COGNIZANT

Digital Nurture 4.0

Deep Skilling - Java FSE

WEEK-4 HANDS ON

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3.SPRING-REST -HANDSON

**Problem Statement - Display Employee List and Edit Employee form using RESTful Web Service**

**Create static employee list data using spring xml configuration**

**Create REST service to gets all employees**

**Create REST service for department**

**DepartmentController.java**

**package** com.cognizant.spring\_learn.controller;

**import** java.util.List;

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

**import** org.springframework.web.bind.annotation.\*;

**import** com.cognizant.spring\_learn.model.Department;

**import** com.cognizant.spring\_learn.service.DepartmentService;

@RestController

@RequestMapping("/api")

**public** **class** DepartmentController {

@Autowired

**private** DepartmentService departmentService;

@GetMapping("/departments")

**public** List<Department> getAllDepartments() {

**return** departmentService.getAllDepartments();

}

}

**EmployeeController.java**

**package** com.cognizant.spring\_learn.controller;

**import** java.util.List;

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

**import** org.springframework.web.bind.annotation.GetMapping;

**import** org.springframework.web.bind.annotation.RequestMapping;

**import** org.springframework.web.bind.annotation.RestController;

**import** com.cognizant.spring\_learn.model.Employee;

**import** com.cognizant.spring\_learn.service.EmployeeService;

@RestController

@RequestMapping("/api")

**public** **class** EmployeeController {

@Autowired

**private** EmployeeService employeeService;

@GetMapping("/employees")

**public** List<Employee> getAllEmployees() {

**return** employeeService.getAllEmployees();

}

}

**DepartmentDao.java**

**package** com.cognizant.spring\_learn.dao;

**import** java.util.List;

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

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

**import** org.springframework.stereotype.Repository;

**import** com.cognizant.spring\_learn.model.Department;

@Repository

**public** **class** DepartmentDao {

**public** **static** List<Department> *DEPARTMENT\_LIST*;

@Autowired

**public** DepartmentDao(@Qualifier("departmentList") List<Department> departmentList) {

*DEPARTMENT\_LIST* = departmentList;

}

**public** List<Department> getAllDepartments() {

**return** *DEPARTMENT\_LIST*;

}

}

**EmployeeDao.java**

**package** com.cognizant.spring\_learn.dao;

**import** java.util.List;

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

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

**import** org.springframework.stereotype.Repository;

**import** com.cognizant.spring\_learn.model.Employee;

@Repository

**public** **class** EmployeeDao {

**public** **static** List<Employee> *EMPLOYEE\_LIST*;

@Autowired

**public** EmployeeDao(@Qualifier("employeeList") List<Employee> employeeList) {

*EMPLOYEE\_LIST* = employeeList;

}

**public** List<Employee> getAllEmployees() {

**return** *EMPLOYEE\_LIST*;

}

}

**Department.java**

**package** com.cognizant.spring\_learn.model;

**public** **class** Department {

**private** **int** id;

**private** String name;

**public** Department() {

}

**public** Department(**int** id, String name) {

**this**.id = id;

**this**.name = name;

}

// 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;

}

@Override

**public** String toString() {

**return** "Department{" +

"id=" + id +

", name='" + name + '\'' +

'}';

}

}

**Employee.java**

**package** com.cognizant.spring\_learn.model;

**import** java.util.List;

**public** **class** Employee {

**private** **int** id;

**private** String name;

**private** Department department;

**private** List<String> skills;

**public** Employee() {

}

**public** Employee(**int** id, String name, Department department, List<String> skills) {

**this**.id = id;

**this**.name = name;

**this**.department = department;

**this**.skills = skills;

}

// 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** Department getDepartment() {

**return** department;

}

**public** **void** setDepartment(Department department) {

**this**.department = department;

}

**public** List<String> getSkills() {

**return** skills;

}

**public** **void** setSkills(List<String> skills) {

**this**.skills = skills;

}

@Override

**public** String toString() {

**return** "Employee{" +

"id=" + id +

", name='" + name + '\'' +

", department=" + department +

", skills=" + skills +

'}';

