Day 1 : 7 September 2024

Spring framework and spring boot

Framework : spring contains provided set of API ie collection of classes and interfaces which internally connected with each others to perform specific task. Like collection framework ie equal to data structure. Framework follow set of rules. Design pattern means solution of repeating problem or best practise.

Single tone design pattern

Factory design pattern

Observale design pattern

Service design pattern

Dao design pattern.

Framework internally follow or provide implementation of design pattern.

Angular framework

.net framework

Django with python framework

Spring framework, struts framework or JSF framework

Struts Framework : Struts is an open source framework provided by Apache. It internally follow MVC architecture. It provided lot of api or classes/interface to improve view layer, controller layer and model layer. Struts is known as controller centric framework.

JSF : Java Server Faces : JSF is a type of web an open source framework provided by oracle. JSF internally use MVC architecture. Provided lot of API to improve view layer, model layer and controller layer. JSF is known as view centric framework.

Angular React JS VS JSF

Spring framework : Spring framework is an open source light weighted layer based or onion base architecture framework.

Spring provided lot of pre defined modules which hep to improve all types of layer in the any type of application.

Spring core

Spring context

Spring web or mvc :spring mvc internally follow MVC architecture. It provided lot of api to improve view layer, controller layer and model layer. Spring MVC is known as model centric framework. Before spring framework to improve model layer we were using EJB (Enterprise Java Bean) (Java Bean class, Service layer, Dao class and Resource class).

Spring rest

Spring dao

Spring orm

Spring security

Spring cloud

Spring boot

Spring micro service

Etc

In JEE ie Servlet and JSP

View is jsp or html

Controller is servlet

Web container part of web server responsible to create the object of servlet and jsp. Web container doesn’t create the object of java bean, service class, dao class or resource class.

Model layer is normal java classes.

Before spring framework to improve model layer we were using EJB.

MVC

View 🡪 HTML/JSP

Controller 🡪 Servlet

Model -🡪EJB

EJB is very heavy component. To create EJB program we need application server. Application server only contains EJB container.

EJB Vs Spring MVC

In spring framework JavaBean class is know as POJO plan old java object. means that class not to extends or implements any pre defined class.

Spring core and Context

IOC : Inversion of control

IOC is a programming pattern or design pattern. According to IOC in place of creating any resource as well as maintaining explicitly allow to create by container. If container create it will maintain properly. Base upon our requirement you need to pull it, use it and leave it. Resources like object creation, database connection, security etc.

Web Container create the object of only those classes if class is type of servlet or jsp.

But spring framework create the object of classes. But that class can be normal class ie pojo or java bean.

IOC is a concept

DI : Dependency injection

DI is an implementation of an IOC. Spring support two type of DI.

1. Constructor base
2. Setter base.

To achieve constructor base or setter we need to do configuration using

1. Using Xml file
2. Using annotation

We do DI using XML configuration ie constructor as well as setter base.

BeanFactory is a pre defined interface which provide set of method which help to pull object from a container.