Name: David João Panguana

Microservices Functionality Report

Date: October 01, 2024

Context

This report presents an analysis of the functionality of the microservices developed for the store, product, and user management application. The system consists of three main microservices: Shopping_API, Product_API, and User_API.

1. Shopping_API

The Shopping_API is responsible for managing operations related to stores. The main endpoints and their functionalities include:

- **List Stores:** The endpoint /shopping allows listing all stores registered in the database, ensuring quick access to information.
- **Search Store by ID:** The endpoint /shopping/{id} provides details of a specific store based on its ID.
- **Create and Update Stores:** The endpoints /shopping (POST) and /shopping/{id} (PUT) allow for registering new stores and updating existing ones, respectively.
- **Delete Stores:** The endpoint /shopping/{id} (DELETE) enables the removal of a specific store.
- **Search by User Identifier:** The endpoint /shopping/shopByUser/{userIdentifier} returns all stores associated with a specific user.
- **Search by Date:** The endpoint /shopping/search allows filtering stores by a period, providing flexibility in data querying.
- **Purchase Report:** The endpoint /shopping/report provides a report of purchases within a specified period.

2. Product_API

The Product_API manages all operations related to the products available in the system. The main features include:

- **Register Products:** The endpoint /product (POST) allows for creating new products, with category validation.
- **List Products:** The endpoint /products list all registered products, facilitating inventory viewing.
- **Search by Category:** The endpoint /product/category/{categoryId} retrieves products from a specific category.
- **Delete Products:** The endpoint /product/{id} (DELETE) enables the removal of products based on their ID.
- **Search by Product Identifier:** The endpoint /product/{productIdentifier} returns a specific product based on its unique identifier.

3. User_API

The User_API is dedicated to managing user information within the system. Its main endpoints include:

- ✓ **Register Users:** The endpoint /user (POST) allows for registering new users.
- ✓ **List Users:** The endpoint /users lists all registered users.
- ✓ **Search by ID and CPF:** The endpoints /user/{id} and /user/cpf/{cpf} allow querying a user's information based on their ID or CPF, respectively.
- ✓ **Update and Delete Users:** The endpoints /user/{id} (PUT) and /user/{id} (DELETE) enable updating and removing users.

Conclusion

All microservices are fully operational, with their functionalities implemented as expected. The modular structure and use of DTOs ensure the efficiency and maintainability of the system. The integration between services allows for a continuous and effective flow of data, ensuring a satisfactory user experience. The system is prepared to meet current demands, with potential for future expansions and improvements.