JSP, Servlets & Struts

Servlets and JSP technologies has become the technology of choice for developing online stores, interactive web applications and dynamic web sites.

By Dr. Kodge Bheemashankar G

- **Java Server Pages** (**JSP**) is a Java technology that helps software developers serve dynamically generated web pages based on HTML, XML, or other document types. Released in 1999 as Sun's answer to ASP and PHP. JSP was designed to address the perception that the Java programming environment didn't provide developers with enough support for the Web.

- To deploy and run, a compatible web server with servlet container is required. The Java Servlet and the JavaServer Pages (JSP) specifications from Sun Microsystems and the JCP must both be met by the container.

An overview of Servlets & JSP Tech.

A Servlets Jobs:

Servlets are Java Programs that run on web or application server, acting as a middle layer between request coming from web browsers or other http clients and data bases. Their job is to performing following tasks

1) Read the explicit data sent by the client

2) Read the implicit HTTP request data sent by the browser

3) Generate the result

4) Send the explicit data to client

5) Send the implicit HTTP response data

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Why build web page dynamically?

The web pages build dynamically due to the followings reason.

1) The web page is based on data sent by the client
2) The web page is derived from the data that changes frequently
3) The web page uses information from corporate databases or other server side sources.

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The advantages of servlets over "Traditional" CGI

Over the traditional CGI, the Java Servlets are more easier to use because the followings are few advantages of Java Servlets.

    1) **Efficient** due to JVM and Multithreading

    2) **Convenient** due to the knowledge of Java

    3) **Powerful** and direct communication to web server

    4) **Portable** in any platform

    5) **Inexpensive** due to freeware

    6) **Secure** from shell program, array/string bound,

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The Role of JSP

The servlets are Java programs with HTML embedded inside of them.

JSP is just an another way of writing servlets. JSP pages get translated into servlets, the servlets gets compiled, and it is the servlet that run at request time.

JSP is simplifying the creation and maintenance of the HTML.

Servlets are the best at invoking the business logic and performing complicated operations.

Servlets are best for tasks oriented towards processing

JSP is best for task oriented towards presentation.

Servlets are the right choice, ang JSP is a better option

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Download and install J2SDK

1) Download & install J2SDK and set PATH

2) Download a server implements servelet 2.3 (JSP1.2)

   http://tomcat.apache.org

3) Configure the server (show SDK path & Port : 80)

4) Setup the development environment (CLASSPATH)

5) Test your setup (Server homepage)

6) Establish a simplified deployment method (copying resource)

7) Create custom web application

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Configuring Apache Tomcat

1) Setting the JAVA_HOME variables

2) Specifying the server port from 8080 to 80.

3) enabling the root context install_dir/conf/server.xml

4) Increasing DOS memory limits

5) Setting CATALINA_HOME for server path.

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Testing your setup

To verify that you have configured Tomcat successfully,

1) Open a browser and enter

    1) http://localhost/

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Web Applications: A Preview

1) Make a Directory whose structure mirrors the structure of the default web applications.

2) Update your classpath

3) Register web applications with server

4) Use URL prefix to invoke servlets or HTML/JSP

5) Assign custom URLs for all your servlets.

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