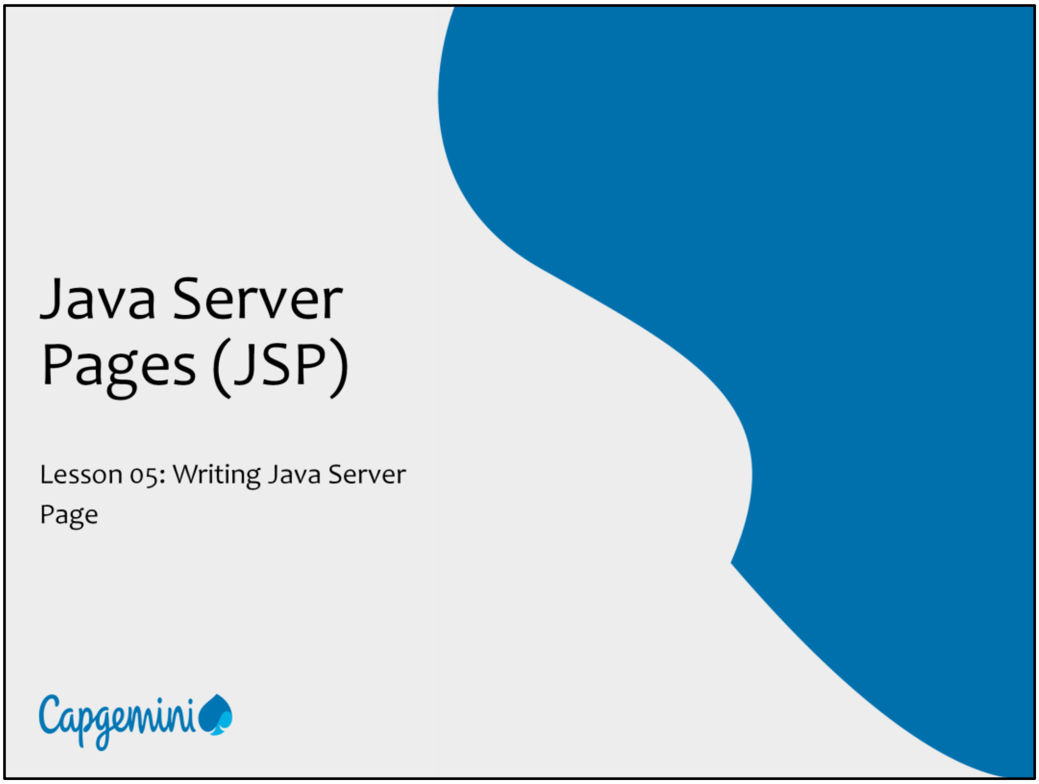
Instructor Notes:

Add instructor notes here.

