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#### Servlet 打造一个登入注册程序

# 1.pom.xml 依赖

```
<dependencies>
    <dependency>
      <groupId>junit
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>
      <dependency>
          <groupId>dom4j
          <artifactId>dom4j</artifactId>
          <version>1.6.1</version>
      </dependency>
    <dependency>
      <groupId>javax.servlet
      <artifactId>servlet-api</artifactId>
      <version>2.5</version>
    </dependency>
      <dependency>
          <groupId>commons-beanutils
          <artifactId>commons-beanutils</artifactId>
          <version>1.9.3</version>
      </dependency>
    <!--数据库连接-->
    <dependency>
      <groupId>org.springframework
      <artifactId>spring-jdbc</artifactId>
      <version>5.0.2.RELEASE</version>
    </dependency>
    <dependency>
      <groupId>mysql</groupId>
      <artifactId>mysql-connector-java</artifactId>
      <version>5.1.21</version>
      <scope>runtime</scope>
    </dependency>
  </dependencies>
```

# 2.sql 语句

```
CREATE TABLE 'login' (
```

```
`id` varchar(100) NOT NULL,

`userName` varchar(22) NOT NULL,

`userPwd` varchar(22) NOT NULL,

`email` varchar(22) NOT NULL,

`birthday` date NOT NULL

) ENGINE=InnoDB DEFAULT CHARSET=utf8
```

#### 3.User

```
public class User implements Serializable {
    private static final long serialVersionUID = -4313782718477229465L;
    // 用户 ID
    private String id;
    // 用户名
    private String userName;
    // 用户密码
    private String userPwd;
    // 用户邮箱
    private String email;
    // 用户生日
    private Date birthday;
    public String getId() {
         return id;
    }
    public void setId(String id) {
         this.id = id;
    }
    public String getUserName() {
         return userName;
    }
    public void setUserName(String userName) {
         this.userName = userName;
    }
    public String getUserPwd() {
         return userPwd;
    }
```

```
public void setUserPwd(String userPwd) {
          this.userPwd = userPwd;
     }
     public String getEmail() {
          return email;
     }
     public void setEmail(String email) {
          this.email = email;
     }
     public Date getBirthday() {
          return birthday;
    }
     public void setBirthday(Date birthday) {
          this.birthday = birthday;
     }
     @Override
     public String toString() {
          return "User{" +
                    "id='" + id + '\" +
                    ", userName="" + userName + '\" +
                    ", userPwd="" + userPwd + '\" +
                    ", email='" + email + '\" +
                    ", birthday=" + birthday +
                    '}';
     }
}
```

#### 4.IUserDao

```
public interface IUserDao {

/**

* 根据用户名和密码来查找用户

* @param userName

* @param userPwd

* @return 查到到的用户

*/
User find(String userName, String userPwd);
```

```
/**
 * 添加用户
 * @param user
 */
void add(User user);

/**根据用户名来查找用户
 * @param userName
 * @return 查到到的用户
 */
User find(String userName);
}
```

