

Cognizant Digital Nurture 4.0 – Java FSE

Week 5 – Hands-On Report

Name: Shaik Sulthan - 6431169

Track: Deep Skilling – Java Full Stack Engineer

Batch: 2025

Exercise 1: Implementing Edge Services for Routing and Filtering

Poxm.xml

```
<dependency>
  <groupId>org.springframework.cloud</groupId>
  <artifactId>spring-cloud-starter-gateway</artifactId>
</dependency>
**application.properties:**
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/**
**Custom Filter:**
@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);
  }
}
```

Exercise 2: Load Balancing in an API Gateway

Pom.xml:

```
<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>
```

Application propertyes:

```
spring.cloud.gateway.routes[0].id=load_balanced_route
spring.cloud.gateway.routes[0].uri=lb://example-service
spring.cloud.gateway.routes[0].predicates[0]=Path=/loadbalanced/**
```

```
**Load Balancer Configuration:**  
@Configuration  
public class LoadBalancerConfiguration {  
    @Bean  
    public ReactorLoadBalancer<ServiceInstance> randomLoadBalancer(Environment  
environment, LoadBalancerClientFactory loadBalancerClientFactory) {  
String name =  
environment.getProperty(LoadBalancerClientFactory.PROPERTY_NAME);  
return new RandomLoadBalancer(loadBalancerClientFactory.getLazyProvider(name,  
ServiceInstanceListSupplier.class), name);}}}
```