**Exercise 4 - Hands on 4 - Difference between JPA, Hibernate and Spring Data JPA**

**CODE:**

**Using Hibernate: -**

**HibernateEmployeeService Class: -**

package com.cognizant.handson4.service;  
import com.cognizant.handson4.model.Employee;  
import com.cognizant.handson4.util.HibernateUtil;  
import org.hibernate.\*;  
  
public class HibernateEmployeeService {  
  
 public Integer addEmployee(Employee employee) {  
 Session session = HibernateUtil.*getSessionFactory*().openSession();  
 Transaction tx = null;  
 Integer employeeID = null;  
  
 try {  
 tx = session.beginTransaction();  
 employeeID = (Integer) session.save(employee); // Save  
 tx.commit();  
 } catch (HibernateException e) {  
 if (tx != null) tx.rollback();  
 e.printStackTrace();  
 } finally {  
 session.close();  
 }  
  
 return employeeID;  
 }  
}

**Main Class: -**

package com.cognizant.handson3;  
  
import com.cognizant.handson3.model.Employee;  
import com.cognizant.handson3.service.HibernateEmployeeService;  
import com.cognizant.handson3.util.HibernateUtil;  
import org.hibernate.Session;  
import org.hibernate.Transaction;  
import org.springframework.boot.autoconfigure.SpringBootApplication;  
  
@SpringBootApplication  
public class Handson3Application {  
  
 public static void main(String[] args) {  
 HibernateEmployeeService service = new HibernateEmployeeService();  
  
 Employee emp = new Employee();  
 emp.setName("Sushma");  
 emp.setSalary(75000);  
  
 Integer id = service.addEmployee(emp);  
 System.*out*.println("Inserted Employee ID: " + id);  
 }  
  
}

**Using Spring Data JPA: -**

**Employee Class: -**

package com.cognizant.handson4;  
import jakarta.persistence.\*;  
  
@Entity  
@Table(name = "employee")  
public class Employee {  
  
 @Id  
 @GeneratedValue(strategy = GenerationType.*IDENTITY*)  
 @Column(name = "id")  
 private int id;  
  
 @Column(name = "name")  
 private String name;  
  
 @Column(name = "salary")  
 private double salary;  
  
 public int getId() {  
 return id;  
 }  
  
 public void setId(int id) {  
 this.id = id;  
 }  
  
 public String getName() {  
 return name;  
 }  
  
 public void setName(String name) {  
 this.name = name;  
 }  
  
 public double getSalary() {  
 return salary;  
 }  
  
 public void setSalary(double salary) {  
 this.salary = salary;  
 }  
  
 @Override  
 public String toString() {  
 return "Employee [id=" + id + ", name=" + name + ", salary=" + salary + "]";  
 }  
}

**EmployeeService Class: -**

package com.cognizant.handson4;  
  
import jakarta.transaction.Transactional;  
import org.springframework.beans.factory.annotation.Autowired;  
import org.springframework.stereotype.Service;  
  
@Service  
public class EmployeeService {  
  
 @Autowired  
 private EmployeeRepository employeeRepository;  
  
 @Transactional  
 public void addEmployee(Employee employee) {  
 employeeRepository.save(employee);  
 }  
}

**EmployeeRepository Interface: -**

package com.cognizant.handson4;  
  
import org.springframework.data.jpa.repository.JpaRepository;  
  
public interface EmployeeRepository extends JpaRepository<Employee,Integer> {  
}

**application.properties file: -**

spring.application.name=handson4  
spring.datasource.url=jdbc:mysql://localhost:3306/ormlearn  
spring.datasource.username=root  
spring.datasource.password=Sreddy@11  
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver  
  
spring.jpa.hibernate.ddl-auto=update  
spring.jpa.show-sql=true  
spring.jpa.database-platform=org.hibernate.dialect.MySQL8Dialect

**Main Class: -**

package com.cognizant.handson4;  
  
import org.springframework.boot.SpringApplication;  
import org.springframework.boot.autoconfigure.SpringBootApplication;  
import org.springframework.context.ConfigurableApplicationContext;  
  
@SpringBootApplication  
public class Handson4Application {  
  
 public static void main(String[] args) {  
 ConfigurableApplicationContext context = SpringApplication.*run*(Handson4Application.class, args);  
 EmployeeService employeeService = context.getBean(EmployeeService.class);  
  
 Employee emp = new Employee();  
 emp.setName("Sushma");  
 emp.setSalary(70000);  
 employeeService.addEmployee(emp);  
 }  
  
}

**OUTPUT:**



