

Phase 2

Day 7

JSP : Java Server pages : JSP is tag base object oriented scripting language which help to create dynamic **web page on server side.**

Limitation of Servlet.

1. Servlet is normal java program if we do any changes in servlet program we need to re-compile and re-deploy the application on server.
2. If we want to write any html code in servlet more complex.
`Pw.println("<h2>Welcome to Servlet </h2>");` if we write the code in double quote it consider as string.
3. If we want to display simple welcome message through servlet. We need to create normal java class that class must be implements or extends type of servlet. Then we need override life cycle method or doGet or doPost then create the web.xml file provide the servlet configuration details or provide the details using annotation. Then create PrintWriter class object and get the output.

JSP tags are divided into different types.

1. Scripting tag

a. Script let tag

<%

opening tag

Java coding or the code which we write in doGet or doPost

%>

closing tag

b. Declarative tag

<%!

Opening tag

Instance variable declaration.

%>

c. Expression tag

<%=

opening tag

Expression or variable name

%>

2. Implicit object

- a. **out** : out it is a type of implicit object which is equal to PrintWriter class object.
- b. **request** : it is a type of implicit object which is equal to HttpServletRequest object
- c. **response** : it is a type of implicit object which is equal to HttpServletResponse object.

3. Directive tags: js provide totally 3 types of directive tags. All directive tags start with <%@ this symbol.

- a. **page** : page directive tags contains lot of properties in the form of key-value pairs.
- b. **include**
- c. **taglib**

4. Action tags

- a. Jsp include
- b. Jsp forward

5. Jstl tags

JSP login page

Login.html

If we want to check emailed or password we can use with JSP with jdbc or hibernate.

Servlet life cycle

Init

Service

Destroy

Jsp life cycle methods

_jspInit

_jspService

_jspDestroy

Limitation of JSP

1. Performance wise jsp is slower than servlet. When we run jsp page on browser internally it will convert to servlet ie Page Translation phase.
2. If we write any business logic or database logic using jdbc or hibernate in jsp page that code is not secure.
3. In jsp page we can't do re-usability of code. We can include or forward whole page not part of the page.

While developing the application using JEE in java we need use servlet and jsp both to develop the application

MVC : Model View Controller

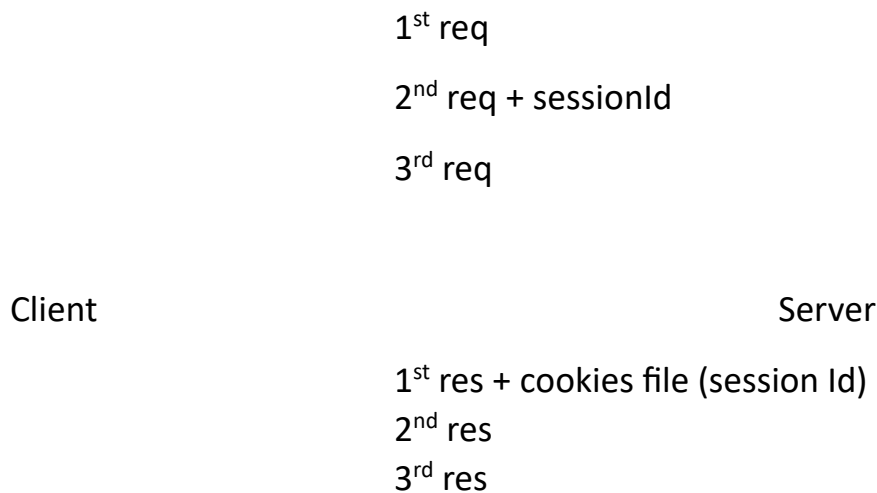
View --→ HTML or JSP (Presentation logic) ,css, js

Controller --→ Servlet

Model --→ java bean class, service class, dao class, resource class.

Session Tracking using Servlet or JSP

Session is collection of http request and response within a particular period of time. by default http is state less protocol.



1. Cookies : Cookies is a small text file created by server when client send first request to server. Which contains lot of information with unique id create by server. This file stored in client machine.
Limitation of this technique .
Client can't disable cookies option in client machine in browser.
Cookees not secure.
2. URL Rewiring technique : if cookies disable in client machine server side technologies they use URL rewriting technique. They append session id through url in the form of encryption.
URL?sessionId=%%%###&&&&&&&&&
Limitation of this technique. It support only for get method not for post method.
3. HttpSession : HttpSession is pre defined api provided by Java which contains lot of pre defined method which help to keep the track about the session.
4. SSL : secure socket layer : service side technology they need to purchase certificate to make the https request.

5. Hidden form field

JWT (JSON Web Token)

Sharing the data between servlet to jsp or vice-versa.

In core java if we want to access any variable value in another class we will create object of that class.

But in web application object creation of servlet and jsp taken care by web container.

1. **Page scope or servlet scope** : by default the variable part of jsp or servlet consider as page scope or servlet scope. Means we can access those value within that page.
2. **Request scope** : `request.setAttribute("key",value);` in source page set the value in request scope. Then in target page the value using `request.getAttribute("key");`

value can be string, int, float or user defined object or list of object.