day41-综合实战第一天

学习目标

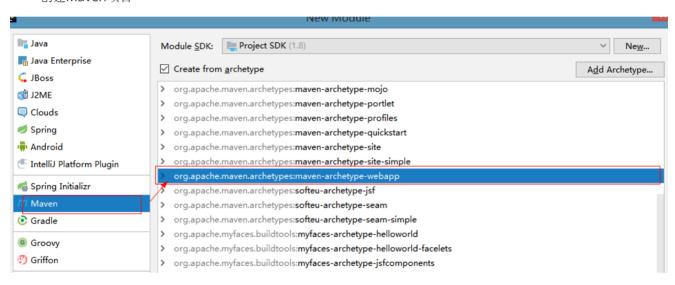
- 1. 能够完成用户注册案例
- 2. 能够完成用户登录与退出案例
- 3. 可以实现BaseServlet优化请求处理

项目的环境搭建

一,项目环境的搭建

1.创建Maven项目

• 创建Maven项目



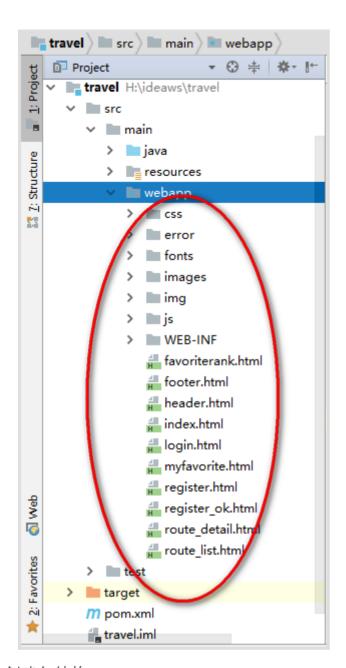
2.添加坐标依赖

```
<dependencies>
    <dependency>
        <groupId>junit
        <artifactId>junit</artifactId>
        <version>3.8.1
        <scope>test</scope>
    </dependency>
    <!--servlet-->
    <dependency>
        <groupId>javax.servlet
        <artifactId>javax.servlet-api</artifactId>
        <version>3.1.0
        <scope>provided</scope>
    </dependency>
    <!--mysql驱动-->
    <dependency>
        <groupId>mysql</groupId>
        <artifactId>mysql-connector-java</artifactId>
        <version>5.1.26
        <scope>compile</scope>
    </dependency>
    <!--c3p0连接池-->
    <dependency>
        <groupId>c3p0</groupId>
        <artifactId>c3p0</artifactId>
        <version>0.9.1.2
    </dependency>
    <!--jdbcTemplate-->
    <dependency>
        <groupId>org.springframework
        <artifactId>spring-core</artifactId>
        <version>4.1.2.RELEASE
        <scope>compile</scope>
    </dependency>
    <dependency>
        <groupId>org.springframework
        <artifactId>spring-jdbc</artifactId>
        <version>4.1.2.RELEASE
        <scope>compile</scope>
    </dependency>
    <dependency>
        <groupId>org.springframework
        <artifactId>spring-tx</artifactId>
        <version>4.1.2.RELEASE
        <scope>compile</scope>
    </dependency>
    <dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-beans</artifactId>
        <version>4.1.2.RELEASE
        <scope>compile</scope>
    </dependency>
    <dependency>
```

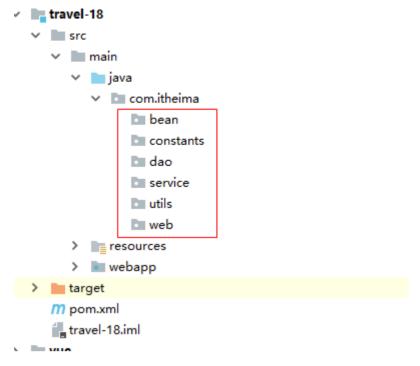
```
<groupId>commons-logging
       <artifactId>commons-logging</artifactId>
       <version>1.1.1
       <scope>compile</scope>
   </dependency>
   <!--beanUtils-->
   <dependency>
       <groupId>commons-beanutils
       <artifactId>commons-beanutils</artifactId>
       <version>1.9.2
       <scope>compile</scope>
   </dependency>
   <!--jackson-->
   <dependency>
       <groupId>com.fasterxml.jackson.core
       <artifactId>jackson-databind</artifactId>
       <version>2.3.3
   </dependency>
   <dependency>
       <groupId>com.fasterxml.jackson.core
       <artifactId>jackson-core</artifactId>
       <version>2.3.3
   </dependency>
   <dependency>
       <groupId>com.fasterxml.jackson.core
       <artifactId>jackson-annotations</artifactId>
       <version>2.3.3
   </dependency>
   <!--javaMail-->
   <dependency>
       <groupId>javax.mail
       <artifactId>javax.mail-api</artifactId>
       <version>1.5.6
   </dependency>
   <dependency>
       <groupId>com.sun.mail
       <artifactId>javax.mail</artifactId>
       <version>1.5.3
   </dependency>
   <!--jedis-->
   <dependency>
       <groupId>redis.clients/groupId>
       <artifactId>jedis</artifactId>
       <version>2.7.0
   </dependency>
</dependencies>
```

