**2.1 Spring Core – Load List of Countries from Spring Configuration XML**

**Objective:**

To retrieve and display a list of four countries configured in a Spring XML file for an airlines website using Spring Core features. This demonstrates how to use <list> collections in Spring configuration and how to load in java application.

**Key Characteristics**:

1. **<list>** - In spring configuration it defines a list Collection.

It can contain multiple <value> or <ref>.

Example:

<list>

<ref bean="in" />

<ref bean="us" />

</list>

1. **<ref>** - It is used to refer to another bean defined in the same or an imported XML file.

Instead of redefining the bean, you can reference it using id.

Example:

<ref bean="in" />  
it refers to:

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

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

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

</bean>

1. **Bean** attribute - <bean> defines Spring Bean.

Example:

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

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

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

</bean>

Steps in creating Spring Configuration File:

**Step1:** Create country XML file to define beans for countries.

country.xml:

|  |
| --- |
| <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="in" class="com.cognizant.model.Country">  <property name="code" value="IN" />  <property name="name" value="India" />  </bean>  <bean id="us" class="com.cognizant.model.Country">  <property name="code" value="US" />  <property name="name" value="United States" />  </bean>  <bean id="de" class="com.cognizant.model.Country">  <property name="code" value="DE" />  <property name="name" value="Germany" />  </bean>  <bean id="jp" class="com.cognizant.model.Country">  <property name="code" value="JP" />  <property name="name" value="Japan" />  </bean>  <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> |

**Step2:** Crete a Model class.

i.e., Country.java

|  |
| --- |
| package com.cognizant.model;  public class Country {  private String code;  private String 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;  }  @Override  public String toString() {  return "Country [code=" + code + ", name=" + name + "]";  }  } |

**Step3**: Create a Main class that is used the application as Spring Boot App.

i.e., SpringLearnApplication.java:

|  |
| --- |
| package com.cognizant.spring\_learn;  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.model.Country;  public class SpringLearnApplication {  private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);  public static void main(String[] args) {  ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");  displayCountries(context);  }  public static void displayCountries(ApplicationContext context) {  LOGGER.info("START");  List<Country> countries = (List<Country>) context.getBean ("countryList");  LOGGER.debug("Countries: {}", countries);  LOGGER.info("END");  }  } |

**Step4**: Add the required dependencies into the pom.xml if the dependencies are not present.

|  |
| --- |
| <dependency>  <groupId>org.slf4j</groupId>  <artifactId>slf4j-api</artifactId>  <version>1.7.30</version>  </dependency>  <dependency>  <groupId>org.slf4j</groupId>  <artifactId>slf4j-simple</artifactId>  <version>1.7.30</version>  </dependency> |

**Step5**: Run the Application.

Right click on the SpringLearnApplication.java

Select Run As 🡪 Java Application.

**Expected Outcome:**

23:08:32.430 [main] INFO com.cognizant.spring\_learn.SpringLearnApplication -- START

23:08:32.434 [main] INFO com.cognizant.spring\_learn.SpringLearnApplication -- Countries: [Country [code=IN, name=India], Country [code=US, name=United States], Country [code=DE, name=Germany], Country [code=JP, name=Japan]]

23:08:32.445 [main] INFO com.cognizant.spring\_learn.SpringLearnApplication -- END