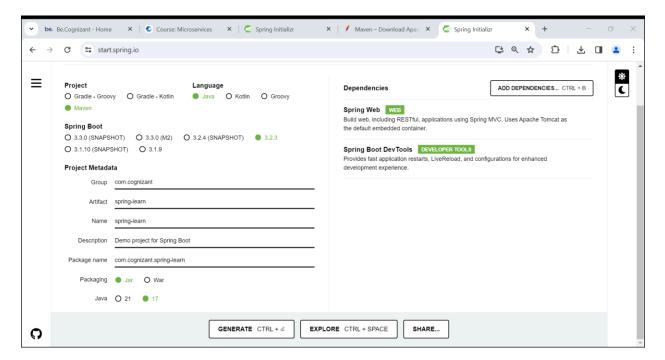
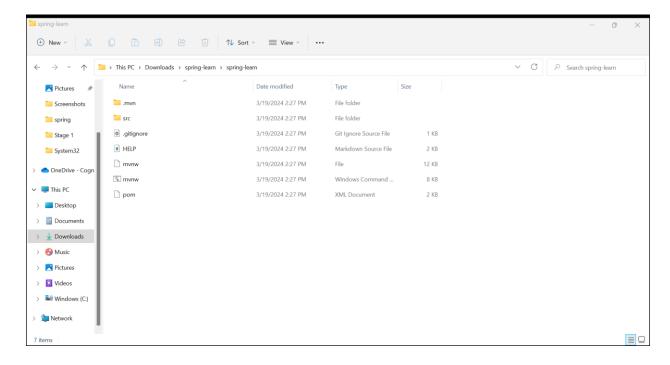
Create a Spring Web Project using Maven

1. Created one spring learn maven project with the help of Spring Initializer



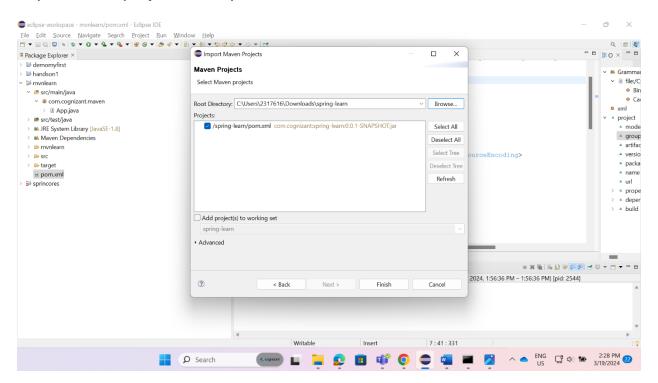
2. Downloaded the project as zip and extract the zip in root folder to Eclipse Workspace



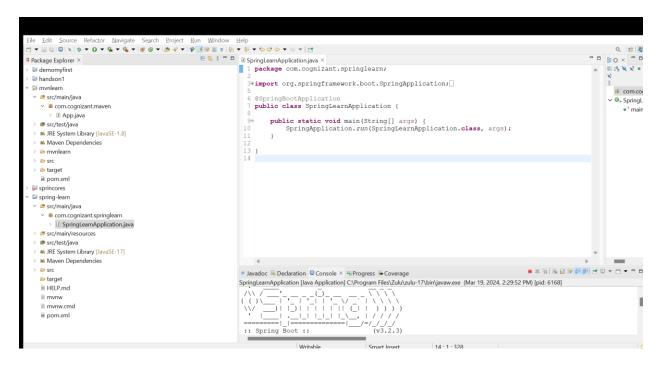
3. Build the project using given command on command line

```
**E **WindowsSystemTXCond one
C:\Users\23375618\minimalsennmmn clean package -Dhttp.proxyMosteproxy.cognizant.com -Dhttp.proxyMostes658 -Dhttps.proxyMostes658 -
```

