Widgets v2 Class API

To define how the widget behaves in Wakanda Studio's GUI Designer in the **designer.js** file, refer to the functions in the **Studio** category.
In the **widget.js** file, you develop your custom widget with functions in this API.
You can manipulate the instance of your widget (either in the code or at runtime) by using the functions in **Widgets v2 Instance API**.

DOM Helpers

The **mapDomEvents( )** function in this category allows you to map a DOM event to either a DOM event or a custom event you created by using the **fire( )** function.

mapDomEvents( )

void **mapDomEvents**(Object *map* [, String *selector*])

Parameter	Type	Description
map	Object	DOM event(s) mapped to one or more events
selector	String	A CSS selector that restricts the DOM event to a specific sub node

Description

mapDomEvents( ) allows you to define one or more events to execute for a DOM event defined in *map*. The event can either be a DOM event or a custom event that you create using the **fire( )** function.

By calling this function, *event* is added automatically to the **Events** tab in the GUI Designer in the "General Events" category. See the below. You can modify the display name and the category by calling the **addEvent( )** or **addEvents( )** functions.

For more information regarding DOM events, refer to **DOM events**.

map property

In the *map* parameter, you define the DOM event to map to one or more events.

Attribute	Description
domEvent	DOM event (i.e., "click","dblclick")
event	Custom event created using the **fire( )** function

domEvent and *event* must begin with a lowercase letter, can contain only letters and numbers, and must not include any spaces.

Example

To enable a DOM event for your custom widget, you pass the same event as the domEvent:

```
CustomWidget.mapDomEvents({
    'click': 'click',
    'dblclick': 'dblclick'
});
```

To assign multiple DOM events to an event:

```
CustomWidget.mapDomEvents({
    'mouseover mousedown': 'myEvent'
});
```

To assign multiple events to a DOM event:

```
CustomWidget.mapDomEvents({
    'click': ['action1','action2']
});
```

To affect an event to a DOM event for a particular CSS selector:

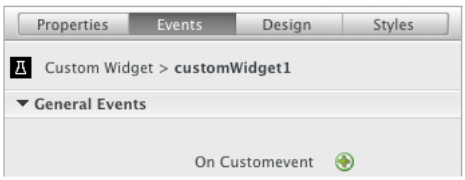
```
CustomWidget.mapDomEvents({
    'click': 'action1'
}, 'span.waf-selected'));
```

Example

The following code placed in the "widget.js" file binds the "customevent" to the standard DOM click event so that "customevent" will be fired when you click on the custom widget:

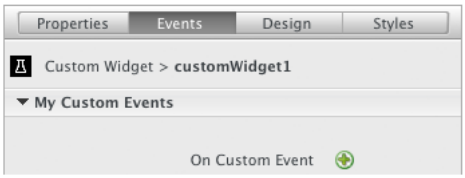
```
CustomWidget.mapDomEvents( { 'click': 'customevent' } );
```

Your "customevent" appears as shown below in the GUI Designer:



If you wan to customize the display of the event, you can write the following in your "designer.js" file:

```
CustomWidget.addEvent({
    'name':'customevent',
    'description':'On Custom Event',
    'category':'My Custom Events'
});
```


Properties
Events
Design
Styles
Custom Widget > customWidget1
My Custom Events
On Custom Event

Methods Helper

The functions in the Methods Helper category allow you to create class or instance methods for your widget as well as defining callbacks at different times.

addClassMethod( )

void **addClassMethod**(String *name*, Function *function*)

Parameter	Type	Description
name	String	Class method name
function	Function	Function for the class method

Description

addClassMethod( ) allows you to create a class method for your custom widget.

```
CustomWidget.addClassMethod('testClassMethod', function(that){
  // do something
});
```

addClassMethods( )

void **addClassMethods**(Object *object*)

Parameter	Type	Description
object	Object	An object for each class method { name: function() }

Description

addClassMethods( ) allows you to create multiple class methods for your custom widget.

```
CustomWidget.addClassMethods({
        testClassMethod1: function(that){
              //do something
        },
        testClassMethod2: function(that){
              //do something
        }
  });
```

addMethod( )

void **addMethod**(String *name*, Function *function*)

Parameter	Type	Description
name	String	Instance method name
function	Function	Function for the instance method

Description

addMethod( ) allows you to create an instance method for your custom widget.

```
CustomWidget.addMethod('testClassMethod', function(that){
  // do something
});
```

addMethods( )

void **addMethods**(Object *object*)

Parameter	Type	Description
object	Object	An object for each instance method { name: function() }

Description

addMethods( ) allows you to create multiple instance methods for your custom widget.

```
CustomWidget.addMethods({
        testClassMethod1: function(that){
              //do something
        },
        testClassMethod2: function(that){
              //do something
        }
  });
```

doAfter( )

void **doAfter**(String *name*, Function *callback*)

Parameter	Type	Description
name	String	Name of the instance method
callback	Function	Function to call after

Description

doAfter( ) allows you to replace the ***name*** instance method with a new one that calls the ***callback*** after the original function.

doAfterClassMethod( )

void **doAfterClassMethod**(String *name*, Function *callback*)

Parameter	Type	Description
name	String	Name of the class method
callback	Function	Function to call after

Description

doAfterClassMethod( ) allows you to replace the ***name*** class function with a new one that calls the ***callback*** after the original function.

doBefore( )

void **doBefore**(String *name*, Function *callback*)

Parameter	Type	Description
name	String	Name of the instance method
callback	Function	Function to call before

Description

doBefore( ) allows you to replace the ***name*** instance function with a new one that calls the ***callback*** before the original function.

doBeforeClassMethod( )

void **doBeforeClassMethod**(String *name*, Function *callback*)

Parameter	Type	Description
name	String	Name of the class method
callback	Function	Function to call before

Description

doBeforeClassMethod( ) allows you to replace the ***name*** class function with a new one that calls the ***callback*** before the original function.

wrap( )

void **wrap**(String *name*, Function *wrapper*)

Parameter	Type	Description
name	String	Function to wrap
wrapper	Function	Wrapper function callback

Description

wrap( ) allows you to wrap the ***name*** instance method so it is available as the first argument of the ***wrapper*** method.

wrapClassMethod( )

void **wrapClassMethod**(String *name*, Function *wrapper*)

Parameter	Type	Description
name	String	Function to wrap
wrapper	Function	Wrapper function callback

Description

wrapClassMethod( ) allows you to wrap the ***name*** class method so it is available as the first argument of the ***wrapper*** method.

