

JSP

Java Server Page : JSP is a scripting language which help to create dynamic web page on server side using tags.

JSP like a JavaScript but JavaScript we can run on browser on client side but to run the JSP we need to Server.

Limitation of Servlet.

1. Servlet is normal java program if we do any changes in servlet we need to re-compile and re-deploy the application on server.
2. If we want to write any html code ie presentation logic in Servlet we need to write inside double quote.

```
PrintWriter pw = response.getWriter();  
String user = request.getParameter("user");  
pw.println("<font color=red>Welcome to Servlet "+user+"</font>");
```
3. If we want to display any welcome message using Servlet. We need to create normal java class and that class must be extends or implements type of servlet (Servlet, GenericServlet, HttpServlet) then we need to override life cycle method ie service or doGet or doPost etc. then we need to create PrintWriter class object. and servlet configuration details we need to provide in web.xml file.

JSP Tags

1. Jsp scripting tags

a. Jsp scriptlet tag

`<%` opening tag

We can write java code. The code which we write in doGet or doPost we can write inside this tag.

```
System.out.println("Welcome");           // console output
```

```
out.println("Welcome to JSP");          // browser output
```

`%>` closing tag

b. Declarative tag

`<%!` Opening tag

Variable declaration

`%>` closing tag

c. Expression tag

`<%=` opening tag

Expression

`%>` closing tag

```
<%=10+20 %>
```

```
<%=sum %>
```

2. JSP implicit object

a. `out` : out is a type of implicit object provided by jsp it is equal to `PrintWriter obj = response.getWriter();`

b. `request` : request is an implicit object of type `HttpServletRequest`,

c. `response` : response is an implicit object of type `HttpServletResponse`

3. Jsp directive tags

4. Jsp action tags

- a. Jsp include it is an equal to RequestDispatcher include
`<jsp:forward page="pageName.jsp"></jsp:forward>`
- b. Jsp forward it is an equal to RequestDispatcher forward
`<jsp:include page="pageName.jsp"></jsp:include>`

5. JSTL