4. Imported the project in Eclipse IDE



5. Run the SpringLearnApplication class.



Spring Core – Load SimpleDateFormat from Spring Configuration XML

1. Created the date-format.xml file.

- Created new method displayDate() in SpringLearnApplication.java In displayDate() method create the ApplicationContext.
- 3. Get the dateFormat using getBean() method. Using the format variable try to parse string '31/12/2018' to Date class and display the result using System.out.println.
- 4. Run the application as 'Java Application' and checked the result in console log output.

```
Package Explorer × 🕒 👸 🖁 🗖 🛽 SpringLearnApplication.java × 🖟 date-format.xml 🖟 SpringLearnApplicationTests.java
                                                                                              1 package com.cognizant.springlearn;
  3* import java.util.Date;
4 import java.text.ParseException;
5 import java.text.SimpleDateFormat;
  👺 mvnlearn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O<sub>▶</sub> SpringLearn

    ⇔ sprincores

                                                                                                                                                                                                                                                                                                                                                                                                                                                                        o s main(Stri
   import org.springframework.boot.SpringApplication;

w ## com.cognizant.springlearn

    > @ src/main/resources
                                                                                                 @SpringBootApplication
public class SpringLearnApplication {
       src/test/java

→ 

⊕ com.cognizant.springlearn

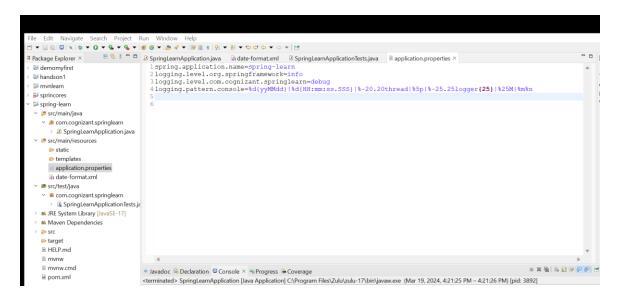
                > 
SpringLearnApplicationTests.ja 150
                                                                                                               public static void main(String[] args) {
        ■ JRE System Library [JavaSE-17]
                                                                                                                           displayDate();
SpringApplication.run(SpringLearnApplication.class, args);
       Mayen Dependencies

    Src

    barget
    ba
        HELP.md
                                                                                                                       @SuppressWarnings("resource")
ApplicationContext context = new ClassPathXmlApplicationContext("date-format.xml");
SimpleDateFormat format = context.getBean("dateFormat", SimpleDateFormat.class);
String dateString="31/12/2018";
         mvnw.cmd
          ■ pom.xml
                                                                                                                                                                                                                                                                                                                                                                                                       SpringLearnApplication [Java Application] C\Program Files\Zulu\zulu-17\bin\javaw.exe (Mar 19, 2024, 3:55:35 PM) [pid: 7416]
Parsed date:Mon Dec 31 00:00:00 IST 2018
Parsed date:Mon Dec 31 00:00:00 IST 2018
                                                                                         Smart Insert 16 · 23 · 499
                                                                                                                                                                                                                 Writable
```

Spring Core - Incorporate Logging

1. Created application.properties in src/main/resources folder



2. In SpringLearnApplication.java include the following imports

```
 Package Explorer × 🕒 💲 🖁 🗖 💹 SpringLearnApplication.java × 🖟 date-format.xml 🔑 SpringLearnApplicationTests.java 🗎 application.properties

    demomyfirst

                                                                                                                     1 package com.cognizant.springlearn;

    bandson1

    bandson2

    bandson2

    bandson3

    bandson3

    bandson3

    bandson4

    bandso
                                                                                                                   3eimport java.util.Date;
4 import java.text.ParseException;
5 import java.text.SimpleDateFormat;
   g-learn
(r/main/java import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.context.ApplicationContext;
import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

> # com.cognizant.springlearn

✓ Src/main/resources

                                                                                                              12 import org.slf4j.Logger;
13 import org.slf4j.LoggerFactory;
                 static
                                                                                                       application.properties
                   a date-format.xml

→ # com.cognizant.springlearn

☑ SpringLearnApplicationTests.ja

■ JRE System Library [JavaSE-17]

                                                                                                                                            //displayDate();
//SpringApplication.run(SpringLearnApplication.class, args);
           Mayen Dependencies

Src

                                                                                                                                                     SpringLearnApplication app = new SpringLearnApplication();

    HELP.md
```