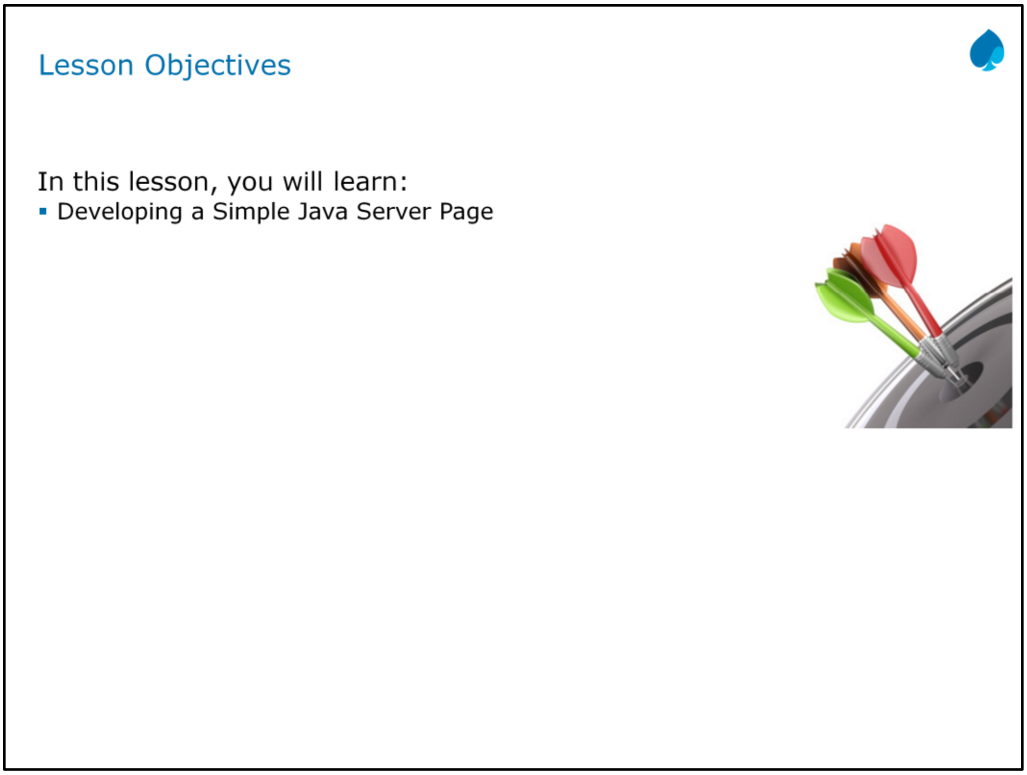


Java Server Pages (JSP)

Lesson 05: Writing Java Server Page

Instructor Notes:

This lesson is to give an overview on how to develop Java Server Pages



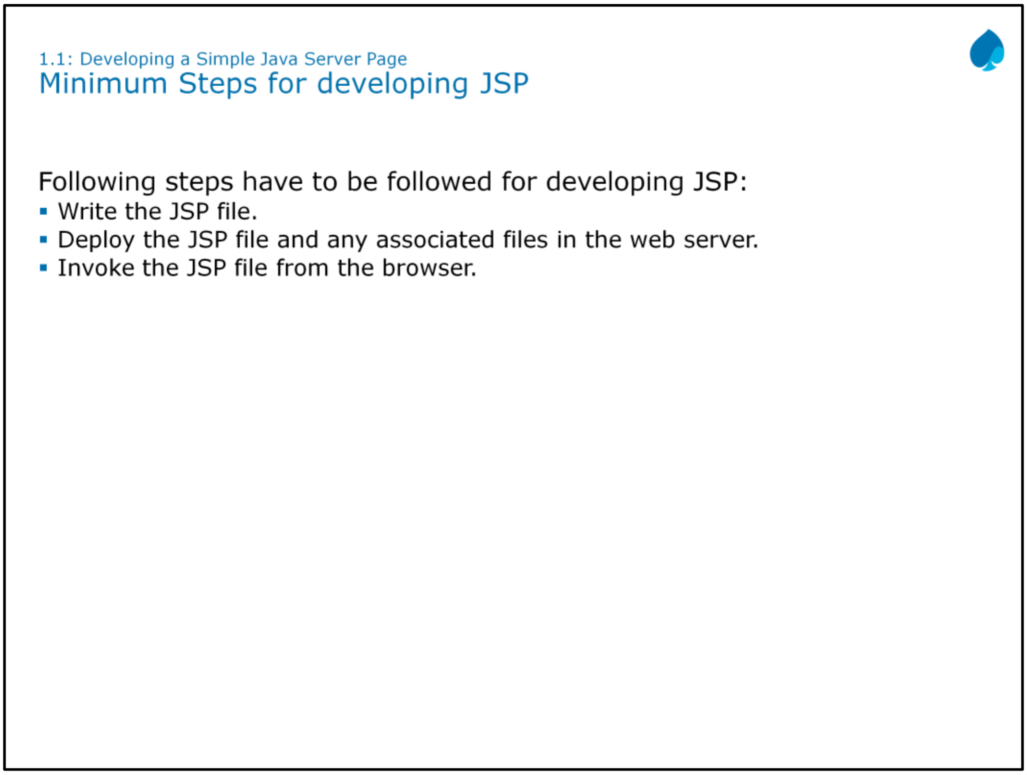
Lesson Objectives

In this lesson, you will learn:

- Developing a Simple Java Server Page

Instructor Notes:

Explain in brief the minimum steps required to develop & execute a JSP page. All these steps will need to be demonstrated as part of the demo at the end of the lesson.



1.1: Developing a Simple Java Server Page

Minimum Steps for developing JSP

Following steps have to be followed for developing JSP:

- Write the JSP file.
- Deploy the JSP file and any associated files in the web server.
- Invoke the JSP file from the browser.

