Selling and Fulfillment Foundation

Localizing the Web UI Framework

Release 8.5

Last Updated in HF20

August 2010

Sterling Commerce
An IBM Company

Contents

Localization

Web UI Framework Localization

The Web UI Framework allows you to localize the application to handle multiple languages and cultural conventions. You can localize graphical text, messages, units of measurement, and other items.

With the Web UI Framework, you have the following options for localization:

- The default implementation of the Web UI Framework. This implementation provides a default implementation of localization. You can customize this default implementation.

  This option enables you to continue using the localization implementation that you used with previous versions of the application.
- A customized implementation of localization. You can register a customized implementation of localization using the web.xml file.

The use of the same interface contracts by both options ensures a consistent implementation of localization by all users.

Localization is implemented on both the client and server sides of the application. You can localize both text and images. All UI nonfield text and labels are localized on the client side. Field text and images are localized on the server side so that the correct files are referenced by the UI.

After all localization changes are finished, rebuild the EAR/WAR file as you did during the installation, and then deploy the application on the application server.

Interface Contracts of the Web UI Framework - Localization

For more information, refer to the Java API documentation in your installation directory.

Interface Contract	Description	Methods
LocalizationProvider	Implements ISCUILocalizationProvider, which defines the behavior expected in any implementation of the localization in the application.	• getString(SCUIContext, string message) method Takes the string to be localized and returns the localized string.

Interface Contract	Description	Methods
	LocalizationProvider is plugged in to the application using the context parameter in web.xml: • <param-name> scui-localization-provider • <param-value> com.application.ApplicationLocalizationProvider	When this method is used, the localization service layer (the SCUILocalizationHelper class) uses the SCUIContext value to instantiate the registered LocalizationProvider. • getDBString(SCUIContext, string message) method Takes the string to be localized and returns the localized string from the database. If you are not using this method, use the getString method. When this method is used, the localization service layer (the SCUILocalizationHelper class) uses the SCUIContext value to instantiate the registered LocalizationProvider. • getBundleFor(String name) Takes the form name and returns the name of the bundle. • registerBundle(String bundleName) Registers the localization bundle used by the application. • init Handles initialization.

Web UI Framework Localization - Localizing on the Server Side

Localizing on the server side involves the localization of field text and images that are referenced by the client side. Localizing on the client side involves user interface labels and other nonfield text.

For more information, refer to the Java API documentation in your installation directory.

1. Use tag libraries to specify the localized text and images that will be referenced from the server side.
2. Register both default and custom localization providers in the web.xml file. Localization uses the LocalizationProvider class to implement the interface class ISCUILocalizationProvider. This interface class defines the basic standards for all localization behavior.
3. Specify the localization provider in an instance of the interface class ISCUILocalizationProvider.

   The following shows an example of ISCUILocalizationProvider:

```
package com.sterlingcommerce.ui.localization;
public interface ISCUILocalizationProvider
{
   public void init();
   public String getString(SCUIContext context, String message);
   public String getDBString(SCUIContext context, String message);
   public String getBundleFor(String name);
   public void registerBundle(String bundleName);
}
```

To fetch localized strings from a table using the getDBString method, the calling JSP must include the following taglib:

```
<%@ taglib uri="/WEB-INF/scui.tld" prefix="scuitag" %>
```

This taglib is then called in the JSP as follows:

```
<scuitag:i18nDB>test_string</ scuitag:i18nDB>
```

Also, for the getDBString method to fetch localized strings from the table, the dblocalizable property in the entity XML files must be set to **true**.

To fetch localized strings from resource bundles using the getString method, the calling JSP must include the following taglib:

```
<%@ taglib uri="/WEB-INF/scui.tld" prefix="scuitag" %>
```

This taglib is then called in the JSP as follows:

```
<scuitag:i18n>test_string</ scuitag:i18n>
```

4. To implement the customized Java code, build a jar file that contains the Java class, and then install the jar file using the install3rdparty.sh script. To implement this customization, rebuild the EAR or WAR file as you did during the installation, and then deploy the application on the application server.

