

Direct Struts Action 4 Version 1.0 Component Specification

1. Design

As we progress in upgrading the Direct application, the next thing we are focusing on is the complete flow of launching a contest. This includes everything from entering the basic data for a contest to payment, spec review, provisioning, etc. We currently have a basic flow for launching a contest created in the service layer and being assembled for the html version of Direct. This contest will dig deeper into the process of launching a contest to address the requirements introduced and clarified by the requirements that are referenced in this contest.

This component provides the struts actions to repost contest, create new component version, delete contest, link contests, modify project budget, start specification review, and view specification review result.

1.1 Design Patterns

Actions can be treated like the *Controller* part of the *MVC* pattern.

Actions are also used *strategically* by the Struts framework.

1.2 Industry Standards

None.

1.3 Required Algorithms

1.3.1 Validation.

Validation here will comprise the user input as specified in the use cases provided in the ARS for each relevant action. Validation checking will be performed using Struts built-in annotations. For example such annotation would be added to the setContestId method of the ContestReceiptRetrievalAction: @FieldExpressionValidator(key = "i18n.contestRepostingAction.projectIdValues", fieldName = "contestId", expression = "contestId >= 0", message = "contestId must be >=0"). For the valid values see the variable docs.

1.4 Component Class Overview

NewComponentVersionCreationAction

This action creates the new version of component.

ContestRepostingAction

This action is responsible for reposting the contest and returning the id of the reposted contest.

ContestsLinkingAction

This action is responsible for linking the contests..

ProjectBudgetModifyingAction

This action is responsible for modifying the project budget.

ContestDeletingAction

This action deletes the contest.

ContestLinksRetrievalAction

This action is responsible for returning the child and parent projects for the contest.

SpecificationReviewStartingAction

This action is responsible for starting the specification review.

SpecificationReviewResultRetrievalAction

This action is responsible for retrieving the specification review result.

1.5 Component Exception Definitions

None.

1.6 Thread Safety

All the actions are not thread safe because they are mutable, but they will be used in a thread safe manner by the Struts framework.

2. Environment Requirements**2.1 Environment**

- Development language: Java1.5, J2EE 1.5
- Compile target: Java1.5, J2EE 1.5
- Application Server: JBoss 4.0.2

2.2 TopCoder Software Components

- Struts Framework 1.0: defines AbstractAction, AggregateDataModel and other classes used in this design.
- Contest Service Façade 1.0: defines ContestServiceFacade and entities used in this design.
- Direct Service Façade 1.0: defines DirectServiceFacade and entities used in this design.

2.3 Third Party Components

- Struts 2.1.8 (<http://struts.apache.org/2.x/index.html>)

3. Installation and Configuration**3.1 Package Name**

`com.topcoder.direct.services.view.action.contest.launch`

3.2 Configuration Parameters

struts.xml should be configured to map Actions to the JSP pages.

3.3 Dependencies Configuration

None.

4. Usage Notes**4.1 Required steps to test the component**

1. Extract the component distribution.
2. Follow the dependencies configuration.

3. Download JBoss 4.0.2 and install it locally .(<http://www.jboss.org/jbossas/downloads/>).
4. Edit build-dependencies.xml and configure struts2.home, jboss.home and junit.jar path
5. Execute 'ant deployToJBoss' within the directory that the distribution was extracted to in order to deploy the demo to JBoss.
6. For instructions on how to use demo, see section 4.3.
7. Execute 'ant test' within the directory that the distribution was extracted to.

4.2 Required steps to use the component

See demo below. Here is a sample struts.xml file.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE struts PUBLIC
    "-//Apache Software Foundation//DTD Struts Configuration 2.0//EN"
    "http://struts.apache.org/dtds/struts-2.0.dtd">

<struts>

    <constant name="struts.devMode" value="true"></constant>
    <constant name="struts.objectFactory" value="spring"/>

    <package name="direct_struts_action_4" namespace="/" extends="struts-default">
        <global-results>
            <result name="success">/success.jsp</result>
            <result name="input">/input.jsp</result>
        </global-results>
        <action name="*" class="{1}" />
    </package>

</struts>
```

4.3 Demo

1. Be sure you have deployed demo to JBoss, refer to section 4.1 for details.
2. Start JBoss.
3. Navigate to <http://localhost:8080/demo/>
4. Type in values to validate.

Welcome to Direct Struts Action 4 Demo

ContestRepostingAction

contestId:

ContestDeletingAction

contestId:

studio:

ContestLinksRetrievalAction

contestId:

5. Future Enhancements

None.