<u>Developing Java Server Page</u>:

Minimum steps needed to develop a Java Server Page:

Following steps have to be followed for developing JSP:

1. Write the JSP File
   a) Declare any JavaBeans components.
   b) Use **tag-centric syntax** to access Bean properties or **scripting-centric syntax** to provide desired functionality.
   c) Save the file with a **.jsp** filename extension.
2. Deploy the JSP file and any associated files in the web server (Please refer to the JSP lab book for more details).
   a) Place the **.jsp** files under the context root directory.
   b) Place associated **.class** files in **WEB-INF\classes** folder and **.jar** files in **web-inf\ lib** folder.
3. Invoke the JSP file from a web browser.
   a) Type the URL in the browser as follows: **http://<host-name>/<context-root>/<path>/<jsp file name>**

Instructor Notes:

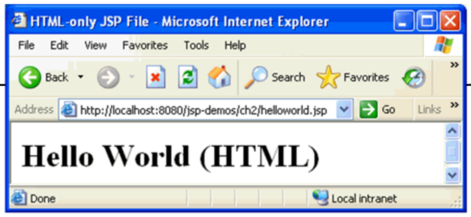
Explain that when a html file is saved as .jsp then it will be processed as a JSP file by the server and not as a static html page.

JSP 2.1 version requires following jars:
1) ant-1.6.5.jar
2) core-3.1.1.jar
3 jsp-2.1.jar
4) jsp-api-2.1.jar

1.1: Developing a Simple Java Server Page

JSP Example (Only HTML)

```
<html>
<head>
<title> HTML – only JSP File </title>
</head>
<body>
<h1> Hello World (HTML)</h1>
</body>
</html>
```


HTML-only JSP File - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
Go
Links
Done
Local intranet

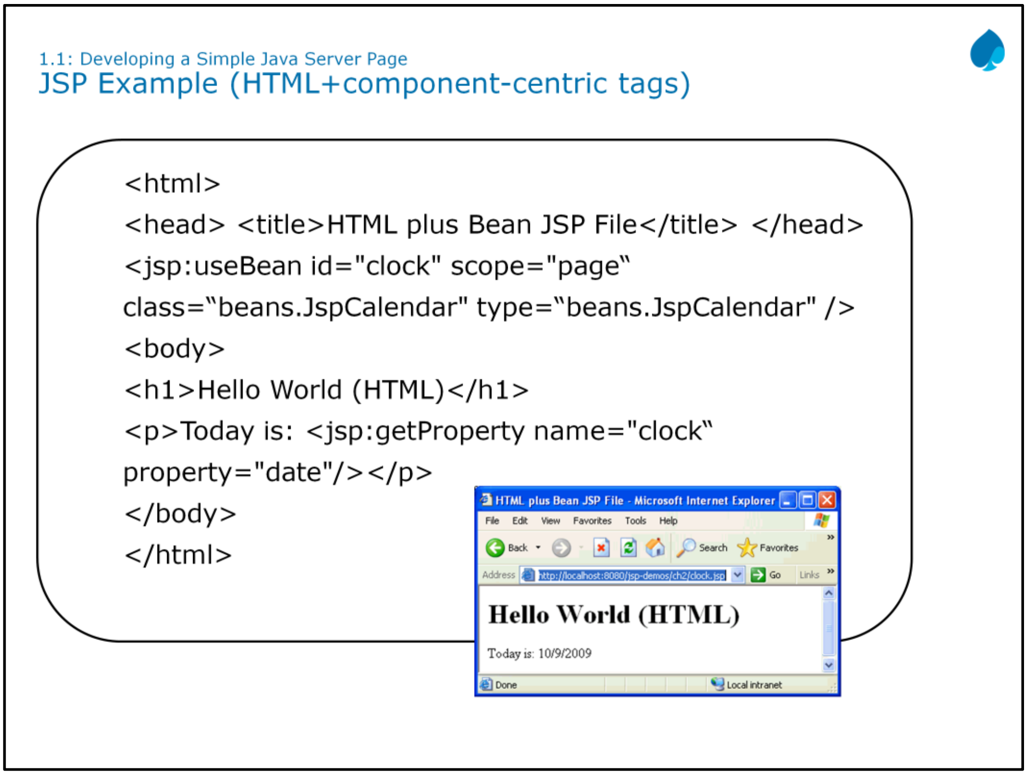
http://localhost:8080/jsp-demos/ch2/helloworld.jsp

Hello World (HTML)

Developing Java Server Page:
The above slide shows an example of a JSP file that contains only HTML.
A file containing nothing but standard HTML code can be renamed with a filename extension of .jsp and therefore meet the minimum requirements to be invoked as a Java Server Page. Such a file would still be parsed and compiled to a servlet. The servlet would still return a response when the page was invoked - its response to the client would simply contain the original HTML.