Properties

The functions in this category allow you to create properties for your widget, retrieve an array of them, and remove one if necessary.

addProperty( )

void **addProperty**(String *name* [, Object *options*])

Parameter	Type	Description
name	String	Property name
options	Object	Object defining the attributes for a property

Description

addProperty( ) allows you to create a property for your widget by defining its ***name*** and ***options***.
This function creates two properties for your custom widget for the *propertyName* that you define in ***name***:

- **data-{*propertyName*}**: default (static) value for this property
- **data-binding-{*propertyName*}**: name of the attribute bound to this property (datasource)

If you have defined a property of type "datasource", the properties are:

- **data-static-{*propertyName*}**: default (static) values for this property
- **data-{*propertyName*}**: name of the datasource bound to this property
- **data-{*propertyName*}-attribute-{*attributeName*}:** datasources bound to each attribute

If you have defined a property of type "list", the property created is:

- **data-{*propertyName*}**: default (static) value for this property

To add a Label property, which is an automated feature in Wakanda Studio, use the **addLabel( )** function in your custom widget's "designer.js" file.
You can also add a property directly in the widget.create() function. For more details, refer to **Adding a property**.

name property

You define the name of your property in the *name* property.
All property names must be in all lowercase letters because at runtime all property names are returned in lowercase letters.
The property's value can be retrieved and set using the following syntax: **{propertyName}( )**. The value that comes from the datasource bound to the widget will be returned even if a static value was entered.
***Note**: To make sure that you do not use a reserved keyword, refer to **Reserved Keywords for Widgets v2 API**.*

options property

In the *options* property, you can define the following options:

Property	Type	Description
type	String	Widget type
defaultValue		Default value of the widget
defaultValueCallback	Function	Callback to define the widget's default value
onChange	Function	Function to be called during the widget's onChange event, which occurs when the value is changed
attributes	Array	Array of objects in which each attribute is defined in an object (name: "attributeName") for properties of type "datasource" and "list"
values	Object	Object to define the value and its display value for properties of type "enum"
bindable	Boolean	True/False: define if the property is bindable to a datasource (valid for all types except "datasource" and "list")

type property

The *type* property can be one of the following values:

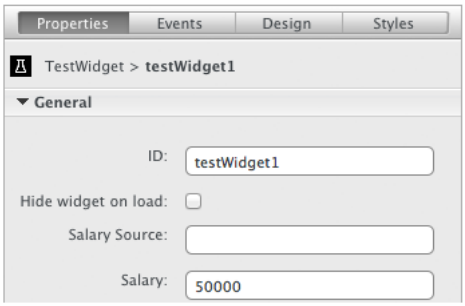
Type	Description
string	If no property type is defined, it is by default string. (For more information, refer to **Property of type string**.)
integer	This property returns an integer value. (For more information, refer to **Property of type integer**.)
boolean	Returns either true or false. In the GUI Designer, this property is displayed as a checkbox. (For more information, refer to **Property of type boolean**.)
datasource	Multiple *attributes* can be defined and in the GUI Designer they can either be static values or datasources. (For more information, refer to **Property of type datasource**.)
list	For this property, you can create multiple attributes in which you define one or more elements that are all static values. (For more information, refer to **Property of type list**.)
enum	A list of *values* displayed as a dropdown in the GUI Designer. (For more information, refer to **Property of type enum**.)

defaultValue property

You define the property's default value in the *defaultValue* property. The type passed to this attribute depends on the property's *type*.
If you have a property of type "integer", you would pass a numeric value as shown below:

```
TestWidget.addProperty('salary', {
    type: "integer",
    defaultValue: 50000
});
```

The value you define appears for the static field for the property:



defaultValueCallback property

In the *defaultValueCallback* property, you can define a function that will be called to set the default value of your property.

```
TestWidget.addProperty('title', {
    defaultValueCallback: function(){
           //do something here
    }
});
```

In the callback function, *this* is the instance of the widget.

onChange property

You pass a callback function to the *onChange* property. Each time the property is changed, this callback is called. The callback's parameter is the changed value of the property.
In the following example, the widget's value is updated at runtime when it changes. The custom widget's value is in the test() function (whose name comes from the property's name).

```
TestWidget.addProperty('test', {
        onChange: function(newValue) {
            this.node.innerHTML = this.test(); //test() contains the widget's value at runtime
        }
    });
```

In the callback function, *this* is the instance of the widget.

attributes property

The *attributes* property, which is used for properties of type "datasource" and "list", is an array of objects in which you define in an array element an attribute name to the *name* attribute. For example:

```
attributes: [{
    name: 'value'
    }, {
    name: 'label'
}]
```

values property

The *values* property, which is used for a property of type "enum", is an object in which you create an attribute for each value (value: "display value"). For example:

```
"values": {
    value1: "display value 1",
    value2: "display value 2"
   }
```

bindable property

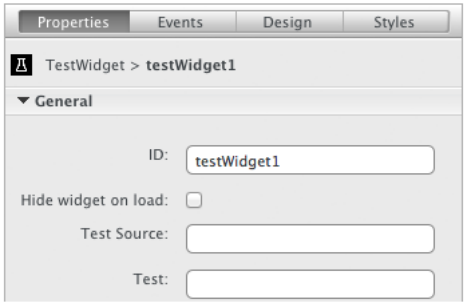
The *bindable* property defines if you want both the "static" field and the "datasource" field to be displayed for a property. By default, both appear.
If you set *bindable* to false, the property's "datasource" field will not be displayed.

