

Struts Basics



Concepts and Testing



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Overview

- Request from Browser
- Handled by ActionServlet
 - Reads stuts-config.xml
 - Loads data into LogonForm.java
 - Runs LogonAction.java
 - ✓ Which talks to the domain layer to do it's business.
 - Forward to a Logon.jsp to render the html.



Parts

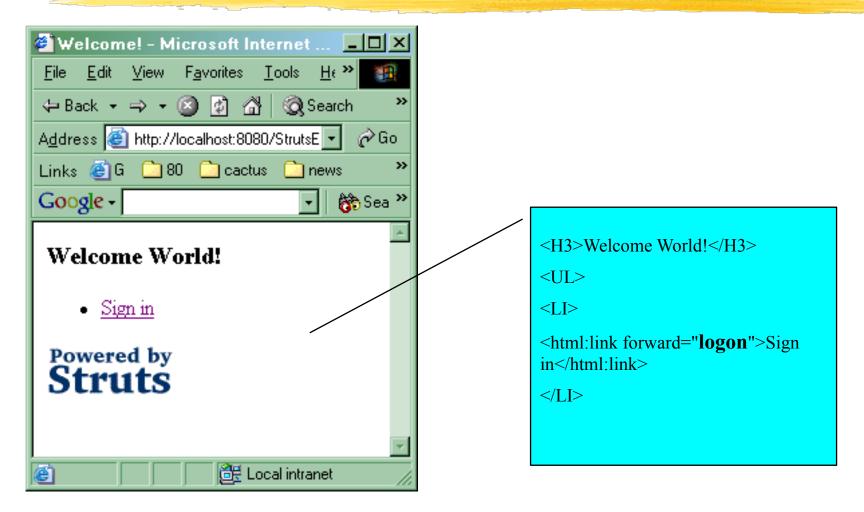
- Struts-config.xml -configuration
- JSP pages presentation
- Form java class for JSP data with simple validation
- Action java class for web behavior
- Mapping elements

```
<global-forwards> list of <forward>
<forward> - logical name for a hyperlink to a resource
<form-beans> list of <form-bean>
<form-bean> - logical name for a java data class
<action-mappings> list of <action>
<action> - puts all the parts together to handle a request
```

Domain (aka Buisness layer) – Does the non-Web, non-DB logic.



Welcome





Config Forwards

From the Welcome JSP:

html:link in

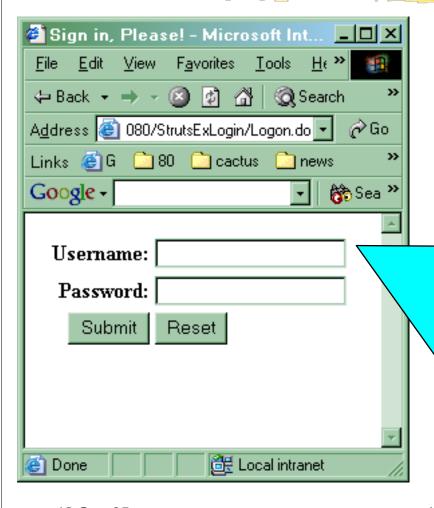
The Action Mapping to which to Forward.



Config Login.do



Logon JSP



```
<html:form action="/LogonSubmit" focus="username">
<TABLE border="0" width="100%">
<TR>
<TH align="right">Username:</TH>
<TD align="left"><html:text property="username"/></TD>
</TR>
<TR>
<TH align="right">Password:</TH>
<TD align="left"><html:password property="password"/></TD>
</TR>
<TR>
<TD align="right"><html:submit/></TD>
<TD align="left"><html:reset/></TD>
</TR>
</TABLE>
```

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Config: Logon Submit

```
path name embedded in the JSP
<!-- ===== Action Mapp
                                        Definitions ===== -->
                                       Java class to use for behavior
<action
   path="/LogonSubmit"
   type="app.LogonAction"
                                          Logical name to use for the data (next slide)
   name="logonForm"-
                                                                How long to keep
   scope="request" -
                                                                 the data around
   validate="true" -
                                                                Should it call
   input="/pages/Logon.jsp">
                                                             LoginForm.validate()
                                        Go here if validate()
   <forward
                                           returns false
             name="success"
            path="/pages/Welcome.jsp"/>
</action>
                                                     Where to go
                                                     if all is well
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                                 objectwind.com
                                                                   8
```