Web UI Framework Localization - Localizing on the Client Side

Localizing on the client side involves the localization of user interface labels and other UI non-field text and images. Localizing on the server side involves the localization of field text and images that are referenced by the client side.

For more information, refer to the Java API documentation in your installation directory.

1. To localize images, set up a locale-specific CSS file that will be used by a tag library.
2. To localize text, set up a global JavaScript bundle file. This bundle file includes pairs of key values (the string to be localized and the localized value of that string). The Web UI Framework provides a tag library that includes the global bundle file.

   Global bundle file example:

   Note: Sterling Commerce recommends that you prefix bundle file keys with "b_" to avoid conflicts with other properties on the screen.

```
Ext.override(sc.plat.ui.Screen, {
    'b_key1': 'value one',
    'b_key2': 'value two',
    'b_key3': 'value three'
})
```

   Each form in the application has a specific bundle.js file that should be included with the screen file. For example, if the bundle file of form login.js is sc.ui.login.bundle.js, when a screen is accessed, the tag library looks for that bundle file and form and includes them with the screen. The tag library does not automatically include the bundle file for a screen. For a localizable file (such as a bundle file) that is included using the scuitag command, the tag automatically includes the localized file (fr, de, jp, etc.), according to the user's locale.

When an individual file using JSB definitions is included, the entry for the bundle file should be made after the entry to include the screen file. The screen files should be included in the following order:

1. <screen>_config.js
2. <screen>.js
3. <screen>_bundle.js

Example of a screen referencing a bundle file:

```
com.xyz.MyScreen = Ext.extend(sc.plat.ui.ExtensibleScreen,
{
        className: "sc.plat.ui.Screen",
        getUIConfig: function() {
                return {
                        title: this.b_key1,
                        items:[{
                                xtype: 'label',
                                text: this.b_key2
                        }]
                 }
        },
        getInfoMessage: function() {
                return this.b_key3;
        }
});
```

The following shows an example of how a form is set up to return a bundle file name when the getBundleFor(form name) method of the SCUILocalizationProvider class is called by the screen. The keyword **this** returns the instance of the form, so this.First_Name returns the bundle file **First Name**.

```
First_Name = "First Name";
Last_Name = "Last Name";
Search_View = "Search View";
Ext.onReady(function(){
var form = new Ext.FormPanel({
        name: 'view',
        title: this.Search_View,
        xtype: 'form',
        items: [{
                      fieldLabel: this.First_Name,
                      xtype: 'textfield',
                      appValidator: validatorApplication,
                      validationEvent: 'blur',
                      validator: validateString
                 },
                 {
                      fieldLabel: this.Last_Name,
                      xtype: 'textfield',
                  }]
         });
         form.render(Ext.getBody());
});
```

Web UI Framework Localization - Setting Locale-Specific Formats

You can set the following locale-specific formats in a JavaScript file:

- Date/time
- Decimal
- E-mail
- Phone number
- Credit card

The validation.js file is a localizable file. This file is available at <install>/repository/eardata/platform_uifwk/war/platform/scripts/.

You can copy this validation.js file into <install>/repository/eardata/platform_uifwk/war/localization/<locale_directories>/platform/scripts/ and modify it as needed.

The <locale_directories> variable uses the format <language>/<country>/<variant>. The <variant> variable is optional. so for <locale_directory> you could have **fr/FR** for fr_FR or **en/US/EST** for en_US_EST. If the <variant> folder doesn't exist, the system will search for the file under the <language>/<country> folder. The <country> variable is also optional, but only when <variant> is not specified. For a locale fr_FR_WIN, you can have **fr/FR/WIN**, **fr/FR**, or **fr/**, but **not fr/WIN**.

This validation.js file is given priority over the validation.js file in the <install>/repository/eardata/platform_uifwk/war/platform/scripts/directory.

After the localization is finished, the JavaScript file must be minified. For more information, refer to the information on compiling and minifying JavaScript files.

Date/Time Formats

Date and time formats can vary among countries. For example, April 2, 2003 could be written as 02/04/03 in one country and 04/02/03 in another country. You can use the validation.js file to localize date/time formats.