Example

In the example below, we define the "test" property, which is by default of type "string".

```
TestWidget.addProperty('test');
```

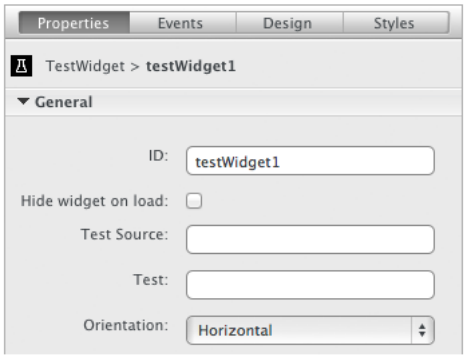
The property appears as two fields "Test Source" and "Test". You can insert a datasource in the "Test Source" field and a static value in the "Test" field.



Example

In the following example, we define a property that will be displayed as a dropdown and does not have a "source" field attached to it:

```
CustomWidget.addProperty('orientation', {
    type: "enum",
    "values": {
        horizontal: "Horizontal",
        vertical: "Vertical"
    },
    bindable: false
});
```

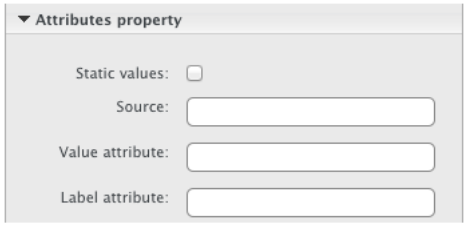


Example

In this example, we define the "attributes" property of type "datasource":

```
CustomWidget.addProperty('attributes', {
    type: "datasource",
    attributes: [{
        name: 'value'
    }, {
        name: 'label'
    }]
});
```

In this section on the **Properties** tab, you can define the datasources for the attributes defined:



If you click on the **Static binding** checkbox, you can define static values for the attributes:

getProperties( )

Array Function **getProperties** ( )

Returns	Array	Array of the widget's defined properties

Description

getProperties( ) returns in an array the widget's properties that were added using **addProperty( )**.

removeProperty( )

void **removeProperty**(String *name*)

Parameter	Type	Description
name	String	Property name

Description

removeProperty( ) allows you to remove a property from your widget by passing its *name*.

Example

In the example below, we remove the "test" property.

```
CustomWidget.removeProperty('test');
```

Studio

When creating a new widget, use the functions below in the **designer.js** file to define how your custom widget will be displayed and used in Wakanda Studio's GUI Designer:

```
(function(CustomWidget) {
      // "CustomWidget" is the name of your custom widget
      // define how your widget will appear/interact in the GUI Designer
});
```

addEvent( )

void **addEvent**(Object *event*)

Parameter	Type	Description
event	Object	Widget event

Description

addEvent( ) allows you to define an event for a widget to be displayed in the **Events** tab of the GUI Designer. The ***event*** is defined in an object. You must, however, create the event in the "widget.js" file by using the **fire( )** or **mapDomEvents( )** functions.

For more information regarding DOM events, refer to **DOM events**.

event object

Here are the properties to define an event:

Property	Description
name	Either one of the predefined events in Wakanda or a custom internal name. *name* must begin with a lowercase letter, can contain only letters and numbers, and must not include any spaces.
description	The title of the event to display
category	The category of the event (either as defined by Wakanda or your own)

Example

Below is an example to add an event to a widget:

```
widget.addEvent({
    'name':'eventName',
    'description':'Event Name',
    'category':'Category Name'
});
```

addEvents( )

void **addEvents**(Array *events*)

Parameter	Type	Description
events	Array	Widget events

Description

addEvents( ) allows you to define multiple events for a widget to be displayed in the **Events** tab of the GUI Designer. The ***events*** are defined in an array of objects in which each event is defined in an object. You must, however, create the event in the "widget.js" file by using the **fire( )** or **mapDomEvents( )** functions.

For more information regarding DOM events, refer to **DOM events**.

event object

Here are the properties to define an event:

Property	Description
name	Either one of the predefined events in Wakanda or a custom internal name. *name* must begin with a lowercase letter, can contain only letters and numbers, and must not include any spaces.
description	The title of the event to display
category	The category of the event (either as defined by Wakanda or your own)

Example

Here is an example of how to define multiple events for a widget:

```
widget.addEvents([{
    'name': 'click',
    'description': 'On Click',
    'category': 'Mouse Events'
},{
    'name': 'mouseover',
    'description': 'On Mouse Over',
    'category': 'Mouse Events'
}]);
```

addLabel( )

void **addLabel** (labelDefinition)

Parameter	Type	Description
labelDefinition	Object	Object defining Label widget's default value and position

Description

addLabel( ) allows you to add a Label widget to your custom widget. You can then define it's title in the **Properties** tab as well as its default position in the *labelDefinition* object that you pass to this function. The **Label** property will be the last one in the list; however, it will appear before any properties of type "list" or "datasource".

