Spring Framework

SPRING CORE

The Spring Framework

- Makes Enterprise Application Development Easier
- Follows Convention over Configuration

The Spring Framework

Features	
	Inversion of Control (IoC Container)
	Dependency Injection
	Interface Driven Development
	POJO based
	Unobtrusive
	Design Patterns
	AOP/Proxies
	Best Practices

The IoC Container

- Inversion of Control
  - is the principle where the control flow of a program is inverted:
    - instead of the programmer controlling the flow of a program,
    - the external sources (framework, services, other components) take control of it.
    - It's like we plug something into something else.
  - is a generic term meaning
    - rather than having the application call the methods in a framework,
    - the framework calls implementations provided by the application.

Dependency Injection (DI)

- **DI** is a form of IoC
  - where implementations are passed into an object
  - through constructors/setters/service lookups,
  - which the object will 'depend' on in order to behave correctly.
- **DI Frameworks** are designed
  - to make use of DI and can define interfaces (or Annotations in Java)
  - to make it easy to pass in the implementations.

Helps build ..

- Testable
- Maintainable
- Scalable
- Complex
- Business Focus

Enterprise applications

Bean Configuration

- XML Configuration
  - Configuration (applicationContext.xml)
  - Xml Namespaces
  - Simpler
  - Separation of Concerns
- Annotation Configuration
- Java Configuration
  - No applicationContext.xml
  - @Configuration annotation
  - @Bean annotation

Spring Bean scopes

Default bean scope

1. Singleton

Only one bean is used by the Container

2. Prototype

For every invocation Container will create a new bean

Web –aware Spring Projects

3, Request

An instance is maintained for each request in a web application

4, Session

An instance is maintained for each session in a web application

5, Global Session

An instance is maintained for a global session in a portlet

Stereotype annotations (Autowiring)