## ways of injecting data : 1)Primitive type

ıg/Firstspring/Student.java - Eclipse IDE

```
ect Run Window Help
🗓 B.java 🔋 ref.xml 🔎 Test.java 🗷 elementasat... 🖹 elementasat... 🖹 omkar.xml 🗎 omkar.xml 🗎 usingpschema... 🗓 Student.java 🗡 🐾
       private String studentName;
      private String studentAddress;
 7⊝
      public int getStudentId() {
          return studentId;
      public void setStudentId(int studentId) {
10⊖
          this.studentId = studentId;
12
13⊝
      public String getStudentName() {
14
          return studentName;
15
      public void setStudentName(String studentName) {
16⊖
17
          this.studentName = studentName;
18
190
      public String getStudentAddress() {
20
         return studentAddress;
21
22⊜
      public void setStudentAddress(String studentAddress) {
23
          this.studentAddress = studentAddress;
24
      public Student(int studentId, String studentName, String studentAddress) {
25⊝
26
          super();
27
          this.studentId = studentId;
28
          this.studentName = studentName;
29
          this.studentAddress = studentAddress;
30
31⊝
      public Student() {
32
          super();
33
          // TODO Auto-generated constructor stub
34
35⊜
       @Override
36
      public String toString() {
37
          return "Student [studentId=" + studentId + ", studentName=" + studentName + ", studentAddress=" + student
38
```

```
sattribute.xml - Eclipse IDE
Window Help
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🛮 A.java 🔻 B.java 🗎 ref.xml 🚨 Test.java 🚨 App.java 🔳 elementasattribute.xml 🗎 elementasattribute.xml 🔻
   http://www.springframework.org/schema/beans/spring-beans-3.0.xsd (xsi:schemaLocation)
 1<?xml version="1.0" encoding="UTF-8"?>
 2 <beans xmlns="http://www.springframework.org/schema/beans"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xmlns:p="http://www.springframework.org/schema/p"
      xsi:schemaLocation="http://www.springframework.org/schema/beans
      http://www.springframework.org/schema/beans/spring-beans-3.0.xsd">
 8 <bean name="student1" class="com.spring.Firstspring.Student">
 9property name="studentId" value="1"/>
10 property name="studentName" value="aniket"/>
11roperty name="studentAddress" value="Mumbai"/>
12 </bean>
13
14 <bean name="student2" class="com.spring.Firstspring.Student">
15 property name="studentId" value="2"/>
16 property name="studentName" value="shubham"/>
17 property name="studentAddress" value="Shirwal"/>
18 </bean>
19
20 </beans>
21
22
ar.xml - Eclipse IDE
Run Window Help
🗵 🖸 A.java 🗓 B.java 📵 ref.xml 🔎 Test.java 🔑 App.java 🗵 elementasattribute.xml 📵 elementasattribute.xml 🗎 omkar.xml
      http://www.springframework.org/schema/beans/spring-beans-3.0.xsd (xsi:schemaLocation)
    1 <?xml version="1.0" encoding="UTF-8"?>
    2 <beans xmlns="http://www.springframework.org/schema/beans"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
          xmlns:p="http://www.springframework.org/schema/p"
          xsi:schemaLocation="http://www.springframework.org/schema/beans
         http://www.springframework.org/schema/beans/spring-beans-3.0.xsd">
    8 <bean name="student1" class="com.spring.Firstspring.Student">
    9property name="studentId">
   10 <value>1</value>
   11</property>
   13 cproperty name="studentName">
   14 < value > Omkar < / value >
   15</property>
   17 cproperty name="studentAddress">
   18 < value > Pune < / value >
   19</property>
   21</bean>
```

