**Spring Assignment**

1. **For Setter Injection Main Class SpringQuestion1Test**

**package**Spring\_Core;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass** SpringQuestion1

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext = **new** ClassPathXmlApplicationContext("file:src/main/resources/Addressbean.xml");

Customer customer = (Customer)context.getBean("Customer");

System.***out***.println(customer);

}

}

**Address.java**

**package**Spring\_Core;

**publicclass** Address

{

**private** String city, street, state, country;

**privateint**zip;

**public** String getCity()

{

**return**city;

}

**publicvoid**setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return**street;

}

**publicvoid**setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return**state;

}

**publicvoid**setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return**country;

}

**publicvoid**setCountry(String country)

{

**this**.country = country;

}

**publicint**getZip()

{

**return**zip;

}

**publicvoid**setZip(**int**zip)

{

**this**.zip = zip;

}

}

**AddressBean.xml**

<beansxmlns=*"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-3.0.xsd"*>

<beanid=*"Address"*class=*"Spring\_Core.Address"*>

<propertyname=*"zip"*value=*"221"*/>

<propertyname=*"city"*value=*"London"*/>

<propertyname=*"street"*value=*"Baker Street"*/>

<propertyname=*"state"*value=*"World"*/>

<propertyname=*"country"*value=*"England"*/>

</bean>

<beanid=*"Customer"*class=*"Spring\_Core.Customer"*>

<propertyname=*"customerId"*value=*"123"*/>

<propertyname=*"customercontact"*value=*"123456"*/>

<propertyname=*"customerAddress"*ref=*"Address"*/>

<propertyname=*"customerName"*value=*"Sherlock Holmes"*/>

</bean>

</beans>

**Customer.java**

**package**Spring\_Core;

**publicclass** Customer

{

**privateint**customerId;

**privateint**customercontact;

**private** String customerName;

**private** Address customerAddress;

**publicint**getCustomerId()

{

**return**customerId;

}

**publicvoid**setCustomerId(**int**customerId)

{

**this**.customerId = customerId;

}

**publicint**getCustomercontact()

{

**return**customercontact;

}

**publicvoid**setCustomercontact(**int**customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return**customerAddress;

}

**publicvoid**setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return**customerName;

}

**publicvoid**setCustomerName(String customerName)

{

**this**.customerName = customerName;

}

**public** String toString()

{

**return**"Customer Id: "+getCustomerId()+ ", Customer Contact: "+getCustomercontact()+ ", Customer Address: {City: "+getCustomerAddress().getCity()+", Street: "+getCustomerAddress().getStreet()+", State: "+getCustomerAddress().getState()+", Country: "+getCustomerAddress().getCountry()+", Zip: "+getCustomerAddress().getZip()+"}, Customer Name: "+getCustomerName();

}

}

**For Constructor Main Class SpringQuestion1Test**

**package**Spring\_Core;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass** SpringQuestion1

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext1 = **new** ClassPathXmlApplicationContext("file:src/main/resources/Customer.xml");

Customer customer2 = (Customer)context1.getBean("Customer1");

System.***out***.println(customer2);

}

}

**For Constructor Address.java**

**package**Spring\_Core;

**publicclass** Address

{

**private** String city, street, state, country;

**privateint**zip;

**public** String getCity()

{

**return**city;

}

**publicvoid**setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return**street;

}

**publicvoid**setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return**state;

}

**publicvoid**setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return**country;

}

**publicvoid**setCountry(String country)

{

**this**.country = country;

}

**publicint**getZip()

{

**return**zip;

}

**publicvoid**setZip(**int**zip)

{

**this**.zip = zip;

}

**public**Address(String city, String street, String state, String country, **int**zip) {

**super**();

**this**.city = city;

**this**.street = street;

**this**.state = state;

**this**.country = country;

**this**.zip = zip;

}

}

**For Constructor Customer.java**

**package**Spring\_Core;

**publicclass** Customer

{

**privateint**customerId;

**privateint**customercontact;

**private** String customerName;

**private** Address customerAddress;

**public**Customer(**int**customerId, **int**customercontact, String customerName, Address customerAddress)

{

**this**.customerId = customerId;

**this**.customercontact = customercontact;

**this**.customerName = customerName;

**this**.customerAddress = customerAddress;

}

**publicint**getCustomerId()

{

**return**customerId;

}

**publicvoid**setCustomerId(**int**customerId)

{

**this**.customerId = customerId;

}

**publicint**getCustomercontact()

{

**return**customercontact;

}

**publicvoid**setCustomercontact(**int**customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return**customerAddress;

