Wakanda Studio Extensions

Creating an extension in two minutes

Want to create your first extension in just two minutes? Go to the My first Extension section.

What are extensions?

Wakanda Studio Extensions are software programs that can add new functionalities to the Wakanda Studio. For example, an extension can write automatically a set of predefined comment lines at the beginning of scripts.

Extensions are written using standard Web technologies such as JavaScript, HTML, CSS, and JPEG. Everyone can write Wakanda Studio extensions, for their own needs or for sharing with the Wakanda community. The Wakanda Development team provides built-in pre-installed extensions such as "Beautifier" that you can use as standard Studio features.

Extensions can add contextual functionnalities to various toolbars and menus of the Wakanda Studio, including the main toolbar and the solution explorer contextual menu.

Where to add extensions?

Commands for executing extensions can be toolbar buttons or contextual menu commands. These interface elements can be added to the following parts of the Wakanda Studio:

- Solution manager toolbar
- Solution explorer contextual menu (Tree view)
- Solution explorer contextual menu (List view)
- Solution explorer contextual menu (Thumbnail view)
- Code editor toolbar
- Code editor contextual menu

- Solution explorer global menu ()

You can combine these locations and create any feature you need:

- a single extension can provide several buttons and/or menu commands in one or several areas
- a single feature can be associated to a button and a menu command

How to use this manual?

- You want to create an extension in two minutes using a template:
  -> go to My first Extension
- You want to install an extension in your Wakanda Studio:
  -> go to Installing Extensions
- You want to see quickly how to write an extension:
  -> go to Getting started
- You want to access the detailed reference documentation for creating Wakanda studio extensions:
  -> go to Creating Extensions and API: Basic.

My first Extension

Here are the instructions to make your first Wakanda extension in less than 2 minutes by following these 7 steps:

1. Download the Extension Template from our server and unzip it in the **Extensions** folder:
   - On Windows: *{Disk}:\Users\{User name}\AppData\Roaming\Wakanda Studio\Extensions*
   - On Mac OS: */Users/{User name}/Library/Application Support/Wakanda Studio/Extensions/*

   You may have to create the **Extensions** folder manually.
   For more information, refer to the **Installing Extensions** section.

2. Open **manifest.json** in a text editor and define your extension name by replacing YOUR_EXTENSION_NAME.

3. Replace YOUR_EXTENSION_DESCRIPTION with a brief description of your extension.

4. Define your extension action name by replacing YOUR_ACTION in **manifest.json**.

5. Replace YOUR_ACTION_TITLE in **manifest.json** with an easy-to-understand title.

6. Open **index.js** in a code editor and replace YOUR_ACTION to rename the action.

7. Write the function body in **index.js** to define your action.

Voilà! Restart your Wakanda Studio and you will see your first extension appear in the main toolbar. You can place your extension icon/menu in other places -- in **manifest.json**, just replace "studioToolbar" with another valid value (please refer to the **senders** paragraph).

A good example illustrates the whole picture better than detailed documentation. You can check the Wakanda Studio Extension Demo to learn how to make certain commands more complex.

However, knowledge of Wakanda Studio Extension System is required if you want to accomplish sophisticated extensions. Check the Wakanda Studio Extension online documentation for more detailed information.

You can use the Wakanda Studio Extension development forum for any technical questions/answers and for the announcement your new extension.

Installing Extensions

A Wakanda Studio Extension is a set of files grouped in a single folder. To install the extension in your Wakanda Studio, you just need to copy the extension folder (whose name is free) in the **Extensions** folder at the appropriate location. The **Extensions** folder can exist in two different places:

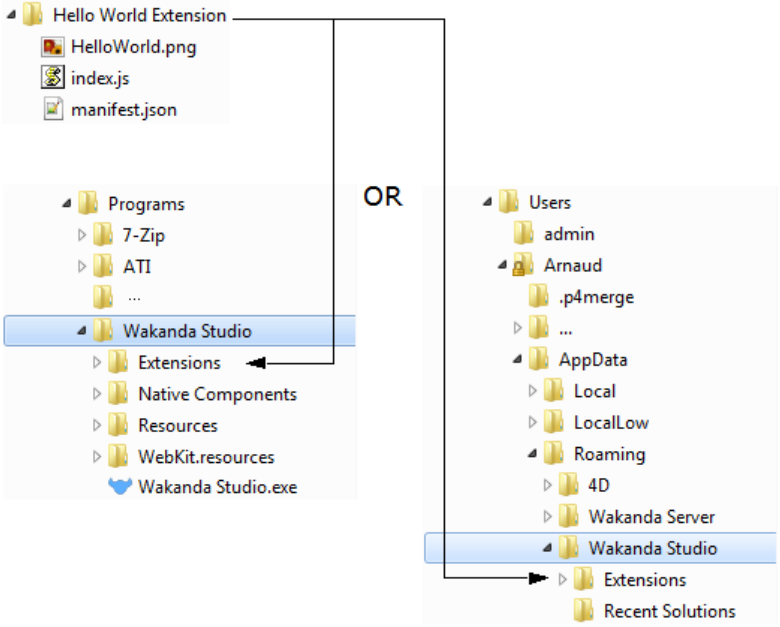
- **In the Wakanda Studio application folder**:
  - On Windows: next to the *Wakanda Studio.exe* file
  - On Mac OS: at the first level of the *Contents* folder inside the application package.

  In this case, extensions are available only in this Wakanda Studio application.
  Installing files or folders at this location requires administrator access rights, and can make subsequent updates an issue. It is usually not recommanded to install custom extensions in the application.

- **In the user data of Wakanda Studio**:
  - On Windows: *{Disk}:\Users\{User name}\AppData\Roaming\Wakanda Studio*
  - On Mac OS: */Users/{User name}/Library/Application Support/Wakanda Studio/*

  In this case, extensions are available for any Wakanda Studio application running on the machine in the user session, including subsequent updates. This location does not need specific access rights.
  ***Note:** Under Mac OS 10.7 ("Lion"), you need to expand the **Go** menu in the Finder while holding down the **Option** key to reveal the **Library** command that you must use to open the corresponding folder.*

The following diagram illustrates the installation options (Windows):



Priority is given to the user data location: if the same extension exists at both locations (same folder name), Wakanda Studio will only load the files from the user data.

Getting started

As a first step to discover how to create an extension to the Wakanda Studio, we will write a very classic and basic example: adding a button to the code editor toolbar that displays "Hello, World!".

