

Java Web

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web development overview in Java

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develop web page



develop web application

- ❖ web page hosted in web server

essence of web

- HTTP

web hosting

develop web application with java

- servlet
- jsp

Servlet

- ❖ CGI vs. Servlet
- ❖ Servlet vs. JSP
- ❖ JSP vs. ASP

Live Demo

Servlet life cycle

- The life cycle of a servlet is controlled by the container in which the servlet has been deployed. **When a request is mapped to a servlet, the container performs the following steps.**
- If an instance of the servlet does not exist, the web container
 - Loads the servlet class.
 - Creates an instance of the servlet class.
 - **Initializes the servlet instance by calling the init method.**
- Invokes the **service** method, passing request and response objects.
- If the container needs to remove the servlet, it finalizes the servlet by calling the servlet's destroy method.

Servlet thread model

- multi-thread (service method)
- A servlet must be able to handle multiple concurrent requests.

JSP

JSP implicit objects

- request, response, out, session, application, config, pageContext, page, exception

JSP Actions

- <jsp: include />
- <jsp: forward />
- <jsp: useBean />
- <jsp: getProperty />
- <jsp: setProperty />

JSP JSTL & EL

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
```

- **Core:** <http://java.sun.com/jsp/jstl/core>
- **XML:** <http://java.sun.com/jsp/jstl/xml>
- **Internationalization:** <http://java.sun.com/jsp/jstl/i18n>
- **SQL:** <http://java.sun.com/jsp/jstl/sql>
- **Functions:** <http://java.sun.com/jsp/jstl/functions>

Table 7-1 JSTL Tags

Area	Subfunction	Prefix
Core	Variable support	c
	Flow control	
	URL management	
	Miscellaneous	
XML	Core	x
	Flow control	
	Transformation	
I18N	Locale	fmt
	Message formatting	
	Number and date formatting	
Database	SQL	sql
Functions	Collection length	fn
	String manipulation	

JSP EL implicit objects

- There are three types of JSTL EL implicit objects:
 - Maps for a single set of values, such as request headers and cookies:
 - param, paramValues, header, headerValues, initParam, cookie
 - Maps for scoped variables in a particular scope:
 - pageScope, requestScope, sessionScope, applicationScope
 - The page context: pageContext

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