Instructor Notes:

Explain the meaning of component centric tag in brief and point out the same in the code on the slide.



1.1: Developing a Simple Java Server Page

JSP Example (HTML+component-centric tags)

```
<html>
<head> <title>HTML plus Bean JSP File</title> </head>
<jsp:useBean id="clock" scope="page‟
class=‟beans.JspCalendar" type=‟beans.JspCalendar" />
<body>
<h1>Hello World (HTML)</h1>
<p>Today is: <jsp:getProperty name="clock‟
property="date"/></p>
</body>
</html>
```

HTML plus Bean JSP File - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
http://localhost:8080/jsp-demos/ch2/clock.jsp
Go
Links
Done
Local intranet

Hello World (HTML)

Today is: 10/9/2009

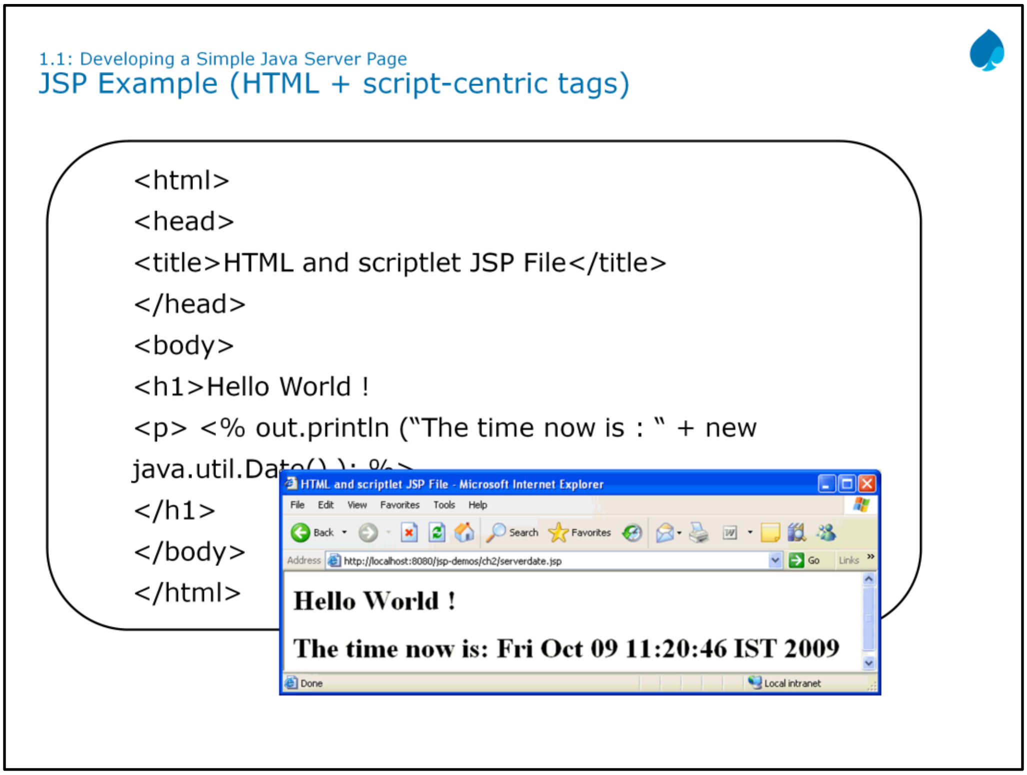
<u>Developing Java Server Page</u>:

JSP Example (HTML + component-centric tags):

- The above slide shows an example of a JSP file that contains **HTML** and **component-centric tags**.
- Of course, the whole point of Java Server Pages technology is to simply and easily manage dynamic content on the server side. So, the plain HTML file from above, we can add some Java Server Pages tags to interact with Java components. Component can be as simple as a Bean, which returns the current time.

Instructor Notes:

Explain the meaning of script-centric tag in brief and point it out in the code on the slide. Explain the output as well.



1.1: Developing a Simple Java Server Page

JSP Example (HTML + script-centric tags)

```
<html>
<head>
<title>HTML and scriptlet JSP File</title>
</head>
<body>
<h1>Hello World !
<p> <% out.println ("The time now is : " + new
java.util.Date() ); %>
</h1>
</body>
</html>
```

HTML and scriptlet JSP File - Microsoft Internet Explorer

http://localhost:8080/jsp-demos/ch2/serverdate.jsp

Hello World !

