

1-7-2020

Today we will discuss about JSP (Java Server Pages) technology which is a ~~part~~ ~~component~~ of part of Advance Java curriculum.

As we know that Java Server Pages technology is used to create web application just like Servlet technology.

JSP is supposed to be an extension to servlet because it provides more functionality than servlet such as expression language. A JSP page consists of HTML tag as well as JSP tags.

JSP pages are easier to maintain than Servlet because we can separate designing and development. It has some additional features like custom tags, expression language, etc.

Some advantages of JSP over Servlets :-

- ① Extension to Servlet — We can use all the features of Servlets in JSP and implicit objects, pre-defined tags, expression language with tags.
- ② Easy to maintain — Easy to maintain because we can separate our business logic with presentation logic. In Servlet technology, both logics are ~~not~~ ~~not~~ mixed.

③ Fast Development — No need to re-compile and re-deploy. If JSP code is modified, we do not have to recompile & redeploy the ~~page~~ project. In Servlet, we have to recompile & re-deploy for that.

④ Less coding than Servlet :-

In JSP, we can use many different tags such as action, JSTL, custom tags, etc. that reduces the code. Moreover, we can use EL, implicit objects, etc.

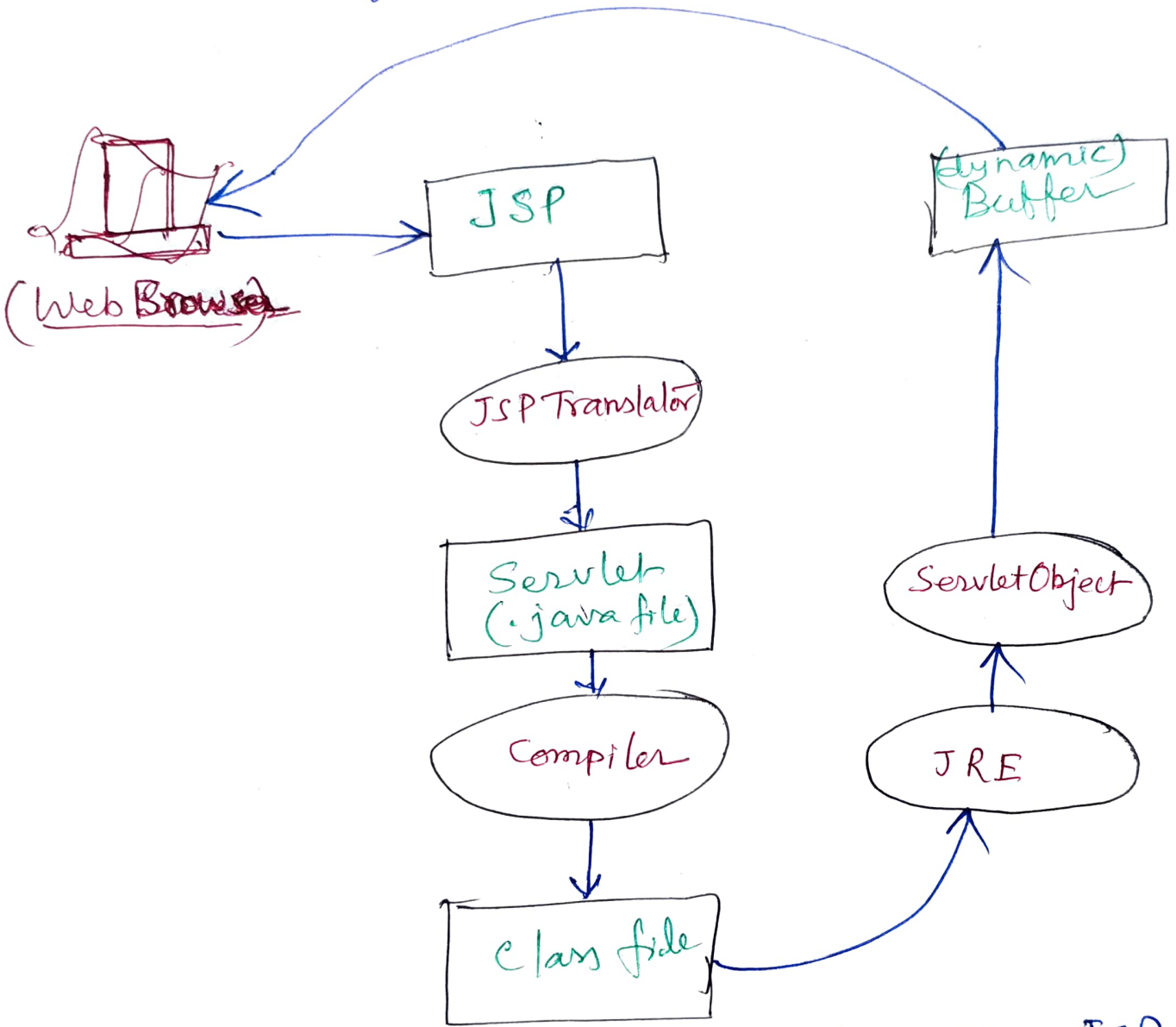
The life cycle of a JSP page

The JSP pages follow these phases:-

- Translation of JSP Page
- Compilation of JSP Pages
- Classloading (classloader loads class file)
- Instantiation (Object of the Generated Servlet is created).
- Initialization (the container invokes `jspInit()` method)
- Request-Processing (the container invokes `_jspService()` method)
- Destroy — (the container invokes `jspDestroy()` method).

