


Struts 2 Plugin Features & User Guide

Introduction

Struts 2 Plugin for JetBrains IntelliJ IDEA provides tight and feature-rich integration to develop [Struts 2](#) applications. Real productivity features (including refactoring support), smart assistance just everywhere as well as being a tool understanding the structure and framework will make you more productive instantly. No more countless wizards just generating some XML or code without much intelligence!


 **Screencasts**
To get a quick overview watch these screencasts to see Struts 2 support "in action"

[Navigation and Autocompletion](#): demonstrates basic navigation and autocompletion features

[Spring integration](#): setting up Spring integration for your Struts 2 project

★ [Validator integration](#): new features in IDEA 11

more to follow soon...

 **IDEA versions**
Some features may not be available in all versions.
IDEA 8+ means "IDEA 8 or any higher version"


Please see [Struts2PluginChangeNotes](#) for detailed information.

 **Getting started**
"Hello World" with [Struts 2 and IntelliJ IDEA 8](#) -
Detailed introductory blog post by Tabrez Iqbal

About this page

All (main) features are grouped and listed below. Please check the following table to understand the status indicators.

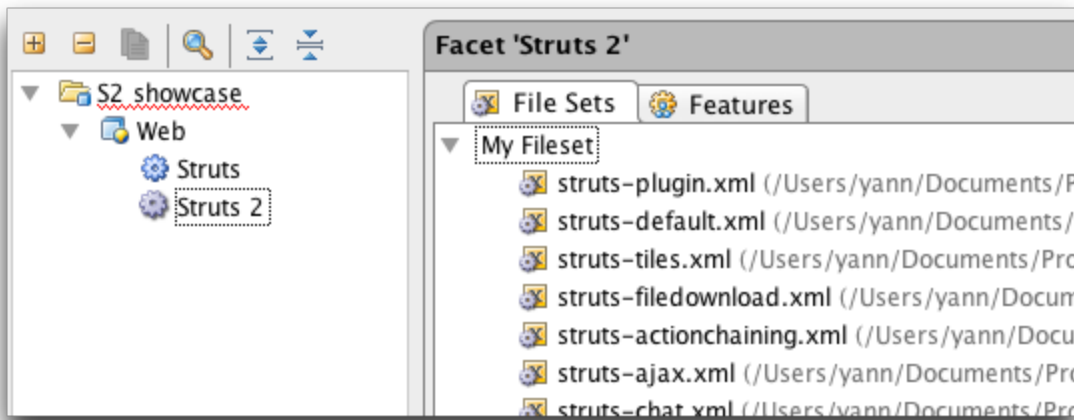
Symbol	Status
	planned
	in progress/mostly done
	done
	future planning

 **Screenshots**
Starting with IntelliJ IDEA 12.1 icons have changed slightly.

Struts 2 facet

All plugin configuration settings are bundled in a dedicated facet. Simply attach a new Struts 2-facet to an existing Web-facet, create a fileset and add your `struts.xml`-files from all auto-scanned configuration files in your project and the plugin is ready to work.

 **Fileset configuration**
`struts-default.xml` from `struts2-core.jar` as well as any `struts-plugin.xml` from plugins (e.g. Spring integration) have to be added additionally to the fileset.
Also make sure to add all files used via `<include>`.
10.0.2+: projects created using project wizard will include all `struts.xml`-files from Struts-JARs automatically
 Many features will NOT work if this setup has not been performed properly 



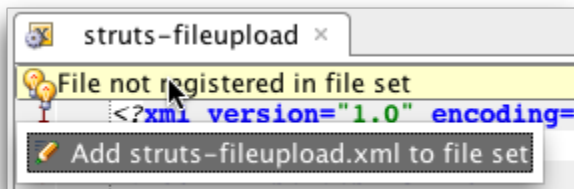
✔ Dedicated facet with configuration options

✔ File Set manager

Group and manage your `struts.xml`-files with an easy to use editor, providing maximum flexibility w/r to your project setup.

✔ Detect `struts.xml` files not mapped to file sets

Spot setup errors easily, additionally providing a quickfix to add the unmapped `struts.xml`-files to any existing fileset.



