

# Microservices

- Breaking down the single unit into different smaller module.
- Loosely couples
- Easy to deploy

## ADVANTAGES

- It can't affect other services when service is down
- Can use different DB or different programming language
- Easy to scale

## Microservices Communication

1. Synchronous
  - Rest Template
  - Web Client
  - Spring Cloud Open Feign
2. Asynchronous
  - Apache Kafka
  - RabbitMQ

## Service Registry & Discovery Server

- Spring Cloud Netflix Eureka
- Registering microservices to eureka server
- Keeps the track of port number, url, name

Eureka Server: 8761

First go to maven-> select service -> lifecycle -> package (double click)

Now check target folder to see jar file

In terminal to run instances

Go to project folder and run

```
java -jar -Dserver.port=8082 target/department-service-0.0.1-SNAPSHOT.jar
```

## API Gateway

- Routing

## Config Server

- Keeping the configuration file in GIT

## Distributed Tracing Using Spring Cloud Sleuth and Zopkin

- Deprecated spring boot 3

## Circuit Breaker using Resilience4J

- Fallback method

- Circuit breaker
- Retry