Day 11 Revisit Spring, Spring IoC, DI

Spring – It's a Java based Framework to create loosely coupled enterprise based applications using IoC & DI design pattern.

IoC – Inversion of Control (based on Dependency Inversion Principle from SOLID) – Shifting the control [Spring Container managing the life cycle of bean] – Loose coupling

DI – Dependency Injection (Injecting the bean at run time - @Autowired)

Types of Injection

- Constructor Injection (CI)
- Setter Injection (SI)

Spring Configuration

- XML based Configuration (beans.xml, applicationContext.xml file in resources folder)
- Annotation based configuration (@Component, @Autowired, @Bean)

Various Modules of Spring

1) Spring Core (bean, context, el, asm, etc.,)
2) Spring AOP
3) Spring Security
4) Spring Data
5) Spring Web (MVC)
6) Spring Test

EL – Expression Language ("${}")

Resource Factory & ClassPath Resource

XMLBeanFactory

ApplicationContext

Bean Life Cycle

Post Annotation Processor

Demo

Exporting & Executing JAR, Runnable JAR and WAR file from the IDE manually.

Day 12 Agenda

 Spring Web – Spring MVC

Server Side Scripting – Any Technology to generate dynamic html content (Servlet/JSP/ASP/PHP/JS/Python…)

MVC – Model View Controller (Design Pattern)

M – Model (Represents the Data Layer – It's linked to Database Tables)

V – View (Presentation Layer – HTML/JSP)

C – Controller (Control Layer – Usually in any High level Lang JAVA/Python/.Net/Go/Kotlin etc.,)

HttpClient – Any application which helps to send/receive the data using http

PostMan, Browsers

3 Engines in Each Browser

1) HTML Rendering Style
2) Styling Engine
3) JS Engine

Spring Container – IoC container

Spring Web (MVC) – Helps to create web based enterprise application

ORM – Object Relational Mapping

OXM – Object XML Mapping

Spring Data – It's a Spring module used to simplify the DB interaction

JPA – Java Persistence API

JDBC is a Specification

JPA is a Specification

Very Popular JPA Implementations

1) Hibernate ORM
2) iBatis/MyBatis
3) Eclipselink

Spring Web(MVC) module DispatcherServlet act as a FrontController