}

**publicvoid**setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return**customerName;

}

**publicvoid**setCustomerName(String customerName)

{

**this**.customerName = customerName;

}

**public** String toString()

{

**return**"Customer Id: "+getCustomerId()+ ", Customer Contact: "+getCustomercontact()+ ", Customer Address: {City: "+getCustomerAddress().getCity()+", Street: "+getCustomerAddress().getStreet()+", State: "+getCustomerAddress().getState()+", Country: "+getCustomerAddress().getCountry()+", Zip: "+getCustomerAddress().getZip()+"}, Customer Name: "+getCustomerName();

}

}

**For Constructor Customer.xml**

<beansxmlns=*"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-3.0.xsd"*>

<beanid=*"Address"*class=*"Spring\_Core.Address"*>

<constructor-argindex=*"0"*name=*"city"*type=*"java.lang.String"*value=*"London"*/>

<constructor-argindex=*"1"*name=*"street"*type=*"java.lang.String"*value=*"Baker Street"*/>

<constructor-argindex=*"2"*name=*"state"*type=*"java.lang.String"*value=*"World"*/>

<constructor-argindex=*"3"*name=*"country"*type=*"java.lang.String"*value=*"England"*/>

<constructor-argindex=*"4"*name=*"zip"*type=*"int"*value=*"221"*/>

</bean>

<beanid=*"Customer1"*class=*"Spring\_Core.Customer"*>

<constructor-argindex=*"0"*name=*"customerId"*type=*"int"*value=*"123"*/>

<constructor-argindex=*"1"*name=*"customercontact"*type=*"int"*value=*"123456"*/>

<constructor-argindex=*"2"*name=*"customerName"*type=*"java.lang.String"*value=*"Sherlock Holmes"*/>

<constructor-argindex=*"3"*name=*"customerAddress"*ref=*"Address"*/>

</bean>

</beans>

**Main Class Question2.java**

1. **package**Spring\_Core;

**importstatic**org.junit.jupiter.api.Assertions.\*;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**import**org.junit.jupiter.api.Test;

**class** Question2

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext = **new**ClassPathXmlApplicationContext("Coll.xml");

List list = (List) context.getBean("Collections");

System.***out***.println("List: " + list.getList());

}

}

**Question2.java**

**package**Spring\_Core;

**publicclass** Question

{

**privateint**questionId;

**private** String question, answers;

**publicvoid**setQuestionId(**int**questionId) {

**this**.questionId = questionId;

}

**publicvoid**setQuestion(String question) {

**this**.question = question;

}

**publicvoid**setAnswers(String answers) {

**this**.answers = answers;

}

**public** String toString()

{

**return**"Question ID: "+questionId+ ", Questions: "+question+ ", Answers: "+answers+"\n";

}

}

**List.java**

package Spring\_Core;

import java.util.ArrayList;

import java.util.Map;

import java.util.Set;

public class List

{

private ArrayList<Object>list;

private Set<Object>set;

private Map<Object, Object>map;

public ArrayList<Object>getList() {

return list;

}

public void setList(ArrayList<Object> list) {

this.list = list;

}

public Set<Object>getSet() {

return set;

}

public void setSet(Set<Object> set) {

this.set = set;

}

public Map<Object, Object>getMap() {

return map;

}

public void setMap(Map<Object, Object> map) {

this.map = map;