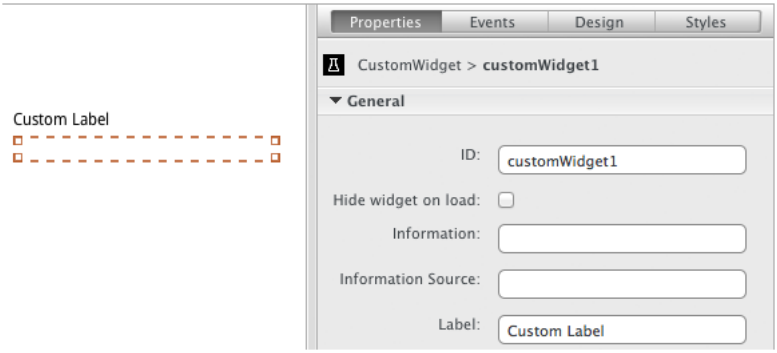
Property	Description
defaultValue	Default value for the Label property
position	Label's default position (top, left, bottom, or right). By default, the position is left.

Example

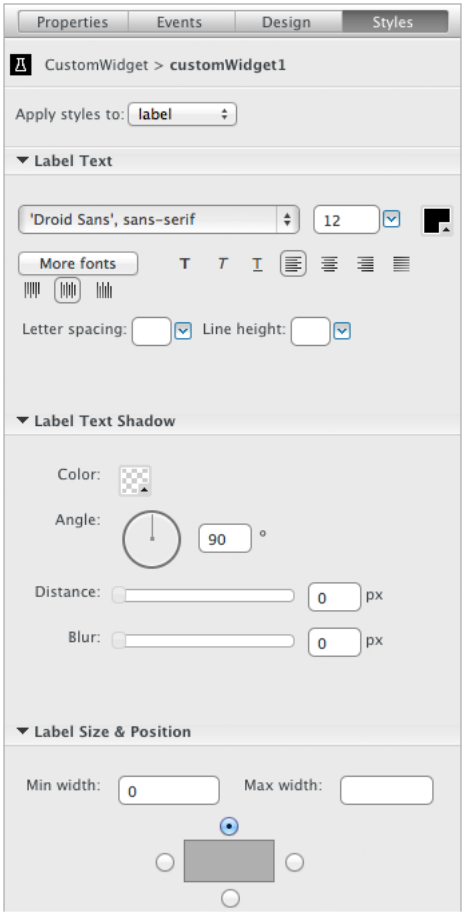
In this example, we create a Label property for our custom widget:

```
CustomWidget.addLabel({
  'defaultValue': 'Custom Label',
  'position': 'top'
});
```

In the GUI Designer, the **Label** property appears on the **Properties** tab. The *defaultValue* is entered by default for the Label property and a Label widget is created and attached to the custom widget automatically.



The **Styles** tab also contains the following sections to customize for your custom widget's **Label** property:



addState( )**NOT PUBLIC**

void **addState**NOT PUBLIC**** (Object *state*)

Parameter	Type	Description
state	Object	Object defining a particular state in the Styles tab

Description

addState( )NOT PUBLIC**** allows you to define a state in the **Styles** tab. For each state, the same sections are displayed as those defined in the **setPanelStyle( )** function.

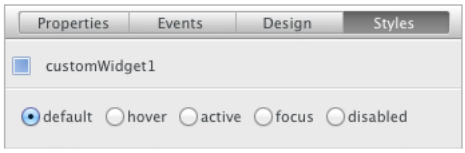
state object properties

Below is a table describing the different properties that you can define for a state:

Property	Description
label	Label of the state to display
cssClass	Name of the CSS class to add for the state.
find	Pass a CSS class to apply the CSS class defined in the cssClass property.
mobile	True/False = display the state for mobile pages.

Example

The following example sets four states in the **Styles** tab:




```
customWidget.addState({
    label: 'hover',
    cssClass: 'waf-state-hover',
    find: '',
    mobile: false
});
widget.addState({
    label: 'active',
    cssClass: 'waf-state-active',
    find: '',
    mobile: false
});
widget.addState({
    label: 'focus',
    cssClass: 'waf-state-focus',
    find: '',
    mobile: false
});
widget.addState({
    label: 'disabled',
    cssClass: 'waf-state-disabled',
    find: '',
    mobile: false
});
```

addStates( )**NOT PUBLIC**

void **addStates**NOT PUBLIC**** (Array *states*)

Parameter	Type	Description
states	Array	Array of objects defining states in the Styles tab

Description

addStates( )NOT PUBLIC**** allows you to define multiple states in the **Styles** tab. For each state, the same sections are displayed as those defined in the **setPanelStyle( )** function.

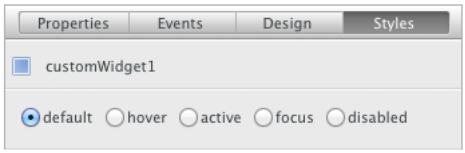
state object properties

Below is a table describing the different properties that you can define for a state:

Property	Description
label	Label of the state to display
cssClass	Name of the CSS class to add for the state.
find	Pass a CSS class to apply the CSS class defined in the cssClass property.
mobile	True/False = display the state for mobile pages.

