# 数据库设计

学生表t\_student:

|  |  |  |  |
| --- | --- | --- | --- |
| 字段 | 名称 | 属性 | 备注 |
| id | 编号 | varchar | 主键 |
| cardNo |  | varchar |  |
| name |  | varchar |  |
| password |  | varchar |  |
| prefession |  | varchar |  |
| sex |  | varchar |  |

管理员表t\_manager:

|  |  |  |  |
| --- | --- | --- | --- |
| 字段 | 名称 | 属性 | 备注 |
| id | 编号 | varchar | 主键 |
| name |  | varchar |  |
| password |  | varchar |  |
| userName |  | varchar |  |

试卷表t\_paper:

|  |  |  |  |
| --- | --- | --- | --- |
| 字段 | 名称 | 属性 | 备注 |
| id | 编号 | int | 主键 |
| joinTime |  | datetime |  |
| paperName |  | varchar |  |

问题表t\_question:

|  |  |  |  |
| --- | --- | --- | --- |
| 字段 | 名称 | 属性 | 备注 |
| id | 编号 | varchar | 主键 |
| answer |  | varchar |  |
| joinTime |  | varchar |  |
| optionA |  | varchar |  |
| optionB |  | varchar |  |
| optionC |  | varchar |  |
| optionD |  | varchar |  |
| subject |  | varchar |  |
| type |  | varchar | 单选为”1“，多选为”2“ |
| paperId |  | varchar | 外键 |

考试表t\_exam:

|  |  |  |  |
| --- | --- | --- | --- |
| 字段 | 名称 | 属性 | 备注 |
| id | 编号 | varchar | 主键 |
| examDate |  | datetime |  |
| moreScore |  | int |  |
| Score |  | int |  |
| singleScore |  | int |  |
| paperId |  | int |  |
| studentId |  | varchar |  |

# 环境准备

步骤一：导入jar包

antlr-2.7.7.jar

commons-beanutils-1.8.0.jar

commons-collections-3.2.jar

commons-fileupload-1.2.2.jar

commons-io-2.0.1.jar

commons-lang-2.4.jar

commons-lang3-3.1.jar

commons-logging-1.1.1.jar

dom4j-1.6.1.jar

ezmorph-1.0.3.jar

freemarker-2.3.19.jar

hibernate-commons-annotations-4.0.4.Final.jar

hibernate-core-4.3.5.Final.jar

hibernate-jpa-2.1-api-1.0.0.Final.jar

jandex-1.1.0.Final.jar

javassist-3.11.0.GA.jar

javassist-3.18.1-GA.jar

jboss-logging-3.1.3.GA.jar

jboss-logging-annotations-1.2.0.Beta1.jar

jboss-transaction-api\_1.2\_spec-1.0.0.Final.jar

json-lib-2.2.3-jdk15.jar

jstl.jar

mysql-connector-java-3.1.12-bin.jar

ognl-3.0.6.jar

standard.jar

struts2-core-2.3.14.1.jar

xwork-core-2.3.14.1.jar

步骤二：配置web.xml

<?xml version=*"1.0"* encoding=*"UTF-8"*?>

<web-app xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"http://java.sun.com/xml/ns/javaee"* xsi:schemaLocation=*"http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app\_2\_5.xsd"* id=*"WebApp\_ID"* version=*"2.5"*>

<display-name>Exam</display-name>

<welcome-file-list>

<welcome-file>login.jsp</welcome-file>

</welcome-file-list>

<filter>

<filter-name>StrutsPrepareAndExecuteFilter</filter-name>

<filter-class>org.apache.struts2.dispatcher.ng.filter.StrutsPrepareAndExecuteFilter</filter-class>

</filter>

<filter-mapping>

<filter-name>StrutsPrepareAndExecuteFilter</filter-name>

<url-pattern>/\*</url-pattern>

</filter-mapping>

</web-app>

步骤三：配置hibernate.cfg.xml文件

<?xml version=*'1.0'* encoding=*'utf-8'*?>

<!DOCTYPE hibernate-configuration PUBLIC

"-//Hibernate/Hibernate Configuration DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">

<hibernate-configuration>

<session-factory>

<!--数据库连接设置 -->

<property name=*"connection.driver\_class"*>com.mysql.jdbc.Driver</property>

<property name=*"connection.url"*>jdbc:mysql://localhost:3306/db\_exam</property>

<property name=*"connection.username"*>root</property>

<property name=*"connection.password"*>123456</property>

<!-- 方言 -->

<property name=*"dialect"*>org.hibernate.dialect.MySQL5Dialect</property>

<!-- 把session绑定到当前线程中 -->

<property name=*"current\_session\_context\_class"*>thread</property>

<!-- 显示SQL -->

<property name=*"show\_sql"*>true</property>

<!-- 自动表更新 -->

<property name=*"hbm2ddl.auto"*>update</property>

<mapping class=*"com.yjy.model.Manager"*/>

<mapping class=*"com.yjy.model.Paper"*/>

<mapping class=*"com.yjy.model.Question"*/>

<mapping class=*"com.yjy.model.Student"*/>

<mapping class=*"com.yjy.model.Exam"*/>

</session-factory>

</hibernate-configuration>

# 学生登陆实现

步骤一：编写登陆界面

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"*

pageEncoding=*"utf-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>考生登录</title>

<link href=*"*${pageContext.request.contextPath}*/style/exam.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap-responsive.css"* rel=*"stylesheet"*>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/jQuery.js"*></script>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/bootstrap.js"*></script>

<script type=*"text/javascript"*>

**function** checkForm(){

**var** id=document.getElementById("id").value;

**var** password=document.getElementById("password").value;

**if**(id==**null** || id==""){

alert("准考证号不能为空！");

**return** **false**;

}

**if**(password==**null** || password==""){

alert("登录密码不能为空！");

**return** **false**;

}

**return** **true**;

}

</script>

</head>

<body>

<script type=*"text/javascript"*>

**if**('${error}'!=''){

alert('${error}');

}

</script>

<div align=*"center"* style="padding-top: *20px*;">

<form action=*"student!login"* method=*"post"* onsubmit="return checkForm()">

准考证号：<input type=*"text"* id=*"id"* name=*"student.id"* value=*"*${student.id }*"*/><br><br>

登录密码：<input type=*"password"* id=*"password"* name=*"student.password"* value=*"*${student.password }*"*/><br><br>

<input type=*"submit"* value=*"登录"* />&nbsp;&nbsp;&nbsp;&nbsp;<input type=*"reset"* value=*"重置"* />

</form>

</div>

</body>

</html>

步骤二：新建Student类，继承ActionSupport 并实现ServletRequestAware；添加login()方法

**public** String login()**throws** Exception{

HttpSession session = request.getSession();

Student currentUser = studentDao.login(student);

**if**(currentUser==**null**){

error="准考证号或密码错误";

**return** ***ERROR***;

}**else**{

session.setAttribute("currentUser", currentUser);

**return** ***SUCCESS***;

}

}

步骤三：新建StudentDao类，添加login()方法

**public** Student login(Student student)**throws** Exception{

Session session = HibernateUtil.*getSessionFactory*().getCurrentSession();

Transaction tran = session.beginTransaction();

Query query=session.createQuery("from Student as s where s.id=:id and s.password=:password");

query.setString("id", student.getId());

query.setString("password", student.getPassword());

Student resultStu = (Student)query.uniqueResult();

tran.commit();

**return** resultStu;

}

步骤三：新建HibernateUtil类，获取sessionFactory

**public** **class** HibernateUtil {

**private** **static** **final** SessionFactory ***sessionFactory*** = *buildSessionFactory*();

**private** **static** SessionFactory buildSessionFactory(){

Configuration configuration=**new** Configuration().configure();

ServiceRegistry serviceRegistry=**new** StandardServiceRegistryBuilder().applySettings(configuration.getProperties()).build();

**return** configuration.buildSessionFactory(serviceRegistry);

}

**public** **static** SessionFactory getSessionFactory(){

**return** ***sessionFactory***;

}

**public** **static** **void** main(String[] args) {

HibernateUtil.*getSessionFactory*();

}

}

步骤四：编辑struts.xml文件

<?xml version=*"1.0"* encoding=*"UTF-8"* ?>

<!DOCTYPE struts PUBLIC

"-//Apache Software Foundation//DTD Struts Configuration 2.3//EN"

"http://struts.apache.org/dtds/struts-2.3.dtd">

<struts>

<package name=*"studentInfo"* namespace=*"/"* extends=*"struts-default"*>

<action name=*"student"* class=*"com.yjy.action.StudentAction"*>

<result name=*"success"*>/main.jsp</result>

<result name=*"error"*>/login.jsp</result>

<result name=*"logout"* type=*"redirect"*>/login.jsp</result>

<result name=*"save"* type=*"redirectAction"*>student!list</result>

</action>

</package>

</struts>

步骤五：编辑主界面main.jsp

主界面

# 学生端主页设计实现

步骤一：编辑主界面main.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>主界面</title>

<link href=*"*${pageContext.request.contextPath}*/style/exam.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap-responsive.css"* rel=*"stylesheet"*>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/jQuery.js"*></script>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/bootstrap.js"*></script>

