional list of products of a store

Technologies Used:

Java and Spring Boot for backend, Spring Cloud Netflix's Eureka for communication between microservices, Angular for frontend. Notification service with Kafka. MySQL for the inventory and orders database. Docker for deploying the services on each microservice.