3.导入页面

将"资料/01-静态页面"导入到项目的webapp目录下,如图

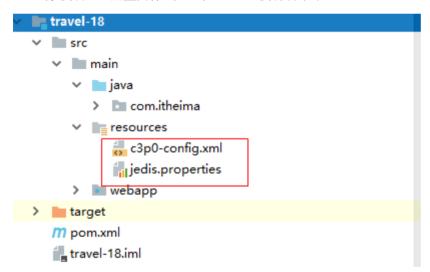


4.创建包结构



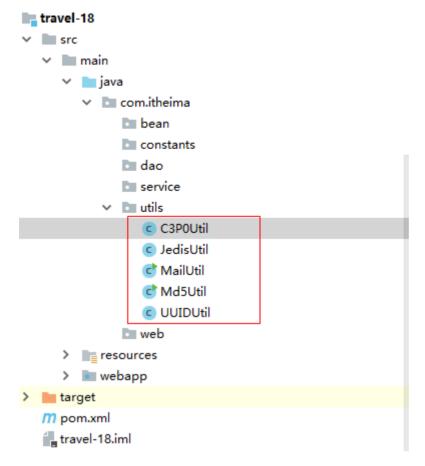
5. 导入配置文件

• 将"资料/02-配置文件"导入到resource资源目录中



6. 导入工具类

• 将"资料/03-工具类"导入utils包下



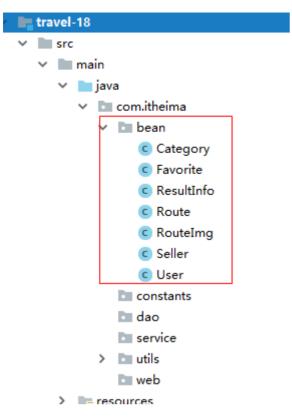
7导入数据库脚本

到mysql数据库执行"资料/04-数据库脚本",表之间的关系如下图



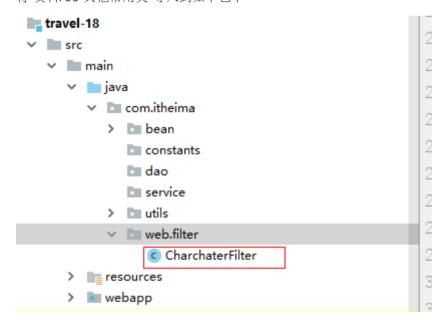
8 导入/创建实体

将"资料/05-实体类"打入到model包中



9 导入/创建其它公共类

将"资料/06-其他常用类"导入到如下包中



二,BaseServlet的抽取【重点】

1.BaseServlet的分析

传统方式的开发一个请求对应一个Servlet:这样的话会导致一个模块的Servlet过多,导致整个项目的Servlet都会很多. 能不能做一个处理?让一个模块都用一个Servlet处理请求. 用户模块, 创建userServlet

注册:http://localhost:8080/day31/userServlet?method=regist

登录:http://localhost:8080/day31/userServlet?method=login

• 以"模块为单位"创建Servlet的方式

```
class UserServlet extend HttpServlet{
    ... doGet(HttpServletRequest request, HttpServletResponse response){
       //1. 获得method请求参数的值
       String methodStr = request.getParameter("method");
       //2. 判断对应的是哪一种请求(注册, 登录还是其它)
       if("regist".equal(methodStr)){
           //注册
           regist(request, response);
       }else if("login".equal(methodStr)){
           //登录
           login(request, response);
       }else if("active".equal(methodStr)){
           //激活
           active(request, response);
       }
       . . . . .
   }
   public void regist(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
    public void login(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
   public void active(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
}
```

发现在上面的doGet方法里面,有大量的if语句,能不能不写if语句

注册:http://localhost:8080/day31/userServlet?method=regist

登录:http://localhost:8080/day31/userServlet?method=login

激活:http://localhost:8080/day31/userServlet?method=active

• 优化后

```
class UserServlet extend HttpServlet{
   //1. 判断对应的是哪一个方法 2. 执行该方法
   ... doGet(HttpServletRequest request, HttpServletResponse response){
       //1. 获得method请求参数的值(方法名) eg: regist
       String methodStr = request.getParameter("method");
       //2. 获得字节码
       Class clazz = this.getClass();
       //3. 根据方法名 反射获得对应的method方法对象
       Method method =
clazz.getMethod(methodStr,HttpServletRequest.class,HttpServletResponse.class);
       //4. 让该方法执行
       method.invoke(this,request,response);
   }
   public void regist(HttpServletRequest request, HttpServletResponse response){
      //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
    public void login(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   public void active(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
      //3. 分发转向
}
商品模块 ProductServlet
   添加商品:http://localhost:8080/day31/productServlet?method=addProduct
   展示所有的商品:http://localhost:8080/day31/productServlet?method=showAll
   删除商品:http://localhost:8080/day31/productServlet?method=delete
class ProductServlet extend HttpServlet{
   //1. 判断对应的是哪一个方法 2. 执行该方法
   ... doGet(HttpServletRequest request, HttpServletResponse response){
       //1. 获得method请求参数的值(方法名)
       String methodStr = request.getParameter("method");
       //2. 获得字节码
       Class clazz = this.getClass();
       //3. 根据方法名 反射获得对应的method方法对象
       Method method =
clazz.getMethod(methodStr,HttpServletRequest.class,HttpServletResponse.class);
       //4. 让该方法执行
       method.invoke(this,request,response);
```

```
}
   public void addProduct(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
    public void showAll(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   public void delete(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
}
订单模块 OrderServlet
   生成订单:http://localhost:8080/day31/orderServlet?method=saveOrder
   展示所有的订单:http://localhost:8080/day31/orderServlet?method=findAll
class OrderServlet extend HttpServlet{
   //1. 判断对应的是哪一个方法 2. 执行该方法
   ... doGet(HttpServletRequest request, HttpServletResponse response){
       //1. 获得method请求参数的值(方法名)
       String methodStr = request.getParameter("method");
       //2. 获得字节码
       Class clazz = this.getClass();
       //3. 根据方法名 反射获得对应的method方法对象
       Method method =
clazz.getMethod(methodStr,HttpServletRequest.class,HttpServletResponse.class);
       //4. 让该方法执行
       method.invoke(this,request,response);
   }
   public void saveOrder(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
    public void findAll(HttpServletRequest request, HttpServletResponse response){
```

```
//1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
}
 商品模块 ProductServlet
   添加商品:http://localhost:8080/day31/productServlet?method=addProduct
    展示所有的商品:http://localhost:8080/day31/productServlet?method=showAll
    删除商品:http://localhost:8080/day31/productServlet?method=delete
class ProductServlet extend BaseServlet{
   public void addProduct(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
    public void showAll(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   public void delete(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
       //3. 分发转向
   }
}
```

• 每一个模块对应一个Servlet,发现doGet()方法里面,代码都是重复的,所以抽取一个通用的BaseServlet基类, 让 各个模块Servlet继承BaseServlet.通用的BaseServlet 好处: 少些代码, 把公共的代码抽取

```
class BaseServlet extend HttpServlet{
       //1. 判断对应的是哪一个方法 2. 执行该方法
   ... service(HttpServletRequest request, HttpServletResponse response){
       //1. 获得method请求参数的值(方法名) eg: regist
       String methodStr = request.getParameter("method");
       //2. 获得字节码
       Class clazz = this.getClass();
       //3. 根据方法名 反射获得对应的method方法对象
       Method method =
clazz.getMethod(methodStr,HttpServletRequest.class,HttpServletResponse.class);
       //4. 让该方法执行
       method.invoke(this,request,response);
   }
}
eg: 注册:http://localhost:8080/day31/userServlet?method=regist
   this是BaseServlet还是UserServlet?是UserServlet.对象是谁,this就是谁;请求的是userServlet,服务
器给我们创建的就是UserServlet;
class UserServlet extend BaseServlet{
   public void regist(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
       //2. 调用业务
      //3. 分发转向
   }
    public void login(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
      //2. 调用业务
      //3. 分发转向
   public void active(HttpServletRequest request, HttpServletResponse response){
       //1. 接受请求参数
      //2. 调用业务
       //3. 分发转向
   }
}
订单模块 OrderServlet
   生成订单:http://localhost:8080/day31/orderServlet?method=saveOrder
   展示所有的订单:http://localhost:8080/day31/orderServlet?method=findAll
class OrderServlet extend BaseServlet{
```

```
public void saveOrder(HttpServletRequest request, HttpServletResponse response){
    //1. 接受请求参数
    //2. 调用业务
    //3. 分发转向
}

public void findAll(HttpServletRequest request, HttpServletResponse response){
    //1. 接受请求参数
    //2. 调用业务
    //3. 分发转向
}
```

2.BaseServlet的编写

```
@WebServlet("/base")
public class BaseServlet extends HttpServlet {
   @Override
    protected void service(HttpServletRequest req, HttpServletResponse resp) throws
ServletException, IOException {
       try {
           //1. 获得method请求参数的值(方法名)
           String methodStr = req.getParameter("method");
           //2. 获得字节码对象
           Class clazz = this.getClass();
           //3. 根据方法名, 反射得到当前方法对象
           Method method = clazz.getMethod(methodStr, HttpServletRequest.class,
HttpServletResponse.class);
           //4. 执行
           method.invoke(this,req,resp);
       } catch (Exception e) {
           e.printStackTrace();
       }
   }
}
```

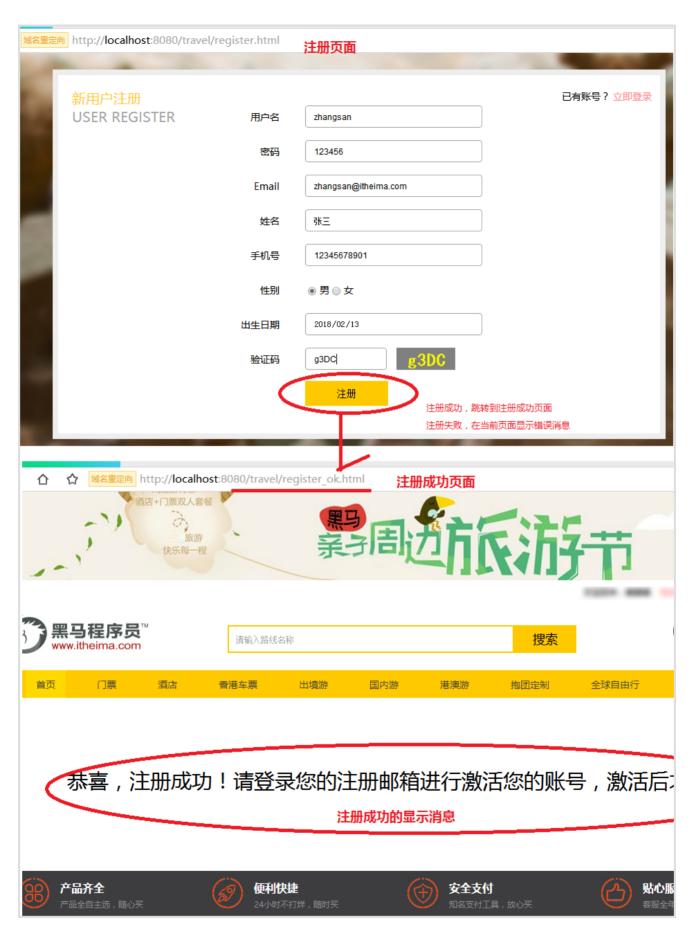
案例一-用户注册

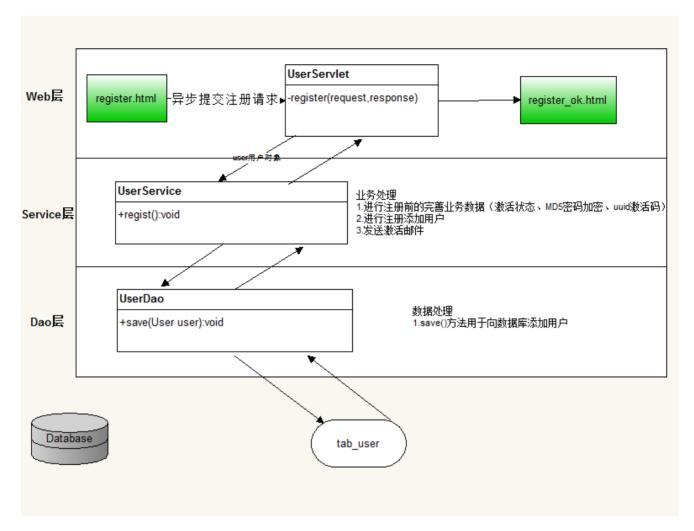
一,案例需求

实现用户注册,要求前端发送异步请求注册。需要发送邮件激活码.

