package com.cognizant.orm\_learn;  
import com.cognizant.orm\_learn.repository.CountryRepository;  
import org.springframework.boot.CommandLineRunner;  
import org.springframework.context.annotation.Bean;  
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.orm\_learn.model.Country;  
import com.cognizant.orm\_learn.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);  
 *countryService* = context.getBean(CountryService.class);  
 *LOGGER*.info("Inside main");  
 *testGetAllCountries*();  
 }  
 private static void testGetAllCountries() {  
 *LOGGER*.info("Start");  
 List<Country> countries = *countryService*.getAllCountries();  
 *LOGGER*.debug("countries={}", countries);  
 *LOGGER*.info("End");  
 }  
@Bean  
public CommandLineRunner loadData(CountryRepository countryRepository) {  
 return args -> {  
 countryRepository.save(new Country("IN", "India"));  
 countryRepository.save(new Country("US", "United States"));  
 countryRepository.save(new Country("CN", "China"));  
 };  
}  
}

package com.cognizant.orm\_learn.service;  
import java.util.List;  
import org.springframework.transaction.annotation.Transactional;  
import org.springframework.beans.factory.annotation.Autowired;  
import org.springframework.stereotype.Service;  
import com.cognizant.orm\_learn.model.Country;  
import com.cognizant.orm\_learn.repository.CountryRepository;  
@Service  
public class CountryService {  
 @Autowired  
 private CountryRepository countryRepository;  
 @Transactional  
 public List<Country> getAllCountries() {  
 return countryRepository.findAll();  
 }  
}

package com.cognizant.orm\_learn.repository;  
import org.hibernate.Session;  
import org.springframework.data.jpa.repository.JpaRepository;  
import org.springframework.stereotype.Repository;  
import com.cognizant.orm\_learn.model.Country;  
@Repository  
public interface CountryRepository extends JpaRepository<Country, String> {  
 public default void insertSampleCountries() {  
 Session countryRepository = null;  
 countryRepository.save(new Country("IN", "India"));  
 countryRepository.save(new Country("US", "United States"));  
 }  
}

<?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">  
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 <parent>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-parent</artifactId>  
 <version>3.5.4-SNAPSHOT</version>  
 <relativePath/> <!-- lookup parent from repository -->  
 </parent>  
 <groupId>com.cognizant</groupId>  
 <artifactId>orm-learn</artifactId>  
 <version>0.0.1-SNAPSHOT</version>  
 <name>orm-learn</name>  
 <description>Demo project for Spring Data JPA and Hibernate</description>  
 <url/>  
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 <dependency>  
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 <artifactId>jakarta.persistence-api</artifactId>  
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 <dependency>  
 <groupId>com.mysql</groupId>  
 <artifactId>mysql-connector-j</artifactId>  
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 </dependency>  
 <dependency>  
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 </plugin>  
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 </build>  
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 <releases>  
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 </releases>  
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 <url>https://repo.spring.io/snapshot</url>  
 <releases>  
 <enabled>false</enabled>  
 </releases>  
 </pluginRepository>  
 </pluginRepositories>  
</project>

# Logging  
logging.level.org.springframework=info  
logging.level.com.cognizant=debug  
logging.level.org.hibernate.SQL=trace  
logging.level.org.hibernate.type.descriptor.sql=trace  
logging.pattern.console=%d{dd-MM-yy} %d{HH:mm:ss.SSS} %-20.20thread %5p %-25.25logger{25} %25M %4L %m%n  
# Database  
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=Shaktiman16#  
# Hibernate  
spring.jpa.hibernate.ddl-auto=create  
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQLDialect  
spring.jpa.show-sql=true  
spring.jpa.properties.hibernate.format\_sql=true

package com.cognizant.orm\_learn;  
import jakarta.persistence.Entity;  
import jakarta.persistence.Id;  
import jakarta.persistence.GeneratedValue;  
import jakarta.persistence.GenerationType;  
@Entity  
public class Employee {  
 @Id  
 @GeneratedValue(strategy = GenerationType.*IDENTITY*)  
 private Integer id;  
 private String name;  
 private String department;  
 public void setName(String john) {  
 }  
 public void setDepartment(String hr) {  
 }  
}

package com.cognizant.orm\_learn;  
import org.hibernate.SessionFactory;  
import org.hibernate.cfg.Configuration;   
public class HibernateUtil {  
 private static SessionFactory *factory*;  
 static {  
 try {  
 Configuration configuration = new Configuration();  
 configuration.configure(); configuration.addAnnotatedClass(Employee.class);  
 *factory* = configuration.buildSessionFactory();  
 } catch (Throwable ex) {  
 throw new ExceptionInInitializerError(ex);  
 }  
 }  
 public static SessionFactory getFactory() {  
 return *factory*;  
 }  
}

package com.cognizant.orm\_learn;  
import jakarta.transaction.SystemException;  
import org.hibernate.Session;  
import org.hibernate.Transaction;  
public class HibernateExample {  
 public static Integer addEmployee(Employee employee) throws SystemException {  
 Session session = HibernateUtil.*getFactory*().openSession();  
 Transaction tx = null;  
 Integer id = null;  
 try {  
 tx = session.beginTransaction();  
 session.save(employee); // No 'jakarta' here!  
 tx.commit();  
 } catch (Exception e) {  
 if (tx != null) tx.rollback();  
 e.printStackTrace();  
 } finally {  
 session.close();  
 }  
 return id;  
 }  
}

package com.cognizant.orm\_learn;  
import org.springframework.data.jpa.repository.JpaRepository;  
public interface EmployeeRepository extends JpaRepository<Employee, Integer> {  
}

package com.cognizant.orm\_learn;  
import org.springframework.beans.factory.annotation.Autowired;  
import org.springframework.boot.SpringApplication;  
import org.springframework.boot.autoconfigure.SpringBootApplication;  
import org.springframework.boot.CommandLineRunner;  
@SpringBootApplication  
public class Application implements CommandLineRunner {  
 @Autowired  
 private EmployeeService employeeService;  
 public static void main(String[] args) {  
 SpringApplication.*run*(Application.class, args);  
 }  
 @Override  
 public void run(String... args) {  
 Employee emp = new Employee();  
 emp.setName("John");  
 emp.setDepartment("HR");  
 employeeService.addEmployee(emp);  
 }  
}

package com.cognizant.orm\_learn.model;  
  
import jakarta.persistence.Entity;  
import jakarta.persistence.Id;  
@Entity  
public class Country {  
 @Id  
 private String code;  
 private String name;  
 public Country() {}

public Country(String code, String name) {  
 this.code = code;  
 this.name = name;  
 }  
 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;  
 }  
}

OUTPUT:











