WEB 复习参考

1. 掌握 sf.jsp 中的十个算法，要求能举一反三。

```
//累加
int sum(int n) {
    int sum1 = 0;
    for (int i = 1; i <= n; i++)
        sum1 += i;
    return sum1;
}

int fun12(int n)
{
    int result = 0;
    int i=1;
}
//阶乘
int fun1(int n)   {
    int result = 1;
    for (int i = 1; i <= n; i++)
        result *= i;
    return result;
}

//素数
boolean fun2(int x){
    boolean flag = true;
    for (int i = 2; i <=
StrictMath.sqrt(x); i++)
    {
        if (x % i == 0)
        {
           flag = false;
          break;
       }
    }
    return flag;
}
//闰年
boolean fun3(int year){
    if (year % 4 == 0 && year % 100 != 0 ||
year % 400 == 0){
        return true;
    }
    else {
        return false;
    }
}
```

```
//整数倒置
int fun4(int x)
{
    int result = 0;
    while (x > 0)
    {
        int yushu = x % 10;
        result = result * 10 + yushu;
        x = x / 10;
    }
    return result;
}
//是否是回文
boolean fun5(String str)
{
    boolean result = true;
    int i = 0;
    int j = str.length() - 1;
    while (i < j)
    {
        if (str.charAt(i) == str.charAt(j))
        {
            i++;
            j--;
        }
        else
        {
            result = false;
            break;
        }
    }
    return result;
}
//求最大数
int fun6(int[] a){
    int max = a[0];
    int n = a.length;
    for (int i = 1; i < n; i++)
    {
        if (a[i] > max)
            max = a[i];
    }
    return max;
}
```

```
//从小到大排序（选择排序）
void fun7(int[] a){
    int min;
    int n = a.length;
    for (int i = 0; i < n - 1; i++){
        min = i;
        for (int j = i + 1; j < n; j++)
        {
            if (a[j] < a[min])
            {
        min = j;
            }
        }
        int tmp = a[i];
        a[i] = a[min];
        a[min] = tmp;
    }
}
//将数组中 x 的倍数变为 0
void fun8(int[] a,int x)
{
    int n = a.length;
    for (int i = 0; i < n; i++)
    {
        if (a[i] % x == 0)
        {
            a[i] = 0;
        }
    }
}
```

```
//求最大公约数（辗转相除法）
int fun9(int m, int n)
{
    int r;

    do
    {
        r = m % n;
        if (r != 0)
        {
            m = n;
            n = r;
        }
    } while (r != 0);

    return n;
}
```

2. 要求能对单表进行增、删、改、查。（JDBC 数据库操作）

1） 驱动的选择

```
// 1.定义并声明常用字段
private static final String JDBC_DRIVER = "驱动名";
private static String url = "数据库连接串URL";
private static String user = "root";
private static String pwd = "password";
```

注：常见数据库驱动、默认端口号、URL、账户名如下

数据库	驱动名称	端口	URL	账户
MySQL	com.mysql.jdbc.Driver	3306	jdbc:mysql://localhost:端口号/数据库名	root
MariaDB	org.mariadb.jdbc.Driver	3306	jdbc:mysql://localhost:端口号/数据库名	root
SQL Server	com.microsoft.sqlserver.jdbc.SQLServerDriver	1433	jdbc:microsoft:sqlserver://localhost:端口号;DatabaseName=数据库名	sa
Oracle	oracle.jdbc.driver.OracleDriver	1521	jdbc:oracle:thin:@localhost:端口名:orcl	sys

```
// 2.定义并声明SQL操作对象
private static Connection conn = null; //数据库连接对象
private static Statement st = null;    //状态对象
private static ResultSet rs = null;    //结果集对象
```
注：以上均为类内成员变量声明，如在方法（函数）内声明则去掉“**private static final**”等修饰符。

2） 创建连接

```
//方法1：获取数据库连接
Class.forName(JDBC_DRIVER);                          //1、注册驱动
conn = DriverManager.getConnection(url, user, pwd);  //2、获取连接
//方法2：获取数据库连接(通过DBCP数据库连接池)
Context ctx = new InitialContext();
DataSource ds=(DataSource) ctx.lookup("java:comp/env/jdbc/DBPool");
conn=ds.getConnection();
```