用户注册成功后,跳转到注册成功页面,提示用户登录邮箱去激活;

如果注册失败,在当前页面提示用户注册失败





三,代码实现

• register.jsp

```
<script>
   //给表单设置提事件
   $("#registerForm").submit(function () {
       //序列化表单提交的数据
       var data = $(this).serialize();
       alert("data="+data);
       //发送Ajax请求服务器
       $.post("user",data,function (result) {
           if (result.flag){
               //注册成功
               location.href = "register_ok.html";
           }else{
               //注册失败
               alert(result.msg);
           }
      },"json");
       //阻止表单同步提交
       return false;
   });
</script>
```

UserServlet

```
@WebServlet("/user")
public class UserServlet extends BaseServlet {
    * 用户注册
    * @param request
    * @param response
    */
   public void register(HttpServletRequest request, HttpServletResponse response) throws
IOException {
       String data = null;
       ResultInfo resultInfo = null;
       ObjectMapper objectMapper = new ObjectMapper();
       try {
           //1. 获得请求参数
           Map<String, String[]> map = request.getParameterMap();
           User user = new User();
           BeanUtils.populate(user,map);
           //2. 调用业务
           UserService userService = new UserService();
           userService.regist(user);
           //3. 响应数据
           resultInfo = new ResultInfo(true,null,"注册成功!");
       } catch (Exception e) {
           e.printStackTrace();
           resultInfo = new ResultInfo(false,null,"注册失败!");
       }finally {
           data = objectMapper.writeValueAsString(resultInfo);
           response.getWriter().print(data);
       }
   }
}
```

• UserService.java

```
public class UserService {

private UserDao userDao = new UserDao();

/**

* 用户注册

* @param user

*/

public void regist(User user) throws Exception {
    user.setStatus("N");
    user.setCode(UUIDUtil.getUuid());
    userDao.save(user);
    MailUtil.sendMail(user.getEmail(),"尊敬的:"+user.getName()+"欢迎注册黑马旅游网!请点击如下超

链接进行激活!<a href='http://localhost:8080/travel-18/user?method=active&code="+user.getCode()+"'>
    点击激活</a>");

}
```

UserDao

```
public class UserDao {
   private JdbcTemplate jdbcTemplate = new JdbcTemplate(C3P0Util.getDataSource());
    * 保存用户
    * @param user
   public void save(User user) {
       //定义插入用户sql语句
       String sql = "INSERT INTO tab_user VALUES(NULL,?,?,?,?,?,?,?,?)";
       //执行sql语句,返回影响行数
       jdbcTemplate.update(sql,
               user.getUsername(),
               user.getPassword(),
               user.getName(),
               user.getBirthday(),
               user.getSex(),
               user.getTelephone(),
               user.getEmail(),
               user.getStatus(),
               user.getCode()
       );
   }
}
```

四,案例扩展

1.使用MD5对密码进行加密

我们在实际开发里面,为了保证用户密码的保密性,基本上都会先加密,再存到数据库里面.用的比较多的就是MD5加密.在业务层使用MD5对密码进行加密

```
public class UserService {

private UserDao userDao = new UserDao();

/**

* 用户注册

* @param user

*/

public void regist(User user) throws Exception {
    user.setStatus("N");
    user.setCode(UUIDUtil.getUuid());
    user.setPassword(Md5Util.encodeByMd5(user.getPassword()));//进行加密
    userDao.save(user);

MailUtil.sendMail(user.getEmail(),"尊敬的:"+user.getName()+"欢迎注册黑马旅游网!请点击如下超
链接进行激活!<a href='http://localhost:8080/travel-18/user?method=active&code="+user.getCode()+"'>
点击激活</a>");

}
```

