**Bean Wiring Through Xml**

Wiring is the method by which you specify the relationships between various beans in your application i.e. if a bean A is dependent on another bean B, then the method of specifying that relationship is called wiring.

**What is bean wiring?**

- Bean wiring is the process of combining beans with spring container. The required beans are to be informed to the container and how the container should use dependency injection to tie them together, at the time of wiring the beans.

**What is bean wiring?**

- Combining together beans within the spring container is known as bean wiring or wiring. When wiring beans, you should tell the container what beans are needed and how the container should use dependency injection to tie them together.

We are talking about spring wiring using XML configuration. Before moving forward let’s see in brief what spring wiring is.

Wiring means referring a bean from another bean. It helps us to keep our application objects loosely coupled through dependency injection (DI).

When our spring application is going up, an application context loads beans definitions from configuration file and wires them together.

Bean wiring means we wire the properties of class through xml, set the values into properties of class.

Let’s see an example.

**Body.java**

**package** com.doj.spring;

**public** **class** Body {

String bodyType;

**public** String getBodyType() {

**return** bodyType;

}

**public** **void** setBodyType(String bodyType) {

**this**.bodyType = bodyType;

}

}

**Engine.java**

**package** com.doj.spring;

**public** **class** Engine {

String engineName;

**public** String getEngineName() {

**return** engineName;

}

**public** **void** setEngineName(String engineName) {

**this**.engineName = engineName;

}

}

**Tyre.java**

**package** com.doj.spring;

**public** **class** Tyre {

String tyreName;

**public** String getTyreName() {

**return** tyreName;

}

**public** **void** setTyreName(String tyreName) {

**this**.tyreName = tyreName;

}

}

**Engine.java**

**package** com.doj.spring;

**public** **class** Engine {

String engineName;

**public** String getEngineName() {

**return** engineName;

}

**public** **void** setEngineName(String engineName) {

**this**.engineName = engineName;

}

}

**Car.java**

**package** com.doj.spring;

**public** **class** Car {

Engine engine;

Tyre tyre;

Body body;

**public** **void** setEngine(Engine engine) {

**this**.engine = engine;

}

**public** **void** setTyre(Tyre tyre) {

**this**.tyre = tyre;

}

**public** **void** setBody(Body body) {

**this**.body = body;

}

**public** Car(Engine engine, Tyre tyre, Body body) {

**super**();

**this**.engine = engine;

**this**.tyre = tyre;

**this**.body = body;

}

**public** Car() {

**super**();

}

**public** **void** driveCar(){

System.*out*.println("You are driving a car which has a engine "+**this**.engine.engineName

+" has a tyre "+**this**.tyre.getTyreName()+" has a body "+**this**.body.getBodyType());

}

}

**CarDemo.java**

**package** com.doj.spring;

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

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

**public** **class** CarDemo {

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

AbstractApplicationContext context = **new** ClassPathXmlApplicationContext("spring.xml");

Car car = (Car) context.getBean("car");

car.driveCar();

context.close();

}

}

**Spring.xml**

<?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.xsd"*>

<!-- Explicit Bean Wiring in XML Configuration -->

<!--

How many types we can inject a bean

1. Setter Injection

2. Constructor Injection

-->

<!-- bean definitions here -->

<!-- 1. Setter Injection -->

<!-- <bean class="com.doj.spring.Car" id="car">

<property name="tyre" ref="tyre"></property>

<property name="body" ref="body"></property>

<property name="engine" ref="engine"></property>

</bean> -->

<!-- 2. Constructor Injection -->

<bean class=*"com.doj.spring.Car"* id=*"car"*>

<constructor-arg name=*"tyre"* ref=*"tyre"* ></constructor-arg>

<constructor-arg name=*"body"* ref=*"body"*></constructor-arg>

<constructor-arg name=*"engine"* ref=*"engine"*></constructor-arg>

</bean>

<!-- STEEL -->

<bean class=*"com.doj.spring.Body"* id=*"body"*>

<property name=*"bodyType"* value=*"STEEL"*></property>

</bean>

<!-- FORD -->

<bean class=*"com.doj.spring.Engine"* id=*"engine"*>

<property name=*"engineName"* value=*"FORD"*></property>

</bean>

<!-- MRF -->

<bean class=*"com.doj.spring.Tyre"* id=*"tyre"*>

<property name=*"tyreName"* value=*"MRF"*></property>

</bean>

</beans>