# 实验六 Servlet的应用

## 实验目的与要求

1. 理解并掌握Servlet的主要应用技术以及JSP+JDBC+JavaBean+Servlet模式（即Model2模式）的Web应用开发技术。
2. 参考教材的有关内容与示例，按要求编写并调试相应的程序。

## 实验内容

参见教材P337～338实验6的实验内容之1～4。

实验代码

web.xml

*<?*xml version="1.0" encoding="UTF-8"*?>  
<*web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"  
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"  
 version="4.0"*>  
 <*listener*>  
 <*listener-class*>*com.shf.mvc.listener.loginListener*</*listener-class*>  
 </*listener*>  
   
 <*filter*>  
 <*filter-name*>*AddFilter*</*filter-name*>  
 <*filter-class*>*com.shf.mvc.filter.AddFilter*</*filter-class*>  
 </*filter*>  
 <*filter-mapping*>  
 <*filter-name*>*AddFilter*</*filter-name*>  
 <*url-pattern*>*/demo6/protect/\**</*url-pattern*>  
 </*filter-mapping*>  
  
 <*servlet*>  
 <*servlet-name*>*AddUserServlet*</*servlet-name*>  
 <*servlet-class*>*com.shf.mvc.servlet.AddUserServlet*</*servlet-class*>  
 </*servlet*>  
 <*servlet-mapping*>  
 <*servlet-name*>*AddUserServlet*</*servlet-name*>  
 <*url-pattern*>*/AddUserServlet*</*url-pattern*>  
 </*servlet-mapping*>  
  
 <*servlet*>  
 <*servlet-name*>*loginSerVlet*</*servlet-name*>  
 <*servlet-class*>*com.shf.mvc.servlet.loginSerVlet*</*servlet-class*>  
 </*servlet*>  
 <*servlet-mapping*>  
 <*servlet-name*>*loginSerVlet*</*servlet-name*>  
 <*url-pattern*>*/loginSerVlet*</*url-pattern*>  
 </*servlet-mapping*>  
  
  
</*web-app*>*

Login.jsp

*<%--  
 Created by IntelliJ IDEA.  
 User: SHF  
 Date: 2021/11/8  
 Time: 15:23  
 To change this template use File | Settings | File Templates.  
--%>  
<%@* page contentType="text/html;charset=UTF-8" language="java" *%>  
<*html*>  
<*head*>  
 <*title*>*Title*</*title*>  
</*head*>  
<*body*>  
<*form action="/loginSerVlet" method="post"*>* 用户名： *<*input type="text" name="username"*> <*br*>* 密码： *<*input type="password" name="password"*><*br*>  
 <*input type="submit" value="登录"*>  
</*form*>  
<*h1*>*${info}*</*h1*>  
</*body*>  
</*html*>*

loginSerVlet.java

package com.shf.mvc.servlet;  
  
import javax.servlet.ServletException;  
import javax.servlet.http.HttpServlet;  
import javax.servlet.http.HttpServletRequest;  
import javax.servlet.http.HttpServletResponse;  
import javax.servlet.http.HttpSession;  
import java.io.IOException;  
  
public class loginSerVlet extends HttpServlet *{* @Override  
 protected void doGet*(*HttpServletRequest req, HttpServletResponse resp*)* throws ServletException, IOException *{* doPost*(*req, resp*)*;  
 *}* @Override  
 protected void doPost*(*HttpServletRequest req, HttpServletResponse resp*)* throws ServletException, IOException *{* String username = req.getParameter*(*"username"*)*;  
 String password = req.getParameter*(*"password"*)*;  
 System.*out*.println*(*"username="+username*)*;  
 System.*out*.println*(*"password="+password*)*;  
 System.*out*.println*(*username.equals*(*"abc"*)* && password.equals*(*"123"*))*;  
 if *(*username.equals*(*"abc"*)* && password.equals*(*"123"*)){* HttpSession session = req.getSession*()*;  
 session.setAttribute*(*"username",username*)*;  
 resp.sendRedirect*(*"/demo6/protect/success.jsp"*)*;  
 *}* else *{* req.setAttribute*(*"info","用户名或密码错错误"*)*;  
 req.getRequestDispatcher*(*"/demo6/login.jsp"*)*.forward*(*req,resp*)*;  
 *}  
 }  
}*