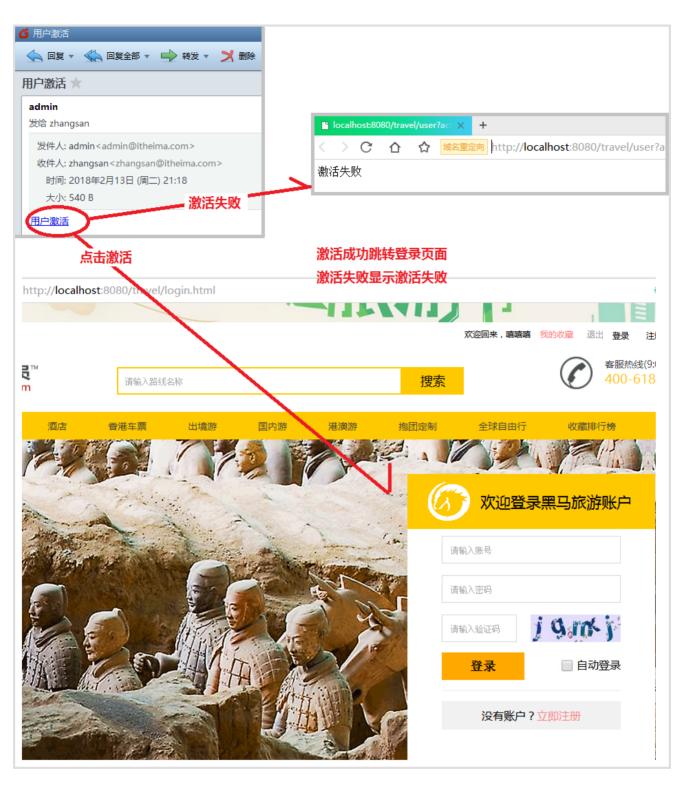
案例二-用户激活

一,案例需求

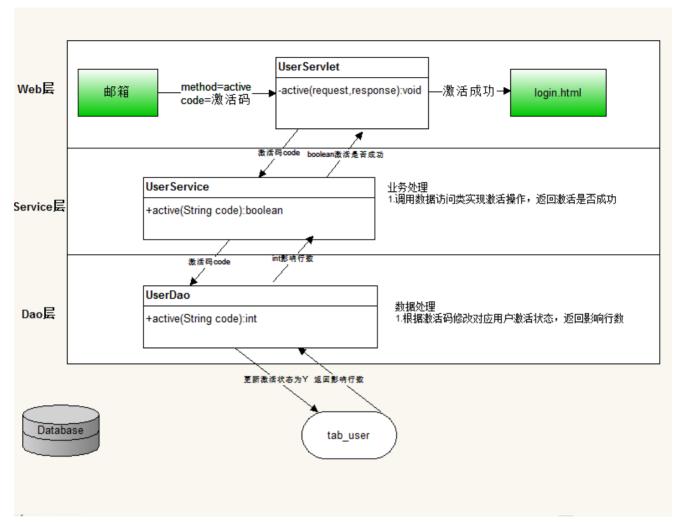
用户登录邮箱,点击激活超链接,

如果激活成功,重定向到登录页面;

如果激活失败,给用户提示激活失败



二,案例思路



• 修改发送邮件的超链接路径

```
MailUtil.sendMail(user.getEmail(),"<a href='http://localhost:8080/travel-43/user?methd=active&code="+user.getCode()+"'>用户激活</a>");
```

• 在UserServlet里面创建active

```
public void active(request, response) {
    //1. 获得激活码
    //2.调用业务,判断是的激活成功
    //3.给前端响应
}
```

• 在UserService里面

```
public boolean active(String code){
    //调用Dao, 进行激活的处理
    //判断是否激活成功, 返回boolean值
}
```

• 在UserDao里面

三,代码实现

UserServlet.java

```
/**
    * 用户激活
    * @param request
    * @param response
    */
   public void active(HttpServletRequest request, HttpServletResponse response) throws
IOException {
       try {
           //1.获得激活码
           String code = request.getParameter("code");
           //2.根据激活码激活
           boolean isActive = userService.active(code);
           //3. 判断是否激活成功
           if(isActive){
               response.sendRedirect(request.getContextPath()+"/login.html");
           }else{
               response.getWriter().print("<h1>激活失败</h1>");
           }
       } catch (Exception e) {
           e.printStackTrace();
           response.getWriter().print("<h1>激活失败</h1>");
       }
   }
```

• UserService.java

```
/**
 * 用户激活
 * @param code
 * @return
 */
public boolean active(String code) throws Exception {
  int rows = userDao.active(code);
  return rows > 0;
}
```

• UserDao.java

```
public int active(String code) throws Exception {
    //定义插入用户sql语句
    String sql = "update tab_user set status = ? where code = ?";
    return jdbcTemplate.update(sql,"Y",code);
}
```

案例三-用户登录

一,案例需求

在登录页面,点击登录按钮,进行登录.