<script src=*"*${pageContext.request.contextPath}*/js/My97DatePicker/WdatePicker.js"*></script>

</head>

<%

String mainPage=(String)request.getAttribute("mainPage");

**if**(mainPage==**null** || mainPage.equals("")){

mainPage="common/default.jsp";

}

%>

<body>

<table width=*"1000px"* align=*"center"*>

<tr>

<td><jsp:include page=*"common/head.jsp"*></jsp:include></td>

</tr>

<tr>

<td><jsp:include page=*"common/menu.jsp"*></jsp:include></td>

</tr>

<tr>

<td><jsp:include page=*"*<%=mainPage %>*"*></jsp:include></td>

</tr>

<tr>

<td><jsp:include page=*"common/foot.jsp"*></jsp:include></td>

</tr>

</table>

</body>

</html>

步骤二：新建头文件head.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"* pageEncoding=*"utf-8"*%>

<div align=*"center"*>

<div style=*"background: url('*${pageContext.request.contextPath}*/image/banner.jpg');height:90px;width:1000px;float:right;"* >

<font style="float: *right*;padding: *65px 20px 20px 10px*;">欢迎：<strong>${currentUser.name }</strong></font>

</div>

</div>

步骤三：新建导航条menu.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"* pageEncoding=*"utf-8"*%>

<%@ taglib uri=*"http://java.sun.com/jsp/jstl/core"* prefix=*"c"*%>

<script type=*"text/javascript"*>

**function** logout(){

**if**(confirm("您确定要退出系统吗？")){

window.location.href="student!logout";

}

}

**function** logout2(){

**if**(confirm("您确定要退出系统吗？")){

window.location.href="manager!logout";

}

}

</script>

<div class=*"navbar"*>

<div class=*"navbar-inner"*>

<a class=*"brand"* href=*"main.jsp"*>首页</a>

<ul class=*"nav"*>

<c:choose>

<c:when test=*"*${currentUser.flag==1 }*"*>

<li><a href=*"*${pageContext.request.contextPath}*/student!list"*>考生信息管理</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/exam!list"*>考生成绩查询</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/paper!paperList"*>试卷管理</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/question!list"*>题目管理</a></li>

<li><a href=*"javascript:logout2()"*>退出系统</a></li>

</c:when>

<c:otherwise>

<li><a href=*"*${pageContext.request.contextPath}*/paper!list"*>在线考试</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/exam!getExams?s\_exam.student.id=*${currentUser.id}*"*>成绩查询</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/student!preUpdatePassword"*>修改密码</a></li>

<li><a href=*"javascript:logout()"*>退出系统</a></li>

</c:otherwise>

</c:choose>

</ul>

</div>

</div>

步骤五：新建foot.jsp文件

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"* pageEncoding=*"utf-8"*%>

<div align=*"center"*>

<div class=*"foot"*>Copyright © 2016-2017 Java学习学习 版权所有</div>

</div>

# 在线考试-选择试卷实现

步骤一：在menu.jsp中选择

<a href="${pageContext.request.contextPath}/paper!list">在线考试</a>

步骤二：新建PaperAction，继承ActionSupport,添加list()方法

**public** String list()**throws** Exception{

paperList=paperDao.getPapers();

mainPage="exam/selectPaper.jsp";

**return** ***SUCCESS***;

}

步骤三：新增PaperDao类，添加getPapers()方法

**public** List<Paper> getPapers()**throws** Exception{

Session session = HibernateUtil.*getSessionFactory*().getCurrentSession();

Transaction tran = session.beginTransaction();

Query query = session.createQuery("from Paper");

List<Paper> paperList = (List<Paper>) query.list();

tran.commit();

**return** paperList;

}

步骤四：编辑struts.xml文件

<action name=*"paper"* class=*"com.yjy.action.PaperAction"*>

<result name=*"success"*>/main.jsp</result>

<result name=*"save"* type=*"redirectAction"*>paper!paperList</result>

</action>

步骤五：编辑选择试卷界面selectPaper.jsp页面

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib uri=*"http://java.sun.com/jsp/jstl/core"* prefix=*"c"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

<script type=*"text/javascript"*>

**function** checkForm(){

**var** paperId=$("#paperId").val();

**if**(paperId==**null** || paperId==""){

alert("请选择考试试卷！");

**return** **false**;

}

**return** **true**;

}

</script>

</head>

<body>

<div align=*"center"* style="padding-top: *20px*;">

<form action=*"paper!getDetailPaper"* method=*"post"* onsubmit="return checkForm()">

