

Struts 2.5 to 6.0.0 migration

- [Java 8](#)
- [Servlet API 3.1](#)
- [Dependencies](#)
- [DTD](#)
- [Class changes](#)
- [XWork constants](#)
- [New constants](#)
- [Tag escape behaviour](#)
- [The date tag](#)
- [Deprecated interfaces](#)
- [Javatemplate Checkbox tag](#)
- [Static methods access](#)
- [Temp/Work directory of ApplicationServer/ServletContainer](#)

Java 8

From this version of Struts, the framework requires Java 8 at least to run.

Servlet API 3.1

Struts 6.0.0 requires a servlet container which supports Servlet API 3.1 at least, it won't work with older versions.

Dependencies

Update Struts dependencies to 6.x.x.

Remove the following plugin dependencies because they were dropped and aren't supported anymore:

- sitegraph plugin

Support for Velocity has been moved into a dedicated plugin, also Velocity based tags were moved into the new plugin, see



Unable to render Jira issues macro, execution error.

for more details.



To still use the Velocity plugin in your application you must include the plugin and its JARs plus use a proper parent package in your struts.xml like this:

```
<package name="mystrutsapp" extends="json-default, velocity-default">
  ...
</package>
```

DTD

Please use a proper DTD header in **struts.xml** as demonstrated below:

```
<!DOCTYPE struts PUBLIC
  "-//Apache Software Foundation//DTD Struts Configuration 6.0//EN"
  "https://struts.apache.org/dtds/struts-6.0.dtd">
```

Class changes

com.opensymphony.xwork2.config.providers.XmlConfigurationProvider became abstract, please use org.apache.struts2.config.StrutsXmlConfigurationProvider instead.

com.opensymphony.xwork2.conversion.TypeConversionException was replaced by org.apache.struts2.conversion.TypeConversionException.

com.opensymphony.xwork2.XWorkException was replaced by org.apache.struts2.StrutsException.

XWork constants

All Xwork constans had been already deprecated, with this version all of them have been removed and Struts constants have been used instead. See

tickets

 Unable to render Jira issues macro, execution error.

and

 Unable to render Jira issues macro, execution error.

with the linked PRs for the exact changes. Below is a list of removed constants

and Struts substitutes:

Old constant	New constant
collectionConverter	struts.converter.collection
dateConverter	struts.converter.date
numberConverter	struts.converter.number
stringConverter	struts.converter.string
arrayConverter	struts.converter.array
devMode	struts.devMode
logMissingProperties	struts.ognl.logMissingProperties
enableOGNLExpressionCache	struts.ognl.enableExpressionCache
enableOGNLEvalExpression	struts.ognl.enableEvalExpression
reloadXmlConfiguration	struts.configuration.xml.reload
allowStaticMethodAccess	struts.ognl.allowStaticMethodAccess
xwork.loggerFactory	<not used any more>
ognlExcludedClasses	struts.excludedClasses
ognlExcludedPackageNamePatterns	struts.excludedPackageNamePatterns
ognlExcludedPackageNames	struts.excludedPackageNames
additionalExcludedPatterns	struts.additional.excludedPatterns
additionalAcceptedPatterns	struts.additional.acceptedPatterns
overrideExcludedPatterns	struts.override.excludedPatterns
overrideAcceptedPatterns	struts.override.acceptedPatterns
struts.xwork.chaining.copyErrors	struts.chaining.copyErrors
struts.xwork.chaining.copyFieldErrors	struts.chaining.copyFieldErrors
struts.xwork.chaining.copyMessages	struts.chaining.copyMessages
xwork.autoGrowCollectionLimit	struts.ognl.autoGrowthCollectionLimit
objectFactory.classloader	struts.objectFactory.classloader

New constants

Constant name	Description
struts.i18n.search.defaultbundles.first	Allows search in default bundles first, read more in the docs
struts.ui.escapeHtmlBody	Enables escaping body of a tag, read more in the docs

Tag escape behaviour

After migrating to the latest Freemarker (which enables *auto-escaping* by default) you should stop using `?html` in your custom tags and freemarker based pages. Also when embedding a tag in `<s:a>`, `<s:submit>` and `<s:component>` tags like in the example below:

```
<s:a href="%{...}">
  
</s:a>
```

the inner tag can be automatically escaped (if needed), set "escapeHtmlBody" attribute to "true" as below:

```
<s:a href="%{...}" escapeHtmlBody="true">
  
</s:a>
```

There is a global flag `struts.ui.escapeHtmlBody` which controls this behaviour for all the tags. Tag's attribute takes precedence over the global flag.

It's related to



Unable to render Jira issues macro, execution error.

and



Unable to render Jira issues macro, execution error.

The date tag

The `<s:date/>` tag has been adjusted to support a new Java 8 Date/Time API, which means it uses [DateTimeFormatter](#) instead of [SimpleDateFormat](#). Yet there is a slight change in patterns supported by both classes, which means your current formatting patterns can stop working after migrating to Struts

6.x and default format will be used instead. You can find more details in



Unable to render Jira issues macro, execution error.

Deprecated interfaces

A set of action related interfaces have been marked as deprecated. These interfaces have a new proper versions in another package, please start using the new versions as the deprecated interfaces will be removed with the next major release.

Deprecated	New version
org.apache.struts2.interceptor.ApplicationAware	org.apache.struts2.action.ApplicationAware
org.apache.struts2.interceptor.CookiesAware	org.apache.struts2.action.CookiesAware
org.apache.struts2.interceptor.HttpParametersAware	org.apache.struts2.action.ParametersAware
org.apache.struts2.interceptor.ParameterAware	org.apache.struts2.action.ParametersAware

org.apache.struts2.interceptor.PrincipalAware	org.apache.struts2.action.PrincipalAware
org.apache.struts2.interceptor.RequestAware	org.apache.struts2.action.ServletRequestAware
org.apache.struts2.interceptor.ServletRequestAware	org.apache.struts2.action.ServletRequestAware
org.apache.struts2.interceptor.ServletResponseAware	org.apache.struts2.action.ServletResponseAware
org.apache.struts2.interceptor.SessionAware	org.apache.struts2.action.SessionAware
org.apache.struts2.util.ServletContextAware	org.apache.struts2.action.ServletContextAware

See

 Unable to render Jira issues macro, execution error.

for more details.

Javatemplate Checkbox tag

Javatemplate Checkbox tag implementation had been missing support for submitUnchecked attribute. This has been fixed yet it can introduce a NullPointerException when you will use Boolean or String to hold an unchecked value as submittedUnchecked is set to false by default, which

means the unchecked value won't be sent and stored in the action, see

details.

 Unable to render Jira issues macro, execution error.

for more

Static methods access

It won't be possible to access static methods using OGNL expression, eg. @com.app.Util@makeCode() won't work anymore. If you are still using this approach you must wrap access to static methods with action instance methods or use static field access instead.

Temp/Work directory of ApplicationServer/ServletContainer

Users reported it was necessary for them to remove temp/work directory of their ApplicationServer/ServletContainer. Likely to force server to recompile JSPs.