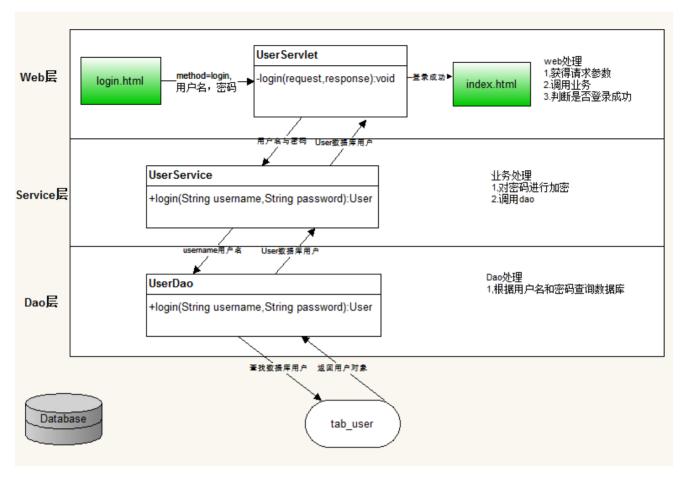
如果登录成功,跳转到网站首页;

如果登录失败,在当前页面(登录页面)提示用户



二,案例思路

1.登录思路



- 在login页面, 点击登录按钮, 会触发表单的提交, 给表单设置提交事件, 创建函数响应这个事件
- 在函数里面:

```
function(){
    //1. 获得表单里面需要提交的数据(用户名,密码.method方法名) data
    //2. 发送Ajax请求,把数据提交过去
    $.post("user",data,function(result){
    },"json");
    //3.阻止表单自身的提交
    return false;
}
```

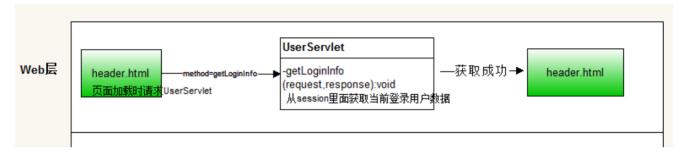
• 在UserServlet里面 创建 login()方法

```
public void login(request, response) {
    //1. 获得用户名和密码
    //2. 调用业务,进行登录 获得User对象
    //3. 判断是否登录成功,给前端响应
}
```

• 在UserService

UserDao

2.实现header位置显示登录数据功能



三,代码实现

- 1.登录代码实现
 - login.html

```
<script>
   //给表单设置提交事件
   $("#loginForm").submit(function () {
       //给表单数据序列化
       var data = $("#loginForm").serialize();
       //发送Ajax请求
       $.post("user",data,function (result) {
           if (result.flag){
               //登录成功
               location.href = "index.html";
           }else{
               //登录失败
               $("#errorMsg").html(result.msg);
           }
       },"json");
       //阻止表单同步提交
       return false;
   });
</script>
```

UserServlet.java

```
* 用户登录
    * @param request
    * @param response
   public void login(HttpServletRequest request, HttpServletResponse response) throws
IOException {
       String data = null;
       ResultInfo resultInfo = null;
       ObjectMapper objectMapper = new ObjectMapper();
       try {
           //1. 获得请求参数
           String username = request.getParameter("username");
           String password = request.getParameter("password");
           //2. 调用业务
           User user = userService.login(username, password);
           //3. 判断是否登录成功
           if(user != null){
               if("Y".equals(user.getStatus())){
                   //登录成功
                   request.getSession().setAttribute("user",user);
                   resultInfo = new ResultInfo(true, null, "登录成功...");
               }else{
                   resultInfo = new ResultInfo(false,null,"您还没有激活...");
               }
           }else{
               resultInfo = new ResultInfo(false,null,"用户名和密码不一致...");
           }
       } catch (Exception e) {
           e.printStackTrace();
           resultInfo = new ResultInfo(false,null,"服务器异常,登录失败...");
       }finally {
           data = objectMapper.writeValueAsString(resultInfo);
           response.getWriter().print(data);
       }
   }
```

UserService.java

```
/**
 * 用户登录
 * @param username
 * @param password
 * @return
 */
public User login(String username, String password) throws Exception {
    password = Md5Util.encodeByMd5(password);
    return userDao.login(username,password);
}
```

• UserDao.java

```
/**

* 用户登录

* @param username

* @param password

* @return

*/

public User login(String username, String password) throws Exception {

String sql="select * from tab_user where username = ? and password = ?";

User user = jdbcTemplate.queryForObject(sql, new BeanPropertyRowMapper<>(User.class),
username, password);

return user;

}
```