23</beans>

```
chema.xml - Eclipse IDE
 Window Help
🖸 A.java 🔹 B.java 🖟 ref.xml 🔑 Test.java 🔑 App.java 😨 elementasat... 🖹 elementasat... 🖹 omkar.xml 🗎 omkar.xml 🗎 omkar.xml
   pringframework.org/schema/beans/spring-beans-3.0.xsd (xsi:schemaLocation)
  1n="1.0" encoding="UTF-8"?>
  2 = "http://www.springframework.org/schema/beans"
  3i="http://www.w3.org/2001/XMLSchema-instance"
  4"http://www.springframework.org/schema/p"
  5 maLocation="http://www.springframework.org/schema/beans
  6 ww.springframework.org/schema/beans/spring-beans-3.0.xsd">
  8student1" class="com.spring.Firstspring.Student" p:studentId="1" p:studentName="omkar" p:studentAddress="Pune" />
 10student2" class="com.spring.Firstspring.Student" p:studentId="2" p:studentName="yuvraj" p:studentAddress="Karad" />
🔋 ref.xml 🔑 Test.java 🔑 App.java 🗡 🗷 elementasat... 🗎 elementasat... 🖹 omkar.xml 🗎 omkar.xml 🗎 usingpschema... 🗓 Student.java 🀾
                                                                                                                          _ _
1 package com.spring.Firstspring;
 3 import org.springframework.context.ApplicationContext;
 6 public class App
7 {
 80
       public static void main( String[] args )
 9
           //ApplicationContext context=new ClassPathXmlApplicationContext("omkar.xml");
11
           //Student stu=(Student)context.getBean("student1");
12
           //System.out.print(stu);
14
15
           //ApplicationContext context=new ClassPathXmlApplicationContext("elementasattribute.xml");
           //Student stu=(Student)context.getBean("student1");
16
17
           //Student stu2=(Student)context.getBean("student2");
           //System.out.print(stu);
19
           //System.out.print(stu2);
20
21
           ApplicationContext context=new ClassPathXmlApplicationContext("usingpschema.xml");
           Student stu=(Student)context.getBean("student1");
           Student stu2=(Student)context.getBean("student2");
23
24
           System.out.print(stu);
           System.out.print(stu2);
26
           //Primitive types of setter injection : omkar.xml(as element) ,elementasattribute.xml and usingpschema.xml
28
29
30
31 }
```

## 2)Collection type:

```
un Window Help
iava 🗷 elementasat... 🖟 elementasat... 🖟 omkar.xml 🗎 omkar.xml 🗎 usingpschema... 🖟 Studentjava 📝 Collectioni... × 🛂
  private String name;
private List<String> phoneno;
  private Set<String> address;
private Map<String ,String> courses;
  public String getName() {
    return name;
  public void setName(String name) {
      this.name = name;
  public List<String> getPhoneno() {
  public void setPhoneno(List<String> phoneno) {
      this.phoneno = phoneno;
  public Set<String> getAddress() {
  public void setAddress(Set<String> address) {
      this.address = address;
  public Map<String, String> getCourses() {
  public void setCourses(Map<String, String> courses) {
      this.courses = courses;
  public Collectioninjection(String name, List<String> phoneno, Set<String> address, Map<String, String> courses
      this.name = name;
      this.phoneno = phoneno;
this.address = address;
      About name- seadene etass- com.spring.injecteoficetoniype.coficetoninjection /
      property name="name" value="omkar"/>
      property name="phoneno" >
       <list>
           <value>9309944683
           <value>9309344683
           <value>9309944555
           <value>9303444683
       </list>
     </property>
     property name="address">
      <value>mumbai
      <value>pune</value>
      <value>nashik
      <value>nagpur</value>
      </set>
     </property>
      cproperty name="courses">
      <map>
      <entry key="java" value="1 year"/>
     <entry key="python" value="2 year"/>
<entry key="c++" value="1 year"/>
<entry key="data Science" value="2 year"/>
     </map>
     </property>
```

```
| Dapjava | Relementast. | Romkaram | Romkar
```