The time now is: Fri Oct 09 11:20:46 IST 2009

Done

Local intranet

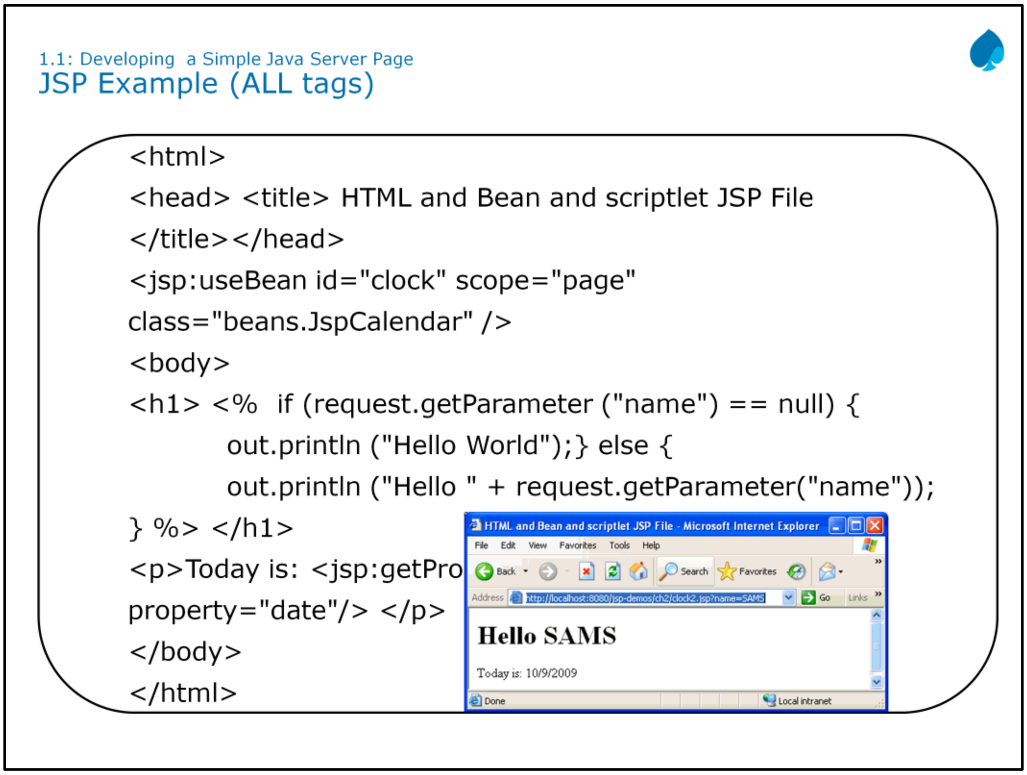
<u>Developing Java Server Page</u>:

JSP Example (HTML + script-centric tags)

- The above slide shows an example of a JSP file that contains **HTML** and **script-centric tags**.
- Although Java Server Pages architecture encourages the use of **componentization** for ease of maintenance and reusability, It does not required to use components. This example uses a simple **scriptlet** containing raw Java code.

Instructor Notes:

This example has all possible combinations. Explain the code & output in brief.



1.1: Developing a Simple Java Server Page

JSP Example (ALL tags)

```
<html>
<head> <title> HTML and Bean and scriptlet JSP File
</title></head>
<jsp:useBean id="clock" scope="page"
class="beans.JspCalendar" />
<body>
<h1> <%  if (request.getParameter ("name") == null) {
          out.println ("Hello World");} else {
          out.println ("Hello " + request.getParameter("name"));
} %> </h1>
<p>Today is: <jsp:getPro
property="date"/> </p>
</body>
</html>
```

HTML and Bean and scriptlet JSP File - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
http://localhost:8080/jsp-demos/ch2/clock2.jsp?name=SAMS
Go
Links
Done
Local intranet