3. Included the static variable in SpringLearnApplication.java:

```
Edit Source Refactor Navigate Search Project Run Window Help
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     □ B Outl... ×
■ Package Explorer × 🕒 😂 💲 🗖 🔟 SpringLearnApplication.java × 🖟 date-format.xml 🗓 SpringLearnApplicationTests.java 🗎 application.properties
                                                                                                                                                                       11
12 import org.slf4j.Logger;
13 import org.slf4j.LoggerFactory;

    demomyfirst

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       # com.cogniz
     wnlearn
       17
8 @SpringBootApplication
16 public class SpringLearnApplication {
17 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
18
19
10 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
19
10 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
10 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
10 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
11 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
12 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
13 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
14 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
15 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
16 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
17 private static final Logger LOGGER = LoggerFactory.getLogger(SpringLearnApplication.class);
18 private static final Logger LOGGER = Logge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ar LOGGER
       👺 spring-learn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   • s main(Stri
                                displayD

→ B com.cognizant.springlearn

→ Com.cog
                                                                                                                                                                                                             public static void main(String[] args) {
                                                                                                                                                                                                                                    //displaybate(),
//SpringApplication.run(SpringLearnApplication.class, args);
                             static
                              templates
                                                                                                                                                                                                                                       SpringLearnApplication app = new SpringLearnApplication();
                             application.properties
                                a date-format.xml
                src/test/java

→ 

⊕ com.cognizant.springlearn

☑ SpringLearnApplicationTests.ja

                                                                                                                                                                                                             public void displayDate()
                 ■ JRE System Library [JavaSE-17]
                                                                                                                                                                                                                                       ApplicationContext context = new ClassPathXmlApplicationContext("date-format.xml");
SimpleDateFormat format = context.getBean("dateFormat",SimpleDateFormat.class);
String dateString="31/12/2018";
LOGGER.info("START");
                 Maven Dependencies
                  target
```

4. After running the project shown the output.

```
🕯 Package Explorer × 🕒 😂 🖇 👛 🗓 🛽 SpringLearnApplication.java × 🖟 date-format.xml 🔻 SpringLearnApplicationTests.java 🗎 application.properties
                                                                                                                                    public void displayDate()
  ApplicationContext context = new ClassPathXmlApplicationContext("date-format.xm
SimpleDateFormat format = context.getBean("dateFormat", SimpleDateFormat.class);
String dateString="31/12/2018";
LOGGER.info("START");
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ∨ Ø<sub>k</sub> SpringLearr
 • s main(Stri
    src/main/java
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     displayD

> B com.cognizant.springlearn

                                                                                                                                                                ry{
    Date date=format.parse(dateString);
    System.out.println("Parsed date:"+date);
    String dates = new java.util.Date().toString();
    LOGGER.debug(dates);

    SpringLearnApplication.java

    src/main/resources

    static

    beta templates
    beta
                                                                                                                                              catch(ParseException e) {
    e.printStackTrace();
                 application.properties
                   a date-format.xml
        src/test/iava
                                                                                                                                                     LOGGER. info("END");

→ 
⊕ com.cognizant.springlearn

                   > § SpringLearnApplicationTests.ja

■ JRE System Library [JavaSE-17]

         Maven Dependencies
      > 🍃 src
          HELP.md
           mvnw
           mvnw.cmd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    **Lorenge (cterminated > SpringLearnApplication) CVProgram Files\Zulu\zulu-17\bin\javaw.exe (Mar 19, 2024, 4:21:25 PM - 4:21:26 PM) [pid: 3892]
16:21:26.421 [main] INFO com.cognizant.springlearn.SpringLearnApplication -- START
Parsed date:Mon Dec 31 00:00:00 IST 2018
16:21:26.427 [main] INFO com.cognizant.springlearn.SpringLearnApplication -- END
           lmx.moq 🖻
```

