**DN 4.0 JAVA FSE SOLUTIONS – WEEK 5**

**SKILL: Microservices with Spring Boot 3 and**

**Spring Cloud**

**HandsOn 1:**

Creating Microservices for account and loan

**Code:**

**Account Microservice:**

**src/main/java/com/cognizant/account/controller/AccountController.java -**

package com.cognizant.account.controller;

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

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

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

import java.util.LinkedHashMap;

import java.util.Map;

@RestController

public class AccountController {

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

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

Map<String, Object> account = new LinkedHashMap<>();

account.put("number", number);

account.put("type", "savings");

account.put("balance", 234343);

return account;

}

}

**src/main/java/com/cognizant/account/AccountApplication.java -**

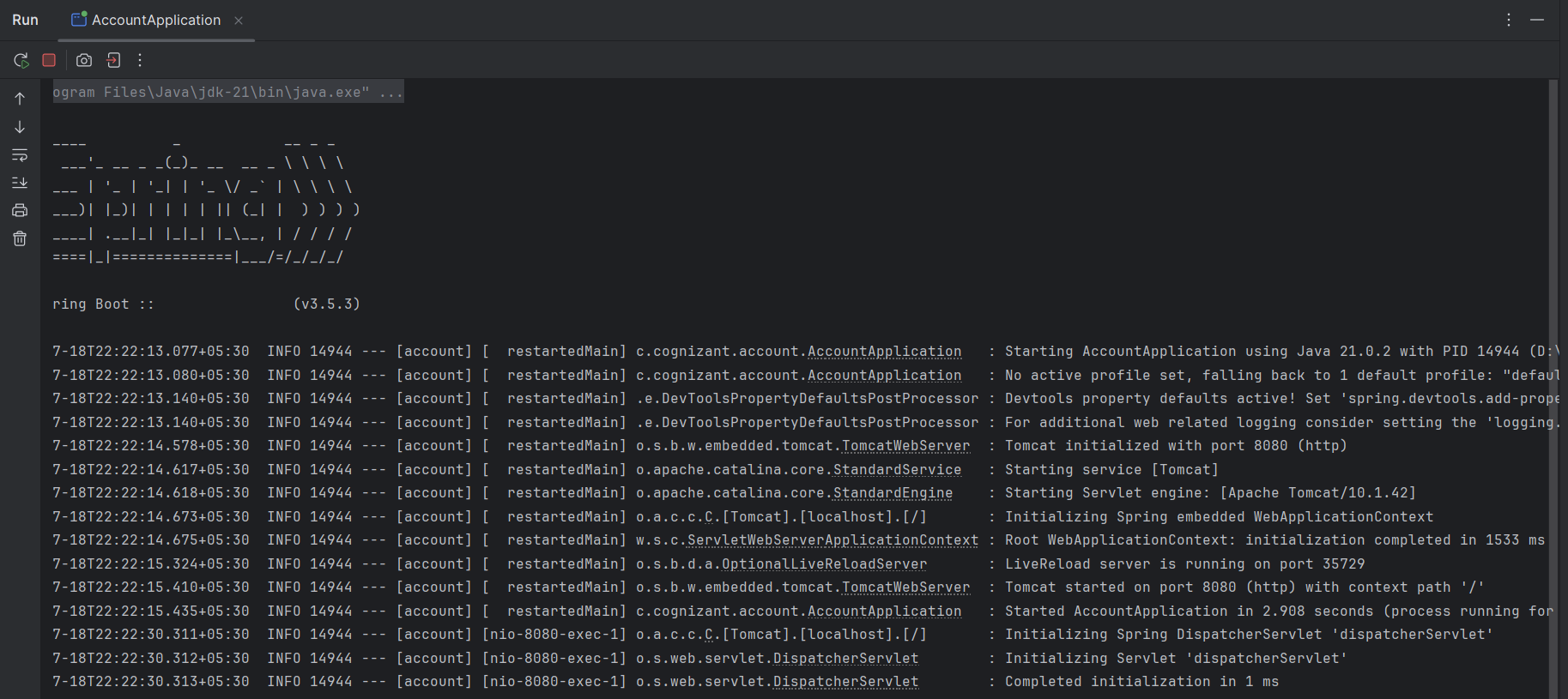
package com.cognizant.account;  
import org.springframework.boot.SpringApplication;  
import org.springframework.boot.autoconfigure.SpringBootApplication;  
  
