## 1) Creating Microservices for account and loan

**Tools/Technologies**

- Spring Boot 3
- Spring Cloud Netflix Eureka
- Spring Web
- Spring Boot DevTools

**1. Eureka Server (Service Registry) pom.xml**

```
<dependencies>
   <dependency>
      <groupId>org.springframework.cloud</groupId>
      <artifactId>spring-cloud-starter-netflix-eureka-server</artifactId>
   </dependency>
</dependencies>
```

**EurekaServerApplication.java**

```
@SpringBootApplication
@EnableEurekaServer public class
EurekaServerApplication {     public static
void main(String[] args) {
      SpringApplication.run(EurekaServerApplication.class, args);
   }
}
```

**application.yml**

```
server:
  port: 8761

eureka:   client:
   register-with-eureka: false
   fetch-registry: false
```

**2. Account Service pom.xml**

```
<dependencies>
   <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-web</artifactId>
   </dependency>
   <dependency>
      <groupId>org.springframework.cloud</groupId>
      <artifactId>spring-cloud-starter-netflix-eureka-client</artifactId>
   </dependency>
</dependencies>
```

**AccountServiceApplication.java**

```
@SpringBootApplication
@EnableEurekaClient public class
AccountServiceApplication {     public static
void main(String[] args) {
        SpringApplication.run(AccountServiceApplication.class, args);
    }
}
```

**AccountController.java**

```
@RestController
@RequestMapping("/account")
public class AccountController {

    @GetMapping("/details")     public String getAccountDetails() {         return
"Account details: [Account No: 123456, Balance: ₹50,000]";
    }
}
```
**application.yml**

```
server:   port:
8081

spring:   application:
name: account-service

eureka:   client:
    service-url:
      defaultZone: http://localhost:8761/eureka
```

**3. Loan Service**

**pom.xml**
Same as account service.

**LoanServiceApplication.java**

```
@SpringBootApplication
@EnableEurekaClient public class
LoanServiceApplication {     public static void
main(String[] args) {
        SpringApplication.run(LoanServiceApplication.class, args);
    }
}
```

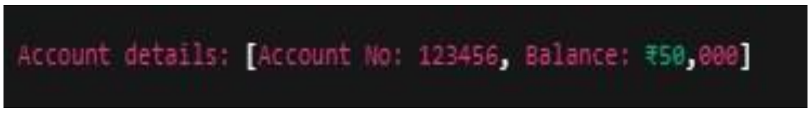
**LoanController.java**

```
@RestController
@RequestMapping("/loan")
public class LoanController {

   @GetMapping("/status")     public
String getLoanStatus() {
       return "Loan status: [Loan ID: L456789, Status: Approved]";
   }
}
```
**application.yml**

```
server:   port:
8082

spring:
  application:
    name: loan-service

eureka:   client:
    service-url:
      defaultZone: http://localhost:8761/eureka
```

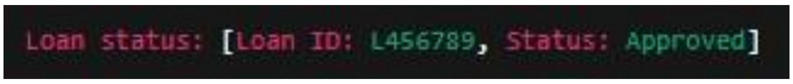
**Output**

http://localhost:8081/account/details



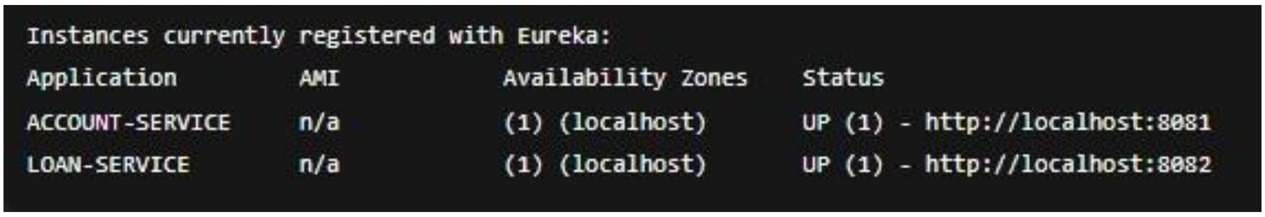
```
Account details: [Account No: 123456, Balance: ₹50,000]
```

http://localhost:8082/loan/status



```
Loan status: [Loan ID: L456789, Status: Approved]
```

http://localhost:8761/



```
Instances currently registered with Eureka:
Application        AMI         Availability Zones    Status
ACCOUNT-SERVICE    n/a         (1) (localhost)       UP (1) - http://localhost:8081
LOAN-SERVICE       n/a         (1) (localhost)       UP (1) - http://localhost:8082
```

## 2) Create Eureka Discovery Server and register microservices

### 1. Eureka Discovery Server

*Folder: eureka-server*

**pom.xml**

```
<dependencies>
   <dependency>
      <groupId>org.springframework.cloud</groupId>
      <artifactId>spring-cloud-starter-netflix-eureka-server</artifactId>
   </dependency>
   <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter</artifactId>
   </dependency>
</dependencies>
```

**application.yml**

```
server:
  port: 8761

eureka:   client:
   register-with-eureka: false
   fetch-registry: false EurekaServerApplication.java
@SpringBootApplication @EnableEurekaServer
public class EurekaServerApplication {
   public static void main(String[] args) {
      SpringApplication.run(EurekaServerApplication.class, args);
   }
}
```

**2. Account Service**

*Folder: account-service*

**pom.xml** <dependencies>

```
   <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-web</artifactId>
   </dependency>
   <dependency>
      <groupId>org.springframework.cloud</groupId>
      <artifactId>spring-cloud-starter-netflix-eureka-client</artifactId>
   </dependency>
</dependencies>
application.yml
server:   port: 8081
```

```
spring:   application:
name: account-service

eureka:   client:
service-url:
      defaultZone: http://localhost:8761/eureka AccountServiceApplication.java
@SpringBootApplication @EnableEurekaClient
public class AccountServiceApplication {     public
static void main(String[] args) {
        SpringApplication.run(AccountServiceApplication.class, args);
    }
}
```

**AccountController.java**

```
@RestController
@RequestMapping("/account")
public class AccountController {

    @GetMapping("/details")     public
String getAccountDetails() {         return
"Account details: [Account No: 123456,
Balance: ₹50,000]";
    }
}
```

**3. Loan Service**

*Folder: loan-service*

**pom.xml**

Same as account service.