Life Cycle of JSP

`jspInit()`, `_jspService()` and `jspDestroy()` are the life cycle methods of JSP.



As specified in the above diagram, JSP page is translated into Servlet by the help of JSP translator. The JSP translator is a part of the web server which is responsible for translating the JSP page into Servlet.

After that, Servlet page is compiled by the compiler and gets converted into the class file. Moreover, all the processes

that happen in servlet are performed on JSP later like initialization, committing response to the browser and destroy.

Let us try now to create a simple JSP

page:- index.jsp

Here we are using the scriptlet tag to put java code in the JSP page. We will learn scriptlet tag later.

```
<html>
<body>
<% out.print(100*6); %>
</body>
</html>
```

It will print 600 on the browser.

Steps for Running a Simple JSP page —

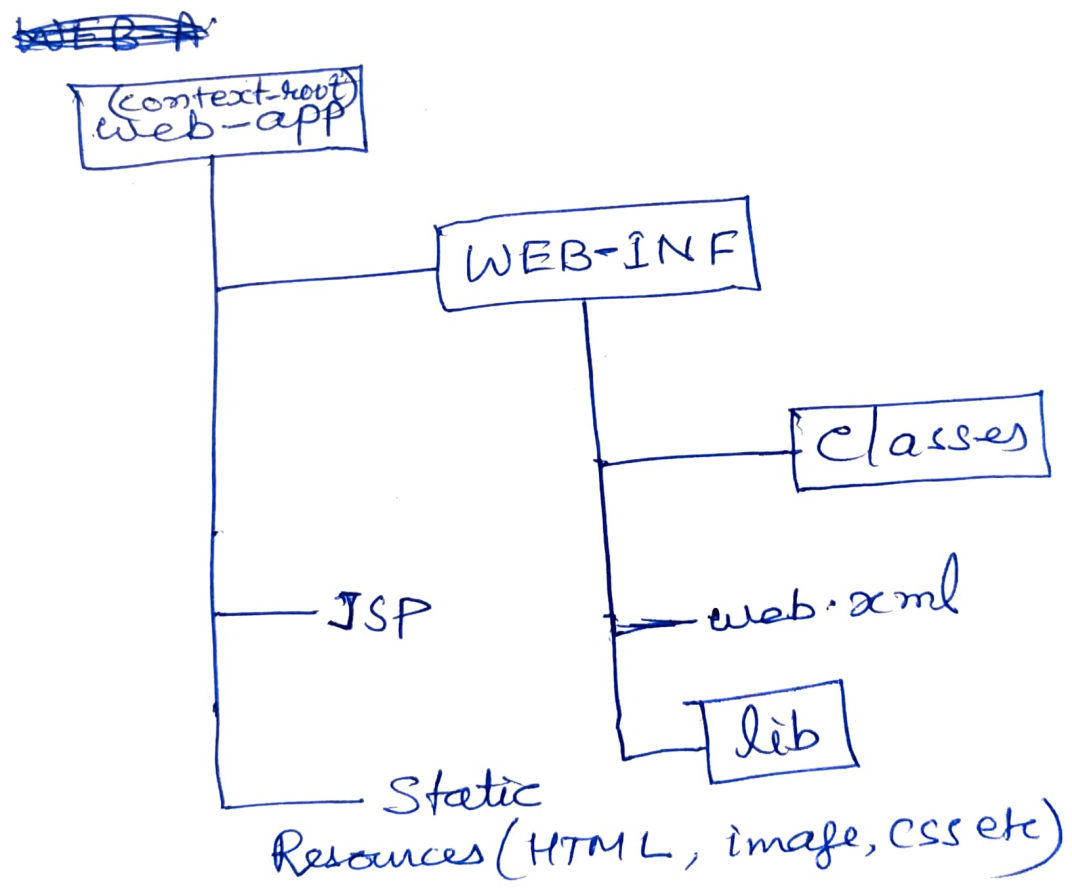
- ★ Start the Server
 - ★ Put the JSP file in the folder and deploy on the Server.
 - ★ Visit the Browser and type the url: —
<http://localhost:8082/myapplication/index.jsp> ↴
- where 8082 is the port no on which my server is running, myapplication — name of the application.

There is no need to create the entire directory structure if you are not using class files,

The directory structure of JSP

is: - same as Servlet.

We can put JSP page outside the WEB-INF folder as in the diagram: ->



Tomorrow - we will learn how to create JSP in Eclipse IDE with Tomcat-Server - which is also known as Dynamic Web Project.

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