}

}

**Coll.xml**

<beansxmlns=*"http://www.springframework.org/schema/beans"*

xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*xmlns:p=*"http://www.springframework.org/schema/p"*

xmlns:aop=*"http://www.springframework.org/schema/aop"*xmlns:context=*"http://www.springframework.org/schema/context"*

xmlns:jee=*"http://www.springframework.org/schema/jee"*xmlns:tx=*"http://www.springframework.org/schema/tx"*

xmlns:task=*"http://www.springframework.org/schema/task"*xsi:schemaLocation=*"http://www.springframework.org/schema/aop http://www.springframework.org/schema/aop/spring-aop-3.2.xsd http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.2.xsd http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.2.xsd http://www.springframework.org/schema/jee http://www.springframework.org/schema/jee/spring-jee-3.2.xsd http://www.springframework.org/schema/tx http://www.springframework.org/schema/tx/spring-tx-3.2.xsd http://www.springframework.org/schema/task http://www.springframework.org/schema/task/spring-task-3.2.xsd"*>

<beanid=*"Collections"*class=*"Spring\_Core.List"*>

<propertyname=*"list"*>

<list>

<refbean=*"answers"*/>

<refbean=*"answers1"*/>

<refbean=*"answers2"*/>

</list>

</property>

</bean>

<beanid=*"answers"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Priyanshi"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"123"*/>

</bean>

<beanid=*"answers1"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Sreeja"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"456"*/>

</bean>

<beanid=*"answers2"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Nandini"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"789"*/>

</bean>

</beans>

**Main Class Question2.java**

**package**Spring\_Core;

**importstatic**org.junit.jupiter.api.Assertions.\*;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**import**org.junit.jupiter.api.Test;

**class** Question2

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext = **new**ClassPathXmlApplicationContext("Coll.xml");

List set = (List) context.getBean("Collections");

System.***out***.println("Set : " + set.getSet());

}

}

**Coll.xml**

<beansxmlns=*"http://www.springframework.org/schema/beans"*

xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*xmlns:p=*"http://www.springframework.org/schema/p"*

xmlns:aop=*"http://www.springframework.org/schema/aop"*xmlns:context=*"http://www.springframework.org/schema/context"*

xmlns:jee=*"http://www.springframework.org/schema/jee"*xmlns:tx=*"http://www.springframework.org/schema/tx"*

xmlns:task=*"http://www.springframework.org/schema/task"*xsi:schemaLocation=*"http://www.springframework.org/schema/aop http://www.springframework.org/schema/aop/spring-aop-3.2.xsd http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.2.xsd http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.2.xsd http://www.springframework.org/schema/jee http://www.springframework.org/schema/jee/spring-jee-3.2.xsd http://www.springframework.org/schema/tx http://www.springframework.org/schema/tx/spring-tx-3.2.xsd http://www.springframework.org/schema/task http://www.springframework.org/schema/task/spring-task-3.2.xsd"*>

<beanid=*"Collections"*class=*"Spring\_Core.List"*>

<propertyname=*"set"*>

<set>

<refbean=*"answers"*/>

<refbean=*"answers1"*/>

<refbean=*"answers2"*/>

</set>

</property>

</bean>

<beanid=*"answers"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Priyanshi"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"123"*/>

</bean>

<beanid=*"answers1"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Sreeja"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"456"*/>

</bean>

<beanid=*"answers2"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Nandini"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"789"*/>

</bean>

</beans>

**Main Class Question2.java**

**package**Spring\_Core;

**importstatic**org.junit.jupiter.api.Assertions.\*;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**import**org.junit.jupiter.api.Test;

**class** Question2

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext = **new**ClassPathXmlApplicationContext("Coll.xml");

List map = (List) context.getBean("Collections");

System.***out***.println("Map : " + map.getMap());

}

}

**Coll.xml**

<beansxmlns=*"http://www.springframework.org/schema/beans"*

xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*xmlns:p=*"http://www.springframework.org/schema/p"*

xmlns:aop=*"http://www.springframework.org/schema/aop"*xmlns:context=*"http://www.springframework.org/schema/context"*

xmlns:jee=*"http://www.springframework.org/schema/jee"*xmlns:tx=*"http://www.springframework.org/schema/tx"*

xmlns:task=*"http://www.springframework.org/schema/task"*xsi:schemaLocation=*"http://www.springframework.org/schema/aop http://www.springframework.org/schema/aop/spring-aop-3.2.xsd http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans-3.2.xsd http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-3.2.xsd http://www.springframework.org/schema/jee http://www.springframework.org/schema/jee/spring-jee-3.2.xsd http://www.springframework.org/schema/tx http://www.springframework.org/schema/tx/spring-tx-3.2.xsd http://www.springframework.org/schema/task http://www.springframework.org/schema/task/spring-task-3.2.xsd"*>