Config Form-Beans

```
<struts-config>
    <!-- ===== Form Bean Definitions ====== -->
    <form-beans>
       <form-bean
                                                  Name
                 name="logonForm"
                 type="app.LogonForm"/>
    </form-beans>
                                   Class app.LogonForm.java
                                  That has getters and setters for
                                         Form data
```



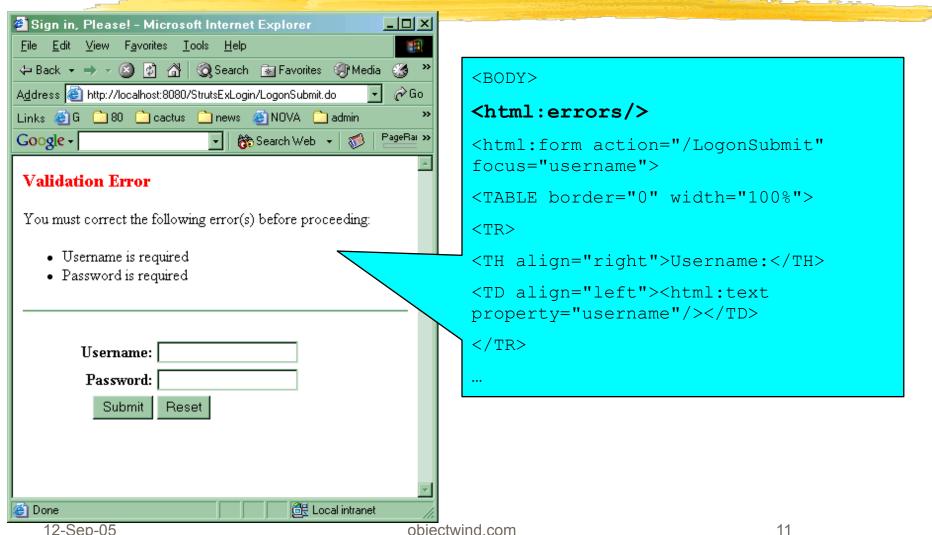
LogonForm.java

```
public final class LogonForm extends ActionForm {
public LogonForm() { reset(); }
private NonEmptyString password;
private NonEmptyString username;
private JspProperty properties;
public String getPassword() {
   return (this.password.get());
public void setPassword(String password) {
   this.password.set(password);
                             objectwind.com
```

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Validation Errors



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Form Validation 1

```
public final class LogonForm extends ActionForm {
  public LogonForm() { reset(); }
  private NonEmptyString password;
  private NonEmptyString username;
  private JspProperty properties;

public String getPassword() {
  return (this.password.get());
  }
  public void setPassword(String password) {
  this.password.set(password);
  }
```



Form Validation 2

```
// called by Struts
public void reset(ActionMapping mapping, HttpServletRequest request)
{ reset(); }
void reset() {
   properties = new JspProperty();
   username = new NonEmptyString("username", "error.username.required");
   properties.add(username);
   password = new NonEmptyString("password", "error.password.required");
   properties.add(password);
// called by Struts
public ActionErrors validate( ActionMapping mapping, HttpServletRequest request)
   ActionErrors errors = new ActionErrors();
   properties.validate(errors); // collection parameter (aka. pass the hat)
   return errors;
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                                                                      13
 // end of class
```



LoginAction

```
public final class LogonAction extends Action {
public ActionForward execute ( ActionMapping mapping, ActionForm form,
HttpServletRequest request, HttpServletResponse response) throws Exception {
   boolean validated = false;
   try {
        validated = isUserLogon((LogonForm) form);
   } catch (UserDirectoryException ude) {
         return errorActionForward("error.logon.connect", request, mapping);
   if (!validated) {
         return errorActionForward("error.logon.invalid", request, mapping);
   HttpSession session = saveUserIntoSession(form, request);
   logMessages(form, session);
  return successActionForward (mapping);
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                                                                      14
```



Testing Struts

[Code Demo] Project StrutsLogin

In the Download section of: www.objectwind.com