请选择考试试卷：

<select id=*"paperId"* name=*"paperId"*>

<option value=*""*>请选择...</option>

<c:forEach var=*"paper"* items=*"*${paperList }*"*>

<option value=*"*${paper.id }*"*>${paper.paperName }</option>

</c:forEach>

</select><br><br>

<input type=*"submit"* class=*"btn btn-primary"* value=*"确定"*/> &nbsp;&nbsp;&nbsp;&nbsp;

<input type=*"button"* class=*"btn btn-primary"* value=*"返回"* onclick="javascript:history.back()"/>

</form>

</div>

</body>

</html>

# 在线考试-随机获取题目

步骤一：选择”考试试卷“后点击确定

步骤二：编辑PaperAction，添加getDetailPaper()方法

**public** String getDetailPaper() **throws** Exception{

paper=paperDao.getPaper(paperId);

Set<Question> questionList=paper.getQuestions();

Iterator<Question> it=questionList.iterator();

**while**(it.hasNext()){

Question q=it.next();

**if**("1".equals(q.getType())){

squestionList.add(q);

}**else**{

mquestionList.add(q);

}

}

squestionList=**this**.getRandowQuestion(squestionList, 3);

mquestionList=**this**.getRandowQuestion(mquestionList, 2);

mainPage="exam/paper.jsp";

**return** ***SUCCESS***;

}

步骤三：编辑PaperDao类，添加getPaper(paperId)方法

**public** Paper getPaper(String paperId)**throws** Exception{

Session session = HibernateUtil.*getSessionFactory*().getCurrentSession();

Transaction tran = session.beginTransaction();

Paper paper = (Paper) session.get(Paper.**class**, Integer.*parseInt*(paperId));

tran.commit();

**return** paper;

}

步骤四：编辑PaperAction类，随机选取单/多选题

//随机获取题目

**private** List<Question> getRandowQuestion(List<Question> questionList,**int** num){

List<Question> resultList=**new** ArrayList<Question>();

Random random=**new** Random();

**if**(num>0){

**for**(**int** i=1;i<=num;i++){

**int** n=random.nextInt(questionList.size());

Question q=questionList.get(n);

**if**(resultList.contains(q)){

i--;

}**else**{

resultList.add(q);

}

}

}

**return** resultList;

}

步骤五：编辑paper.jsp页面

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"*

pageEncoding=*"utf-8"*%>

<%@ taglib uri=*"http://java.sun.com/jsp/jstl/core"* prefix=*"c"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<div class=*"data\_list"*>

<div class=*"data\_info"*>

<p>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;考试时间：<strong>20分钟</strong>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

计时：&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<font id=*"useTime"* style="font-weight: *bold*;"></font>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;

剩余时间：&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<font id=*"remainTime"* style="font-weight: *bold*;"></font></p>

<hr/>

<p class=*"examTitle"*>${paper.paperName}&nbsp;&nbsp;考试卷</p>

<p class=*"examScoreInfo"*>(&nbsp;满分120&nbsp;&nbsp;单选题60分&nbsp;&nbsp;多选题60分&nbsp;)</p>