@SpringBootApplication  
public class AccountApplication {  
 public static void main(String[] args) {  
 SpringApplication.*run*(AccountApplication.class, args);  
 }  
}

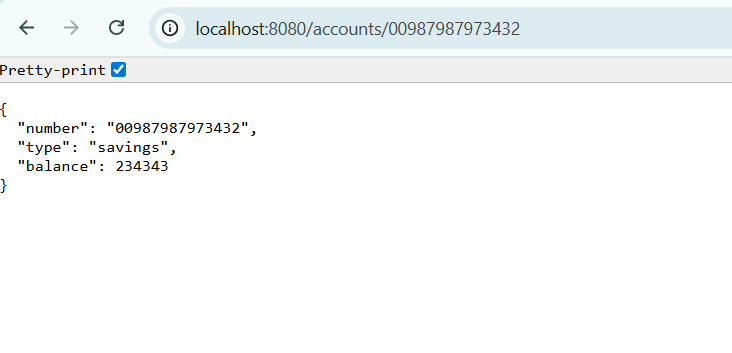
**pom.xml -**

<?xml version="1.0" encoding="UTF-8"?>  
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">  
 <modelVersion>4.0.0</modelVersion>  
 <parent>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-parent</artifactId>  
 <version>3.5.3</version>  
 <relativePath/> <!-- lookup parent from repository -->  
 </parent>  
 <groupId>com.cognizant</groupId>  
 <artifactId>account</artifactId>  
 <version>0.0.1-SNAPSHOT</version>  
 <name>account</name>  
 <description>Demo project for Microservice</description>  
 <url/>  
 <licenses>  
 <license/>  
 </licenses>  
 <developers>  
 <developer/>  
 </developers>  
 <scm>  
 <connection/>  
 <developerConnection/>  
 <tag/>  
 <url/>  
 </scm>  
 <properties>  
 <java.version>21</java.version>  
 </properties>

<dependencies>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-web</artifactId>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-devtools</artifactId>  
 <scope>runtime</scope>  
 <optional>true</optional>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-test</artifactId>  
 <scope>test</scope>  
 </dependency>  
 </dependencies>  
  
 <build>  
 <plugins>  
 <plugin>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-maven-plugin</artifactId>  
 </plugin>  
 </plugins>  
 </build>  
</project>

**Output:**

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**Loan Microservice:**

**src/main/java/com/cognizant/account/controller/LoanController.java -**

package com.cognizant.loan.controller;  
import org.springframework.web.bind.annotation.GetMapping;  
import org.springframework.web.bind.annotation.PathVariable;  
import org.springframework.web.bind.annotation.RestController;  
import java.util.LinkedHashMap;  
import java.util.Map;  
  
@RestController  
public class LoanController {  
  
 @GetMapping("/loans/{number}")  
 public Map<String, Object> getLoanDetails(@PathVariable String number) {  
 Map<String, Object> loan = new LinkedHashMap<>();  
 loan.put("number", number);  
 loan.put("type", "car");  
 loan.put("loan", 400000);  
 loan.put("emi", 3258);  
 loan.put("tenure", 18);  
 return loan;  
 }  
}

