

Part 1. Reading Assignment (JSTL)

The JavaServer Pages Standard Tag Library (JSTL) encapsulates core functionality common to many JSP applications. Instead of mixing tags from numerous vendors in your JSP applications, JSTL allows you to employ a single, standard set of tags. This standardization allows you to deploy your applications on any JSP container supporting JSTL and makes it more likely that the implementation of the tags is optimized. JSTL has tags such as iterators and conditionals for handling flow control, tags for manipulating XML documents, internationalization tags, tags for accessing databases using SQL, and commonly used functions.

Part 2.1. Reading Assignment (The JSP Page Directive)

<http://pdf.coreservlets.com/JSP-page-Directive.pdf>

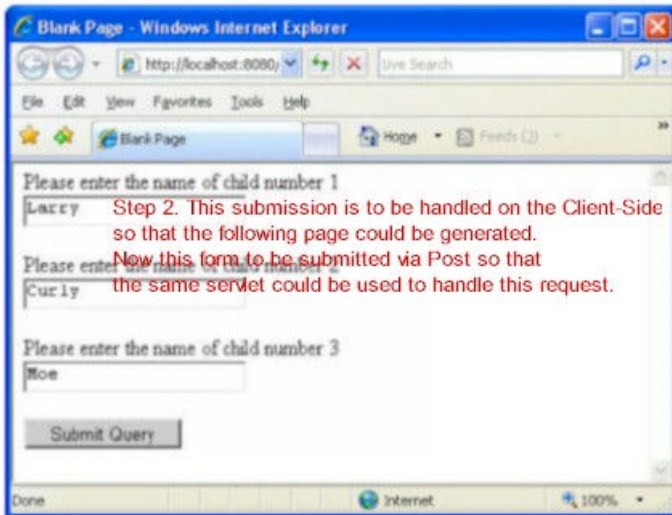
Part 2.2. Reading Assignment (Controlling Web Application Behavior with web.xml)

<http://pdf.moreservlets.com/More-Servlets-and-JSP-Chapter-05.pdf>

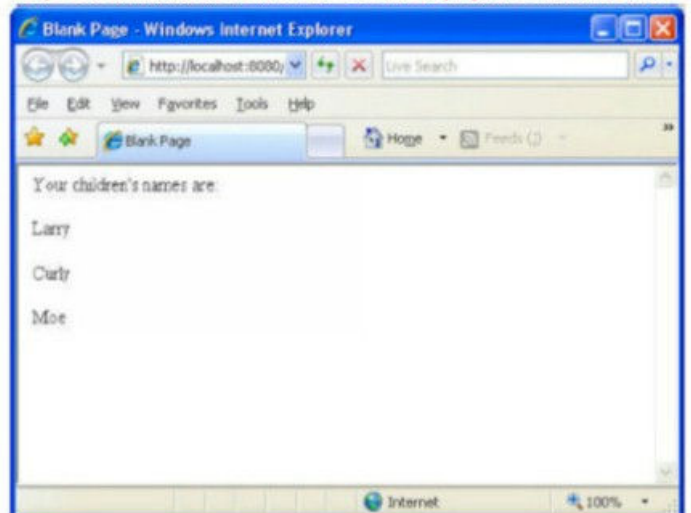
Part 3. Programming Assignment

Use only 1 servlet to implement the application whose screenshots are shown in the attached document. Initially form is displayed in the doGet method, and initially form submission will be handled in JavaScript that creates the page as shown in the second screenshot. Now, this form (2nd screenshot) is to be submitted via POST so that the same servlet could handle this request in the same servlet. JavaScript should do some client-side validation.

Step 1. Create this form in doGet



Step 3. Now handle the form in doPost and display the submitted data.



Part 4. Programming Assignment

Redo HW1-Part6 to sanitize user input both on the client-side using JavaScript, and on the server-side.

Part 5. Programming Assignment

Redo HW1-Part6 using only 1 JSP page.

Part 6. Programming Assignment (Multiple Forms in One Servlet) – Use any technique to maintain the session.

