

WEEK 5 : HANDS ON EXERCISES

Microservices with API gateway (Creating Microservices for account and loan)

CODE : (FOR ACCOUNT)

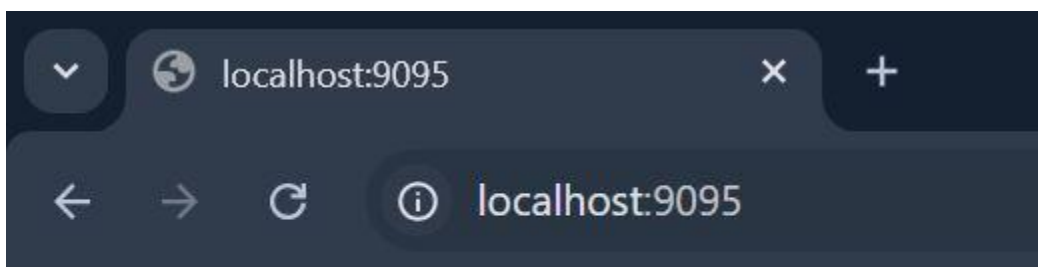
```
1 package com.cognizant.account;
2
3 import org.springframework.boot.SpringApplication;
4 import org.springframework.boot.autoconfigure.SpringBootApplication;
5
6 @SpringBootApplication
7 public class AccountApplication {
8     public static void main(String[] args) {
9         SpringApplication.run(AccountApplication.class, args);
10    }
11 }
```

```
1 package com.cognizant.account.controller;
2
3 import org.springframework.web.bind.annotation.*;
4
5 @RestController
6 public class AccountController {
7
8     @GetMapping("/accounts/{number}")
9     public Account getAccount(@PathVariable String number) {
10         return new Account(number, "savings", 234343);
11     }
12 }
13
14 // Create a simple POJO for Account
15 class Account {
16     private String number;
17     private String type;
18     private double balance;
19
20     public Account(String number, String type, double balance) {
21         this.number = number;
22         this.type = type;
23         this.balance = balance;
24     }
25
26     public String getNumber() {
27         return number;
28     }
29
30     public String getType() {
31         return type;
32     }
33
34     public double getBalance() {
35         return balance;
36     }
37 }
```

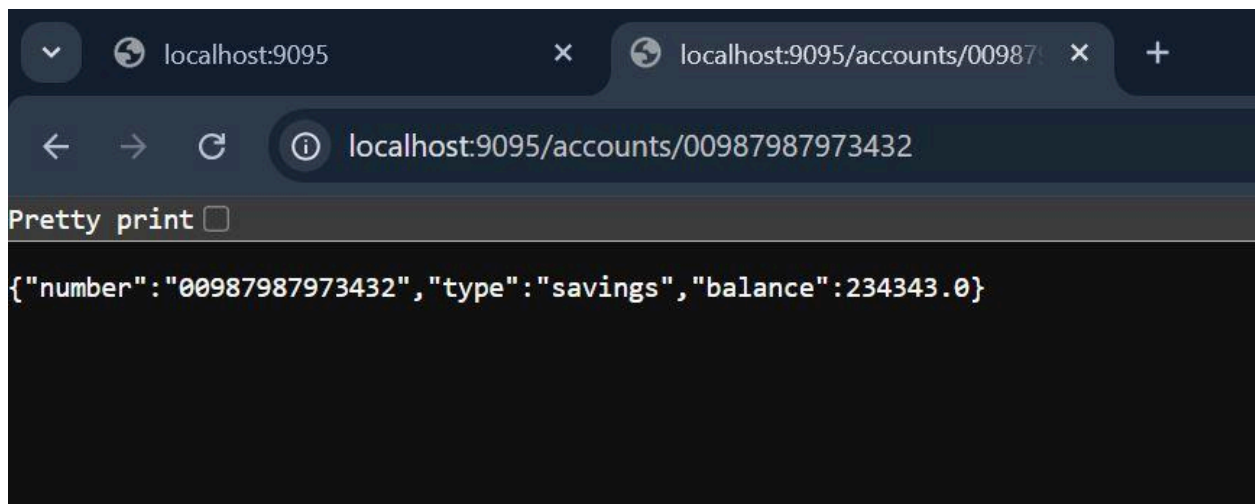
```
1 package com.cognizant.account.controller;
2
3 import org.springframework.web.bind.annotation.GetMapping;
4 import org.springframework.web.bind.annotation.RestController;
5
6 @RestController
7 public class HomeController {
8
9     @GetMapping("/")
10    public String home() {
11        return "Welcome to Account Microservice!";
12    }
13 }
```

```
1 server.port=9095
2
```

OUTPUT : (FOR ACCOUNT)



Welcome to Account Microservice!



