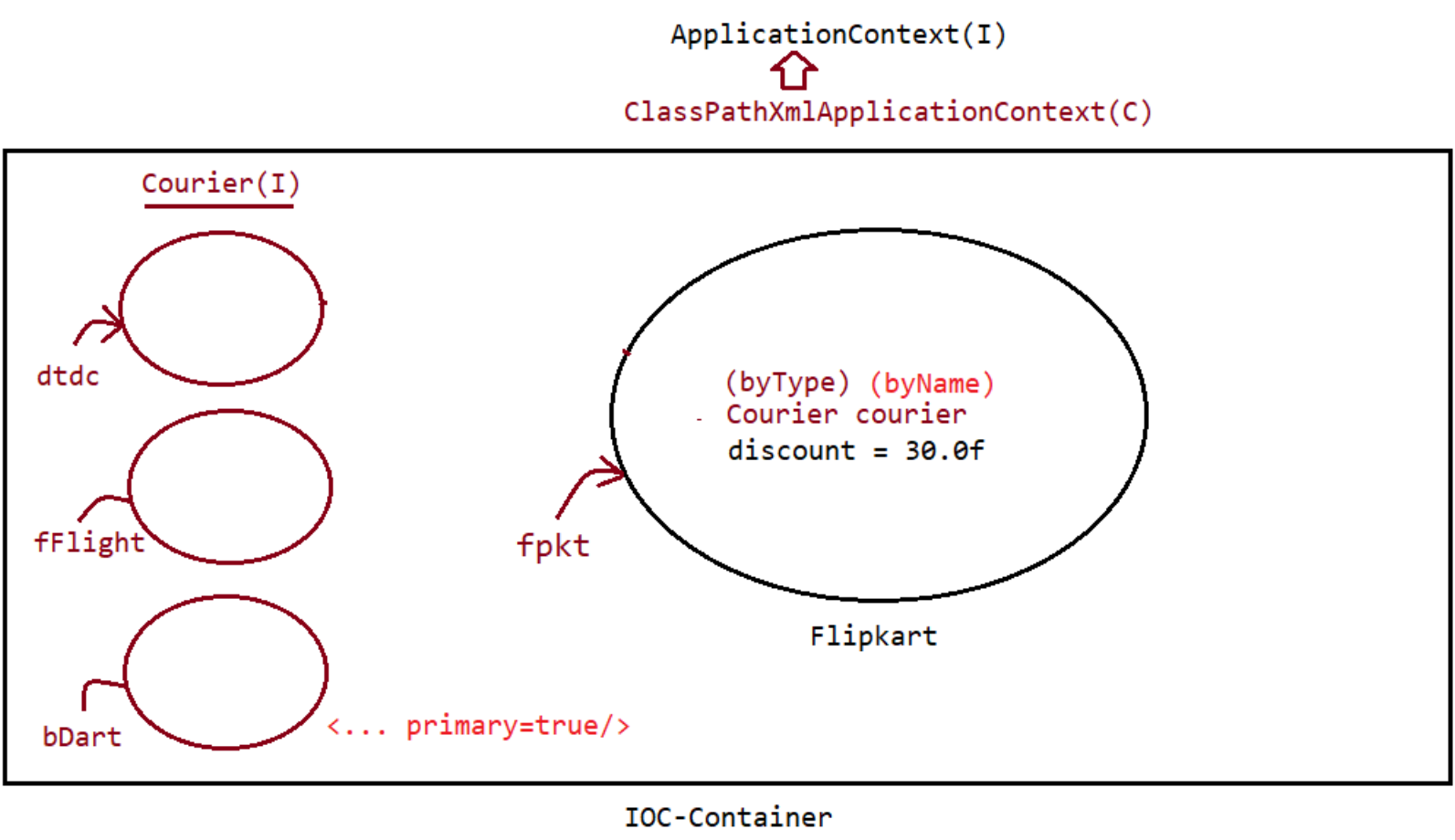


Autowiring



## CollectionMerging

-----

=> It should be used along with BeanInheritance  
=> It can be applied only on collection/array type bean properties.  
=> It is all about adding more values collection/array type property in the child bean cfg by inheriting from parent bean cfg.

