

WIPRO NGA Program – Java FSD Angular

Capstone Project Presentation – 23rd Sept 2024

Organic Bazaar Platform

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Introduction

Organic Bazaar Platform serves as a comprehensive solution for users to effortlessly buy and subscribe to organic grocery products.

The project integrates front-end development using Angular and back-end development using Java, Springboot, RESTful APIs and Microservices.

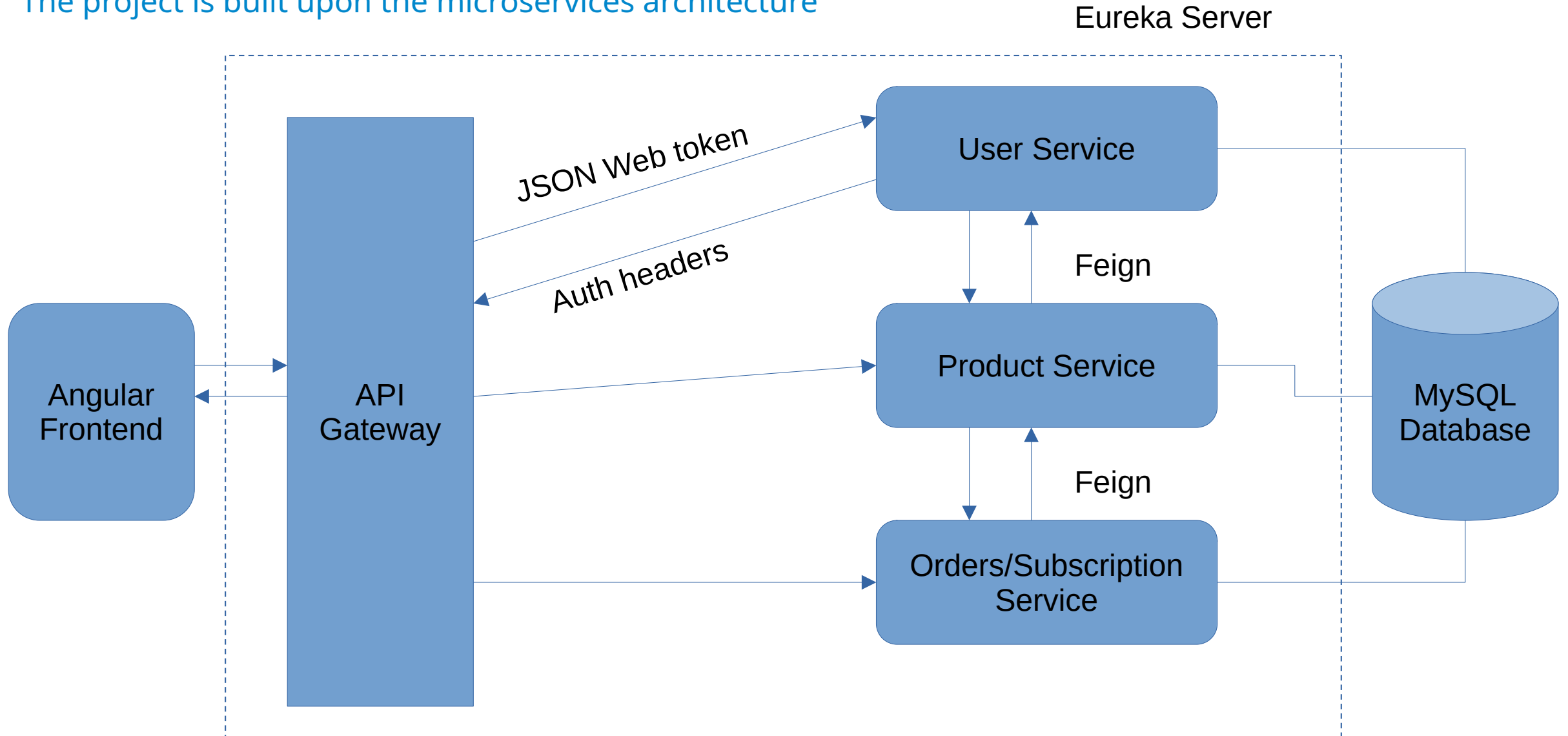
Key features

Organic Bazaar platform enables users to browse products, add items to cart and subscribe to regular deliveries

- Subscription system, offering options for weekly and monthly subscription
- Product catalog along with a detailed view of the product.
- A system to rate and review the product.
- User authentication and authorization.
- A dashboard to manage all the orders and subscriptions.