<beanid=*"Collections"*class=*"Spring\_Core.List"*>

<propertyname=*"map"*>

<map>

<entrykey=*"1"*value-ref=*"answers"*/>

<entrykey=*"2"*value-ref=*"answers1"*/>

<entrykey=*"3"*value-ref=*"answers2"*/>

</map>

</property>

</bean>

<beanid=*"answers"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Priyanshi"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"123"*/>

</bean>

<beanid=*"answers1"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Sreeja"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"456"*/>

</bean>

<beanid=*"answers2"*class=*"Spring\_Core.Question"*>

<propertyname=*"answers"*value=*"Nandini"*/>

<propertyname=*"question"*value=*"What's your name?"*/>

<propertyname=*"questionId"*value=*"789"*/>

</bean>

</beans>

**5. @Resource Annotation**

**Employee.java**

**import**org.springframework.beans.factory.annotation.Required;

**publicclass** Employee {

**private** String id;

**private** String name;

@Resource(name="mycompany")

**private** Company company;

**public** String getId() {

**return**id;

}

**publicvoid**setId(String id) {

**this**.id = id;

}

**public** String getName() {

**return**name;

}

@Required

**publicvoid**setName(String name) {

**this**.name = name;

}

**public** Company getCompany() {

**return**company;

}

**publicvoid**setCompany(Company company) {

**this**.company = company;

}

@Override

**public** String toString() {

**return**"Employee [id=" + id + ", name=" + name + ", company=" + company.toString() + "]";

}

}

**Company.java**

**package**New;

**publicclass** Company {

**private** String name;

**private** String location;

**public** String getName() {

**return**name;

}

**publicvoid**setName(String name) {

**this**.name = name;

}

**public** String getLocation() {

**return**location;

}

**publicvoid**setLocation(String location) {

**this**.location = location;

}

@Override

**public** String toString() {

**return**"Company [name=" + name + ", location=" + location + "]";

}

}

**Test.java**

**package**New;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass** Test {

@SuppressWarnings("resource")

**publicstaticvoid**main(String[] args) {

ApplicationContextcontext = **new**ClassPathXmlApplicationContext("n.xml");

Employee emp=(Employee) context.getBean("myemployee");

System.***out***.println(emp.toString());

}

}

**XML File**

<?xmlversion=*"1.0"*encoding=*"UTF-8"*?>

<beansxmlns=*"http://www.springframework.org/schema/beans"*

xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*xmlns:context=*"http://www.springframework.org/schema/context"*

xsi:schemaLocation=*"*

*http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans.xsd*

*http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context.xsd"*>

<!-- To activate the '@Resource' annotation in the spring framework -->

<context:annotation-config/>

<beanid=*"mycompany"*class=*"New.Company"*>

<propertyname=*"name"*value=*"Test Pvt. Ltd."*/>

<propertyname=*"location"*value=*"India"*/>

</bean>

<beanid=*"myemployee"*class=*"New.Employee"*>

<propertyname=*"id"*value=*"126"*/>

<propertyname=*"name"*value=*"Nam"*/>

</bean></beans>

**@Inject Annotation**

**Employee.java**

**publicclass** Employee {

**private** String id;

**private** String name;

@Inject

**private** Company company;

**public** String getId() {

**return**id;

}

**publicvoid**setId(String id) {

**this**.id = id;

}

**public** String getName() {

**return**name;

}

@Required

**publicvoid**setName(String name) {

**this**.name = name;

}

**public** Company getCompany() {

**return**company;

}

**publicvoid**setCompany(Company company) {

**this**.company = company;

}

@Override

**public** String toString() {

**return**"Employee [id=" + id + ", name=" + name + ", company=" + company.toString() + "]";

}

}

1. **package**Spring\_Core;