loginListener.java

package com.shf.mvc.listener;  
  
import javax.servlet.http.HttpSessionAttributeListener;  
import javax.servlet.http.HttpSessionBindingEvent;  
  
public class loginListener implements HttpSessionAttributeListener *{* @Override  
 public void attributeAdded*(*HttpSessionBindingEvent httpSessionBindingEvent*) {* String username = *(*String*)* httpSessionBindingEvent.getValue*()*;  
 System.*out*.println*(*username+" 登录！！！！"*)*;  
 *}* @Override  
 public void attributeRemoved*(*HttpSessionBindingEvent httpSessionBindingEvent*) {  
  
 }* @Override  
 public void attributeReplaced*(*HttpSessionBindingEvent httpSessionBindingEvent*) {  
  
 }  
}*

success.jsp

*<%--  
 Created by IntelliJ IDEA.  
 User: SHF  
 Date: 2021/11/8  
 Time: 15:10  
 To change this template use File | Settings | File Templates.  
--%>  
<%@* page contentType="text/html;charset=UTF-8" language="java" *%>  
<*html*>  
<*head*>  
 <*title*>*Title*</*title*>  
</*head*>  
<*body*>  
<*h1*>*您好! <%=request.getSession*()*.getAttribute*(*"username"*)*%>! 欢迎进入我们的网站！！！*</*h1*>  
<*a href="/demo6/protect/addUser.jsp"*>*添加用户*</*a*>  
<*h1*>*<%=request.getParameter*(*"xm"*)*==null?"":request.getParameter*(*"xm"*)*+" 添加成功！！！"%> *</*h1*>  
</*body*>  
</*html*>*

AddFilter.java

package com.shf.mvc.filter;  
  
import javax.servlet.\*;  
import javax.servlet.http.HttpServletRequest;  
import javax.servlet.http.HttpSession;  
import java.io.IOException;  
import java.io.PrintWriter;  
  
public class AddFilter implements Filter *{* @Override  
 public void init*(*FilterConfig filterConfig*)* throws ServletException *{  
  
 }* @Override  
 public void doFilter*(*ServletRequest servletRequest, ServletResponse servletResponse, FilterChain filterChain*)* throws IOException, ServletException *{* servletRequest.setCharacterEncoding*(*"utf-8"*)*;  
 servletResponse.setCharacterEncoding*(*"utf-8"*)*;  
 servletResponse.setContentType*(*"text/html; charset=UTF-8"*)*;  
  
 PrintWriter out=servletResponse.getWriter*()*;  
 HttpSession session=*((*HttpServletRequest*)* servletRequest*)*.getSession*()*;  
  
 String username=*(*String*)* session.getAttribute*(*"username"*)*;  
 if*(*username==null*) {* out.print*(*"没有登录，请<a href='/demo6/login.jsp'>重新登录</a>"*)*;  
 return;  
 *}  
  
 // pass the request along the filter chain* filterChain.doFilter*(*servletRequest, servletResponse*)*;  
 *}* @Override  
 public void destroy*() {  
  