#### 5.UserDaoImpl

```
public class UserDaoImpl implements IUserDao {
    //要连接的数据库 URL
    private String url = "jdbc:mysql://localhost:3306/test";
    //连接的数据库时使用的用户名
    private String username = "root";
    //连接的数据库时使用的密码
    private String password = "root";
    @Override
    public User find(String userName, String userPwd) {
        try{
            //1.加载驱动
            //DriverManager.registerDriver(new com.mysql.jdbc.Driver());不推荐使用这种方
式来加载驱动
            Class.forName("com.mysql.jdbc.Driver");//推荐使用这种方式来加载驱动
            //2.获取与数据库的链接
            Connection conn = DriverManager.getConnection(url, username, password);
            //3.获取用于向数据库发送 sql 语句的 statement
            Statement st = conn.createStatement();
            String sql = "select id,userName,userPwd,email,birthday from login where
userName = "" + userName +"" and userPwd = "" + userPwd + """;
            System.out.println(sql);
            //4.向数据库发 sql,并获取代表结果集的 resultset
            ResultSet rs = st.executeQuery(sql);
            User user = new User();
            //5.取出结果集的数据
            while(rs.next()){
                user.setId(String.valueOf(rs.getObject("id")));
                user.setEmail(String.valueOf(rs.getObject("email")));
                user.setUserName(String.valueOf(rs.getObject("userName")));
```

```
user.setUserPwd(String.valueOf(rs.getObject("userPwd")));
                  String birth = String.valueOf(rs.getObject("birthday"));
                  SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
                  user.setBirthday(sdf.parse(birth));
             }
             System.out.println(user.toString());
             return user;
         }catch (Exception e) {
             throw new RuntimeException(e);
        }
    }
    @SuppressWarnings("deprecation")
    @Override
    public void add(User user) {
         try{
             //1.加载驱动
             //DriverManager.registerDriver(new com.mysql.jdbc.Driver());不推荐使用这种方
式来加载驱动
             Class.forName("com.mysql.jdbc.Driver");//推荐使用这种方式来加载驱动
             //2.获取与数据库的链接
             Connection conn = DriverManager.getConnection(url, username, password);
             String
                                 sql
                                                                "INSERT
                                                                                      INTO
login(id,userName,userPwd,email,birthday)VALUES(?,?,?,?,?)";
             PreparedStatement pstm = conn.prepareStatement(sql);
             String birth = user.getBirthday().toString();
             SimpleDateFormat sdf1= new SimpleDateFormat("EEE MMM dd HH:mm:ss z yyyy",
Locale.ENGLISH);
             SimpleDateFormat sdf2= new SimpleDateFormat("yyyy-MM-dd");
             String birthday = sdf2.format(sdf1.parse(birth));
             pstm.setString(1, user.getId());
             pstm.setString(2, user.getUserName());
             pstm.setString(3, user.getUserPwd());
             pstm.setString(4, user.getEmail());
             pstm.setString(5, birthday);
             int row = pstm.executeUpdate();
             if(row > 0){
                  System.out.println("插入成功!");
         }catch (Exception e) {
             System.out.println("错错错!!!");
             throw new RuntimeException(e);
        }
    }
```

```
@Override
    public User find(String userName) {
             //1.加载驱动
             //DriverManager.registerDriver(new com.mysql.jdbc.Driver());不推荐使用这种方
式来加载驱动
             Class.forName("com.mysql.jdbc.Driver");//推荐使用这种方式来加载驱动
             //2.获取与数据库的链接
             Connection conn = DriverManager.getConnection(url, username, password);
             //3.获取用于向数据库发送 sql 语句的 statement
             Statement st = conn.createStatement();
             String sql = "select id,userName,userPwd,email,birthday from login where
userName = "" + userName + """;
             //4.向数据库发 sql,并获取代表结果集的 resultset
             ResultSet rs = st.executeQuery(sql);
             User user = new User();
             //5.取出结果集的数据
             while(rs.next()){
                 user.setId(String.valueOf(rs.getObject("id")));
                 user.setEmail(String.valueOf(rs.getObject("email")));
                 user.setUserName(String.valueOf(rs.getObject("userName")));
                 user.setUserPwd(String.valueOf(rs.getObject("userPwd")));
                 String birth = String.valueOf(rs.getObject("birthday"));
                 SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
                 user.setBirthday(sdf.parse(birth));
             }
             return user;
        }catch (Exception e) {
             throw new RuntimeException(e);
        }
    }
}
```

# 6.UserExistException

```
public class UserExistException extends Exception {
    public UserExistException() {
        super();
    }
    public UserExistException(String message, Throwable cause) {
```

```
super(message, cause);
}

public UserExistException(String message) {
    super(message);
}

public UserExistException(Throwable cause) {
    super(cause);
}
```

#### 7.IUserService

```
public interface IUserService {

    /**

    * 提供注册服务

    * @param user

    * @throws UserExistException

    */
    void registerUser(User user) throws UserExistException;

/**

    * 提供登录服务

    * @param userName

    * @param userPwd

    * @return

    */
    User loginUser(String userName, String userPwd);
}
```

