**HANDS ON 5:**

**Implement services for managing Country** 

**Application.properties:**

spring.application.name=orm\_learn

# H2 DB Configuration

spring.datasource.url=jdbc:h2:mem:orm\_learn

spring.datasource.driver-class-name=org.h2.Driver

spring.datasource.username=sa

spring.datasource.password=

# Show SQL logs

spring.jpa.show-sql=true

spring.jpa.properties.hibernate.format\_sql=true

# Automatically create tables from entities

spring.jpa.hibernate.ddl-auto=create

# Enable data.sql execution

spring.sql.init.mode=always

# H2 Console

spring.h2.console.enabled=true

spring.h2.console.path=/h2-console

**data.sql and schema.sql:**

CREATE TABLE country (

code **VARCHAR**(5) **PRIMARY KEY**,

co\_name **VARCHAR**(255)

);

insert into country (code, co\_name) values ('SS', 'South Sudan');

insert into country (code, co\_name) values ('IN', 'India');

insert into country (code, co\_name) values ('US', 'United States');

**Country.java:**

**package** com.cognizant.orm\_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 = "code")

**private** String code;

@Column(name = "co\_name")

**private** String coName;

**public** Country() {

}

**public** Country(String code, String coName) {

**this**.code = code;

**this**.coName = coName;

}

**public** String getCode() {

**return** code;

}

**public** **void** setCode(String code) {

**this**.code = code;

}

**public** String getCoName() {

**return** coName;

}

**public** **void** setCoName(String coName) {

**this**.coName = coName;

}

@Override

**public** String toString() {

**return** code + " - " + coName;

}

}

**CountryRepository.java:**

**package** com.cognizant.orm\_learn.repository;

**import** com.cognizant.orm\_learn.model.Country;

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

**import** java.util.List;

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

List<Country> findByCoNameContainingIgnoreCase(String name);

}

**CountryService.java:**

**package** com.cognizant.orm\_learn.service;

**import** com.cognizant.orm\_learn.model.Country;

**import** com.cognizant.orm\_learn.repository.CountryRepository;

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

**import** org.springframework.stereotype.Service;

**import** java.util.List;

**import** java.util.Optional;

@Service

**public** **class** CountryService {

@Autowired

**private** CountryRepository countryRepository;

**public** Country findByCode(String code) {

**return** countryRepository.findById(code).orElse(**null**);

}

**public** **void** addCountry(Country country) {

countryRepository.save(country);

System.***out***.println("Added: " + country);

}

**public** **void** updateCountry(String code, String newName) {

Optional<Country> optional = countryRepository.findById(code);

**if** (optional.isPresent()) {

Country country = optional.get();

country.setCoName(newName);

countryRepository.save(country);

System.***out***.println("Updated: " + country);

} **else** {

System.***out***.println("Country not found with code: " + code);

}

}

**public** **void** deleteCountry(String code) {

countryRepository.deleteById(code);

System.***out***.println("Deleted country with code: " + code);

}

**public** List<Country> searchByName(String partialName) {

**return** countryRepository.findByCoNameContainingIgnoreCase(partialName);

}

}

**OrmLearnApplication.java:**

**package** com.cognizant.orm\_learn;

**import** com.cognizant.orm\_learn.model.Country;

**import** com.cognizant.orm\_learn.service.CountryService;

**import** org.springframework.boot.SpringApplication;

**import** org.springframework.boot.autoconfigure.SpringBootApplication;

**import** org.springframework.context.ApplicationContext;

@SpringBootApplication

**public** **class** OrmLearnApplication {

**public** **static** **void** main(String[] args) {

ApplicationContext context = SpringApplication.*run*(OrmLearnApplication.**class**, args);

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

System.***out***.println("\n--- Add Country ---");

service.addCountry(**new** Country("JP", "Japan"));

System.***out***.println("\n--- Find Country by Code ---");

System.***out***.println(service.findByCode("IN"));

System.***out***.println("\n--- Update Country ---");

service.updateCountry("JP", "Japan (Updated)");

System.***out***.println("\n--- Delete Country ---");

service.deleteCountry("US");

System.***out***.println("\n--- Search Countries (name contains 'Uni') ---");

service.searchByName("Uni").forEach(System.***out***::println);

}

}

**OUTPUT:**







