**Day 19:**

MVC : Model View Controller

View -🡪 can html or jsp page. (console base replace by browser base)

Controller -🡪 Servlet (main class replace by Controller)

Model layer 🡪 Java Bean 🡨🡪 map to table

Service class business logic

Dao class jdbc logic

Resource class database connection

Creating MVC style project using Servlet and JSP Application.

**PMSUsingMVC**

Create table product(pid int primary key,pname varchar(30), price float);

**Sharing data or object between servlet to jsp or vice-versa. To do this one we need scope object concept.**

1. **Page scope or servlet scope : by default instance variable is page scope or servlet scope.**
2. **Request scope : request.setAttribute(“key”,value) pairs. Key is string and value may be int, float, string or object. in another page request.getAttribute(“key”). request.removeAttribute(“key”);**

Session Tracking: collection of http request and response within a particular period of time is known as session. By default http is state less protocol.

1. Cookies : Cookies is small text file created by server when client send first request to server. This file contains lot of information as name of the cookies, value of the cookies, expiry, path etc. this file stored in client machine.
2. URL Re-writing technique : we append manually session ID through URL. We convert session id in encryption format.
3. HttpSession : it is an interface which provide set of method help to keep the track between client and server.

**Framework**

Framework provided lot classes and interface which internally connected to each other to perform a specific task. If we develop any application using any framework 70 to 80% task taken care framework. But framework is not a final product it is template or protocol. Which help develop the project simplest way. Framework internally provide the implementation of design pattern.

Angular framework

Python with Django framework

.net framework

Struts framework

JSF Framework

Spring framework

Hibernate framework

Express js framework

EJB improve model layer.

Struts : Struts is an open source web framework for java application develop using java technologies and part of Apache company. Struts internally follow MVC architecture. It provided lot of api to improve view layer, controller layer and model layer. It internally follows front controller design patter.

Struts is known as **controller centric framework**.

JSF : Java Server Faces : JSF is part oracle. JSF also follow MVC design pattern. It follow front controller design pattern. JSF is known as View Centric framework.

JSF Vs Angular / react js / Vue JS

Hibernate framework : Hibernate is base upon ORM (Object relation Mapping).

JPA / Hibernate : it is mainly use to improve DAO layer.

Spring framework : Spring is light weighted open source layer architecture framework.

Spring framework provided lot of module to improve all type of application or layer.

Spring modules

1. Spring core
2. Spring context
3. Spring DAO (spring jdbc)
4. Spring ORM : (JPA, Hibernate or iBaties etc)
5. Spring MVC : Spring MVC internally follow MVC architecture and it is also known as model centric framework.
6. Spring rest (using this module we can create spring rest full web service)
7. Spring security
8. Spring boot
9. Spring cloud
10. Spring micro service
11. Spring AOP (Aspect oriented programming)
12. Spring with Apache Kafka