1. **Creating Microservices for account and loan**

**AccountController.java**

package com.cognizant.account.controller;

import org.springframework.web.bind.annotation.\*;

import java.util.Map;

*@RestController*

*@RequestMapping*("/accounts")

public class AccountController {

*@GetMapping*("/{number}")

public Map<String, Object> getAccountByNumber(*@PathVariable* String number) {

return Map.*of*(

"number", number,

"type", "savings",

"balance", 234343

);

}

}

**AccountApplication.java**

package com.cognizant.account;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

*@SpringBootApplication*

public class AccountApplication {

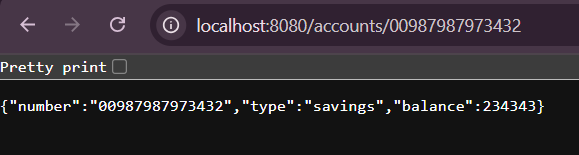
public static void main(String[] args) {

SpringApplication.*run*(AccountApplication.class, args);

}

}

**Output:**

****

**LoanController.java**

package com.cognizant.loan.controller;

import org.springframework.web.bind.annotation.\*;

import java.util.Map;

*@RestController*

*@RequestMapping*("/loans")

public class LoanController {

*@GetMapping*("/{number}")

public Map<String, Object> getLoanByNumber(*@PathVariable* String number) {

return Map.*of*(

"number", number,

"type", "car",

"loan", 400000,

"emi", 3258,

"tenure", 18

);

}

}

**LoanApplication.java**

package com.cognizant.loan;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

*@SpringBootApplication*

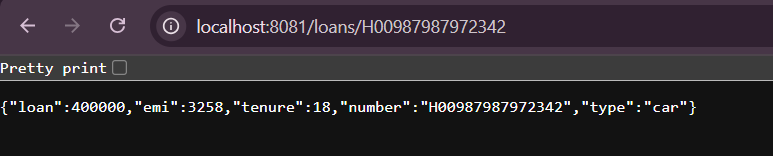
public class LoanApplication {

public static void main(String[] args) {

SpringApplication.*run*(LoanApplication.class, args);

}

}



**Additional HandsOn:**

**Create Eureka Discovery Server and register microservices**

**EurekaDiscoveryServerApplication.java**

package com.cognizant.eureka\_discovery\_server;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.cloud.netflix.eureka.server.EnableEurekaServer;

*@SpringBootApplication*

*@EnableEurekaServer*

public class EurekaDiscoveryServerApplication {

public static void main(String[] args) {

SpringApplication.*run*(EurekaDiscoveryServerApplication.class, args);

}

}

**application.properties**

spring.application.name=eureka-discovery-server

server.port=8761

eureka.client.register-with-eureka=false

eureka.client.fetch-registry=false

**AccountServiceApplication.java**

package com.cognizant.account\_service;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.cloud.client.discovery.EnableDiscoveryClient;

*@SpringBootApplication*

*@EnableDiscoveryClient*

public class AccountServiceApplication {

public static void main(String[] args) {

SpringApplication.*run*(AccountServiceApplication.class, args);

}

}

**AccountController.java**

package com.cognizant.account\_service.controller;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RestController;

*@RestController*

*@RequestMapping*("/account")

public class AccountController {

*@GetMapping*

public String getAccount() {

return "Account Service Running!";

}

}

**application.properties**

server.port=8081

spring.application.name=account-service

eureka.client.service-url.defaultZone=http://localhost:8761/eureka

**LoanServiceApplication.java**

package com.cognizant.loan\_service;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.cloud.client.discovery.EnableDiscoveryClient;

*@SpringBootApplication*

*@EnableDiscoveryClient*

public class LoanServiceApplication {

public static void main(String[] args) {

SpringApplication.*run*(LoanServiceApplication.class, args);

}

}

**LoanController.java**

package com.cognizant.loan\_service.controller;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RestController;

*@RestController*

*@RequestMapping*("/loan")

public class LoanController {

*@GetMapping*

public String getLoan() {

return "Loan Service Running!";

}

}

**application.properties**

spring.application.name=loan-service

server.port=8082

eureka.client.service-url.defaultZone=http://localhost:8761/eureka

**GreetServiceApplication.java**

package com.cognizant.greet\_service;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.cloud.client.discovery.EnableDiscoveryClient;

*@SpringBootApplication*

*@EnableDiscoveryClient*

public class GreetServiceApplication {

public static void main(String[] args) {

SpringApplication.*run*(GreetServiceApplication.class, args);

}

}

**GreetController.java**

package com.cognizant.greet\_service.controller;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.RestController;

*@RestController*

public class GreetController {

*@GetMapping*("/greet")

public String greet() {

return "Hello World";

}

}

**application.properties**

server.port=8083

spring.application.name=greet-service

eureka.client.service-url.defaultZone=http://localhost:8761/eureka

**ApiGatewayApplication.java**

package com.cognizant.api\_gateway;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.cloud.client.discovery.EnableDiscoveryClient;

*@SpringBootApplication*

*@EnableDiscoveryClient*

public class ApiGatewayApplication {

public static void main(String[] args) {

SpringApplication.*run*(ApiGatewayApplication.class, args);

}

}

**LogFilter.java**

package com.cognizant.api\_gateway.filter;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

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

import org.springframework.core.Ordered;

import org.springframework.stereotype.Component;

import org.springframework.web.server.ServerWebExchange;

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

import reactor.core.publisher.Mono;

*@Component*

public class LogFilter implements GlobalFilter, Ordered {

private static final Logger ***logger*** = LoggerFactory.*getLogger*(LogFilter.class);

*@Override*

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

***logger***.info("Incoming request: {} {}", exchange.getRequest().getMethod(), exchange.getRequest().getURI());

return chain.filter(exchange);

}

*@Override*

public int getOrder() {

return -1;

}

}

**application.properties**

server.port=9090

spring.application.name=api-gateway

eureka.client.service-url.defaultZone=http://localhost:8761/eureka

spring.cloud.gateway.discovery.locator.enabled=true

spring.cloud.gateway.discovery.locator.lower-case-service-id=true