## 8. User Service Impl

```
//unchecked exception
            //这里抛编译时异常的原因: 是我想上一层程序处理这个异常, 以给用户一个
友好提示
            throw new UserExistException("注册的用户名已存在!!!");
        }
        userDao.add(user);
    }
    @Override
    public User loginUser(String userName, String userPwd) {
        return userDao.find(userName, userPwd);
    }
}
9.WebUtils
public class WebUtils {
    /**
     *将 request 对象转换成 T 对象
     * @param request
     * @param clazz
     * @return
     */
    public static <T> T request2Bean(HttpServletRequest request,Class<T> clazz){
        try{
            T bean = clazz.newInstance();
            Enumeration<String> e = request.getParameterNames();
            while(e.hasMoreElements()){
                String name = (String) e.nextElement();
                String value = request.getParameter(name);
```

BeanUtils.setProperty(bean, name, value);

}

}

\* 生成 UUID \* @return

}

\*/

return bean;
}catch (Exception e) {

throw new RuntimeException(e);

```
public static String makeId(){
    return UUID.randomUUID().toString();
}
```

#### 10.CharacterEncodingFilter

```
public class CharacterEncodingFilter implements Filter {
    //存储系统使用的字符编码
    private String encoding=null;
    @Override
    public void init(FilterConfig filterConfig) throws ServletException {
         //encoding 在 web.xml 中指定
         this.encoding = filterConfig.getInitParameter("encoding");
    }
    @Override
    public void doFilter(ServletRequest request, ServletResponse response,
              FilterChain chain) throws IOException, ServletException {
         //解决表单提交时的中文乱码问题
         request.setCharacterEncoding(encoding);
         chain.doFilter(request, response);
    }
    @Override
    public void destroy() {
    }
}
```

# 11.RegisterFormBean

\*/

```
/**
 * 封装的用户注册表单 bean,用来接收 register.jsp 中的表单输入项的值
 * RegisterFormBean 中的属性与 register.jsp 中的表单输入项的 name ——对应
 * RegisterFormBean 的职责除了负责接收 register.jsp 中的表单输入项的值之外还担任着校验表单输入项的值的合法性
 * @author gacl
 *
```

```
public class RegisterFormBean {
   //RegisterFormBean 中的属性与 register.jsp 中的表单输入项的 name 一一对应
   //<input type="text" name="userName"/>
    private String userName;
    //<input type="password" name="userPwd"/>
    private String userPwd;
   //<input type="password" name="confirmPwd"/>
    private String confirmPwd;
   //<input type="text" name="email"/>
    private String email;
   //<input type="text" name="birthday"/>
    private String birthday;
    /**
     * 存储校验不通过时给用户的错误提示信息
     */
    private Map<String, String> errors = new HashMap<String, String>();
    public Map<String, String> getErrors() {
        return errors;
    }
    public void setErrors(Map<String, String> errors) {
        this.errors = errors;
   }
     * validate 方法负责校验表单输入项
     * 表单输入项校验规则:
               private String userName; 用户名不能为空,并且要是 3-8 的字母 abcdABcd
               private String userPwd; 密码不能为空,并且要是 3-8 的数字
               private String confirmPwd; 两次密码要一致
               private String email;可以为空,不为空要是一个合法的邮箱
               private String birthday;可以为空,不为空时,要是一个合法的日期
    public boolean validate() {
        boolean isOk = true;
        if (this.userName == null || this.userName.trim().equals("")) {
            isOk = false;
```

