Spring boot micro service Full Stack bank application project case study

Tools and Technologies

- Front-End: JavaScript, HTML5, and CSS, Angular 8
- Frameworks: Spring boot,Spring cloud Microservice, OAuth2, Kafka
- Technology/Domain: Java
- Database: Oracle

Objective of Bank Management application

The bank is a major industry and still at some stage banks are doing some manual processes. So it's really good to automate some manual processes that can help bankers and customers.

We will create bank application with micro service architecture using Spring boot Here this project consist of mainly 4 micro services and those are:

Account service

This is the service that handles bank account CRUD operation
Fund transfers, deposit, withdraw operation between accounts

Loan service

This is the service that handles loan issued to a particular account,
we can find the loan attached to an account using account number

Card service

This is the service that handles Credit Card issued to a particular account,
we can find the Card attached to an account using account number

User service

This service includes all the operations under the User such as registrations and retrieval.
Additionally, this API consumes key cloak REST API to register and manage the user base

Components inside this architecture

Service Registry – Netflix Eureka Service Registry.
API Gateway – Gateway will be configured using Spring cloud gateway.
Configuration Service – Spring Cloud Config Server and Client.
Authentication – Here we can use Keycloak for authentication and authorization,
Keycloak is an open-source Identity management system and we could easily build user related stuff.
Database – Oracle Database
Message Queues – Kafka/RabbitMQ will be the main message queue supplier in this project
Server API Documentation – API documentation for microservices will be done using Swagger with UI.
Monitoring – Here we are using Prometheus, Micrometer, and Grafana to monitor the whole application setup after deploying into the servers.
Distributed tracing – Zipkin will be the tool that we are going to use with this project in order to trace whole application requests and details about the performance
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