补充：**数据库连接池配置**

前置条件

即所需的 jar 文件如下，将其拷入到 MyEclipse 项目:【WebRoot】-【WEB-INF】-【lib】下。具体 jar 文件如下：

- commons-collections4-4.0.jar；
- commons-dbcp.jar；
- commons-pool.jar；
- commons-logging-1.2.jar；
- sqljdbc4.jar。

配置

（1）在项目：【WebRoot】-【META-INF】下：Context.xml 文件中加入如下内容：

```
<Context>
<Resource name="jdbc/DBPool" auth="Container"
      type="javax.sql.DataSource"
      factory="org.apache.commons.dbcp2.BasicDataSourceFactory"
      username="sa"
      password="ywj020318"
      driverClassName="com.microsoft.sqlserver.jdbc.SQLServerDriver"
      url="jdbc:sqlserver://localhost:1433;DatabaseName=SSMS"
      maxTotal="100"
      maxIdle="1000"
      maxWaitMillis="5000" />
</Context>
```

（2）在项目：【WebRoot】-【WEB-INF】下: web.xml 文件中加入如下内容：

```
 <resource-ref>
      <description>DB Connection</description>
      <res-ref-name>jdbc/DBPool</res-ref-name>
      <res-type>javax.sql.DataSource</res-type>
      <res-auth>Container</res-auth>
   </resource-ref>
```

连接池获得连接的方法：

```
public static Connection getConnection(){
       try{
           Context ctx = new InitialContext();
           DataSource ds=(DataSource) ctx.lookup("java:comp/env/jdbc/DBPool");
           conn=ds.getConnection();
       }catch(Exception ex){
           ex.printStackTrace();
       }
       return conn;
   }
```

3） 创建 statement

```
//类型 1：创建 statement
conn.setAutoCommit(false);       //关闭自动事务
st = conn.createStatement();     //创建 statement
//类型 2：创建 prepareStatement
PreparedStatement ps;            //声明 preparestatement
String sql="SQL 语句";            //准备 SQL 语句，如 insert into lover values(?,?,?)
ps = (PreparedStatement) conn.prepareStatement(sql); //创建 preparestatement
```

4） 执行 SQL

```
//类型 1：使用 Statement
String sql="SQL 语句";            //准备 SQL 语句
st.execute(sql);                 //执行 SQL 语句
conn.commit();                   //提交事务
//类型 2：使用 prepareStatement，需要先填充准备 SQL 语句中的占位符
ps.setInt(1,21);//代表设置给第一个?号位置的值为 Int 类型的 21
ps.setString(2,"suwu150");//代表设置给第二个?号位置的值为 String 类型的 suwu150
java.util.Date utilDate=new java.util.Date();//类型转换，由 util 类型的 date 转化为 sql 类型的
ps.setDate(3, new java.sql.Date(utilDate.getTime()));
ps.execute();                    //执行 prepareStatement
```

补充：增删改

Insert into:

```
//设置增加数据操作
   private void setAdd(HttpServletResponse response,String sno,String name,String age,String
phone,String institute){
       String sqlString = "insert into student
value('"+sno+"','"+name+"',"+age+",'"+phone+"','"+institute+"')";
       System.out.println(sqlString);
       int result = DBUtil.setAddData(sqlString);
       getStudentInfo(response, "", "1", "10",result);
   }
```

Update：

```
//设置编辑数据操作
    private void setEdit(HttpServletResponse response,String sno,String name,String age,String
phone,String institute,String oldsno){
        String sqlString = "update student set
sno='"+sno+"',name='"+name+"',age="+age+",phone='"+phone+"',institute='"
                +institute+"' where sno='"+oldsno+"'";
        System.out.println(sqlString);
        int result = DBUtil.setAddData(sqlString);
        getStudentInfo(response, "", "1", "10",result);
    }
```

Delete：

```
//设置删除数据操作
    private void setDel(HttpServletResponse response,String sno){
        String sqlString = "delete from student where sno='"+sno+"'";
        System.out.println(sqlString);
        int result = DBUtil.setAddData(sqlString);
        getStudentInfo(response, "", "1", "10",result);
    }
```

类应进行相关资源的释放。

```
private static void finallyHandle(Connection conn,Statement st,ResultSet rs){
          try{
              if(rs!=null){
                  rs.close();
                  rs=null;
              }
              if(st!=null){
                  st.close();
                  st=null;
              }
              if(conn!=null){
                  conn.close();
                  conn=null;
              }

          }catch(Exception ex){
              ex.printStackTrace();
          }
    }
```

