**Exercise 2 load balancing**

**Project structure**

exercise-2-load-balancing/

├── src/

│ ├── main/

│ │ ├── java/

│ │ │ └── com/

│ │ │ └── edge/

│ │ │ └── gateway/

│ │ │ ├── GatewayApplication.java

│ │ │ └── LoadBalancerConfiguration.java

│ │ └── resources/

│ │ ├── application.properties

│ │

├── pom.xml

**GatewayApplication.java**

package com.edge.gateway;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class GatewayApplication {

    public static void main(String[] args) {

        SpringApplication.run(GatewayApplication.class, args);

    }

}

**LoadBalancerConfiguration.java**

package com.edge.gateway;

import org.springframework.cloud.client.ServiceInstance;

import org.springframework.cloud.loadbalancer.core.RandomLoadBalancer;

import org.springframework.cloud.loadbalancer.core.ServiceInstanceListSupplier;

import org.springframework.cloud.loadbalancer.support.LoadBalancerClientFactory;

import org.springframework.cloud.loadbalancer.core.ReactorLoadBalancer;

import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.Configuration;

import org.springframework.core.env.Environment;

@Configuration

public class LoadBalancerConfiguration {

    @Bean

    public ReactorLoadBalancer<ServiceInstance> randomLoadBalancer(Environment environment,

            LoadBalancerClientFactory factory) {

        String name = environment.getProperty(LoadBalancerClientFactory.PROPERTY\_NAME);

        return new RandomLoadBalancer(factory.getLazyProvider(name, ServiceInstanceListSupplier.class), name);

    }

}

**Application.properties**

spring.application.name=gateway-load-balancing

spring.cloud.gateway.routes[0].id=load\_balanced\_route

spring.cloud.gateway.routes[0].uri=http://httpbin.org

spring.cloud.gateway.routes[0].predicates[0]=Path=/loadbalanced/\*\*

**pom.xml**

<project xmlns="http://maven.apache.org/POM/4.0.0"

         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>com.edge</groupId>

    <artifactId>gateway-load-balancing</artifactId>

    <version>1.0.0</version>

    <packaging>jar</packaging>

    <name>gateway-load-balancing</name>

    <parent>

        <groupId>org.springframework.boot</groupId>

        <artifactId>spring-boot-starter-parent</artifactId>

        <version>3.2.7</version>

        <relativePath/>

    </parent>

    <properties>

        <java.version>17</java.version>

        <spring-cloud.version>2022.0.5</spring-cloud.version>

    </properties>

    <dependencies>

        <dependency>

            <groupId>org.springframework.cloud</groupId>

            <artifactId>spring-cloud-starter-gateway</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.cloud</groupId>

            <artifactId>spring-cloud-starter-loadbalancer</artifactId>

        </dependency>

    </dependencies>

    <dependencyManagement>

        <dependencies>

            <dependency>

                <groupId>org.springframework.cloud</groupId>

                <artifactId>spring-cloud-dependencies</artifactId>

                <version>${spring-cloud.version}</version>

                <type>pom</type>

                <scope>import</scope>

            </dependency>

        </dependencies>

    </dependencyManagement>

    <build>

        <plugins>

            <plugin>

                <groupId>org.springframework.boot</groupId>

                <artifactId>spring-boot-maven-plugin</artifactId>

                <configuration>

                    <mainClass>com.edge.gateway.GatewayApplication</mainClass>

                </configuration>

            </plugin>

        </plugins>

    </build>

</project>

**Output:**

