



Discussion 8

Instructor: Professor Moser

TA: Yung-Ting Chuang

ECEI55B

JSP Elements

- Directives: `<%@ dirname attr=value %>`
- Actions: `<pref:name attr=value ... />`
- Scripting:
 - Scriptlet: `<% scripting code %>`
 - Expression: `<%= expression %>`
 - Declaration: `<%! declaration %>`

JSP Page Example

```
<%@ page contentType="text/html" %>
```

```
<%@ include file="header.jsp" %>
```

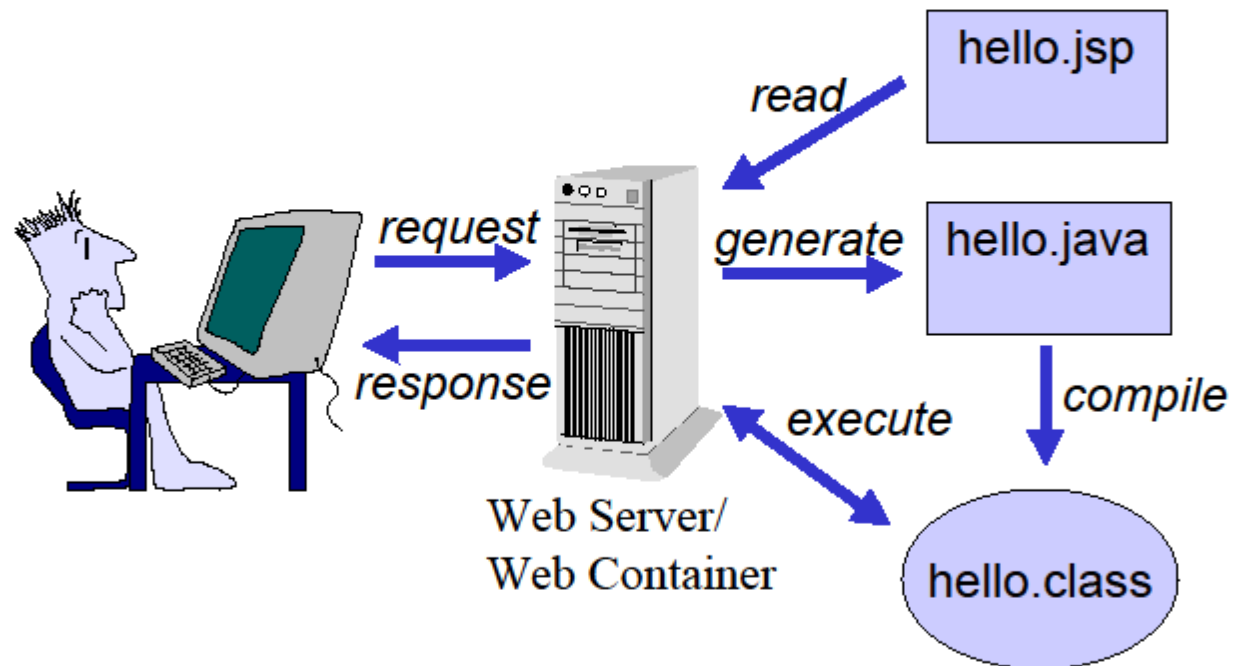
```
<h1>Hello World!</h1>
```

```
<jsp:useBean id="date" class="java.util.Date" />
```

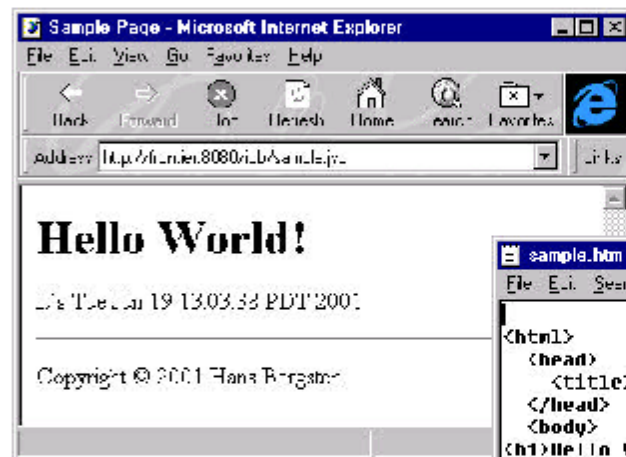
```
It's <%= date %>
```

```
<%@ include file="footer.jsp" %>
```