In validation.js, all date/time formats are in the PHP format. The validation.js file includes a Java-to-PHP conversion table.

User date/time formats are set as follows:

```
sc.plat.Userprefs.setDateFormat('m/d/Y');
sc.plat.Userprefs.setTimeFormat('H:i:s');
sc.plat.Userprefs.setTimestampFormat('Y-m-d\\TH:i:sP');
sc.plat.Userprefs.setMonthDisplayDateFormat('F Y');
sc.plat.Userprefs.setDayDisplayDateFomrat('N j');
sc.plat.Userprefs.setHourMinuteTimeFormat('H:i');
sc.plat.Userprefs.setDateHourMinuteFormat('m/d/Y H:i');
```

Server date/time formats are set as follows:

```
sc.plat.info.Application.setDateFormat('Y-m-d');
sc.plat.info.Application.setTimeFormat('H:i:s');
sc.plat.info.Application.setTimestampFormat('Y-m-d\\TH:i:sP');
```

The validation.js file also defines the following methods for converting the date/time between the server and user formats. In a localized file these methods can be modified.

- sc.plat.DateFormatter.dateFormatConverter

  Converts the date between the server and user formats.
- sc.plat.DateFormatter.timeFormatConverter

  Converts the time between the server and user formats.

Date Format Differences Between Java and JavaScript

Make sure that you use the proper date formatting (Java or JavaScript) to accurately format dates for locales. In JavaScript, the PHP/Ext JS format is supported.

The date formats in Java and JavaScript are not the same. The date 01/03/2010 is in the "MM/dd/yyyy" format in Java, which is equivalent to "m/d/Y" in JavaScript. In the same way, the date 1/3/10 (notice the missing zeros in the date and month) is in the "M/d/yy" format in Java, which is equivalent to "n/j/y" in JavaScript.

Type	SimpleDateFormat (Java)	PHP (Ext JS Supported)	Range	Example
Year	yyyy	Y	-	2003
	yy	y	-	03
Month	M	n	1-11	7, 10
	MM	m	01-11	07, 10
	MMM	M	Jan-Dec	Mar, Jul
	MMMM	F	January-December	March, July
Day in Month	d	j	1-31	5, 22
	dd	d	01-31	1, 22
Hour	h	g	1-12	1, 12
	hh	h	01-12	01, 12
	H	G	0-23	0, 23
	HH	H	00-23	00, 23
	K	-	0-11	0, 11
	KK	-	00-11	00, 11
	k	-	1-24	1, 24
	kk	-	01-24	01, 24
Minute	m	-	0-59	0, 59
	mm	i	00-59	00, 59
Seconds	s	-	0-59	0, 59
	ss	s	00-59	00, 59
	S	u	001-999	001, 999
Day in Week	-	N	1-7	4
	E	D	-	Tue

Type	SimpleDateFormat (Java)	PHP (Ext JS Supported)	Range	Example
	EEE	D	-	Tue
	EEEE	l	-	Tuesday
Day in Year	D(1-365/366)	-	1-365/366	2, 30, 234
	DD(1-365/366)	-	01-365/366	02, 30, 234
	DDD(1-365/366)	-	001-365/366	002, 030, 234
	-	z	0-364	0, 203
Day of Week in Month	F	-	1-7	1-7
Week in Year	w	W	1-53	1-53
Week in Month	W	-	1-5	1-5
Meridiem	-	a	am-pm	pm
	a	A	AM-PM	AM
Time Zone	Z	-	-	IST
	Z	Z	-	+530

Decimal Formats

The decimal format is set as follows:

```
sc.plat.Userprefs.setDecimalSeparator(".");
```

For example, in a German locale, this format would be set to:

```
sc.plat.Userprefs.setDecimalSeparator(",");
```

E-mail Addresses, Phone Number, and Credit Card Formats

The formats for e-mail addresses, phone numbers, and credit cards are set as follows. In a localized file, you can register new validators that are specific to a locale.

