

Homework 2

Develop a food delivery application using Microservices architecture and Spring Cloud

Functional Requirements:

User can search a restaurant based on restaurant name. Then user can order food by choosing different menu item, quantity and add a note about his/her diet restrictions and etc. User can also fill in the delivery address. After user places an order, the order should contain food items user ordered, quantity, price and order time. User then needs to pay for his/her order by providing credit card number, expiration date, and security code. After payment is made successfully, it should return payment ID, timestamp and then the order is considered as completed so the user can see the estimated delivery time.

Non-Functional Requirements:

- Use Microservices architecture so that each backend service can be developed and deployed individually.
- It's up to you to choose either SQL or No-SQL database and how many databases you need
- The design should be object-oriented and uses best practices I talked in the class.
- REST API should be designed based on the principles I talked in the class
- There should be reasonable amount of unit tests and integration tests
- There should be at least 1 place to handle payment error case
- Security is not a concern here.

Tips:

- For estimated delivery time, you can choose a random time between 5 mins - 1 hour
- Make reasonable assumptions in your code, there's no right or wrong answer
- If you have trouble using Spring Cloud, you don't have to make the application cloud native.

Bonus Points:

- Have UI integrated with backend services to demonstrate the application flow. +30 pts
- Use MQ to decouple some of the backend services. +20 pts
- Successfully use Spring Cloud to handle service discovery and circuit breaker. +10 pts
- Well documented. +5 pts