CODE : (FOR LOAN)

```
1 package com.cognizant.loan;
2
3 import org.springframework.boot.SpringApplication;
4 import org.springframework.boot.autoconfigure.SpringBootApplication;
5
6 @SpringBootApplication
7 public class LoanApplication {
8     public static void main(String[] args) {
9         SpringApplication.run(LoanApplication.class, args);
10    }
11 }
12 |
```

```

1 package com.cognizant.loan.controller;
2
3 import org.springframework.web.bind.annotation.GetMapping;
4 import org.springframework.web.bind.annotation.PathVariable;
5 import org.springframework.web.bind.annotation.RestController;
6 import java.util.Map;
7
8 @RestController
9 public class LoanController {
10
11     @GetMapping("/loans/{number}")
12     public Map<String, Object> getLoanDetails(@PathVariable String number) {
13         return Map.of(
14             "number", number,
15             "type", "car",
16             "loan", 400000,
17             "emi", 3258,
18             "tenure", 18
19         );
20     }
21 }

```

```

1 server.port=8081
2 spring.application.name=loan
3 |

```

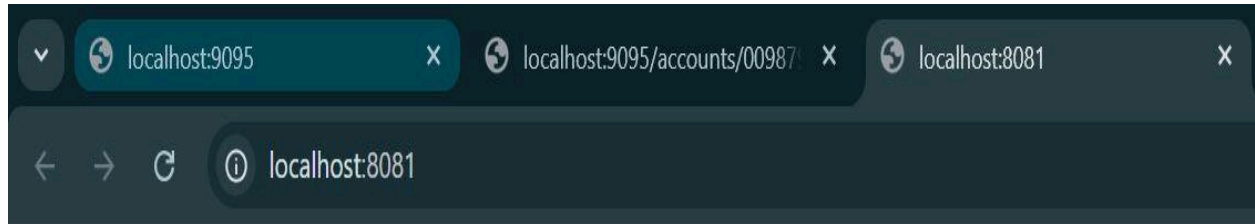


```

1 <project xmlns="http://maven.apache.org/POM/4.0.0"
2   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
4     http://maven.apache.org/xsd/maven-4.0.0.xsd">
5   <modelVersion>4.0.0</modelVersion>
6   <groupId>com.cognizant</groupId>
7   <artifactId>loan</artifactId>
8   <version>0.0.1-SNAPSHOT</version>
9   <name>loan</name>
10  <description>Loan Microservice</description>
11  <packaging>jar</packaging>
12  <parent>
13    <groupId>org.springframework.boot</groupId>
14    <artifactId>spring-boot-starter-parent</artifactId>
15    <version>3.1.1</version>
16    <relativePath/> <!-- lookup parent from repository -->
17  </parent>
18  <properties>
19    <java.version>17</java.version>
20  </properties>
21  <dependencies>
22    <!-- Spring Boot Starter Web -->
23    <dependency>
24      <groupId>org.springframework.boot</groupId>
25      <artifactId>spring-boot-starter-web</artifactId>
26    </dependency>
27    <!-- DevTools for Live Reloading -->
28    <dependency>
29      <groupId>org.springframework.boot</groupId>
30      <artifactId>spring-boot-devtools</artifactId>
31      <scope>runtime</scope>
32      <optional>true</optional>
33    </dependency>
34    <!-- Spring Boot Actuator (Optional) -->
35    <dependency>
36      <groupId>org.springframework.boot</groupId>
37      <artifactId>spring-boot-starter-actuator</artifactId>
38    </dependency>
39    <!-- Test Dependencies -->
40    <dependency>
41      <groupId>org.springframework.boot</groupId>
42      <artifactId>spring-boot-starter-test</artifactId>
43      <scope>test</scope>
44    </dependency>
45  </dependencies>
46  <build>
47    <plugins>
48      <!-- Spring Boot Maven Plugin -->
49      <plugin>
50        <groupId>org.springframework.boot</groupId>
51        <artifactId>spring-boot-maven-plugin</artifactId>
52        <version>3.1.1</version>
53      </plugin>
54    </plugins>
55  </build>
56 </project>
57

```

OUTPUT : (FOR LOAN)



Welcome to Loan Microservice!