Example

The following example sets four states in the **Styles** tab:




```
customWidget.addStates([{
    label: 'hover',
    cssClass: 'waf-state-hover',
    find: '',
    mobile: false
},{
    label: 'active',
    cssClass: 'waf-state-active',
    find: '',
    mobile: false
},{
    label: 'focus',
    cssClass: 'waf-state-focus',
    find: '',
    mobile: false
},{
    label: 'disabled',
    cssClass: 'waf-state-disabled',
    find: '',
    mobile: false
}]);
```

addStructure( ) **NOT PUBLIC**

void **addStructure **NOT PUBLIC**** (Object *structure*)

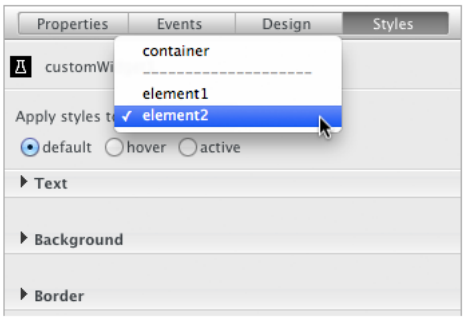
Parameter	Type	Description
structure	Object	Definition of a structure for an element of the widget and its states in the GUI Designer's Styles tab

Description

The **addStructure( ) **NOT PUBLIC**** method allows you to define a more complex structure defining states and elements for your widget in the **Styles** tab.

structure object

You can define the subelements of your widget so that they appear in the dropdown menu in the GUI Designer's **Styles** tab to then be able to modify the styles for each CSS selector:



The “container” option is displayed by default if you have a "label" element or if you define a structure with this function.
You define the following elements in the *structure* array of objects:

Property	Type	Description
description	String	Name of the widget’s sub element displayed in the dropdown in the Styles tab
selector	String	CSS selector of the sub element
style	Object	Define which sections in the Styles tab to display
state	Array	An array of objects defining the label and CSS class for each state

style properties

Below is a table describing the different properties that you can show or hide in the **Skins** and **Styles** tab:

Tag	Style Property	Description
fClass	CSS Classes and Widget Role	True/False = show the “General” section on the **Design** tab, which contains the CSS Classes and Widget Role properties.
text	Text	True/False = show show the “Text” section on the **Styles** tab.
background	Background	True/False = show show the “Background” section on the **Styles** tab.
border	Border	True/False = show to show the “Border” section on the **Styles** tab.
sizePosition	Size & Position	True/False = show show the “Size & Position” section on the **Styles** tab.
textShadow	Shadow	True/False = show show the “Text Shadow” section on the **Styles** tab.

dropShadow	Drop Shadow	True/False = show show the “Drop Shadow” section on the **Styles** tab.
innerShadow	Inner Shadow	True/False = show show the “Inner Shadow” section on the **Styles** tab.
disabled	Disabled	An array of attributes to disable specific properties in certain sections on the **Styles** tab.

disabled Property in the style Array

In this property, you define which of the individual items in the Styles tab you’d like to disable/hide. The sections that are not accessible are the “X” and “Y” properties in the “Size & Position” section as well as the “Label Text” and “Label Size & Position” sections, which are managed internally as mentioned above.

Section	Style Property	Tag
Text	Font	font-family
	Size	font-size
	Color	color
	Bold	font-weight
	Italic	font-style
	Underline	text-decoration
	Text Align	text-align
	Letter-Spacing	letter-spacing
Background	Background	background
	Background Image	background-image
	Background Repeat	background-repeat
	Gradient	background-gradient
Border	Color	border-color
	Style	border-style
	Size	border-size
	Radius	border-radius
Size & Position	Width	width
	Height	height
	z-index	z-index
	Left	left
	Top	top

The *disabled* property is an array in which you define the style properties to hide per section:

```
disabled: ['border-radius','background-image','background-repeat']
```

***Note**: Even if an individual element cannot be hidden in the Styles tab (i.e., “X” and “Y” properties in the “Size & Position” section), you can still hide the entire section in the style property by setting sizePosition to false.*

***Note**: The “letter-spacing” tag hides the “Letter Spacing” field in both the “Text” and “Label Text” sections on the Styles tab.*

state array

Each object in the *state* array has the following properties:

Property	Type	Description
label	String	Label of the subelement in the **Styles** tab
cssClass	String	CSS selector of the sub element
find	String	Define which CSS selector to apply the cssClass property
mobile	Boolean	True/False = only availalable for the mobile platform

Example

The code below defines the subelements as shown in the screen shot above:

```
widget.addStructure({
    description: 'element1',
    selector: '.classElement1',
    style: {
        'text': true,
        'background': true,
        'border': true
    }
});
widget.addStructure({
    description: 'element2',
    selector: '.classElement2',
    style: {
        'text': true,
        'background': true,
        'border': true
    },
    state: [{
        label: 'hover',
        cssClass: 'element2-state-hover',
        find: '.classElement2',
        mobile: false
    }, {
        label: 'active',
        cssClass: 'element2-state-active',
        find: '.classElement2',
```

```
        mobile: false
    }]
});
```

addStructures( ) **NOT PUBLIC**

void **addStructures **NOT PUBLIC****(Array *structures*)

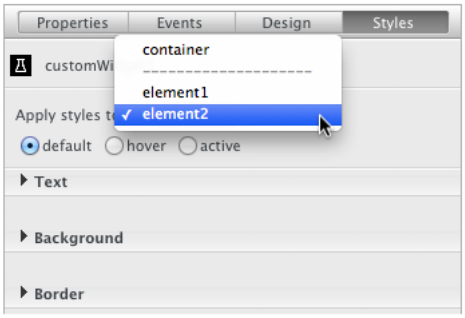
Parameter	Type	Description
structures	Array	Definition of structures for a widget's elements and their states in the GUI Designer's Styles tab

Description

The **addStructures( ) **NOT PUBLIC**** method allows you to define a more complex structure defining states and elements for your widget in the **Styles** tab.

structure object

You can define the subelements of your widget so that they appear in the dropdown menu in the GUI Designer's **Styles** tab to then be able to modify the styles for each CSS selector:



The “container” option is displayed by default if you have a "label" element or if you define a structure with this function.
You define the following elements in the *structure* array of objects:

Property	Type	Description
description	String	Name of the widget’s sub element displayed in the dropdown in the Styles tab
selector	String	CSS selector of the sub element
style	Object	Define which sections in the Styles tab to display
state	Array	An array of objects defining the label and CSS class for each state

style properties

Below is a table describing the different properties that you can show or hide in the **Skins** and **Styles** tab:

Tag	Style Property	Description
fClass	CSS Classes and Widget Role	True/False = show the “General” section on the **Design** tab, which contains the CSS Classes and Widget Role properties.
text	Text	True/False = show show the “Text” section on the **Styles** tab.
background	Background	True/False = show show the “Background” section on the **Styles** tab.
border	Border	True/False = show to show the “Border” section on the **Styles** tab.
sizePosition	Size & Position	True/False = show show the “Size & Position” section on the **Styles** tab.
textShadow	Shadow	True/False = show show the “Text Shadow” section on the **Styles** tab.
dropShadow	Drop Shadow	True/False = show show the “Drop Shadow” section on the **Styles** tab.
innerShadow	Inner Shadow	True/False = show show the “Inner Shadow” section on the **Styles** tab.
disabled	Disabled	An array of attributes to disable specific properties in certain sections on the **Styles** tab.

disabled Property in the style Array

In this property, you define which of the individual items in the Styles tab you’d like to disable/hide. The sections that are not accessible are the “X” and “Y” properties in the “Size & Position” section as well as the “Label Text” and “Label Size & Position” sections, which are managed internally as mentioned above.

Section	Style Property	Tag
Text	Font	font-family
	Size	font-size
	Color	color
	Bold	font-weight
	Italic	font-style
	Underline	text-decoration
	Text Align	text-align
	Letter-Spacing	letter-spacing
Background	Background	background
	Background Image	background-image
	Background Repeat	background-repeat
	Gradient	background-gradient
Border	Color	border-color

	Style	border-style
	Size	border-size
	Radius	border-radius
Size & Position	Width	width
	Height	height
	z-index	z-index
	Left	left
	Top	top

The *disabled* property is an array in which you define the style properties to hide per section:

```
disabled: ['border-radius','background-image','background-repeat']
```

***Note**: Even if an individual element cannot be hidden in the Styles tab (i.e., "X" and "Y" properties in the "Size & Position" section), you can still hide the entire section in the style property by setting sizePosition to false.*

***Note**: The "letter-spacing" tag hides the "Letter Spacing" field in both the "Text" and "Label Text" sections on the Styles tab.*

state array

Each object in the *state* array has the following properties:

Property	Type	Description
label	String	Label of the subelement in the **Styles** tab
cssClass	String	CSS selector of the sub element
find	String	Define which CSS selector to apply the cssClass property
mobile	Boolean	True/False = only availalable for the mobile platform

Example

The code below defines the subelements as shown in the screen shot above:

```
widget.addStructures([{
    description: 'element1',
    selector: '.classElement1',
    style: {
        'text': true,
        'background': true,
        'border': true
    }
},{
    description: 'element2',
    selector: '.classElement2',
    style: {
        'text': true,
        'background': true,
        'border': true
    },
    state: [{
        label: 'hover',
        cssClass: 'element2-state-hover',
        find: '.classElement2',
        mobile: false
    }, {
        label: 'active',
        cssClass: 'element2-state-active',
        find: '.classElement2',
        mobile: false
    }]
}]);
```

customizeProperty( )

void **customizeProperty**(String *property*, Object *options*)

Parameter	Type	Description
property	String	Property name as defined in the widget.js file
options	Object	Options to customize for the property

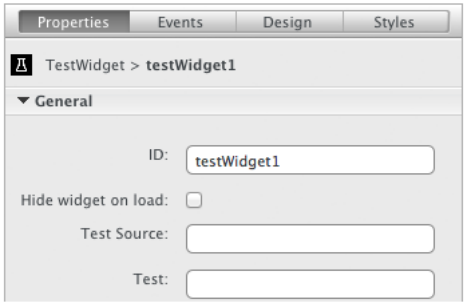
Description

customizeProperty( ) allows you to customize a widget's property in the GUI Designer. Before calling this function, you must first create *property* in the "widget.js" file by using the **addProperty( )** function.

By default, when you define a property in the "widget.js" file its actual name appears in the **Properties** tab along with another field whose name is the property name plus "Source" to show that it's a datasource. In our example, we created a property named "test" in the "widget.js" file:

```
TestWidget.addProperty('test');
```

It appears by default as shown below in the **Properties** tab for our widget:



options parameter

You can use the **customizeProperty( )** function by defining the following attributes in the *options* object:

Property	Description
title	Title of the static field for the property
sourceTitle	Title of the source field for the property
display	True/False = display the static field for the property
sourceDisplay	True/False = display the source field for the property

***Note**: You must specify both the display and sourceDisplay property if you set either one to false. Otherwise, both are defined as true.*

Example

In the following example, we create a property for our widget in the "widget.js" file:

```
TestWidget.addProperty('info');
```

Then, we change the "Info Source" property's title and do not display the static "Info" property in the GUI Designer:

```
TestWidget.customizeProperty('info', {
    sourceTitle: 'Information Source',
    display: false,
    displaySource: true
});
```

on( ) **NOT PUBLIC**

void **on **NOT PUBLIC****(String *event*, Function *callback*)

Parameter	Type	Description
event	String	Event to run the callback function
callback	Function	Callback function to run for specified event

Description

on( ) **NOT PUBLIC** allows you to execute ***callback*** for an ***event***. The following events are allowed:

Event	Description
Display	When the custom widget is displayed in the GUI Designer
DSDrop	When the custom widget receives a datasource that has been dropped on it
Move	When the custom widget is moved
Resize	When the custom widget is resized
WidgetDrop	When a widget is dropped onto the custom widget
WidgetStartDrag	At the beginning of when a widget is dragged
WidgetDrag	When a widget is being dragged (its position is relative to waf-body)

event object

Depending on the ***event*** you intercept with your ***callback***, the event object varies.

