1. What is JSP?

JSP technology is used to create web application just like Servlet technology. It can be thought of as an extension to servlet because it provides more functionality than servlet such as expression language, jstl etc.

Jsp tags are written in html tags. The jsp pages are easier to maintain than servlet because we can separate designing and development. In MVC architecture jsp represents view.

2. What are advantages of Jsp?

There are many advantages of JSP over servlet. They are as follows

1. Extension to servlet: JSP technology is the extension to servlet technology. We can use all the features of servlet in JSP. In addition to, we can use implicit objects, predefined tags, expression language and Custom tags in JSP, that makes JSP development easy.

2. Easy to maintain: JSP can be easily managed because we can easily separate our business logic with presentation logic. In servlet technology, we mix our business logic with the presentation logic.

3. Fast Development: No need to recompile and redeploy. If JSP page is modified, we don't need to recompile and redeploy the project. The servlet code needs to be updated and recompiled if we have to change the look and feel of the application.

4. Less code than Servlet: In JSP, we can use a lot of tags such as action tags, jstl, custom tags etc. that reduces the code. Moreover, we can use EL, implicit objects etc.

3. Life cycle of JSP ?

The JSP pages follows these phases:

1. Translation of JSP Page

2. Compilation of JSP Page (after this stage it follows life cycle of servlet)

3. Classloading (class file is loaded by the classloader)

4. Instantiation (Object of the Generated Servlet is created).

5. Initialization ( jspInit() method is invoked by the container).

6. Reqeust processing ( \_jspService() method is invoked by the container).

7. Destroy ( jspDestroy() method is invoked by the container).

4. What are scripting elements?

The scripting elements provides the ability to insert java code inside the jsp. There are three types of scripting elements:

1. scriptlet tag

2. expression tag

3. declaration tag

Scriptlet tag : A scriptlet tag is used to execute java source code in JSP. Code written in this tag goes into service method of auto generated Servlet. The jsp scriptlet tag can only declare variables not methods.

Syntax is as follows:

<% java source code %>

Expression tag: The code placed within JSP expression tag is written to the output stream of the response. So, you need not write out.print() to write data. It is mainly used to print the values of variable or method.

Syntax is as follows :

<%= statement %>

Declaration tag: is used to declare fields and methods. The code written inside the jsp declaration tag is placed outside the service() method of auto generated servlet. So, it doesn't get memory at each request. The variable declared in this tag are like instance variable.

Syntax is as follows:

<%! field or method declaration %>

5. List the implicit objects?

There are 9 jsp implicit objects. These objects are created by the web container that are available to all the jsp pages.

1. out - For writing any data to the buffer, JSP provides an implicit object named out.

2. Request - JSP request is an implicit object of type HttpServletRequest.

3. Responce - JSP response is an implicit object of type HttpServletResponse.

4. config - JSP config is an implicit object of type ServletConfig.

5. application - JSP application is an implicit object of type ServletContext.

6. session - JSP session is an implicit object of type HttpSession.

7. page - JSP page is an implicit object of type Object class.

8. pageContext - JSP pageContext is an implicit object of type PageContext class.

9. exception - for Throwable.

6. What are different directives?

The jsp directives are messages that tells the web container how to translate a JSP page into the corresponding servlet.

There are three types of directives:

• page directive

• include directive

• taglib directive

JSP page directive: The page directive defines attributes that apply to an entire JSP page.

like: import, contentType, extends etc.

syntax: <%@ page attribute="value" %>

Jsp Include Directive: The include directive is used to include the contents of any resource it may be jsp file, html file or text file. Include directive includes the original content of the included resource at page translation time

(the jsp page is translated only once so it will be better to include static resource).

advantage of using include directive is code reusability.

syntax: <%@ include file="resourceName" %>

JSP Taglib directive: The JSP taglib directive is used to define a tag library that defines many tags. We use the TLD

(Tag Library Descriptor) file to define the tags.

syntax: <%@ taglib uri="uriofthetaglibrary" prefix="prefixoftaglibrary" %>

7. What are Action elements?

The action tags are used to control the flow between pages and to use Java Bean. The Jsp action tags are given below.

JSP Action Tags Description

jsp:forward forwards the request and response to another resource.

jsp:include includes another resource.

jsp:useBean creates or locates bean object.

jsp:setProperty sets the value of property in bean object.

jsp:getProperty prints the value of property of the bean.

jsp:plugin embeds another component such as applet.

jsp:param sets the parameter value. It is used in forward and include mostly.

jsp:fallback can be used to print the message if plugin is working. It is used in jsp:plugin.

8. What is JSTL and which tags you have used?

JSP Standard Tag Library (JSTL) represents a set of tags to simplify the JSP development. Advantage of JSTL:

Fast Developement JSTL provides many tags that simplifies the JSP.

Code Reusability We can use the JSTL tags in various pages.

No need to use scriptlet tag It avoids the use of scriptlet tag.

There JSTL mainly provides 5 types of tags:

Tag Name Description

Core tags The JSTL core tag provide variable support, URL management, flow control etc. The url for the core

tag is http://java.sun.com/jsp/jstl/core . The prefix of core tag is c.

Function tags The functions tags provide support for string manipulation and string length. The url for the functions

tags is http://java.sun.com/jsp/jstl/functions and prefix is fn.

Formatting tags The Formatting tags provide support for message formatting, number and date formatting etc. The url for the Formatting tags is http://java.sun.com/jsp/jstl/fmt and prefix is fmt.

XML tags The xml sql tags provide flow control, transformation etc. The url for the xml tags is http://java.sun.com/jsp/jstl/xml and prefix is x.

SQL tags The JSTL sql tags provide SQL support. The url for the sql tags is http://java.sun.com/jsp/jstl/sql and prefix is sql.