JSP Processing



JSP Elements Example

A screenshot of a Notepad window titled "sample.htm - Notepad". The text area contains the following HTML code:

```
<html>
  <head>
    <title>Sample Page</title>
  </head>
  <body>
    <h1>Hello World!</h1>

    It's Tue Jun 19 13:03:38 PDT 2001
    <br>
    Copyright © 2001 Hans Bergsten
  </body>
</html>
```

Directive Elements

- page: Page-dependent attributes
 - contentType, errorPage, buffer
- include: Include another source file

Directives Example

```
<%@ page contentType="text/html" %>
```

```
<%@ include file="header.jsp" %>
```

```
<h1>Hello World!</h1>
```

```
<jsp:useBean id="date" class="java.util.Date()"/>
```

```
It's <%= date %>
```

```
<%@ include file="footer.jsp" %>
```

Action Elements

- useBean: Declare a bean
 - id: gives name of the bean you use
 - class: the class of the file you wish to call
- include: Include response from page
- plugin: Add HTML for Java Plugin
- getProperty: Add property value to page
- setProperty: Set property value

JavaBeans Model

- It's a “thing” with public properties
- JavaBeans component is a regular Java class
- Naming conventions for property access methods

JavaBeans Class Example

```
public class UserInfoBean {  
    private String firstName;  
    public void setFirstName(String fName) {  
        firstName = fName;  
    }  
    public String getFirstName() {  
        return firstName;  
    }  
}
```

useBean Example

```
<jsp:useBean id="user"  
class="com.foo.UserInfoBean" />
```

setProperty & getProperty Example

- `<jsp:setProperty name="user"
property="firstName" value="Hans" />`
- `<jsp:setProperty name="user"
property="firstName" param="fName"/>`
- `<jsp:getProperty name="user"
property="firstName" />`

include Example

```
<jsp:include page="foo.jsp" flush="true">  
  <jsp:param name="user" value="Bob" />  
</jsp:include>
```

Directive vs. Action

- Directive
 - In the translation phase
 - File merged into including page
- Action
 - In the request phase
 - Response added to including page's response

Using the Directive and the Action

```
<%@ include file="header.jsp" %>
```

```
<jsp:useBean id="user" class="..." />
```

```
<jsp:include page="portfolio.jsp"  
    flush="true">
```

```
    <jsp:param name="user"
```

```
        value="<%= user.getID() %>" />
```

```
</jsp:include>
```

Scripting Elements

- Scriptlet: `<% scripting code %>`
- Expression: `<%= expression %>`
- Declaration: `<%! declaration %>`

Scriptlet Example

```
<% if (user.isValid()) { %>
```

Do something

```
<% } else { %>
```

Do something else

```
<% } %>
```

Expression Example

- First Name: `<%= user.getFirstName() %>`
- `| + | = <%= | + | %>`

Declaration Example

```
<%! int pageCounter = 0; %>
```

```
<%! int requestCounter = 0; %>
```

```
<h1>Counters</h1>
```

Instance variable counter:

```
<%= pageCounter++ %>
```

Local variable counter:

```
<%= requestCounter++ %>
```

Implicit Scripting Variables

- request
- response
- session
- application
- pageContext
- and more

Accessing Request Data

- Method: `<%= request.getMethod() %>`
- URI: `<%= request.getRequestURI() %>`
- Server: `<%= request.getServerName() %>`
- Client: `<%= request.getRemoteHost() %>`
- Browser:
- `<%=request.getHeader("User-Agent")%>`

Setting Response Data

<%

```
Cookie c = new Cookie("foo", "bar");
```

```
c.setMaxAge(2592000); // Seconds
```

```
response.addCookie(c);
```

