

## **Exercise: Hello World RESTful Web Service:**

### **CODE:**

#### **HelloController.java:**

```
package com.cognizant.spring_learn;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RestController;

@RestController

public class HelloController {

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

    @GetMapping("/hello")
    public String sayHello() {
        LOGGER.info("START: sayHello()");
        String message = "Hello World!!";
        LOGGER.info("END: sayHello()");
        return message;
    }
}
```

#### **SpringLearnApplication.java:**

```
package com.cognizant.spring_learn;

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

@SpringBootApplication
```

```
public class SpringLearnApplication {  
    public static void main(String[] args) {  
        SpringApplication.run(SpringLearnApplication.class, args);  
    }  
}
```

### **application.properties:**

```
server.port=8083  
spring.application.name=spring-learn  
logging.level.org.springframework=INFO  
logging.level.com.cognizant.spring_learn=DEBUG
```

### **Output:**

```
[INFO] -----  
[INFO] BUILD SUCCESS  
[INFO] -----  
[INFO] Total time: 27.312 s  
[INFO] Finished at: 2025-07-13T12:22:38+05:30  
[INFO] -----  
Terminate batch job (y/n)? n
```

## **Exercise: REST - Country Web Service:**

### **CODE:**

#### **Country.java:**

```
package com.cognizant.spring_learn.model;
```

```
public class Country {
```

```
    private String code;
```

```
    private String name;
```

```
    public Country() {}
```

```
    public Country(String code, String name) {
```

```
        this.code = code;
```

```
        this.name = name;
```

```
    }
```

```
    public String getCode() {
```

```
        return code;
```

```
    }
```

```
    public void setCode(String code) {
```

```
        this.code = code;
```

```
    }
```

```
    public String getName() {
```

```
        return name;
```

```
    }
```

```
    public void setName(String name) {
```

```
        this.name = name;
```

```
}  
}
```

### **CountryController.java:**

```
package com.cognizant.spring_learn;  
  
import org.slf4j.Logger;  
import org.slf4j.LoggerFactory;  
import org.springframework.web.bind.annotation.RequestMapping;  
import org.springframework.web.bind.annotation.RestController;  
  
import com.cognizant.spring_learn.model.Country;  
  
import org.springframework.context.ApplicationContext;  
import org.springframework.context.support.ClassPathXmlApplicationContext;  
  
@RestController  
public class CountryController {  
  
    private static final Logger LOGGER = LoggerFactory.getLogger(CountryController.class);  
  
    // Load the ApplicationContext once when the controller is created  
    private final ApplicationContext context;  
  
    public CountryController() {  
        LOGGER.debug("Initializing ApplicationContext from country.xml");  
        context = new ClassPathXmlApplicationContext("country.xml");  
    }  
  
    @RequestMapping("/country")  
    public Country getCountryIndia() {
```

```

    LOGGER.info("START getCountryIndia");

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

    LOGGER.info("END getCountryIndia");

    return country;
}
}

```

### application.properties:

```

server.port=8083

spring.application.name=spring-learn

logging.level.org.springframework=INFO

logging.level.com.cognizant.spring_learn=DEBUG

```

### country.xml:

```

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

</beans>

```

### Output:

```

[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 10.612 s
[INFO] Finished at: 2025-07-13T12:36:27+05:30
[INFO] -----

```

## **Exercise: REST - Get country based on country code:**

### **CODE:**

#### **CountryController.java:**

```
package com.cognizant.spring_learn.controller;

import com.cognizant.spring_learn.model.Country;
import com.cognizant.spring_learn.service.CountryService;
import com.cognizant.spring_learn.service.exception.CountryNotFoundException;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.*;

@RestController
public class CountryController {

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

    @Autowired
    private CountryService countryService;

    @GetMapping("/countries/{code}")
    public Country getCountry(@PathVariable String code) throws
    CountryNotFoundException {

        LOGGER.info("START getCountry code: {}", code);

        Country country = countryService.getCountry(code);

        LOGGER.info("END getCountry");

        return country;
    }
}
```

```
}
```

### **Country.java:**

```
package com.cognizant.spring_learn.model;
```

```
public class Country {
```

```
    private String code;
```

```
    private String name;
```

```
    public Country() {}
```

```
    public Country(String code, String name) {
```

```
        this.code = code;
```

```
        this.name = name;
```

```
    }
```

```
    public String getCode() {
```

```
        return code;
```

```
    }
```

```
    public void setCode(String code) {
```

```
        this.code = code;
```

```
    }
```

```
    public String getName() {
```

```
        return name;
```

```
    }
```

```
    public void setName(String name) {
```

```
        this.name = name;
```

```
    }
```

```
}
```

### **CountryNotFoundException.java:**

```
package com.cognizant.spring_learn.service.exception;
```

```
import org.springframework.http.HttpStatus;
```

```
import org.springframework.web.bind.annotation.ResponseStatus;
```

```
@ResponseStatus(value = HttpStatus.NOT_FOUND, reason = "Country not found")
```

```
public class CountryNotFoundException extends Exception {
```

```
    public CountryNotFoundException(String message) {
```

```
        super(message);
```

```
    }
```

```
}
```

### **CountryService.java:**

```
package com.cognizant.spring_learn.service;
```

```
import java.util.List;
```

```
import org.springframework.context.support.ClassPathXmlApplicationContext;
```

```
import org.springframework.stereotype.Service;
```

```
import com.cognizant.spring_learn.model.Country;
```

```
import com.cognizant.spring_learn.service.exception.CountryNotFoundException;
```

```
@Service
```

```
public class CountryService {
```

```
    private final List<Country> countries;
```



```

public CountryService() {
    try (ClassPathXmlApplicationContext context = new
ClassPathXmlApplicationContext("country.xml")) {
        @SuppressWarnings("unchecked")
        List<Country> loadedCountries = (List<Country>) context.getBean("countryList");
        this.countries = loadedCountries;
    }
}

```

```

public Country getCountry(String code) throws CountryNotFoundException {
    return countries.stream()
        .filter(c -> c.getCode().equalsIgnoreCase(code))
        .findFirst()
        .orElseThrow(() -> new CountryNotFoundException("Country not found"));
}

```

### **Country.xml:**

```

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

    <bean id="countryList" class="java.util.ArrayList">
        <constructor-arg>
            <list>

```

```
<bean 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>

</beans>
```

## Output:

```
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 5.470 s
[INFO] Finished at: 2025-07-13T12:49:19+05:30
[INFO] -----
PS C:\Users\Sidharth\spring-learn\spring-learn> |
```