封装后的数据库操作相关方法如下：

```
/**
 * @ 函数名称：executeBatch
 * @ 功能描述：根据查询 SQL 语句进行增删改操作。
 * @ 传入参数：用于查询的 SQL 语句 list (ArrayList<HashMap<String,Object>>)
 * @ 返回类型：boolean
**/
public static boolean executeBatch(ArrayList<String> list) {
    boolean flag = true;// 返回值默认为 true
    try {
        conn = getConn();// 调用 getConn()方法，初始化数据库连接
        conn.setAutoCommit(false);
        st = conn.createStatement();
        for (int i = 0; i < list.size(); i++) {
            st.addBatch(list.get(i));
        }
        st.executeBatch();
        conn.commit();// 执行事务
        conn.setAutoCommit(true);

    } catch (Exception ex) {
        try {
            conn.rollback();// 事务回滚
        } catch (SQLException e) {
            e.printStackTrace();
        }
        flag = false;// 执行失败，返回 false
        ex.printStackTrace();
    } finally {
        finallyHandle(conn, st, rs);// 关闭数据库连接
    }
    return flag;
}

/**
 * @ 函数名称: getDataSetInfoByCon
 * @ 功能描述：根据查询 SQL 语句、页码及页数返回部分多条记录。
 * @ 传入参数：用于查询的 SQL 语句、页码、页数
 * @ 返回类型： (ArrayList<HashMap<String,Object>>)
*/
public static ArrayList<HashMap<String, String>> getDataSetInfoByCon(String sql, int
rowCount, int page) {
    Connection conn = null;
    ArrayList<HashMap<String, String>> result = null;
    Statement st = null;
    ResultSet rs = null;
    ResultSetMetaData rsmd = null;
    try {
        conn = getConn();
```

```
     st = conn.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_READ_ONLY);
        if (rowCount > 0)
            st.setMaxRows(page * rowCount);
        rs = st.executeQuery(sql);
        if (page >= 0 && rowCount > 0)
            rs.absolute((page - 1) * rowCount);
        rsmd = rs.getMetaData();
        result = new ArrayList<HashMap<String, String>>();
        while (rs.next()) {
            int columnCount = rsmd.getColumnCount();
            HashMap<String, String> record = new HashMap<String, String>();
            for (int i = 1; i <= columnCount; i++) {
                record.put(rsmd.getColumnName(i), rs.getString(i));
            }
            result.add(record);
        }
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        finallyHandle(conn, st, rs);
    }
    return result;
}

/**
 * @ 函数名称: getRowCount
 * @ 功能描述: 根据查询 SQL 语句返回记录行数。
 * @ 传入参数: 用于查询的 SQL 语句
 * @ 返回类型: int
*/
public static int getRowCount(String sql) {
    Connection conn = null;
    Statement st = null;
    ResultSet rs = null;
    int length = 0;
    try {
        conn = getConn();
        st = conn.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_READ_ONLY);
        rs = st.executeQuery(sql);
        rs.last();
        length = rs.getRow();
    } catch (Exception e) {
        e.printStackTrace();
    } finally {
        finallyHandle(conn, st, rs);
    }
    return length;
```

```
}

/**
 * @ 函数名称: getDataCount
 * @ 功能描述：获取行数
 * @ 传入参数：用于查询的参数与表名
 * @ 返回类型：int
 * @ 文件作者：DukeWF
 * @ 创建时间：2018-05-29
 * @ 版本编号：1.00
 **/
public static int getDataCount(String tablename, String key, String value) {
    int rowCount = 0;
    try {
        String sql = "SELECT COUNT(*) AS record_ FROM " + tablename + " WHERE "+ key +"
= ?";
        System.out.println(sql);
        conn = getConn();

        PreparedStatement prestmt;
        prestmt = conn.prepareStatement(sql);
        prestmt.setString(1,value);

        rs = prestmt.executeQuery();
        if (rs.next()) {
            rowCount = rs.getInt("record_");
        }
    } catch (SQLException e) {
        e.printStackTrace();
    } finally {
        finallyHandle(conn, st, rs);
    }
    System.out.print(rowCount);
    return rowCount;

}
```