Spring Core – Load Country from Spring Configuration XML

 Created the country.xml file and included the requirement code in that.

```
Package Explorer × 🔻 👨 👸 🤻 🗖 🗓 Department.java 🗓 Country.java 🖟 SpringLeamApplication.java 🚯 country.xml ×

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                                                                                                mvnlearn
  ₩ sprincores

→ Src/main/iava

→ 
⊕ com.cognizant.springlearn.be

                                                                                                     Department.java
              Employee.java
               Skill.java

→ ⊕ com.cognizant.springlearn.co

                Employeecontroller.java

→ 

⊕ com.cognizant.springlearn.se

                                                                                                    </bean>
                  ☑ EmployeeService.java
         ✓ # com.springlearn.springlearn 37
388
                                                                                                   Country.java

➢ SpringLearnApplication.ja

        src/main/resources
             templates
               application.properties
             i) country.xml
              a dateformat.xml
                                                                                                                                                                                                                                                                                                                                                               in employex.ml
src/test/java
s
         HEI D md
```

2. Create Country class with following aspects:

```
private static final Logger LOGGER = LoggerFactory.getLogger(Country.class);
mvnlearn
                                            private String code;
private String name;
  LOGGER.debug("Inside Country Constructor");
                                           public String getCode() {
   LOGGER.debug("Get Code
   return code;
     # com.cognizant.springlearn.co
     public void setCode(String code) {
   LOGGER.debug("Set Code");
      FmploveeService.java
                                                LOGGER.debug( set
this.code = code;
     # com.springlearn.springlearn
      > 

Country.iava
   src/main/resources
                                            public String getName() {
                                                  LOGGER. debug ("Get Name");
     return name;
     templates
      application.properties
     country.xml
      dateformat.xml

    Declaration □ Console ×

      a employee.xml
                                SpringLearnApplication (1) [Wav Application] C.YProgram Files/Zulu/zulu-17bin/javaw.eve (Mar 19, 2024, 5:3950 PM) [pid: 23656]
240319 [17:39:53.027 | restartedMain | INFOL.0ptionalLiveReloadServer| startServer|LiveReload server is runnin 240319 [17:39:53.068 | restartedMain | INFOL.s.k.w.e.t.Tomcat#ebServer| startITomcat started on port 8080 240319 [17:39:53.088 | restartedMain | INFOL.s.SpringLearnApplication| logStarted|Started SpringLearnApplication|
   # src/test/iava
   Mayen Dependencies
```

- 3. Created a method displayCountry() in SpringLearnApplication.java, which will read the country bean from spring configuration file and display the country details.
- 4. Invoked displayCountry() method in main() method of SpringLearnApplication.java.

```
e Edit Source Refactor Navigate Search Project Run Window Help

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Package Explorer × 🕒 🙈 🖁 ™ 🗖 🖟 Department.java 🖟 Country.java 🖟 *SpringLearnApplication.java × 🖟 country.xml
                                                              try {
Date date = format.parse("31/12/2018");
 ₩ handson1
                                                              System.out.println(date);
} catch(Exception e) {
 ₩ sprincores
                                                                     e.printStackTrace();
 Spring-learn
    spring-recu.

≥ src/main/java

■ com.cognizant.springlearn.be

44

45=
46

> Src/main/java

                                                      public static void displayCountry()
       Employee.java
                                                            ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");
         ☑ Skill.java

    # com.cognizant.springlearn.co

                                                             List<Country> countries=(List<Country>) context.getBean("countryList");
                                                              for(Country country: countries) {
LOGGER.debug("Country: {}", country.toString());
       Employeecontroller.java

→ 
⊕ com.cognizant.springlearn.se

        EmployeeService.iava
      # com.springlearn.springlearn
                                                       /*public static void displayDate()

▶ Country.java

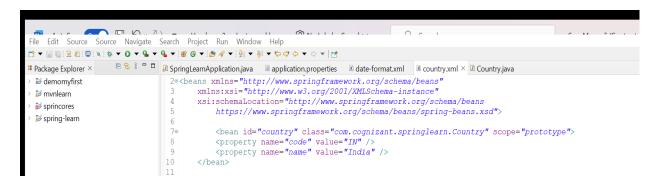
         ■ SpringLearnApplication.jav
                                                             LOGGER.info("START");
ApplicationContext context = new ClassPathXmlApplicationContext("dateformat.xml");
SimpleDateFormat format = context.getBean("dateFormat", SimpleDateFormat.class);
try {
Date date = format.parse("31/12/2018");
LOGGER.debug(date.toString());
//System.out.println(date);
} catch(Exception e) {
e.printStackTrace();
}
    src/main/resources
      application properties
       a country.xml
       a dateformat.xml
       employee.xml
    src/test/java
                                                              LOGGER.info("END");
   ■ JRE System Library (JavaSE-17)
                                                      public static void main(String[] args) {
    HEI D md
                                                                                                                  Smart Insert 43 · 6 · 1234
```