✔ Library validator/setup

Creates IDEA project/module-library and - if required - downloads all necessary JAR files required for Struts 2.

✖ Library validator/setup for standard plugins (Spring, Tiles, JSF, ..)

✔ Autodetection of Struts 2 facets

Existing `struts.xml`-files are recognized upon opening your project and a new S2 facet will be created automatically.

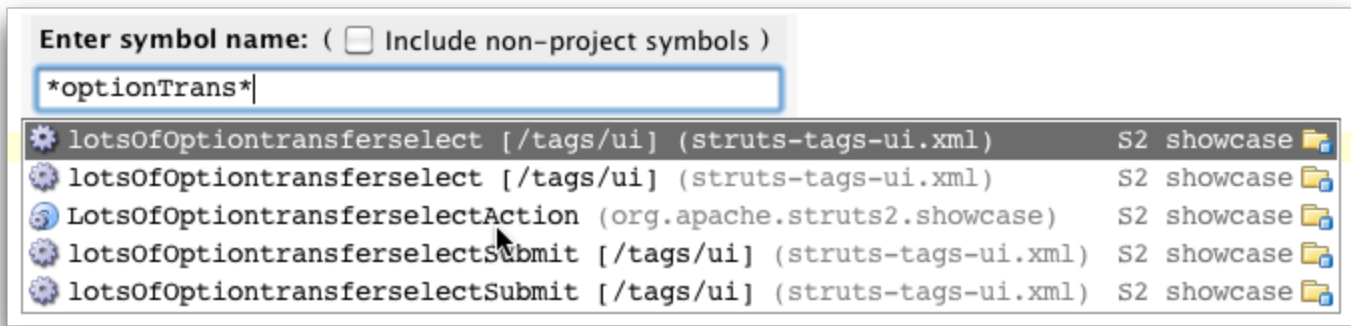
✔ Integration with "New Project"

Add a blank ready-to-start Struts 2 application template by selecting Struts 2 from the list of available technologies. A S2-facet with default fileset and an empty `struts.xml`-file already mapped in `web.xml` will be created automatically, all necessary libraries will be setup as well.

IDE integration

✔ "Go To Action/Package" by name

Press `Ctrl+Shift+Alt+N` (Go To -> Symbol) to quickly navigate to any Action/Package by simply entering its name (including wildcards):



✔ "Navigate -> Related File"

Tip: just start typing to narrow down the result list of related items and press ENTER to navigate.