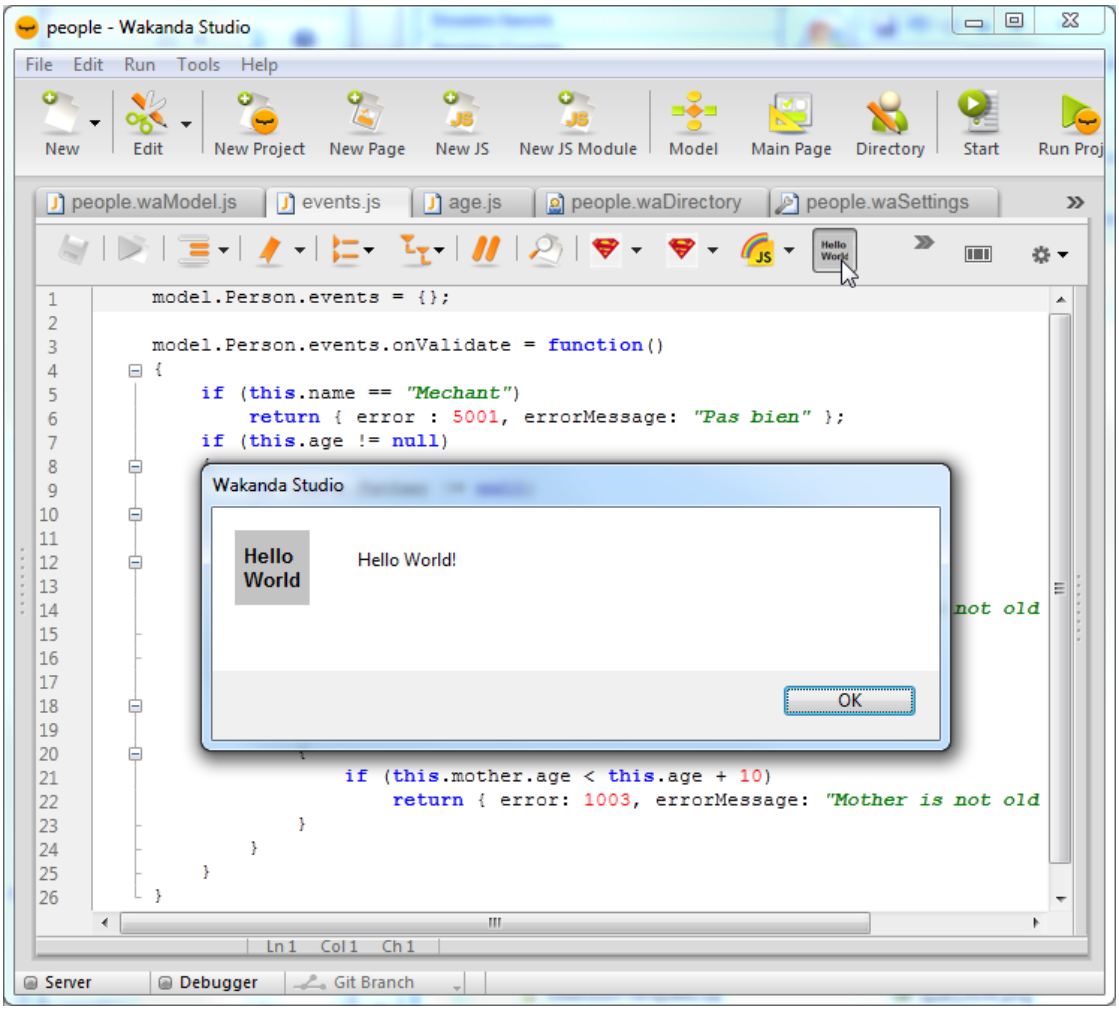
1. Using any text editor (for example the Wakanda Studio code editor), create a new file named **manifest.json** and write the following code:

```
{
    "extension":
    {
        "name": "Hello World",
        "version": "1.0.0",
        "description": "Hello World Demo for Wakanda Extensions",
        "icon": "HelloWorld.png",
        "senders": [
                    {
                        "location": "codeEditorToolbar",
                        "icon": "HelloWorld.png",
                        "actionName": "say_hello"
                    }
        ],
        "actions": [
                    {
                        "name": "say_hello",
                        "title": "hello"
                    }
        ],
        "lifetime": "action_lifetime"
    }
}
```

   This code describes our extension. For more information on how to write the manifest.json file, please refer to the **Configuring the manifest.json file** section.
2. Create another file named **index.js** and write the following code:

```
exports.handleMessage = function handleMessage(message) {
    if(message.action == "say_hello")
        studio.alert("Hello World!");
    };
```

   This file will contain the action(s) to execute and the unique entry point of the extension. For this tutorial, we write the basic contents of the file, but it is generally much faster to use a "template" index.js file and add your own actions. For more information on how to write the index.js file, please refer to the **Configuring the index.js file** section.
3. Create a new folder, name it for example "Hello World", and save your **manifest.json** and **index.js** files in that folder. Add also a picture button file named "HelloWorld.png" (you can download a little icon here).
4. Copy the "Hello World" folder in the Wakanda Studio **Extensions** folder, as described in the **Installing Extensions** section (choose the user data folder for more convenience).
5. Relaunch Wakanda Studio if it was already opened and load any file in the Code editor.
   You should see the new button: click on the button, that's it!


people - Wakanda Studio
File Edit Run Tools Help
New
Edit
New Project
New Page
New JS
New JS Module
Model
Main Page
Directory
Start
Run Proj
people.waModel.js
events.js
age.js
people.waDirectory
people.waSettings
Hello World
model.Person.events = {};
model.Person.events.onValidate = function()
{
if (this.name == "Mechant")
return { error : 5001, errorMessage: "Pas bien" };
if (this.age != null)
Wakanda Studio
Hello World
Hello World!
OK
not old
if (this.mother.age < this.age + 10)
return { error: 1003, errorMessage: "Mother is not old
Ln 1 Col 1 Ch 1
Server
Debugger
Git Branch

Creating Extensions

A Walanda Studio extension is defined through two mandatory files:

- **manifest.json**: declares the actions and their location in the Wakanda studio interface.
  Objects to write in this file are detailed in the **Configuring the manifest.json file** section.
- **index.js**: contains the code to execute in response to actions. The **API: Basic** is provided for extensions to communicate with Wakanda Studio internal components (for example, the code editor).
  This file is described in the **Configuring the index.js file** section.

An extension can use a unlimited number of additional files (HTML, pictures, scripts...). All the extension files must be gathered in a single folder.

Configuring the manifest.json file

The **manifest.json** file is one of the mandatory pieces of a Wakanda Studio extension: it describes the extension and declares the actions and their locations in the two toolbars and four contextual menus available (see **Where to add extensions?**).

In this file, you can define the extension name and properties, the name of each action and the locations where Wakanda Studio should display these action commands. A single extension can add several menu items and buttons in different locations.

The **manifest.json** file is a JSON format file; it only handles strings.

extension

"extension" is the main object of the manifest.json file. It contains 7 objects, described below:

- name
- version
- description
- icon
- actions
- senders
- lifetime
- compatibleBuildVersion (optional)

name

"name" contains the extension name. Example:

```
"name": "Hello World"
```

version

"version" contains the extension version. Example:

```
"version": "1.2.1"
```

description

"description" provides a short description of the extension. Example:

```
"description": "My Great Wakanda Studio Extension"
```

icon

"icon" contains the path of the default icon file (relative to the extension's folder).
This icon will be used if a single button is defined by the extension. In case of multiple buttons, individual icons can be defined separately through the "senders" object.

Example:

```
"icon": "myIcon.png"
```

actions

"actions" contains the action name(s), title(s) and optional elements, as described below:

Object	Mandatory	Type	Description
name	yes	string	Designates the action. Must be unique in "extension"
title	yes	string	Default title for the action (i.e. the item label if the extension is a menu item)
targets	no	array of target objects	Defines the type of file where the action could be proposed (for example, .js or .html files). If omitted, the action can be available for each type of file. Can contain the following objects: *uti* — Uniform Type Identifier *mimeType* — to be implemented *fileExtension* — to be implemented
trigger	no	array of event objects	An event object contains the "event" property. When an action subscribes to a studio event, then this action is triggered by this event and sent to the **handleMessage Function** of the **index.js** file. Possible values are: *fromSender* — actions are triggered by the GUI, i.e. buttons and menu items *onSave* — the current edited file is saved. The saved file will be the first element of *message.source.data*. *message.source.name* can be "fromCodeEditor", "fromWebDesigner", "fromSettingsView", "fromDirectoryView", "fromModelView", "fromShortcutView" or "fromExtensionSystem". *onFileDirty* — the current file has been altered. The modified file will be the first element of *message.source.data*. *message.source.name* can be "fromCodeEditor", "fromWebDesigner", "fromSettingsView", "fromDirectoryView", "fromModelView", "fromShortcutView" or "fromExtensionSystem". *onFilesAddedInSolution* — a file was added to the solution explorer area. *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain each added *File*. *onFilesRemovedFromSolution* — a file was removed from the solution explorer area. *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain each removed *File*. *onFolderCollapsed* — *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain each operation *Folder*. *onFolderExpanded* — *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain each operation *Folder*. *onSolutionCreated* — a new solution is created. *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain the created *Folder*. *onProjectCreated* — a new project is created. *message.source.name* will be "fromSolutionExplorer" and *message.source.data* will contain the created project *File*.

			onSolutionOpened	an existing solution is opened. *message.source.name* will be "fromSolutionExplorer".
			onSolutionClosed	the solution is closed. *message.source.name* will be "fromSolutionExplorer".
			onStudioStart	Wakanda Studio in started. *message.source.name* will be "fromStudio".
			onFileRenamed	a file name is modified in Wakanda Studio. The *message.source.name* will be "fromSolutionExplorer". The original full file name (index 0) and the new full file name (index 1) can be read from the *message.source.data* array as *File* objects.
			onFilesMovedInSolution(*)	file(s) are moved within the solution explorer. *message.source.name* will be "fromSolutionExplorer". *message.source.data* will contain the destination *Folder* as the first element and the source path string of each moved item (file or folder) as the following elements.
			onFileModified	files are modified both ouside and inside of Wakanda Studio.
shortcut	no	array of shortcut objects	Each action may have its shortcut defined in this field. If the shortcuts defined are in conflict with the Studio's shortcuts, then priority will be given to the Studio. Possible values are:	
			shortcutKey	Possible values: "yes" and "no". Ctrl key for Win, Command key for Mac
			alternateKey	Possible values: "yes" and "no".
			shiftKey	Possible values: "yes" and "no".
			key	Possible values: "A"-"Z", "home", etc.