 }  
}*

addUser.jsp

*<%--  
 Created by IntelliJ IDEA.  
 User: SHF  
 Date: 2021/10/18  
 Time: 10:25  
 To change this template use File | Settings | File Templates.  
--%>  
<%@* page contentType="text/html;charset=UTF-8" language="java" *%>  
<*html*>  
<*head*>  
 <*title*>*addUser*</*title*>  
</*head*>  
<*body*>  
<*form action="/AddUserServlet" method="post" style="margin: auto;width: 500px;text-align: center"*>  
<*h2*>*学生成绩增加*</*h2*>* 班级：  
 *<*select name="bh" id=""*>  
 <*option value="200201011"*>*200201011*</*option*>  
 <*option value="200201012"*>*200201012*</*option*>  
 </*select*> <*br*>* 学号： *<*input type="text" name="xh"*> <*br*>* 姓名： *<*input type="text" name="xm"*> <*br*>* 语文： *<*input type="text" name="yw"*> <*br*>* 数学： *<*input type="text" name="sx"*> <*br*>* 英语： *<*input type="text" name="yy"*> <*br*>  
 <*input type="submit" value="提交"*>  
 <*input type="reset" value="重置"*>  
</*form*>  
</*body*>  
</*html*>*

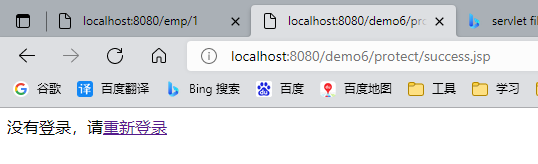
AddUserServlet.java

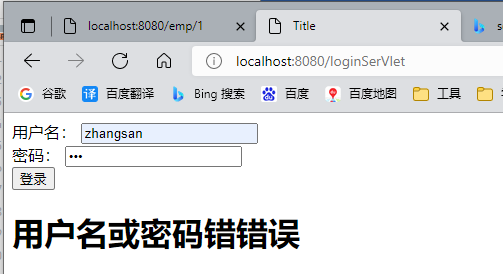
package com.shf.mvc.servlet;  
  
import javax.servlet.ServletException;  
import javax.servlet.http.HttpServlet;  
import javax.servlet.http.HttpServletRequest;  
import javax.servlet.http.HttpServletResponse;  
import javax.servlet.http.HttpSession;  
import java.io.IOException;  
import java.sql.SQLException;  
import java.util.Arrays;  
  
import static com.shf.mvc.beans.DbBean.*addUser*;  
  
public class AddUserServlet extends HttpServlet *{* @Override  
 protected void doGet*(*HttpServletRequest req, HttpServletResponse resp*)* throws ServletException, IOException *{* doPost*(*req, resp*)*;  
 *}* @Override  
 protected void doPost*(*HttpServletRequest req, HttpServletResponse resp*)* throws ServletException, IOException *{* System.*out*.println*(*req*)*;  
 req.setCharacterEncoding*(*"UTF-8"*)*;  
 String bh = req.getParameter*(*"bh"*)*;  
 String xh = req.getParameter*(*"xh"*)*;  
 String xm = req.getParameter*(*"xm"*)*;  
 String yw = req.getParameter*(*"yw"*)*;  
 String sx = req.getParameter*(*"sx"*)*;  
 String yy = req.getParameter*(*"yy"*)*;  
 String zf = String.*valueOf(*Double.*parseDouble(*yw*)*+Double.*parseDouble(*sx*)*+Double.*parseDouble(*yy*))*;  
  
 try *{  
 addUser(*Arrays.*asList(*xh,xm,bh,sx,yy,yw,zf*))*;  
 *}* catch *(*SQLException e*) {* e.printStackTrace*()*;  
 *}* HttpSession session = req.getSession*()*;  
 session.setAttribute*(*"xm",xm*)*;  
 req.getRequestDispatcher*(*"/demo6/protect/success.jsp"*)*.forward*(*req,resp*)*;  
 *}  
}*