5） 结果集的遍历

```
/**
 * @ 函数名称: convertList
 * @ 功能描述: 将结果集遍历至 List 中
 * @ 传入参数: 查询结果集 rs
 * @ 返回类型: List
**/
public static List convertList(ResultSet rs) throws SQLException {
    List list = new ArrayList();
    ResultSetMetaData md = rs.getMetaData();//获取键名
    int columnCount = md.getColumnCount();//获取行的数量
    while (rs.next())
    {
        Map rowData = new HashMap();//声明 Map
        for (int i = 1; i <= columnCount; i++)
        {
            rowData.put(md.getColumnName(i), rs.getObject(i));//获取键名及值
        }
        list.add(rowData);
    }
    return list;
}
```

6） 内容输出

提交数据利用 JQuery 中的$. post ()方法。

```
//提交 combobox 选中数据至后台
       function getcomboboxdata() {
            var params = { choice: $('#cc').combobox('getText')}
            var url = "/EasyUI/test"
            $.post(url, params, function(data){//使用$.post 提交数据

                          $("#getResponse").html(data); }, "json");
       }
```

3. 掌握 EasyUI 中的 combobox、datagrid 控件的数据展示，能从数据库中读取数据展现在 combobox 或 datagrid 中。

ComboBox

前端:

```
<input class="easyui-combobox" name="politicalstate" id="politicalstate" />
```

JS:

```
$(function() {
    $("#politicalstate").combobox({
        url : "SystemStudentService?op=politicalstate",
        valueField : "politicalstate_id",
        textField : "politicalstate_name",
        panelHeight : 'auto'
    });
})
```

Datagrid

前端：

```
<table id="info" class="easyui-datagrid" width="100%"
    style="height:100%;" border="0" cellpadding="0" cellspacing="0"
    data-options=" toolbar:'#tb'">
    <thead>
        <tr>
            <th data-options="field:'sno',width:120,align:'center'">学 号</th>
            <th data-options="field:'sname',width:120,align:'center'">姓 名</th>
            <th data-options="field:'age',width:100,align:'center'">年 龄</th>
            <th data-options="field:'politicalstate',width:120,align:'center'">政治面貌</th>
            <th data-options="field:'birthday',width:120,align:'center'">出生日期</th>
            <th data-options="field:'address',width:250,align:'center'">地址</th>
        <th data-options="field:'phone',width:100,align:'center',hidden:'true'">联系方式</th>
            <th data-options="field:'institute',width:120,align:'center'">学院</th>
            <th data-options="field:'demo',width:180,align:'center'">备 注</th>
        </tr>
    </thead>
</table>
```

JS：

```
    $("#info").datagrid({
        loadMsg : "数据加载中，请等待...",
        iconCls : 'icon-issue',
        nowrap : false,
        striped : true,
        collapsible : true,
        rownumbers : true,
        pagination : true,
        singleSelect : true,
        autoRowHeight : true,
        fitColumns : false,
        pageSize : 10,
        pageList : [ 10, 20, 30, 40 ],
        cache : false,
        url : "SystemStudentService?op=init"
    });
```

后端：

```java
//Servlet: SystemStudentService
@WebServlet("/SystemStudentService")

public class SystemStudentService extends HttpServlet {
  protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
  ServletException, IOException {
    // TODO Auto-generated method stub
    String op = request.getParameter("op");
    switch (op) {
    case "politicalstate":
        getComboBox(response, "politicalstate");
        break;
    case "init":
        String row = request.getParameter("rows");
        String page = request.getParameter("page");
        getStudentInfo(response, "", page, row);
        break;
    default:
        break;
    }
  }
  private void getComboBox(HttpServletResponse response, String type) {
    String result = "";
    ArrayList<HashMap<String, String>> dt = null;
    String sql;
    try {
        sql = "SELECT * FROM " + type;
        dt = DBUtil.getDataSet(sql);
        result = JSON.toJSONString(dt);
        System.out.println(result);
        response.setCharacterEncoding("utf-8");
        PrintWriter out = response.getWriter();

        out.print(result);
        out.close();
    } catch (Exception ex) {
        ex.printStackTrace();
    }
  }

  private static String getStudentInfo(HttpServletResponse response, String con, String page,
  String row) {
        String result = "";
        Map<String, Object> map = new HashMap<String, Object>();
        ArrayList<HashMap<String, String>> dt = null;
        String sql;

        int rowscount = 0;
        if (con == null)
```

```
            con = "";
        if (row == null)
            row = "0";
        if (page == null)
            page = "0";
        try {
            int r = Integer.parseInt(row);
            int p = Integer.parseInt(page);
            if (!con.equals("")) {
                sql = "select * from student where " + con;
            } else {
                sql = "select * from student";
            }
            dt = DBUtil.getDataSetInfoByCon(sql, r, p);
            rowscount = DBUtil.getRowCount(sql);
            map.put("total", rowscount);
            map.put("rows", dt);
            result = JSON.toJSONString(map);
            response.setCharacterEncoding("utf-8");
            PrintWriter out = response.getWriter();

            out.print(result);
            out.close();
        } catch (Exception ex) {
            ex.printStackTrace();
        }
        return result;
    }
}
```