### applicationContext.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"
       xmlns:context="http://www.springframework.org/schema/context"
       xsi:schemaLocation="http://www.springframework.org/schema/beans
                           https://www.springframework.org/schema/beans/spring-beans.xsd
                           http://www.springframework.org/schema/context
                           https://www.springframework.org/schema/context/spring-context.xsd">

    <bean id="firstYear" class="in.ineuron.comp.EnggCourse" abstract="true">
        <property name="subjects">
            <set>
                <value>M1</value>
                <value>CAD</value>
                <value>Chemistry</value>
            </set>
        </property>
    </bean>

    <bean id="CS" class="in.ineuron.comp.EnggCourse" parent="firstYear">
        <property name="subjects">
            <set merge="true">
                <value>DS</value>
                <value>M3</value>
                <value>C++</value>
            </set>
        </property>
    </bean>
</beans>
```

### Output

=====

EnggCourse [subjects=[M1, CAD, Chemistry, DS, M3, C++]]

### Keypoints

-----

=> Collection merging is possible only with collection, array bean properties...  
not on simple, object type bean properties  
=> merge attribute is available only in <list>, <set>, <map>, <props>, <array> tags  
=> The possible values for merge attributes are  
    a. false  
    b. true  
    c. default(default)  
=> Both setter and constructor injection supports the "collection merging".

### Beanalias

-----

=> It refers to providing nicknames to beanid.  
=> Useful when bean id is very lengthy to refer in multiple places.  
=> Generally the practise to take the bean id is the classname, which is

relatively lengthy.

=> To give alternate names to the bean id we should use alias.

```
<bean id = "wishMessageGenerator"
class="in.ineuron.comp.WishMessageGenerator">
    <property name="date" ref="dt"/>
</bean>
<alias name="wishMessageGenerator" alias="wmg"/>
```

## Autowiring

-----

Assigning the dependant class object to target class object is called "Dependency injection"/"AutoWiring".

=> Autowiring can be done in 2 ways

- a. Explicit Autowiring/Manual Injection
  - a. <property name='' ref=''/>
  - b. <constructor-arg name='' ref=''/>
- b. Autowiring/AutoInjection

```
<bean id ='' class='' autowire=''/>
```

autowire will take 3 values
  - a. byName
  - b. byType
  - c. constructor

Note: Autowiring is very useful becoz it helps in RAD(Rapid Application Development).

autowire = byName

=====

=> Performs Setter Injection

=> Container detects/finds dependent spring bean class object based on id that is matching with target class property

```
name(Courier courier; <bean id = 'courier' class = 'in.ineuron.bean.BlueDart' />)
```

=> There is no possibility of ambiguity problem becoz the bean id in IOC container are unique id's.

autowire = byType

=====

=> Perform Setter Injection

=> Container detects/finds dependant spring bean class object based on the property type/class type in the Target

```
class(Courier courier;=> It is Courier type)
```

=> There is a possibility of Ambiguity problem and we solve this problem by using "primary=true" in one of the dependent spring bean configuration.

autowire = constructor

=====

=> Performs constructor injection using parameterized constructor

=> Internally it follows byType approach only.

=> Ambiguity problem would arise and it can be solved using

- a. primary = true on any one of the bean.
- b. setting id of the bean name and parameter name of the constructor

also same.

Note: if we keep id name and constructor param name same and in any one of the bean

with primary = true, then  
constructor injection will happen by giving the priority for primary=true.

#### limitations of Autowiring

=====

1. It is possible only on Object-type/reference-type bean properties.
2. There is a possibility of getting Ambiguity problem.
3. It will also kill readability of Spring bean configuration file.

#### autowire-candidate = false

=====

=>If we don't want particular beans not to participate in autowiring then we use the above property

=>It is one more solution to resolve the problem of ambiguity which would arise in byType.