</div>

<div class=*"data\_exam\_content"*>

<form id=*"myForm"* action=*"exam!add"* method=*"post"*>

<input type=*"hidden"* name=*"exam.student.id"* value=*"*${currentUser.id }*"*/>

<input type=*"hidden"* name=*"exam.paper.id"* value=*"*${paper.id }*"*/>

<strong><big>一，单选题</big></strong>(每题20分，答错不得分)<br/><br/>

<c:forEach var=*"s"* items=*"*${squestionList}*"* varStatus=*"status"*>

<strong>[&nbsp;${status.index+1 }&nbsp;]&nbsp;${s.subject }</strong><br/><br/>

<label class=*"radio"*>

<input type=*"radio"* name=*"id-r-*${s.id }*"* value=*"A"*/>

${s.optionA }

</label>

<label class=*"radio"*>

<input type=*"radio"* name=*"id-r-*${s.id }*"* value=*"B"*/>

${s.optionB }

</label>

<label class=*"radio"*>

<input type=*"radio"* name=*"id-r-*${s.id }*"* value=*"C"*/>

${s.optionC }

</label>

<label class=*"radio"*>

<input type=*"radio"* name=*"id-r-*${s.id }*"* value=*"D"*/>

${s.optionD }

</label>

<br/>

</c:forEach>

<br/>

<strong><big>一，多选题</big></strong>(每题30分，答错不得分)<br/><br/>

<c:forEach var=*"m"* items=*"*${mquestionList}*"* varStatus=*"status"*>

<strong>[&nbsp;${status.index+1 }&nbsp;]&nbsp;${m.subject }</strong><br/><br/>

<label class=*"checkbox"*>

<input type=*"checkbox"* name=*"id-c-*${m.id }*"* value=*"A"*/>

${m.optionA }

</label>

<label class=*"checkbox"*>

<input type=*"checkbox"* name=*"id-c-*${m.id }*"* value=*"B"*/>

${m.optionB }

</label>

<label class=*"checkbox"*>

<input type=*"checkbox"* name=*"id-c-*${m.id }*"* value=*"C"*/>

${m.optionC }

</label>

<label class=*"checkbox"*>

<input type=*"checkbox"* name=*"id-c-*${m.id }*"* value=*"D"*/>

${m.optionD }

</label>

<br/>

</c:forEach>

<button class=*"btn btn-primary"* type=*"submit"*>交卷</button>

</form>

</div>

</div>

</body>

</html>

# 在线考试-考试时间倒计时设定

计时：<font id="useTime" style="font-weight: bold;"></font>

剩余时间：<font id="remainTime" style="font-weight: bold;"></font>

<script type=*"text/javascript"*>

**var** examTime=20\*60;

**var** useTime=0,remainTime=examTime;

**function** showCount(){

**if**(remainTime==0){

document.getElementById("myForm").submit();

}

useTime+=1;

remainTime-=1;

**var** hourU=Math.floor(useTime/3600);

**var** minuteU=Math.floor((useTime-hourU\*3600)/60);

**var** secondU=Math.floor(useTime-hourU\*3600-minuteU\*60);

document.getElementById("useTime").innerHTML=format(hourU)+":"+format(minuteU)+":"+format(secondU);

**var** hourR=Math.floor(remainTime/3600);

**var** minuteR=Math.floor((remainTime-hourR\*3600)/60);

**var** secondR=Math.floor(remainTime-hourR\*3600-minuteR\*60);

document.getElementById("remainTime").innerHTML=format(hourR)+":"+format(minuteR)+":"+format(secondR);

}

**function** format(timeNumber){

**if**(timeNumber<10){

**return** "0"+timeNumber;

}**else**{

**return** timeNumber;

}

}

window.setInterval("showCount()", 1000);

</script>

# 在线考试-提交试卷

提交试卷，计算分数实现

步骤一：新建ExamAction类，继承ActionSupport实现ServletRequestAware，添加add()方法

**public** String add()**throws** Exception{

Map<String, String[]> keyMap = request.getParameterMap();

Iterator<Entry<String, String[]>> it2 = keyMap.entrySet().iterator();

**int** totalScore = 0;

**int** singleScore = 0;

**int** moreScore = 0;

**while** (it2.hasNext()) {

Entry<String, String[]> entry = it2.next();

String keyStr = entry.getKey();

String values[] = entry.getValue();

String key;

String value = "";

**if** (keyStr.equals("exam.student.id") || keyStr.equals("exam.paper.id")) {

**continue**;

}

**if** (keyStr.split("-")[1].equals("r")) { // 单选题目

key = keyStr.split("-")[2];

value = values[0];

singleScore += **this**.calScore(key, value, "1");

} **else** { // 多选题目

key = keyStr.split("-")[2];

**for** (String s : values) {

value += s + ",";

}

value = value.substring(0, value.length() - 1);

moreScore += **this**.calScore(key, value, "2");

}

}

totalScore = singleScore + moreScore;

exam.setSingleScore(singleScore);

exam.setMoreScore(moreScore);

exam.setScore(totalScore);

exam.setExamDate(**new** Date());

examDao.saveExam(exam);

mainPage = "exam/examResult.jsp";

**return** ***SUCCESS***;

}

步骤二：新增ExamDao类，添加saveExam(exam)方法

**public** **void** saveExam(Exam exam)**throws** Exception{

Session session=HibernateUtil.*getSessionFactory*().getCurrentSession();

Transaction tran = session.beginTransaction();

session.merge(exam);

tran.commit();

}

步骤三：添加examResult.jsp显示成绩页面

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<p class=*"examResult"* align=*"center"*>

试卷已提交，您本次考试的成绩为：<font color=*"red"*>${exam.score }</font>分；

</p>

</body>

</html>

# 学生成绩查询实现

点击menu.jsp页面中按钮：

<a href="${pageContext.request.contextPath}/exam!getExams?s\_exam.student.id= ${currentUser.id}">成绩查询</a>

步骤一：新增ExamAction类，继承ActionSupport类，实现ServletRequestAware；添加getExams()方法

**public** String getExams()**throws** Exception{

examList=examDao.getExams(s\_exam,**null**);

mainPage="exam/myExam.jsp";

**return** ***SUCCESS***;

}

步骤二：编辑ExamDao类，添加getExam()方法

**public** List<Exam> getExams(Exam s\_exam,PageBean pageBean) **throws** Exception{

Session session = HibernateUtil.*getSessionFactory*().getCurrentSession();