event object for Display

For the Display event, the event object contains the widget's properties as defined in the "designer.js" file.

event object for DSDrop

The **event.source.name** property contains the name of the datasource dropped onto the widget. The value is the exact same one that appears in the **Properties** list.

event object for Move

For the Move event, only the following properties are available:

Property	Description
originalPosition	An object containing the widget's position before the Move event. Its properties are left and top.
position	An object containing the widget's position after the Move event. Its properties are left and top.

event object for Resize

For the Resize event, only the following properties are available:

Property	Description
originalPosition	An object containing the widget's position before the Resize event. Its properties are left and top.
originalSize	An object containing the widget's position before the Resize event. Its properties are height and width.
position	An object containing the widget's position after the Resize event. Its properties are left and top.
size	An object containing the widget's position after the Resize event. Its properties are height and width.

event object for WidgetDrag

For the WidgetDrag event, only the following properties are available:

Property	Description
originalPosition	An object containing the widget's position for the WidgetDrag event. Its properties are left and top.
parent	Either "document" if the widget is on the Page and not in another widget, or the widget.
position	An object containing the widget's position for the WidgetDrag event. Its properties are left and top.

event object for WidgetDrop

For the WidgetDrop event, only the following properties are available:

Property	Description
draggableTag	The widget that was dropped into your widget.

event object for WidgetStartDrag

For the WidgetStartDrag event, only the following properties are available:

Property	Description
parent	Either "document" if the widget is on the Page and not in another widget, or the widget.
position	An object containing the widget's position for the WidgetStartDrag event. Its properties are left and top.

Getting information about parent widget

You can obtain information about the widget (which is called its "parent") in which your custom widget is located.
For example, to get the widget's ID, you can write:

```
var parentID = event.parent.tag.getId(); // for example, container1
```

To get its type, you can write:

```
var parentType = event.parent.tag.getType(); // for example, container
```

this

The *event* parameter is an object containing the widget as it was defined in "designer.js".
Inside *callback*, **this** is an object that represents the widget at runtime.

Example

The following example inserts the custom widget's "data-binding" attribute when displaying the widget in the GUI Designer:

```
widget.on('Display', function(event) {
    $('#' + this.id).html(event['data-binding']); // insert the name of the datasource inside of the widget's main DOM no
});
```

orderEvents( )

void **orderEvents** (events)

Parameter	Type	Description
events	Array	An array defining the order of the events

Description

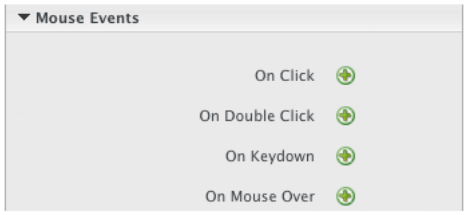
orderEvents( ) allows you to order the events to display in the **Events** tab in the GUI Designer.
If the events are in different categories, the categories will also be reordered.
You can also change the order of the "On Change" event in the "Properties" category, by passing its name "change" to this function.

Example

By default, the events appear in the **Events** tab in the order they are created:

You can reorder them by writing the following code:

```
CustomWidget.orderEvents(['click','dblclick','keydown','mouseover']);
```



removeEvent( )

void **removeEvent** (event)

Parameter	Type	Description
event	String	Event to remove from the Events tab

Description

removeEvent( ) allows you to remove an event from the **Events** tab in the GUI Designer. It still exists, but the event is just not available through the GUI Designer.

setHeight( )

void **setHeight**(String *height*)

Parameter	Type	Description
height	String	Default height of the widget

Description

setHeight( ) allows you to set the widget's default height when added to a Page in the GUI Designer. If you do not define a default height with this function, it is set to 300 pixels.

setPanelStyle( )

void **setPanelStyle**(Object *styles*)

Parameter	Type	Description
styles	Object	Object defining the sections to display in the Styles tab and the properties in the Design tab

Description

setPanelStyle( ) allows you to define the sections to display in the **Styles** tab and if the **CSS Classes** and **Widget Role** properties in the Design tab are visible.
By default, the following sections in the **Styles** panel are available:

- Background
- Border
- Size & Position

style properties

Below is a table describing the different properties that you can show or hide in the **Skins** and **Styles** tab:

Tag	Style Property	Description
fClass	CSS Classes and Widget Role	True/False = show the “General” section on the **Design** tab, which contains the CSS Classes and Widget Role properties.
text	Text	True/False = show show the “Text” section on the **Styles** tab.
background	Background	True/False = show show the “Background” section on the **Styles** tab.
border	Border	True/False = show to show the “Border” section on the **Styles** tab.
sizePosition	Size & Position	True/False = show show the “Size & Position” section on the **Styles** tab.
textShadow	Shadow	True/False = show show the “Text Shadow” section on the **Styles** tab.
dropShadow	Drop Shadow	True/False = show show the “Drop Shadow” section on the **Styles** tab.
innerShadow	Inner Shadow	True/False = show show the “Inner Shadow” section on the **Styles** tab.
disabled	Disabled	An array of attributes to disable specific properties in certain sections on the **Styles** tab.

disabled Property in the style Array

In this property, you define which of the individual items in the Styles tab you’d like to disable/hide. The sections that are not accessible are the “X” and “Y” properties in the “Size & Position” section as well as the “Label Text” and “Label Size & Position” sections, which are managed internally as mentioned above.