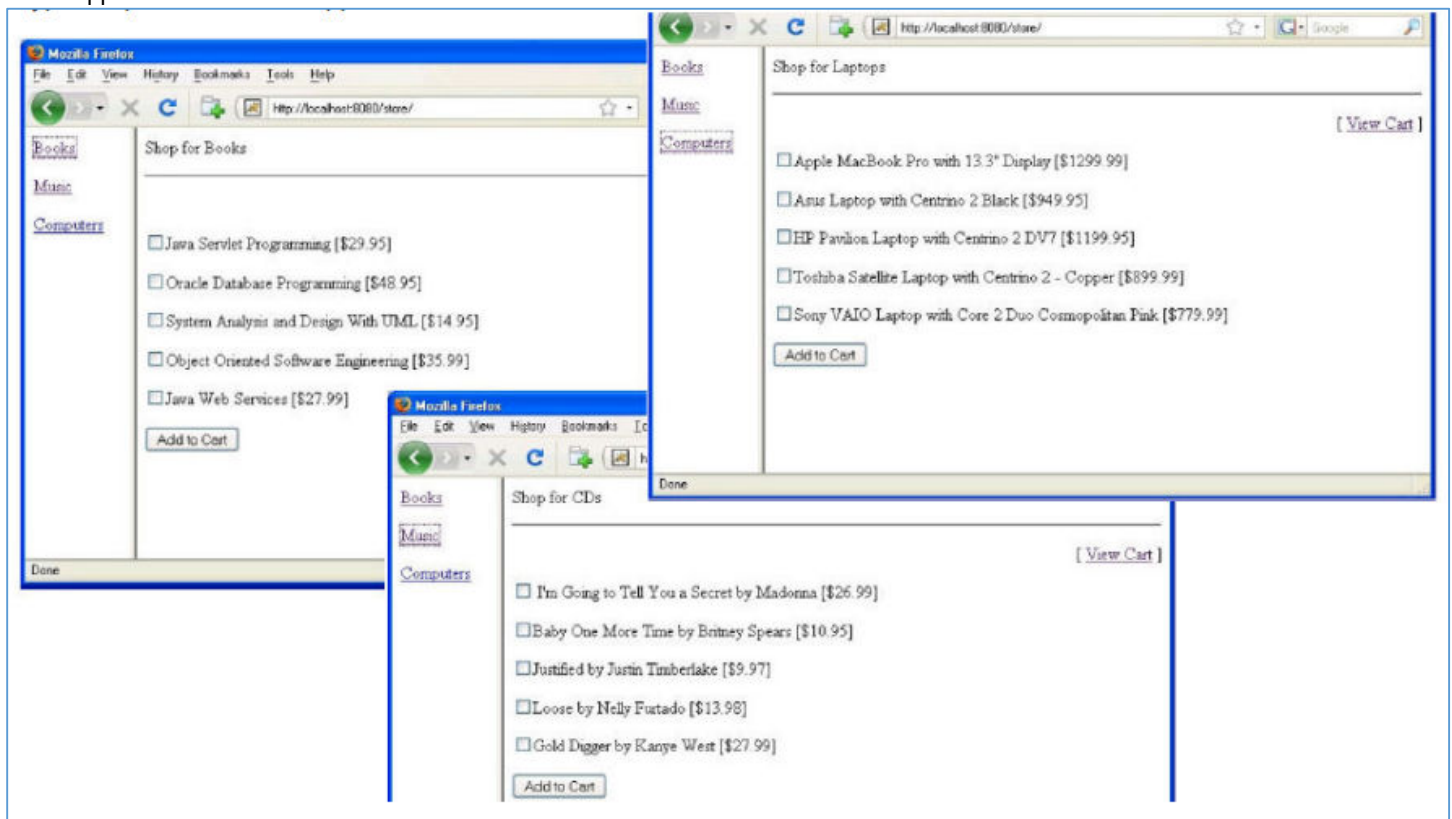
Using more than one servlet is probably the last thing you want to do for a simple application, considering the maintenance involved for each servlet. In this assignment, you are to develop a simple application using only one servlet. The application developed is an online quiz similar to the one in the following URL:

