Spring Bean Lifecycle

Step-by-Step Explanation

- 1. Instantiation \rightarrow Spring creates the bean instance (using constructor).
- 2. Populate Properties → Dependencies are injected (via constructor/setter/field).
- 3. Aware Interfaces (optional) → BeanNameAware / BeanFactoryAware, etc.
- 4. BeanPostProcessor (before init) → Logic runs before initialization.
- 5. Initialization:
 - @PostConstruct annotation
 - afterPropertiesSet() (InitializingBean interface)
 - init-method (XML/Java Config)
- 6. BeanPostProcessor (after init) → Logic runs after initialization.
- 7. Bean is ready for use \rightarrow Available in ApplicationContext.
- 8. Destruction:
 - @PreDestroy annotation
 - destroy() (DisposableBean interface)
 - destroy-method (XML/Java Config)

■ Lifecycle Summary:

$$\label{eq:loss_post_post_post_post_post_post_post} \begin{split} &\operatorname{Instantiation} \to \operatorname{Dependency\ Injection} \to \operatorname{Aware\ Interfaces} \to \\ &\operatorname{PostProcessors\ (before\ init)} \to \operatorname{Initialization} \to \operatorname{PostProcessors\ (after\ init)} \to \\ &\operatorname{Ready\ to\ Use} \to \operatorname{Destruction} \end{split}$$