```
<!-- CONFIGURING THE DEPENDANT BEAN -->
<bean id='bDart' class='in.ineuron.bean.BlueDart' />
<bean id='dtdc' class='in.ineuron.bean.DTDC' autowire-candidate="false"
primary="true"/> //invalid combo
<bean id='courier' class='in.ineuron.bean.FirstFlight' autowire-
candidate="false"/>
```

```
<!-- CONFIGURING THE TARGET BEAN -->
<bean id='fpkt' class='in.ineuron.bean.Flipkart' autowire="byType">
    <property name="regNo" value='12345' />
</bean>
```

What is the difference b/w them?

autowire = no => Disables the autowiring, programmer should explicitly perform Autowiring.

autowire-candidate =false => it makes the spring bean not to participate in Autowiring.

Note: The bean which is disabled through <bean id="" class="" autowire-candidate="false"/> can be used for Explicit Autowiring.

#### applicationContext.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
https://www.springframework.org/schema/beans/spring-beans.xsd">
```

```
<bean id="dtdc" class="in.ineuron.comp.DTDC"
autowire-candidate="false" primary="true"/>
```

```
<bean id="bDart" class="in.ineuron.comp.BlueDart"
autowire-candidate="false" />
```

```
<bean id="fFlight" class="in.ineuron.comp.FirstFlight" autowire-
candidate="false"/>
```

```

        <!-- Configuring the Target bean -->
        <bean id="fpkt" class="in.ineuron.comp.Flipkart" autowire="no">
            <constructor-arg name="discount" value="10" />
            <constructor-arg name="courier" ref="fFlight"/>
        </bean>
    </beans>

```

Support of I18N(Internationalization)

Making our application work for all different locale is called I18N.

Locale => Language+ Country

eg: en-US, en-BR, hi-IN, fr-FR, de-DE, .....

applicationContext.xml

=====

```

<bean id='messageSource'
class='org.springframework.context.support.ResourceBundleMessageSource'>
    <property name="basename" value='in/ineuron/common/App'/>
</bean>

```

App.properties

-----

#Base properties file(English)

btn1.cap = insert

btn2.cap = update

btn3.cap = delete

btn4.cap = view

App\_fr\_FR.properties

-----

#Base properties file(French)

btn1.cap = insérer {0}

btn2.cap = mise à jour

btn3.cap = supprimer

btn4.cap = voir

App\_de\_DE.properties

-----

#Base properties file(German)

btn1.cap = Einfügung {0}

btn2.cap = aktualisieren

btn3.cap = löschen

btn4.cap = Sicht

App\_hi\_IN.properties

-----

#Base properties file(HINDI)

btn1.cap = \u0921\u093E\u0932\u0928\u093E {0}

btn2.cap = \u0905\u0926\u094D\u092F\u0924\u0928

btn3.cap = \u092E\u093F\u091F\u093E\u0928\u093E

btn4.cap = \u0926\u0947\u0916\u0928\u093E

ClientApp.java

=====

// started the container

```

ClassPathXmlApplicationContext applicationContext = new
    ClassPathXmlApplicationContext("in/ineuron/cfg/applicationContext.xml");

    // Prepare a Locale Object
    Locale locale = new Locale(args[0],args[1]);

    String cap1 = applicationContext.getMessage("btn1.cap", null, "msg1",
locale);
    String cap2 = applicationContext.getMessage("btn2.cap", null, "msg2",
locale);
    String cap3 = applicationContext.getMessage("btn3.cap", null, "msg3",
locale);
    String cap4 = applicationContext.getMessage("btn4.cap", null, "msg4",
locale);

    System.out.println(cap1 + " " + cap2 + " " + cap3 + " " + cap4);

    System.out.println();

    System.out.println(applicationContext.getMessage("btn1.cap",null,new
Locale("en","US")));
    System.out.println(applicationContext.getMessage("btn2.cap",null,new
Locale("hi","IN")));
    System.out.println(applicationContext.getMessage("btn2.cap",null,new
Locale("fr","FR")));

applicationContext.close();

Note: ctx.getMessage() internally will call ctx.getBean("id = messageSource");

```