## **✅ 1. Hello World RESTful Web Service**

### **🔧 Steps:**

1. **Create HelloController**
   1. Location: com.cognizant.springlearn.controller.HelloController

@RestController  
public class HelloController {  
  
 private static final Logger LOGGER = LoggerFactory.getLogger(HelloController.class);  
  
 @GetMapping("/hello")  
 public String sayHello() {  
 LOGGER.info("START");  
 LOGGER.info("END");  
 return "Hello World!!";  
 }  
}

1. **Start the application**
2. **Access in browser or Postman**:  
    <http://localhost:8083/hello>

## **✅ 2. REST - Country Web Service (Return India)**

### **🔧 Steps:**

1. **Ensure country.xml contains India bean**

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

1. **Create CountryController**
   1. Location: com.cognizant.springlearn.controller.CountryController

@RestController  
public class CountryController {  
  
 private static final Logger LOGGER = LoggerFactory.getLogger(CountryController.class);  
  
 @RequestMapping("/country")  
 public Country getCountryIndia() {  
 LOGGER.info("START");  
 ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");  
 Country country = context.getBean("country", Country.class);  
 LOGGER.info("END");  
 return country;  
 }  
}

1. **Start the application**
2. **Access in browser or Postman**:  
    <http://localhost:8083/country>

## **✅ 3. REST - Get All Countries**

### **🔧 Steps:**

1. **Update country.xml to include a list of countries**

<bean id="countryList" class="java.util.ArrayList">  
 <constructor-arg>  
 <list>  
 <bean class="com.cognizant.springlearn.Country">  
 <property name="code" value="IN" />  
 <property name="name" value="India" />  
 </bean>  
 <bean class="com.cognizant.springlearn.Country">  
 <property name="code" value="US" />  
 <property name="name" value="United States" />  
 </bean>  
 <bean class="com.cognizant.springlearn.Country">  
 <property name="code" value="JP" />  
 <property name="name" value="Japan" />  
 </bean>  
 <bean class="com.cognizant.springlearn.Country">  
 <property name="code" value="DE" />  
 <property name="name" value="Germany" />  
 </bean>  
 </list>  
 </constructor-arg>  
</bean>

1. **Add Method in CountryController**

@GetMapping("/countries")  
public List<Country> getAllCountries() {  
 LOGGER.info("START");  
 ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");  
 List<Country> countryList = context.getBean("countryList", List.class);  
 LOGGER.info("END");  
 return countryList;  
}

1. **Start the application**
2. **Access in browser or Postman**:  
    <http://localhost:8083/countries>

## **✅ 4. REST - Get Country by Code (Case Insensitive)**

### **🔧 Steps:**

1. **Create CountryService class**

@Service  
public class CountryService {  
  
 private static final Logger LOGGER = LoggerFactory.getLogger(CountryService.class);  
  
 public Country getCountry(String code) throws CountryNotFoundException {  
 LOGGER.info("START");  
 ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");  
 List<Country> countryList = context.getBean("countryList", List.class);  
  
 return countryList.stream()  
 .filter(country -> country.getCode().equalsIgnoreCase(code))  
 .findFirst()  
 .orElseThrow(() -> new CountryNotFoundException("Country not found"));  
 }  
}

1. **Create CountryNotFoundException class**

public class CountryNotFoundException extends Exception {  
 public CountryNotFoundException(String message) {  
 super(message);  
 }  
}

1. **Add method in CountryController**

@Autowired  
private CountryService countryService;  
  
@GetMapping("/countries/{code}")  
public Country getCountry(@PathVariable String code) throws CountryNotFoundException {  
 LOGGER.info("START");  
 Country country = countryService.getCountry(code);  
 LOGGER.info("END");  
 return country;  
}

1. **Start the application**
2. **Access in browser or Postman**:  
    <http://localhost:8083/countries/in>