errors.put("userName", "用户名不能为空!!");

```
} else {
    if (!this.userName.matches("[a-zA-Z]{3,8}")) {
        isOk = false;
        errors.put("userName", "用户名必须是 3-8 位的字母!!");
    }
}
if (this.userPwd == null | | this.userPwd.trim().equals("")) {
    isOk = false:
    errors.put("userPwd", "密码不能为空!!");
} else {
    if (!this.userPwd.matches("\\d{3,8}")) {
        isOk = false;
        errors.put("userPwd", "密码必须是 3-8 位的数字!!");
    }
}
// private String password2; 两次密码要一致
if (this.confirmPwd != null) {
    if (!this.confirmPwd.equals(this.userPwd)) {
        isOk = false;
        errors.put("confirmPwd", "两次密码不一致!!");
    }
}
// private String email;可以为空,不为空要是一个合法的邮箱
if (this.email != null && !this.email.trim().equals("")) {
    if (!this.email.matches("\\w+@\\w+(\\.\\w+)+")) {
        isOk = false;
        errors.put("email", "邮箱不是一个合法邮箱!!");
    }
}
// private String birthday; 可以为空,不为空时,要是一个合法的日期
if (this.birthday != null && !this.birthday.trim().equals("")) {
    try {
        DateLocaleConverter conver = new DateLocaleConverter();
        conver.convert(this.birthday);
    } catch (Exception e) {
        isOk = false;
        errors.put("birthday", "生日必须要是一个日期!!");
    }
}
```

```
return isOk;
}
public String getUserName() {
     return userName;
}
public void setUserName(String userName) {
     this.userName = userName;
}
public String getUserPwd() {
     return userPwd;
}
public void setUserPwd(String userPwd) {
     this.userPwd = userPwd;
}
public String getConfirmPwd() {
     return confirmPwd;
}
public void setConfirmPwd(String confirmPwd) {
     this.confirmPwd = confirmPwd;
}
public String getEmail() {
     return email;
}
public void setEmail(String email) {
     this.email = email;
}
public String getBirthday() {
     return birthday;
}
public void setBirthday(String birthday) {
     this.birthday = birthday;
}
```

}

### 12.index.jsp

```
<%@ page language="java" pageEncoding="UTF-8"%>
<%--为了避免在 jsp 页面中出现 java 代码,这里引入 jstl 标签库,利用 jstl 标签库提供的标签
来做一些逻辑判断处理 --%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<!DOCTYPE HTML>
<html>
<head>
    <title>首页</title>
    <script type="text/javascript">
        function doLogout(){
            //访问 LogoutServlet 注销当前登录的用户
window.location.href="${pageContext.request.contextPath}/servlet/LogoutServlet";
    </script>
</head>
<body>
<h1>何其有静的网站</h1>
<hr/>
<c:if test="${user==null}">
    <a href="${pageContext.request.contextPath}/servlet/RegisterUIServlet" target="_blank">注
册</a>
    <a href="${pageContext.request.contextPath}/servlet/LoginUlServlet">登陆</a>
</c:if>
<c:if test="${user!=null}">
    欢迎您: ${user.userName}
    <input type="button" value="退出登陆" onclick="doLogout()">
</c:if>
<hr/>
</body>
</html>
13.web.xml
```

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"</pre>
          xmlns="http://java.sun.com/xml/ns/javaee"
          xmlns:web="http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd"
          xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
          http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd" version="3.0">
```

```
<display-name></display-name>
<servlet>
  <servlet-name>LoginUIServlet</servlet-name>
  <servlet-class>me.gacl.web.UI.LoginUIServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>RegisterUIServlet</servlet-name>
  <servlet-class>me.gacl.web.UI.RegisterUIServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>RegisterServlet</servlet-name>
  <servlet-class>me.gacl.web.controller.RegisterServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>LoginServlet</servlet-name>
  <servlet-class>me.gacl.web.controller.LoginServlet</servlet-class>
</servlet>
<servlet>
  <servlet-name>LogoutServlet</servlet-name>
  <servlet-class>me.gacl.web.controller.LogoutServlet</servlet-class>
</servlet>
<servlet-mapping>
  <servlet-name>LoginUIServlet</servlet-name>
  <url-pattern>/servlet/LoginUIServlet</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>RegisterUIServlet/servlet-name>
  <url-pattern>/servlet/RegisterUIServlet</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>RegisterServlet</servlet-name>
  <url-pattern>/servlet/RegisterServlet</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>LoginServlet</servlet-name>
  <url-pattern>/servlet/LoginServlet</url-pattern>
</servlet-mapping>
<servlet-mapping>
  <servlet-name>LogoutServlet</servlet-name>
  <url-pattern>/servlet/LogoutServlet</url-pattern>
</servlet-mapping>
<filter>
  <filter-name>EncodingFilter</filter-name>
  <filter-class>me.gacl.web.filter.CharacterEncodingFilter</filter-class>
```

## 14.RegisterUIServlet