Transaction tran = session.beginTransaction();

StringBuffer hql = **new** StringBuffer("from Exam exam");

**if** (s\_exam.getStudent() != **null** && StringUtil.*isNotEmpty*(s\_exam.getStudent().getId())) {

hql.append(" and exam.student.id='" + s\_exam.getStudent().getId() + "'");

}

**if** (s\_exam.getStudent() != **null** && StringUtil.*isNotEmpty*(s\_exam.getStudent().getName())) {

hql.append(" and exam.student.name like '%" + s\_exam.getStudent().getName() + "%'");

}

Query query = session.createQuery(hql.toString().replaceFirst("and", "where"));

**if** (pageBean != **null**) {

query.setFirstResult(pageBean.getStart());

query.setMaxResults(pageBean.getPageSize());

}

@SuppressWarnings("unchecked")

List<Exam> examList = query.list();

tran.commit();

**return** examList;

}

步骤三：添加myExam.jsp页面

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib uri=*"http://java.sun.com/jsp/jstl/core"* prefix=*"c"*%>

<%@ taglib prefix=*"fmt"* uri=*"http://java.sun.com/jsp/jstl/fmt"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<div class=*"data\_list"*>

<div class=*"data\_info"*>

<p>${currentUser.name }&nbsp;成绩列表</p>

</div>

<div class=*"data\_content"*>

<table class=*"table table-bordered table-hover"*>

<tr>

<th>序号</th>

<th>试卷名称</th>

<th>考试日期</th>

<th>单选题得分</th>

<th>多选题得分</th>

<th>总分</th>

</tr>

<c:forEach var=*"exam"* items=*"*${examList }*"* varStatus=*"status"*>

<tr>

<td>${status.index+1 }</td>

<td>${exam.paper.paperName }</td>

<td><fmt:formatDate value=*"*${exam.examDate }*"* type=*"date"* pattern=*"yyyy-MM-dd"*/></td>

<td>${exam.singleScore }</td>

<td>${exam.moreScore }</td>

<td><font color=*"red"*>${exam.score }</font></td>

</tr>

</c:forEach>

</table>

</div>

</div>

</body>

</html>

# 学生密码修改

点击menu.jsp页面中按钮：

<a href="${pageContext.request.contextPath}/student!preUpdatePassword">修改密码</a>

步骤一：编辑StudentAction类，添加preUpdatePassword()方法

**public** String preUpdatePassword() **throws** Exception{

mainPage="student/updatePassword.jsp";

**return** ***SUCCESS***;

}

步骤二：添加updatePassword.jsp页面

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"*

pageEncoding=*"utf-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

<script type=*"text/javascript"*>

**function** checkForm(){

**var** oldPassword=$("#oldPassword").val();

**var** newPassword=$("#newPassword").val();

**var** newPassword2=$("#newPassword2").val();

**if**(oldPassword==**null** || oldPassword==""){

alert("请输入原密码！");

**return** **false**;

}

**if**(oldPassword!='${currentUser.password}'){

alert("原密码错误，请重新输入！");

**return** **false**;

}

**if**(newPassword==**null** || newPassword==""){

alert("请输入新密码！");

**return** **false**;

}

**if**(newPassword2==**null** || newPassword2==""){

alert("请输入确认新密码！");

**return** **false**;

}

**if**(newPassword!=newPassword2){

alert("确认新密码填写错误，请重新输入！");

**return** **false**;

}

**return** **true**;

}

</script>

</head>

<body>

<div class=*"data\_list"*>

<div class=*"data\_info"*>

<p>修改个人密码</p>

</div>

<div class=*"data\_content"*>

<form action=*"student!updatePassword"* method=*"post"* onsubmit="return checkForm()">

<table width=*"40%"* align=*"center"*>

<tr>

<td><label>用户名：</label></td>

<td>

<input type=*"text"* value=*"*${currentUser.id }*"* name=*"student.id"* readonly=*"readonly"* />

</td>

</tr>

<tr>

<td><label>原密码：</label></td>

<td>

<input type=*"password"* id=*"oldPassword"*/>

</td>

</tr>

<tr>

<td><label>新密码：</label></td>

<td>

<input type=*"password"* id=*"newPassword"* name=*"student.password"*/>

</td>

</tr>

<tr>

<td><label>确认新密码：</label></td>

<td>

<input type=*"password"* id=*"newPassword2"* />

</td>

</tr>

<tr>

<td colspan=*"2"*>&nbsp;</td>

</tr>

<tr>

<td colspan=*"2"*>

<button class=*"btn btn-primary"* type=*"submit"*>修改密码</button>

</td>

</tr>

</table>

</form>

</div>

</div>

</body>

</html>

步骤三：编辑StudentAction类，添加updatePassword()方法

**public** String updatePassword() **throws** Exception{

Student s=studentDao.getStudentById(student.getId());

s.setPassword(student.getPassword());

studentDao.saveStudent(s);

mainPage="student/updateSuccess.jsp";

