**Spring Assignment**

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

**package** Spring\_Core;

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

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

**public** **class** SpringQuestion1

{

@SuppressWarnings("unused")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

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

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

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

}

}

**Address.java**

**package** Spring\_Core;

**public** **class** Address

{

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

**private** **int** zip;

**public** String getCity()

{

**return** city;

}

**public** **void** setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return** street;

}

**public** **void** setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return** state;

}

**public** **void** setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return** country;

}

**public** **void** setCountry(String country)

{

**this**.country = country;

}

**public** **int** getZip()

{

**return** zip;

}

**public** **void** setZip(**int** zip)

{

**this**.zip = zip;

}

}

**AddressBean.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-3.0.xsd"*>

<bean id = *"Address"* class = *"Spring\_Core.Address"*>

<property name = *"zip"* value = *"221"*/>

<property name = *"city"* value = *"London"*/>

<property name = *"street"* value = *"Baker Street"*/>

<property name = *"state"* value = *"World"*/>

<property name = *"country"* value = *"England"*/>

</bean>

<bean id = *"Customer"* class = *"Spring\_Core.Customer"*>

<property name = *"customerId"* value = *"123"*/>

<property name = *"customercontact"* value = *"123456"*/>

<property name = *"customerAddress"* ref = *"Address"*/>

<property name = *"customerName"* value = *"Sherlock Holmes"*/>

</bean>

</beans>

**Customer.java**

**package** Spring\_Core;

**public** **class** Customer

{

**private** **int** customerId;

**private** **int** customercontact;

**private** String customerName;

**private** Address customerAddress;

**public** **int** getCustomerId()

{

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId)

{

**this**.customerId = customerId;

}

**public** **int** getCustomercontact()

{

**return** customercontact;

}

**public** **void** setCustomercontact(**int** customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return** customerAddress;

}

**public** **void** setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return** customerName;

}

**public** **void** 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;

**public** **class** SpringQuestion1

{

@SuppressWarnings("unused")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContext context1 = **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;

**public** **class** Address

{

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

**private** **int** zip;

**public** String getCity()

{

**return** city;

}

**public** **void** setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return** street;

}

**public** **void** setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return** state;

}

**public** **void** setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return** country;

}

**public** **void** setCountry(String country)

{

**this**.country = country;

}

**public** **int** getZip()

{

**return** zip;

}

**public** **void** 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;

**public** **class** Customer

{

**private** **int** customerId;

**private** **int** 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;

}

**public** **int** getCustomerId()

{

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId)

{

**this**.customerId = customerId;

}

**public** **int** getCustomercontact()

{

**return** customercontact;

}

**public** **void** setCustomercontact(**int** customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return** customerAddress;

}

**public** **void** setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return** customerName;

}

**public** **void** 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**

<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-3.0.xsd"*>

<bean id = *"Address"* class = *"Spring\_Core.Address"*>

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

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

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

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

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

</bean>

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

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

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

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

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

</bean>

</beans>

**Main Class Question2.java**

1. **package** Spring\_Core;

**import** **static** 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")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContext context = **new** ClassPathXmlApplicationContext("Coll.xml");

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

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

}

}

**Question2.java**

**package** Spring\_Core;

**public** **class** Question

{

**private** **int** questionId;

**private** String question, answers;

**public** **void** setQuestionId(**int** questionId) {

**this**.questionId = questionId;

}

**public** **void** setQuestion(String question) {

**this**.question = question;

}

**public** **void** 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**

<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"*

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"*>

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

<property name=*"list"*>

<list>

<ref bean=*"answers"* />

<ref bean=*"answers1"* />

<ref bean=*"answers2"* />

</list>

</property>

</bean>

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

<property name=*"answers"* value=*"Priyanshi"*/>

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

<property name = *"questionId"* value = *"123"*/>

</bean>

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

<property name=*"answers"* value=*"Sreeja"*/>

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

<property name = *"questionId"* value = *"456"*/>

</bean>

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

<property name=*"answers"* value=*"Nandini"*/>

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

<property name = *"questionId"* value = *"789"*/>

</bean>

</beans>

**Main Class Question2.java**

**package** Spring\_Core;

**import** **static** 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")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContext context = **new** ClassPathXmlApplicationContext("Coll.xml");

