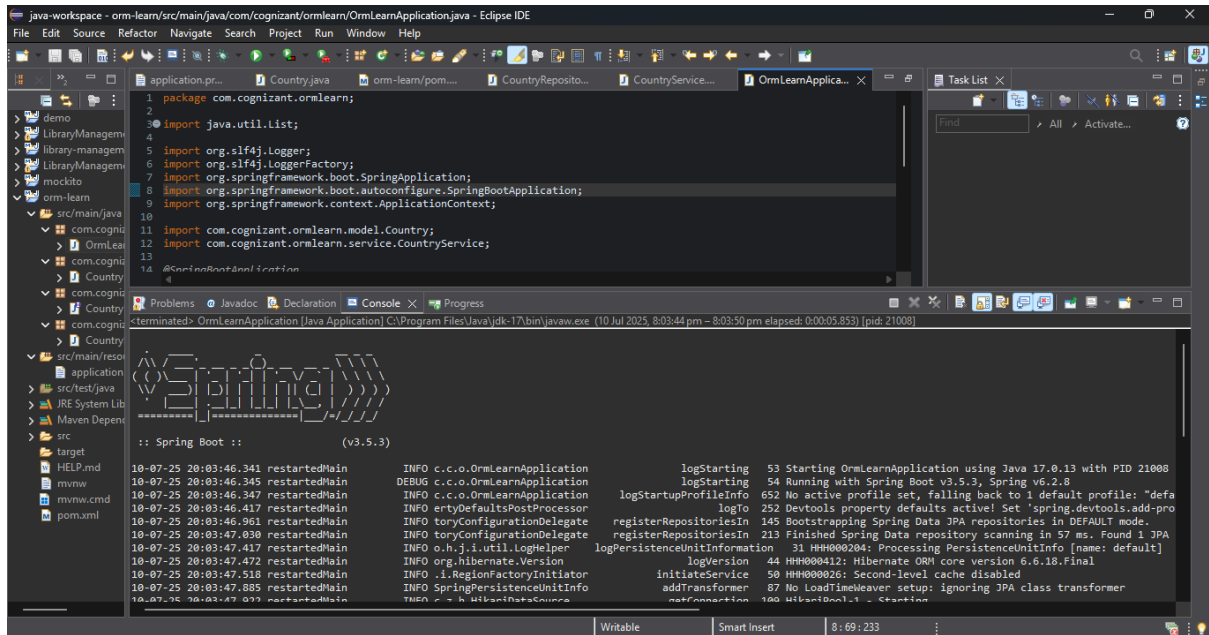


## 1. spring-data-jpa-handson

### Hands on 1

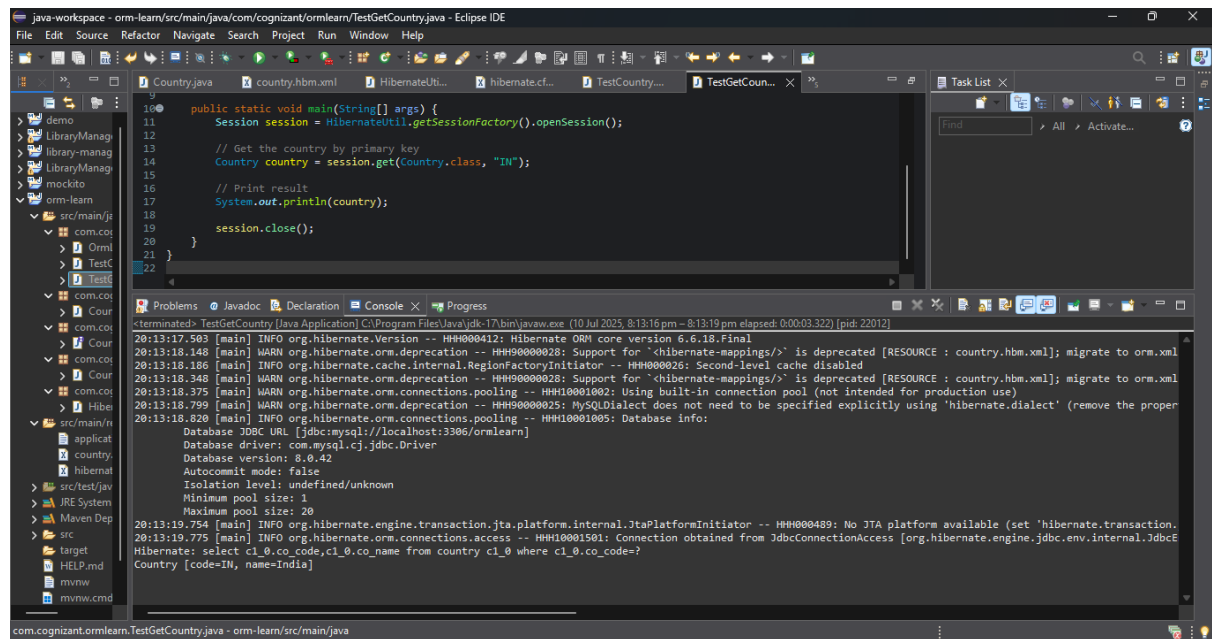
### Spring Data JPA - Quick Example



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1 package com.cognizant.ormlearn;
2
3 import java.util.List;
4
5 import org.slf4j.Logger;
6 import org.slf4j.LoggerFactory;
7 import org.springframework.boot.SpringApplication;
8 import org.springframework.boot.autoconfigure.SpringBootApplication;
9 import org.springframework.context.ApplicationContext;
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11 import com.cognizant.ormlearn.model.Country;
12 import com.cognizant.ormlearn.service.CountryService;
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14 @SpringBootApplication
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```