ComboBox 初始化:

ComboBox 初始化:

```
private void initJson (HttpServletRequest request,HttpServletResponse response) {
        String result="";
        List<HashMap<String, String>> list = new ArrayList<HashMap<String,String>>();
        HashMap<String, String> hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "计算机学院");
        hashMap.put("instituteid", "计算机学院");
        list.add(hashMap);
        hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "艺术学院");
        hashMap.put("instituteid", "艺术学院");
        list.add(hashMap);
        hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "机械学院");
        hashMap.put("instituteid", "机械学院");
        list.add(hashMap);
        hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "社发学院");
        hashMap.put("instituteid", "社发学院");
        list.add(hashMap);
        hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "理学院");
        hashMap.put("instituteid", "理学院");
        list.add(hashMap);
        hashMap = new HashMap<String, String>();
        hashMap.put("institutename", "管理学院");
        hashMap.put("instituteid", "管理学院");
        list.add(hashMap);
        try {
            result=JSON.toJSONString(list);
            response.setCharacterEncoding("utf-8");
            PrintWriter out;
            out = response.getWriter();
            out.print(result);
            out.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
```

④ComboBox 配置：

```
$("#institute").combobox({
                url: 'SystemStudentService?caozuo=institute',
                valueField: "instituteid",
                textField: "institutename",
                panelHeight: 'auto'
            });
```

（2）将 ComboBox 组件的值提交到 Servlet 中；

```
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        doPost(request,response);
    }
```

获得选中 DataGrid 组件中某一行中的数据

```
//设置选中行事件
onClickRow: function(rowIndex, rowData){var row = $('#dg').datagrid('getSelected');
           if (row){
                     getdatagriddata(row);
           }
    },
});
 //提交行数据函数
function getdatagriddata(row) {
var params =
{itemid:row.itemid,productid:row.productid,listprice:row.listprice,unitcost:row.unitcos
```

```
t,attr1:row.attr1,status:row.status};
   var url = "/EasyUI/test"
   $.post(url, params, function(data){
   $("#getResponse").html(data); }, "json");
}
```

DataGrid 控件中应带有分页功能；

```
//本地分页显示设置
           var p = $('#dg').datagrid('getPager');
          $(p).pagination({
                 pageList: [5, 10, 15],//可以设置每页记录条数的列表
                 beforePageText: '第',//页数文本框前显示的汉字
                 afterPageText: '页    共 {pages} 页',
                 displayMsg: '当前显示 {from} - {to} 条记录   共 {total} 条记录',
                 total:data.length,
                 onSelectPage:function (pageNo, pageSize) {
                   var start = (pageNo - 1) * pageSize;
                   var end = start + pageSize;
                   $("#dg").datagrid("loadData", data.slice(start, end));
                   p.pagination('refresh', {
                     total:data.length,
                     pageNumber:pageNo
                   });
                  }
           });
```