(*) Moving files by drag and drop in a solution will trigger the following three notifications, in the order shown here:
1. *onFilesMovedInSolution*
2. *onFilesAddedInSolution*
3. *onFilesRemovedFromSolution*
However, if an extension action only subscribes to *onFilesMovedInSolution*, then only this action will be triggered by *onFilesMovedInSolution*.
The result (source files moved) is not verified - move operations may fail - so it is the extension author's responsibility to check the presence/absence of files in both source and destination folders.

Example :

```
    "actions": [
        {"name": "js_if",
        "title": "if-else",
        "targets":    [
            { "uti": "com.netscape.javascript-source" }
                ],
        "shortcut": {
            "shortcutKey" : "yes",
            "alternateKey" : "yes",
            "shiftKey" : "no",
            "key" : "i"
            }
        },
    ],
```

senders

"senders" defines the location(s) of action commands, i.e. the interface objects that will generate the actions.
This property is an array of sender objects. Each sender object contains the following properties:

Object	Mandatory	Type	Description

location	yes	string	Indicates where to make the extension available. You can pass one or more values. Available strings are: *studioToolbar* *solutionExplorerTreeViewContextMenu* *solutionExplorerListViewContextMenu* *solutionExplorerThumbnailViewContextMenu* *codeEditorToolbar* *codeEditorContextMenu* (to be implemented)
actionName	yes if no "menu" object array is passed	string	Name of an action defined in the *name* property of the "actions" object. Use this first level *actionName* when it is available through a single button. Use "menu" property instead if you want to define a menu. "menu" and "actionName" cannot both be present.
title	no	string	Toobar icon or menu item title. If omitted, the *title* property of the "actions" object will be used as default value.
menu	yes when the "location" value is *solutionExplorerTreeViewContextMenu*, *solutionExplorerListViewContextMenu*, *solutionExplorerThumbnailViewContextMenu*, *codeEditorContextMenu*, or if no "actionName" object is passed	array of menu item objects	Array of menu item objects, which can be repeated recursively down until the 2nd level. Use this property if you want to define a menu. Use the first level "actionName" instead if you want to define a single button. "menu" and "actionName" cannot be both present. Each "menu item" object contains the following properties: *actionName* — Mandatory if no "menu" sub-object array is passed. "menu" and "actionName" cannot both be present. — Name of an action defined in the *name* property of the "actions" object *menu* — Mandatory if no "actionName" sub-object array is passed. "menu" and "actionName" cannot both be present. — Title of a menu *title* — Mandatory if a "menu" sub-object array is passed — Menu item title. If omitted, the *title* property of the "action" object is used A menu array can contain an object separator, which has the following syntax: "separator":{}

icon	yes for buttons (i.e. first-level *actionName* and *location* in *studioToolbar* or *codeEditorToolbar*)	string	Path of the picture file used as icon for the button (relative to the extension's folder).
tips	no	string	Additional information to display when the cursor moves over the button. Used only for buttons (i.e. first-level *actionName* and *location* in *studioToolbar* or *codeEditorToolbar*).
alternateTitle	no	string	Title to display if the action's alternative state is turned on. Used only for buttons (i.e. first-level *actionName* and *location* in *studioToolbar* or *codeEditorToolbar*).
alternateIcon	no	string	Name of the icon file to display if the action's alternative state is turned on. Used only for buttons (i.e. first-level *actionName* and *location* in *studioToolbar* or *codeEditorToolbar*).
alternateTips	no	string	Tip to display if the action's alternative state is turned on. Used only for buttons (i.e. first-level *actionName* and *location* in *studioToolbar* or *codeEditorToolbar*).

Example of senders in both the code editor toolbar and contextual menu. They are associated with the same actions:

```
"senders": [
     {
         "location": "codeEditorToolbar",
         "tips": "Check Javascript Error"
         "menu":
         [
             {
                 "actionName": "checkError"
             },
             {
                 "actionName": "cleanErrors"
             }
         ]
     },
     {
         "location": "codeEditorContextMenu"
         "menu":
         [
             {
                 "actionName": "checkError"
             },
             {
                 "actionName": "cleanErrors"
             }
         ]
     }
 ],
```

lifetime

'lifetime" allows you to define the lifetime of the JavaScript context. Two values are available:

application_lifetime	Keep JavaScript context alive among the actions
action_lifetime	A new JavaScript context is created for each action and released after execution

Using "application_lifetime" allows the writing and reading of global variables in the unique context that is shared by all the action calls in an extension. Each extension will have its own context.

Example:

```
"lifetime": "application_lifetime"
```

compatibleBuildVersion

"compatibleBuildVersion" indicates the lowest Wakanda Studio build version compatible with the extension. Note that it's a build version, not a major version. The build version can be found in the "About Wakanda Studio" dialog box.

If the Wakanda Studio build version is smaller than the indicated version, the extension will not be loaded. The extension will

always be loaded if this property is omitted. It must be a digital value (not a string type).

Example:

```
"compatibleBuildVersion": 105605
```

Configuring the index.js file

The **index.js** file is the entry point of an extension for Wakanda Studio. All features (actions) provided by the extension are defined in this JavaScript file. You can use:

- standard JavaScript code, including **require( )** statements,
- a specific API, detailed in this manual.
  All the Wakanda Studio components are available through this API in **index.js**.

handleMessage Function

The main entry function in **index.js** is named *handleMessage*. All the actions you declared in **manifest.json** will be passed to this callback function and should be processed here.

The *handleMessage* should be set as the *handleMessage* property of an *exports* object.

The *handleMessage* function receives a *message* object as parameter. The *message* object has three properties, "action", "event" and "source":

- *message.action* contains the name of the action declared in **manifest.json** (for example, "js-if").
- *message.event* indicates the source of triggered *message* object. It can contain:
  - "fromSender" if the message is triggered by the Wakanda Studio interface (ie. user clicks on a button or menu item).
  - "onSave", "onFileDirty", "onFilesAddedInSolution", "onFilesRemovedFromSolution", "onFolderCollapsed", "onFolderExpanded", "onSolutionCreated", "onProjectCreated" or "onSolutionOpened" if the action is defined through a trigger and the user triggered the action.
  - "fromExtension" if the message is triggered by another extension (see **sendCommand( )**).
- *message.source* contains an object with two properties, "name" and "data".
  - "name" value is the event source name (string). Possible values are:
    - *fromSender*: the message is triggered by the Wakanda GUI (ie. user clicks on a button or menu item).
    - *fromExtension*: the message is triggered by another extension (see **sendCommand( )**).
    - *fromCodeEditor*: the message is triggered by the Code editor.
    - *fromWebDesigner*: the message is triggered by the Web Designer.
    - *fromSolutionExplorer*: the message is triggered by Solution Explorer.
    - *fromSolutionList*: the message is triggered by Solution List.
    - *fromSolutionThumbnails*: the message is triggered by Solution Thumbnails.
  - "data" is an array which can contain one or more element(s) of string, *File* or *Folder* type. It depends on the event.
    For example, when the event is *onFilesAddedInSolution*, "data" is an array of *File* objects representing all files added to the Solution Explorer.

Within this entry function, you will usually call any appropriate function depending on the *message.action* value.

Example

Here is a typical *handleMessage* function:

```
exports.handleMessage = function handleMessage(message) { // main entry point
    var actionName;
    actionName = message.action; // get the action name
    actions[actionName](message); // execute the actionName function
            // stored in the actions object
            // and pass the 'message' parameter as is
};
```

Using the Extension API

In the **index.js** file, you can use a dedicated set of API. This API gives access to the Wakanda Studio components and allows you to benefit from all the features and capacities of the Studio.

Serveral API themes are available, for example **API: Basic**, **API: Code Editor** or **API: Studio**.

API: Basic

The "basic" theme methods allow you to display standard JavaScript dialogs.

