

Explanation about setter and constructor injection

Setter Dependency Injection (SDI) vs. Constructor Dependency Injection (CDI)

Setter DI	Constructor DI
Poor readability as it adds a lot of boiler plate codes in the application.	Good readability as it is separately present in the code.
The bean must include getter and setter methods for the properties.	The bean class must declare a matching constructor with arguments. Otherwise, BeanCreationException will be thrown.
Requires addition of @Autowired annotation, above the setter in the code and hence, it increases the coupling between the class and the DI container.	Best in the case of loose coupling with the DI container as it is not even required to add @Autowired annotation in the code. (<u>Implicit constructor injections for single constructor scenarios after spring 4.0</u>)
Circular dependencies or partial dependencies result with Setter DI because object creation happens before the injections.	No scope for circular or partial dependency because dependencies are resolved before object creation itself.
Preferred option when properties are less and mutable objects can be created.	Preferred option when properties on the bean are more and immutable objects (eg: financial processes) are important for application.

There are many key differences between constructor injection and setter injection.

Partial dependency: can be injected using setter injection but it is not possible by constructor. Suppose there are 3 properties in a class, having 3 arg constructor and setters methods. In such case, if you want to pass information for only one property, it is possible by setter method only.

Overriding: Setter injection overrides the constructor injection. If we use both constructor and setter injection, IOC container will use the setter injection.

Changes: We can easily change the value by setter injection. It doesn't create a new bean instance always like constructor. So setter injection is flexible than constructor injection.

When use Setter Injection and constructor

Setter injection to inject dependency on any bean managed by Spring's IOC container.

On the other hand constructor injection uses constructor to inject dependency on any Spring-managed bean.