**return** ***SUCCESS***;

}

步骤四：新建updateSuccess.jsp页面

<font color="red">密码修改成功，下一次登录生效！</font>

# 学生安全退出

点击按钮：<a href="javascript:logout()">退出系统</a>

**function** logout(){

**if**(confirm("您确定要退出系统吗？")){

window.location.href="student!logout";

}

}

步骤一：编辑StudentAction类，添加logout()方法

**public** String logout()**throws** Exception{

request.getSession().invalidate();

**return** "logout";

}

步骤二：编辑struts.xml文件

<result name="logout" type="redirect">/login.jsp</result>

# 管理员登录实现

步骤一：编写登录页面login2.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=utf-8"*

pageEncoding=*"utf-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${pageContext.request.contextPath}*/style/exam.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap.css"* rel=*"stylesheet"*>

<link href=*"*${pageContext.request.contextPath}*/bootstrap/css/bootstrap-responsive.css"* rel=*"stylesheet"*>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/jQuery.js"*></script>

<script src=*"*${pageContext.request.contextPath}*/bootstrap/js/bootstrap.js"*></script>

<script type=*"text/javascript"*>

**function** checkForm(){

**var** userName=document.getElementById("userName").value;

**var** password=document.getElementById("password").value;

**if**(userName==**null** || userName==""){

alert("用户名不能为空！");

**return** **false**;

}

**if**(password==**null** || password==""){

alert("密码不能为空！");

**return** **false**;

}

**return** **true**;

}

**function** resetValue(){

document.getElementById("userName").value="";

document.getElementById("password").value="";

}

</script>

</head>

<body>

<div align=*"center"* style="padding-top: *20px*;">

<form action=*"manager!login"* method=*"post"* onsubmit="return checkForm()">

账&nbsp;&nbsp;号：<input type=*"text"* id=*"userName"* name=*"manager.userName"* value=*"*${manager.userName }*"*/><br><br>

密&nbsp;&nbsp;码：<input type=*"password"* id=*"password"* name=*"manager.password"* value=*"*${manager.password }*"*/><br><br>

<input type=*"submit"* value=*"登录"* />&nbsp;&nbsp;&nbsp;&nbsp;<input type=*"reset"* value=*"重置"* />

</form>

</div>

<script>

**if**('${error}'!=''){

alert('${error}');

}

</script>

</body>

</html>

步骤二：新建ManagerAction类，继承ActionSupport类，实现ServletRequestAware接口，添加login()方法

**public** String login()**throws** Exception{

HttpSession session=request.getSession();

Manager currentUser=managerDao.login(manager);

**if**(currentUser==**null**){

error="用户名或密码错误";

**return** ***ERROR***;

}**else**{

session.setAttribute("currentUser", currentUser);

**return** ***SUCCESS***;

}

}

# 考生信息管理-考生信息查询

## Menu.jsp数据设置

<c:choose>

<c:when test=*"*${currentUser.flag==1 }*"*>

<li><a href=*"*${pageContext.request.contextPath}*/student!list"*>考生信息管理</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/exam!list"*>考生成绩查询</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/paper!paperList"*>试卷管理</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/question!list"*>题目管理</a></li>

<li><a href=*"javascript:logout2()"*>退出系统</a></li>

</c:when>

<c:otherwise>

<li><a href=*"*${pageContext.request.contextPath}*/paper!list"*>在线考试</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/exam!getExams?s\_exam.student.id=*${currentUser.id}*"*>成绩查询</a></li>

<li><a href=*"*${pageContext.request.contextPath}*/student!preUpdatePassword"*>修改密码</a></li>

<li><a href=*"javascript:logout()"*>退出系统</a></li>

</c:otherwise>

</c:choose>

## 考生信息管理- 考生信息查询实现

点击按钮：

<a href="${pageContext.request.contextPath}/student!list">考生信息管理</a>

步骤一：编辑StudentAction类，添加list()方法

**public** String list()**throws** Exception{

HttpSession session = request.getSession();

**if** (StringUtil.*isEmpty*(page)) {

page = "1";

}

**if** (s\_student == **null**) {

Object o = session.getAttribute("s\_student");

**if** (o != **null**) {

s\_student = (Student) o;

} **else** {

s\_student = **new** Student();

}

} **else** {

session.setAttribute("s\_student", s\_student);