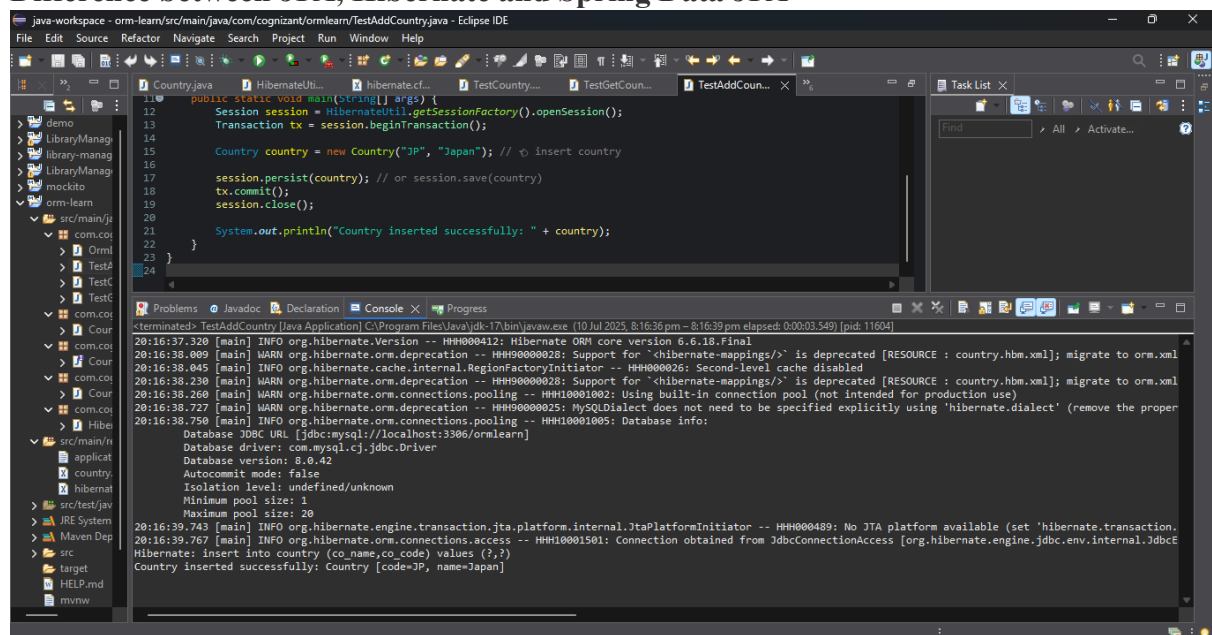
## Hands on 3

### Hibernate Annotation Config implementation walk through



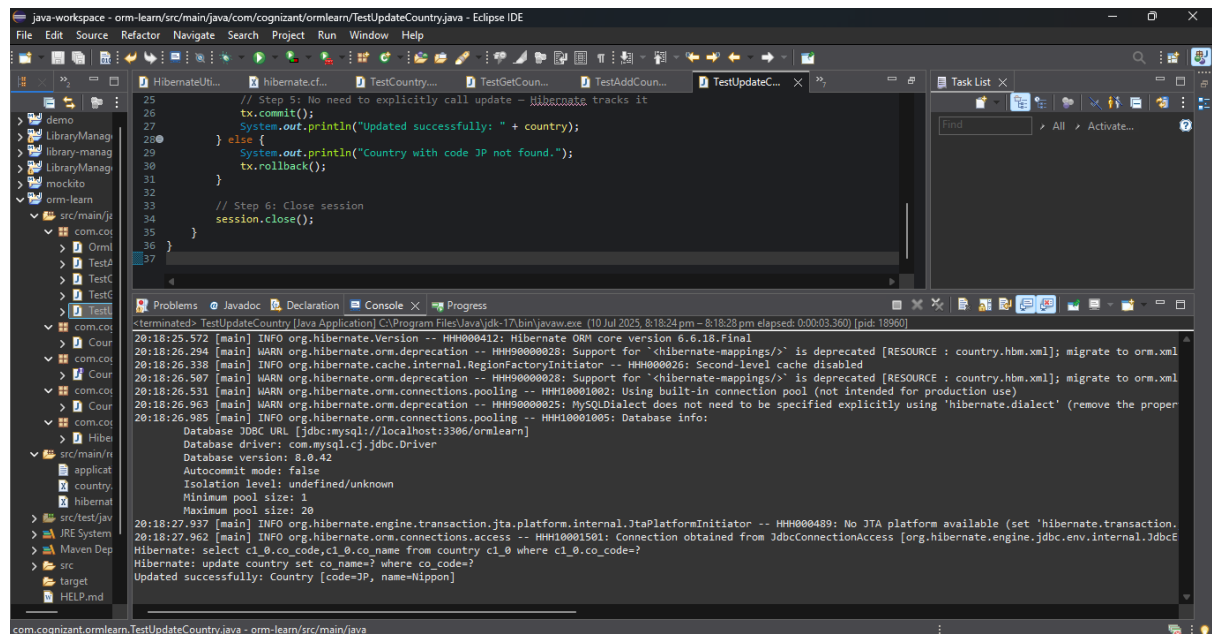
## Hands on 4

### Difference between JPA, Hibernate and Spring Data JPA



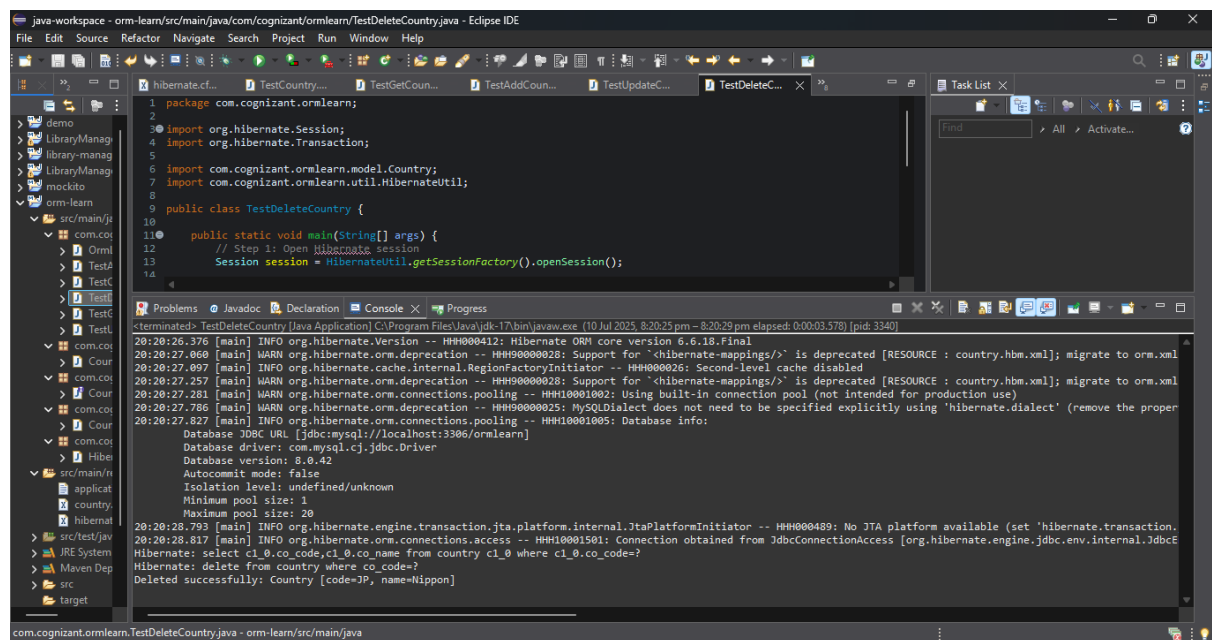
## Hands on 5

### Implement services for managing Country



## Hands on 6

### Find a country based on country code



## Hands on 7

### Add a new country

The screenshot shows the Eclipse IDE with the file `TestSearchCountryByPattern.java` open. The code is as follows:

```
21 List<Country> countryList = query.getResultList();
22
23 // Step 4: Display results
24 System.out.println("Countries sorted by name:");
25 for (Country country : countryList) {
26     System.out.println(country);
27 }
28
29 // Step 5: Close session
30 session.close();
31 }
32 }
33 }
```

The console output shows the following messages:

```
20:24:54.688 [main] INFO org.hibernate.Version -- HHH0000412: Hibernate ORM core version 6.6.18.Final
