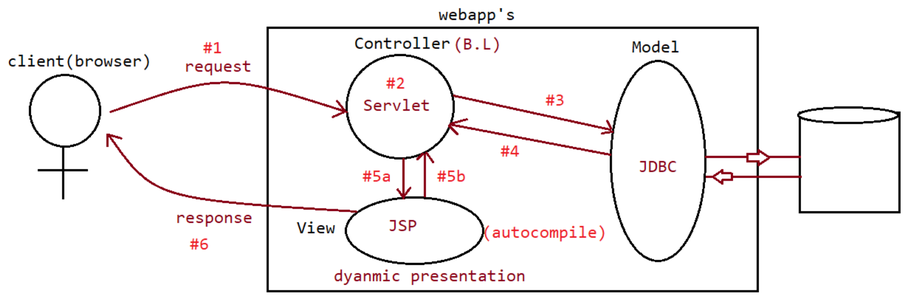
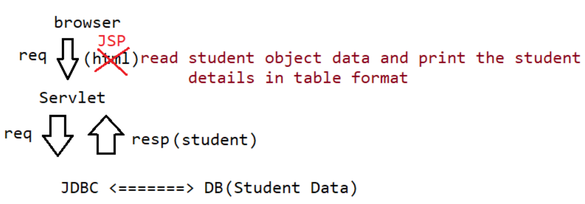
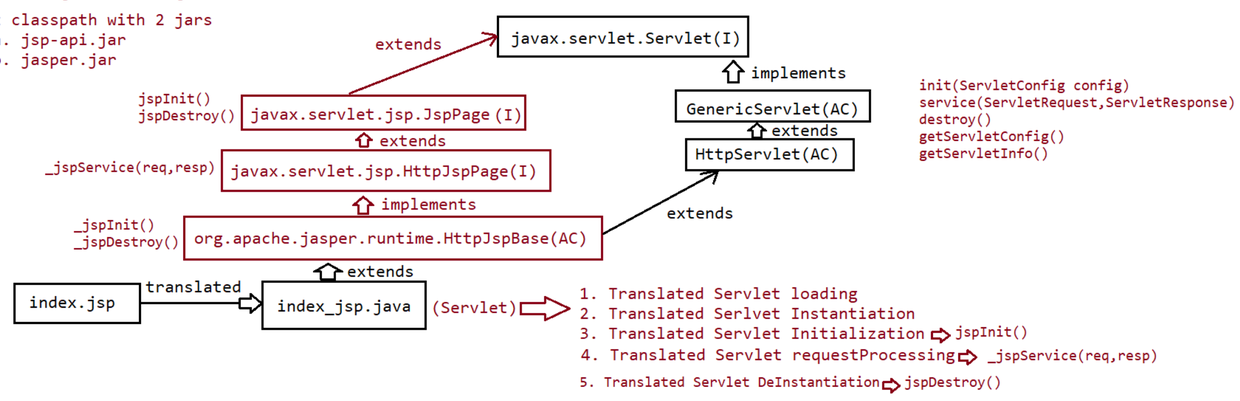




JDBC <=======> DB(Student Data)

How JSP Programs would get executed?

set classpath with 2 jars
a. jsp-api.jar
b. jasper.jar



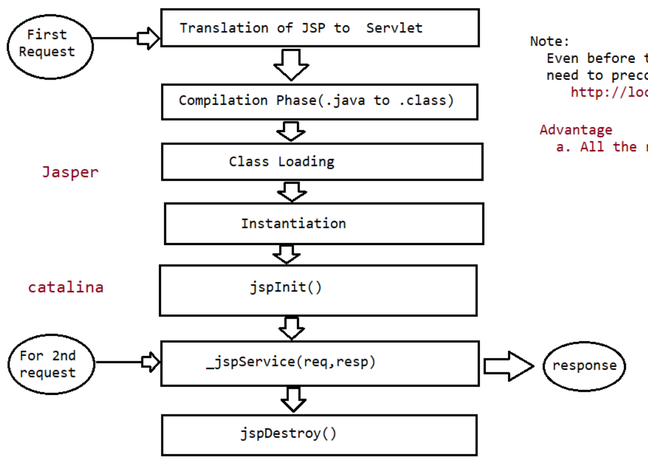
init(ServletConfig config)
service(ServletRequest,ServletResponse)
destroy()
getServletConfig()
getServletInfo()