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'
For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

alert( )

void **alert**(String *message*)

Parameter	Type	Description
message	String	Alert message

Description

The **alert( )** method displays a warning text in a standard alert dialog box.

Example

The following code, executed from the *index.js* file of an extension:

```
studio.alert("Hello World!");
```

Displays:

confirm( )

Boolean **confirm**(String *message*)

Parameter	Type	Description
message	String	Confirmation message
Returns	Boolean	true if the answer is Yes, false otherwise

Description

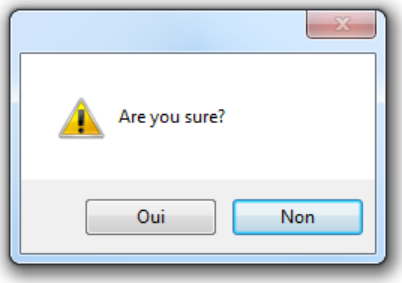
The **confirm( )** method displays a confirmation dialog box and returns **true** if the user clicked on the **yes** button, and **false** if the user clicked **no**. Yes and No labels are based on the current system language.

Example

The following code, executed from the *index.js* file of an extension:

```
var isok = studio.confirm("Are you sure?");
```

displays:



File( )

File **File**(String *path* [, String *fileName*])

Parameter	Type	Description
path	String	Posix path of the file to reference
fileName	String	Name of the file to reference
Returns	File	New File object

Description

The **File( )** constructor method allows you to create and handle a SSJS *File* type object from your extension code.

For more information about *File* objects, please refer to the **File** description.

Example

We want to create a new *File* object referencing the current opened document:

```
var fileRef = studio.File(studio.currentEditor.getEditingFile());
```

fileSelectDialog( )

File | Null **fileSelectDialog**([String *filter*])

Parameter	Type	Description
filter	String	File extension to filter
Returns	File, Null	Selected file or null if no file was selected

Description

The **fileSelectDialog( )** method displays a dialog box allowing the user to browse disk contents and select a file. If the user selects a file, a *File* object is returned. Otherwise, if the dialog box is cancelled, a **null** value is returned.

The dialog box initially displays the last repertory selected by the user in the session.

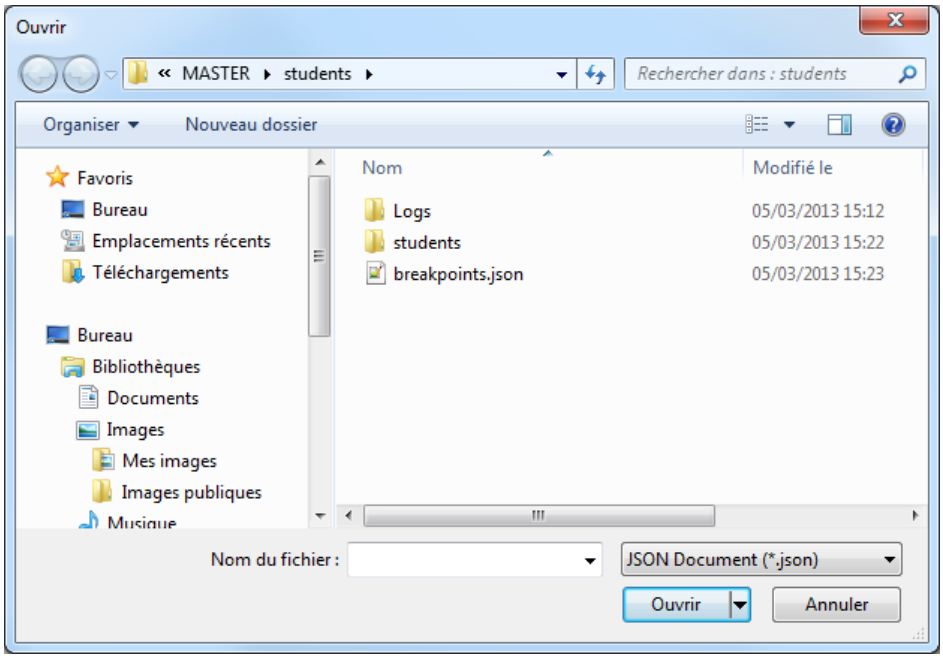
In *filter*, you can pass a file extension to filter in the Open file dialog box. For example, you can pass "txt" to display only text files in the dialog box. The type choice menu of the dialog box will display the file type corresponding to *filter*.

Example

The following code, executed from the *index.js* file of an extension:

```
var theFile = studio.fileSelectDialog("json");
```

displays:



Folder( )

Folder **Folder**(String *path*)

Parameter	Type	Description
path	String	Posix path of the folder to reference
Returns	Folder	New Folder object

Description

The **Folder( )** constructor method allows you to create and handle a SSJS *Folder* type object from your extension code.
For more information about *Folder* objects, please refer to the Folder description.

Example

We want to create a new *Folder* object referencing the preferences folder:

```
var folderRef = studio.Folder(studio.extension.getPrefFolderPath());
```

folderSelectDialog( )

Folder | Null **folderSelectDialog**( )

Returns	Folder, Null	Selected folder or null if no folder was selected

Description

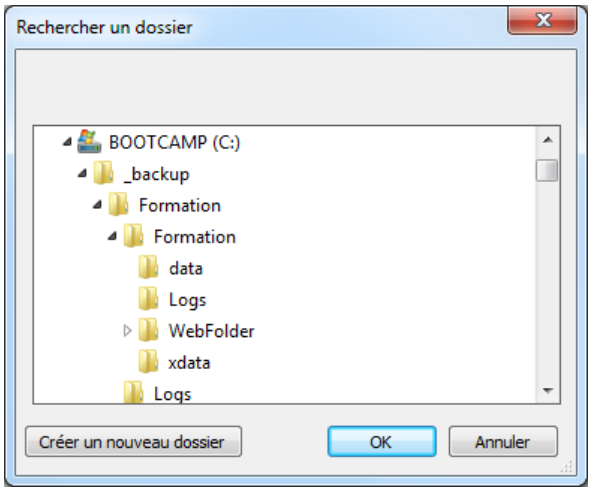
The **folderSelectDialog( )** method displays a dialog box allowing the user to browse disk contents and select a folder. If the user selects a folder, a *Folder* object is returned. Otherwise, if the dialog box is cancelled, a **null** value is returned.
The dialog box initially displays the last directory selected by the user during the session.

Example

The following code, executed from the *index.js* file of an extension:

```
var theFolder = studio.folderSelectDialog();
```

displays:



openFile( )

void **openFile**(File | String *fileOrUrl* [, Number *lineToScroll*[, String *tabName*]])

Parameter	Type	Description
fileOrUrl	File, String	File object or URL (string) to open
lineToScroll	Number	Line number to display on screen
tabName	String	Name of the tab to use for URLs

Description

The **openFile( )** method opens the file or the URL designated by the *fileOrUrl* parameter in a new tab in the Wakanda Studio's code editor.

You can pass in *fileOrUrl* one of the following values:

- a *File* object referencing an existing file on the disk.
- a string containing a valid URL.

You can pass in *lineToScroll* the line number that the opened document should display on top of the page when applicable.

By default, if you omit the *tabName* parameter, for URLs the method uses the URL string as the tab name. You can use any custom name for the page by passing a string in *tabName*.
Regarding files, the name of the file is used and cannot be changed. If you use the *tabName* parameter in this case, it is ignored.

Example

To open a file on disk:

```
var fileRef = studio.File("C:/temp/groups.txt");
studio.openFile(fileRef);
```

To open a URL:

```
studio.openFile("http://doc.wakanda.org/WakandaStudio0/help/Title/en/page3054.html",0,"Code E
```

prompt( )

String **prompt**(String *message* [, String *defaultAnswer*])

Parameter	Type	Description
message	String	Prompt message
defaultAnswer	String	Pre-entered string for the reply
Returns	String	String entered by the user

Description

The **prompt( )** method prompts the user to enter a value in response to a *message* and returns the entered value.

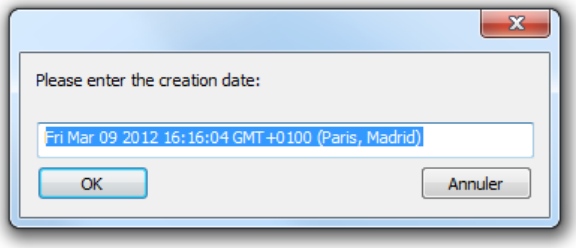
You can pass in *defaultAnswer* a string showing an example of the value to enter or proposing a standard answer.

