**Java Web开发**

**实验四**

**作业报告**

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| --- | --- |
| 学 院 | 计算机 |
| 所在系 班 级 | 2017软件工程系11班 |
| 学 号 姓 名 | 04172604 曾东阳 |
| 指 导 教 师 | 郭晓燕 |
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# 实验题目

1. 将实验三的三题进行改写，在Servlet控制器中获取信息，验证后根据具体情况跳转到对应页面，成功请求转发到成功页面，否则重定向跳转到失败页面（可将动态验证码添加在页面上）

* 登录页面，提交用户名、密码及身份

改写一：支持中文，确保两种表单提交方式（get、post）都支持中文，另外对程序的空对象情况进行处理。

改写二：比如登录页面除了之前的用户名、密码另外再加上所在专业（计算机、软件工程及网络工程，单选框或下拉列表框皆可），登录成功后根据身份进行跳转，进入对应的页面，页面需显示\*\*\*\*专业学号姓名。登录失败转向失败页面，并进行报错！

* 猜数功能，猜错猜对及输入不正确的情况分别处理
* 注册功能、发帖功能等皆可

1. 文件上传（选做）

利用Servlet中的Part接口实现文件的上传（可附加在第1题）中。

# 分析与设计

login.html 登录的页面

LoginServlet.java 检查登录信息的Servlet

loginSuccess.jsp 登录成功的页面

fail.jsp登录失败的页面

ValidateCodeServlet.java 生成验证码的Servlet



UploadServlet.java 保存上传文件的Servlet

uploadSuccess.jsp 显示上传成功页面

# 关键源码（部分）

1. LoginServlet.java

@WebServlet(name = **"LoginServlet"**, urlPatterns = **"/login.do"**)  
**public class** LoginServlet **extends** HttpServlet {  
 **protected void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {  
 request.setCharacterEncoding(**"UTF-8"**);  
 String name = request.getParameter(**"name"**);  
 **if**(name == **null** || name.trim().isEmpty()) {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"请输入用户名"**, **"UTF-8"**));  
 **return**;  
 }  
 String password = request.getParameter(**"password"**);  
 **if**(password == **null** || password.isEmpty()) {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"请输入密码"**, **"UTF-8"**));  
 **return**;  
 }  
 String stuCode = request.getParameter(**"stuCode"**);  
 **if**(stuCode == **null** || stuCode.trim().isEmpty()) {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"请输入学号"**, **"UTF-8"**));  
 **return**;  
 }  
 String specialty = request.getParameter(**"specialty"**);  
 **if**(specialty == **null** || specialty.trim().isEmpty()) {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"请选择专业"**, **"UTF-8"**));  
 **return**;  
 }  
 String validateCode = request.getParameter(**"validateCode"**);  
 **if**(validateCode == **null** || validateCode.trim().isEmpty()) {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"请输入效验码"**, **"UTF-8"**));  
 **return**;  
 }  
 **if**(request.getSession().getAttribute(**"vCode"**) == **null** || !validateCode.equalsIgnoreCase(request.getSession().getAttribute(**"vCode"**).toString()))  
 {  
 response.sendRedirect(**"fail.jsp?errInfo="**+URLEncoder.*encode*(**"效验码错误"**, **"UTF-8"**));  
 **return**;  
 }  
  
 request.getRequestDispatcher(**"loginSuccess.jsp"**).forward(request, response);  
 }  
  
 **protected void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {  
 doPost(request, response);  
 }  
}

1. login.html

<!DOCTYPE **HTML** PUBLIC **"-//W3C//DTD HTML 4.01 Transitional//EN"  
 "http://www.w3.org/TR/html4/loose.dtd"**>  
<**html**>  
<**head**>  
 <**meta charset="UTF-8"**>  
 <**meta http-equiv="content-type" content="text/html; charset=utf-8"**>  
 <**title**>登录</**title**>  
 <**script type="text/javascript"**>  
 **function** *$*(id){  
 **return *document***.getElementById(id);  
 }  
 **function** *changeCode*(){  
 *$*(**"code"**).**src** = **"getValidateCode.do?a="**+**new *Date***();  
 }  
 </**script**>  
</**head**>  
  
