

## Bean definition inheritance

### Summary

### Description

Bean definition contains a large amount of configuration information. A child bean is defined as the beans that inherited the configuration data from the parent bean. The child bean can override or add the configuration data inherited from the parent bean if necessary. In XML-based configuration, the inheritance relationship is defined using 'parent attribute' for the child bean.

```
<bean id="inheritedTestBean" abstract="true"
      class="org.springframework.beans.TestBean">
  <property name="name" value="parent"/>
  <property name="age" value="1"/>
</bean>

<bean id="inheritsWithDifferentClass"
      class="org.springframework.beans.DerivedTestBean"
      parent="inheritedTestBean" init-method="initialize">

  <property name="name" value="override"/>
  <!-- the age property value of 1 will be inherited from parent -->

</bean>
```

A child bean definition will use the bean class from the parent definition if none is specified, but can also override it. In the latter case, the child bean class must be compatible with the parent that is it must accept the parent's property values.

A child bean definition will inherit constructor argument values, property values and method overrides from the parent, with the option to add new values. If any init-method, destroy-method and/or static factory method settings are specified, they will override the corresponding parent settings.

The remaining settings will *always* be taken from the child definition: *depends on, autowire mode, dependency check, singleton, scope, lazy init*.

Note that in the example above, we have explicitly marked the parent bean definition as abstract by using the abstract attribute. In this case, the parent definition does not specify a class.

```
<bean id="inheritedTestBeanWithoutClass" abstract="true">
  <property name="name" value="parent"/>
  <property name="age" value="1"/>
</bean>

<bean id="inheritsWithClass" class="org.springframework.beans.DerivedTestBean"
      parent="inheritedTestBeanWithoutClass" init-method="initialize">
  <property name="name" value="override"/>
  <!-- age will inherit the value of 1 from the parent bean definition-->
</bean>
```

The parent bean cannot get instantiated on its own since it is incomplete.

### Reference

- [Spring Framework - Reference Document / 3.6. Bean definition inheritance](#)