Spring-Learn

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>spring-learn</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>Country-Management(Spring-data-JPA)</name>

<description>Demo project for Spring Boot</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-data-jpa</artifactId>

</dependency>

<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>com.mysql</groupId>

<artifactId>mysql-connector-j</artifactId>

<version>8.0.33</version>

<scope>runtime</scope>

</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>

<version>3.5.3</version>

</plugin>

<plugin>

<groupId>org.codehaus.mojo</groupId>

<artifactId>exec-maven-plugin</artifactId>

<version>3.5.1</version>

<configuration>

<mainClass>com.cognizant.spring\_learn.Application</mainClass>

</configuration>

</plugin>

</plugins>

</build>

</project>

/src/test/java/com/example

ApplicationTest.java

package com.cognizant.spring\_learn;

import org.junit.jupiter.api.Test;

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

@SpringBootTest

class ApplicationTests {

@Test

void contextLoads() {

}

}

/main/resources

Application.properties

spring.application.name=Country-Management(Spring-data-JPA)

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

spring.datasource.username=root

spring.datasource.password=password

spring.datasource.initialization-mode=always

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

logging.level.com.cognizant.spring\_learn=DEBUG

spring.jpa.show-sql=true

/main/java/com/example

Application.java

package com.cognizant.spring\_learn;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

import org.springframework.context.ApplicationContext;

import org.springframework.context.ConfigurableApplicationContext;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import com.cognizant.spring\_learn.model.Country;

import com.cognizant.spring\_learn.service.CountryService;

import com.cognizant.spring\_learn.service.exception.CountryNotFoundException;

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

import java.util.List;

@SpringBootApplication

public class Application {

private static final Logger LOGGER = LoggerFactory.getLogger(Application.class);

@Autowired

private static CountryService countryService;

private static void getAllCountriesTest() throws CountryNotFoundException {

LOGGER.info("Start");

Country country = countryService.findCountryByCode("IN");

LOGGER.debug("Country: {}", country);

LOGGER.info("End");

}

private static void testAddCountry() throws CountryNotFoundException {

Country newCountry = new Country();

newCountry.setCode("XX");

newCountry.setName("Xanadu");

countryService.addCountry(newCountry);

Country country = countryService.findCountryByCode("XX");

LOGGER.debug("Added Country: {}", country);

}

private static void testUpdateCountry() throws CountryNotFoundException {

countryService.updateCountry("XX", "Xenovia");

Country updated = countryService.findCountryByCode("XX");

LOGGER.debug("Updated Country: {}", updated);

}

private static void testDeleteCountry() {

countryService.deleteCountry("XX");

// Try fetching or check DB manually

}

public static void main(String[] args) {

ConfigurableApplicationContext context = SpringApplication.run(Application.class, args);

countryService = context.getBean(CountryService.class);

try {

getAllCountriesTest();

testAddCountry();

testUpdateCountry();

testDeleteCountry();

} catch (Exception e) {

e.printStackTrace();

}

System.exit(0); // 👉 This line tells the app to exit

}

}

/example/model

Country.java

package com.cognizant.spring\_learn.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;

public void setCode(String code) {

this.code = code;

}

public void setName(String name) {

this.name = name;

}

// Getters, Setters, toString

}

/main/repository

CountryRepository.java

package com.cognizant.spring\_learn.repository;

import com.cognizant.spring\_learn.model.Country;

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

import org.springframework.stereotype.Repository;

import java.util.List;

@Repository

public interface CountryRepository extends JpaRepository<Country, String> {

List<Country> findByNameContaining(String name);

}

/main/service

CountryService.java

package com.cognizant.spring\_learn.service;

import com.cognizant.spring\_learn.model.Country;

import com.cognizant.spring\_learn.repository.CountryRepository;

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

import org.springframework.stereotype.Service;

import org.springframework.transaction.annotation.Transactional;

import com.cognizant.spring\_learn.service.exception.CountryNotFoundException;

import java.util.List;

@Service

public class CountryService {

@Autowired

private CountryRepository countryRepository;

@Transactional

public Country findCountryByCode(String code) throws CountryNotFoundException {

return countryRepository.findById(code)

.orElseThrow(() -> new CountryNotFoundException("Country not found"));

}

@Transactional

public void addCountry(Country country) {

countryRepository.save(country);

}

@Transactional

public void updateCountry(String code, String name) throws CountryNotFoundException {

Country country = findCountryByCode(code);

country.setName(name);

countryRepository.save(country);

}

@Transactional

public void deleteCountry(String code) {

countryRepository.deleteById(code);

}

public List<Country> findCountriesByPartialName(String partialName) {

return countryRepository.findByNameContaining(partialName);

}

}

/exception/CountryNotFoundException.java

package com.cognizant.spring\_learn.service.exception;

public class CountryNotFoundException extends Exception {

public CountryNotFoundException(String message) {

super(message);

}

}

Output:  
