

WEEK 5

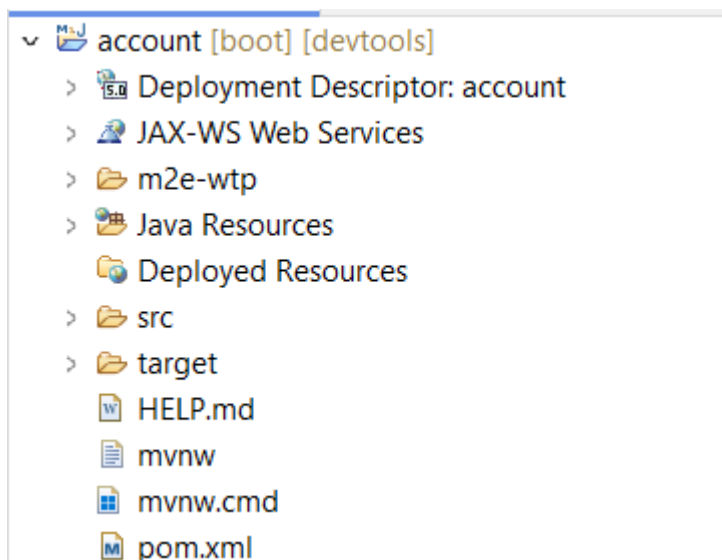
Microservices with Spring Boot 3 and Spring Cloud

Creating Microservices for account and loan:

Create directories:

- D:\<employee_id>\microservices\

Create account spring project in microservices folder:



Building the project:

```
[INFO] --- war:3.4.0:war (default-war) @ account ---
[INFO] Packaging webapp
[INFO] Assembling webapp [account] in [D:\employee_id\microservices\account\target\account-0.0.1-SNAPSHOT]
[INFO] Processing war project
[INFO] Copying webapp resources [D:\employee_id\microservices\account\src\main\webapp]
[INFO] Building war: D:\employee_id\microservices\account\target\account-0.0.1-SNAPSHOT.war
[INFO] --- spring-boot:3.5.3:repackage (repackage) @ account ---
[INFO] Replacing main artifact D:\employee_id\microservices\account\target\account-0.0.1-SNAPSHOT.war with repackaged archive, adding nested dependencies in BOOT-INF/.
[INFO] The original artifact has been renamed to D:\employee_id\microservices\account\target\account-0.0.1-SNAPSHOT.war.original
[INFO] BUILD SUCCESS
[INFO] Total time: 22.101 s
[INFO] Finished at: 2025-07-10T09:46:34+05:30
[INFO] -----
D:\employee_id\microservices\accounts>
```

**Create AccountController.java in
com.cognizant.account.controller package:**

```
package com.cognizant.account.controller;
```

```
import java.util.Map;
```

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

```
import java.util.HashMap;
```

```
@RestController
```

```
@RequestMapping("/accounts")
```

```
public class AccountController {
```

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

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

```
        Map<String, Object> response = new HashMap<>();
```

```
        response.put("number", number);
```

```
        response.put("type", "savings");
```

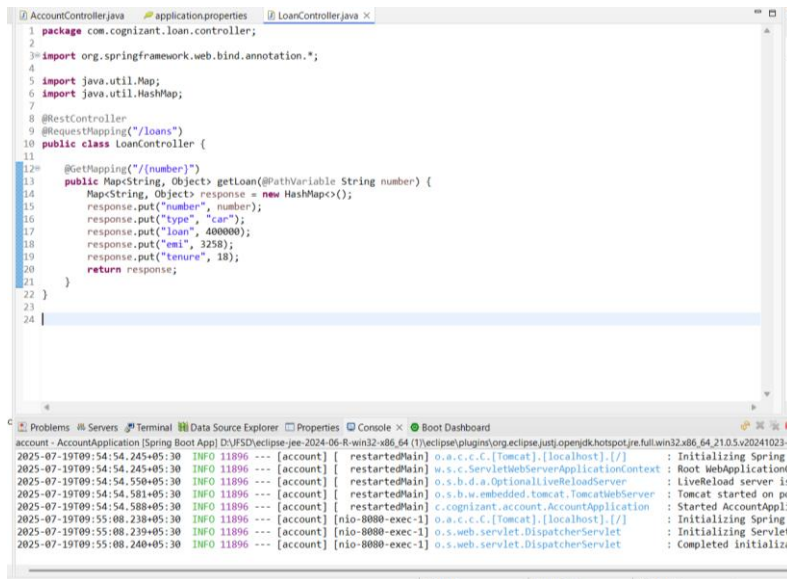
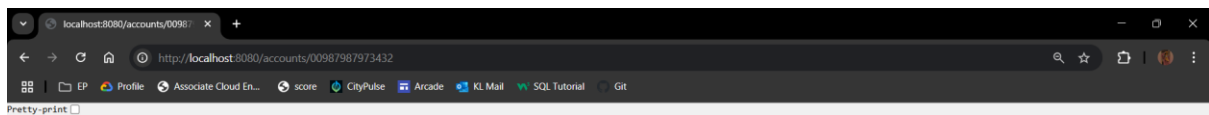
```
        response.put("balance", 234343);
```

```
        return response;
```