<http://www.javatpoint.com/directload.jsp?val=200>

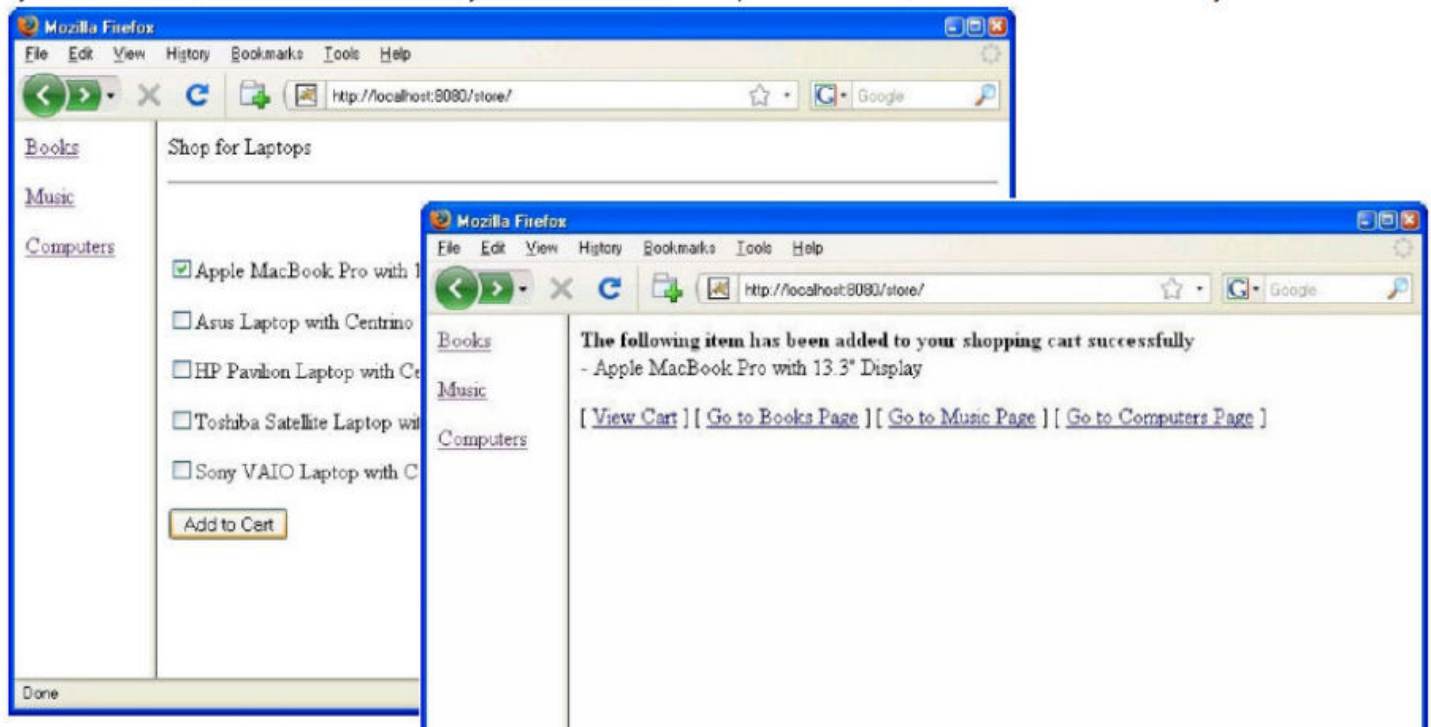
The problem with using one servlet is that each form will submit to the same servlet and the same doPost or doGet method will be invoked. How do you know which form to display next? The solution is simply done by incorporating a hidden field, call it page, with a value of the form number. In the first form, the page field will have the value 1, and in the second form this field will have the value of 2. When the servlet is first called, the doGet is invoked. What it does is very predictable; send the 1st form to the browser using the sendPage1 method: sendPage1(response); When the first form is submitted, it will invoke the doPost method because the form uses the POST method. The doPost method will retrieve the value of the parameter called page using the getParameter method. The request that submits the first form must be accompanied by parameters firstName and lastName. Then, doPost calls the sendPage2 method, which sends the second form as well as the previous values from the first form.

Part 7. Programming Assignment (ShoppingCart)

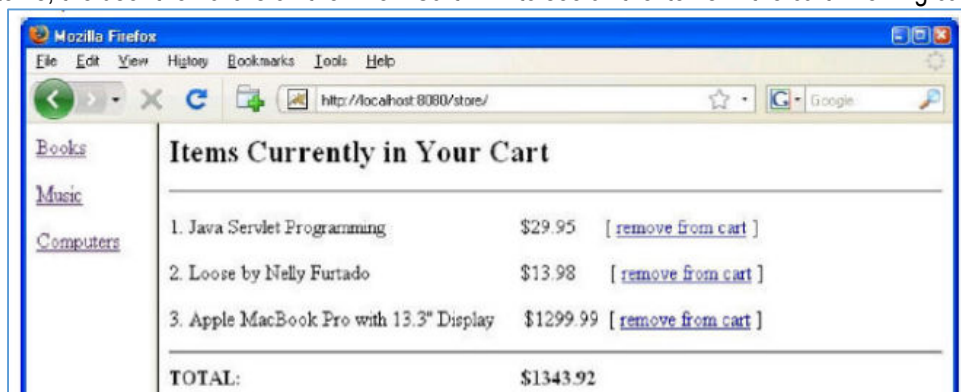
You will be using a session object to store and retrieve selected items from a simple shopping cart application. Shopping cart applications typically allow users to select items from a catalog and place them in a virtual shopping cart. When the user selects some items and presses the "Add to Cart" button, the servlet will add the selected items to the session object and then retrieve all of the items currently in the session object and then display them in the browser. Removing an item from the shopping cart will be from the same servlet. Use URL-rewriting or hidden fields as necessary. Use JSTL to display the contents of the shopping cart. There are 3 different types of products in this application as shown below:



If you select an item, then click on "Add to Cart", your servlet will retrieve the products selected, and then add to the session object.



