Employee.java:

package com.cognizant.ormlearn.model;

import jakarta.persistence.\*;

import java.util.Date;

import java.util.Set;

@Entity

@Table(name = "employee")

public class Employee {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

@Column(name = "em\_id")

private int id;

@Column(name = "em\_name")

private String name;

@Column(name = "em\_salary")

private double salary;

@Column(name = "em\_permanent")

private boolean permanent;

@Column(name = "em\_date\_of\_birth")

private Date dateOfBirth;

@ManyToOne

@JoinColumn(name = "em\_dp\_id")

private Department department;

@ManyToMany(fetch = FetchType.EAGER)

@JoinTable(name = "employee\_skill",

joinColumns = @JoinColumn(name = "es\_em\_id"),

inverseJoinColumns = @JoinColumn(name = "es\_sk\_id"))

private Set<Skill> skillList;

// Getters and Setters

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; }

public boolean isPermanent() { return permanent; }

public void setPermanent(boolean permanent) { this.permanent = permanent; }

public Date getDateOfBirth() { return dateOfBirth; }

public void setDateOfBirth(Date dateOfBirth) { this.dateOfBirth = dateOfBirth; }

public Department getDepartment() { return department; }

public void setDepartment(Department department) { this.department = department; }

public Set<Skill> getSkillList() { return skillList; }

public void setSkillList(Set<Skill> skillList) { this.skillList = skillList; }

@Override

public String toString() {

return "Employee [id=" + id + ", name=" + name + ", salary=" + salary +

", permanent=" + permanent + ", dateOfBirth=" + dateOfBirth + "]";

}

}

**Skill.java:**  
package com.cognizant.ormlearn.model;

import jakarta.persistence.\*;

import java.util.Set;

@Entity

@Table(name = "skill")

public class Skill {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

@Column(name = "sk\_id")

private int id;

@Column(name = "sk\_name")

private String name;

@ManyToMany(mappedBy = "skillList")

private Set<Employee> employeeList;

// Getters and Setters

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 Set<Employee> getEmployeeList() { return employeeList; }

public void setEmployeeList(Set<Employee> employeeList) { this.employeeList = employeeList; }

@Override

public String toString() {

return "Skill [id=" + id + ", name=" + name + "]";

}

}

**SkillRepository.java:**

package com.cognizant.ormlearn.repository;

import com.cognizant.ormlearn.model.Skill;

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

public interface SkillRepository extends JpaRepository<Skill, Integer> {

}

**SkillService.java:**

package com.cognizant.ormlearn.service;

import com.cognizant.ormlearn.model.Skill;

import com.cognizant.ormlearn.repository.SkillRepository;

import jakarta.transaction.Transactional;

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

import org.springframework.stereotype.Service;

@Service

public class SkillService {

@Autowired

private SkillRepository skillRepository;

@Transactional

public Skill get(int id) {

return skillRepository.findById(id).get();

}

@Transactional

public void save(Skill skill) {

skillRepository.save(skill);

}

}

OrmLearnApplication.java:

package com.cognizant.ormlearn;

import com.cognizant.ormlearn.model.Employee;

import com.cognizant.ormlearn.model.Skill;

import com.cognizant.ormlearn.service.DepartmentService;

import com.cognizant.ormlearn.service.EmployeeService;

import com.cognizant.ormlearn.service.SkillService;

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 java.util.Set;

@SpringBootApplication

public class OrmLearnApplication {

private static EmployeeService employeeService;

private static DepartmentService departmentService;

private static SkillService skillService;

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

public static void main(String[] args) {

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

employeeService = context.getBean(EmployeeService.class);

departmentService = context.getBean(DepartmentService.class);

skillService = context.getBean(SkillService.class);

// Comment others when testing individual cases

// testGetEmployee();

testAddSkillToEmployee();

}

private static void testGetEmployee() {

LOGGER.info("Start");

Employee employee = employeeService.get(1);

LOGGER.debug("Employee: {}", employee);

LOGGER.debug("Department: {}", employee.getDepartment());

LOGGER.debug("Skills: {}", employee.getSkillList());

LOGGER.info("End");

}

private static void testAddSkillToEmployee() {

LOGGER.info("Start");

Employee employee = employeeService.get(1); // Pick employee ID

Skill skill = skillService.get(2); // Pick skill ID that is not already mapped

Set<Skill> skills = employee.getSkillList();

skills.add(skill); // Add skill to employee

employee.setSkillList(skills);

employeeService.save(employee); // Save updated employee

LOGGER.debug("Updated Employee with Skills: {}", employee.getSkillList());

LOGGER.info("End");

}

}