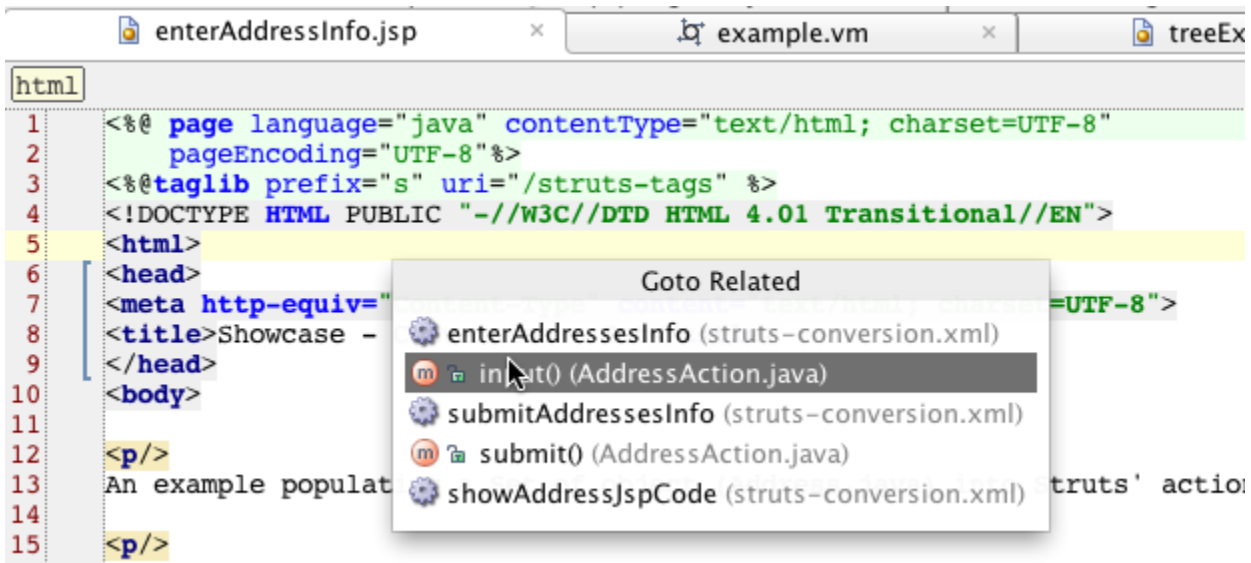
IDEA 10.5+

Use this shortcut to quickly navigate from any web-resource used in <result> to its <action>-declaration and/or Action-method.

IDEA 11+

Also vice versa from Action-class to <action>-declaration and any referenced result(s) files.

Navigate from Action-class to all corresponding validation.xml files.



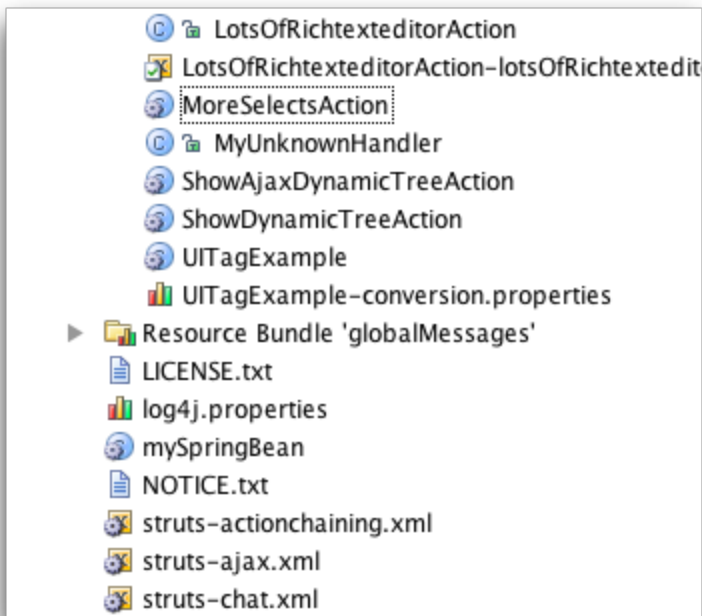
✔ Dedicated dictionary

IDEA 11+

A bundled dictionary providing Struts-specific words and acronyms integrates with IDEA's builtin spellchecker.

✔ Dedicated icons Struts elements

Recognize Struts related configuration files or code at a glance throughout the IDE (Project/Packages View, Editor tabs, Autocompletion, ...):



struts.xml/validation.xml

✓ Autocompletion

Please see this [screencast](#) to see it "in action" (a small part only!).

Autocompletion (CTRL+Space) is available for virtually all tags and attributes, just give it a try:

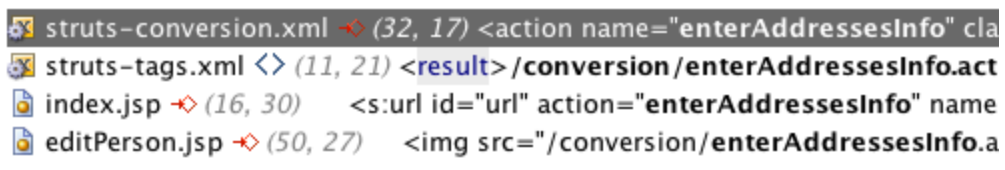
```
<interceptors>
  <interceptor-stack name="jsfFullStack">
    <interceptor-ref name="params" />
    <interceptor-ref name="basicStack" />
  </interceptor-stack>
</interceptors>
<default-interceptor-ref name="basicStack" />
</package>
<package name="jsf.employ">
  <action name="list" class="com.jsf.action.ListAction">
    <result name="success" type="redirect" />
  </action>
</package>
```

A screenshot of an IDE showing XML code with an autocompletion dropdown menu. The dropdown lists various Struts interceptors like 'actionForm-commonsValidation', 'actionForm-reset', 'actionForm-validation', 'actionMappingParams', 'alias', 'annotationWorkflow', 'autowiring', 'basicStack', 'chain', 'chainStack', and 'chatAuthentication'. The 'basicStack' item is highlighted with a green arrow.