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

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

}

}

**Coll.xml**

<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"*

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"*>

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

<property name=*"set"*>

<set>

<ref bean=*"answers"* />

<ref bean=*"answers1"* />

<ref bean=*"answers2"* />

</set>

</property>

</bean>

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

<property name=*"answers"* value=*"Priyanshi"*/>

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

<property name = *"questionId"* value = *"123"*/>

</bean>

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

<property name=*"answers"* value=*"Sreeja"*/>

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

<property name = *"questionId"* value = *"456"*/>

</bean>

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

<property name=*"answers"* value=*"Nandini"*/>

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

<property name = *"questionId"* value = *"789"*/>

</bean>

</beans>

**Main Class Question2.java**

**package** Spring\_Core;

**import** **static** 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")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

ApplicationContext context = **new** ClassPathXmlApplicationContext("Coll.xml");

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

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

}

}

**Coll.xml**

<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"*

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"*>

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

<property name=*"map"*>

<map>

<entry key=*"1"* value-ref=*"answers"* />

<entry key=*"2"* value-ref=*"answers1"* />

<entry key=*"3"* value-ref=*"answers2"* />

</map>

</property>

</bean>

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

<property name=*"answers"* value=*"Priyanshi"*/>

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

<property name = *"questionId"* value = *"123"*/>

</bean>

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

<property name=*"answers"* value=*"Sreeja"*/>

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

<property name = *"questionId"* value = *"456"*/>

</bean>

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

<property name=*"answers"* value=*"Nandini"*/>

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

<property name = *"questionId"* value = *"789"*/>

</bean>

</beans>

**5. @Resource Annotation**

**Employee.java**

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

**public** **class** Employee {

**private** String id;

**private** String name;

@Resource(name="mycompany")

**private** Company company;

**public** String getId() {

**return** id;

}

**public** **void** setId(String id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

@Required

**public** **void** setName(String name) {

**this**.name = name;

}

**public** Company getCompany() {

**return** company;

}

**public** **void** setCompany(Company company) {

**this**.company = company;

}

@Override

**public** String toString() {

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

}

}

**Company.java**

**package** New;

**public** **class** Company {

**private** String name;

**private** String location;

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** String getLocation() {

**return** location;

}

**public** **void** 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;

**public** **class** Test {

@SuppressWarnings("resource")

**public** **static** **void** main(String[] args) {

ApplicationContext context = **new** ClassPathXmlApplicationContext("n.xml");

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

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

}

}

**XML File**

<?xml version=*"1.0"* encoding=*"UTF-8"*?>

<beans xmlns=*"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 />

<bean id=*"mycompany"* class=*"New.Company"*>

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

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

</bean>

<bean id=*"myemployee"* class=*"New.Employee"*>

<property name=*"id"* value=*"126"* />

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

</bean></beans>

**@Inject Annotation**

**Employee.java**

**public** **class** Employee {

**private** String id;

**private** String name;

@Inject

**private** Company company;

**public** String getId() {

**return** id;

}

**public** **void** setId(String id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

@Required

**public** **void** setName(String name) {

**this**.name = name;

}

**public** Company getCompany() {

**return** company;

}

**public** **void** 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;

**public** **class** Question7

{

**public** **static** **void** main(String[] args) **throws** Exception

{

ExpressionParser parser = **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;

**public** **class** CustomerService **implements** InitializingBean, DisposableBean {

**private** String msg;

**public** String getMsg() {

**return** msg;

}

**public** **void** setMsg(String msg) {

**this**.msg = msg;

}

**public** **void** destroy() **throws** Exception {

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

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

}

**public** **void** 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;

**public** **class** Snippet {

**public** **static** **void** main(String[] args) {

ConfigurableApplicationContext context = **new** ClassPathXmlApplicationContext(

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

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

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

context.close();

