**INTERNATIONAL UNIVERSITY**

VIETNAM NATIONAL UNIVERSITY HCMC

**School of Computer Science & Engineer**

**Report Lab 6**

Course: WEB APPLICATION DEVELOPMENT

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**Lab 6: Java Beans and MVC**

**I. Introduction:**

- Tools & Techniques: NetBeans IDE18, JSP, Servlet, JavaBean, JDK 21

- Library: JavaBean

- Language: Java

- Implemented Server: Glassfish

- Github: [Link](https://github.com/thanhphat18/WebApplicationDevelopmentLab-HCMIU.git)

- Demonstration: [Link](https://youtu.be/fu-Ezv3_TTQ)

**II. Code Implementation:**

First of all, 2 Bean classes (AccountBean and Products) are established to hold user input.

AccountBean.java:

/\*

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\*/

package Bean;

import java.util.Collection;

/\*\*

\*

\* @author thanhphatchau

\*/

public class AccountBean {

private String name;

private String visanumber;

private String address;

private Collection products;

public AccountBean(){

setName("A name");

}

public void setName(String name){

this.name = name;

}

public String getName(){

return name;

}

public void setVisa(String visanumber){

this.visanumber = visanumber;

}

public String getVisa(){

return visanumber;

}

public void setAddress(String address){

this.address = address;

}

public String getAddress(){

return address;

}

public Collection getProducts(){

return products;

}

public void setProducts(Collection products){

this.products = products;

}

}

Products.java:

/\*

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\*/

package Bean;

/\*\*

\*

\* @author thanhphatchau

\*/

public class Products {

private String pname;

private String owner;

private String country;

private int price;

public void setName(String name){

this.pname=name;

}

public String getName(){

return pname;

}

public void setOwner(String owner){

this.owner=owner;

}

public String getOwner(){

return owner;

}

public void setCountry(String country){

this.country=country;

}

public String getCountry(){

return country;

}

public void setPrice(int price){

this.price = price;

}

public int getPrice(){

return price;

}

}

Index.jsp: Handled user input and parsed them into servlet.

<%--

Document : account

Created on : May 11, 2024, 1:48:32 PM

Author : thanhphatchau

--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

<title>Account Information</title>

</head>

<jsp:useBean id="accountBean" class="Bean.AccountBean" />

<body>

<h1 align="center">Please provide your account information</h1>

<hr>

<form action="./ShoppingServlet">

<table align="center">

<tr align="left">

<th>Name:</th>

<th><input type="text" name="name"></th>

</tr>

<tr align="left">

<th>Visa card number:</th>

<th><input type="text" name="visa" maxlength="16"></th>

</tr>

<tr align="left">

<th>Address:</th>

<th><input type="text" name="address"></th>

</tr>

<tr>

<th></th>

<th><input type="submit" value="Submit"></th>

</tr>

</table>

</form>

</body>

</html>

ShoppingServlet.java:

/\*

\* Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license

\* Click nbfs://nbhost/SystemFileSystem/Templates/JSP\_Servlet/Servlet.java to edit this template

\*/

import Bean.AccountBean;

import Bean.Products;

import jakarta.servlet.RequestDispatcher;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import java.io.IOException;

import java.io.PrintWriter;

import java.util.ArrayList;

/\*\*

\*

\* @author thanhphatchau

\*/

@WebServlet(urlPatterns = {"/ShoppingServlet"})

public class ShoppingServlet extends HttpServlet {

/\*\*

\* Processes requests for both HTTP <code>GET</code> and <code>POST</code>

\* methods.

\*

\* @param request servlet request

\* @param response servlet response

\* @throws ServletException if a servlet-specific error occurs

\* @throws IOException if an I/O error occurs

\*/

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html;charset=UTF-8");

String name = request.getParameter("name");

String visa = request.getParameter("visa");

String address = request.getParameter("address");

try (PrintWriter out = response.getWriter()) {

/\* TODO output your page here. You may use following sample code. \*/

AccountBean p = new AccountBean();

p.setName(name);

p.setVisa(visa);

p.setAddress(address);

ArrayList al = new ArrayList();

Products product = new Products();

product.setName("Iphone15");

product.setOwner("Apple");

product.setCountry("China");

product.setPrice(500);

al.add(product);

p.setProducts(al);

product = new Products();

product.setName("Iphone12");

product.setOwner("Apple");

product.setCountry("Taiwan");

product.setPrice(200);

al.add(product);

p.setProducts(al);

product = new Products();

product.setName("Macbook Pro M1");

product.setOwner("Apple");

product.setCountry("Taiwan");

product.setPrice(1000);

al.add(product);

p.setProducts(al);

product = new Products();

product.setName("VinFast F3");

product.setOwner("Vinfast");

product.setCountry("Vietnam");

product.setPrice(9000);

al.add(product);

p.setProducts(al);

product = new Products();

product.setName("YZF-R15");

product.setOwner("Yamaha");

product.setCountry("Japan");

product.setPrice(3000);

al.add(product);

p.setProducts(al);

String pname = p.getName();

String pvisa = p.getVisa();

String paddress = p.getAddress();

request.setAttribute("person", p);

request.setAttribute("name", pname);

request.setAttribute("visa", pvisa);

request.setAttribute("address", paddress);

RequestDispatcher requestDispatcher = request.getRequestDispatcher("/products.jsp");

requestDispatcher.forward(request, response);

}

}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on the left to edit the code.">

/\*\*

\* Handles the HTTP <code>GET</code> method.