Example

The following code, executed from the *index.js* file of an extension:

```
var vaDate = new Date();
var userDate = studio.prompt("Please enter the creation date:",vaDate);
```

displays:



API: Code Editor

Methods in this theme allows reading and modifying the text displayed in the Wakanda Studio Code Editor.

Methods support JavaScript, HTML, XML, and any source code displayed in the editor.

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'

For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

currentEditor.clearAnnotations( )

void **currentEditor.clearAnnotations**( )

Description

The **currentEditor.clearAnnotations( )** method removes all warning symbols from the annotation bar of the open document.

This method will clear symbols added by any Wakanda extension using . However, it will not remove system warnings indicating, for example, syntax errors.

currentEditor.getContent( )

String **currentEditor.getContent**( )

Returns	String	Contents of the edited document

Description

The **currentEditor.getContent( )** method returns the whole content of the document currently displayed in the Code editor.

Example

You want to store temporarily a specific version of your code and be able to view it at any moment. You add two buttons to the code editor associated with the "store_copy" and "show_copy" actions. In the **index.js** file, you can write:

```
actions.store_copy= function store_copy() {

    var content = studio.currentEditor.getContent(); // gets the current content
    studio.extension.currentDialog.setItem("codeCopy" , content); // put it in the storage
};

actions.show_copy= function show_copy() {

     var copied = studio.extension.currentDialog.getItem("codeCopy"); //read the storage
     studio.alert(copied); // show the contents of the codeCopy attribute
 };
```

currentEditor.getEditingFile( )

File | Null **currentEditor.getEditingFile**( )

Returns	File, Null	Edited document

Description

The **currentEditor.getEditingFile( )** method returns a *File* object referencing the document currently opened in the Code editor.

If there is no current document in the Code editor (for example if the window in the foreground is not a Code editor window), the method returns null.

Example

```
var docPath = studio.currentEditor.getEditingFile().path;
    // docPath returns, for example
    // 'C:/Wakanda Solutions/My Solution/MyProject/MyScript.js
```

currentEditor.getSelectedText( )

String | Null **currentEditor.getSelectedText**( )

Returns	String, Null	Currently selected text

Description

The **currentEditor.getSelectedText( )** method returns the text selected in the document currently displayed in the Code editor. If nothing is selected in the document, **currentEditor.getSelectedText( )** returns Null.

currentEditor.getSelectionInfo( )

Object **currentEditor.getSelectionInfo**( )

Returns	Object	Definition of the selection in the document

Description

The **currentEditor.getSelectionInfo( )** method returns information about the selection in the document currently displayed in the Code editor.

Information depends on the number of line(s) selected as well as the cursor position.

You must also consider the following specificities:

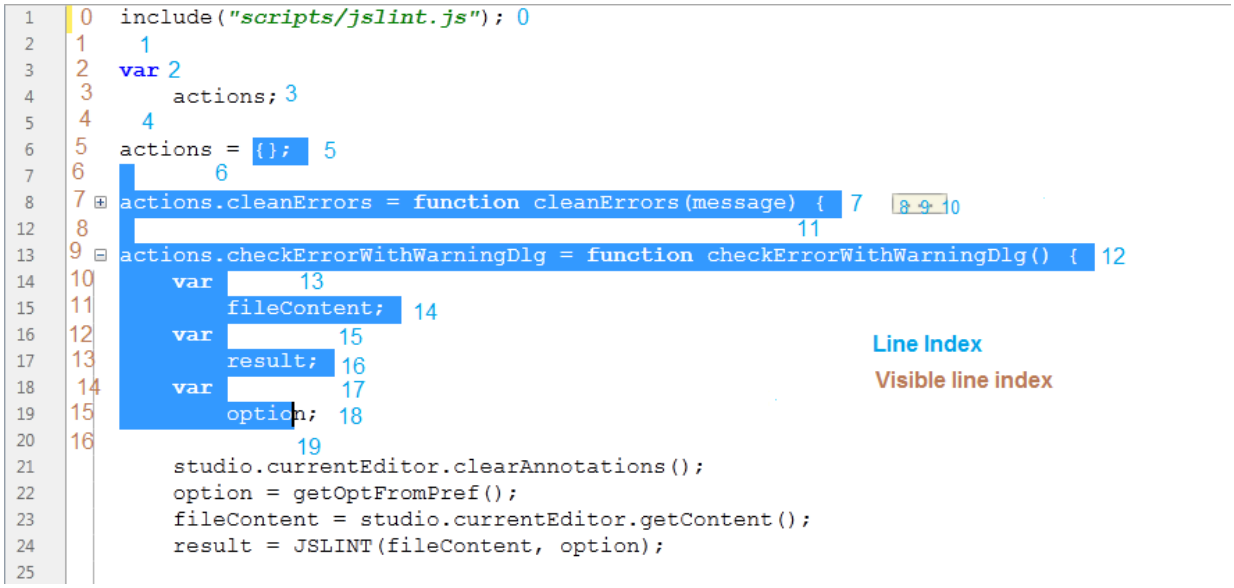
- the Code editor line numbering starts at 1, although the **currentEditor.getSelectionInfo( )** method line numbering starts at 0;
- collapsed or expanded code structures need to be taken into account. This is the reason why the returned object contain different properties for *selected lines* (includes all lines, whatever their expand/collapse status) and *"visible" selected lines* (counts a single line for a collapsed block).

The method returns an object containing the following properties:

Property	Type	Description
firstLineIndex	Number	Index of starting selection line
firstVisibleLine	Number	Index of "visible" starting selection line
firstLineOffset	Number	Starting selection position in the first selection line
lastLineIndex	Number	Index of ending selection line
lastVisibleLine	Number	Index of "visible" ending selection line
lastLineOffset	Number	Position of the last selected character in the last selection line
isLeftToRightSection	Boolean	true if the selection direction is from left to right, false otherwise
offsetFromStartOfText	Boolean	Position of the first selected character from the beginning of text (0)
selectionLength	Number	Length of selection

Example

Considering the following selection in the code editor:




```
var selObj = studio.currentEditor.getSelectionInfo();
var s1 = selObj.firstLineIndex;          // s1 contains 5
var s2 = selObj.firstVisibleLine;        // s2 contains 5
var s3 = selObj.firstLineOffset;         // s3 contains 10
var s4 = selObj.lastLineIndex;           // s4 contains 18
var s5 = selObj.lastVisibleLine;         // s5 contains 15
var s6 = selObj.lastLineOffset;          // s6 contains 13
var s7 = selObj.offsetFromStartOfText;   // s7 contains 61
var s8 = selObj.selectionLength;         // s8 contains 251
var isLR = selObj.isLeftToRightSection   // isLR contains true
```

currentEditor.insertText( )

void **currentEditor.insertText**(String *textToInsert*)

Parameter	Type	Description
textToInsert	String	Text to insert in the open document

Description

The **currentEditor.insertText( )** method inserts *textToInsert* into the document currently displayed in the Code editor, at the current cursor position.

If text was selected in the document, it is replaced by *textToInsert*.

Example

You want to be able to insert the current date in your code. You add a button to the code editor associated with the "add_date" action. In the **index.js** file, you can write:

```
actions.add_date= function add_date() {

    var vadate = new Date();
    studio.currentEditor.insertText(vadate);
};
```

currentEditor.saveCurrentEditedFile( )

Boolean **currentEditor.saveCurrentEditedFile**( )

Returns	Boolean	True if the file has been saved, false otherwise

Description

The **currentEditor.saveCurrentEditedFile( )** method saves the current edited file on disk if it has been modified since the last save.

You can use this method to save a file automatically when it has been edited.

When you call this method, if the file has been modified since the last save, it is saved and the method returns **true**. If the

file has not been modified, it is not saved and the method returns **false**.

currentEditor.selectByLineIndex( )

void **currentEditor.selectByLineIndex**(Number *start*, Number *end*, Number *firstLineIndex*, Number *lastLineIndex*, Boolean *fromLeftToRight*)

Parameter	Type	Description
start	Number	Start line offset
end	Number	End line offset
firstLineIndex	Number	Starting line index
lastLineIndex	Number	Ending line index
fromLeftToRight	Boolean	true for left-to-right selection, otherwise false

Description

The **currentEditor.selectByLineIndex( )** method allows you to change the selection of text in the document currently displayed in the Code editor using line index parameters, that is, without taking the collapsed/expanded status of lines into account. If you want to set the selection of text with respect to the collapsed/expanded status of lines, you should consider using the currentEditor.selectByVisibleLine( ) method.

