Spring Data JPA with Spring Boot, Hibernate

Spring Data JPA - Quick Example

logging.level.org.springframework=info

logging.level.com.cognizant=debug

# Hibernate logs

logging.level.org.hibernate.SQL=trace

logging.level.org.hibernate.type.descriptor.sql=trace

# Log pattern

logging.pattern.console=%d{dd-MM-yy} %d{HH:mm:ss.SSS} %-20.20thread %5p %-25.25logger**{25}** %25M %4L %m%n

# Database configuration

spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver

spring.datasource.url=jdbc:mysql://localhost:3306/ormlearn

spring.datasource.username=root

spring.datasource.password=Bhuvi@1708

# Hibernate configuration

spring.jpa.hibernate.ddl-auto=validate

spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL8Dialect

**Persistence Class - com.cognizant.orm-learn.model.Country**

package com.cognizant.ormlearn.model;

import jakarta.persistence.Column;

import jakarta.persistence.Entity;

import jakarta.persistence.Id;

import jakarta.persistence.Table;

*@Entity*

*@Table*(name="country")

public class Country {

*@Id*

*@Column*(name="co\_code")

private String code;

*@Column*(name="co\_name")

private String name;

// getters and setters

public String getCode() {

return code;

}

public void setCode(String code) {

this.code = code;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

*@Override*

public String toString() {

return "Country [code=" + code + ", name=" + name + "]";

}

}

**Repository Class - com.cognizant.orm-learn.CountryRepository**

package com.cognizant.ormlearn.repository;

import org.springframework.data.jpa.repository.JpaRepository;

import org.springframework.stereotype.Repository;

import com.cognizant.ormlearn.model.Country;

*@Repository*

public interface CountryRepository extends JpaRepository<Country, String> { }

**Service Class - com.cognizant.orm-learn.service.CountryService**

package com.cognizant.ormlearn.service;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Service;

import org.springframework.transaction.annotation.Transactional;

import com.cognizant.ormlearn.model.Country;

import com.cognizant.ormlearn.repository.CountryRepository;

*@Service*

public class CountryService {

*@Autowired*

private CountryRepository countryRepository;

*@Transactional*

public List<Country> getAllCountries() {

return countryRepository.findAll();

}

}

**Testing in OrmLearnApplication.java**

package com.cognizant.orm\_learn;

import org.junit.jupiter.api.Test;

import org.springframework.boot.test.context.SpringBootTest;

*@SpringBootTest*

class OrmLearnApplicationTests {

*@Test*

void contextLoads() {

}

}

<dependencies>

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-data-jpa</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>

<dependency>

<groupId>mysql</groupId>

<artifactId>mysql-connector-java</artifactId>

<version>8.0.28</version>

<scope>runtime</scope>

</dependency>

</dependencies>

**OrmLearnApplication.java**

package com.cognizant.ormlearn;

import java.util.List;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.context.ApplicationContext;

import com.cognizant.ormlearn.model.Country;

import com.cognizant.ormlearn.service.CountryService;

*@SpringBootApplication*

public class OrmLearnApplication {

private static final Logger ***LOGGER*** = LoggerFactory.*getLogger*

(OrmLearnApplication.class);

private static CountryService *countryService*;

public static void main(String[] args) {

ApplicationContext context = SpringApplication.*run*

(OrmLearnApplication.class, args);

***LOGGER***.info("Inside main");

*countryService* = context.getBean(CountryService.class);

*testGetAllCountries*();