- `sc.plat.ValidateUtils.registerValidator ('email',sc.plat.ValidateUtils.emailFormatValidator);`
- `sc.plat.ValidateUtils.registerValidator ('creditcard',sc.plat.ValidateUtils.creditCardFormatValidator);`
- `sc.plat.ValidateUtils.registerValidator ('phone',sc.plat.ValidateUtils.phoneNumberFormatValidator);`

Web UI Framework Localization - Localizing the Structure of Panel Components

You can use the Web UI Framework to localize the structure (or order) of components in a screen panel, using a locale-specific bundle file. You can re-arrange the order of both words and graphics in a sentence.

Use sentence-based panels to localize the structure of panel components. The Web UI Framework lets you use static text for labels and editable controls that can be moved.

The following properties are used in the Ext.Panel object:

- scLocalizedKey

  The string that will be used as the basis for which controls will be created and/or re-arranged.
- scLocalizedLabelCss

  The localized label class that is applied to the label. The Web UI Framework provides this class.
- sc-plat-localizedLbl

  The class that is applied to all labels created by the Web UI Framework in a localized panel.

Web UI Framework Localization - Example of Localizing the Structure of Panel Components

The following examples shows two different outputs from the following sentence-based localized panel:

```
Ext.panel instance
      |
      |__scLocalizedSKey = "DiscountAmount"
      |
      |__scLocalizedLabelCss= "custom-css"
      |
      |__items (children)
           |
           |__Amount TextField
           |
           |__Discount comboField
```

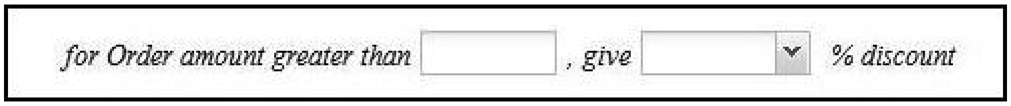
Using this instance of Ext.panel, the panel could appear differently in two locales. The %sciId values refer to the controls (text field and combo field).

Locale A code:

```
DiscountAmount = " for Order amount greater than {%sciId0} , give {%sciId1} %
discount."
Ext.panel instance

    |
    |__children
          |
          |__label "for Order amount greater than "
          |
          |__Amount TextField
          |
          |__label ", give "
          |
          |__Discount comboField
          |
          |__label " % discount. "
//all labels created with style 'custom-css' and 'sc-plat-localizedLbl'
```

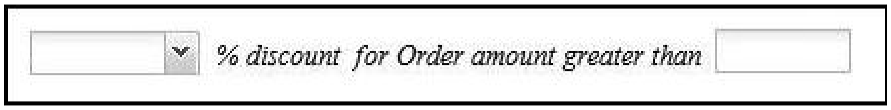
Locale A output:



Locale B code:

```
DiscountAmount = "{%sciId1} {xtype:'label,text:'% discount, for Order
amount greater than',cls:'custom-css'} {%sciId0} ."
Ext.panel instance
      |
      |__children
            |
            |__Discount comboField
            |
          |__string ``{xtype:'label,text:'% discount, for Order
amount greater than',cls:'custom-css'}`` will be passed to eval.
            |
            |__Amount TextField
```

Locale B output:



Web UI Framework Localization - Localizing UI Branding

The Web UI Framework allows you to customize UI branding in two ways.

- You can customize the Look and Feel of the UI by means of CSS files.
- You can customize the UI layout by using the Web UI Framework Extensibility Workbench.

Localizing Themes

The Look and Feel (which include themes and images) of the UI in the Web UI Framework is CSS file-driven. You can add, override, or modify these CSS files. The default theme CSS files provided by platform are present in:

```
INSTALL_DIR/repository/eardata/platform_uifwk/war/platform/css
```

To override one or more entries in the platform.css file for a locale, you need to provide them in a file with the same name as the original file (platform.css), and then copy it to the localized directory:

```
INSTALL_DIR/repository/eardata/platform_uifwk/war/localization/<locale>/platform/css
```

where *<locale>* is in the format `<language_code>/<country_code>/<variant>`. For example, **en/US/EST**.

