Spring REST using Spring Boot 3

**REST - Country Web Service**

**Objective**

Write a REST service that returns a specific country based on country code. The country code should be case insensitive.

**PROJEXT CODE:**

1. **CountryController.java**

***Folder:*** src/main/java/com/cognizant/spring\_learn/controller/CountryController.java

**CODE:**

package com.cognizant.spring\_learn.controller;

import com.cognizant.spring\_learn.model.Country;

import com.cognizant.spring\_learn.service.CountryService;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

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

import org.springframework.http.HttpStatus;

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

@RestController

public class CountryController {

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

@Autowired

public CountryService countryService;

@GetMapping("/countries/{code}")

public Country getCountry(@PathVariable("code") String code) {

LOGGER.info("START");

Country country = countryService.getCountry(code);

LOGGER.info("END");

return country;

}

}

1. **Country.java**

***Folder:* src/main/java/com/cognizant/spring\_learn/model/Country.java**

**CODE:**

package com.cognizant.spring\_learn.model;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class Country {

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

private String code;

private String name;

public Country() {

LOGGER.debug("Inside Country Constructor.");

}

public String getCode() {

LOGGER.debug("Inside getCode()");

return code;

}

public void setCode(String code) {

LOGGER.debug("Inside setCode()");

this.code = code;

}

public String getName() {

LOGGER.debug("Inside getName()");

return name;

}

public void setName(String name) {

LOGGER.debug("Inside setName()");

this.name = name;

}

@Override

public String toString() {

return "Country [code=" + code + ", name=" + name + "]";

}

}

1. **CountryService.java**

***Folder:* src/main/java/com/cognizant/spring\_learn/service/CountryService.java**

**CODE:**

package com.cognizant.spring\_learn.service;

import com.cognizant.spring\_learn.model.Country;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import org.springframework.stereotype.Service;

import java.util.List;

@Service

public class CountryService {

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

public Country getCountry(String code) {

LOGGER.info("START");

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

List<Country> countryList = context.getBean("countryList", List.class);

Country result = countryList.stream()

.filter(c -> c.getCode().equalsIgnoreCase(code))

.findFirst()

.orElse(null); // or throw exception if preferred

LOGGER.info("END");

return result;

}

}

1. **SpringLearnApplication.java**

***Folder:*** src/main/java/com/cognizant/spring\_learn/SpringLearnApplication.java

**CODE:**

package com.cognizant.spring\_learn;

import com.cognizant.spring\_learn.model.Country;

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 org.springframework.context.support.ClassPathXmlApplicationContext;

@SpringBootApplication

public class SpringLearnApplication {

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

public static void main(String[] args) {

SpringApplication.run(SpringLearnApplication.class, args);

LOGGER.debug("In main method!");

displayCountry();

}

public static void displayCountry() {

LOGGER.debug("In displayCountry method!");

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

Country country = (Country) context.getBean("country", Country.class);

LOGGER.debug("Country : {}", country.toString());

}

}

1. **application.properties**

***Folder:*** src/main/resources/application.properties

**CODE:**

spring.application.name=spring-learn

server.port=8083

1. **country.xml**

***Folder:*** src/main/resources/country.xml

**CODE:**

<?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 http://www.springframework.org/schema/beans/spring-beans.xsd">

<!-- bean definitions here -->

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

<constructor-arg>

<list>

<bean id="country" class="com.cognizant.spring\_learn.model.Country">

<property name="code" value="IN"/>

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

</bean>

<bean class="com.cognizant.spring\_learn.model.Country">

<property name="code" value="US"/>

<property name="name" value="United States"/>

</bean>

<bean class="com.cognizant.spring\_learn.model.Country">

<property name="code" value="JP"/>

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

</bean>

<bean class="com.cognizant.spring\_learn.model.Country">

<property name="code" value="DE"/>

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

</bean>

</list>

</constructor-arg>

</bean>

<bean id="country" class="com.cognizant.spring\_learn.model.Country">

<property name="code" value="IN"/>

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

</bean>

</beans>

1. **SpringLearnApplicationTests.java**

***Folder:*** src/test/java/com/cognizant/spring\_learn/SpringLearnApplicationTests.java

**CODE:**

package com.cognizant.spring\_learn;

import org.junit.jupiter.api.Test;

import org.springframework.boot.test.context.SpringBootTest;

@SpringBootTest

class SpringLearnApplicationTests {

@Test

void contextLoads() {

}

}

1. **pom.xml**

**CODE:**

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

<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 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<parent>

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

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

<version>3.5.3</version>

<relativePath/>

<!-- lookup parent from repository -->

</parent>

<groupId>com.cognizant</groupId>

<artifactId>spring-learn</artifactId>

<version>0.0.1-SNAPSHOT</version>

<name>spring-learn</name>

<description>Demo project for Spring Boot</description>

<url/>

<licenses>

<license/>

</licenses>

<developers>

<developer/>

</developers>

<scm>

<connection/>

<developerConnection/>

<tag/>

<url/>

</scm>

<properties>

<java.version>17</java.version>

</properties>

<dependencies>

<dependency>

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

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

</dependency>

<dependency>

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

<artifactId>spring-boot-devtools</artifactId>

<scope>runtime</scope>

<optional>true</optional>

</dependency>

<dependency>

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

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

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

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

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

</plugin>

</plugins>

</build>

</project>

**OUTPUT:**

