Microservices

Spring Cloud Load Balancer

Client Side Load Balancer

Alternate to Netflix Ribbon

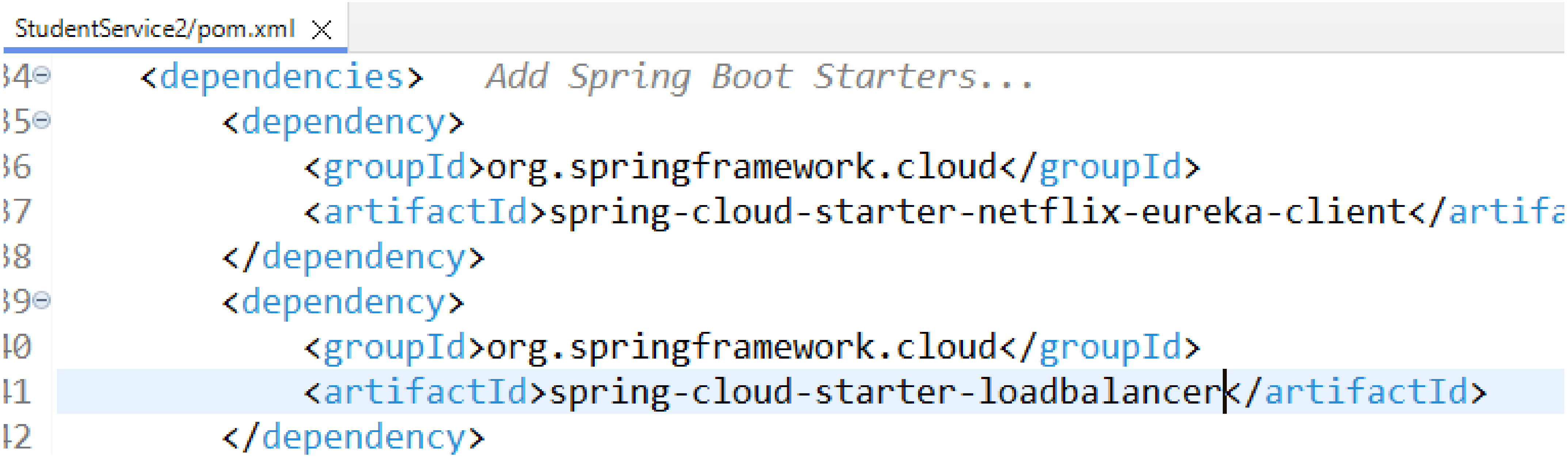
Spring Cloud Load Balancer

- Spring Cloud Load Balancer is a client-side load balancing library provided by the Spring Cloud framework.
- It is designed to distribute incoming requests among multiple instances of a service, enhancing the availability, scalability, and performance of microservice architectures
- Supports various load balancing algorithms like round-robin, random selection, least connections, and more
- It serves as a lightweight and modern alternative to Netflix Ribbon

In our project

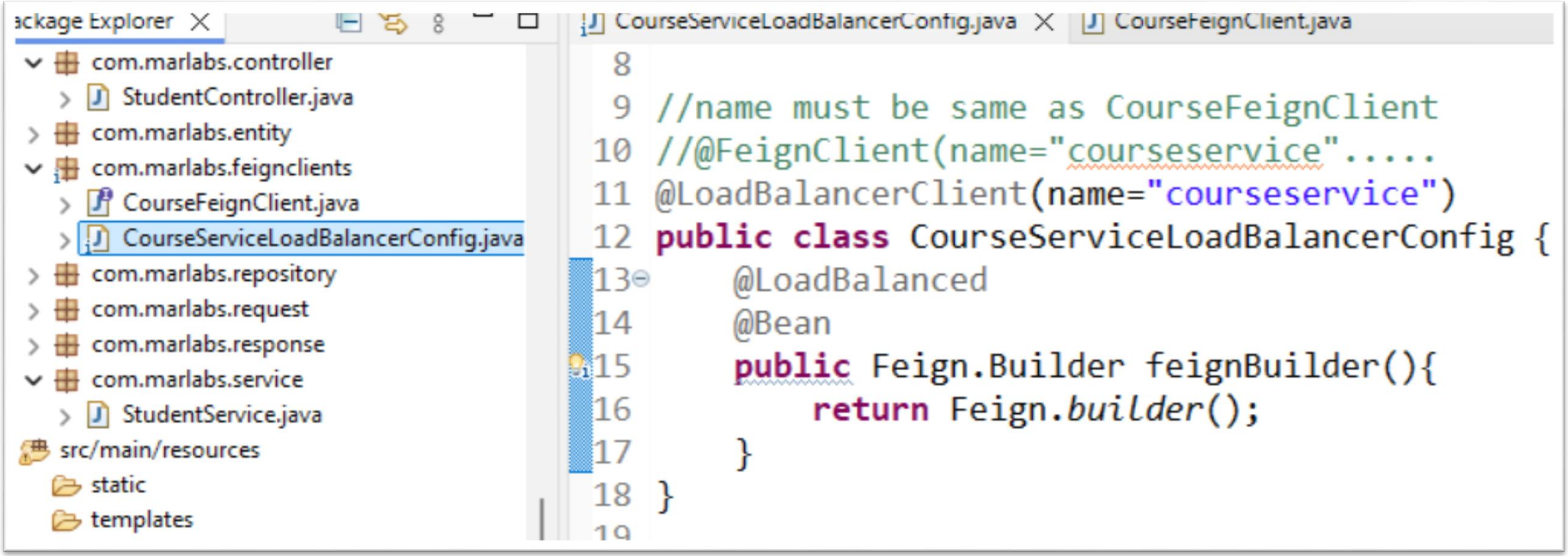
- Student service calls Course Service
- If we have multiple instances of course service
- Then we need cloud load balancer to send traffic to all available instance using round robin algorithm from student service
- For that
  - We need to include load balancer dependency in student service.
  - Create a class to load balancer with openfeign.

Add dependency in student service



```
    <dependencies>    Add Spring Boot Starters...
        <dependency>
            <groupId>org.springframework.cloud</groupId>
            <artifactId>spring-cloud-starter-netflix-eureka-client</artifa
        </dependency>
        <dependency>
            <groupId>org.springframework.cloud</groupId>
            <artifactId>spring-cloud-starter-loadbalancer</artifactId>
        </dependency>
```

Class to load balance feign client request



```java

//name must be same as CourseFeignClient
//@FeignClient(name="courseservice".....
@LoadBalancerClient(name="courseservice")
public class CourseServiceLoadBalancerConfig {
    @LoadBalanced
    @Bean
    public Feign.Builder feignBuilder(){
        return Feign.builder();
    }
}
```

Load Balancer in action

- Start the Eureka Server
- Start the Course Service
- Now change the port no to 8083 in properties file and start another instance
- Start the Student Service
- Confirm multiple instances in eureka server
- When you call from postman for 4 times, we will get log message of Course service 2 in both the instances