}

PageBean pageBean = **new** PageBean(Integer.*parseInt*(page), 3);

studentList = studentDao.getStudents(s\_student, pageBean);

total = studentDao.studentCount(s\_student);

pageCode = PageUtil.*genPagination*(request.getContextPath() + "/student!list", total, Integer.*parseInt*(page), 3);

mainPage = "student/studentList.jsp";

**return** ***SUCCESS***;

}

步骤二：编辑StudentDao类，添加getStudents 方法

**public** List<Student> getStudents(Student s\_student,PageBean pageBean)**throws** Exception{

Session session=HibernateUtil.*getSessionFactory*().getCurrentSession();

session.beginTransaction();

StringBuffer hql=**new** StringBuffer("from Student");

**if**(StringUtil.*isNotEmpty*(s\_student.getId())){

hql.append(" and id like '%"+s\_student.getId()+"%'");

}

**if**(StringUtil.*isNotEmpty*(s\_student.getName())){

hql.append(" and name like '%"+s\_student.getName()+"%'");

}

Query query=session.createQuery(hql.toString().replaceFirst("and", "where"));

**if**(pageBean!=**null**){

query.setFirstResult(pageBean.getStart());

query.setMaxResults(pageBean.getPageSize());

}

@SuppressWarnings("unchecked")

List<Student> studentList=(List<Student>)query.list();

session.getTransaction().commit();

**return** studentList;

}

步骤三：编写学生显示页面

# 考生信息管理-分页查询

步骤一：新建分页类PageBean

**public** **class** PageBean {

**private** **int** page; // 第几页

**private** **int** pageSize; // 每页记录数

**private** **int** start; // 起始记录数

...

**public** **int** getStart() {

**return** (page-1)\*pageSize;

}

}

步骤二：新建PageUtil类，用来显示分页导航条

**public** **class** PageUtil {

**public** **static** String genPagination(String targetUrl,**int** totalNum,**int** currentPage,**int** pageSize){

**int** totalPage = totalNum % pageSize == 0 ? totalNum / pageSize : totalNum / pageSize + 1;

StringBuffer pageCode = **new** StringBuffer();

pageCode.append("<li><a href='" + targetUrl + "?page=1'>首页</a></li>");

**if** (currentPage == 1) {

pageCode.append("<li class='disabled'><a href='#'>上一页</a></li>");

} **else** {

pageCode.append("<li><a href='" + targetUrl + "?page=" + (currentPage - 1) + "'>上一页</a></li>");

}

**for** (**int** i = currentPage - 2; i <= currentPage + 2; i++) {

**if** (i < 1 || i > totalPage) {

**continue**;

}

**if** (i == currentPage) {

pageCode.append("<li class='active'><a href='#'>" + i + "</a></li>");

} **else** {

pageCode.append("<li><a href='" + targetUrl + "?page=" + i + "'>" + i + "</a></li>");

}

}

**if** (currentPage == totalPage) {

pageCode.append("<li class='disabled'><a href='#'>下一页</a></li>");

} **else** {

pageCode.append("<li><a href='" + targetUrl + "?page=" + (currentPage + 1) + "'>下一页</a></li>");

}

pageCode.append("<li><a href='" + targetUrl + "?page=" + totalPage + "'>尾页</a></li>");

**return** pageCode.toString();

}

}

## 考生信息加条件查询实现

将查询条件存放到session域：

**if** (s\_student == **null**) { //用来查询条件的显示

Object o = session.getAttribute("s\_student");

**if** (o != **null**) {

s\_student = (Student) o;

} **else** {

s\_student = **new** Student();

}

} **else** {

session.setAttribute("s\_student", s\_student);

}

## 考生信息分页查询实现

pageCode = PageUtil.genPagination(request.getContextPath() + "/student!list", total, Integer.parseInt(page), 3);

# 考生信息管理- 添加实现

该功能与修改学生相差一个id值

点击按钮：

<button style="float: right;margin-bottom: 8px;" class="btn btn-mini btn-primary" type="button" onclick="javascript:window.location='student!preSave'">添加考生信息</button>

步骤一：编辑StudentAction类，添加preSave()方法

**public** String preSave()**throws** Exception{

**if**(StringUtil.*isNotEmpty*(id)){

student=studentDao.getStudentById(id);

title="修改学生信息";

}**else**{

title="添加学生信息";

}

mainPage="student/studentSave.jsp";

**return** ***SUCCESS***;

}

# 考生信息管理-修改删除实现

# 考生成绩查询

# 试卷管理-查询删除实现

# 试卷管理-添加和修改实现

# 题目管理-分页查询实现

# 题目管理- 详细和删除实现

# 题目管理-添加和修改实现