

Java Server Pages

Chapter 10: Sharing Data Between JSP Pages, Requests, and Users

Slides material compiled from
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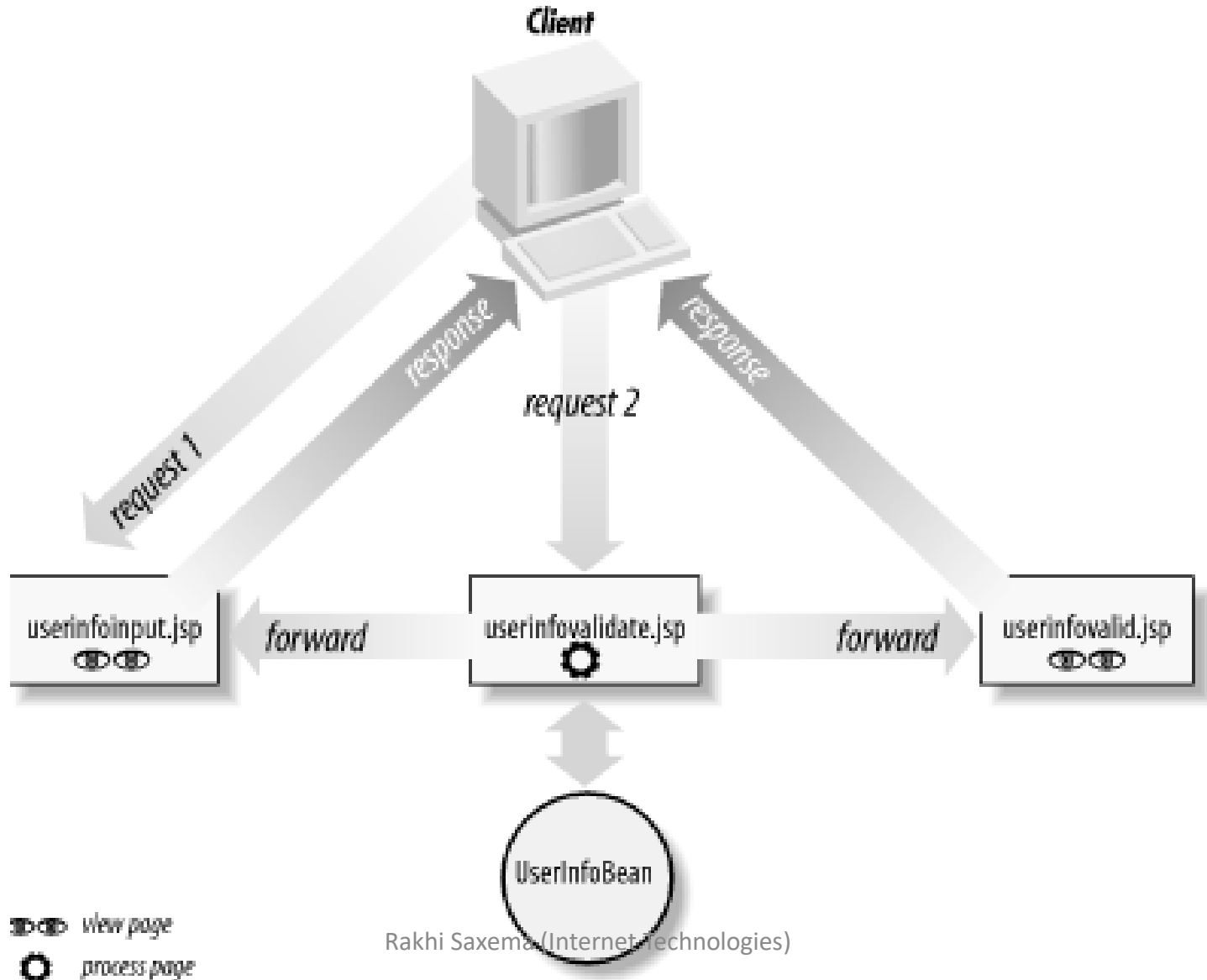
Sharing Data Between JSP Pages, Requests, and Users

- Any real application consists of more than a single page
- Multiple pages often need access to the same information and server-side resources
- e.g., one page that retrieves the data the user asked for and another that displays it (online shopping application)