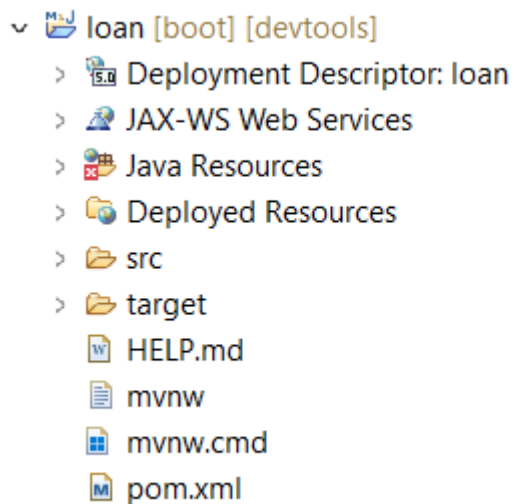
```
    }
```

```
}
```

Output:



Create loan spring project in microservices folder:



Change port to 8081 in application.properties using:

`server.port=8081`

Create LoanController.java in com.cognizant.loan.controller package:

package com.cognizant.loan.controller;

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

import java.util.Map;

import java.util.HashMap;

@RestController

@RequestMapping("/loans")

public class LoanController {

 @GetMapping("/{number}")

```

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

    Map<String, Object> response = new HashMap<>();

    response.put("number", number);

    response.put("type", "car");

    response.put("loan", 400000);

    response.put("emi", 3258);

    response.put("tenure", 18);

    return response;

}
}

```

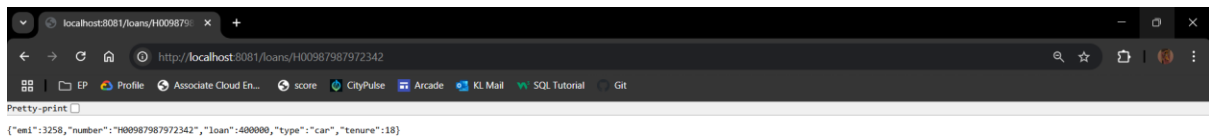
Output:

The screenshot shows the Eclipse IDE with the `LoanController.java` file open. The code defines a `LoanController` class with a `getLoan` method that returns a `Map` of loan details. The console output shows the application starting successfully on port 8081.


```

n/controller/LoanController.java - Eclipse IDE
object Run Window Help
1 package com.cognizant.loan.controller;
2
3 import org.springframework.web.bind.annotation.*;
4
5 import java.util.Map;
6 import java.util.HashMap;
7
8 @RestController
9 @RequestMapping("/loans")
10 public class LoanController {
11
12     @GetMapping("/{number}")
13     public Map<String, Object> getLoan(@PathVariable String number) {
14         Map<String, Object> response = new HashMap<>();
15         response.put("number", number);
16         response.put("type", "car");
17         response.put("loan", 400000);
18         response.put("emi", 3258);
19         response.put("tenure", 18);
20         return response;
21     }
22 }
23
24
25 Problems Servers Terminal Data Source Explorer Properties Console Boot Dashboard
26 loan - LoanApplication [Spring Boot App] D:\JFSD\Eclipse-jee-2024-06-R-win32-x86_64 (1)\eclipse\plugins\org.eclipse.just\openjdkhotspotjre.full.win32.x86_64_21.0.5.v20241023-1957\jre\bin\java.exe (19-Jul-2025, 9:56:37 am) [p
27 2025-07-19T09:56:38.769+05:30 INFO 26540 --- [loan] [ restartedMain] com.cognizant.loan.LoanApplication : No active profile set, falling back to 1 default profi
28 2025-07-19T09:56:38.810+05:30 INFO 26540 --- [loan] [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : DevTools property defaults active! Set 'spring.devtool
29 2025-07-19T09:56:38.810+05:30 INFO 26540 --- [loan] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8081 (http)
30 2025-07-19T09:56:39.549+05:30 INFO 26540 --- [loan] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8081 (http) with context path '
31 2025-07-19T09:56:39.563+05:30 INFO 26540 --- [loan] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
32 2025-07-19T09:56:39.564+05:30 INFO 26540 --- [loan] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.42]
33 2025-07-19T09:56:39.598+05:30 INFO 26540 --- [loan] [ restartedMain] o.s.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
34 2025-07-19T09:56:39.599+05:30 INFO 26540 --- [loan] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: Initialization completed
35 2025-07-19T09:56:39.867+05:30 WARN 26540 --- [loan] [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : Unable to start LiveReload server
36 2025-07-19T09:56:39.896+05:30 INFO 26540 --- [loan] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8081 (http) with context path '
37 2025-07-19T09:56:39.902+05:30 INFO 26540 --- [loan] [ restartedMain] com.cognizant.loan.LoanApplication : Started LoanApplication in 1.492 seconds (process runn

```



Now we have two microservices running on different ports:

✓  local

- ↑ account [devtools] [:8080]
- ↑ loan [devtools] [:8081]