Java Phase 3 :

11 classes

Day 1

16-08-2022 Spring Framework and spring boot

JEE : Servlet, JSP and EJB.

View -🡪 HTML and JSP.

Controller -🡪 Servlet

Model -🡪 JavaBean or Entity class

Service class

Dao class

Web Container is a part of server responsible to take care execution of servlet and jsp. Web container will create the object of servlet and jsp and call life cycle methods.

EJB : Enterprise Java Bean : EJB container which is part of application server is responsible to improve the model layer. EJB help us to improve the model layer.

View 🡪HTML or JSP

Controller -- > Servlet

Model 🡪 EJB

EJB is very heavy component as well as very complex to run the application. To run the ejb application we required application server.

Solution for EJB application spring framework.

EJB Vs spring framework.

If we develop application with the help of servlet and jsp. It is not mandatory we have follow MVC design pattern or architecture.

Design pattern : Best practice or solution for repeating problem.

27 design pattern GOF

Creational design pattern

Structural design pattern

Behavior design pattern

Framework : Framework contains lot of pre-defined classes and interface which internally connected to each other to perform specific task. Framework also known as prototype or template but not a final product. If we develop any application using any framework 70 to 80% task taken care by framework. Framework internally allow all design pattern. The implementation of design pattern is taken care by framework.

Struts : struts is open source web framework provided by Apache. Struts internally follow MVC design pattern. It provided lot of classes to improve controller and model layer. Struts internally provided FrontController design pattern.it provide whole application flow. Struts internally provided pre-defined FrontController class.

Struts known as Controller centric framework.

JSF : Java Server Faces : JSF is open source web framework provided by Oracle. JSF internally follow MVC design pattern. It provided lot of classes to improve controller and model layer. JSF internally provided FrontController design pattern.it provide whole application flow. JSF internally provided pre-defined FrontController class.

JSF is known as View Centric Framework.

JSP -🡪 JSF VS Angular Framework or React JS

Hibernate : Hibernate is a ORM framework which help to improve DAO layer. Hibernate is a replacement of JDBC.

Spring framework : spring is a open source light weighted layer architecture framework. Spring also known as onion architecture framework.

Spring provided lot of pre-defined modules which help to improve all layer in the application. On demand we can use any module to improve that specific layer.

Spring core

Spring context

Spring web

Spring MVC : spring mvc it follow MVC architecture framework. Provided lot of classes and interfaces to improve controller and model layer. It provide FrontController design pattern.

Spring MVC is model centric framework.

EJB VS spring Framework

Spring DAO

Spring ORM

Spring AOP

Spring REST

Spring cloud

Spring security

Spring micro service

Spring expression

Spring integration etc

Spring Core and Context

IOC : Inversion of Control

DI : Dependency Injection

IOC : Inversion of control : IOC is a concept. It is programming design pattern. In place of creating or maintaining any resource explicitly allow to container create and maintain. If we create we are responsible to maintain the life of the resource. If container will create it will maintain properly. From container pull any resource whenever required use it and leave it.

DI : DI : Dependency Injection : DI is a implementation of IOC.

Using DI concept container inject the any external resource which we want. So we have to pull from container whenever we required.

Spring framework support two type of DI

1. Constructor base DI
2. Setter base DI

We have to configure constructor base as well as setter base DI using

1. Using XML file configuration
2. Using Annotation base configuration

We configure spring plugin in eclipse IDE