The ext provided themes are present in the ext-all.css file in the directory:

```
INSTALL_DIR/repository/eardata/platform_uifwk/ext/2.2.1/war/ext/resources/css
```

You can follow a similar process to localize the themes in the ext-all.css file by creating your own ext-all.css file, providing your entries, and then copying it to the localized directory:

```
INSTALL_DIR/repository/eardata/platform_uifwk/ext/2.2.1/war/localization/<locale>/ext/resources/css
```

Localizing Icons

You can add your new images and/or icons to the *INSTALL_DIR*/repository/eardata/platform_uifwk/war/<*custom_path*> directory, where <*custom_path*> is the user-defined directory structure where the locale-specific images and/or icons are provided. For example: localeIcons/platformIcons.

For these new images and/or icons to be displayed in the application, you need to add an entry for them in the localized CSS file, which may be the platform.css or ext-all.css file. For more details, refer to the **Localizing Themes** section.

Customizing the UI Layout

You can customize the UI layout by using the Web UI Framework Extensibility Workbench.

Web UI Framework Localization - Bundle Collector Utility (Client Side)

You can index localization bundle files from different directories of the application using the JavaScript bundle collector and collator utility.

This tool does the following:

- Collects, into an index file, bundles defined in multiple JavaScript files (ending with _bundle.js).

  The index file's format is the standard Java properties file format. Duplicate bundle values are not included. Context-sensitive comments are included in the bundle file for reference during localization, only if the bundle value includes characters required for formatting a string and has a preceding comment.

- Generates JavaScript bundle files, given a localized bundle index file.

  Once the bundle index file is localized, the corresponding localized JavaScript must be regenerated.

The following shows examples of a bundle file (the _bundle.js file) and its corresponding entries in the bundle-index file.

JavaScript bundle file:

```
Ext.override(sc.plat.ui.Screen, {
    b_First_Name: "First Name",
    b_Last_Name: 'Last Name',
    // {1} - last name, {0} - first name (should be picked up by collector)
    b_Name: '{1}, {0}',
    // a context insensitive comment (should be ignored by collector)
    b_Search_View: "Search View"
});
```

Index file:

```
repository/eardata/<app>/war/<folder structure>/<full _bundle.js file
name>/sc.plat.ui.Screen/b_First_Name:First Name
repository/eardata/<app>/war/<folder structure>/<full _bundle.js file
name>/sc.plat.ui.Screen/b_Last_Name:Last Name
#//{1} - last name, {0} - first name (should be picked up by collector)
repository/eardata/<app>/war/<folder structure>/<full _bundle.js file
name>/sc.plat.ui.Screen/b_Name:{1}, {0}
```

```
repository/eardata/<app>/war/<folder structure>/<full _bundle.js file
name>/sc.plat.ui.Screen/b_Search_View:Search View
```

The keys on the left side are in the following format:

```
<relativeFilePath>/<className>/<bundleKey>
```

where:

- <relativeFilePath> : The path relative to the installation directory.
- / : Separator used to separate the relative file path, class name, and key name.
- <className> : Name of the js class. For example, from the _bundle.js sample code: sc.plat.ui.Screen.
- <bundleKey> : Key whose value is to be localized. For example, from the _bundle.js sample code: b_First_Name.

The bundle utility uses the following utility class:

com.sterlingcommerce.ui.web.framework.build.utils.SCJSBundleUtil

This class can run in the following modes, depending on what task you want to perform:

- index

  Generates an index of JavaScript bundle files.

  This mode generates the following files:

  1. bundle-index : Contains the entries from all _bundle.js files in the standard Java properties file format (refer to the sample contents provided above).
  2. duplicate-keys-map : Contains the entries of all the keys which have the same values. It is used for reference during the map mode (mandatory for the map mode).
  3. warnings_indexMode.log : Warnings encountered when the tool is run in index mode.

- map

  Generates localized JavaScript source files from the localized bundle index file.

  Running the tool in map mode generates the following files:

  1. warnings_mapMode.log : Any warnings encountered during map mode.
  2. All localized js bundle files.