5. Run the application and shown the output.

```
Refactor Navigate Search Project Run Window Help
     ‡ Package Explorer × □ 💆 🐧 □ □ ② SpringLearnApplication.java × 🗎 application.properties 🔹 date-format.xml 🔹 country.xml ③ Country.java
 35 mvnlearn
                                                private static void displayCountries() {
   ApplicationContext context = new ClassPathXmlApplicationContext("country.xml");
   ArrayList<Country> countryList = context.getBean("countryList", ArrayList.class);
 LOGGER.debug("List of Countries:");
for (Country country: countryList) {
    LOGGER.debug(country.toString());
                                       68@public static void main(String[] args) (
                                                                                                                                                                               SpringLearnApplication [Java Application] C:\Program Files\Zulu\zulu-17\bin\javaw.exe (Mar 20, 2024, 12:01:03 PM) [pid: 19616]
                                       Web server failed to start. Port 8080 was already in use.
                                       Identify and stop the process that's listening on port 8080 or configure this application to listen on another port.
                                       Inside Country Constructor
                                       Inside Country Constructor
Setting name:India
Inside Country Constructor
Setting name:United States
Inside Country Constructor
Setting name:Germany
Inside Country Constructor
                                       Setting name:Japan
240320|12:03:51.109|restartedMain
                                                                                               | WARN|PathXmlApplicationContext|
                                                                                                                                                                     refresh|Exception encountered durin
```

Spring Core – Demonstration of Singleton Scope and Prototype Scope

- 1. Run the application
- 2. Constructor will be called twice, which means that two instances of country is created.



```
□ Console ×
SpringLearnApplication [Java Application] C:\Program Files\Zulu\zulu-17\bin\javaw.exe (Mar 20, 2024, 12:11:55 PM) [pid: 4936]
240320|12:11:59.498|restartedMain
                                              | INFO|s.b.w.e.t.TomcatWebServer|
                                                                                                     initialize|Tomcat initialized with por
240320|12:11:59.527|restartedMain
                                                INFO|o.a.c.c.StandardService
                                                                                                             log|Starting service [Tomcat]
240320|12:11:59.528|restartedMain
                                                INFO|o.a.c.core.StandardEngine|
                                                                                                             log|Starting Servlet engine: [A
240320|12:11:59.655|restartedMain
                                                INFO|o.a.c.c.C.[.[.[/] | log|Initializing Spring embedde
INFO|bServerApplicationContext|prepareWebApplicationContext|Root WebApplicationConte
240320|12:11:59.659|restartedMain
240320|12:12:00.430|restartedMain
                                                INFO|.OptionalLiveReloadServer|
                                                                                                   startServer|LiveReload server is runnin
                                                                                                    start|Tomcat started on port 8080
logStarted|Started SpringLearnApplicat
240320112:12:00.575|restartedMain
                                                INFO[s.b.w.e.t.TomcatWebServer]
240320|12:12:00.596|restartedMain
                                              | INFO|.s.SpringLearnApplication|
Inside Country Constructor
Setting name: United States
Inside Country Constructor
Setting name:Germany
Inside Country Constructor
Setting name:Japan
240320 | 12:12:00.755 | restartedMain
                                              | WARN|PathXmlApplicationContext|
                                                                                                         refresh|Exception encountered durin
```

Spring Core – Load list of countries from Spring Configuration XML

- 1. Created a separate bean for each of the four country in country.xml.
- 2. Created an ArrayList of Country in country.xml.