4. 掌握 HTML 中的常用标记，表格、超链接、表单等。

课本！！

5. 掌握实际项目中的常见功能：登录实现（包括简单的界面）、具体功能模块的操作。

用户注册的前端 JSP 代码：

```
<%@ page language="java" import="java.util.*" pageEncoding="UTF-8"%>
<%
String path = request.getContextPath();
String basePath =
request.getScheme()+"://"+request.getServerName()+":"+request.getServerPort()+path+"/";
%>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
  <head>
    <base href="<%=basePath%>">

    <title>登录界面</title>
    <meta http-equiv="pragma" content="no-cache">
    <meta http-equiv="cache-control" content="no-cache">
    <meta http-equiv="expires" content="0">
    <meta http-equiv="keywords" content="keyword1,keyword2,keyword3">
    <meta http-equiv="description" content="This is my page">
    <!--
    <link rel="stylesheet" type="text/css" href="styles.css">
    -->
    <script language="JavaScript">
          function refreshcode(){

document.getElementById("verification").src="/MoocWebSys/ImgServlet?hehe="+Math.random(
);;
          }

    </script>
    <style type="text/css">
        #header{
              text-align: center;
               width: auto;
               height: 100px;
          }
          #container{
               position: absolute;
               left: 50%;
               top: 40%;
               width:800px;
               height:200px;
               margin-left:-100px;
               margin-top:-50px;
          }
        </style>
  </head>

  <body>

   <%!
        String isChecked = "";
        String cookieName = "userName";
        String cookiePwd = "pwd";
        String userName = "";
        String pwd = "";
    %>
    <%
        Cookie[] cookies = request.getCookies();
        if(cookies!=null)
        {
            for(int i=0;i<cookies.length;i++)
            {
                if(cookies[i].getName().equals(cookieName))
                {
                    userName = cookies[i].getValue();
                    isChecked = "checked";
                }
                if(cookies[i].getName().equals(cookiePwd))
                {
                    pwd = cookies[i].getValue();
                }
            }
        }
      %>
    <div id="header"><h1>MOOC 课程管理系统登录界面</h1></div>
    <div id="container">
       <form name="login" method="post" action="/MoocWebSys/LoginCheck">

                 用户名：<input type="text" name="userName" value=<%=userName %>><p>
                 密码：&nbsp<input type="password" name="password" value=<%=pwd %>><p>
                 验证码：<input type="text" name="ValCode">
               <img id="verification" src="/MoocWebSys/ImgServlet" WIDTH="80"
HEIGHT="20" onclick="refreshcode()" title="点击图像刷新验证码">
               <p>
                 保存用户名和密码<input type="checkbox" name="saveCookie" value="yes"
<%=isChecked%>>
               <p>
               <input type="submit" value="提交">
               <input type="reset" value="取消">
               <a href="register.jsp">注册账号</a>
               <a href="forget.jsp">找回密码</a>
        </form>

    <%
    //错误处理
       String msg1 = null;
       String msg = (String)request.getAttribute("msg");
       if(msg!=null&&msg.equals("fail"))
       {
          msg1 = (String)request.getAttribute("msgdetail");
          out.print("<font color="+"red"+" >"+msg1+"</font>");
       }
     %>
     </div>
  </body>
</html>
```

(3)后端 Servlet 代码：

```
package servlet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

import dbcp.JDao;

public class LoginCheck extends HttpServlet {

    public void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

        doPost(request, response);
    }

    public void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = request.getParameter("userName");
        String password = request.getParameter("password");
        String inputCode = request.getParameter("ValCode");
        HttpSession session = request.getSession();
        boolean loginok = false;
        JDao dao = new JDao();

        //Cookies 处理
        Cookie userCookie = new Cookie("userName", userName);
        Cookie pwdCookie = new Cookie("pwd", password);

    if(request.getParameter("saveCookie")!=null&&request.getParameter("saveCookie").equ
als("yes"))
        {
            userCookie.setMaxAge(7*24*60*60);
            pwdCookie.setMaxAge(7*24*60*60);
            userCookie.setPath("");
            userCookie.setDomain("");
            pwdCookie.setPath("");
            userCookie.setDomain("");
            System.out.println("cookie is saved");
        }else {
            userCookie.setMaxAge(0);
            pwdCookie.setMaxAge(0);
            userCookie.setPath("");
            userCookie.setDomain("");
            pwdCookie.setPath("");
            userCookie.setDomain("");
            System.out.println("cookie is delete");
        }

        response.addCookie(userCookie);
        response.addCookie(pwdCookie);

        //检测用户名密码
        try {
            loginok = dao.loginCheck(userName, password);
            String valCode = (String)request.getSession().getAttribute("Verification-
code");
            if (!valCode.equals(inputCode)) {
                request.setAttribute("msg", "fail");
                request.setAttribute("msgdetail", "验证码错误！");
                request.getRequestDispatcher("Login.jsp").forward(request, response);
                System.out.println("denglushibai");
            }

            if(loginok&&valCode.equals(inputCode))
            {
                session.setAttribute("userName", userName);
                request.setAttribute("msg", "success");
                request.getRequestDispatcher("Main.jsp").forward(request, response);
                System.out.println("dengluchenggong");
            }else {
                request.setAttribute("msg", "fail");
                request.setAttribute("msgdetail","用户名不存在或密码错误" );
                request.getRequestDispatcher("Login.jsp").forward(request, response);
                System.out.println("denglushibai");
            }
        } catch (Exception e) {
            // TODO: handle exception
        }
    }
}
```

