

Session 10

Form Dataset

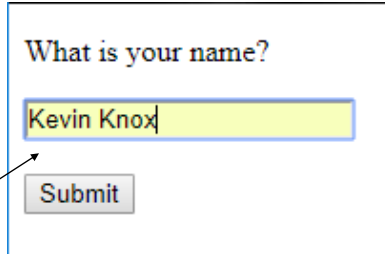
Lecture Objectives

- Understand the relationship between HTML form elements and parameters that are passed to the servlet, particularly the form dataset

Example - Form Input to a Servlet

```
<head>  
<title>Who are you?</title>  
</head>  
<body>  
<form method="get" action=  
"http://localhost:8080/CSE336-  
2017/helloyou.html">  
<p>What is your name?</p>  
<input type="text" name="fullName"  
value="Enter name" />  
<br />  
<input type="submit" />  
</form>  
</body>  
</html>
```

Input components are grouped by a form element



Entering a name in this component changes the value of this form parameter

HelloYou.html

© Robert Kelly, 2018

3

HelloYou Servlet

```
out.println(docType);  
String name =  
    request.getParameter("fullName");  
out.println("<html>");  
out.println("<head><title>  
Hello, " + name + "</title></head>");  
out.println("<body>");  
out.println("Hello, " + name);  
out.println("</body></html>");  
out.close();
```

Hello, Kevin Knox

Servlet reads value of form data set

© Robert Kelly, 2018

4

HTML Form Element ...

- A form element contains component elements that are used to collect information on a Web page
- Each component typically has a name and a value
- The collection of name/value pairs is referred to as the **form data set**
- Form values are initially set to the value in the html, but changed when the user enters data
- The entire form is associated with a URL that can obtain the data (usually after the submit button is pressed)

© Robert Kelly, 2018

5

HTML Form Element

■ HTML control types:

- | | |
|-----------------|-----------------------------------|
| ■ Buttons | ■ Text input (INPUT and TEXTAREA) |
| ■ Submit | ■ Password |
| ■ Check boxes | ■ File select |
| ■ Radio buttons | ■ Hidden controls |
| ■ Menus | ■ Object controls |

Some form components can be multi-valued

- Users complete a form by modifying the form elements and then submitting to the server for servlet processing

© Robert Kelly, 2018

6

Drop-Down Component

```

<select name="CountryOfRes"
  id="countryResidence">
  <option selected="selected" value="">Select one</option>
  <option value="CN">China</option>
  <option value="FR">France</option>
  <option value="DE">Germany</option>
  <option value="IE">Ireland</option>
  <option value="GB">United Kingdom</option>
  <option value="US">United States</option>
</select>

```

Country/region of residence:*
 (Required for warranty)

The value of the CountryOfRes form element is initially "", but changes when the user selects a different menu item

© Robert Kelly, 2018

7

Parameter name Vs. Parameter Value

■ Consider the following country drop-down form

```

<select name="CountryOfRes"
  id="countryResidence">
  <option selected="selected" value="">Select
one</option>
  <option value="CN">China</option>
  <option value="FR">France</option>
  <option value="DE">Germany</option>
  <option value="IE">Ireland</option>
  <option value="GB">United Kingdom</option>
  <option value="US">United States</option>
</select>

```

Notice that the value attribute is not always the same as the text contained in the value element⁸

© Robert Kelly, 2018

Form Element Server Coordination

- A Form element specifies attributes for:
 - The program that will handle the completed and submitted form (**action** attribute)
 - A script program that evaluates prior to submission to the server - and that can prevent data from being submitted. (**onsubmit** attribute)
 - The method by which the user data will be sent to the server (**method** attribute)
 - GET - form data set is appended to the URL with a ? (used when form causes no side effects)
 - POST - form data set is included in the body of the form