✓ Rename refactoring/Find Usages

Need to refactor your S2 application? No more manual search and replace - just use Rename refactoring (Shift+F6) or perform Find Usages (Alt+F7/Ctrl+Alt+F7):

```
<!-- Example populating a Set inside an Action -->
<action name="enterAddressesInfo" class="org.apache.struts2.showcase.conversion.Ad...
  <result>enterAddre... Usages of action in Proj
</action>
<action name="submit...
  <result>showAddres...
  <result name="inpu...
</action>
<action name="showAddressjspcode" >
  <result type="plainText">/conversion/enterAddressInfo.jsp</result>
```



✔ Navigation to referenced elements

Simply `Ctrl-click` (or press `Ctrl+B`) on any element to navigate to its declaration - or take a peek without leaving the current editor using Quick Definition Lookup (`Ctrl+Shift+I`).

✔ Highlighting of configuration/reference errors

Errors are highlighted immediately in the editor, additional validation is triggered for Make Project.

IDEA 7: see "Validation" tab in S2 facet for more options

IDEA 8+: see Settings->Compiler->Validation

+ Quickfixes

Various quickfixes to create missing elements etc.

✔ struts.xml: restrict resolving to `<result>` value depending on result-type (e.g. Tiles, Velocity)

IDEA 10+

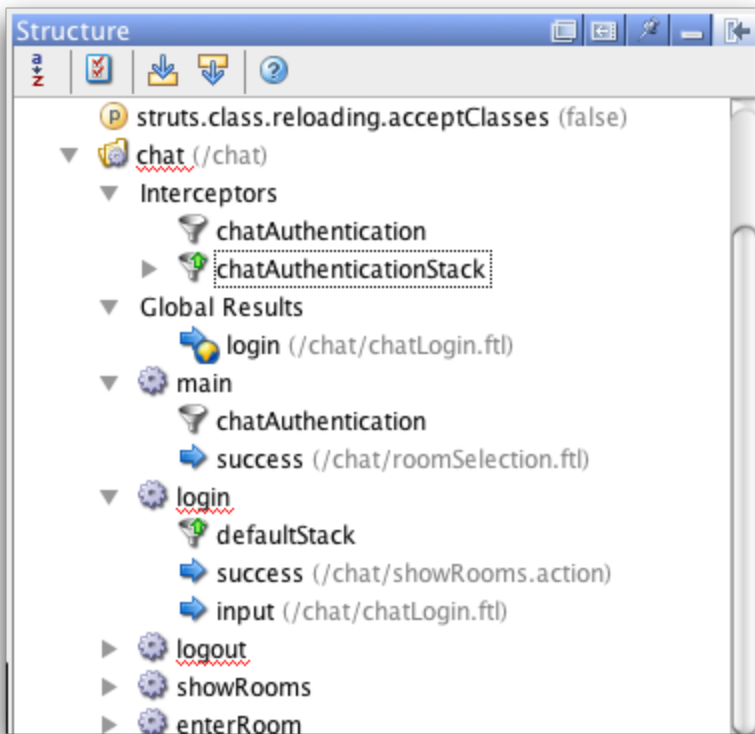
Completion will only show resources relevant for the given (or inherited) result type.

+ Configuration errors

Highlight common configuration errors or possible problems on-the-fly - while you're editing. Catch the bugs before time-consuming deploy & manual-test.

✔ Structure View

Visually groups all relevant info with Autoscroll from/to source. Hint: searching for something in the tree? Just start typing its name to find it.



✔ struts.xml: Pageflow graph

IDEA 8+

Graph of all actions and results makes it easy to understand the structure of your application.



validation.xml

Please see this screencast to see it in action: [Validator integration](#)

- ✓ Navigation to/from corresponding Action-class

IDEA 11+

Autocompletion/Navigation to Action-class properties in `<field>` "name"
"Navigate -> Related File" from Action-class to corresponding `validation.xml` file(s).