<**body**>  
<**form action="login.do" method=get name=form**>  
 <**p**>  
 <**br**>用户名<**input type="text" name="name"**>  
 <**br**><**br**>密码<**input type="password" name="password"**>  
 <**br**><**br**>学号<**input type="text" name="stuCode"**>  
 <**br**><**br**>专业  
 <**select name="specialty"**>  
 <**option value="0401"**>计算机</**option**>  
 <**option value="0402"**>软件工程</**option**>  
 <**option value="0403"**>网络工程</**option**>  
 </**select**>  
 <**br**><**br**>验证码  
 <**input name="validateCode" placeholder="请输入右侧验证码" required="" type="text"**>  
 <**img src="getValidateCode.do" id="code"** />  
 <**a href="javascript:***changeCode***()"**>换一张</**a**>  
 <**br**><**br**><**input TYPE="submit" value="登录" name="register"**>  
 </**p**>  
</**form**>  
<**form action="upload.do" method="post" enctype="multipart/form-data"**>  
 上传文件：<**input type="file" name="file"** /><**br**><**br**>  
 <**input type="submit" value="上传" name="upload"** />  
</**form**>  
</**body**>  
</**html**>

1. loginSuccess.jsp

<%@ **page contentType**="**text/html;charset=UTF-8**" **language**="**java**" **pageEncoding**="**UTF-8**" %>  
<**html**>  
<**head**>  
 <**title**>成功</**title**>  
</**head**>  
<**body**>  
**<%** request.setCharacterEncoding(**"UTF-8"**);  
 String name = request.getParameter(**"name"**);  
 String stuCode = request.getParameter(**"stuCode"**);  
 String specialtyCode = request.getParameter(**"specialty"**);  
 String specialty = **"未知专业"**;  
 **switch**(specialtyCode) {  
 **case "0401"**:  
 specialty = **"计算机"**;  
 **break**;  
 **case "0402"**:  
 specialty = **"软件工程"**;  
 **break**;  
 **case "0403"**:  
 specialty = **"网络工程"**;  
 **break**;  
 }  
**%>**<**h2**>**<%=**specialty**%>**专业 **<%=**stuCode**%> <%=**name**%>**</**h2**>  
</**body**>  
</**html**>

1. fail.jsp

<%@ **page contentType**="**text/html;charset=UTF-8**" **language**="**java**" **pageEncoding**="**UTF-8**" %>  
<**html**>  
<**head**>  
 <**title**>登录失败</**title**>  
</**head**>  
<**body**>  
**<%** request.setCharacterEncoding(**"UTF-8"**);  
 String errInfo = request.getParameter(**"errInfo"**);  
**%>**<**h1**>登录失败</**h1**>  
<**br**>  
<**h2**>**<%=**errInfo**%>**</**h2**>  
<**a href="login.html"**>返回登录页面</**a**>  
</**body**>  
</**html**>

1. ValidateCodeServlet.java

@WebServlet(name = **"ValidateCodeServlet"**, urlPatterns = **"/getValidateCode.do"**)  
**public class** ValidateCodeServlet **extends** HttpServlet {  
 **private** Random **random** = **new** Random();  
 **private** String[] **fontNames** = {**"宋体"**, **"华文楷体"**, **"黑体"**, **"微软雅黑"**};  
  
 **protected void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {  
 *// 让浏览器禁用缓存* response.setHeader(**"Pragma"**, **"No-Cache"**);  
 response.setHeader(**"Cache-Control"**, **"no-cache"**);  
 response.setDateHeader(**"Expries"**, 0);  
  
 **int** size = 5; *// 验证码的位数  
  
 // 定义变量保存生成的验证码* StringBuilder vCode = **new** StringBuilder();  
 **char** c;  
 *// 产生验证码* **for** (**int** i = 0; i < size; i++) {  
 **int** number = **random**.nextInt();  
 *// 如果生成的是偶数，则随机生成一个数字, 奇数，则随机生成一个字母* **if** (number % 2 == 0) {  
 c = (**char**) (**'0'** + ((**int**) (Math.*random*() \* 10)));  
 } **else** {  
 c = (**char**) (**'A'** + ((**int**) (Math.*random*() \* 26)));  
 }  
 vCode.append(c);  
 }  
  