Hello SAMS

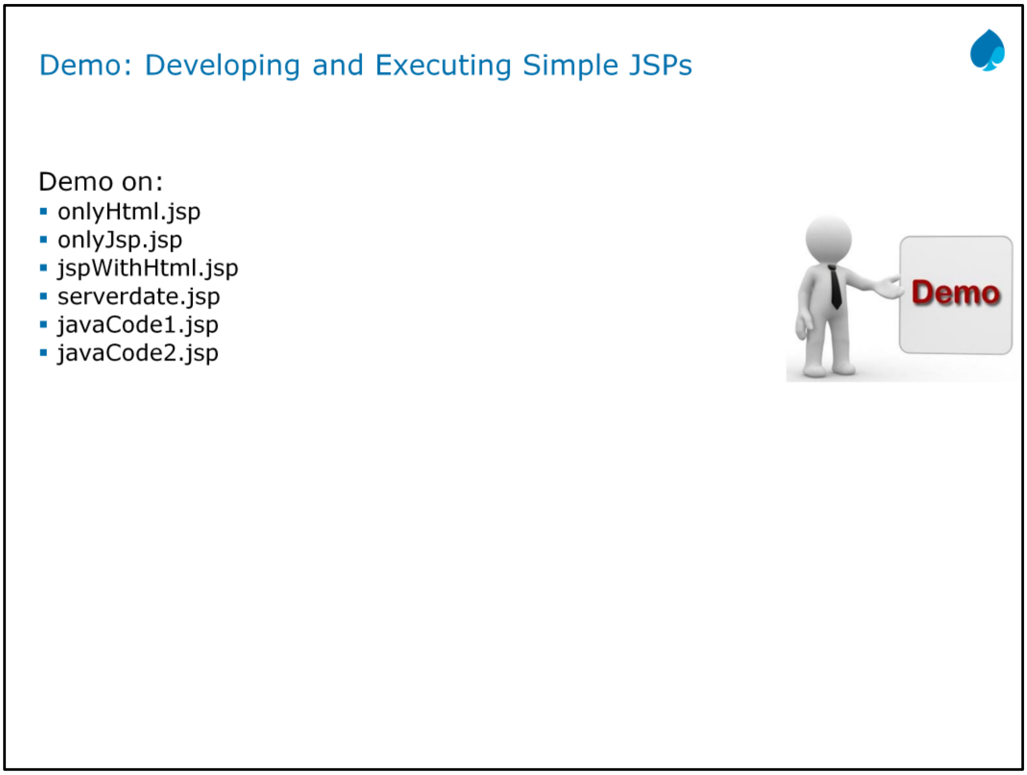
Today is: 10/9/2009

<u>Developing Java Server Page</u>:
JSP Example (All tags):

- The above slide shows an example of a JSP file that contains **HTML, component centric** and **script-centric tags**.
  This is the same example where we had only HTML tags with the substitution of two lines of code for the original Hello line. By checking for a name parameter in the incoming request (available in the automatic request object), the page can return either a generic or a personalized greeting.
- Remember to save the file with a **.jsp** filename extension. This tells the web server that the file is a Java Server Pages file and to process it accordingly.

Instructor Notes:

Demonstrate all the combinations (i.e. only html, html + component-centric tags etc.) that are possible in a JSP page



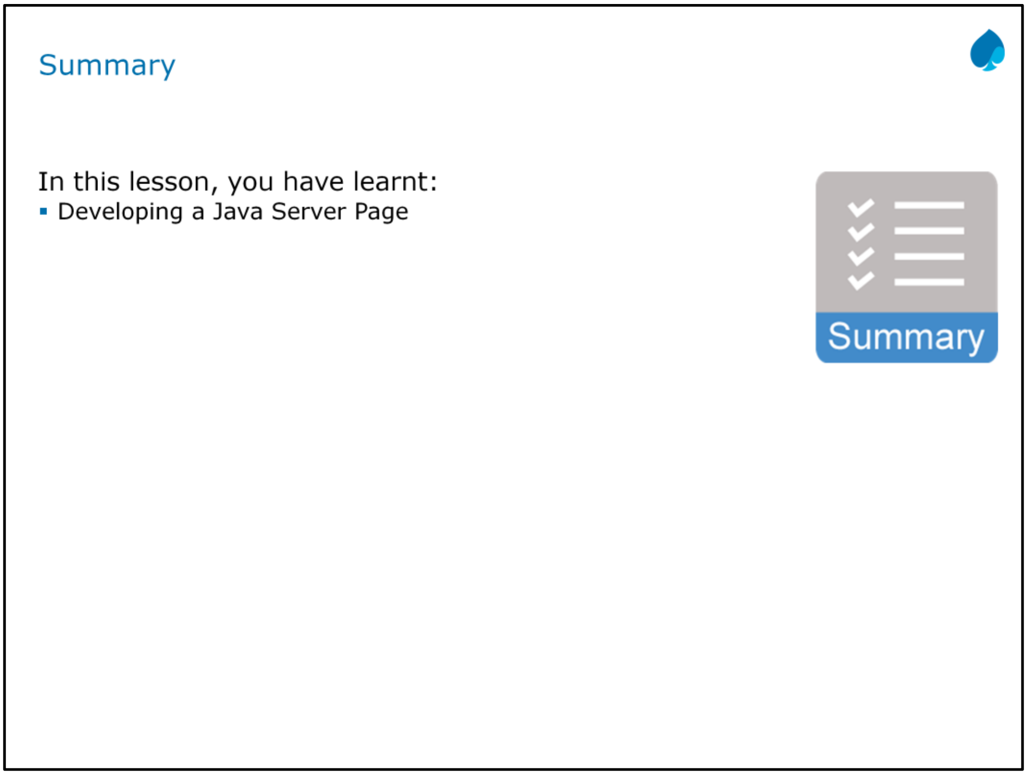
Demo: Developing and Executing Simple JSPs

