JSP:

JSP – Java Server Pages

Its an API of J2EE that accepts a web request and gives a dynamic response

All JSP files - .jsp -> .java

Welcome.jsp -> Welcome.java ->Welcome.class -> response

Why JSP?

Separates business logic from presentation logic

Web Designers/UXUI Designer/Engineer<-> Developers

Lifecycle of JSP

Translation – Instantiation ->Init -> service -> destroy

jspInit()

\_jspService() – cannot override this

jspDestroy()

YourJSPFile extends HttpJspBase (immediate super class)

ALL TAGS EXAMPLE:

<%@---%> 🡪 Directive tag 🡪 page(imports), taglibs, include

<%---%> 🡪 Scriptlet tag🡪 local scope, inside \_jspService()

<%!---%> 🡪 Declarative tag🡪 global scope, - outside\_jspService(),anywhere

<%=---%> 🡪 Expression Tag 🡪 no semi-colon to be used

Action tag: <jsp:action\_name attributes%>

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!-- ***Directive tag*** -->

<%@ page import=*"java.util.Date"*%>

<!-- ***Directive tag*** -->

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Demonstration of all JSP tags</title>

</head>

<body>

<br />

***<!-- Declaration tag -->***

<%!

**int** num1 = 20 ; **int** num2 = 10;

%>

***<!-- Declaration tag -->***

***<!-- Scriptlet tag -->***

<% num1=10;

num2=20;

out.println("A Simple JSP Example");

%> ***<!-- Scriptlet tag -->***

***<!-- Expression tag -->***

<%=num1 \* num2%>

***<!-- Expression tag -->***

<br /> Today's Date:

<%

Date date = **new** java.util.Date();

out.println(date);

%>

</body>

</html>

Another Example for all tags and changing bgcolor dynamically along with directive tag(include)

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<%@ include file=*"header.jsp"* %>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Color Testing</title>

</head>

<%

String color = request.getParameter("bgcolor");

**if**((color==**null**) || (color.equals("")))

color="White";

%>

<body bgcolor=*"*<%= color %>*"*>

<h2> Testing the background color of the web page...</h2>

<br/>

<form>

Color: <input type=*"text"* name=*"bgcolor"*/><br/>

<input type=*"submit"* value=*"Try this color"*>

</form>

</body>

</html>

Implicit objects:

Implicit Objects (9)

out –JSPWriter - page

request – HttpServletRequest- request

response – HttpServletResponse - request

session – HttpSession - session

config – ServletConfig - page

application – ServletContext - application

page – Object - page

pageContext – PageContext - page

exception – Throwable– page

**SOP2R2ACE**

**Difference Between Servlets & JSP**

|  |  |
| --- | --- |
| **Servlets** | **JSP** |
| Servlets are protocol Independent | By default JSP is protocol dependent  i.e it handles ONLY HTTP & HTTPS protocols. |
| In Case of Servlets , Business Logic is tightly coupled with presentation Logic i.e “HTML inside Java” | In Case of JSP Business Logic is kept separated From Presentation Logic i.e “Java inside the HTML” |
| In case of Servlets, Already compiled “.class” files are used to generate the response | In case of JSP, it gets converted into Servlet, it gets compiled & the compiled “.class “ file is used to generate the response. |
| Hence time to take generate the response for 1st Request is Less (as compared to JSP) | But in case of JSP , time to take generate the response for 1st Request is More. |
| Servlets are accessed ONLY by using the configured URL present in web.xml/annotation | JSP can be accessed   * Either by using the file name directly in the url * Using the configured URL present in web.xml |
| Servlet extends either “GenericServlet “ or “HttpServlet” | In case of JSP, “Translated servlet extends HttpJspBase “ which in turn extends “HttpServlet” |
| In Case of Servlets (Which extends HttpServlet, Container invokes corespondingdoXXX (HSR, HSR) method depending on the http method present in the request. | Container invokes \_jspService (HSR, HSR) method irrespectinve of the Http Method present in the request. |
| Servlets has “\*.java” file extension | JSP has “\*. jsp” file extension |
| Implicitly objects are Not available we have to explicitly define them | Implicit objects are Available. |