Pass in *start*, *end*, *firstLineIndex*, *lastLineIndex* and *fromLeftToRight* parameters the new selection definition. For more information about these parameters, please refer to the currentEditor.getSelectionInfo( ) method description.

currentEditor.selectByVisibleLine( )

void **currentEditor.selectByVisibleLine**(Number *start*, Number *end*, Number *firstVisibleLineIndex*, Number *lastVisibleLineIndex*, Boolean *fromLeftToRight*)

Parameter	Type	Description
start	Number	Start line offset
end	Number	End line offset
firstVisibleLineIndex	Number	Starting visible line index
lastVisibleLineIndex	Number	Ending visible line index
fromLeftToRight	Boolean	true for left-to-right selection, otherwise false

Description

The **currentEditor.selectByVisibleLine( )** method allows you to change the selection of text in the document currently displayed in the Code editor using visible line index parameters, that is, by taking the collapsed/expanded status of lines into acount. If you want to set the selection of text without worrying about the collapsed/expanded status of lines, you should consider using the currentEditor.selectByLineIndex( ) or currentEditor.selectFromStartOfText methods.

Pass in *start*, *end*, *firstVisibleLineIndex*, *lastVisibleLineIndex* and *fromLeftToRight* parameters the new selection definition. For more information about these parameters, please refer to the currentEditor.getSelectionInfo( ) method description.

currentEditor.selectFromStartOfText

void **currentEditor.selectFromStartOfText**(Number *offset*, Number *length*, Boolean *fromLeftToRight*)

Parameter	Type	Description
offset	Number	Starting selection offset
length	Number	Selection length
fromLeftToRight	Boolean	true to select from left to right, false otherwise

Description

The **currentEditor.selectFromStartOfText** method allows you to change the selection of text in the document currently displayed in the Code editor by selecting the *offset* character to *offset+length* character. You can pass a negative value in *length*, so that the text before the *offset* character will be selected. The *offset* character will be evaluated from the beginning of the text and includes collapsed blocks. If the new selection overlaps a collapsed block, the block is automatically expanded.

Pass **true** in the *fromLeftToRight* parameter to select text from left to right, and **false** to select from right to left.

Example

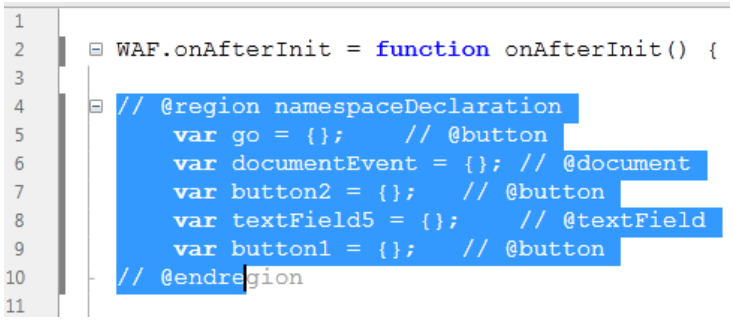
Considering the following content:

```
1
2   WAF.onAfterInit = function onAfterInit() {
3
4   // @region namespaceDeclaration    ...
11
```

If you execute the following code:

```
studio.currentEditor.selectFromStartOfText(45,200,true)
```

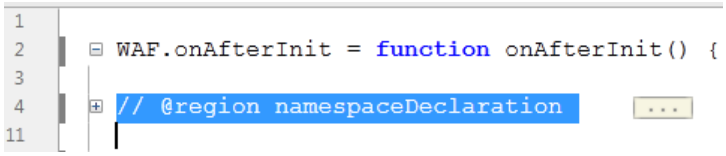
The new selection will be:



But, if you execute the following code:

```
studio.currentEditor.selectFromStartOfText(45,205,true)
```

The new selection will be:



In this case, there is no need to expand the block, it is entirely selected.

currentEditor.setAnnotation( )

void **currentEditor.setAnnotation**(Number *lineIndex*, String *errorMsg*)

Parameter	Type	Description
lineIndex	Number	Line index where to add a warning symbol
errorMsg	String	Tip to display when the mouse hovers on the warning symbol

Description

The **currentEditor.setAnnotation( )** method allows you to add a warning symbol in the vertical annotation bar at the *lineIndex* line in the open document. Keep in mind that Wakanda's Code editor line numbering starts at 1, but JavaScript indexes document lines starting at 0.

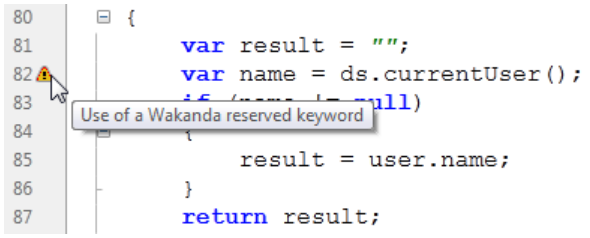
Pass in *errorMsg* the message to display as tip when the mouse hovers on the set symbol.

Example

The following code:

```
studio.currentEditor.setAnnotation(81,"Use of a Wakanda reserved keyword");
```

... will add a warning symbol associated with a message in the open document:



currentEditor.setCaretPosition( )

void **currentEditor.setCaretPosition**(Number *offset*)

Parameter	Type	Description
offset	Number	New position for the caret

Description

The currentEditor.setCaretPosition( ) method moves the caret (|) to the defined *offset* position in the document currently

opened in the Code editor.

The character position you pass in *offset* will be evaluated from the beginning of the text, including collapsed blocks. If the new caret position is within a collapsed block, it is automatically expanded.

API: Extension

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'
For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

extension.getFolder( )

Folder **extension.getFolder**( )

Returns	Folder	Extension folder

Description

The **extension.getFolder( )** method returns a *Folder* object referencing the folder of the extension.

Example

You can call this code in the index.js file to get the extension folder path:

```
var fold = studio.extension.getFolder().path;
```

If your extension is installed in the user data as described in the **Installing Extensions** section, the *fold* string will contain:

```
C:/Users/Arnaud/AppData/Roaming/Wakanda Studio/Extensions/Hello World Extension/
```

API: GUI

- Each extension action associated to a **button** has two graphical properties:
  - alternative property (Boolean): the extension can change button icon, button title, or button tips by changing the associated action's alternative state.
  - enabled property (Boolean): the extension can make button enabled or disabled by setting enabled state to **true** or **false** respectively.

- Each extension action associated with a **menu item** has two graphical properties as well:
  - checked property (Boolean): the extension can check/uncheck a menu item by changing the associated action's checked state to **true** or **false**.
  - enabled property (Boolean): the extension can show or hide the item by setting the enabled state to **true** or **false** respectively.

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'

For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

checkMenuItem( )

void **checkMenuItem**(String *actionName*, Boolean *isChecked*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
isChecked	Boolean	True to check the menu item, false otherwise

Description

The **checkMenuItem( )** method allows you to set the checked state of the menu item associated to the *actionName*.

Pass **true** in the *isChecked* parameter to check the menu item button and **false** to uncheck it.

hideProgressBarOnStatusBar( )

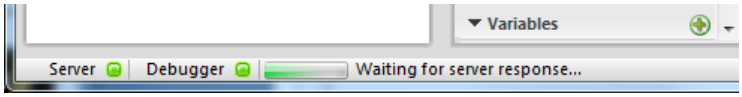
void **hideProgressBarOnStatusBar**( )

Description

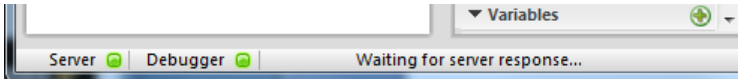
The **hideProgressBarOnStatusBar( )** method allows you to hide the animated progress bar in the Wakanda Studio status bar.

You can add an animated progress bar using the **showProgressBarOnStatusBar( )** method. By default, the progress bar is not displayed.

If the progress bar is not already displayed, this method does nothing.