\*

\* @param request servlet request

\* @param response servlet response

\* @throws ServletException if a servlet-specific error occurs

\* @throws IOException if an I/O error occurs

\*/

@Override

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

/\*\*

\* Handles the HTTP <code>POST</code> method.

\*

\* @param request servlet request

\* @param response servlet response

\* @throws ServletException if a servlet-specific error occurs

\* @throws IOException if an I/O error occurs

\*/

@Override

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

processRequest(request, response);

}

/\*\*

\* Returns a short description of the servlet.

\*

\* @return a String containing servlet description

\*/

@Override

public String getServletInfo() {

return "Short description";

}// </editor-fold>

}

Products.jsp: Resulted out the transaction when meet the condition (click on button add to cart.)

<%--

Document : products

Created on : May 17, 2024, 5:30:06 PM

Author : thanhphatchau

--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">

<title>Checkout</title>

</head>

<%

String name = request.getParameter("name");

String visa = request.getParameter("visa");

String address = request.getParameter("address");

%>

<body>

<div align="center">

<h2>Hi ${person.name}</h2>

<p>If you do not want to buy something, input 0 in the quantity.</p>

<hr>

</div>

<div>

<table>

<tr>

<td>Name:</td>

<td>${person.name}</td>

</tr>

<tr>

<td>

Visa:

</td>

<td>

${person.visa}

</td>

</tr>

<tr>

<td>

Address:

</td>

<td>

${person.address}

</td>

</tr>

</table>

<hr>

</div>

<div align="center">

<h2>Products List</h2>

<%

if(request.getParameter("Add to Cart")==null){

%>

<form action="products.jsp" method="post">

<table border="1px">

<tr style="display: none;">

<td>

<input type="text" name="pname" value="<%=name%>" readonly>

</td>

<td>

<input type="text" name="pvisa" value="<%=visa%>" readonly>

</td>

<td>

<input type="text" name="paddress" value="<%=address%>" readonly>

</td>

<td></td>

<td></td>

</tr>

<tr>

<td>

Product

</td>

<td>

Manufacturer

</td>

<td>

Made in

</td>

<td>

Price

</td>

<td>

Quantity

</td>

</tr>

<tr>

<td>

${person.products[0].name}

</td>

<td>

${person.products[0].owner}

</td>

<td>

${person.products[0].country}

</td>

<td>

${person.products[0].price}

</td>

<td>

<input text="text" name="quantity1" value="0">

</td>

</tr>

<tr>

<td>

${person.products[1].name}

</td>

<td>

${person.products[1].owner}

</td>

<td>

${person.products[1].country}

</td>

<td>

${person.products[1].price}

</td>

<td>

<input text="text" name="quantity2" value="0">

</td>

</tr>

<tr>

<td>

${person.products[2].name}

</td>

<td>

${person.products[2].owner}

</td>

<td>

${person.products[2].country}

</td>

<td>

${person.products[2].price}

</td>

<td>

<input text="text" name="quantity3" value="0">

</td>

</tr>

<tr>

<td>

${person.products[3].name}

</td>

<td>

${person.products[3].owner}

</td>

<td>

${person.products[3].country}

</td>

<td>

${person.products[3].price}

</td>

<td>

<input text="text" name="quantity4" value="0">

</td>

</tr>

<tr>

<td>

${person.products[4].name}

</td>

<td>

${person.products[4].owner}

</td>

<td>

${person.products[4].country}

</td>

<td>

${person.products[4].price}

</td>

<td>

<input text="text" name="quantity5" value="0">

</td>

</tr>

<tr>

<td>

<input type="submit" value="Add to Cart" name="Add to Cart">

</td>

</tr>

</table>

</form>

<%

} else{

String username = request.getParameter("pname");

String uvisa = request.getParameter("pvisa");

String uaddress = request.getParameter("paddress");

int q1 = Integer.parseInt(request.getParameter("quantity1"));

int q2 = Integer.parseInt(request.getParameter("quantity2"));

int q3 = Integer.parseInt(request.getParameter("quantity3"));

int q4 = Integer.parseInt(request.getParameter("quantity4"));

int q5 = Integer.parseInt(request.getParameter("quantity5"));

int total = 500\*q1 + 200\*q2 + 1000\*q3 + 9000\*q4+3000\*q5;

out.println(

"<table><tr><td>Name:</td><td>"+username+"</td></tr>"+

"<tr><td>Visa:</td><td>"+uvisa+"</td></tr>"+

"<tr><td>Address:</td><td>"+uaddress+"</td></tr>"+

"<tr><td>Total Payment:</td><td> $"+total+"<td></tr>"

+"</table><h4>Successfully succeeded!!!!</h4>"

);

}

%>

</div>

</body>

</html>