Phase 3 :

8 classes

Day 1 : 25-06-2022

Spring framework and Spring boot

Creating Rest Full Web Service using Spring framework as well as Spring boot.

Junit testing using 5.x

MVC :

View -🡪 JSP or HTML

Controller 🡪 Servlet

Model 🡪 Java Bean link with table

Service class pure business logic

Dao class : using jdbc or hibernate.

Resource class : database connectivity

JSP is a type of servlet when we run jsp program internally it will convert to servlet.

JSP and Servlet object creation taken care by web container. It is a part of server ie tomcat server.

Issue with Model

EJB : Enterprise Java Bean

View -🡪 html or jsp

Controller -🡪 servlet

Model -🡪 EJB

JEE : Servlet, JSP and EJB

To run EJB program we require EJB container. Which is part of Application server. Jboss, Web Logic, Glashfish server.

Application server is heavy.

EJB is very complex to the develop the application.

Spring framework is replacement of EJB Application.

Spring Framework Vs EJB

Java technologies

.net framework

Framework : framework contains lot of pre-defined classes and interfaces which internally connected to each other to perform specific task. Framework internally follow standard. Framework also known as implementation of design pattern. Design pattern means best practice or solution of repeating problem.

Framework is not a final product it is a protocol or template. So if we develop any application using framework 70 to 80% task done by framework. We have to write 20 to 30% code to make final product.

Collection framework is like a data structure.

Html template

Struts : Struts is type of open source framework provided by apache (tomcat) which is also known as web framework . which internally follow MVC architecture. Provided lot of API for view layer, model layer and controller layer.

Struts is known as Controller centric framework.

JSF : Java Server Faces. JSF is a open source framework provided oracle. Which internally follow MVC architecture. JSF is replacement of JSP.

JSF is known as View centric framework.

Hibernate : Hibernate framework is use to improve DAO layer. Hibernate is a replacement of JDBC.

Spring Framework: spring framework is open source light weighted framework which is also known as layer architecture framework or onion architecture framework. Which help to improve all layer in the application.

Spring provide lot of pre-defined module which help to improve layer like

1. Spring core
2. Spring context
3. Spring MVC : spring MVC is known as Model Centric framework.
4. Spring DAO : Data Access object
5. Spring ORM
6. Spring REST
7. Spring AOP
8. Spring boot
9. Spring security
10. Spring cloud
11. Spring micro service
12. Spring integration

Etc

Spring core and Spring context

IOC : Inversion of control : IOC is a concept. It is also known as programming design pattern. In place of creating or maintaining any resource like object explicitly allow to create and maintain by container. Pull from container whenever require and use it and leave it.

Web Container will create the object of those classes if the class is type of servlet or jsp it will not create the object for normal classes like java bean, server or dao.

EJB container. It will create the object of classes only if those class are type ejb.

Spring framework is light weighted framework not a part of any server and it will create the object normal class that class is known as in spring framework as POJO (plain old java object).

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

We can do totally 3 types of DI

1. Constructor Base DI
2. Setter Base DI
3. Interface DI

Spring framework support 2 types of DI ie constructor base and setter base DI.

We can do DI in spring framework using two ways

1. Using XML file configuration
2. Using Annotation

DI using XML file configuration

Day 2: 26-06-2022

Autowired

Autowired is a features of Spring framework which enables us to inject the object or complex object dependency injection implicitly rather than explicitly.

Autowired byType means it must be provided only one bean tag details for that class. Not more than one.

If you want more than one bean class then we can use byName. In byName id name and reference of that class must be match.

DI using Annotation

If we want to do DI for normal POJO class we have to use @Component annotation. This annotation is known as generic annotation.

@Component // <bean class="com.Employee" ></bean>

If we want to pull the object in main class by default id consider as class name according to camel naming rules. If class name contains one word the id name must be in lower case like for Employee class id name is employee. If class name contains more than one word then id name must be like EmployeeDetails then id name is employeeDetails. By default id follow camel naming rules.

By default @Component annotation is not enable we have to enable this annotation using xml file or using configuration class with few more annotation.

@Component

@Autowired

@Value

@Scope

Day 3 : 07-07-2022

DataSource : providing the source of the data. DataSouce is use to provide the Database connection in proper manner with the help Application Server.

Using JNDI (Java Naming Directive Interface) lookup we will search resources in application server.

Spring framework with DataSource features. (we are going the improve model layer) with the help of JDBC

*DriverManagerDataSource*

*It is pre-defined class provided by spring framework which help to achieve datasource using spring framework without depending upon any server. Datasource help to us to provide the database connection.*

Phase 4

CSS it is like a spring framework

Bootstrap it is like spring boot

@Component : POjo or JavaBean generic annotation

@Service : Service layer annotation

@Repository : Dao layer annotation using jdbc or hibernate.

Spring DAO or JDBC : Spring framework provided pre-defined class JdbcTemplate which wrap the JDBC code.

JDBC provided only few api is Statement, PreparedStatement and CallableStatemnet.

Spring MVC : Model View Controller :

Spring MVC is a type of spring module which help to improve the controller and model layer as well as we can improve view layer using Spring form tags.

Spring MVC internally follow MVC architecture. It provided FrontController design pattern. Spring MVC provided pre-defined class is DispatcherServlet as a FrontController. It is type of controller which control all sub controller. In Spring MVC we have to configure this controller in web.xml file or may be java class.



@RequestMapping : This annotation is use to map the url pattern. This annotation we can write on class level as well as method level. This annotation is use to map our request.