The following table shows the arguments for these modes:

Mode	Arguments	Example

index	• -index
	The mode name.
	• -sourcedir
	The JavaScript source directory. It could be your webcontent directory or any of its parent directories.
	• -indexdir
	The directory to contain the generated index metadata. It is required when you are mapping the bundle back to the JavaScript source files.
	• -webcontentdepth
	(Optional) The depth of the webcontent directory. This defaults to 0.
	• -ignorefilter
	(Optional) Indicates what folders to exclude from the index. This defaults to `.*/localization/.*`
	• -debug
	(Optional) Indicates whether to run with the debug log enabled. This defaults to N (do not run with debug log enabled).
		`-index`
		`-Dsourcedir=<`*`install`*`>/repository/eardata/<`*`app_dir`*`>/war`
		`-Dindexdir=<`*`install`*`>/repository/eardata/<`*`app_dir`*`>/localization_index`
		`-webcontentdepth=1`
		`-debug`

map	• -map
	The mode name.
	• -sourcedir
	The JavaScript source directory.
	• -indexdir
	The original index metadata directory which was localized.
	• -indexfile
	The localized index file. For example, a localized file could be named bundle-index_en_US
	• -localizationdir
	(Optional) The localization output directory where the localized JavaScript source files will be generated. If it is not provided, then the <webcontent directory>/localization directory will be used.
	The index file will be generated at <outputdir>/ localization/
		`-map`
		`-Dsourcedir=<`*`install`*`>/repository/eardata/<`*`app_dir`*`>/war`
		`-Dindexdir= <`*`install`*`>/repository/eardata/<`*`app_dir`*`>/localization_index`
		`-Dindexfile=/INSTALL_TEST/Platform/fairlop/ranadive/RC3/install/repository/eardata/`*`appdir`*`/localization_index/bundle-index_fr_FR`
		`-webcontentdepth=1`
		`-debug`

Mode	Arguments	Example
	<LOCALE_DIRECTORIES>/<originalfilepath> LOCALE_DIRECTORIES refers to the locale. For example, for locale fr_FR, it is **/fr/FR**. • -webcontentdepth (Optional) The depth of the webcontent directory. This defaults to **0**. The localized files will be generated in the webcontent directory. • -ignorefilter (Optional) Indicates what folders to exclude from the index. This defaults to `.*/localization/.*` • -debug (Optional) Indicates whether to run with the debug log enabled. This defaults to N (do not run with debug log enabled).	

You also can use an ant XML utility (jsUtil.xml) to invoke the utility class com.sterlingcommerce.ui.web.framework.build.utils.SCJSBundleUtil. This ant utility can be used to test and run the utility classes. This utility does not expose everything that is supported by the class, but the supported items that it does expose can be used in most cases. If you need to invoke the actual class with custom arguments, this XML file can be used as a sample source file.

The jsUtil.xml file is located in the <*INSTALL_DIR*>/bin folder after the Web UI Framework is installed. Sample code for invoking the ant utility in the different modes is shown below:

• index mode

```
./sci_ant.sh -f jsUtil.xml bundle.index
-Dsourcedir=<INSTALL_DIR>/repository/eardata/<app_dir>/war
-Dindexdir=<INSTALL_DIR>/repository/eardata/<app_dir>/localization_index
```

• map mode

```
./sci_ant.sh -f jsUtil.xml bundle.map
-Dsourcedir=<INSTALL_DIR>/repository/eardata/<app_dir>/war
-Dindexdir=<INSTALL_DIR>/repository/eardata/<app_dir>/localization_index
-Dindexfile=<INSTALL_DIR>/repository/eardata/<app_dir>/localization_index/bundle-index_en_US
```

Changing Bundle Files in the Web UI Framework

You can change bundle files in one of two ways:

• Through localization.
• Through extensibility.

1. If you are changing a bundle file through localization, you must replicate the folder structure of your current bundle file in the localization folder of the application.

   For example, if your bundle file is at /folder1/folder2/x-bundle.js and you are localizing or replacing a bundle entry for the fr-FR locale, then you should create a bundle file with the new values for the bundles that you want to change and retain all existing values at /localization/fr/FR/folder1/folder2/x-bundle.js.