Section	Style Property	Tag
Text	Font	font-family

	Size	font-size
	Color	color
	Bold	font-weight
	Italic	font-style
	Underline	text-decoration
	Text Align	text-align
	Letter-Spacing	letter-spacing
Background	Background	background
	Background Image	background-image
	Background Repeat	background-repeat
	Gradient	background-gradient
Border	Color	border-color
	Style	border-style
	Size	border-size
	Radius	border-radius
Size & Position	Width	width
	Height	height
	z-index	z-index
	Left	left
	Top	top

The *disabled* property is an array in which you define the style properties to hide per section:

```
disabled: ['border-radius','background-image','background-repeat']
```

***Note**: Even if an individual element cannot be hidden in the Styles tab (i.e., "X" and "Y" properties in the "Size & Position" section), you can still hide the entire section in the style property by setting sizePosition to false.*

***Note**: The "letter-spacing" tag hides the "Letter Spacing" field in both the "Text" and "Label Text" sections on the Styles tab.*

Example

The following example sets a few sections in the **Styles** tab and enables the **CSS Classes** property in the **Design** tab:

```
widget.setPanelStyle({
        'fClass': true,
        'text': true,
        'background': true,
        'border': true,
        'sizePosition': true,
        'label': true,
        'disabled': ['border-radius']
    });
```

setWidth( )

void **setWidth**(String *width*)

Parameter	Type	Description
width	String	Default width of the widget

Description

setWidth( ) allows you to set the widget's default width when added to a Page in the GUI Designer. If you do not define a default width with this function, it is set to 300 pixels.

Style

These functions allow you to define CSS classes for your widget.
For information about Wakanda's generic CSS classes, refer to **Using Wakanda's generic CSS classes**.

addClass( )

void **addClass**(String *cssClass*)

Parameter	Type	Description
cssClass	String	CSS class to add to the widget

Description

addClass( ) allows you to define your widget's CSS class by passing it to ***cssClass***.
The ***cssClass*** is added to the widget's DOM node's *class* property:

```
<div id="customWidget1" data-type="CustomWidget" data-lib="WAF" data-package="CustomWidget"
class="waf-widget waf-customwidget customClass1 customClass2" data-constraint-left="true" data-constraint-top="true">
```

For information about Wakanda's generic CSS classes, refer to **Using Wakanda's generic CSS classes**.

Example

If you write the following code:

```
CustomWidget.addClass("customClass1");
CustomWidget.addClass("customClass2");
```

The **CSS Classes** field in the **Design** tab appears as shown below for your custom widget:

hasClass( )

Boolean Event **hasClass** (String *cssClass*)

Parameter	Type	Description
cssClass	String	CSS class
Returns	Boolean	True/False = custom widget has cssClass

Description

hasClass( ) allows you to check if ***cssClass*** exists for the custom widget.

removeClass( )

void **removeClass**(String *cssClass*)

Parameter	Type	Description
cssClass	String	CSS class to remove

Description

removeClass( ) allows you to remove a CSS class from the custom widget.

toggleClass( )

void **toggleClass**(String *cssClass*)

Parameter	Type	Description
cssClass	String	CSS class to toggle

Description

toggleClass( ) allows you to toggle a CSS class for the custom widget. If it exists in the custom widget's "class" property, it will be removed and if it does not exist, it will be added.

Widget

This section of the API allows you to:

- define the tag for the custom widget by using **tagName**.
- create a function for your custom widget, by using **prototype.{method}**.
- define how to initialize your custom widget, use **prototype.init**.

tagName

Description

tagName allows you to define the tag for the widget. By default, the tag is "div".

Example

In the "widget.js" file, you can define the tag to be "input" instead of "div":

```
WAF.define('CustomWidget', function() {
    var widget = WAF.require('waf-core/widget');
    var CustomWidget = widget.create('CustomWidget');

    CustomWidget.tagName = "input";

    //continue the definition of the custom widget...

    return CustomWidget;
});
```

Once the custom widget is added to your Page, its definition in HTML is:

```
<input id="customWidget1" data-type="CustomWidget" data-lib="WAF" data-label-position="top" data-label="New Label"
data-package="CustomWidget" data-constraint-top="true" data-constraint-left="true" class="waf-widget waf-customwidget"/>
```

prototype.{method}

void **prototype.{method}**

Description

With **prototype.{method}**, you can create a function for the custom widget. For the function to be considered "private", you can prefix it with an underscore.

Example

In the code below, we create a private function (prefixed by an underscore) and a public one:

```
WAF.define('CustomWidget', function() {
    var widget = WAF.require('waf-core/widget');
    var CustomWidget = widget.create('CustomWidget');

    CustomWidget.prototype._privateFunction = function() {
        //do something here in the private function
    };

    CustomWidget.prototype.publicFunction = function() {
        //do something here in the public function
    };

  return CustomWidget;
});
```

prototype.init

void **prototype.init**

Description

In the **prototype.init** function, you initialize your custom widget in which you can do the following:

- define the HTML of the widget and
- declare events

Example

In the example below, we define a custom event:

```
TestWidget.prototype.init = function() {

    /* Define a custom event */
    this.fire('myEvent', {
        message: 'Hello'
    });
};
```

Appendix

In this appendix, we define some of the terminology we use throughout this manual.

DOM events

Here are a few of the standard DOM events that already exist in Wakanda:

Event Name	Description
blur	On Blur
click	On Click
dblclick	On Double Click
focus	On Focus
keydown	On Key Down
keyup	On Key Up
mousedown	On Mouse Down
mousemove	On Mouse Move
mouseout	On Mouse Out
mouseover	On Mouse Over
mouseup	On Mouse Up
touchcancel	On Touch Cancel
touchend	On Touch End
touchmove	On Touch Move
touchstart	On Touch Start

For a complete list of DOM events, refer to the Events section (Mozilla).

DOM event properties and methods

For more information regarding DOM event properties, refer to https://developer.mozilla.org/en/docs/Web/API/Event#Properties.
For more information regarding DOM event methods, refer to https://developer.mozilla.org/en/docs/Web/API/Event#Methods.