**import**java.beans.Expression;

**import**org.springframework.expression.ExpressionParser;

**import**org.springframework.expression.spel.standard.SpelExpressionParser;

**publicclass** Question7

{

**publicstaticvoid**main(String[] args) **throws** Exception

{

ExpressionParserparser = **new**SpelExpressionParser();

//arithmetic operator

System.***out***.println(parser.parseExpression("'Welcome SPEL'+'!'").getValue());

System.***out***.println(parser.parseExpression("10 \* 10/2").getValue());

System.***out***.println(parser.parseExpression("'Today is: '+ new java.util.Date()").getValue());

//logical operator

System.***out***.println(parser.parseExpression("True and True").getValue());

//Relational operator

System.***out***.println(parser.parseExpression("'sonoo'.length()==5").getValue());

}

}

**8. CustomerService.java (1st Way)**

**package**QuestionEight;

**import**org.springframework.beans.factory.DisposableBean;

**import**org.springframework.beans.factory.InitializingBean;

**publicclass**CustomerService**implements**InitializingBean, DisposableBean {

**private** String msg;

**public** String getMsg() {

**return**msg;

}

**publicvoid**setMsg(String msg) {

**this**.msg = msg;

}

**publicvoid**destroy() **throws** Exception {

// **TODO** Auto-generated method stub

System.***out***.println("Spring Container is destroy! Customer clean up");

}

**publicvoid**afterPropertiesSet() **throws** Exception {

// **TODO** Auto-generated method stub

System.***out***.println("Init method after properties are set : " + msg);

}}

**Snippet.java**

**package**QuestionEight;

**import**org.springframework.context.ConfigurableApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass** Snippet {

**publicstaticvoid**main(String[] args) {

ConfigurableApplicationContextcontext = **new**ClassPathXmlApplicationContext(

**new**String[] { "SpringCustomer.xml" });

CustomerServicecust = (CustomerService) context.getBean("customerService");

System.***out***.println(cust);

context.close();

}

}

**xml File**

<?xmlversion=*"1.0"*encoding=*"UTF-8"*?>

<beansxmlns=*"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-2.5.xsd"*>

<beanid=*"customerService"*class=*"QuestionEight.CustomerService"*>

<propertyname=*"msg"*value=*"i'm property message"*/>

</bean>

</beans>

**MyBean.java (2nd Way)**

**package**QuestionEight;

**import**javax.annotation.PostConstruct;

**import**javax.annotation.PreDestroy;

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

**import**org.springframework.stereotype.Component;

@Component

**publicclass**MyBean {

**public**MyBean() {

System.***out***.println("MyBean instance created");

}

@PostConstruct

**privatevoid**init() {

System.***out***.println("Verifying Resources");

}

@PreDestroy

**privatevoid**shutdown() {

System.***out***.println("Shutdown All Resources");

}

**publicvoid**close() {

System.***out***.println("Closing All Resources");

}

}

**SpringApp.java**

**package**QuestionEight;

**import**org.springframework.context.annotation.AnnotationConfigApplicationContext;

**publicclass**SpringApp {

**publicstaticvoid**main(String[] args) {

AnnotationConfigApplicationContextctx = **new**AnnotationConfigApplicationContext();

ctx.register(MyConfiguration.**class**);

ctx.refresh();

MyBeanmb1 = ctx.getBean(MyBean.**class**);

System.***out***.println(mb1.hashCode());

MyBeanmb2 = ctx.getBean(MyBean.**class**);

System.***out***.println(mb2.hashCode());

ctx.close();

}

}

**HelloWorld.java**

1. **package**Spring\_Core;

**publicclass** HelloWorld {

**publicvoid**init() **throws** Exception

{

System.***out***.println(

"Bean HelloWorld has been "

+ "instantiated and I'm "

+ "the init() method");

}

// This method executes

// when the spring container

// is closed

**publicvoid**destroy() **throws** Exception

{

System.***out***.println(

"Container has been closed "