After adding several items, the user then clicks on the "View Cart" link to see all the items in the cart. Viewing cart should be imp



Sample servlet that will help you with Part 5. Create a servlet by copy-pasting the following sample to understand how it works.

```
public class MultipleFormsServlet extends HttpServlet {
    String firstName;
    String lastName;
    String userName;
    String password;
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        sendPage1(response);
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        String page = request.getParameter("page");
        firstName = request.getParameter("firstName");
        lastName = request.getParameter("lastName");
        userName = request.getParameter("userName");
        password = request.getParameter("password");
        if (page == null) {
            sendPage1(response);
            return;
        }
        if (page.equals("1")) {
            sendPage2(response);
        }
        else if (page.equals("2")) {
            displayValues(response);
        }
    }
    void sendPage1(HttpServletResponse response) throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<HTML>");
        out.println("<HEAD><TITLE>Page 1</TITLE></HEAD>");
        out.println("<BODY>");
        out.println("<CENTER>");
        out.println("<H2>Page 1</H2>");
        out.println("Please enter your first first name and last name.<BR><BR>");
        out.println("<FORM METHOD=POST>");
        out.println("<INPUT TYPE=HIDDEN NAME=page VALUE=1>");
        out.println("<TABLE>");
        out.println("<TR>");
        out.println("<TD>First Name&nbsp;</TD>");
        out.println("<TD><INPUT TYPE=TEXT NAME=firstName></TD>");
        out.println("</TR>");
        out.println("<TR>");
        out.println("<TD>Last Name&nbsp;</TD>");
        out.println("<TD><INPUT TYPE=TEXT NAME=lastName></TD>");
        out.println("</TR>");
        out.println("<TR>");
        out.println("<TD><INPUT TYPE=RESET></TD>");
        out.println("<TD><INPUT TYPE=SUBMIT VALUE=Submit></TD>");
        out.println("</TR>");
        out.println("</TABLE>");
        out.println("</FORM>");
        out.println("</CENTER>");
        out.println("</BODY>");
        out.println("</HTML>");
    }
}
```

void sendPage2(HttpServletResponse response) throws ServletException, IOException

```
{
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    out.println("<HTML>");
    out.println("<HEAD><TITLE>Page 2</TITLE></HEAD>");
    out.println("<BODY>");
    out.println("<CENTER><H2>Page 2</H2>");
    out.println("Please enter your user name and password.<BR><BR>");
    out.println("<FORM METHOD=POST>");
    out.println("<INPUT TYPE=HIDDEN NAME=page VALUE=2>");
    out.println("<INPUT TYPE=HIDDEN NAME=firstName VALUE=\"\" + firstName + \"\"></TD>");
    out.println("<INPUT TYPE=HIDDEN NAME=lastName VALUE=\"\" + lastName + \"\"></TD>");
    out.println("<TABLE>");
    out.println("<TR>");
    out.println("<TD>User Name&nbsp;</TD>");
    out.println("<TD><INPUT TYPE=TEXT NAME=userName></TD>");
    out.println("</TR>");
    out.println("<TR>");
    out.println("<TD>Password&nbsp;</TD>");
    out.println("<TD><INPUT TYPE=PASSWORD NAME=password></TD>");
    out.println("</TR>");
    out.println("<TR>");
    out.println("<TD><INPUT TYPE=RESET></TD>");
    out.println("<TD><INPUT TYPE=SUBMIT VALUE=Submit></TD>");
    out.println("</TR>");
    out.println("</TABLE>");
    out.println("</FORM></CENTER>");
    out.println("</BODY></HTML>");
}
```

void displayValues(HttpServletResponse response) throws ServletException, IOException {

```
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    out.println("<HTML>");
    out.println("<HEAD><TITLE>Page 3</TITLE></HEAD>");
    out.println("<BODY>");
    out.println("<CENTER>");
    out.println("<H2>Page 3 (Finish)</H2>");
    out.println("Here are the values you have entered.<BR><BR>");
    out.println("<TABLE>");
    out.println("<TR>");
    out.println("<TD>First Name: &nbsp;</TD>");
    out.println("<TD>" + firstName + "</TD>");
    out.println("</TR>");
    out.println("<TR><TD>Last Name: &nbsp;</TD>");
    out.println("<TD>" + lastName + "</TD>");
    out.println("</TR>");
    out.println("<TR>");
    out.println("<TD>User Name: &nbsp;</TD>");
    out.println("<TD>" + userName + "</TD>");
    out.println("</TR>");
    out.println("<TR><TD>Password: &nbsp;</TD>");
    out.println("<TD>" + password + "</TD>");
    out.println("</TR></TABLE></CENTER>");
    out.println("</BODY></HTML>");
```

```
}
```

```
}
```