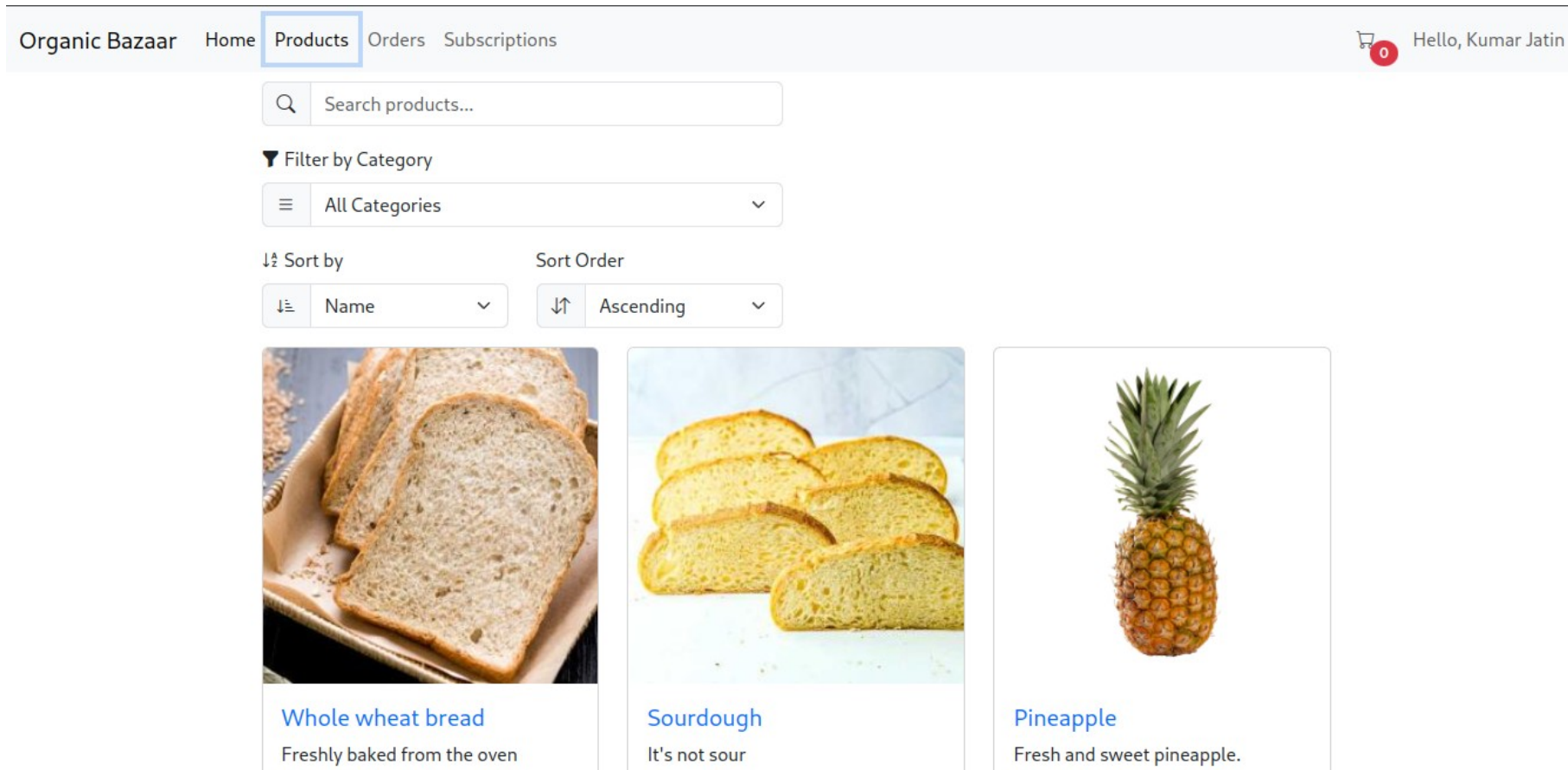
System Architecture

The project is built upon the microservices architecture



Products Page

The products page has features like, searching, sorting, and filtering.
The product implements debouncing with a 300ms delay to minimize the number of Network calls to the server.



Authentication Page

The project implements Email and password based authentication, along with the use of JSON Web Tokens for Authorization. The Authentication and Authorization is carried out by the User service, and based on that the requests are further filtered on the Api-gateway level.

