**WEEK 4 HANDS ON**

**2.Spring-rest Hands on**

**Hello World RESTful Web Service**   
  
Write a REST service in the spring learn application created earlier, that returns the text "Hello World!!"

<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>

    <relativePath/>

</parent>

<dependencies>

    <dependency>

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

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

    </dependency>

    <dependency>

    <groupId>org.springframework</groupId>

    <artifactId>spring-context</artifactId>

    </dependency>

    <dependency>

    <groupId>ch.qos.logback</groupId>

    <artifactId>logback-classic</artifactId>

    </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>

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);

    }

}

package com.cognizant.spring\_learn.controller;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

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

@RestController

public class HelloController {

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

    @GetMapping("/hello")

    public String sayHello() {

        LOGGER.debug("START");

        String response = "Hello World!!";

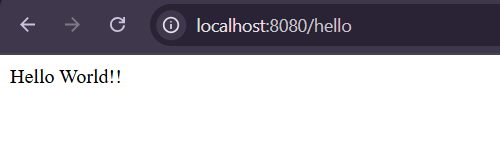
        LOGGER.debug("END");

        return response;

    }

}

Output



**REST - Country Web Service**   
  
Write a REST service that returns India country details in the earlier created spring learn application.

<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>

<parent>

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

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

    <version>3.2.6</version>

</parent>

<dependencies>

    <dependency>

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

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

    </dependency>

    <dependency>

    <groupId>org.springframework</groupId>

    <artifactId>spring-context</artifactId>

    </dependency>

    <dependency>

    <groupId>ch.qos.logback</groupId>

    <artifactId>logback-classic</artifactId>

    </dependency>

</dependencies>

<properties>

    <java.version>17</java.version>

</properties>

</project>

package com.cognizant.spring\_learn.controller;

import com.cognizant.spring\_learn.Country;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RestController;

@RestController

public class CountryController {

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

    @RequestMapping("/country")

    public Country getCountryIndia() {

        LOGGER.debug("START");

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

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

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

        LOGGER.debug("END");

        return country;

    }

}

package com.cognizant.spring\_learn;

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 + "]";

    }

}

package com.cognizant.spring\_learn;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class SpringLearnApplication {

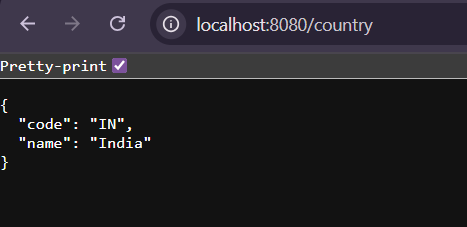
    public static void main(String[] args) {

        SpringApplication.run(SpringLearnApplication.class, args);

    }

}

Output



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

<?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.spring\_learn.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.Country">

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

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

        </bean>

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

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

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

        </bean>

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

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

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

        </bean>

    </list>

    </constructor-arg>

</bean>

</beans>

package com.cognizant.spring\_learn.service;

import com.cognizant.spring\_learn.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.debug("START");

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

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

        LOGGER.debug("Country list loaded: {}", countryList);

        Country country = countryList.stream()

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

                .findFirst()

                .orElse(null);

        LOGGER.debug("END");

        return country;

    }

}

package com.cognizant.spring\_learn.controller;

import com.cognizant.spring\_learn.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.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

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

@RestController

public class CountryController {

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

    @Autowired

    private CountryService countryService;

    @RequestMapping("/country")

    public Country getCountryIndia() {

        LOGGER.debug("START");

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

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

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

        LOGGER.debug("END");

        return country;

    }

    @GetMapping("/countries/{code}")

    public Country getCountry(@PathVariable String code) {

        LOGGER.debug("START: getCountry with code={}", code);

        Country country = countryService.getCountry(code);

        LOGGER.debug("END");

        return country;

    }

}

Output