**application.yml**

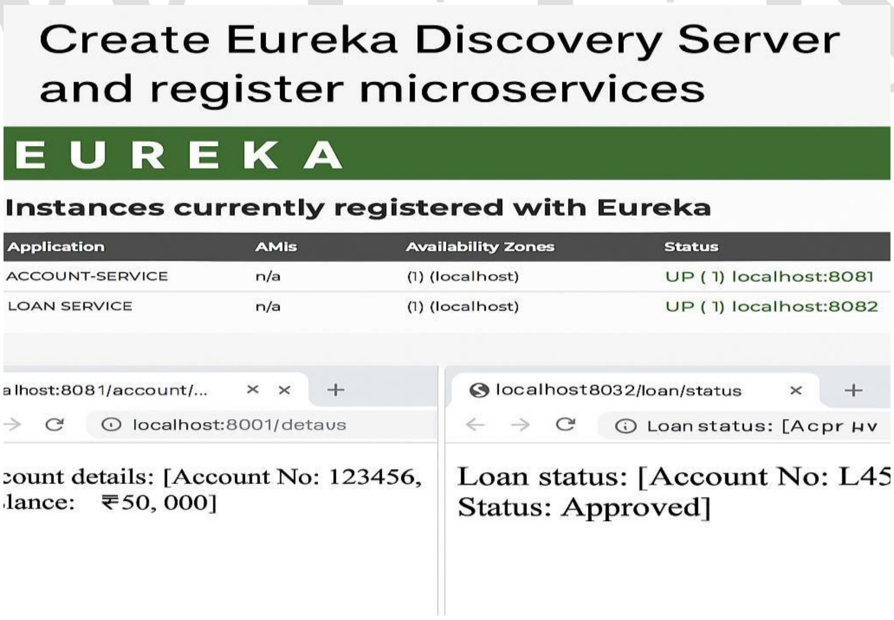
```
server:   port:
8082

spring:
  application:
    name: loan-service

eureka:   client:
service-url:
      defaultZone: http://localhost:8761/eureka LoanServiceApplication.java
```

```
@SpringBootApplication
@EnableEurekaClient public class
LoanServiceApplication {     public static void
main(String[] args) {
        SpringApplication.run(LoanServiceApplication.class, args);
    }
}
```

**LoanController.java**

```
@RestController
@RequestMapping("/loan")
public class LoanController {

    @GetMapping("/status")     public
String getLoanStatus() {
        return "Loan status: [Loan ID: L456789, Status: Approved]";
    }
}
```

**Output**



Create Eureka Discovery Server and register microservices

EUREKA

Instances currently registered with Eureka

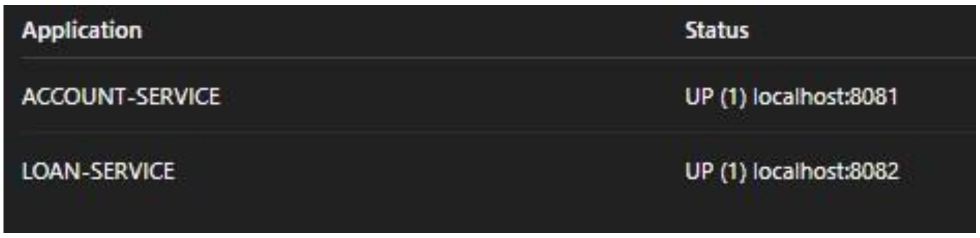
| Application | AMIs | Availability Zones | Status |
|---|---|---|---|
| ACCOUNT-SERVICE | n/a | (1) (localhost) | UP ( 1) localhost:8081 |
| LOAN SERVICE | n/a | (1) (localhost) | UP ( 1) localhost:8082 |

```
alhost:8081/account/...
localhost:8001/detaus

:ount details: [Account No: 123456,
.lance:    ₹50, 000]
```

```
localhost8032/loan/status
Loan status: [Acpr Hv

Loan status: [Account No: L45
Status: Approved]
```

**Eureka Server UI**

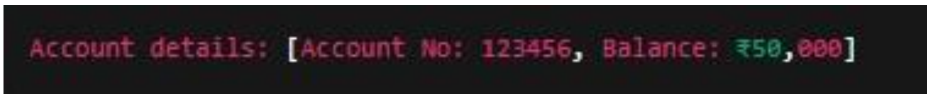
**URL:** http://localhost:8761



| Application | Status |
|---|---|
| ACCOUNT-SERVICE | UP (1) localhost:8081 |
| LOAN-SERVICE | UP (1) localhost:8082 |

**Account Service API**

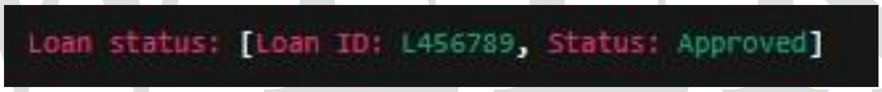
**URL:** http://localhost:8081/account/details



```
Account details: [Account No: 123456, Balance: ₹50,000]
```

**Loan Service API**

**URL:** http://localhost:8082/loan/status



```
Loan status: [Loan ID: L456789, Status: Approved]
```