}

}

**xml File**

<?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-2.5.xsd"*>

<bean id=*"customerService"* class=*"QuestionEight.CustomerService"*>

<property name=*"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

**public** **class** MyBean {

**public** MyBean() {

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

}

@PostConstruct

**private** **void** init() {

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

}

@PreDestroy

**private** **void** shutdown() {

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

}

**public** **void** close() {

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

}

}

**SpringApp.java**

**package** QuestionEight;

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

**public** **class** SpringApp {

**public** **static** **void** main(String[] args) {

AnnotationConfigApplicationContext ctx = **new** AnnotationConfigApplicationContext();

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

ctx.refresh();

MyBean mb1 = ctx.getBean(MyBean.**class**);

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

MyBean mb2 = ctx.getBean(MyBean.**class**);

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

ctx.close();

}

}

**HelloWorld.java**

1. **package** Spring\_Core;

**public** **class** HelloWorld {

**public** **void** 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

**public** **void** 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;

**public** **class** Client {

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

ConfigurableApplicationContext cap = **new** ClassPathXmlApplicationContext("spring.xml");

cap.close();

}

}

**xml File**

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

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

</property>

</bean>

</beans>

**Apcontext.java**

1. **package** example;

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

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

**public** **class** Apcontext

{

@SuppressWarnings("unused")

**private** **static** ApplicationContext *context*;

**public** **static** **void** main(String[] args)

{

@SuppressWarnings("resource")

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

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

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

}

}

**AddressBean.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-3.0.xsd"*>

<bean id = *"Address"* class = *"example.Address"*>

<property name = *"zip"* value = *"221"*/>

<property name = *"city"* value = *"London"*/>

<property name = *"street"* value = *"Baker Street"*/>

<property name = *"state"* value = *"World"*/>

<property name = *"country"* value = *"England"*/>

</bean>

<bean id = *"Customer"* class = *"example.Customer"*>

<property name = *"customerId"* value = *"123"*/>

<property name = *"customercontact"* value = *"123456"*/>

<property name = *"customerAddress"* ref = *"Address"*/>

<property name = *"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

**public** **class** Customer **implements** ApplicationContextAware, BeanNameAware{

**private** **int** customerId;

**private** **int** customercontact;

**private** String customerName;

**private** Address customerAddress;

@SuppressWarnings("unused")

**private** ApplicationContext Context = **null**;

**public** **int** getCustomerId()

{

**return** customerId;

}

**public** **void** setCustomerId(**int** customerId)

{

**this**.customerId = customerId;

}

**public** **int** getCustomercontact()

{

**return** customercontact;

}

**public** **void** setCustomercontact(**int** customercontact)

{

**this**.customercontact = customercontact;

}

**public** Address getCustomerAddress()

{

**return** customerAddress;

}

**public** **void** setCustomerAddress(Address customerAddress)

{

**this**.customerAddress = customerAddress;

}

**public** String getCustomerName()

{

**return** customerName;

}

**public** **void** 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();

}

**public** **void** setApplicationContext(ApplicationContext Context) **throws** BeansException {

**this**.Context= Context;

}

**public** **void** setBeanName(String BeanName) {

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

}

}

**Address.java**

**package** example;

**public** **class** Address {

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

**private** **int** zip;

**public** String getCity()

{

**return** city;

}

**public** **void** setCity(String city)

{

**this**.city = city;

}

**public** String getStreet()

{

**return** street;

}

**public** **void** setStreet(String street)

{

**this**.street = street;

}

**public** String getState()

{

**return** state;

}

**public** **void** setState(String state)

{

**this**.state = state;

}

**public** String getCountry()

{

**return** country;

}

**public** **void** setCountry(String country)

{

**this**.country = country;

}

**public** **int** getZip()

{

**return** zip;

}

**public** **void** setZip(**int** zip)

{

**this**.zip = zip;

}

}