

## UNIT : 6

Reference :- Marty Hall, Larry Brown, "Core Servlets and JavaServer Pages Volume - 1", Pearson Education, 2nd ed.(2004)  
 Chapter :- 13 : Including files and applets in JSP Pages

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## jsp:include action

- include the output of a page at request time.
- Advatnage : saves you from changing the main page when the included pages change.
- Disadvantage : since it includes the output of the secondary page, not the secondary page's actual code as with the include directive, the included pages cannot use any JSP constructs that affect the main page as a whole

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## include directive

- insert JSP code into the main page before that main page is translated into a servlet.
- Advatnage : it is powerful: the included code can contain JSP constructs such as field definitions and content-type settings that affect the main page as a whole.
- Disadvantage : it is hard to maintain: you have to update the main page whenever any of the included pages change.

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## jsp:plugin action

- used to insert applets that use the Java Plug-in into JSP pages.
- Advatnage : it saves you from writing long, tedious, and error-prone OBJECT and EMBED tags in your HTML.
- Disadvantage : it applies to applets, and applets are relatively infrequently used.

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## Including Pages at Request Time: The jsp:include Action

- To insert any of the following into the JSP output:  
 The content of an HTML page.  
 The content of a plain text document.  
 The output of JSP page.  
 The output of a servlet.
- includes the output of a secondary page at the time the main page is requested.
- the pages can be the result of resources that use servlets or JSP to create the output.

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## Including Pages at Request Time: The jsp:include Action

- The server runs the included page in the usual way and places the output into the main page.

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## Page attribute of jsp:include

- This attribute is required.
- Specifying** relative URL referencing the resource whose output should be included
- `<jsp:include page="relative-path-to-resource" />`
- placing the included pages in WEB-INF is a recommended practice; doing so will prevent them from being accidentally accessed by the client

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## flush attribute of jsp:include

- This attribute is optional.
- it specifies whether the output stream of the main page should be flushed before the inclusion of the page (the default is false).
- `<jsp:include page="relative-path-to-resource" flush="true" />`

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## jsp:param Element

- The included page uses the same request object as the originally requested page.
- the included page normally sees the same request parameters as the main page, but to add / replace parameters use `jsp:param` element.
- JSP Include Param is used to pass parameter in the include directive.

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## Include directive

- to include a file in the main JSP document at the time the document is translated into a servlet (which is typically the first time it is accessed).
- `<%@ include file="Relative URL" %>`
- included file is inserted character for character into the main page, then the resultant page is treated as a single JSP page.

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## Difference between jsp:include and include directive

- `jsp:include` is invoked at request time, whereas the `include` directive is invoked at page translation time.

	jsp:include Action	include directive
Syntax	<code>&lt;jsp:include page=" " /&gt;</code>	<code>&lt;%@ include file=" " %&gt;</code>
When included?	Request time	Page translation time
What included?	Output of page	Actual content of file
Resultant servlet	Two (Main page + included page)	One (included file inserted into main page then page is translated in servlet)

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## Difference between jsp:include and include directive

	jsp:include Action	include directive
Effect of changing response header by included page	No	Yes
Field / method access of main page	No	Yes
Require updating main page if included page changes	No	Yes
Equivalent servlet code	Include method of RequestDispatcher	None

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## Maintenance Problems with the include Directive

- With the include directive (<%@ include ... %>), if the included file changes, all the JSP files that use it may need to be updated.
- Servers are required to detect when a JSP page changes and to translate it into a new servlet before handling the next request.
- whenever an included file changes, you have to update the modification dates of each JSP page that uses the file.

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## Maintenance Problems with the include Directive

- serious maintenance problems that the include directive should be used only in situations in which jsp:include would not suffice.
- include directive results in code that executes faster than it would with the jsp:include action, the performance difference is so small that it is difficult to measure.

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## Additional Power from the include Directive

- With the include directive, the included file is permitted to contain JSP code such as response header settings and field definitions that affect the main page.

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## XML Syntax for the include Directive

- <%@ include file="..." %> is
- <jsp:directive.include file="..." />

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## Forwarding Requests with jsp:forward

- Use jsp:include to combine output from the main page and the auxiliary page. Instead, you can use jsp:forward to obtain the complete output from the auxiliary page.
- Similarity between <jsp:include> and <jsp:forward>  
Both the <jsp:include> and <jsp:forward> transfer control to new jsp page.

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## Difference between <jsp:include> and <jsp:forward>

- Difference between <jsp:include> and <jsp:forward>
- <jsp:include> action transfers control to a new page, whose results are inserted into the current page at this point, then execution of the current page continues. Means control returns back to main page from where including that page.
- Opposite to this <jsp:forward> works, giving up the control to the forwarded page. Control doesn't return to main page once u forward it.

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## Including Applets for the Java Plug-In

- The <jsp:plugin> action is used to download a plugin (an Applet or a Bean) to the client Web browser to execute it.
- The <jsp:plugin> tag is replaced by either an <object> or <embed> tag, whichever is most appropriate for the client Web browser (the <object> tag is for browsers that use HTML 4.0).

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## Including Applets for the Java Plug-In

- The <jsp:params> element sends parameter names and values to an applet or Bean at startup. The <jsp:fallback> element provides a message for the user if the plugin does not start. If the plugin starts but the applet or Bean does not, the plugin usually displays a popup window explaining the error to the user.

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## <jsp:params>

- The <jsp:params> element sends parameter names and values to an applet or Bean at startup.
- The jsp:param element is used with jsp:plugin in a manner similar to the way that PARAM is used with APPLETT, specifying a name and value that are accessed from within the applet by getParameter.
- <jsp:plugin type="applet" code="MyApplet.class" width="475" height="350"> <jsp:params> <jsp:param name="PARAM1" value="VALUE1" /> <jsp:param name="PARAM2" value="VALUE2" /> </jsp:params> </jsp:plugin>

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## <jsp:fallback>

- The <jsp:fallback> element provides a message for the user if the plugin does not start. If the plugin starts but the applet or Bean does not, the plugin usually displays a popup window explaining the error to the user.
- provides alternative text to browsers that do not support OBJECT or EMBED.
- <jsp:fallback> <B>Error: this example requires Java.</B> </jsp:fallback>

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## <jsp:plugin> attributes

Attribute	Purpose
type	For Applet value : applet For Bean : bean
code	Top level applet class who extends Applet/JApplet
width	Specify width to be reserved for applet (in pixels)
height	Specify height to be reserved for applet (in pixels)
codebase	Specify base directory .(Current is default)

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## <jsp:plugin> attributes

Attribute	Purpose
align	alignment of applet in web page values : (left, right, top, bottom, middle)
hspace	Specify empty space reserved on left and right of applet (in pixels)
vspace	Specify empty space reserved on top and bottom of applet (in pixels)
archive	Specify jar file from which classes and images should be loaded.
name	Specify name for inter applet communication for identification to javascript.

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## <jsp:plugin> attributes

Attribute	Purpose
title	Specifying a title that can be used for a tool tip or for indexing.
Jreversion	Identifies jreversion that is required.(default 1.2)
iepluginurl	Designating URL from which plug-in for IE can be downloaded. User will be prompted.
nspluginurl	Designating URL from which plug-in for Netscape can be downloaded. User will be prompted.

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## Including Applets for the Java Plug-In

- ```

<jsp:plugin type="bean|applet"
  code="classFileName"
  codebase="classFileDirectoryName"
  [ height="displayPixels" ]
  [ width="displayPixels" ] [ <jsp:params>
  <jsp:params>
    name="parameterName" value="parameterValue" />
  ]+
  </jsp:params> ]
  [ <jsp:fallback> text message for user </jsp:fallback> ]
  .....
  .....
  </jsp:plugin>

```

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