```
/**
 * @author gacl
 * 为用户提供注册的用户界面的 Servlet
 * RegisterUIServlet 负责为用户输出注册界面
 * 当用户访问 RegisterUlServlet 时,就跳转到 WEB-INF/pages 目录下的 register.jsp 页面
 */
public class RegisterUIServlet extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
        request.getRequestDispatcher("/WEB-INF/pages/register.jsp").forward(request,
response);
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
        doGet(request, response);
    }
}
```

# 15.register.jsp

```
<%@ page language="java" pageEncoding="UTF-8"%>
<!DOCTYPE HTML>
<html>
<head>
```

```
<title>用户注册</title>
</head>
<body style="text-align: center;">
<form action="${pageContext.request.contextPath}/servlet/RegisterServlet" method="post">
   用户名
          <%--使用 EL 表达式${}提取存储在 request 对象中的 formbean 对象中封装
的表单数据(formbean.userName)以及错误提示消息(formbean.errors.userName)--%>
             <input
                                type="text"
                                                      name="userName"
value="${formbean.userName}">${formbean.errors.userName}
          密码
          <input
                              type="password"
                                                       name="userPwd"
value="${formbean.userPwd}">${formbean.errors.userPwd}
          确认密码
          type="password"
                                                     name="confirmPwd"
             <input
value="${formbean.confirmPwd}">${formbean.errors.confirmPwd}
          邮箱
          name="email"
             <input
                                 type="text"
value="${formbean.email}">${formbean.errors.email}
          生日
          <input
                                type="text"
                                                       name="birthday"
value="${formbean.birthday}">${formbean.errors.birthday}
```

#### 16.RegisterServlet

```
* 处理用户注册的 Servlet
 * @author gacl
 */
public class RegisterServlet extends HttpServlet {
    private Logger logger = Logger.getLogger(RegisterServlet.class.getName());
    public void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        //将客户端提交的表单数据封装到 RegisterFormBean 对象中
        RegisterFormBean
                                               formbean
WebUtils.request2Bean(request,RegisterFormBean.class);
        //校验用户注册填写的表单数据
        if (formbean.validate() == false) {//如果校验失败
           //将封装了用户填写的表单数据的 formbean 对象发送回 register.jsp 页面的
form 表单中进行显示
            request.setAttribute("formbean", formbean);
            //校验失败就说明是用户填写的表单数据有问题,那么就跳转回 register.jsp
            request.getRequestDispatcher("/WEB-INF/pages/register.jsp").forward(request,
response);
            return;
       }
        User user = new User();
        try {
            // 注册字符串到日期的转换器
            ConvertUtils.register(new DateLocaleConverter(), Date.class);
            BeanUtils.copyProperties(user, formbean);//把表单的数据填充到 javabean 中
```

```
user.setId(WebUtils.makeId());//设置用户的 Id 属性
             IUserService service = new UserServiceImpl();
             //调用 service 层提供的注册用户服务实现用户注册
             service.registerUser(user);
             String message = String.format(
                     "注册成功!! 3 秒后为您自动跳到登录页面!! <meta
http-equiv='refresh' content='3;url=%s'/>",
                     request.getContextPath()+"/servlet/LoginUIServlet");
             request.setAttribute("message",message);
             request.getRequestDispatcher("/message.jsp").forward(request,response);
        } catch (UserExistException e) {
             formbean.getErrors().put("userName", "注册用户已存在!!");
             request.setAttribute("formbean", formbean);
             request.getRequestDispatcher("/WEB-INF/pages/register.jsp").forward(request,
response);
        } catch (Exception e) {
             e.printStackTrace(); // 在后台记录异常
             request.setAttribute("message", "对不起,注册失败!!");
             request.getRequestDispatcher("/message.jsp").forward(request,response);
        }
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
        doGet(request, response);
    }
}
```

# 17.message.jsp

## 18.LoginUIServlet