Progress bar displayed



Progress bar hidden

isActionAlternated( )

Boolean **isActionAlternated**(String *actionName*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
Returns	Boolean	True if the alternated button action state is on, false otherwise

Description

The **isActionAlternated( )** method returns **true** if the alternated state for the *actionName* of a button is on.

The method returns **false** if the alternated state is off.

isActionEnabled( )

Boolean **isActionEnabled**(String *actionName*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
Returns	Boolean	True if the enabled button action state is on, false otherwise

Description

The **isActionEnabled( )** method returns **true** if the enabled state for the *actionName* of a button is on.
The method returns **false** if the enabled state is off.

isMenuItemChecked( )

Boolean **isMenuItemChecked**(String *actionName*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
Returns	Boolean	True if the actionName menu item is checked, false otherwise

Description

The **isMenuItemChecked( )** method returns **true** if the menu item associated to the *actionName* is checked.
The method returns **false** if the menu item is not checked.

setActionAlternated( )

void **setActionAlternated**(String *actionName*, Boolean *isAlternated*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
isAlternated	Boolean	True to set the alternate state of the button, false otherwise

Description

The **setActionAlternated( )** method allows you to set the alternate state of the button associated to the *actionName*.
Pass **true** in the *isAlternated* parameter to set the alternated state and **false** to remove it.

setActionEnabled( )

void **setActionEnabled**(String *actionName*, Boolean *isEnabled*)

Parameter	Type	Description
actionName	String	actionName defined in the manifest.json file
isEnabled	Boolean	True to enable the button action, false otherwise

Description

The **setActionEnabled( )** method allows you to set the enabled state of the button associated to the *actionName*.
Pass **true** in the *isEnabled* parameter to enable the button and **false** to disable it.

showMessageOnStatusBar( )

void **showMessageOnStatusBar**(String *message*)

Parameter	Type	Description
message	String	Text to display

Description

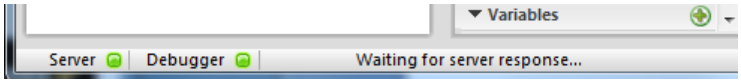
The **showMessageOnStatusBar( )** method displays a *message* in the Wakanda Studio status bar, next to the progress bar.
This feature allows you to display information to the user, for example while time-consuming operations are being run.

Example

If you execute the following statement:

```
studio.showMessageOnStatusBar("Waiting for server response...");
```

The Wakanda Studio status bar will display the message:



showProgressBarOnStatusBar( )

void **showProgressBarOnStatusBar**( )

Description

The **showProgressBarOnStatusBar( )** method allows you to show an animated progress bar in the Wakanda Studio status bar.

An animated progress bar is used to symbolize a pending operation. It is usually associated with a message (see showMessageOnStatusBar( ) method).

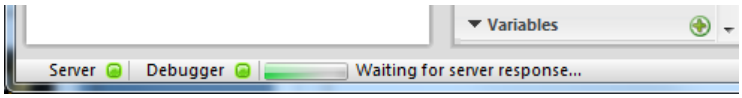
By default, the progress bar is not displayed. When it is displayed, you can hide it using the hideProgressBarOnStatusBar( ) method.

Example

If you execute the following code:

```
studio.showMessageOnStatusBar("Waiting for server response..."); // displays a message
studio.showProgressBarOnStatusBar("Waiting for server response..."); // displays a bar
```

The Wakanda Studio status bar will contain:



API: Preferences

This set of APIs allows the extension author to read or write extension settings, called preferences. A preference is a combination of a key and a value. You can use two different sets of extension preferences: general preferences and solution preferences.

User preferences

User extension preferences are used by the Wakanda Studio application. They are shared by all solutions. General extension preferences are saved in the following file (optional):

- On Windows: *{Disk}:\Users\{User name}\AppData\Roaming\Wakanda Studio\ExtensionPreferences\EXT_FOLDER_NAME\Preferences.json*
- On Mac OS: */Users/{User name}/Library/Application Support/Wakanda Studio/ExtensionPreferences/EXT_FOLDER_NAME\Preferences.json*

Solution extension settings

Solutions extension settings are set separately for each solution. They are designed to store solution-relative parameters, such as specific paths. Solution extension settings are saved in the following file (optional):

- On Windows: *{Disk}:\Users\{User name}\Documents\Wakanda\{solution name}\{solution name} Solution\ExtensionSettings\EXT_FOLDER_NAME\Settings.json*
- On Mac OS: */Users/{User name}/Documents/Wakanda/{solution name}/{solution name} Solution/ExtensionSettings/EXT_FOLDER_NAME/Settings.json*

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'

For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

extension.deletePrefFile( )

Boolean **extension.deletePrefFile**( )

Returns	Boolean	True if the preference file was successfully deleted, false otherwise

Description

The **extension.deletePrefFile( )** method removes the preference file from the disk. If the file was successfully deleted, the method returns **True**, otherwise (for example, if the file is locked), it returns **False**.

extension.deleteSolutionSettingsFile( )

Boolean **extension.deleteSolutionSettingsFile**( )

Returns	Boolean	True if the solution settings file was successfully deleted, false otherwise

Description

The **extension.deleteSolutionSettingsFile( )** method removes the solution settings file from the disk. If the file was successfully deleted, the method returns **True.** Otherwise (for example, if the file is locked), it returns **False**.

Implementation Note (v4): *This method was previously named* deleteSolutionPrefFile().

extension.getPref( )

String **extension.getPref**(String *keyName*)

Parameter	Type	Description
keyName	String	Name of the preference key to read
Returns	String	Current value of the preference key

Description

The **extension.getPref( )** method returns the current value of the *keyName* preference key in the extension preference file.

If the *keyName* key does not exist in the file, an empty string is returned.

extension.getPrefFolder( )

Folder **extension.getPrefFolder**( )

Returns	Folder	Extension preference folder path

Description

The **extension.getPrefFolder( )** method returns a *Folder* reference to the extension preference folder, where the extension can add its files.

If the extension preference folder does not exist yet when the method is called, it is created.

Example

```
var prefFolder = studio.extension.getPrefFolder();
studio.alert(prefFolder.path);
// displays for example under Windows:
// 'C:\Users\{Name}\AppData\Roaming\Wakanda Studio\ExtensionPreference\Hello World Extension\
```

extension.getSolutionSetting( )

String **extension.getSolutionSetting**(String *keyName*)

Parameter	Type	Description
keyName	String	Name of the solution preference key to read
Returns	String	Current value of the solution preference key

Description

The **extension.getSolutionSetting( )** method returns the current value of the *keyName* preference key in the solution extension settings file.

If the *keyName* key does not exist in the file, an empty string is returned.

***Implementation Note (v4)**: This method was previously named* getSolutionPref().

extension.getSolutionSettingsFolder( )

Folder **extension.getSolutionSettingsFolder**( )

Returns	Folder	Solution extension settings folder

Description

The **extension.getSolutionSettingsFolder( )** method returns a reference to the solution extension settings folder, where the extension solution can add its files. The method returns a *Folder* object, that you can handle through the various properties and methods of the **Folder** class.

If the extension solution settings folder does not already exist when this method is called, it is created.

***Implementation Note (v4)**: This method was previously named* getSolutionPrefFolder().

Example

You want to display the current solution extension preference folder path:

```
var prefs = studio.extension.getSolutionSettingsFolder();
studio.alert(prefs.path);
```

extension.getUserAndPassword( )

Object | Null **extension.getUserAndPassword**(String *keyName*)

Parameter	Type	Description
keyName	String	Key name

Returns	Object, Null	Object with 'user' and 'password' properties

Description

The **extension.getUserAndPassword( )** method returns an object containing the current solution's *user* and *password* property values for the *keyName* key. This information must have been set using the **extension.setUserAndPassword( )** method.

If the method executes successfully, it returns an object with the following properties:

- "user": user name
- "password": user password (plain text)

The method returns **null** if the current solution's user and password are not found.

Example

If you store the following information:

```
studio.extension.setUserAndPassword("HelloServer2", "Jim", "456");
```

You can later call:

```
var myKey=studio.extension.getUserAndPassword("HelloServer2");
if(myKey != null) //HelloServer2 has been found for the current solution
    var user=myKey.user  //user contains 'Jim'
    var password=myKey.password  //password contains '456'
```

extension.isPrefFileExisting( )

Boolean **extension.isPrefFileExisting**( )

Returns	Boolean	True if a preference file exists, False otherwise

Description

The **extension.isPrefFileExisting( )** method returns **true** if a preference file exists for the extension, and **false** otherwise.