}

private static void testGetAllCountries() {

***LOGGER***.info("Start");

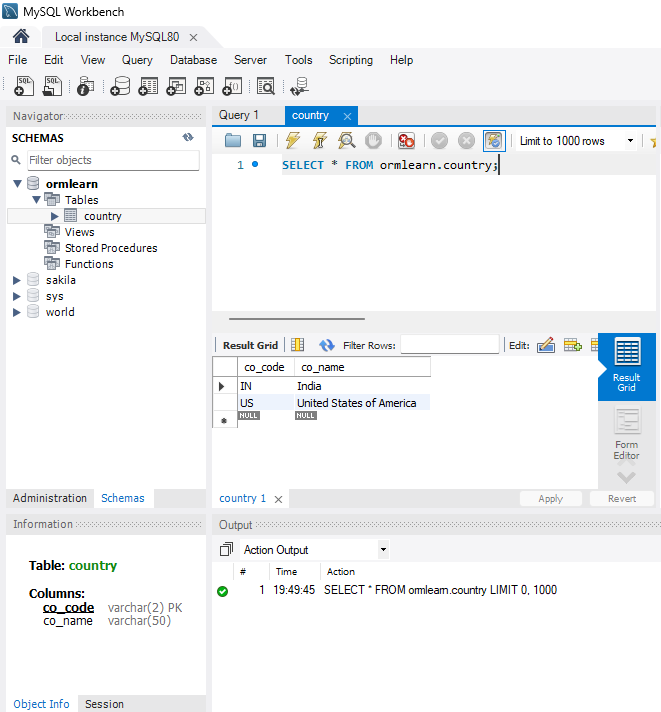
List<Country> countries = *countryService*.getAllCountries();

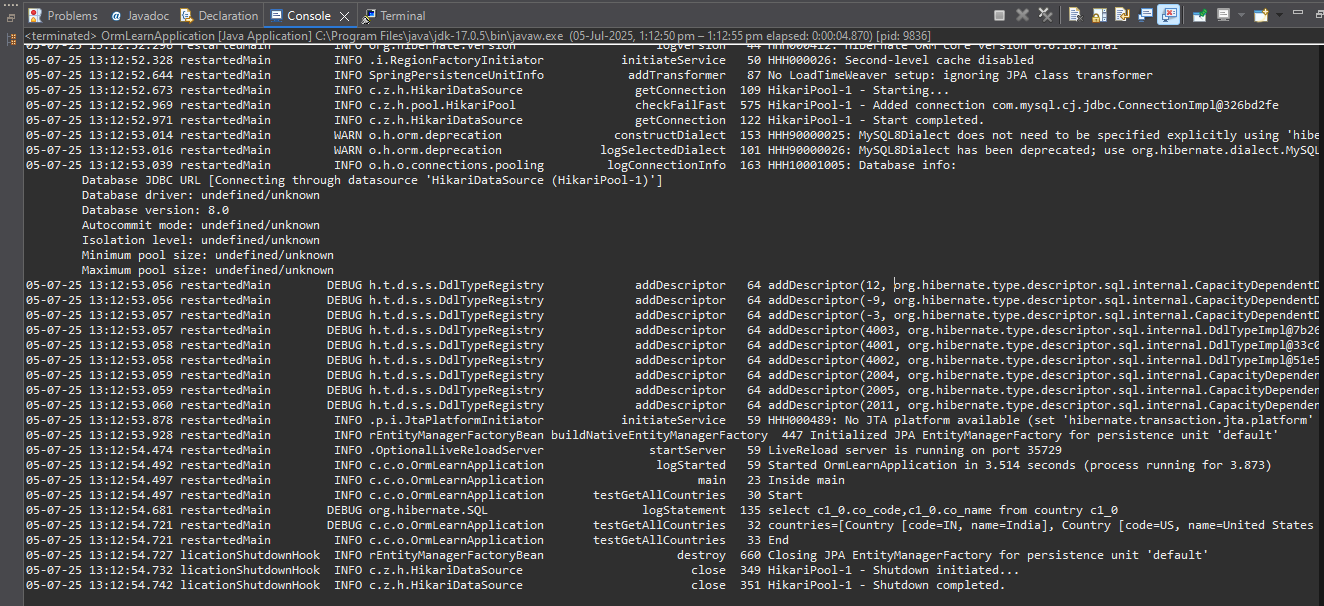
***LOGGER***.debug("countries={}", countries);

***LOGGER***.info("End");

}

}



Data from orm-learn database is retrieved.

Difference between JPA, Hibernate and Spring Data JPA

**JPA:**

* A **set of rules and guidelines** for how to save Java objects into a database.
* It’s **just an interface (specification)**, no actual code to do the work.

**Hibernate:**

* A **framework that implements JPA** rules.
* It **does the real work** of saving data into the database, following JPA standards.

### ****Spring Data JPA:****

* A **spring project** that makes JPA and Hibernate **even easier to use**.