- ✗ Show `validation.xml` node(s) under corresponding Action-class (like GUI-Designer forms)

- ✓ Create corresponding `validation.xml`-template from Action

IDEA 11+

Intention to create new `ActionClassName-validation.xml` from file template.

- ✓ Structure View

- ✓ I18N-support

IDEA 11+

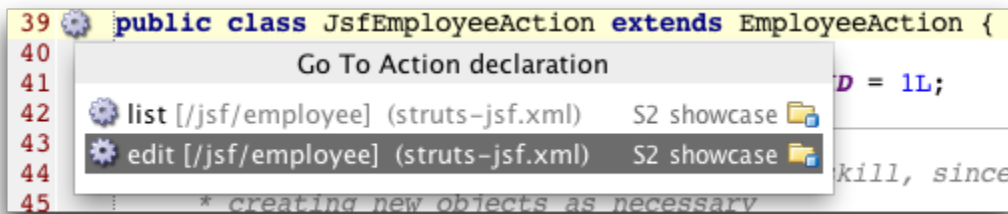
Support for `.properties`-based I18N for `<message>` "key" (can be disabled in S2 facet, tab "Features").

Actions (JAVA/Groovy)

- ✓ Navigation to Action-declaration in `struts.xml`

Simply click on the action icon in the left editor bar to quickly open up the corresponding mapping(s) in `struts.xml`:

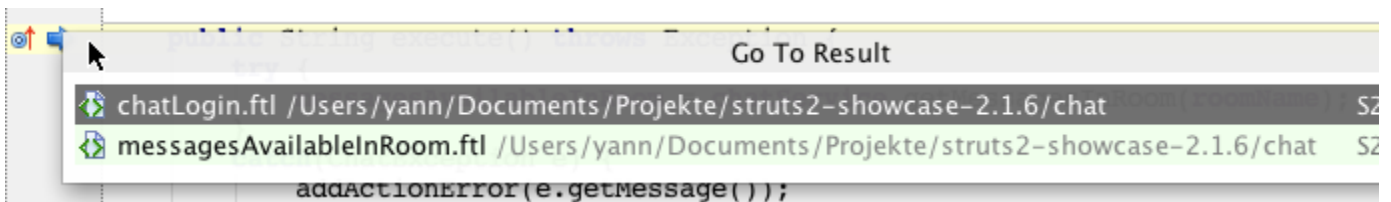
IDEA 8.1.1+: Groovy support added



- ✓ Navigate to result

IDEA 10.5+

Use the gutter icon (or use `Navigate->Related File`) to directly navigate to any result(s) from your action method:



JSP

- ✓ Navigation to Action-declaration/class

Click on the Action-class icon to quickly open the corresponding Action-class or `Ctrl+click` on the "action"-attribute open its `struts.xml`-definition:

```
17
18
19 Action "standardTags" [struts-freemarker.xml]
20 <s:url var="url" action="standardTags" namespace="/freemarker" />
21
```

✔ Autocompletion/navigation for form properties

IDEA 11+

Form properties will be autocompleted/resolved in "surrounding" Action class. Ofcourse, rename refactoring and finding usages is supported here as well - no more manual search and replace necessary when updating your forms!

```
<s:action var="skillAction" namespace="/skill" name="edit">
  <s:textfield name="skillName"/>
</s:action>
```

actionErrors	Collection<String>
actionMessages	Collection<String>
currentSkill	Skill
fieldErrors	Map<String, List<String>>
skillDao	SkillDao
skillName	String
toDelete	String[]

+ Autocompletion/navigation for other tags

Autocompletion is available for (almost) all attributes with static values.

```
<s:url var="url"
  action="standardTags"
  namespace="/freemarker"
  includeParams="|"/>
```

all
get
none

Did you know th

✔ JavaScript support

(plugin "JavaScript Support" must be enabled)

Enjoy the power of IDEA's powerful JavaScript-support within all S2 UI-tags.

```
<s:form action="save" function alert(sMessage)
  onkeydown="alert('Full JavaScript support!'); return false;">
```

