Hands-On – REST Country Web Service Using Spring Web

# 1. Objective

To create a RESTful web service using Spring Boot that returns country details by loading a bean from a Spring XML configuration file and returning it as JSON.

# 2. Implementation Steps

## Step 1: Define country.xml

Place this in src/main/resources:

<?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">  
  
 <bean id="country" class="com.cognizant.springlearn.Country">  
 <property name="code" value="IN" />  
 <property name="name" value="India" />  
 </bean>  
</beans>

## Step 2: Create CountryController.java

Package: com.cognizant.springlearn.controller

Add the following code:

package com.cognizant.springlearn.controller;  
  
import org.springframework.web.bind.annotation.RequestMapping;  
import org.springframework.web.bind.annotation.RestController;  
import org.springframework.context.ApplicationContext;  
import org.springframework.context.support.ClassPathXmlApplicationContext;  
  
import com.cognizant.springlearn.Country;  
  
@RestController  
public class CountryController {  
  
 @RequestMapping("/country")  
 public Country getCountryIndia() {  
 ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");  
 Country country = context.getBean("country", Country.class);  
 return country;  
 }  
}

## Step 3: Sample Request and Response

Sample URL:  
http://localhost:8083/country

Sample JSON Response:

{  
 "code": "IN",  
 "name": "India"  
}

# 3. SME Explanation

## What happens in the controller method?

The Spring container loads the country.xml configuration file, retrieves the 'country' bean, and returns it. Spring Boot's default Jackson library automatically converts the bean into JSON.

## How is the bean converted into JSON?

Spring Boot includes Jackson (a JSON processor) in the web starter dependency. When a Java object is returned from a controller method with @RestController, Jackson automatically serializes it into JSON.

## Network Tab (Browser Developer Tools)

When the /country endpoint is accessed:  
- Method: GET  
- Status: 200 OK  
- Content-Type: application/json  
- Body: JSON with country details

## Postman – Headers Tab

In Postman, when calling GET /country:  
- Content-Type: application/json  
- Content-Length: (varies)  
- Date: [timestamp]

# ✅ Conclusion

The RESTful endpoint '/country' loads a Spring-managed bean from XML configuration and returns it as a JSON response using Spring Boot's built-in Jackson support.