© Robert Kelly, 2018

9

Form Data Set

- GET method - Form data set is included in the URL query string (by the browser)
`www.mysite.com/path/program?first_name=Kevin&last_name=Knox`
- Note the use of:
 - = associates a value with a name
 - & separates consecutive name/value pairs
- POST method - Form data set is encoded in a similar manner, but included in the http message body
- Post form data set is not immediately visible

Form dataset

© Robert Kelly, 2018

10

Form Elements

- A form element's name is given by the name attribute
- A form element has an initial value and a current value (both are strings)
- A form element is displayed in the browser according to the value of the type attribute
- Form submission - for the successful submissions, the form element's value is paired with its name - all of these pairs are referred to as the form data set

```
<input
  name ="ifirst_name"
  value=""
  type="text" />
```

Type attribute of the input tag is not required (default value is "text"), but it is a good practice to do so

Radio Buttons

* Do you need hotel reservations?
 To ensure that you receive the discounted JavaOne Conference hotel rate, please make your hotel reservations through us.

Yes
 No

Radio buttons only occur in groups (only one can be selected at a time)

Radio button group is specified with a common name attribute

```
<td><span class="asterisk">*</span> Do you need
  hotel reservations?<br />... Please make your
  hotel reservations through us.</td>
<td> <input name="ihotel" value="Yes"
  type="radio" /> Yes<br /> <input name="ihotel"
  value="No" type="radio" checked="checked" />
  No </td> <td></td>
```

You can optionally specify the default selected button or checkbox

One radio button in the group should have checked="checked"

Example - Display the Form dataset

Red
 Blue
 Yellow

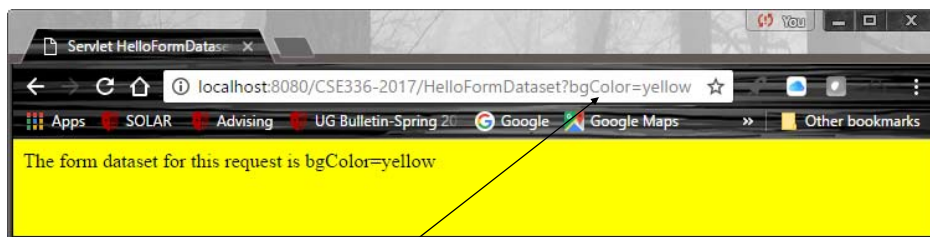


© Robert Kelly, 2018

[HelloFormDataset.html](#)

13

FormDataset



For GET requests, the form dataset is contained in the URL query string

```
<form action="http://localhost:8080/CSE336-2017/HelloFormDataset">  
  <input name="bgColor" type="radio" value="red" checked="checked" />  
  ...  
</form>
```

© Robert Kelly, 2018

14

FormDataSet Servlet Fragment

```
out.println("The form dataset for this request is ");  
out.print(request.getQueryString());
```

© Robert Kelly, 2018

15

Are We on Track?

- Download [Track-Fall2018.html](#)
- Modify the html so that the action attribute of the form refers to a servlet you will write
- Write a servlet that when called from the form will display the form parameter names

Track - Form Parameters:

- rdtype
- submits

Your solution might vary based on whether you've checked a box or not

© Robert Kelly, 2018

16

Were We on Track?

```
@WebServlet(name = "FormParameters", urlPatterns = {"/FormParameters"})
public class FormParameters extends HttpServlet {
    protected void processRequest(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            ...
            out.println("<h1>developerWorks parameters:</h1><ul> ");
            Enumeration e = request.getParameterNames();
            while (e.hasMoreElements()) {
                out.println("<li>" + e.nextElement() + "</li>");
            }
            out.println("</ul>");
            out.println("</body>");
            out.println("</html>");
        }    }}

```

© Robert Kelly, 2018

17

Have You Satisfied the Lecture Objectives?

- Understand the relationship between HTML form elements and parameters that are passed to the servlet, particularly the form dataset

© Robert Kelly, 2018

18