Assignment Questions 9

Q1.What is Spring Framework?

The Spring Framework is a Java platform that provides comprehensive infrastructure support for developing Java applications. It handles the infrastructure so you can focus on your application. Spring enables you to build applications from “plain old Java objects” (POJOs) and to apply enterprise services non-invasively to POJOs. It provides the best mechanisms for different frameworks, such as Struts, Hibernate, EJB, JSF, and Tapestry. It helps solve real-time technical problems.

Q2.What are the features of Spring Framework?

The Spring Framework consists of features organized into about 20 modules. These modules are grouped into Core Container, Data Access/Integration, Web, AOP (Aspect Oriented Programming), Instrumentation, Messaging, and Test.

Q3.What is a Spring configuration file?

A Spring configuration file is an XML file that contains the configuration metadata for a Spring application. The configuration metadata represents

how you as an application developer tell the Spring container to instantiate, configure, and assemble the objects in your application .

Q4.What do you mean by IoC Container?

Inversion of Control (IoC) is a principle in software engineering by which the control of object creation and dependency injection is shifted from the application code to the framework. The IoC container is responsible for creating objects, wiring them together, configuring them, and managing their complete lifecycle. The Spring container is at the core of the Spring Framework. The container will create the objects, wire them together, configure them, and manage their complete lifecycle from creation till destruction .

Q5.What do you understand by Dependency Injection?

Dependency Injection is a programming technique in which an object or function receives other objects or functions that it depends on. There are three main ways in which a client can receive injected .

- services:Constructor injection, where dependencies are provided through a client's class constructor.
- Setter injection, where the client exposes a setter method which accepts the dependency.

Q6.Explain the difference between constructor and setter injection?

The key difference between Constructor injection and Setter injection in Spring is that in constructor injection, we use constructor, and on the other hand, setter injection uses setter methods to inject dependency. Constructor injection is a type of dependency injection in the spring framework that uses a constructor to inject dependency. A setter injection is a type of dependency injection in the spring framework that uses setter methods to inject dependency.

Q7.What are Spring Beans?

In Spring, the objects that form the backbone of your application and that are managed by the Spring IoC container are called beans.

Q8.What are the bean scopes available in Spring?

There are following bean scopes available in Spring:

- Singleton
- Prototype
- Request
- Session
- Global session

Q9.What is Autowiring and name the different modes of it?

Autowiring is a mechanism provided by Spring to inject dependencies automatically into a bean[1][2]. The following are the different modes of autowiring in Spring[2][5]:

- No
- byName
- byType
- constructor

Q10.Explain Bean life cycle in Spring Bean Factory Container.

The Spring IoC container is responsible for managing the life cycle of a bean. The following are the steps followed by the Spring IoC container to manage the life cycle of a bean:

- **Creation of bean instance by a factory method.**
- **Set the values and bean references to the bean properties.**
- **Call the initialization callback method.**
- **Bean is ready for use.**
- **Call the destruction callback method.**