SPRING INTERVIEW QUESTIONS

What is Spring?

Spring is an open source development framework for enterprise Java. The core features of the Spring Framework can be used in developing any Java application, but there are extensions for building web applications on top of the Java EE platform. Spring framework targets to make J2EE development easier to use and promote good programming practice by enabling a POJO-based programming model.

What are benefits of using spring?

Following is the list of few of the great benefits of using Spring Framework:

**Lightweight:** Spring is lightweight when it comes to size and transparency. The basic version of spring framework is around 2MB.

**Inversion of control *IOC*:** Loose coupling is achieved in spring using the technique Inversion of Control. The objects give their dependencies instead of creating or looking for dependent objects.

**Aspect oriented *AOP*:** Spring supports Aspect oriented programming and enables cohesive development by separating application business logic from system services.

**Container:** Spring contains and manages the life cycle and configuration of application objects.

**MVC Framework:** Spring's web framework is a well-designed web MVC framework, which provides a great alternative to web frameworks such as Struts or other over engineered or less popular web frameworks.

**Transaction Management:** Spring provides a consistent transaction management interface that can scale down to a local transaction *usingasingledatabase*, *forexample* and scale up to global transactions *usingJTA*, *forexample*.

**Exception Handling:** Spring provides a convenient API to translate technology-specific exceptions *thrownbyJDBC*, *Hibernate*, *orJDO*, *forexample* into consistent, unchecked exceptions.

What are the different modules in Spring framework? Following are the modules of the Spring framework:

Core module

Bean module

Context module

Expression Language module

JDBC module

ORM module

OXM module

Java Messaging Service*JMS* module

Transaction module

Web module

Web-Servlet module

Web-Struts module

Web-Portlet module

What is Spring configuration file?

Spring configuration file is an XML file. This file contains the classes information and describes how these classes are configured and introduced to each other.

What is Dependency Injection?

Inversion of Control *IoC* is a general concept, and it can be expressed in many different ways and Dependency Injection is merely one concrete example of Inversion of Control.

This concept says that you do not create your objects but describe how they should be created. You don't directly connect your components and services together in code but describe which services are needed by which components in a configuration file. A container *theIOCcontainer* is then responsible for hooking it all up.

What are the different types of IoC *dependencyinjection*? Types of IoC are:

**Constructor-based dependency injection:** Constructor-based DI is accomplished when the container invokes a class constructor with a number of arguments, each representing a dependency on other class.

**Setter-based dependency injection:** Setter-based DI is accomplished by the container calling setter methods on your beans after invoking a no-argument constructor or no- argument static factory method to instantiate your bean.

Which DI would you suggest Constructor-based or setter-based DI?

Since you can mix both, Constructor- and Setter-based DI, it is a good rule of thumb to use constructor arguments for mandatory dependencies and setters for optional dependencies. Note that the use of a *@Required* annotation on a setter can be used to make setters required dependencies.

What are the benefits of IOC?

The main benefits of IOC or dependency injection are:

It minimizes the amount of code in your application.

It makes your application easy to test as it doesn't require any singletons or JNDI lookup mechanisms in your unit test cases.

Loose coupling is promoted with minimal effort and least intrusive mechanism.

IOC containers support eager instantiation and lazy loading of services.

What is AOP?

Aspect-oriented programming, or AOP, is a programming technique that allows programmers to modularize crosscutting concerns, or behavior that cuts across the typical divisions of responsibility, such as logging and transaction management. The core construct of AOP is the aspect, which encapsulates behaviors affecting multiple classes into reusable modules.

What is Spring IoC container?

The Spring IoC creates the objects, wire them together, configure them, and manage their complete lifecycle from creation till destruction. The Spring container uses dependency injection

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