}

}

**DepartmentService.java**

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

**import** java.util.List;

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

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

**import** com.cognizant.spring\_learn.dao.DepartmentDao;

**import** com.cognizant.spring\_learn.model.Department;

@Service

**public** **class** DepartmentService {

@Autowired

**private** DepartmentDao departmentDao;

**public** List<Department> getAllDepartments() {

**return** departmentDao.getAllDepartments();

}

}

**EmployeeService.java**

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

**import** java.util.List;

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

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

**import** com.cognizant.spring\_learn.dao.EmployeeDao;

**import** com.cognizant.spring\_learn.model.Employee;

**import** org.springframework.transaction.annotation.Transactional;

@Service

**public** **class** EmployeeService {

@Autowired

**private** EmployeeDao employeeDao;

@Transactional(readOnly = **true**)

**public** List<Employee> getAllEmployees() {

**return** employeeDao.getAllEmployees();

}

}

**SpringXmlApp.java**

**package** SpringXmlApp;

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

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

**import** org.springframework.context.annotation.ImportResource;

@SpringBootApplication

@ImportResource("classpath:employee.xml")

**public** **class** SpringXmlApp {

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

SpringApplication.*run*(SpringXmlApp.**class**, args);

}

}

<?xml version="1.0" encoding="UTF-8"?>

<beans xmlns="http://www.springframework.org/schema/beans"

xmlns:util="http://www.springframework.org/schema/util"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://www.springframework.org/schema/beans