Login

Email address

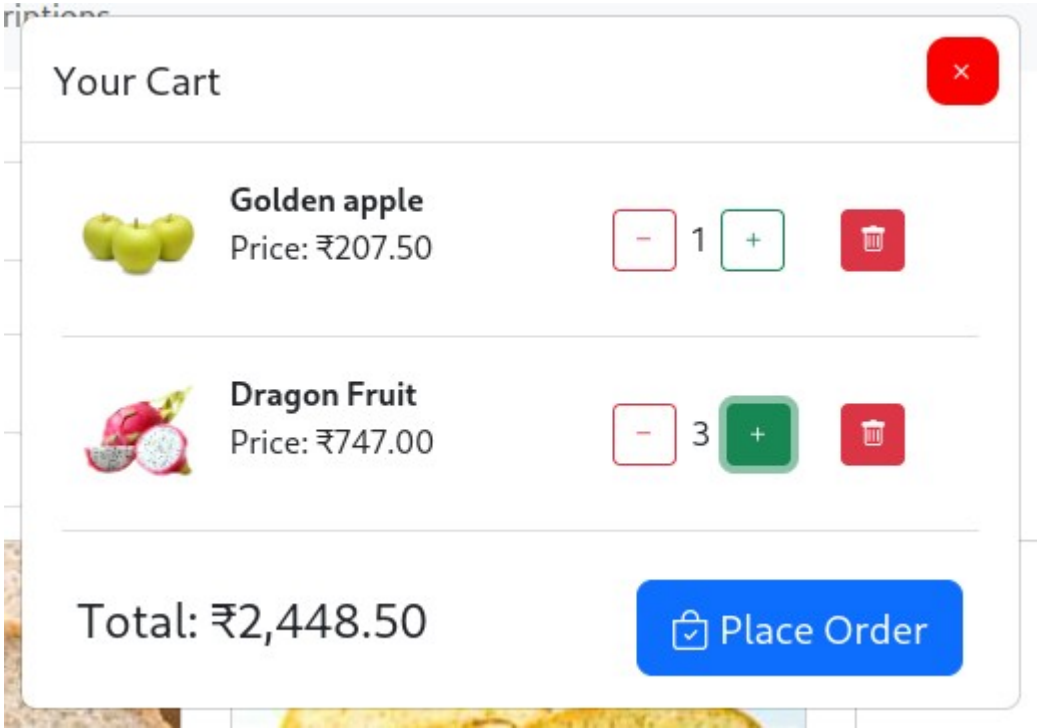
Password

Login

Don't have an account? [Register here](#)

Cart

Project implements cart for for making orders, user can add and remove items from the cart, and set the quantity



Orders and Subscription

The platform allows users to track and manage their orders and subscription.

User can make an order from their cart, sending the request to the Orders service, which will further do the main business logic.

Similarly, user can subscribe to a product either Monthly or Weekly.

On the backend, the servers runs a cron job every day for dispatching the orders on its due date.

Your Orders

Order ID: 7

Order Date: 9/23/24, 12:00 AM

Status: PENDING

Order Items



Dragon Fruit (Quantity: 3)



Golden apple (Quantity: 1)



Burger Bun (Quantity: 1)

Total Price: ₹2,597.90

Cancel Order

Your Subscriptions



Coconut

₹182.60 × 3

Next Delivery Date: Sep 23, 2024

Subscription Type: Weekly

Wednesday Monday

Status: ACTIVE

₹547.80

Pause Cancel

Technical Challenges

Implementing dynamic subscription and scheduling models.

Solution: Implementing a daily cron job on the server that expires all the subscriptions that are past their endDate. And scheduling deliveries on the same.

Implementing a centralized authentication and authorization mechanism for all the microservices.

Solution: Authentication route filtering on the API-gateway level and addition of required authentication header.

Future enhancement

- A more sophisticated products recommendation, and filtering system.
- Implement payment gateway, and order processing feature
- A more detailed order tracking feature.
- Expand subscription options with more flexible frequency choices.
- A seller side User interface for managing products and inventories.

Conclusion

- Organic Bazaar successfully integrates essential e-commerce functionalities with a flexible subscription management system.
- This project demonstrates the power of combining modern web technologies like Angular and Spring Boot to create a scalable, user-centric platform that meets the evolving needs of e-commerce customers.