

Java Server Pages (JSP)

Lesson 06: JSP Scripting Elements



Lesson Objectives

In this lesson, you will learn about:

- Forms of Scripting Elements
 - JSP Expressions
 - JSP Scriptlets
 - JSP Declarations
- Predefined Variables
- Examples using Scripting Elements





JSP Scripting Elements

JSP scripting elements insert Java code into the generated servlet. There are three forms of scripting elements, namely:

- Expressions: `<%= expression %>`
- Scriptlets: `<% scriptlet code %>`
- Declarations: `<%! Declarative code %>`



A JSP expression is used to insert Java values directly into the output.

- Form :

```
<%= Java expression%>
```

- Example:

```
hostname: <%=request.getRemoteHost( )%>
```

- The result of the expression is evaluated, converted to a String, and inserted in the JSP page.



A JSP scriptlet is used to insert Java code into the `_jspService` method.

- Form :

```
<%Java code%>
```

- Example:

```
<%  
    String queryData = request.getQueryString();  
    out.println ("Attached GET data: " + queryData);  
%>
```



A JSP declaration is used to define methods or fields that are inserted in the Servlet class outside the `_jspService()` method.

- Form :

```
<%! Java Code%>
```

- Example: Count accesses to page since server reboot:

```
<%! private int accessCount = 0; %>  
<%= ++accessCount %>
```

- Declaration can be used to override `jspInit ()` and `jspDestroy()` methods of servlet.



6.2: Predefined Variables

Implicit Objects

Let us see some of the implicit objects in JSP:

- request:
 - It is the `HttpServletRequest` associated with the request.
- response:
 - It is the `HttpServletResponse` associated with the response.
- out:
 - It is the `Buffered PrintWriter (JSPWriter)` used to send output to the client.
- session:
 - It is the `HttpSession` object associated with the session.



6.2: Predefined Variables

Implicit Objects

- application:
 - It is the ServletContext object.
- config:
 - It is the ServletConfig object.
- pageContext:
 - It refers to the current page.
- exception:
 - It refers to the `java.lang.Exception` object that represents the uncaught exception.



Demo: JSP Scripting Elements

JSP Expressions

- remotehost.jsp
- predefined.jsp

JSP Scriptlets

- scriptlet.jsp
- conditional.jsp

JSP Declarations

- declaration1.jsp
- declaration2.jsp
- declaration3.jsp
- fact.jsp



Lab: JSP Scripting Elements



Lab 3.1



Summary



In this lesson, you have learnt the following concepts:

- JSP Expressions
- JSP Scriptlets
- JSP Declarations
- Predefined Variables



Review – Questions



Question 1: ____ inserts java code into `_jspService()` method.

Question 2: A JSP expression can end with a semicolon (`:`)
. True/False

Question 3: ____ can be used to override `jspInit()` method.



Review – Questions



Question 4: ____ is a buffered PrintWriter used in JSP to send output to client.

Question 5: ____ implicit object is used to share data across users of the same web application.