20:24:55.385 [main] WARN org.hibernate.orm.deprecation -- HHH0000028: Support for '<hibernate-mappings/>' is deprecated [RESOURCE : country.hbm.xml]; migrate to orm.xml
20:24:55.423 [main] INFO org.hibernate.cache.internal.RegionFactoryInitiator -- HHH000026: Second-level cache disabled
20:24:55.614 [main] WARN org.hibernate.orm.deprecation -- HHH0000028: Support for '<hibernate-mappings/>' is deprecated [RESOURCE : country.hbm.xml]; migrate to orm.xml
20:24:55.650 [main] WARN org.hibernate.orm.connections.pooling -- HHH10001002: Using built-in connection pool (not intended for production use)
20:24:56.110 [main] WARN org.hibernate.orm.deprecation -- HHH0000025: MySQLDialect does not need to be specified explicitly using 'hibernate.dialect' (remove the proper
20:24:56.128 [main] INFO org.hibernate.orm.connections.pooling -- HHH10001005: Database info:
Database JDBC URL [jdbc:mysql://localhost:3306/ormlearn]
Database driver: com.mysql.cj.jdbc.Driver
Database version: 8.0.42
Autocommit mode: false
Isolation level: undefined/unknown
Minimum pool size: 1
Maximum pool size: 20
20:24:57.076 [main] INFO org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator -- HHH000489: No JTA platform available (set 'hibernate.transaction.
20:24:57.100 [main] INFO org.hibernate.orm.connections.access -- HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcE
Hibernate: select c1_0.co_code,c1_0.co_name from country c1_0 where c1_0.co_name like ? escape ''
Countries with name containing 'an':
```

## Hands on 8

### Update a country based on code

The screenshot shows the Eclipse IDE with the file `TestListCountriesSortedByName.java` open. The code is as follows:

```
21 List<Country> countryList = query.getResultList();
22
23 // Step 4: Display results
24 System.out.println("Countries sorted by name:");
25 for (Country country : countryList) {
26     System.out.println(country);
27 }
28
29 // Step 5: Close session
30 session.close();
31 }
32 }
33 }
```

