WEEK 4 HANDS ON

3.Spring-rest Hands on

**Problem Statement - Display Employee List and Edit Employee form using RESTful Web Service**   
  
In the previous angular module, we developed a screen that lists employees and it was populated with hard coded values. Now this angular application has be changed to get the data from RESTful Web Service developed in Spring. The following are the high level activities that needs to be done to accomplish this: 

* Create static employee list data using spring xml configuration

* Create a REST Service that reads data from xml configuration and returns it

* Make changes in angular component to consume the created REST Service

Once above activities are completed, clicking on the Edit button against each employee should display Edit Employee form with values retrieved from RESTful Web Service. This will also involve activities similar to the one specified above.  
  
NOTE: There is no specific activity as part of this hands on, refer the next hands ons that covers above three activities in detail.

<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

                            http://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <groupId>com.cognizant</groupId>

    <artifactId>spring-learn</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <packaging>jar</packaging>

    <parent>

    <groupId>org.springframework.boot</groupId>

    <artifactId>spring-boot-starter-parent</artifactId>

    <version>2.7.18</version> <!-- Use your Spring Boot version -->

    <relativePath/> <!-- lookup parent from repository -->

    </parent>

    <dependencies>

    <!-- Spring Boot Starter Web -->

    <dependency>

        <groupId>org.springframework.boot</groupId>

        <artifactId>spring-boot-starter-web</artifactId>

    </dependency>

    <!-- Spring Context if needed -->

    <dependency>

        <groupId>org.springframework</groupId>

        <artifactId>spring-context</artifactId>

    </dependency>

    <!-- Add other dependencies as needed -->

    </dependencies>

    <build>

    <plugins>

        <plugin>

        <groupId>org.springframework.boot</groupId>

        <artifactId>spring-boot-maven-plugin</artifactId>

        </plugin>

    </plugins>

    </build>

</project>

package com.cognizant.spring\_learn;

import java.util.List;

public class Employee {

    private int id;

    private String name;

    private Department department;

    private List<Skill> skills;

    public Employee() {

        super();

    }

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

        super();

        this.id = id;

        this.name = name;

        this.department = department;

        this.skills = skills;

    }

    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<Skill> getSkills() {

        return skills;

    }

    public void setSkills(List<Skill> skills) {

        this.skills = skills;

    }

    @Override

    public String toString() {

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

            ", department=" + department +

            ", skills=" + skills + "]";

    }

}

package com.cognizant.spring\_learn;

public class Department {

    private int id;

    private String name;

    public Department() {

        super();

    }

    public Department(int id, String name) {

        super();

        this.id = id;

        this.name = name;

    }

    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 + "]";

    }

}

package com.cognizant.spring\_learn.dao;

import com.cognizant.spring\_learn.Department;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import org.springframework.stereotype.Repository;

import java.util.List;

@Repository

public class DepartmentDao {

    private static List<Department> DEPARTMENT\_LIST;

    public DepartmentDao() {

        ApplicationContext context = new ClassPathXmlApplicationContext("employee.xml");

        DEPARTMENT\_LIST = (List<Department>) context.getBean("departmentList");

    }

    public List<Department> getAllDepartments() {

        return DEPARTMENT\_LIST;

    }

}

package com.cognizant.spring\_learn.dao;

import com.cognizant.spring\_learn.Employee;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import org.springframework.stereotype.Repository;

import java.util.List;

@Repository

public class EmployeeDao {

    private static List<Employee> EMPLOYEE\_LIST;

    public EmployeeDao() {

        ApplicationContext context = new ClassPathXmlApplicationContext("employee.xml");

        EMPLOYEE\_LIST = (List<Employee>) context.getBean("employeeList");

    }

    public List<Employee> getAllEmployees() {

        return EMPLOYEE\_LIST;

    }

}

package com.cognizant.spring\_learn.service;

import com.cognizant.spring\_learn.Department;

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

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

import org.springframework.stereotype.Service;

import java.util.List;

@Service

public class DepartmentService {

    @Autowired

    private DepartmentDao departmentDao;

    public List<Department> getAllDepartments() {

        return departmentDao.getAllDepartments();

    }

}

package com.cognizant.spring\_learn.service;

import com.cognizant.spring\_learn.Employee;

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

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

import org.springframework.stereotype.Service;

import java.util.List;

@Service

public class EmployeeService {

    @Autowired

    private EmployeeDao employeeDao;

    @Transactional

    public List<Employee> getAllEmployees() {

        return employeeDao.getAllEmployees();

    }

}

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

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

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

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

        https://www.springframework.org/schema/beans/spring-beans.xsd">

    <!-- Departments -->

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

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

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

    </bean>

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

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

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

    </bean>

    <!-- Skills -->

    <bean id="skill\_java" class="com.cognizant.spring\_learn.Skill">

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

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

    </bean>

    <bean id="skill\_angular" class="com.cognizant.spring\_learn.Skill">

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

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

    </bean>

    <!-- Employees -->

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

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

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

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

        <property name="skills">

            <list>

                <ref bean="skill\_java"/>

                <ref bean="skill\_angular"/>

            </list>

        </property>

    </bean>

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

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

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

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

        <property name="skills">

            <list>

                <ref bean="skill\_java"/>

            </list>

        </property>

    </bean>

    <!-- Employee List -->

    <bean id="employeeList" class="java.util.ArrayList">

        <constructor-arg>

            <list>

                <ref bean="emp1"/>

                <ref bean="emp2"/>

            </list>

        </constructor-arg>

    </bean>

    <!-- Department List -->

    <bean id="departmentList" class="java.util.ArrayList">

        <constructor-arg>

            <list>

                <ref bean="hr"/>

                <ref bean="finance"/>

            </list>

        </constructor-arg>

    </bean>

</beans>