%>

Custom Actions

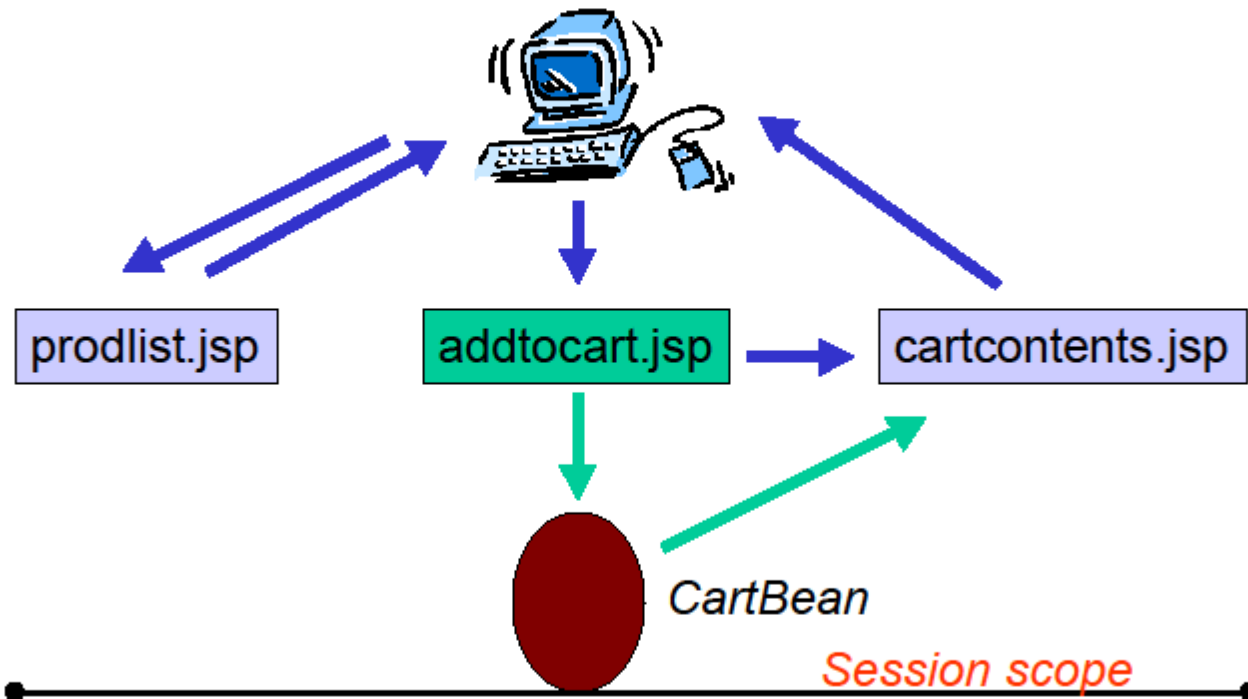
- Used the same as standard actions
- Regular Java classes; JavaBeans with a few extra methods
- Access to request and application data
- Reduces the need for scripting code!

Custom Action Example

```
<%@ taglib uri="/foolib" prefix="foo" %>
```

```
<foo:setCookie name="foo" value="bar"  
    maxAge="2592000" />
```

Session scope



Use session for the login...

- A session can be defines as a series of related interaction between a single client and the server.
- Once a session object is created on the server, a unique identifier called session id is associated with it, this is then given to the client for communicating with the server.

Session example

```
<html>
<head> <title> Sessions </title> </head>
<body bgcolor="#ddeedd">
<%!   String name="", pass="";
      HttpSession session; %>
<%
      name=request.getParameter("uname");
      pass=request.getParameter("pass");
      session.putValue("ID", pass);
      session.putValue("NAME", uname);
%>
</body>
</html>
```

Session example (cont.)

```
<html>
```

```
<head><title> Retriving Session </title></head>
```

```
<body bgcolor="#34aabb">
```

```
<%
```

```
String pass= (String) session.getValue("ID");
```