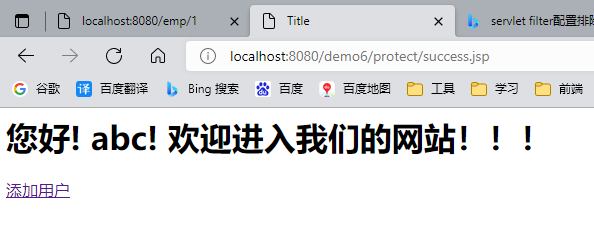
DbBean.java

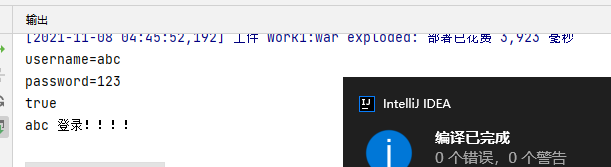
package com.shf.mvc.beans;  
  
import java.sql.\*;  
import java.util.ArrayList;  
import java.util.Arrays;  
import java.util.List;  
  
public class DbBean *{* public static Connection *con*;  
  
 static *{* try *{  
 con* = *getConnection()*;  
 *}* catch *(*ClassNotFoundException e*) {* e.printStackTrace*()*;  
 *}* catch *(*SQLException e*) {* e.printStackTrace*()*;  
 *}  
 }* public static Connection getConnection*()* throws ClassNotFoundException, SQLException *{* Class.*forName(*"com.mysql.jdbc.Driver"*)*;  
 *con* = DriverManager.*getConnection(*"jdbc:mysql://localhost:3306/test1", "root", "root"*)*;  
 return *con*;  
 *}* public static void closeConnection*()* throws SQLException *{  
 con*.close*()*;  
 *}* public static void addUser*(*List*<*String*>* pars*)* throws SQLException *{* PreparedStatement preparedStatement = *con*.prepareStatement*(*"insert into score values (?,?,?,?,?,?,?)"*)*;  
  
 preparedStatement.setString*(*1, pars.get*(*0*))*;  
 preparedStatement.setString*(*2, pars.get*(*1*))*;  
 preparedStatement.setString*(*3, pars.get*(*2*))*;  
 preparedStatement.setString*(*4, pars.get*(*3*))*;  
 preparedStatement.setString*(*5, pars.get*(*4*))*;  
 preparedStatement.setString*(*6, pars.get*(*5*))*;  
 preparedStatement.setString*(*7, pars.get*(*6*))*;  
 preparedStatement.executeUpdate*()*;  
  
 preparedStatement.close*()*;  
 *}  
}*

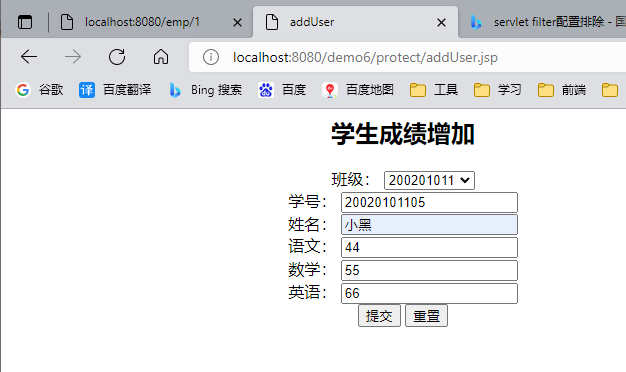
## 实验截图

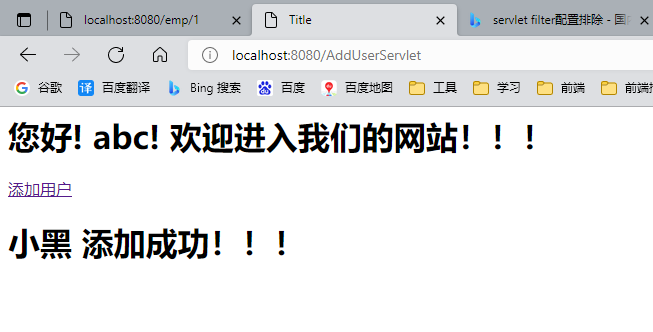












## 实验小结

通过本次实验我学会使用servlet的监听器、拦截器的基本使用，使用拦截器拦截未登录用户访问添加用户和success页面，使用监听器监听每一个用户登录，并且在控制台输出登录用户信息，使用JDBC访问MySQL数据库保存添加用户的数据。