 *// 保存验证码* request.getSession().setAttribute(**"vCode"**, vCode.toString());  
  
 *// 验证码图片的生成  
 // 定义图片的宽度和高度* **int** width = (**int**) Math.*ceil*(size \* 20);  
 **int** height = 30;  
 BufferedImage image = **new** BufferedImage(width, height, BufferedImage.***TYPE\_INT\_RGB***);  
 *// 获取图片的上下文* Graphics gr = image.getGraphics();  
 *// 设定背景色与画图片边框* gr.setColor(Color.***WHITE***);  
 gr.fillRect(0, 0, width, height);  
 gr.setColor(Color.***GRAY***);  
 gr.drawRect(0, 0, width - 1, height - 1);  
 *// 画干扰线* **for** (**int** i = 0; i < **random**.nextInt(5)+3; i++) {  
 **int** x1 = **random**.nextInt(width);  
 **int** y1 = **random**.nextInt(height);  
 **int** x2 = **random**.nextInt(width);  
 **int** y2 = **random**.nextInt(height);  
 gr.setColor(randomColor());  
 gr.drawLine(x1, y1, x2, y2);  
 }  
 *// 设置字体，画验证码* gr.setColor(randomColor());  
 gr.setFont(randomFont());  
 gr.drawString(vCode.toString(), 10, 22);  
 *// 图像生效* gr.dispose();  
 *// 输出到页面* ImageIO.*write*(image, **"JPEG"**, response.getOutputStream());  
 }  
  
 **protected void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {  
 doPost(request, response);  
 }  
  
 *// 生成随机的颜色* **private** Color randomColor() {  
 **int** red = **random**.nextInt(150);  
 **int** green = **random**.nextInt(150);  
 **int** blue = **random**.nextInt(150);  
 **return new** Color(red, green, blue);  
 }  
  
 *// 生成随机的字体* **private** Font randomFont() {  
 **int** index = **random**.nextInt(**fontNames**.**length**);  
 String fontName = **fontNames**[index];*// 生成随机的字体名称* **int** style = **random**.nextInt(4);  
 **int** size = **random**.nextInt(3) + 24; *// 生成随机字号, 24 ~ 28* **return new** Font(fontName, style, size);  
 }  
}

1. UploadServlet.java

@MultipartConfig(location = **"J:\\SchoolClass\\Java Web\\File\\"**)  
@WebServlet(name = **"UploadServlet"**, urlPatterns = **"/upload.do"**)  
**public class** UploadServlet **extends** HttpServlet {  
 **protected void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {  
 request.setCharacterEncoding(**"UTF-8"**);  
 Part part = request.getPart(**"file"**);  
 String filename = getFilename(part);  
 part.write(filename);  
 request.getRequestDispatcher(**"uploadSuccess.jsp"**).forward(request, response);  
 }  
 **private** String getFilename(Part part) {  
 String header = part.getHeader(**"Content-Disposition"**);  
 String filename = header.substring(header.indexOf(**"filename=\""**) + 10,  
 header.lastIndexOf(**"\""**));  
 **return** filename;  
 }  
}

1. uploadSuccess.jsp

<%@ **page contentType**="**text/html;charset=UTF-8**" **language**="**java**" %>  
<**html**>  
<**head**>  
 <**title**>上传成功</**title**>  
</**head**>  
<**body**>  
<**h2**>上传成功 </**h2**>  
</**body**>  
</**html**>

# 运行效果图





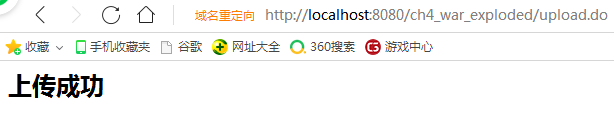


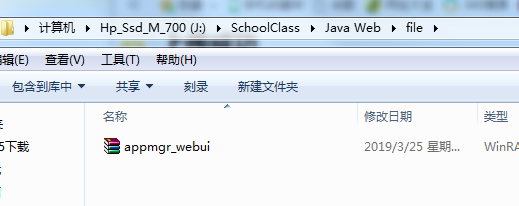












# 收获与问题

谈一谈你在本实验中所收获的内容及问题。