Spring Core

Spring is a Java based Framework.

Mainly used to create Enterprise Java Applications easily.

* Used to create loosely coupled Java Applications

1. Stand-Alone Application / Desktop application (Download-Install) – No external dependencies after installation
2. Web Application (Browser based applications) – No installation required (can be accessed using any browser) – Only valid credentials are used to access (if it is secured)
3. Enterprise Application – (Stand-alone + Web + Mobile)

Banking applications

1. Mobile banking (Banking App)
2. SMS banking / Whatsapp Banking
3. Internet Banking
4. Banking Desktop Applications (Used by bank employees)

Facebook/ Whatsapp/ Telegram = Example for Enterprise Application

Android mobiles/ iOS device/ other mobile OS

Desktop app (Stand-alone app)

Web based application

Popular Java based Frameworks

* Spring
* Struts

Official site – <https://spring.io>

Spring framework is based on two important design patterns.

Design Pattern – Is a proven way of solving a problem/challenge.

Hyderabad to Bangalore

Options

1. By Road transport (Bus/Car/Bike)
2. By Train
3. By Flight
4. By Walk

So Many design patterns

* Creational design pattern
* Behavioral
* Structural

MVC – web based Framework

M – Model (Data/Entity)

V – View (UI – HTML/JSP/ASP/PHP)

C – Controller (Back End code – Java/.Net/Python/Php etc.,)

Design patterns Which Spring Uses most

IoC – Inversion of Control

DI – Dependency Injection

Singleton – (Only one object will be created for a class)

Inversion of Control = changing the control.

You are travelling to office using your own car.

You are travelling to office using public/private transport (Cab/Auto/Bus)

Class is a Blue-print

Object – is a instance of class.

Class Employee {

Private int id;

Private String name;

}

Types of Constructors

1. Default constructor or No-Argument constructor
2. Parameterized constructor (Fully[All-argument constructor]/Partially)

Ways of instantiating objects

1. Using parameterized constructor
2. Using setter methods (default constructor is compulsory)

In java, the object will be created in heap memory.

Explicit (External) pointer manipulation is not supported in java.

JVM/Java will automatically create Default constructor if no parameterized constructor is available.

Int a= 85;

“Hello” = It’s a String

“76” = it is a string

“a” = It is a character

“${a}” = this will return 85 --- Expression Language

Html/jsp attributes

<a href=”deleteRecord.jsp?id=${id}&table=${table}”>Delete</a>

Modules of Spring Framework

* Spring Core
* Spring Web/MVC
* Spring Data
* Spring Security
* Spring Test
* Spring AOP

Lightweight loosely coupled framework.

TightlyCoupled – Sprider Man Toy

Loosely Coupled – Spider Man Lego toys

IoC = Helps to manage the life cycle of Objects

IoC = Create and Manage beans (Singleton Java Objects)

DI = Dependency Injection

Beans in Spring Application is always Singleton object.

Spring is a popular and lightweight java framework used to create loosely couple enterprise java applications.

Spring framework is called as “Framework of Frameworks” – It supports other framework.

It also allows to integrate with other frameworks.

Struts with Spring

Hibernate with Spring.

Types of Dependency-Injection

1. Constructor Injection (constructor-arg)
2. Setter Injection (property tag)

XSD = Xml Schema Definition/Description (Structure of XML file)

DTD = Document Type Definition /Description