**src/main/resources/application.properties -**

spring.application.name=loan  
server.port=8081

**src/main/java/com/cognizant/account/LoanApplication.java -**

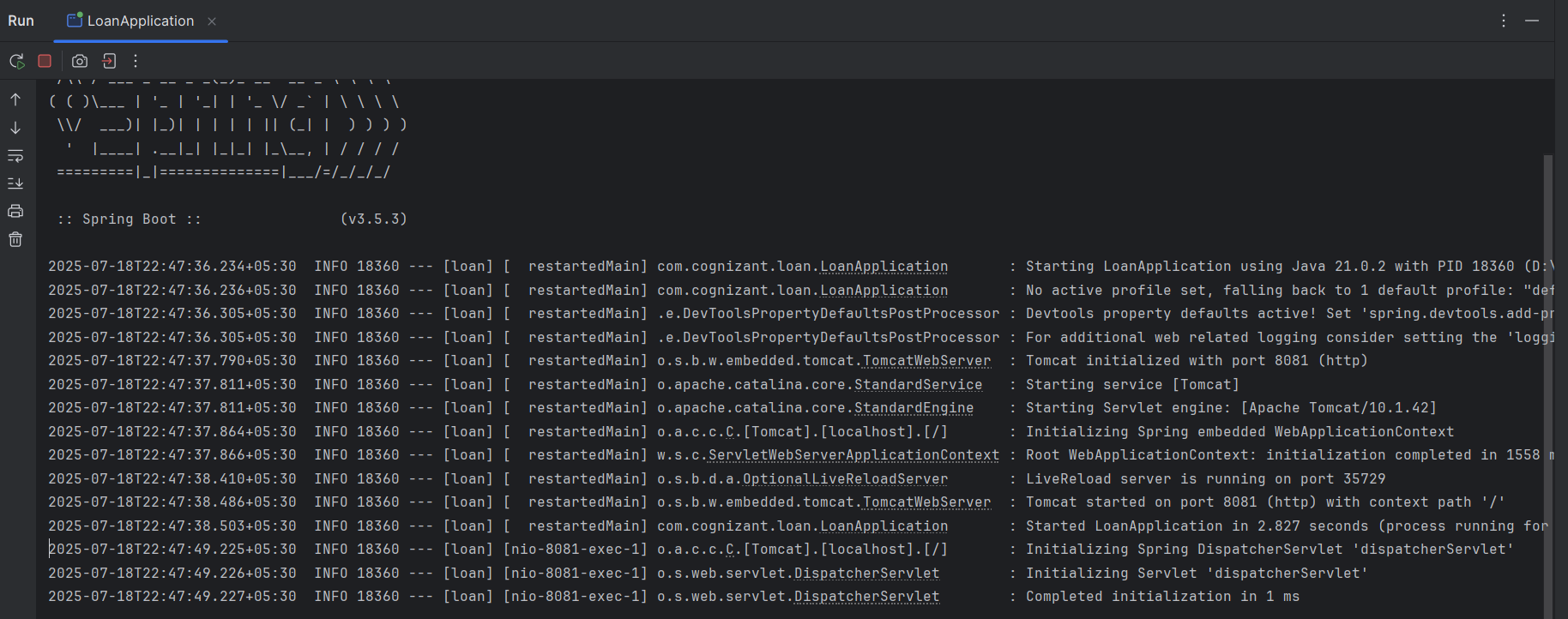
package com.cognizant.loan;  
import org.springframework.boot.SpringApplication;  
import org.springframework.boot.autoconfigure.SpringBootApplication;  
  
@SpringBootApplication  
public class AccountApplication {  
 public static void main(String[] args) {  
 SpringApplication.*run*(AccountApplication.class, args);  
 }  
}

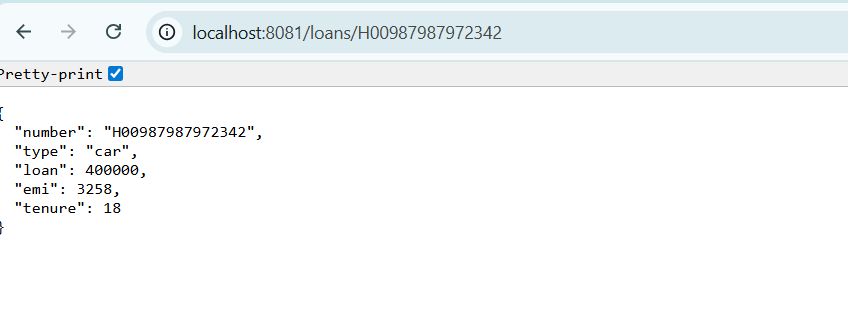
**pom.xml -**

<?xml version="1.0" encoding="UTF-8"?>  
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">  
 <modelVersion>4.0.0</modelVersion>  
 <parent>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-parent</artifactId>  
 <version>3.5.3</version>  
 <relativePath/> <!-- lookup parent from repository -->  
 </parent>  
 <groupId>com.cognizant</groupId>  
 <artifactId>loan</artifactId>  
 <version>0.0.1-SNAPSHOT</version>  
 <name>loan</name>  
 <description>Demo project for Microservice</description>  
 <url/>  
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 <developers>  
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<dependencies>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-web</artifactId>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-devtools</artifactId>  
 <scope>runtime</scope>  
 <optional>true</optional>  
 </dependency>  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-test</artifactId>  
 <scope>test</scope>  
 </dependency>  
 </dependencies>  
  
 <build>  
 <plugins>  
 <plugin>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-maven-plugin</artifactId>  
 </plugin>  
 </plugins>  
 </build>  
</project>

**Output:**

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