## 3)Injecting reference type:

```
eclipse-workspace - InjectCollectionType/src/main/java/com/spring/Injectref/A.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer × □ 🧐 🦻 🖟 □ 🖟 Ajava × 🖟 Bjava 🗎 ref.xml 🔑 Testjava 🔑 App.java
                                                                                                                                                                                          - - -
                                                1 package com.spring.Injectref;

→ 

Firstspring

→ 

src/main/java

                                                2
3 public class A {
4    private int x;
5    private B ob;
6e    public int getX() {
7       return x;
8    }

→ 

B com.spring.Firstspring

       > 🔑 App.java
        > 🗓 Student.java
                                             6⊕
7
8
9⊕
10
11
12⊕
13
14
15⊕
16
17
18⊕
19
20
21
22⊕
       R elementasattribute.xml
       omkar.xml
                                                      public void setX(int x) {
       usingpschema.xml
   ∨ / src/test/java
    v # com.spring.Firstspring
                                                       public B getOb() {
    return ob;
        > 

AppTest.java
   > M JRE System Library [jdk-21]
   > Maven Dependencies
                                                       public void setOb(B ob) {
   this.ob = ob;
   > 🗁 target
                                                       public A() {
     pom.xml
                                                            super();
// TODO Auto-generated constructor stub

→ 

B com.spring.InjectCollectionType

                                                       public String toString() {
    return "A [x=" + x + ", ob=" + ob + "]";
       > 🔑 App.java
        > 

Collectioninjection.java
     A.java
       → ② B.java
→ ② Test.java
         ref.xml
       config2xml.xml
   > 🎩 src/test/java
   > A JRE System Library [jdk-21]
```

```
eclipse-workspace - InjectCollectionType/src/main/java/com/spring/Injectref/B.java - Eclipse IDE
Project Explorer × □ % 7 | № % □ □ | A.java | B.java × □ refxml | D Testjava | D Appjava 

∨ □ Firstspring 1 package com.spring.Injectref;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          - - :

→ 

Firstspring

Firstspri

√ # src/main/java

                                                                                                                     public class B

√ 

Æ com.spring.Firstspring

                                                                                                                                    private int y;
                   > 🔝 App.java
                       Student.java
                                                                                                                                    public int getY() {
    return y;
                   R elementasattribute vml
                   ☑ omkar.xml

■ usingpschema.xml

                                                                                                                                    public void setY(int y) {
        ∨ # src/test/java
                                                                                                                                                 this.y = y;

→ 

⊕ com.spring.Firstspring

                        AppTest.java
        > ■ JRE System Library (idk-21)
                                                                                                                                   public B() {
        > Maven Dependencies
                                                                                                                                                super();
        > 😂 src
                                                                                                                                                // TODO Auto-generated constructor stub
       > 🗁 target
           Imx.mog
                                                                                                                                   @override
public String toString() {
    return "B [y=" + y + "]";
     v 🥬 src/main/java

√ 

# com.spring.InjectCollectionType

                   > 🏖 App.java
> 🖟 Collectioninjection.java
             > 🗓 B.java
                   > 💹 Test.java
                       x ref vml
                  config2xml.xml
        > # src/test/java
        > ■ JRE System Library [jdk-21]
💽 eclipse-workspace - InjectCollectionType/src/main/java/com/spring/Injectref/ref.xml - Eclipse IDE
  File Edit Source Navigate Search Project Run Window Help
 📑 😘 🎖 🔭 🖟 Å Ajava 🖟 B.java 🗎 ref.xml 🗡 🔑 Test.java 🔑 App.java
Project Explorer ×

→ 

| Firstspring | First
                                                                                                                                               1<?xml version="1.0" encoding="UTF-8"?>
                                                                                                                                              2 <beans xmlns="http://www.springframework.org/schema/beans"
3 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"</pre>
        ∨ ﷺ src/main/java

→ 

B com.spring.Firstspring

                                                                                                                                                                 xmlns:p="http://www.springframework.org/schema/p"
                      > 🕗 App.java
                                                                                                                                                                xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans-3.0.xsd">
                        >   Student.iava
                      x elementasattribute.xml
                                                                                                                                                                <bean name="bref" class="com.spring.Injectref.B">
cproperty name="y" value="10"/>
                      x omkar.xml
                      usingpschema.xml
        11
12

→ # com.spring.Firstspring

                                                                                                                                                                <bean name="aref" class="com.spring.Injectref.A">
                        > 🗓 AppTest.java
                                                                                                                                                                crom.sp
cproperty name="x" value="45"/>
cref bean="bref"/>
         > Mark JRE System Library [jdk-21]
                                                                                                                                          14
15
        > Maven Dependencies
                                                                                                                                                                 </property>
        > 🝃 src
                                                                                                                                                                </bean>
        > 🗁 target
               Imx.mog
  20 </beans>
        v 🏭 com.spring.InjectCollectionType
                        > 🕖 App.java
                      > 

Collectioninjection.java
                > 🗓 A.java
                       > 🗓 B.java
                      > 🕖 Test.java
                           ref.xml

    ★ config2xml.xml

         > # src/test/java
        > A JRE System Library [idk-21]
        > Maven Dependencies
```

> 🔑 src

```
| Contact | Cont
```