6. 掌握 Session、Cookie 的使用和操作。

Session 相关操作

HttpSession session = request.getSession();//Servlet 中实例化 session 对象

session.setAttribute(K,V);//存入数据

V=session.getAttribute(K);//取出数据

session.invalidate();//手动销毁 session

Cookie 相关属性

name：Cookie 的名称；
value：Cookie 的值；
comment：Cookie 的注释；
domain：可以看到 Cookie 的域；
maxAge：Cookie 的失效时间；正值表示 Cookie 会在指定的时间后过期，负值表示浏览器关闭的时候过期，0 会导致 Cookie 被删除；
path：可以看到 Cookie 的 URL；
secure：是否需要使用安全连接来传输；
version：版本；
isHttpOnly：HttpOnly 的 Cookie 将不会暴露给客户端的脚本代码；
PS：需要注意的是，Cookie 的名称要符合标识符的命名规则，同时不允许为【Comment，Discard，Domain，Expires，Max-Age，Path，Secure，Version】这几个关键字，也不允许以“$”开头。

Cookie 的增删改查

```
//1.Cookie 创建后通过 HttpServletResponse 添加。
public static void addCookie(HttpServletResponse response, String name, String value, int
maxAge) {
        Cookie cookie = new Cookie(name, value);
        cookie.setPath("/");
        if (maxAge > 0) {
            cookie.setMaxAge(maxAge);
        }
        response.addCookie(cookie);
}
//2.Cookie 通过 HttpServletRequest 获取，如下获取全部 Cookie 并以 Map 形式存储。
private static Map<String, Cookie> readCookieMap(HttpServletRequest request) {
    Map<String, Cookie> cookieMap = new HashMap<>();
    Cookie[] cookies = request.getCookies();
    if (cookies != null) {
        for (Cookie cookie : cookies) {
            cookieMap.put(cookie.getName(), cookie);
        }
    }
    return cookieMap;
}
//3.删除 Cookie 的时候将 Cookie 的 MaxAge 置为 0 后重新添加到 HttpServletResponse 即可。
public static void deleteCookie(HttpServletRequest request, HttpServletResponse response,
String name) {
    Map<String, Cookie> cookieMap = readCookieMap(request);
    if (cookieMap.containsKey(name)) {
        Cookie cookie = cookieMap.get(name);
        cookie.setMaxAge(0);
        response.addCookie(cookie);
    }
}
```

实例：利用 Cookie 保存用户基本信息

```
//添加缓存
public String add_cookie(User user, HttpServletResponse response) throws UnsupportedEncoding
Exception {
    String username = user.getUserName();
    String userPassword = user.getUserPassword();

    //将用户名存入 cookie 并且设置 cookie 存在时长
    Cookie cookie_username = new Cookie("username", URLEncoder.encode(username,"utf-8"));
    cookie_username.setMaxAge(60*60*60);
    response.addCookie(cookie_username);

    //将密码存入 cookie 并且设置 cookie 存在时长
    Cookie cookie_userPassword = new Cookie("userPassword",URLEncoder.encode(userPassword,
    "utf-8"));
    cookie_userPassword.setMaxAge(60*60*60);
    response.addCookie(cookie_userPassword);

    return null;
}
//删除缓存
@RequestMapping("/del_cookie")
@ResponseBody
public String del_cookie(HttpServletRequest request,HttpServletResponse response){
    Cookie[] cookies = request.getCookies();
    if (cookies != null && cookies.length > 0) {
        for (Cookie cookie : cookies) {
            // 找到需要删除的 Cookie
            if("username".equals(cookie.getName())){
                // 设置生存期为 0
                cookie.setMaxAge(0);
                    // 设回 Response 中生效
                response.addCookie(cookie);
            }
            if("userPassword".equals(cookie.getName())){
                // 设置生存期为 0
                cookie.setMaxAge(0);
                // 设回 Response 中生效
                response.addCookie(cookie);
            }
        }
    }
    return null;
}
```

补充：

7. 掌握 JavaBean 的规范及编写。

1.公有无参构造方法，可以是编译器自动生成的默认构造方法;
2.公共setter方法和getter方法，使外部程序设置和获取JavaBean的属性

Java中的实体类要满足该规范，并且在写实体类时有如下几点建议:
1.尽量使用封装类型,因为它比基本类型多了null,尤其数据库中可以使用null,另外基本类型的默认值为0，包装类型的默认值为null
2.使用java.sql包下的日期,因为JDBC支持这样的日期类型