✔ CSS support

(IDEA 8+: plugin "CSS Support" must be enabled)

Define inline-styles (`cssStyle`) or reference existing CSS classes (`cssClass`).


```
<s:textfield label="%{getText('skill.name')}}"
            name="currentSkill.name"
            cssStyle="color: ; text-align: right; width: 250px;"/>
```

✓ I18N-support

IDEA 10+

Support for .properties-based I18N for <s:text> (can be disabled in S2 facet, tab "Features").

```
<?if test="currentEmployee!=null">
  <s:text var="title" name="item.edit"><s:param><s:text name="employee"/></s:param>
</s:if>
<s:else>
  <s:text var="title" name="item.edit"><s:param><s:text name="employee"/></s:param>
</s:else>
<html>
<head>
  <title><s:property value="title"/>
  <s:head/>
  <sx:head/>
</head>
<body>
```

+ OGNL (Object Graph Navigation Library) Support

IDEA 11+

Provides editing, highlighting and autocompletion support for OGNL expressions - not just for Struts 2 applications.

Please see Struts 2 Plugin OGNL Support for details.

```
<s:textfield disabled="%{ id == 5 ? true : }"/>
```

Plugins/3rd Party Extensions

Make sure to include struts-plugin.xml from corresponding plugin JAR to your Struts 2 fileset (configured in S2 facet in module settings).

✓ Spring plugin

(plugin "Spring Support" must be enabled and Spring facet setup properly)

Please see this [screencast](#) to see Spring integration "in action".

Reference Spring beans where supported (e.g. in <action> "class", <constant> "value").

```

<action name="login" class="chatLoginAction">
  <interceptor-ref name="chainingInterceptor" />
  <result type="redirect" />
  <result name="input" type="chatLogoutAction" />
</action>

```

+ Convention plugin

IDEA 9+

Sophisticated configuration properties support

Autocompletion/navigation/usage search in annotations (WIP):

```

@ParentPackage("myPackage")
public class MyClass {
}

```

✓ Tiles 2 plugin

Blog post

(plugin "Struts 1.x" must be enabled)

IDEA 8.1.1+

struts2-tiles-plugin.jar must be present as well as Tiles libraries. Configured tiles.xml-files will be set automatically as described in <http://struts.apache.org/2.x/docs/tiles-plugin.html>.

```

<action name="test">
  <result name="success" type="tiles">showcase.index</result>
</action>

```

✓ Freemarker

(plugin "FreeMarker support" must be enabled)

IDEA 8+

All supported S2 taglibs are automatically available:

```

<div valign="top">
  <p align="right">
    <@s.url id="url" value="/hangman/images/choose.png" />
    <@s.accesskey, cssClass, cssErrorClass, cssErrorStyle, cssErrorText />
  </p>
  <@s.action(executeResult, flush, id, ignoreContextParams, ... />
  <@s.actionerror(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.actionmessage(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.append(id, var) />
  <@s.bean(id, name, var) />
  <@s.checkbox(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.checkboxlist(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.combobox(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.component(accesskey, cssClass, cssErrorClass, cssErrorText />
  <@s.date(format, id, name, nice, var) />

```

Global variables as well as properties provided from corresponding Action-class will be resolved:

```
<#if hangman.characterGuessedBefore(currentCharacter)>
  <@s.s.p charactersAvailable List<Character>
  <@s.u.p vocab Vocab
  <img.p class class java.lang.Class<?>
  characterGuessedBefore(Character character) boolean
<#else>
  equals(Object) boolean
  <@s.u gameEnded() java.lang.Boolean
  <img getCharactersAvailable() java.util.List<java.lang.Character>
  getClass() java.lang.Class<?>
</#if>
s.iterator
  guess(Character character) void
```

+ Velocity

(plugin "Velocity support" must be enabled)
IDEA 10.x+
Add all global macros (struts.vm in struts2-core.jar) automatically.
Autocomplete all global variables.
[Blog post with screen-shots](#)

+ struts2-jQuery plugin

IDEA 9+
Provides autocomplete, navigation for JSP tags.
[Blog post showing off some features](#)
[struts-jQuery plugin](#)