



Spring Framework 5

Beginner to Guru

Spring Bean Scopes



Spring Bean Scopes

- **Singleton** - (default) Only one instance of the bean is created in the IoC container.
- **Prototype** - A new instance is created each time the bean is requested.
- **Request** - A single instance per http request. Only valid in the context of a web-aware Spring ApplicationContext.
- **Session** - A single instance per http session. Only valid in the context of a web-aware Spring ApplicationContext.



Spring Bean Scopes

- **Global-Session** - A single instance per global session. Typically only used in a Portlet context. Only valid in the context of a web-aware Spring ApplicationContext.
- **Application** - bean is scoped to the lifecycle of a ServletContext. Only valid in the context of a web aware.
- **Websocket** - Scopes a single bean definition to the lifecycle of a WebSocket. Only valid in the context of a web-aware Spring ApplicationContext.





Spring Bean Scopes

- **Custom Scope** - Spring Scopes are extensible, and you can define your own scope by implementing Spring's "Scope" interface.
- See Spring's Java docs for details.
- You cannot override the built in Singleton and Prototype Scopes





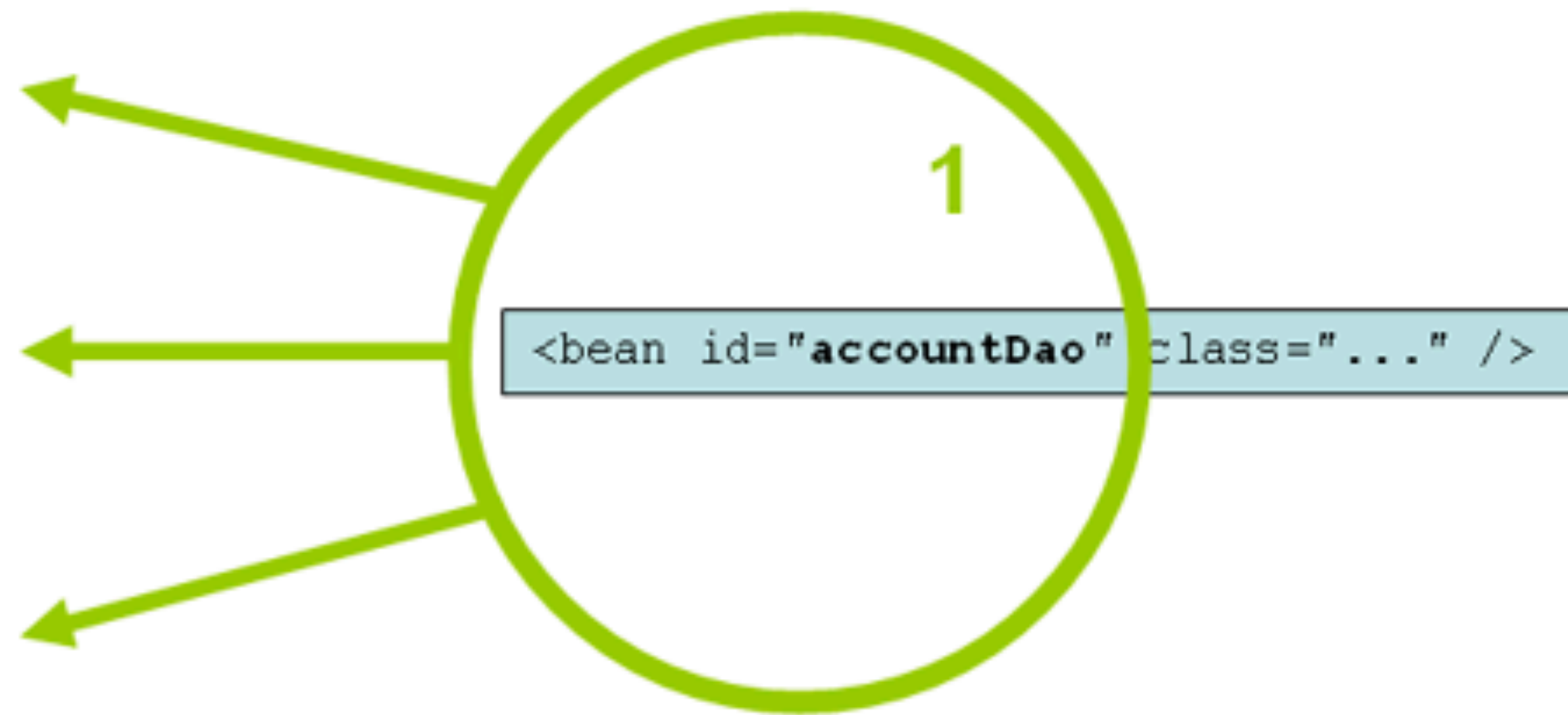
Singleton Scope

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

Only one instance is ever created...



... and this same shared instance is injected into each collaborating object



Prototype Scope

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

A brand new bean instance is created...

1

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

2

```
<bean id="accountDao" class="..."  
  scope="prototype" />
```

```
<bean id="..." class="...">  
  <property name="accountDao"  
    ref="accountDao"/>  
</bean>
```

3

... each and every time the prototype is referenced by collaborating beans



Declaring Bean Scope

- No declaration needed for singleton scope.
- In Java configuration use @Scope annotation
- In XML configuration scope is an XML attribute of the 'bean' tag
- 99% of the time singleton scope is fine!

