Spring Rest

**HTTP Request and Response Overview**

GET /hello.txt HTTP/1.1

User-Agent: curl/7.16.3

Host: www.example.com

Accept-Language: en

HTTP/1.1 200 OK

Content-Type: text/plain

Content-Length: 12

Hello World!

1. **Hello World REST Service**

---HelloController.java

package com.cognizant.springlearn.controller;

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");

String response = "Hello World!!";

LOGGER.info("END");

return response;

}

}

1. **Country REST Services**

---CountryController.java

package com.cognizant.springlearn.controller;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

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

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

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

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

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

import com.cognizant.springlearn.model.Country;

import com.cognizant.springlearn.service.CountryService;

import com.cognizant.springlearn.service.exception.CountryNotFoundException;

@RestController

public class CountryController {

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

@Autowired

private CountryService countryService;

@RequestMapping("/country")

public Country getCountryIndia() {

LOGGER.info("START");

Country country = countryService.getCountry("IN");

LOGGER.info("END");

return country;

}

@GetMapping("/countries")

public List<Country> getAllCountries() {

LOGGER.info("START");

List<Country> countries = countryService.getAllCountries();

LOGGER.info("END");

return countries;

}

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

public Country getCountry(@PathVariable String code) throws CountryNotFoundException {

LOGGER.info("START");

Country country = countryService.getCountry(code);

LOGGER.info("END");

return country;

}

}

---CountryService.java

package com.cognizant.springlearn.service;

import java.util.List;

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

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import org.springframework.stereotype.Service;

import com.cognizant.springlearn.model.Country;

import com.cognizant.springlearn.service.exception.CountryNotFoundException;

@Service

public class CountryService {

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

@Autowired

private ApplicationContext context;

public Country getCountry(String code) throws CountryNotFoundException {

LOGGER.info("START");

List<Country> countries = getAllCountries();

Country country = countries.stream()

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

.findFirst()

.orElseThrow(() -> new CountryNotFoundException());

LOGGER.info("END");

return country;

}

public List<Country> getAllCountries() {

return (List<Country>) context.getBean("countryList");

}

}

----NotFound Exception.java

package com.cognizant.springlearn.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 RuntimeException {

private static final long serialVersionUID = 1L;

}

1. **Testing with MockMVC**

---SpringLearnApplicationsTest.java

package com.cognizant.springlearn;

import static org.junit.Assert.assertNotNull;

import static org.springframework.test.web.servlet.request.MockMvcRequestBuilders.get;

import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.jsonPath;

import static org.springframework.test.web.servlet.result.MockMvcResultMatchers.status;

import org.junit.jupiter.api.Test;

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

import org.springframework.boot.test.autoconfigure.web.servlet.AutoConfigureMockMvc;

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

import org.springframework.test.web.servlet.MockMvc;

import org.springframework.test.web.servlet.ResultActions;

import com.cognizant.springlearn.controller.CountryController;

@SpringBootTest

@AutoConfigureMockMvc

class SpringLearnApplicationTests {

@Autowired

private CountryController countryController;

@Autowired

private MockMvc mvc;

@Test

void contextLoads() {

assertNotNull(countryController);

}

@Test

void testGetCountry() throws Exception {

ResultActions actions = mvc.perform(get("/country"));

actions.andExpect(status().isOk());

actions.andExpect(jsonPath("$.code").exists());

actions.andExpect(jsonPath("$.code").value("IN"));

actions.andExpect(jsonPath("$.name").exists());

actions.andExpect(jsonPath("$.name").value("India"));

}

@Test

void testGetCountryException() throws Exception {

ResultActions actions = mvc.perform(get("/country/az"));

actions.andExpect(status().isNotFound());

actions.andExpect(jsonPath("$.message").value("Country not found"));

}

}

**Run:**

**curl -i http://localhost:8080/country/IN**

**curl -i** [**http://localhost:8080/country/XX**](http://localhost:8080/country/XX)

**mvn test**