

1. What is the primary purpose of the @Component annotation in Spring?

- A) To indicate that a class is a controller in the web layer
- B) To mark a class as a Spring-managed component, allowing automatic detection and bean registration
- C) To specify database transaction boundaries
- D) To define bean configuration in XML files

2. Which of the following is a specialization of @Component used specifically for service layer classes?

- A) @Repository
- B) @Controller
- C) @Service
- D) @Bean

3. What does the @Autowired annotation do in Spring?

- A) It creates a new instance of a class
- B) It automatically injects bean dependencies by type
- C) It configures database connections
- D) It enables Aspect-Oriented Programming

4. In which scenario would using @Autowired on a constructor be preferred over field injection?

- A) When you want to reduce the amount of code
- B) When you need to make dependencies mutable
- C) When you want to ensure immutability and mandatory dependencies
- D) When you're using Java versions below 1.5

5. How does Spring differentiate between multiple beans of the same type when using @Autowired?

- A) It always chooses the bean with the alphabetically first name
- B) It throws a NoSuchBeanDefinitionException
- C) It uses the @Primary annotation or @Qualifier to resolve ambiguity
- D) It randomly selects one of the beans

Answer Key:

1. B) To mark a class as a Spring-managed component, allowing automatic detection and bean registration
2. C) @Service
3. B) It automatically injects bean dependencies by type
4. C) When you want to ensure immutability and mandatory dependencies
5. C) It uses the @Primary annotation or @Qualifier to resolve ambiguity