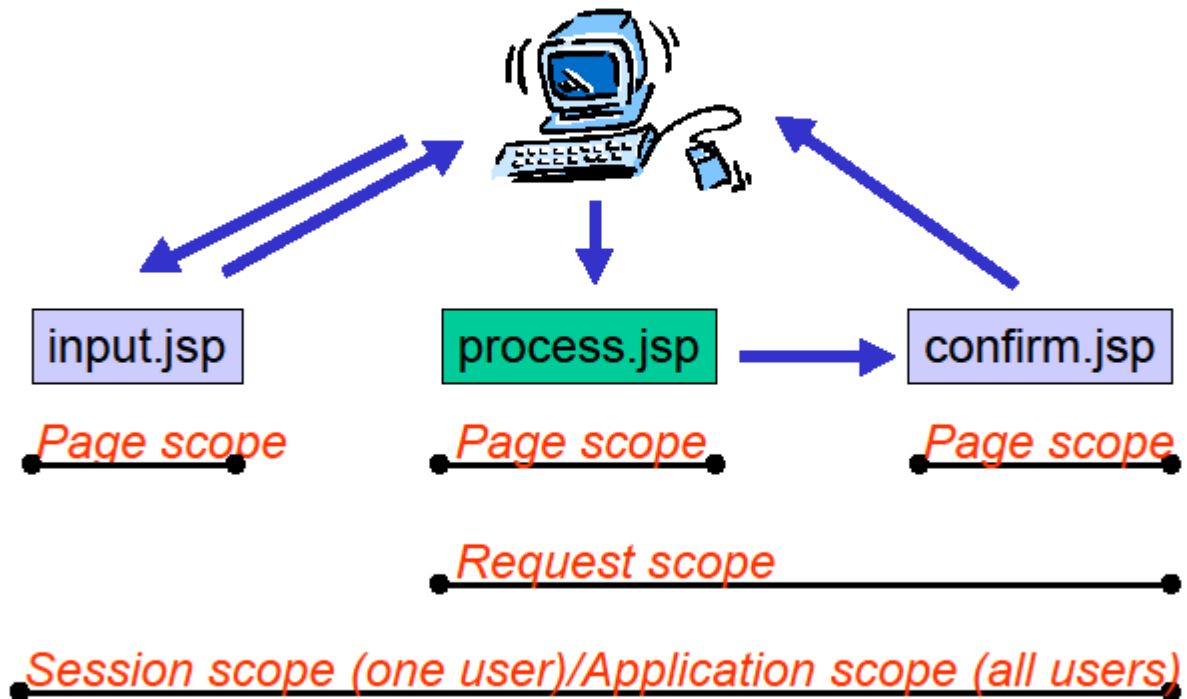
```
String name= (String) session.getValue("NAME");
```

```
%>
```

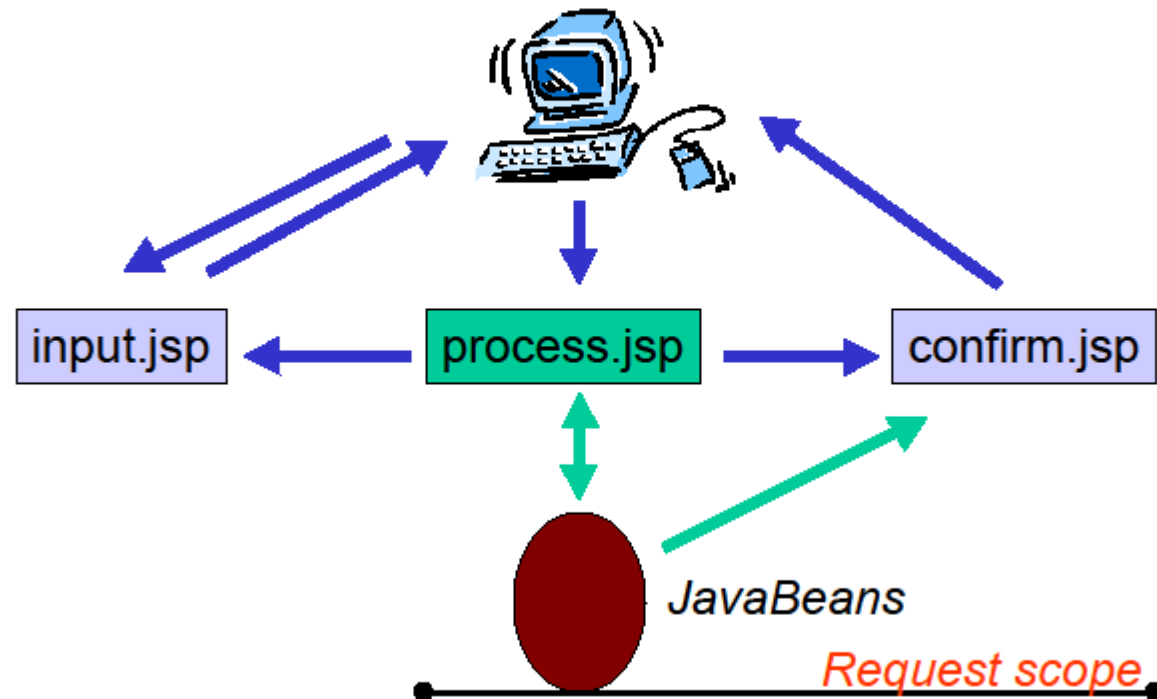
```
</body>
```

```
</html>
```

JSP Data Scopes



Request Scope



Application scope

