

Spring Descriptive Questions

1. What is Spring?

Spring is a lightweight, loosely coupled and integrated framework for developing enterprise applications in java.

2. What are the advantages of spring framework?

1. Predefined Templates
2. Loose Coupling
3. Easy to test
4. Lightweight
5. Fast Development
6. Powerful Abstraction
7. Declarative support

3. What are features of Spring?

- Lightweight
- Inversion of control (IOC)
- Aspect oriented (AOP)
- Container
- MVC Framework
- Transaction Management
- JDBC Exception Handling

4. What are the modules of spring framework?

Spring comprises of seven modules. They are...

1. The core container
2. Spring context
3. Spring AOP
4. Spring DAO
5. Spring ORM
6. Spring Web module
7. Spring MVC framework

5. What is autowiring in spring? What are the autowiring modes?

Autowiring enables the programmer to inject the bean automatically. We don't need to write explicit injection logic.

The autowiring modes are given below: default, byname, byType, constructor.

6. What is IOC and DI?

IOC (Inversion of Control) and DI (Dependency Injection) is a design pattern to provide loose coupling. It removes the dependency from the program.

7. What are the different types of IOC (dependency injection)?

There are three types of dependency injection:

- **Constructor Injection:** Dependencies are provided as constructor parameters.
- **Setter Injection:** Dependencies are assigned through JavaBeans properties (ex: setter methods).

- **Interface Injection:** Injection is done through an interface.

8. What are the types of IOC container in spring?

There are two types of IOC containers in spring framework.

BeanFactory and ApplicationContext

9. What is the difference between BeanFactory and ApplicationContext?

A BeanFactory is like a factory class that contains a collection of beans.

- a. BeanFactory is the **basic container** whereas ApplicationContext is the **advanced container**.
- b. ApplicationContext extends the BeanFactory interface.

10. What is AOP?

AOP or Aspect Oriented Programming is a methodology that divides the program logic into pieces or parts or concerns. It increases the modularity and the key unit is Aspect.

11. What are the advantages of spring AOP?

AOP enables you to dynamically add or remove concern before or after the business logic. It is **pluggable** and **easy to maintain**.

12. What are the AOP terminology?

AOP terminologies or concepts are as follows:

- JoinPoint
- Advice
- Pointcut
- Aspect
- Introduction
- Target Object
- Interceptor
- AOP Proxy
- Weaving

13. What is JoinPoint?

JoinPoint is any point in program such as field access, method execution, exception handling etc. In Spring AOP, a join point always represents a method execution.

14. What is Advice?

Advice represents action taken by an aspect at a particular JoinPoint. Different types of advice include "around," "before" and "after" advice.

15. What are the types of advice in AOP?

There are 5 types of advices in spring AOP.

1. Before Advice
2. After Advice
3. After Returning Advice
4. Throws Advice
5. Around Advice

16. What is Pointcut?

Pointcut is expression language of Spring AOP.

17. What are the AOP implementation?

There are 3 AOP implementation.

1. Spring AOP
2. Apache AspectJ
3. JBoss AOP

18. What is Spring's RowMapper<T>?

Spring's RowMapper<T> interface provides a simple way to perform mapping from a JDBC resultset to POJO's.

19. Spring DAO support

The Data Access Object (DAO) support in Spring is aimed at making it easy to work with data access technologies like JDBC, Hibernate or JDO in a consistent way.

20. What are classes for spring JDBC API?

1. JdbcTemplate
2. SimpleJdbcTemplate
3. NamedParameterJdbcTemplate
4. SimpleJdbcInsert
5. SimpleJdbcCall

21. Write down some JDBC package name in spring?

- org.springframework.jdbc.core
- org.springframework.jdbc.datasource
- org.springframework.jdbc.object
- org.springframework.jdbc.support
- org.springframework.jdbc.config

22. Write the Hibernate dependency code?

```
<dependencies>
    <dependency>
        <groupId>org.hibernate</groupId>
        <artifactId>hibernate-entitymanager</artifactId>
        <version>3.6.0.Final</version>
    </dependency>
</dependencies>
```

23. How many mapping type have in hibernate?

- a) One-to-Many Mappings
- b) Many-to-Many Mappings

24. What is Data Access Layer?

Data Access Layer provides to our application components with a standard mechanism for storing and retrieving data.

25. What do mean by Spring MVC?

In the spring framework, the Spring MVC module provides comprehensive support for the MVC pattern with support for other feature (for example theming, i18n, validation, type conversion, formatting and so on) that ease the implementation of the presentation

26. What is the front controller class of Spring MVC?

The **DispatcherServlet** class works as the front controller in Spring MVC.

27. What does @Controller annotation?

The **@Controller** annotation marks the class as controller class. It is applied on the class.

28. What is the function of @Controller annotation?

The **@Controller** annotation indicates that a particular class serves the role of a controller. Spring does not require you to extend any controller base class or reference the Servlet API.

29. What does @RequestMapping annotation?

The **@RequestMapping** annotation maps the request with the method. It is applied on the method.

30. What is the function of @RequestMapping annotation?

@RequestMapping annotation is used to map a URL to either an entire class or a particular handler method.

31. What does the ViewResolver class?

The **ViewResolver** class resolves the view component to be invoked for the request. It defines prefix and suffix properties to resolve the view component.

32. What is the function of DispatcherServlet?

The Spring Web MVC framework is designed around a **DispatcherServlet** that handles all the HTTP requests and responses.

33. What is Controller in Spring MVC framework?

Controllers provide access to the application behavior that you typically define through a service interface. Controllers interpret user input and transform it into a model that is represented to the user by the view.

34. What are the modules of spring web flow?

- ✓ Spring-web-flow
- ✓ Spring-faces
- ✓ Spring JavaScript
- ✓ Spring Binding

35. JSF Application Life Cycle

- Restore view
- Apply request
- Process validations
- Update model values
- Invoke application
- Render response

36. What is JSF?

JSF is a request driven MVC web framework based on a component driven UI design model.

37. What is Spring Web Flow?

Spring Web Flow is a framework for building flow-based applications. Spring web flow is a limited page flow functionality offered by classic MVC frameworks.