http://www.springframework.org/schema/beans/spring-beans.xsd

http://www.springframework.org/schema/util

http://www.springframework.org/schema/util/spring-util.xsd">

<!-- Skills -->

<util:list id="skills">

<value>Java</value>

<value>Spring</value>

<value>Angular</value>

</util:list>

<!-- Departments -->

<bean id="dept1" class="com.cognizant.spring\_learn.model.Department">

<property name="id" value="101"/>

<property name="name" value="Engineering"/>

</bean>

<bean id="dept2" class="com.cognizant.spring\_learn.model.Department">

<property name="id" value="102"/>

<property name="name" value="Marketing"/>

</bean>

<bean id="dept3" class="com.cognizant.spring\_learn.model.Department">

<property name="id" value="103"/>

<property name="name" value="Sales"/>

</bean>

<!-- Employees -->

<bean id="emp1" class="com.cognizant.spring\_learn.model.Employee">

<property name="id" value="1"/>

<property name="name" value="Alice"/>

<property name="department" ref="dept1"/>

<property name="skills" ref="skills"/>

</bean>

<bean id="emp2" class="com.cognizant.spring\_learn.model.Employee">

<property name="id" value="2"/>

<property name="name" value="Bob"/>

<property name="department" ref="dept2"/>

<property name="skills" ref="skills"/>

</bean>

<bean id="emp3" class="com.cognizant.spring\_learn.model.Employee">

<property name="id" value="3"/>

<property name="name" value="Carol"/>

<property name="department" ref="dept3"/>

<property name="skills" ref="skills"/>

</bean>

<bean id="emp4" class="com.cognizant.spring\_learn.model.Employee">

<property name="id" value="4"/>

<property name="name" value="Dave"/>

<property name="department" ref="dept1"/>

<property name="skills" ref="skills"/>

</bean>

<!-- List of Employees -->

<util:list id="employeeList">

<ref bean="emp1"/>

<ref bean="emp2"/>

<ref bean="emp3"/>

<ref bean="emp4"/>

</util:list>

<!-- List of Departments -->

<util:list id="departmentList">

<ref bean="dept1"/>

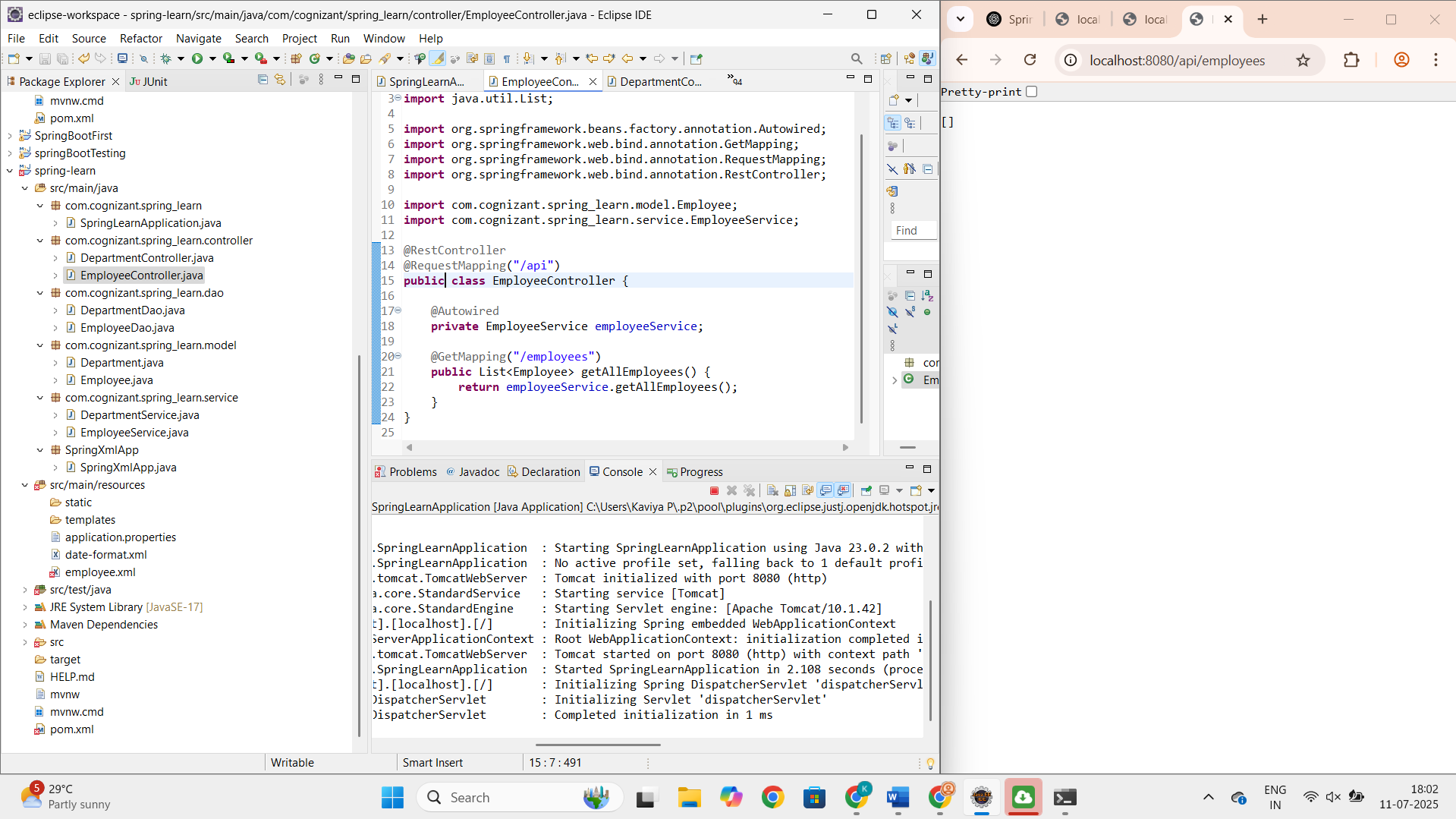
<ref bean="dept2"/>

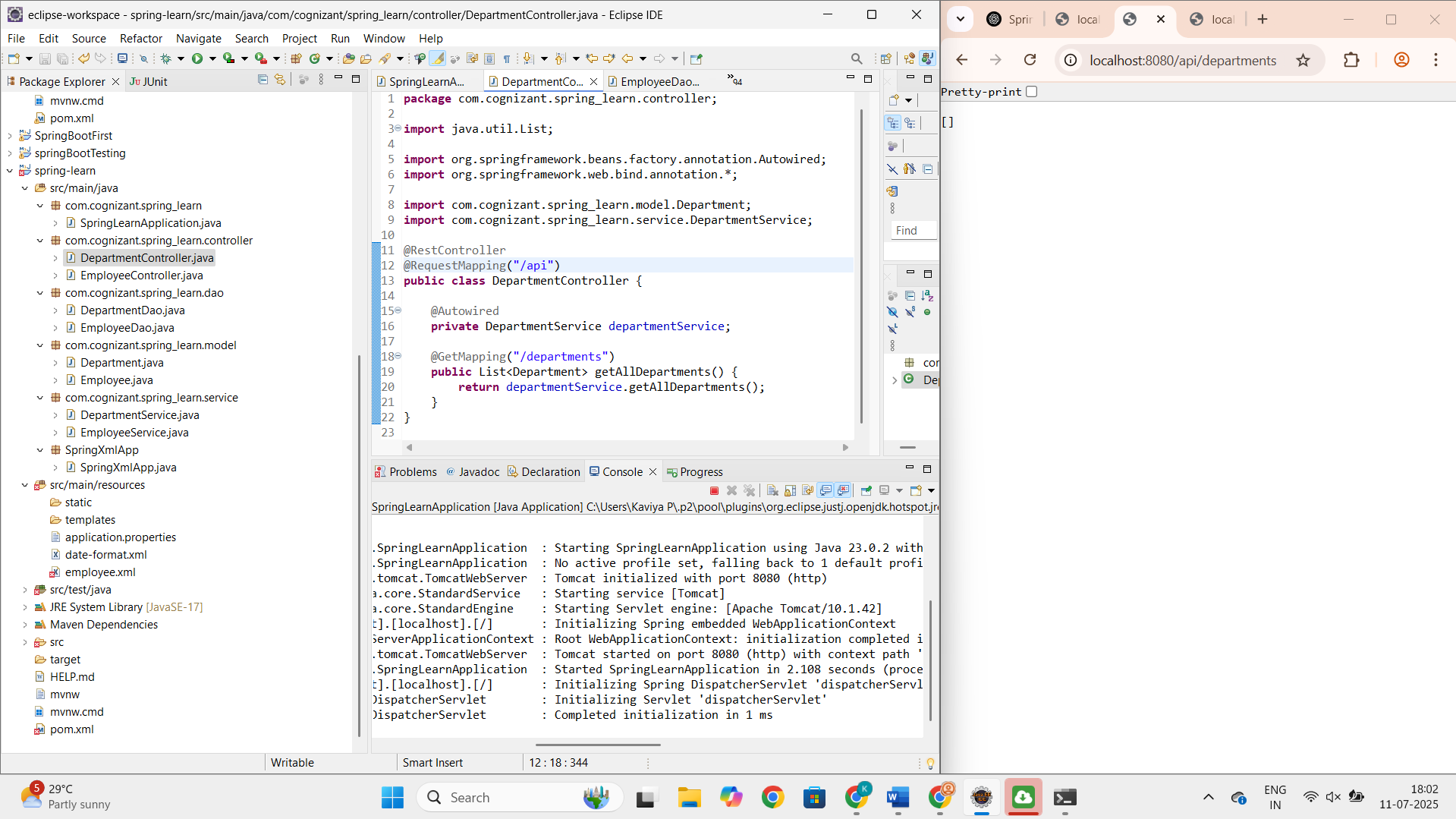
<ref bean="dept3"/>

</util:list>

</beans>

**OUTPUT**

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