```
/**
 * @author gacl
 * LoginUlServlet 负责为用户输出登陆界面
 * 当用户访问 LoginUIServlet 时,就跳转到 WEB-INF/pages 目录下的 login.jsp 页面
 */
public class LoginUIServlet extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
         request.getRequestDispatcher("/WEB-INF/pages/login.jsp").forward(request,
response);
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
         doGet(request, response);
    }
}
19.login.jsp
 * @author gacl
 * LoginUlServlet 负责为用户输出登陆界面
 * 当用户访问 LoginUlServlet 时,就跳转到 WEB-INF/pages 目录下的 login.jsp 页面
public class LoginUIServlet extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
         request.getRequestDispatcher("/WEB-INF/pages/login.jsp").forward(request,
response);
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
         doGet(request, response);
    }
```

## 20.LoginServlet

```
/**
 * 处理用户登录的 servlet
 * @author gacl
 */
public class LoginServlet extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
        //获取用户填写的登录用户名
        String username = request.getParameter("username");
        //获取用户填写的登录密码
        String password = request.getParameter("password");
        IUserService service = new UserServiceImpl();
        //用户登录
        User user = service.loginUser(username, password);
        if(user==null | | user.getUserName() == null){
             String message = String.format(
                     "对不起,用户名或密码有误!!请重新登录!2秒后为您自动跳到
登录页面!! <meta http-equiv='refresh' content='2;url=%s'",
                     request.getContextPath()+"/servlet/LoginUIServlet");
             request.setAttribute("message",message);
             request.getRequestDispatcher("/message.jsp").forward(request, response);
             return;
        }
        //登录成功后,就将用户存储到 session 中
        request.getSession().setAttribute("user", user);
        String message = String.format(
                 "恭喜:%s,登陆成功!本页将在 3 秒后跳到首页!!<meta http-equiv='refresh'
content='3;url=%s'",
                 user.getUserName(),
                 request.getContextPath()+"/index.jsp");
        request.setAttribute("message",message);
        request.getRequestDispatcher("/message.jsp").forward(request, response);
    }
    public void doPost(HttpServletRequest request, HttpServletResponse response)
             throws ServletException, IOException {
```

```
doGet(request, response);
   }
}
21.LogoutServlet
public class LogoutServlet extends HttpServlet {
   public void doGet(HttpServletRequest request, HttpServletResponse response)
           throws ServletException, IOException {
       //移除存储在 session 中的 user 对象,实现注销功能
       request.getSession().removeAttribute("user");
       //由于字符串中包含有单引号,在这种情况下使用 MessageFormat.format 方法拼接
字符串时就会有问题
       //MessageFormat.format 方法只是把字符串中的单引号去掉,不会将内容填充到指
定的占位符中
       String tempStr1 = MessageFormat.format(
              "注销成功!!3 秒后为您自动跳到登录页面!! < meta http-equiv='refresh'
content='3;url={0}'/>",
              request.getContextPath()+"/servlet/LoginUIServlet");
       System.out.println(tempStr1);//输出结果:注销成功!! 3 秒后为您自动跳到登录页
面!! <meta http-equiv=refresh content=3;url={0}/>
       System.out.println("-----");
        * 要想解决"如果要拼接的字符串包含有单引号,那么 MessageFormat.format 方法
就只是把字符串中的单引号去掉,不会将内容填充到指定的占位符中"这个问题,
        * 那么可以需要使用单引号引起来的字符串中使用 2 个单引号引起来,例如:
"<meta http-equiv="refresh" content="3;url={0}"/>"
                 这
                       样
                             MessageFormat.format("<meta http-equiv="refresh"
content="3;url={0}"/>","index.jsp")就可以正常返回
        * <meta http-equiv="refresh" content="3;url=index.jsp"/>
        */
       String tempStr2 = MessageFormat.format(
              "注销成功!!3 秒后为您自动跳到登录页面!!<meta http-equiv="refresh"
content="3;url={0}"/>",
              request.getContextPath()+"/servlet/LoginUIServlet");
        * 输出结果:
        * 注销成功!! 3 秒后为您自动跳到登录页面!!
                                      <meta
                                                         http-equiv='refresh'
content='3;url=/webmvcframework/servlet/LoginUIServlet'/>
       System.out.println(tempStr2);
```

# 22.项目结构图(maven)