Passing Control and Data Between Pages

- Model-View-Controller (MVC) model
 - most fundamental features of JSP
 - allows for separation of request processing, business logic and presentation
- User Info example
 - Display the form for user input (presentation)
 - Validate the input (request processing and business logic)
 - Display the result of the validation (presentation)

User Info application pages



Passing Control and Data

- Using different JSP pages as Controller and View means that more than one page is used to process a request.
- To make this happen, you need to be able to do two things:
 - Pass control from one page to another
 - Pass data from one page to another

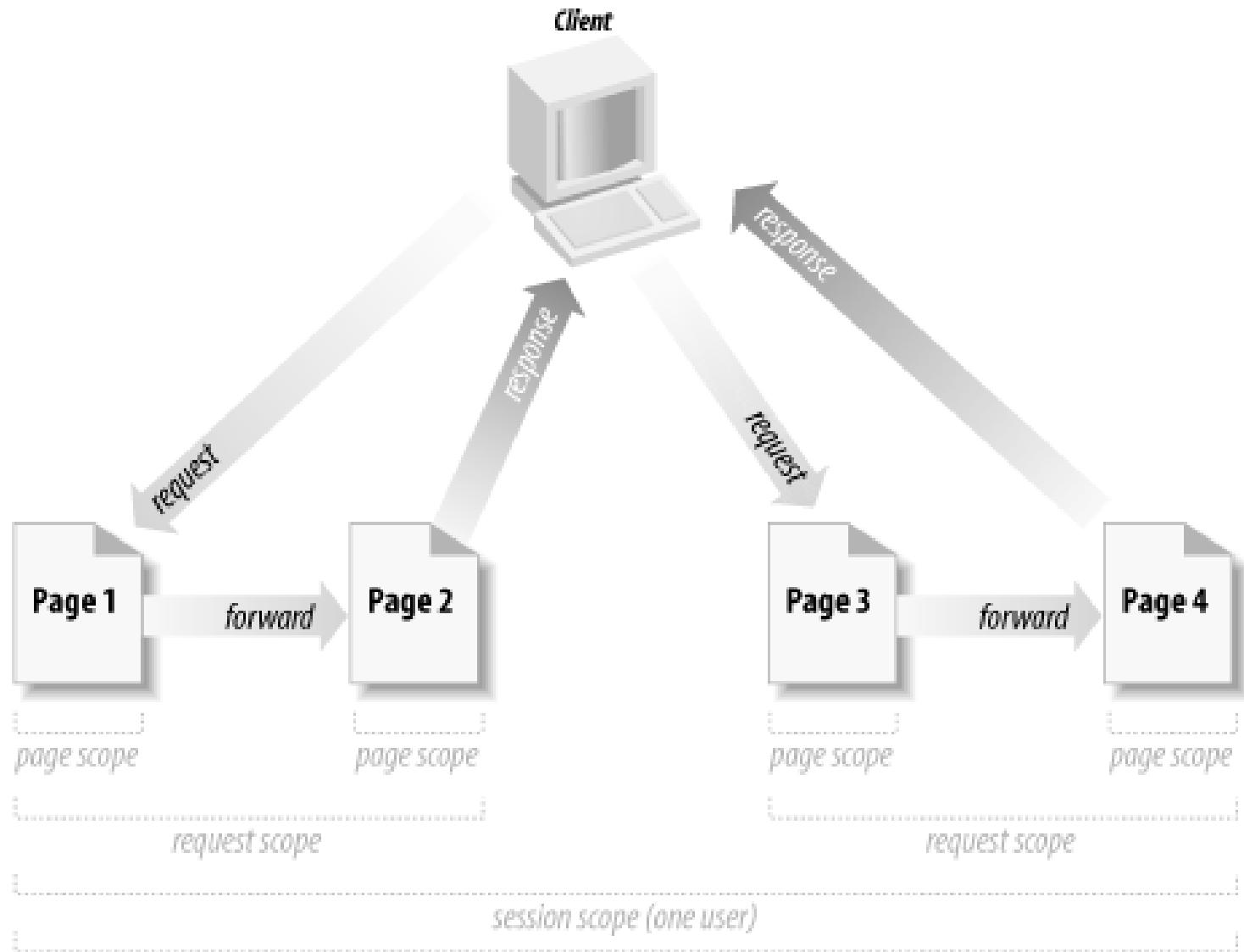
Passing Control from One Page to Another

