Q1.What is Spring Framework?

Ans: The Spring Framework is an open-source application framework and inversion of control container for the Java platform. It provides a comprehensive programming and configuration model for modern enterprise applications

Q2.What are the features of Spring Framework?

Spring Framework's core features are –

- Dependency injection. Spring uses dependency injection to decouple the components of an application. This makes the application more flexible and easier to test.
- AOP. Spring supports aspect-oriented programming (AOP) for implementing cross-cutting concerns, such as logging and security. This makes the application more maintainable and easier to extend.
- A rich set of annotations. Spring provides a rich set of annotations for mapping requests to controllers and views. This makes it easier to develop and maintain the application.
- A flexible view resolution mechanism. Spring supports a flexible view resolution mechanism that allows you to use a variety of view technologies, such as JSP, Velocity, and FreeMarker. This gives you more flexibility in how you render the application's output.

Q3.What is a Spring configuration file?

Ans: A Spring configuration file is a file that contains the configuration information for a Spring application. It is used to define the beans that make up the application, as well as the relationships between those beans.

Spring configuration files can be written in a variety of formats, including XML, Java, and Groovy. The most common format is XML.

Q4.What do you mean by IoC Container?

Ans: In software engineering, an IoC container, also known as an inversion of control (IoC) container or dependency injection framework, is a software design pattern that implements dependency injection. An IoC container is responsible for managing the creation and instantiation of objects, as well as their dependencies.

Q5.What do you understand by Dependency Injection?

Ans: Dependency injection is a pattern that helps to decouple the creation and use of objects. This makes code more flexible and easier to test.

Q6.Explain the difference between constructor and setter injection?

Ans:

- Constructor injection is when the dependencies of an object are passed to its constructor. This is the most common type of dependency injection.
- Setter injection is when the dependencies of an object are passed to its setters. This is less common than constructor injection, but it can be useful in some cases.

Q7.What are Spring Beans?

Ans: In Spring Framework, a bean is an object that is managed by the Spring IoC container. Beans are created, configured, and injected into other beans by the IoC container.

Q8.What are the bean scopes available in Spring?

Ans:

- Singleton. The singleton scope is the default scope in Spring. A singleton bean is created only once and shared by all references to that bean.
- Prototype. The prototype scope creates a new bean instance every time it is requested.
- Request. The request scope is a web-specific scope that creates a new bean instance for each HTTP request.
- Session. The session scope is a web-specific scope that creates a new bean instance for each HTTP session.