**Exercise 1 : Routing Filtering**

**Project structure**

exercise-1-routing-filtering/

│

├── pom.xml

├── mvnw

├── mvnw.cmd

├── .mvn/

│ └── wrapper/

│ ├── maven-wrapper.jar

│ └── maven-wrapper.properties

│

└── src/

└── main/

├── java/

│ └── com/

│ └── edge/

│ └── gateway/

│ ├── GatewayApplication.java <-- ✅ Main Spring Boot class

│ └── LoggingFilter.java <-- ✅ Custom Global Filter

│

└── resources/

├── application.properties <-- ✅ Gateway route configuration

└── static/ <-- Optional (for static content)

**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);

    }

}

**LoggingFilter.java**

package com.edge.gateway;

import org.springframework.cloud.gateway.filter.GlobalFilter;

import org.springframework.cloud.gateway.filter.GatewayFilterChain;

import org.springframework.stereotype.Component;

import org.springframework.web.server.ServerWebExchange;

import reactor.core.publisher.Mono;

@Component

public class LoggingFilter implements GlobalFilter {

    @Override

    public Mono<Void> filter(ServerWebExchange exchange, GatewayFilterChain chain) {

        System.out.println("Request: " + exchange.getRequest().getURI());

        return chain.filter(exchange);

    }

}

Application.properties

spring.application.name=gateway-service

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

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

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

**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-routing-filtering</artifactId>

    <version>1.0.0</version>

    <packaging>jar</packaging>

    <name>gateway-routing-filtering</name>

    <description>Spring Cloud Gateway Routing and Filtering Example</description>

    <parent>

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

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

        <version>3.1.5</version>

        <relativePath/> <!-- Lookup parent from repository -->

    </parent>

    <properties>

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

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

    </properties>

    <dependencies>

        <!-- Spring Cloud Gateway -->

        <dependency>

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

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

        </dependency>

        <!-- Optional: For actuator support -->

        <dependency>

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

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

        </dependency>

        <!-- Optional: Test support -->

        <dependency>

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

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

            <scope>test</scope>

            <exclusions>

                <exclusion>

                    <groupId>org.junit.vintage</groupId>

                    <artifactId>junit-vintage-engine</artifactId>

                </exclusion>

            </exclusions>

        </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>

            <!-- Spring Boot Plugin -->

            <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:**