Demo on:

- onlyHtml.jsp
- onlyJsp.jsp
- jspWithHtml.jsp
- serverdate.jsp
- javaCode1.jsp
- javaCode2.jsp

Deploy web application **Lesson1-JSPIntroduction** and show demo by executing each of the above JSP pages.

Instructor Notes:



Summary

In this lesson, you have learnt:

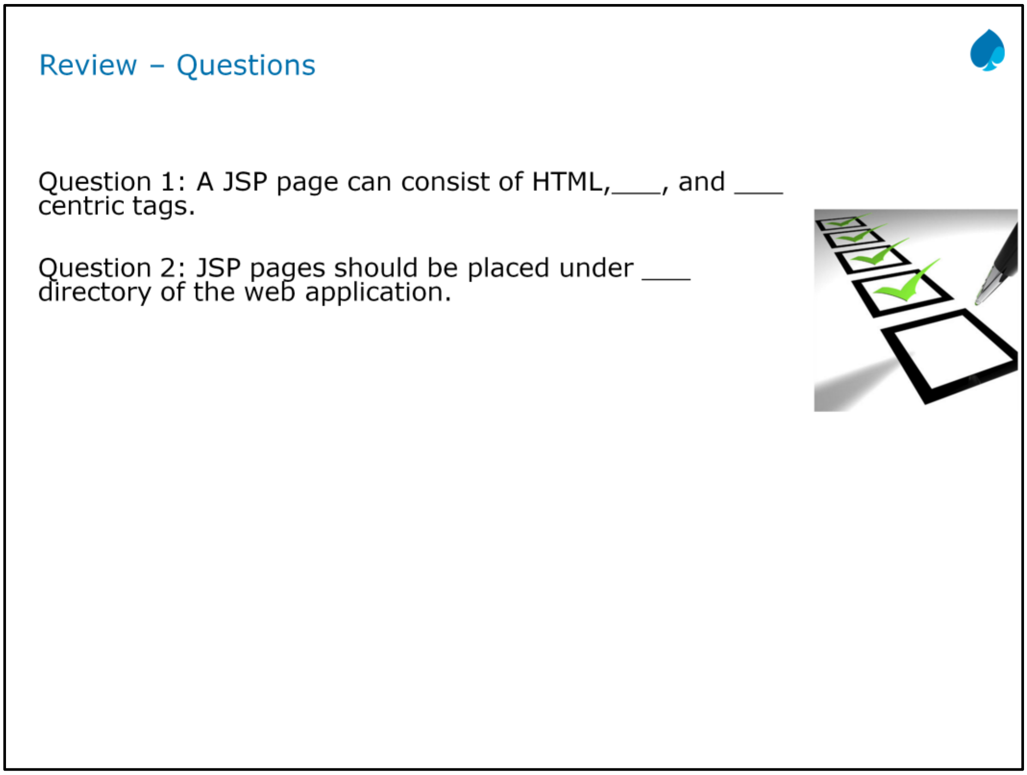
- Developing a Java Server Page

Instructor Notes:

Answers for the Review Questions:

Answer 1: component; script

Answer 2: context-root



Review – Questions

Question 1: A JSP page can consist of HTML,____, and ____ centric tags.

Question 2: JSP pages should be placed under ____ directory of the web application.