2. If you are changing a bundle file through extensibility, do the following:

   a) Create your bundle files which only have the bundle entries that you want to replace.

   b) Identify the target name of the JSB that is being used to render the screen whose bundles should be replaced. The name should be entered in the loadAfter attribute of your JSB.

   c) Specify only the path and name of your bundle-js file in the extn directory in the tag <include name>. For example:

```
<?xml version="1.0" encoding="utf-8"?>
<project name="scuiIDE"
            author="Sterling Commerce Pvt.Ltd">
    <target name="flight_route"
<!-- The name attribute in <target> is used to uniquely identify this JSB in
 the
application. It serves as its identifier.-->
            file="/extn/stk/flightRoute/test-all.js"
            loadAfter="flightService"
<!-- The loadAfter attribute in <target> is used to specify the javascript
library
after which the current JSB should be rendered.-->
            allowDynamicLoad="true"
            debug="True"
            shorthand="False"
            shorthand-list="">
        <include name="/extn/stk/flightRoute/flightRouteList_bundle.js"/>
    </target>
</project>
```

Compiling and Minifying JavaScript Files in the Web UI Framework

1. Run the jscompile command to get possible JavaScript compilation warnings using the sci_ant.sh command from the <*Install*>/bin directory. This command works with the jsUtil.xml file in the same directory. This command can include the following properties:

   Note: This is an optional step and not a requirement for minification.

   • gis.install: Installation directory path.

   • srcDir: Source directory.

   • errorOnly: Indicates whether to check for all warnings and errors (false) or for errors only (true). Defaults to **false**.

   • format: Output format - (h) for html/(t) for text. Defaults to **t**. If errorOnly is set to true, only html (h) is the valid option.

- outputFile: Output file path. If file path is not provided or file doesn't exist. all warnings will be directed to standard output.
- warningOptions: Warning options (comma separated). Default options: [onevar, undef, forin, debug, browser, eqeqeq, newcap, evil]. For all warning options, see http://www.jslint.com/

For example:

```
./sci_ant.sh -f jsUtil.xml jscompile -Dgis.install=<Install Dir>
-DsrcDir=<Install Dir>/repository/eardata/platform_uifwk/war/platform
```

Note: If you are using sci_ant.sh, then gis.install becomes optional.

2. Combine your files into one file by minifying the files using the sci_ant.sh command from the <*Install*>/bin directory. This command works with the jsUtil.xml file in the same directory. This command can include the following properties:

- gis.install: Installation directory path.
- jsbDir: JSB directory path (mandatory).
- minify: Indicates whether files should be minified (true/false). Defaults to **true** (minify files). Optional.
- srcDir: Source directory. Will be used if input attribute is not specified in JSB. Optional.
- destDir: Destination directory. Will be used if input attribute is not specified in JSB. Optional.
- createIndividualFile: Indicates whether to create individual files (true/false). Defaults to **false** (do not create individual files). Optional.
- jscompile: Indicates whether to get JavaScript warning/errors (true/false). Defaults to **true** (get errors).

For example:

```
./sci_ant.sh -f jsUtil.xml minify-js -Dgis.install=<Install Dir>
-DsrcDir=<Install Dir>/repository/eardata/platform_uifwk/war -DjsbDir=<Install
 Dir>/repository/eardata/platform_uifwk/war/builder -DdestDir=<Install
Dir>/repository/eardata/platform_uifwk/war
```

Note: If you are using sci_ant.sh, then gis.install becomes optional.

If minification is required for extended JavaScript files, you should create an extn folder within the directory where overlays/extensions are added (<*install-dir*>/extensions/<*application name*>/webpages). Copy all of the files to be minified to that directory. You must follow the process of creating the same relative directory structure for extensibility. You can then run the minification script successfully because the minified file path in the JSB file does exist.

When you run the buildear/buildwar script, the following happens:

1. First, all contents of the overlays/extensions directory except the extn directory are copied to the <*application war*>/extn directory.
2. Then, the contents of the extn directory in the overlays/extensions directory get copied to the <*application war*>/extn directory. As the contents of this directory are copied last, it would override the contents contributed by overlays/extensions directory in case of a conflict (same directory structure).