The console output shows the following messages:

```
20:25:32.180 [main] WARN org.hibernate.orm.deprecation -- HHH0000028: Support for '<hibernate-mappings/>' is deprecated [RESOURCE : country.hbm.xml]; migrate to orm.xml
20:25:32.221 [main] INFO org.hibernate.cache.internal.RegionFactoryInitiator -- HHH000026: Second-level cache disabled
20:25:32.399 [main] WARN org.hibernate.orm.deprecation -- HHH0000028: Support for '<hibernate-mappings/>' is deprecated [RESOURCE : country.hbm.xml]; migrate to orm.xml
20:25:32.427 [main] WARN org.hibernate.orm.connections.pooling -- HHH10001002: Using built-in connection pool (not intended for production use)
20:25:32.857 [main] WARN org.hibernate.orm.deprecation -- HHH0000025: MySQLDialect does not need to be specified explicitly using 'hibernate.dialect' (remove the proper
20:25:32.883 [main] INFO org.hibernate.orm.connections.pooling -- HHH10001005: Database info:
Database JDBC URL [jdbc:mysql://localhost:3306/ormlearn]
Database driver: com.mysql.cj.jdbc.Driver
Database version: 8.0.42
Autocommit mode: false
Isolation level: undefined/unknown
Minimum pool size: 1
Maximum pool size: 20
20:25:33.819 [main] INFO org.hibernate.engine.transaction.jta.platform.internal.JtaPlatformInitiator -- HHH000489: No JTA platform available (set 'hibernate.transaction.
20:25:33.840 [main] INFO org.hibernate.orm.connections.access -- HHH10001501: Connection obtained from JdbcConnectionAccess [org.hibernate.engine.jdbc.env.internal.JdbcE
Hibernate: select c1_0.co_code,c1_0.co_name from country c1_0 order by c1_0.co_name
Countries sorted by name:
Country [code=IN, name=India]
Country [code=US, name=United States of America]
```

## Hands on 9

### Delete a country based on code

The screenshot displays two applications: Eclipse IDE and MySQL Workbench.

**Eclipse IDE:** The main editor shows the `CountryController.java` file. The code includes imports for `java.util.List`, `java.util.Optional`, `org.springframework.beans.factory.annotation.Autowired`, `org.springframework.http.ResponseEntity`, and `org.springframework.web.bind.annotation.*`. The controller class `CountryController` is annotated with `@RestController` and `@RequestMapping("/countries")`. The `deleteCountry` method is defined as follows:

```
1 package com.cognizant.ormlearn.controller;
2
3 import java.util.List;
4 import java.util.Optional;
5
6 import org.springframework.beans.factory.annotation.Autowired;
7 import org.springframework.http.ResponseEntity;
8 import org.springframework.web.bind.annotation.*;
9
10 import com.cognizant.ormlearn.model.Country;
11 import com.cognizant.ormlearn.service.CountryService;
12
13 @RestController
14 @RequestMapping("/countries")
15 public class CountryController {
16
17     private CountryService countryService;
18
19     @DeleteMapping("/{countryCode}")
20     public ResponseEntity<String> deleteCountry(@PathVariable String countryCode) {
21         Optional<Country> countryOptional = countryService.getCountry(countryCode);
22         if (countryOptional.isPresent()) {
23             Country country = countryOptional.get();
24             countryService.deleteCountry(country);
25             return ResponseEntity.ok("Country deleted successfully");
26         } else {
27             return ResponseEntity.notFound().build();
28         }
29     }
30 }
```

The console output shows the application running with Spring Boot v3.5.3. The logs indicate that the application is starting successfully and that the `deleteCountry` method is being called for the country with code `US`.

**MySQL Workbench:** The SQL editor shows the following SQL script:

```
1
2
3
4 co_code VARCHAR(2) PRIMARY KEY,
5 co_name VARCHAR(50)
6 );
7
8 INSERT INTO country VALUES ('IN', 'India');
9 INSERT INTO country VALUES ('US', 'United States of America');
10
11 SELECT * FROM country;
```

The **Result Grid** shows the following data:

co_code	co_name
IN	India
US	United States of America

The **Action Output** shows the following results:

#	Time	Action	Message	Duration / Fetch
7	19:44:15	INSERT INTO country VALUES ('US', 'United States of America')	1 row(s) affected	0.015 sec
8	20:47:38	SELECT * FROM country LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec