# Java Server Pages (JSP)

Lesson 08 : JSP Actions

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# Lesson Objectives

In this lesson, you will learn the following concepts:

- JSP Actions

- jsp:include Action
  - include Action Vs Directive

- jsp:forward Action
  - Integrating Servlets & JSP
  - jsp:forward Vs response.sendRedirect

# The JSP Action

JSP actions controls the behavior of the servlet engine.

Available Actions are as follows:

- jsp:include
- jsp:forward

# The Include Action

The include action allows to insert files into the page being generated.
Syntax:

```
<jsp:include page="{relativeURL | <%=
expression%>}"  flush="true"/>
```

or

```
<jsp:include page="{relativeURL | <%= expression
%>}"  flush="true" >
<jsp:param name="parameterName" value="{parameterValue |
<%= expression %>}" />+
 </jsp:include>
```

# Examples for jsp:include

Example 1:

```
<jsp:include page="scripts/login.jsp" />
    <jsp:include page="copyright.html" />
    <jsp:include page="/index.html" />
```

Example 2:

```
<jsp:include page="scripts/login.jsp">
    <jsp:param name="username" value="jsmith" />
</jsp:include>
```

# Demo

Demo on:

- jspIncludeAction.jsp
- header.jsp
- footer.jsp

# include Action versus include Directive

The include directive includes files at the time the JSP page is translated into a servlet. Hence it is called static include.

- The include action includes files when the page is requested. Hence it is called dynamic include.

- In case of include directive as the include process is static, a change in the included file will not be reflected in the JSP file in which it is included (this behavior is dependent on JSP container).

# The forward Action

The <jsp:forward> element forwards the request object containing the client request information from one JSP file to another file.

The target file can be an HTML file, another JSP file, or a servlet.

A jsp:forward effectively terminates the execution of the current page.

If the page output is buffered, then the buffer is cleared prior to forwarding.

# Syntax and Examples for jsp:forward

Syntax:

```
<jsp: forward page="{ relativeURL | <%= expression %> }"
    {/>|> [ <jsp:param name=" parameterName " value="{
parameterValue | <%= expression %>}" /> ]+
    </jsp: forward>
```

Example 1:

```
<jsp:forward page="/pages/login.jsp" />
```

Example 2:

```
<jsp:forward page="/pages/login.jsp">
    <jsp:param name="username" value="jsmith" />
</jsp:forward>
```

# Demo

Demo on:
- first.jsp
- second.jsp

# Integrating Servlets and JSP

jsp:forward can be used to forward a request from jsp page to a servlet.

```
<!-- Forward to a servlet -->
<jsp:forward page="/servlet/servlettojsp" />
```

*Model 2 Architecture combines the use of Servlets and JSP.*
*It takes advantage of the predominant strengths of both technologies,*
*using JSP  to generate the presentation Layer and servlets to*
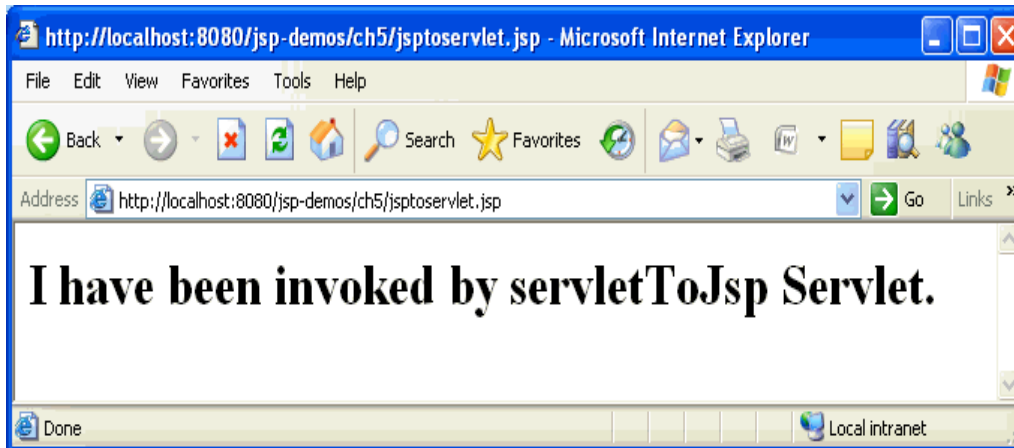*perform process-intensive tasks.*

# Demo: Integrating Servlets and JSP

## Demo on:
- servletToJsp.java (servlet)

# jsp:forward versus response.sendRedirect

| jsp:forward | response.sendRedirect |
|---|---|
| Server-side redirect, hence no network traffic | Client-side redirect, hence additional network round trip |
| The address of the destination page hidden from user | The address of the destination page visible to user in the address bar |
| Allows forwarding of the request to another page in the same context as the current page. | Allows re-direction of the request to another page in same or different context as the current page |

# Lab: Integrating JSP with Servlet

Lab 4.1

# Summary

In this lesson, you have learnt the following concepts:
- JSP Actions: include, forward, and plugin

Question 1: The include action is a ____ include.
- Option 1: dynamic
- Option 2: static
- Option 3: both the above

Question 2: The ____ attribute of include action is mandatory to be set.

Question 3: ____ sub-element can be used to pass information to included or forwarded JSP page.

Question 4: ____ action terminates the execution of current page before moving on to the next page.

Question 5: ____ is a client-side redirect.