- `<jsp:forward>` action
 - `<jsp:forward page="userinfoinput.jsp" />`
- Action stops processing of one page and starts processing the page specified by the page attribute (*target page*)
- Control never returns to the original page
- Target page has access to all information about the request, including all request parameters
- Can add additional request parameters
 - `<jsp:forward page="userinfoinput.jsp" >`
 - `<jsp:param name="msg" value="Invalid email address" />`
 - `</jsp:forward>`

Passing Data from One Page to Another

- JSP provides different *scopes* for sharing data objects
- Scope defines how long the object is available and whether it's available only to one user or to all application users
- Following scopes are defined:
 - *page, request, session, and application*
- ***page scope (default scope)***
 - Objects available only within that page
- ***request scope***
 - Objects available to all pages processing the same request
- ***session scope***
 - Objects available to all requests made from the same browser
- ***application scope***
 - Objects shared by all users of the application

Lifetime of objects in different scopes



FormExample.jsp

```
<!-- FormExample.jsp -->
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
  <head>
    <title> Accessing Form parameters </title>
  </head>

  <body>
    <form action="Welcome.jsp">
      Enter your Name :
      <input type = "text" name = "name" size="25"><BR/> <BR/>
      <input type="submit" value ="Submit"/>
    </form>
  </body>
</html>
```

Welcome.jsp

```
<!-- Welcome.jsp -->
```

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

```
<html>
```

```
  <head>
```

```
    <title> Accessing Form Parameters </title>
```

```
  </head>
```

```
  <body>
```

```
    Hello ${param.name}
```

```
  </body>
```

```
</html>
```

Program

23. Ask a user's name Java Server Pages by Hans Bergsten age on a HTML form. Then display Hello <uname> on a JSP. On the same page ask the product the user would like to buy. Then redirect to another JSP which would display: Hello <uname>, You have ordered <product>. (Use Session Scope Variable using setTag)

GetUserInfo.jsp ----- Accept <uname> in HTML form

WelcomeUser.jsp ----- Display Hello <uname>

Accept <product> in HTML form

Redirect to another JSP

DisplayuserInfo.jsp ---- Display Hello <uname> and <product>

GetUserInfo.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
  <head>
    <title> Session Scope Demo Page 1</title>
  </head>

  <body>
    <form action="WelcomeUser.jsp">
      Enter your Name :
      <input type = "text" name = "name" size="25"><BR/> <BR/>
      <input type="submit" value ="Submit"/>
    </form>
  </body>
</html>
```

WelcomeUser.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
  <head>
    <title> Session Scope Demo Page 2</title>
  </head>

  <body>
    Hello ${param.name}
    <form action="DisplayUserInfo.jsp">
      Which Product do you wish to buy?
      <input type = "text" name = "product" size="25"><BR/> <BR/>
      <input type = "Submit" name = "submit" value="Submit"> <BR/>
    </form>
  </body>
</html>
```

WelcomeUser.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
  <head>
    <title> Session Scope Demo Page 2</title>
  </head>

  <body>
    Hello ${param.name}
    <c:set var="name" value="${param.name}" scope="session"/>
    <form action="DisplayUserInfo.jsp">
      Which Product do you wish to buy?
      <input type = "text" name = "product" size="25"><BR/> <BR/>
      <input type = "Submit" name = "submit" value="Submit"> <BR/>
    </form>
  </body>
</html>
```

DisplayUserInfo.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
  <head>
    <title> Session Scope Demo Page 3</title>
  </head>

  <body>
    Hello <c:out value="{name}" /> <BR/>
    You have ordered <c:out value="{param.product}" />

  </body>
</html>
```

Counting Page Hits

```
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<html>
<head>
<title>Counter page</title>
</head>
<%-- Increment counters --%>
<c:set var="sessionCounter" scope="session" value="{sessionCounter + 1}" />
<c:set var="applCounter" scope="application" value="{applCounter + 1}" />
<h1>Counter page</h1>
This page has been visited <b>{sessionCounter}</b> times
within the current session, and <b>{applCounter}</b> times
by all users since the application was started.
</body>
</html>
```