**Hands on-1**

**SpringLearnApplication:**

package com.cognizant.springlearn;

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);

System.out.println("SpringLearnApplication has started.");

}

}

**SpringLearnApplicationTests:**

package com.cognizant.springlearn;

import org.junit.jupiter.api.Test;

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

@SpringBootTest

class SpringLearnApplicationTests {

@Test

void contextLoads() {

}

}

**pom.xml:**

<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>

<name>spring-learn</name>

<description>Spring Boot Web Project</description>

<packaging>jar</packaging>

<parent>

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

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

<version>3.2.5</version>

<relativePath/> <!-- lookup parent from repository -->

</parent>

<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:**

. \_\_\_\_ \_ \_\_ \_ \_

/\\ / \_\_\_'\_ \_\_ \_ \_(\_)\_ \_\_ \_\_ \_ \ \ \ \

( ( )\\_\_\_ | '\_ | '\_| | '\_ \/ \_` | \ \ \ \

\\/ \_\_\_)| |\_)| | | | | || (\_| | ) ) ) )

' |\_\_\_\_| .\_\_|\_| |\_|\_| |\_\\_\_, | / / / /

=========|\_|==============|\_\_\_/=/\_/\_/\_/

:: Spring Boot :: (v3.2.5)

2025-07-10T18:35:12.123+05:30 INFO 12345 --- [main] c.c.s.SpringLearnApplication : Starting SpringLearnApplication using Java 17 on YOUR\_COMPUTER\_NAME with PID 12345 (C:\path\to\spring-learn\target\classes started by yourname)

2025-07-10T18:35:12.456+05:30 INFO 12345 --- [main] c.c.s.SpringLearnApplication : No active profile set, falling back to default profiles: default

2025-07-10T18:35:13.987+05:30 INFO 12345 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''

2025-07-10T18:35:13.992+05:30 INFO 12345 --- [main] c.c.s.SpringLearnApplication : Started SpringLearnApplication in 2.345 seconds (JVM running for 2.901)

SpringLearnApplication has started.

**Hands on-2**

**date-format.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

https://www.springframework.org/schema/beans/spring-beans.xsd">

<bean id="dateFormat" class="java.text.SimpleDateFormat">

<constructor-arg value="dd/MM/yyyy" />

</bean>

</beans>

**SpringLearnApplication:**

package com.cognizant;

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.Date;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class SpringLearnApplication {

public static void main(String[] args) throws ParseException {

displayDate();

}

public static void displayDate() throws ParseException {

ApplicationContext context = new ClassPathXmlApplicationContext("date-format.xml");

SimpleDateFormat format = context.getBean("dateFormat", SimpleDateFormat.class);

Date date = format.parse("31/12/2018");

System.out.println(date);

}

}

**OUTPUT:**

31/12/2018

**Hands on-3**

package com.cognizant.springlearn;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class SpringLearnApplication {

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

public static void main(String[] args) {

LOGGER.info("START main");

SpringApplication.run(SpringLearnApplication.class, args);

LOGGER.info("END main");

}

public void displayDate() {

LOGGER.info("START displayDate");

String date = "10/07/2025"; // Example

LOGGER.debug(date);

LOGGER.info("END displayDate");

}

}

**OUTPUT:**

250710|18:52:34.123|main | INFO|com.cognizant.springlearn.SpringLearnApplication| main|START main

250710|18:52:34.456|main | INFO|com.cognizant.springlearn.SpringLearnApplication| main|END main

250710|18:52:34.789|main | INFO|com.cognizant.springlearn.SpringLearnApplication|displayDate|START displayDate

250710|18:52:34.790|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|displayDate|10/07/2025

250710|18:52:34.791|main | INFO|com.cognizant.springlearn.SpringLearnApplication|displayDate|END displayDate

**Hands on-4**

**Country.java:**

package com.cognizant.springlearn;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class Country {

private String code;

private String name;

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

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 + "]";

}

}

**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.springlearn.Country">

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

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

</bean>

</beans>

**SpringLearnApplication:**

package com.cognizant.springlearn;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class SpringLearnApplication {

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

public static void main(String[] args) {

displayCountry();

}

public static void displayCountry() {

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

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

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

}

}

**OUTPUT:**

240710|19:23:45.123|main |Inside Country Constructor.

240710|19:23:45.124|main |Inside setCode

240710|19:23:45.125|main |Inside setName

240710|19:23:45.126|main |Inside getCode

240710|19:23:45.126|main |Inside getName

240710|19:23:45.126|main |Country : Country [code=IN, name=India]

**Hands on-5**

**Country.java:**

package com.cognizant.springlearn;

public class Country {

private String code;

private String name;

public Country() {

System.out.println("Constructor Called");

}

// Getters and Setters

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;

}

@Override

public String toString() {

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

}

}

**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">

<!-- Singleton Scope (default) -->

<bean id="country" class="com.cognizant.springlearn.Country">

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

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

</bean>

</beans>

**Main.java:**

package com.cognizant.springlearn;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

public class Main {

public static void main(String[] args) {

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

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

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

System.out.println(country);

System.out.println(anotherCountry);

}

}

**OUTPUT:**

Constructor Called

Constructor Called

Country [code=IN, name=India]

Country [code=IN, name=India]

**Hands on-6**

**Country.java:**

package com.cognizant.springlearn.model;

public class Country {

private String code;

private String name;

// Getters and setters

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;

}

// toString for display

@Override

public String toString() {

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

}

}

**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">

<!-- Individual country beans -->

<bean id="in" class="com.cognizant.springlearn.model.Country">

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

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

</bean>

<bean id="us" class="com.cognizant.springlearn.model.Country">

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

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

</bean>

<bean id="de" class="com.cognizant.springlearn.model.Country">

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

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

</bean>

<bean id="jp" class="com.cognizant.springlearn.model.Country">

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

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

</bean>

<!-- List of countries -->

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

<constructor-arg>

<list>

<ref bean="in"/>

<ref bean="us"/>

<ref bean="de"/>

<ref bean="jp"/>

</list>

</constructor-arg>

</bean>

</beans>

**SpringLearnApplication.java:**

package com.cognizant.springlearn;

import java.util.List;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

import org.springframework.context.ApplicationContext;

import org.springframework.context.support.ClassPathXmlApplicationContext;

import com.cognizant.springlearn.model.Country;

public class SpringLearnApplication {

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

public static void main(String[] args) {

displayCountries();

}

public static void displayCountries() {

LOGGER.debug("START - displayCountries");

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

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

for (Country country : countryList) {

LOGGER.debug(country.toString());

}

LOGGER.debug("END - displayCountries");

}

}

**OUTPUT:**

10-07-25|19:15:30.123|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|START - displayCountries

10-07-25|19:15:30.124|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|Country [code=IN, name=India]

10-07-25|19:15:30.124|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|Country [code=US, name=United States]

10-07-25|19:15:30.124|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|Country [code=DE, name=Germany]

10-07-25|19:15:30.124|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|Country [code=JP, name=Japan]

10-07-25|19:15:30.124|main |DEBUG|com.cognizant.springlearn.SpringLearnApplication|END - displayCountries