2.实现header位置显示登录数据功能

header.html

```
<script src="js/jquery-3.3.1.js"></script>
<script>
   $(function () {
       //先隐藏登录的界面
       $(".login").hide();
       //发送Ajax请求获得用户的登录状态
       $.post("user",{method:"getLoginInfo"},function (result) {
           if (result.flag){
              //a.隐藏没有登录界面
              $(".login_out").hide();
              //b.展示登录的界面
              $(".login").html(" <span>欢迎回来,"+result.data.username+"</span>\n" +
                  "<a href=\"myfavorite.html\" class=\"collection\">我的收藏</a>\n" +
                  " <a href=\"javascript:;\">退出</a>");
              $(".login").show();
              }else{
              //隐藏登录的解码
              $(".login").hide();
              //显示没有登录界面
              $(".login_out").show();
           }
       },"json");
   });
</script>
```

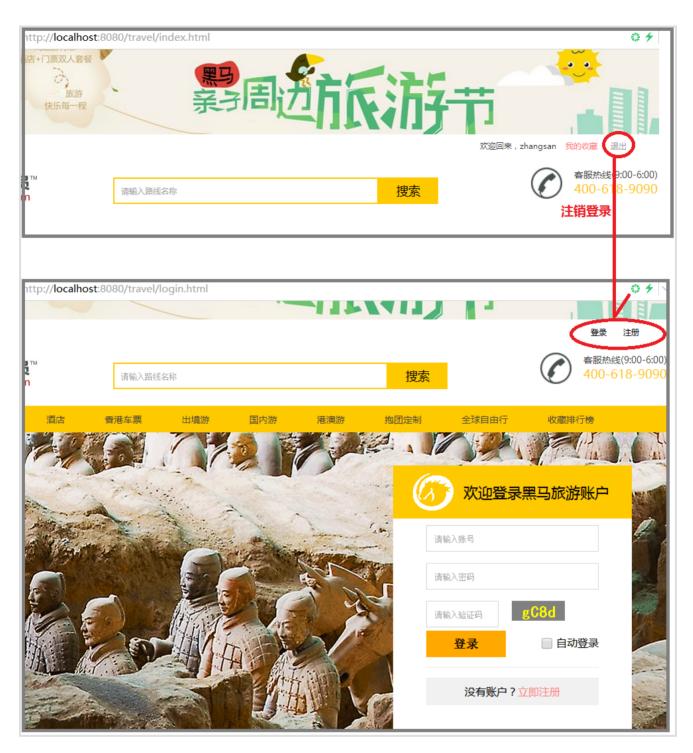
UserServlet.java

```
* 获得登录状态
    * @param request
    * @param response
   public void getLoginInfo(HttpServletRequest request, HttpServletResponse response) throws
IOException {
       String data = null;
       ResultInfo resultInfo = null;
       ObjectMapper objectMapper = new ObjectMapper();
       User user = (User) request.getSession().getAttribute("user");
       if(user != null){
           //是登录状态
           resultInfo = new ResultInfo(true,user,"已经登录");
       }else{
           //不是登录状态
           resultInfo = new ResultInfo(false,null,"未登录");
       }
       data = objectMapper.writeValueAsString(resultInfo);
       System.out.println("data="+data);
       response.getWriter().print(data);
   }
```

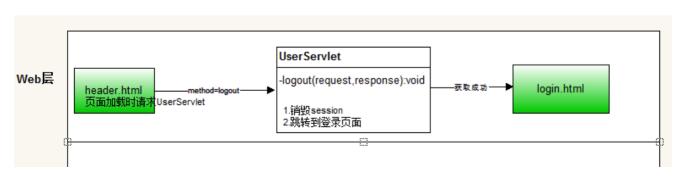
案例四-退出登录

一,案例需求

在网站首页,点击退出,注销当前用户,跳转到登录页面



二,案例思路



三,代码实现

header.jsp

```
<script>
   $(function() {
       $(".login").hide();
       $. post("user", {method: "getLoginUserData"}, function(result) {
           if (result. flag) {
               <mark>$(".login")</mark>.html(" <span>欢迎回来, "+<u>result</u>.data.name+"</span>\n" +
                   " <a href=\"myfavorite.html\" class=\"collection\">我的收藏</a>\n" +
                   " <a href=\"user?method=logout\">退出</a>");
               $(".login").show();
                                                       请求userServlet, 方法为logout
               $(".login out").hide();
           }else{
               $(".login_out").show();
       }, "json");
   });
</script>
```

• UserServlet.java

```
/**

* 退出登录

* @param request

* @param response

*/

public void logout(HttpServletRequest request, HttpServletResponse response) throws

IOException {

    //移除登录状态
    request.getSession().removeAttribute("user");

    //重定向到登录页面
    response.sendRedirect(request.getContextPath()+"/login.html");

}
```