1. Translated Servlet loading
2. Translated Serlvet Instantiation
3. Translated Servlet Initialization ⇨ jspInit()
4. Translated Servlet requestProcessing ⇨ _jspService(req,resp)
5. Translated Servlet DeInstantiation ⇨ jspDestroy()

location of translated servlet
C:\Tomcat 9.0\work\Catalina\localhost\SecondApp\org\apache\jsp\index_jsp.java

Note: _symbol represents that this method is generated automatically by JSP Engine and we cannot write explicitly

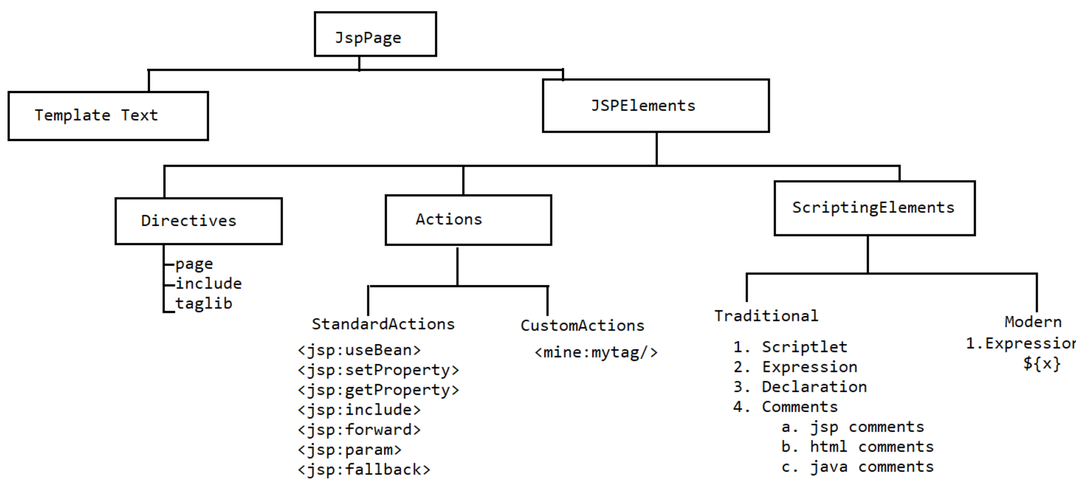
Life Cycle of JSP



Note:
Even before the request comes, if we want the translation phase to complete then we need to precompile the jsp page as shown below.
http://localhost:9999/SecondApp/index.jsp?jsp_precompile=true

Advantage
a. All the request will be processed with uniform response time.

JSP Elements



<jsp:useBean>
<jsp:setProperty>
<jsp:getProperty>
<jsp:include>
<jsp:forward>
<jsp:param>
<jsp:fallback>

<mine:mytag/>

1. Scriptlet
2. Expression
3. Declaration
4. Comments
   a. jsp comments
   b. html comments
   c. java comments

1.ExpressionLanguage
${x}

Template Text
==========
It contains plain text data and html tags
For template text no processing is requried and it will become argument to write() method in _jspService(req,res) method

index.jsp
=========
<h1>The server time is <%=new java.util.Date()%></h1>

⇩ Translated servlet

```
public final class index_jsp extends .....
{
    _jspService(request,response){
             out.write("The server time is ");
             out.println(new java.util.Date())
      }
}
```

write() => it takes only character data
println() => it can take any type of argument

Directives
==========
1. page directive

In the current jsp page if we want to define import statements,present jsp page characterstics then we need to go for page directive.
syntax:
<%@ page [attribute-list]%>

a. language ='java'
This is the default value of language attribute

b. contentType = 'text/html'
This is the default value of contentType attribute
As per the page requirement we can change the values too.

c. import = ''
This is the only attribute which can be repeated in the following ways
eg: <%@ page import = '' import = '' %>
<%@ page import = 'java.io.*,java.util.Date'%>
or
<%@ page import = 'java.io.*'%>
<%@ page import = 'java.util.*'%>

The default values of import is
java.lang.*
javax.servlet.*;
javax.servlet.http.*;
javax.servlet.jsp.*;

d. extends
The default value of extends in "HttpJspBase".

e. info
The default value of this attribute is "Jasper JSP2.3 Engine"
This value can be obtained inside the servlet by making a call to method called "getServletInfo()".

f. buffer, autoFlush

buffer => jsp internally maintains a buffer to write the data to the console as the response.
The default size of the buffer is 8kb.

autoFlush => It is a boolean attribute which is used to indicate to the container whether to flush the response to client automatically or not.
if autoFlush is true, then container will flush the complete response to the client from the buffer.
if autoFlush is false, then container will raise an Exception when the Buffer is filled with response.

java.io.IOException: Error: JSP Buffer overflow