|  |
| --- |
| **Creating Microservices for account and loan** |
|  |

## account-

## AccountApplication.java

package com.example.accountservice;  
  
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);  
 }  
}

## account-

## AccountController.java

package com.example.accountservice.controller;  
  
import org.springframework.web.bind.annotation.\*;  
import java.math.BigDecimal;  
import java.util.\*;  
import java.util.concurrent.ConcurrentHashMap;  
  
@RestController  
@RequestMapping("/accounts")  
public class AccountController {  
  
 private final Map<String, Account> store = new ConcurrentHashMap<>();  
  
 @PostMapping  
 public Account create(@RequestBody CreateAccountRequest req) {  
 Account acc = new Account(UUID.randomUUID().toString(), req.getName(), BigDecimal.ZERO);  
 store.put(acc.getId(), acc);  
 return acc;  
 }  
  
 @GetMapping("/{id}")  
 public Account get(@PathVariable String id) {  
 return store.getOrDefault(id, null);  
 }  
}  
  
class CreateAccountRequest {  
 private String name;  
 public String getName() { return name; }  
 public void setName(String name) { this.name = name; }  
}  
  
class Account {  
 private String id;  
 private String name;  
 private BigDecimal balance;  
  
 public Account(String id, String name, BigDecimal balance) {  
 this.id = id;  
 this.name = name;  
 this.balance = balance;  
 }  
  
 public String getId() { return id; }  
 public String getName() { return name; }  
 public BigDecimal getBalance() { return balance; }  
}

## loan-service

## LoanApplication.java

package com.example.loanservice;  
  
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);  
 }  
}

## loan-service

## LoanController.java

package com.example.loanservice.controller;  
  
import org.springframework.web.bind.annotation.\*;  
import java.math.BigDecimal;  
import java.util.\*;  
import java.util.concurrent.ConcurrentHashMap;  
  
@RestController  
@RequestMapping("/loans")  
public class LoanController {  
  
 private final Map<String, Loan> store = new ConcurrentHashMap<>();  
  
 @PostMapping  
 public Loan apply(@RequestBody ApplyLoanRequest req) {  
 Loan loan = new Loan(UUID.randomUUID().toString(), req.getAccountId(), req.getAmount(), "PENDING");  
 store.put(loan.getId(), loan);  
 return loan;  
 }  
  
 @GetMapping("/{id}")  
 public Loan get(@PathVariable String id) {  
 return store.getOrDefault(id, null);  
 }  
}  
  
class ApplyLoanRequest {  
 private String accountId;  
 private BigDecimal amount;  
  
 public String getAccountId() { return accountId; }  
 public void setAccountId(String accountId) { this.accountId = accountId; }  
 public BigDecimal getAmount() { return amount; }  
 public void setAmount(BigDecimal amount) { this.amount = amount; }  
}  
  
class Loan {  
 private String id;  
 private String accountId;  
 private BigDecimal amount;  
 private String status;  
  
 public Loan(String id, String accountId, BigDecimal amount, String status) {  
 this.id = id;  
 this.accountId = accountId;  
 this.amount = amount;  
 this.status = status;  
 }  
  
 public String getId() { return id; }  
 public String getAccountId() { return accountId; }  
 public BigDecimal getAmount() { return amount; }  
 public String getStatus() { return status; }  
}

## api-

## GatewayApplication.java

package com.example.apigateway;  
  
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);  
 }  
}

## api-gateway

## application.yml

server:  
 port: 8080  
  
spring:  
 cloud:  
 gateway:  
 routes:  
 - id: account-service  
 uri: http://localhost:8081  
 predicates:  
 - Path=/accounts/\*\*  
 filters:  
 - StripPrefix=1  
 - id: loan-service  
 uri: http://localhost:8082  
 predicates:  
 - Path=/loans/\*\*  
 filters:  
 - StripPrefix=1