+ "and I'm the destroy() method");

}

}

**Client.java(Main)**

**import**org.springframework.context.ConfigurableApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass** Client {

**publicstaticvoid**main(String[] args) **throws** Exception {

ConfigurableApplicationContextcap = **new**ClassPathXmlApplicationContext("spring.xml");

cap.close();

}

}

**xml File**

<beansxmlns=*"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"*>

<beanid=*"HelloBean"*class=*"springcore\_example.HelloBean"*>

<propertyname=*"name"*value=*"sarika"*>

</property>

</bean>

</beans>

**Apcontext.java**

1. **package**example;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.support.ClassPathXmlApplicationContext;

**publicclass**Apcontext

{

@SuppressWarnings("unused")

**privatestatic**ApplicationContext*context*;

**publicstaticvoid**main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContextcontext = **new** ClassPathXmlApplicationContext("file:src/main/resources/Addressbean.xml");

Customer customer = (Customer)context.getBean("Customer");

System.***out***.println(customer);

}

}

**AddressBean.xml**

<beansxmlns=*"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-3.0.xsd"*>

<beanid=*"Address"*class=*"example.Address"*>

<propertyname=*"zip"*value=*"221"*/>

<propertyname=*"city"*value=*"London"*/>

<propertyname=*"street"*value=*"Baker Street"*/>

<propertyname=*"state"*value=*"World"*/>

<propertyname=*"country"*value=*"England"*/>

</bean>

<beanid=*"Customer"*class=*"example.Customer"*>

<propertyname=*"customerId"*value=*"123"*/>

<propertyname=*"customercontact"*value=*"123456"*/>

<propertyname=*"customerAddress"*ref=*"Address"*/>

<propertyname=*"customerName"*value=*"Sherlock Holmes"*/>

</bean>

**Customer.java**

**package**example;

**import**org.springframework.beans.BeansException;

**import**org.springframework.beans.factory.BeanNameAware;

**import**org.springframework.context.ApplicationContext;

**import**org.springframework.context.ApplicationContextAware;

//we used setter based dependency injection to demonstrate ApplicationContextAware Interface

**publicclass** Customer **implements**ApplicationContextAware, BeanNameAware{

**privateint**customerId;

**privateint**customercontact;

**private** String customerName;

**private** Address customerAddress;

@SuppressWarnings("unused")

**private**ApplicationContextContext = **null**;

**publicint**getCustomerId()

{

**return**customerId;

}

**publicvoid**setCustomerId(**int**customerId)

{

**this**.customerId = customerId;

}

**publicint**getCustomercontact()

{

**return**customercontact;

}

**publicvoid**setCustomercontact(**int**customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return**customerAddress;

}

**publicvoid**setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return**customerName;

}

**publicvoid**setCustomerName(String customerName)

{

**this**.customerName = customerName;

}

**public** String toString()

{

**return**"Customer Id: "+getCustomerId()+ ", Customer Contact: "+getCustomercontact()+ ", Customer Address: {City: "+getCustomerAddress().getCity()+", Street: "+getCustomerAddress().getStreet()+", State: "+getCustomerAddress().getState()+", Country: "+getCustomerAddress().getCountry()+", Zip: "+getCustomerAddress().getZip()+"}, Customer Name: "+getCustomerName();

}

**publicvoid**setApplicationContext(ApplicationContextContext) **throws**BeansException {

**this**.Context= Context;

}

**publicvoid**setBeanName(String BeanName) {

System.***out***.println("Bean name is: "+BeanName);

}

}

**Address.java**

**package**example;

**publicclass** Address {

**private** String city, street, state, country;

**privateint**zip;

**public** String getCity()

{

**return**city;

}

**publicvoid**setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return**street;

}

**publicvoid**setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return**state;

}

**publicvoid**setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return**country;

}

**publicvoid**setCountry(String country)

{

**this**.country = country;

}

**publicint**getZip()

{

**return**zip;

}

**publicvoid**setZip(**int**zip)

{

**this**.zip = zip;

}

}