以员工Emp实体类为例，代码如下:

```
package entity;

import java.sql.Date;

public class Emp {

    private Integer empno;
    private String ename;
    private String job;
    private Integer mgr;
    private Date hiredate;
    private Double sal;
    private Double comm;
    private Integer deptno;

    public Emp(){}

    public Integer getEmpno() {
        return empno;
    }
    …
    public void setEmpno(Integer empno) {
        this.empno = empno;
    }
    …
}
```

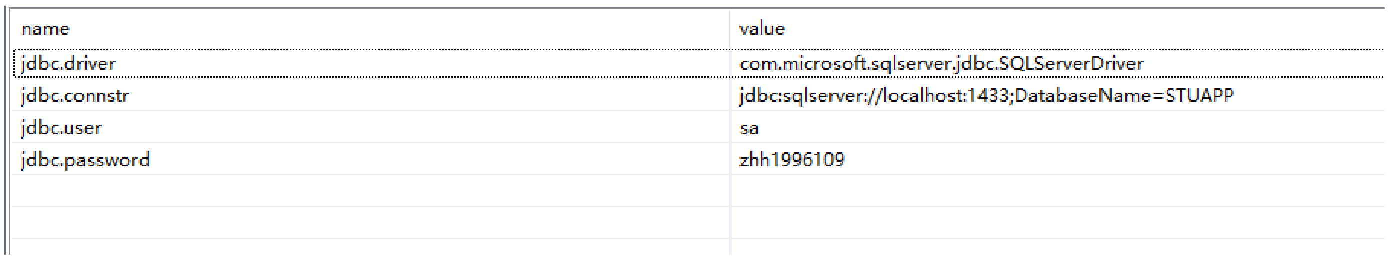
补充:

对数据库的访问使用 JavaBean

(1)说明:

1、在上一小节中使用了数据库连接池来连接数据库，这一小节实现使用 JavaBean 连接数据库并实现登录功能
2、与上一小节不同的是此小节用户点击登录以后表单提交至 loginCheck.jsp 中

(2)JavaBean 配置文件与类展示
配置文件:



name	value
jdbc.driver	com.microsoft.sqlserver.jdbc.SQLServerDriver
jdbc.connstr	jdbc:sqlserver://localhost:1433;DatabaseName=STUAPP
jdbc.user	sa
jdbc.password	zhh1996109

类 DBBean.java

```
package javabeans;
import java.sql.*;
import java.util.ResourceBundle;
public class DBBean {
    private String sDBDriver;
    private String sConnStr;
    private String user;
    private String password;
    Connection conn=null;
    ResultSet rs=null;

    public DBBean() {
        try {
         ResourceBundle bundle = ResourceBundle.getBundle("jdbc");
         sDBDriver = bundle.getString("jdbc.driver");
         sConnStr = bundle.getString("jdbc.connstr");
            user = bundle.getString("jdbc.user");
            password = bundle.getString("jdbc.password");

         Class.forName(sDBDriver);
           }
        catch (java.lang.ClassNotFoundException e)
        {
              System.err.println("dbcoursebean():"+e.getMessage());
         }
        try {
               conn=DriverManager.getConnection(sConnStr,user,password);

        }
        catch (SQLException ex)
        {
            System.err.println("aq.executeQuery:"+ex.getMessage());
         }

     }
    public ResultSet executeQuery(String sql)
    {
        rs=null;
        try {

         Statement stmt =conn.createStatement();
         rs=stmt.executeQuery(sql);

            }
         catch (SQLException ex)
         {
            System.err.println("aq.executeQuery:"+ex.getMessage());
          }
         return rs;
     }

public int executeUpdate(String sql)
    {
        int count = 0;
        try {

         Statement stmt =conn.createStatement();
         count = stmt.executeUpdate(sql);


            }
         catch (SQLException ex)
         {
            System.err.println("aq.executeUpdate:"+ex.getMessage());
          }
        return count;
       }

   public void rsclose()
    {
       try{
              rs.close();
       }
     catch (SQLException ex)
         {
            System.err.println("aq.executeQuery:"+ex.getMessage());
          }
    }
    public void connclose()
    {
         try{
            conn.close();
         }
         catch (SQLException ex)
         {
            System.err.println("aq.executeQuery:"+ex.getMessage());
         }
    }

}
```