JSTL

Java Standard Tag Library

Doing what EL can't

- There's only so much you can do with EL and the standard actions
- We don't want to resort to using scriptlets
- We can write our own custom tags...
- ...but thankfully the JSTL library contains lots of useful tags already written for us

JSTL

▸ JSTL's tags are grouped into 5 areas (taglibs)

Area	Contains...
Core	Variable support, URL management, flow control, miscellaneous tags
XML	Flow control, transformations
I18N	Localization, message formatting, number and date formatting
Database	SQL
Functions	String manipulation, collection length

Using JSTL

- JSTL is not part of the JSP specification, so there two essential steps to start using JSTL tags in our web apps

- 1. Put the `jstl.jar` and `standard.jar` files into the `WEB-INF/lib` directory
- 2. Put a `taglib` directive at the top the JSP file which will be using them, for each part of the JSTL you require, e.g.

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

e.g. `<c:out value="x" />`

JSTL's taglibs

- The `<%@ taglib ... %>` directive requires these parameters for the area of the JSTL you want to use...

Area	Prefix	URI
Core	c	http://java.sun.com/jsp/jstl/core
XML	x	http://java.sun.com/jsp/jstl/xml
I18N	fmt	http://java.sun.com/jsp/jstl/fmt
Database	sql	http://java.sun.com/jsp/jstl/sql
Functions	fn	http://java.sun.com/jsp/jstl/functions

Tag Examples

» Examples of some of the most commonly used JSTL tags

Core: out

- This simple tag outputs a value and encodes any XML entities, e.g.
  - ◦ If we define an attribute with some HTML tags:

  ```
  request.setAttribute("content", "<i>Italic</i>");
  ```

  - ◦ And then output that with <c:out>

  ```
  <c:out value="content" />
  ```

  - ◦ The result in the response is...

  ```
  &lt;i&gt;Italic&lt;/i&gt;
  ```

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Core: if

- This tag lets us put an if condition into our JSP, e.g.
  - ◦ Some HTML should only be displayed if an attribute called `user` is defined:

A boolean EL expression

```
<c:if test="${user != null}">
   <p>Welcome ${user.name}</p>
</c:if>
```

Only parsed if test is true

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Core: choose

- The `<c:if>` tag does not allow us to specify *'else if'* conditions. For that we use `<c:choose>` and `<c:when>`, e.g.
  - To specify two different cases

```
<c:choose>
  <c:when test="${user.name == 'admin'}">
    <p>Hello Administrator</p>
  </c:when>
  <c:when test="${user.name == 'guest'}">
    <p>Welcome Guest</p>
  </c:when>
</c:choose>
```

Core: choose

- And we can use `<c:otherwise>` like a final 'else' case, e.g.

```
<c:choose>
  <c:when test="${user.name == 'admin'}">
    <p>Hello Administrator</p>
  </c:when>
  <c:when test="${user.name == 'guest'}">
    <p>Welcome Guest</p>
  </c:when>
  <c:otherwise>
    <p>Welcome ${user.name}</p>
  </c:otherwise>
</c:choose>
```

Core: forEach

- We can iterate over a collection using `<c:forEach>`, e.g.
  - Supposing we have an attribute which is an ArrayList of `User` objects...

The name of the variable to hold each element

The collection to be iterated

```
<c:forEach var="user" items="${users}">
  <p>Hello ${user}</p>
</c:forEach>
```

The current element

Core: forEach

- If needed, we can get the iteration count using `varStatus`, e.g.

> The name of the variable to hold the status

> The index of the current iteration

> True if this is the last element

```
<c:forEach var="user" items="${users}" varStatus="status">
   <p>User num. ${status.count} is ${user.name}</p>

   <c:if test="${status.last}">

   </c:if>
</c:forEach>
```

Formatting: formatDate

- Part of the formatting taglib, this allows us to customize the format of a date attribute, e.g.

```
<fmt:formatDate value="${user.dob}" dateStyle="long" />
```

June 10, 2009

Can be one of: default, short, medium, long or full

```
<fmt:formatDate value="${user.dob}" timeStyle="short" />
```

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References

- Books
  - Head First Servlets and JSP (O'Reilly)
- Websites
  - http://java.sun.com/javaee/reference/tutorials/

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