It can be useful for example to restore the factory default settings.

extension.isSolutionSettingsFileExisting( )

Boolean **extension.isSolutionSettingsFileExisting**( )

Returns	Boolean	True if a solution settings file exists, False otherwise

Description

The **extension.isSolutionSettingsFileExisting( )** method returns **true** if a settings file exists for the solution extension, and **false** otherwise.

It can be useful, for example, to restore the factory default settings.

Implementation Note (v4): *This method was previously named* isSolutionPrefFileExisting().

extension.setPref( )

Boolean **extension.setPref**(String *keyName*, String *keyValue*)

Parameter	Type	Description
keyName	String	Name of the preference key to write
keyValue	String	New value for the preference key
Returns	Boolean	True if the value was successfully set, false otherwise

Description

The **extension.setPref( )** method writes a *keyName*/*keyValue* preference pair in the general extension preference file. For more information about this file, please refer to the **User preferences** paragraph.

If the *keyName* preference was already defined in the file, its value is replaced by *keyValue*. If it was not defined, a new *keyName*/*keyValue* preference pair is added to the file.

The method returns **true** if it was successful and **false** otherwise.

extension.setSolutionSetting( )

Boolean **extension.setSolutionSetting**(String *keyName*, String *keyValue*)

Parameter	Type	Description
keyName	String	Name of the solution preference key to write
keyValue	String	New value for the solution preference key
Returns	Boolean	True if the value was successfully set, false otherwise

Description

The **extension.setSolutionSetting( )** method writes a *keyName*/*keyValue* preference pair in the solution extension settings file. For more information about this file, please refer to the **Solution extension settings** paragraph.

If the *keyName* preference is already defined in the file, its value is replaced by *keyValue*. If it is not defined, a new *keyName*/*keyValue* preference pair is added to the file.

The method returns **true** if it is successful and **false** otherwise.

Implementation Note (v4): *This method was previously named* setSolutionPref().

Example

You want to set a value to a "color" key:

```
var isOK = studio.extension.setSolutionSetting("color", "blue");
if (isOK)
    studio.alert("Preference successfully saved");
```

extension.setUserAndPassword( )

void **extension.setUserAndPassword**(String *keyName*, String *user*, String *password*)

Parameter	Type	Description
keyName	String	'name' key associated with the identifiers
user	String	User name
password	String	User password

Description

The **extension.setUserAndPassword( )** method allows you to store a *user* and *password* pair associated with the *keyName* property for the current solution. This information is written in the user settings file. For more information about this file, please refer to the **User preferences** paragraph.

Note that the *password* is stored as plain text in the preferences file.

This method makes it easy for your extension to handle one or more pair(s) of user/password identifiers for the same solution. Use the **extension.getUserAndPassword( )** method to get a user/password combination for a *keyName*.

Example

For your "Hello World" extension, you want to store a user name and a password used to connect to a server for the current solution, named "Camping":

```
studio.extension.setUserAndPassword("HelloServer1", "John", "123");
```

Note: *Usually, these values are entered by the user from an interface form.*

When the code is executed, the following data is added to the user preference file (for example on Windows: *C:\Users\John\AppData\Roaming\Wakanda Studio\ExtensionPreferences\Hello World\Preferences.json*):

```
"keyChains":[
        {
            "user":"John",
            "name":"HelloServer1",
            "solution":"C:/Wakanda solutions/Camping/Camping Solution/Camping.waSolution",
            "password":"123"
        }
    ]
```

API: Solution

The "Solution" theme methods allow you to get information from the Solution level.

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'
For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

currentSolution.getExpandedFolders( )

Array **currentSolution.getExpandedFolders**( )

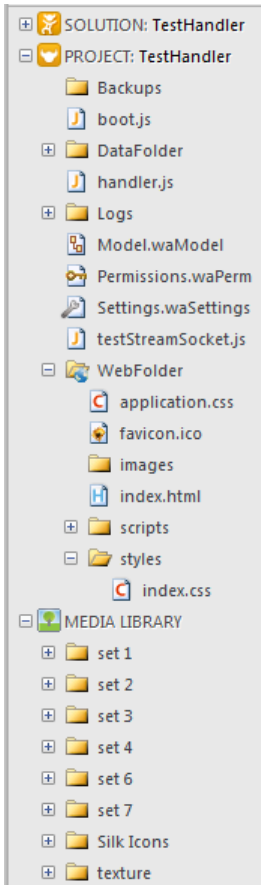
Returns	Array	Expanded folder(s)

Description

The **currentSolution.getExpandedFolders( )** method returns the list of folders which are currently expanded in the solution explorer window. The returned value is an array of *Folder* objects.

Example

Given the following items in the solution explorer, if your solution is located at the root folder:




```
var arrExpand = studio.currentSolution.getExpandedFolders();
// arrExpand[0].path contains "C:/TestHandler/TestHandler/"
// arrExpand[1].path contains "C:/TestHandler/TestHandler/WebFolder/"
// arrExpand[2].path contains "C:/TestHandler/TestHandler/WebFolder/styles/"
// arrExpand[3].path contains "C:/Wakanda/Wakanda Studio/Resources/Web Components/walib/WAF/m
```

currentSolution.getSelectedItems( )

Array **currentSolution.getSelectedItems**( )

Returns	Array	Selected item(s)

Description

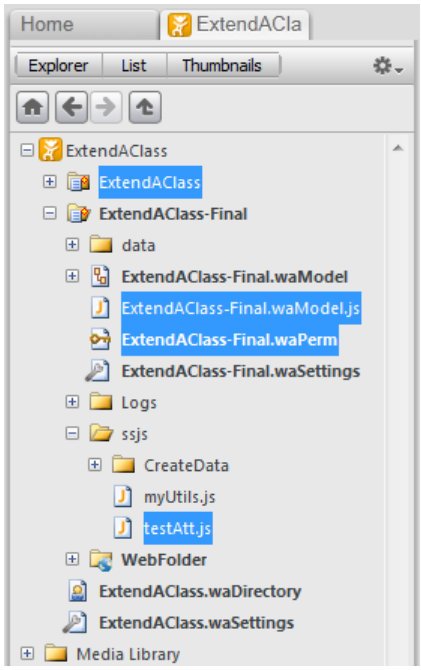
The **currentSolution.getSelectedItems( )** method returns an array of selected files and folders in the Solution Explorer window. This information is useful when you need to execute an action on the selected items.

The array order is based on the user selection sequence: first items selected are in the first positions of the array. If no item is selected in the Solution Explorer, **currentSolution.getSelectedItems( )** returns an empty array.

currentSolution.getSelectedItems( ) returns an array of objects of the *File* and/or *Folder* type.

Example

Given the following items selected in the Solution Explorer, if your solutions are located at the root folder:




```
var arrSel = studio.currentSolution.getSelectedItems();
// arrSel[0].path contains "C:/ExtendAClass/ExtendAClass/"
// arrSel[1].path contains "C:/ExtendAClass/ExtendAClass-Final/ExtendAClass-Final.waPerm"
// arrSel[2].path contains "C:/ExtendAClass/ExtendAClass-Final/ExtendAClass-Final.waModel.js"
// arrSel[3].path contains "C:/ExtendAClass/ExtendAClass-Final/ssjs/testAtt.js"
// in Wakanda v2 you get the path directly in arrSel[n]
```

currentSolution.getSolutionFile( )

File **currentSolution.getSolutionFile**( )

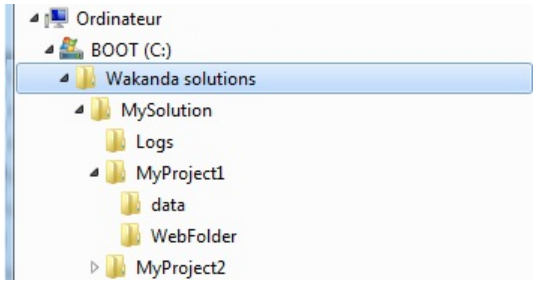
Returns	File	Current solution file

Description

The **currentSolution.getSolutionFile( )** method returns a *File* object referencing the current solution file (named '*SolutionName*.waSolution').

Example

Considering the following organization of files and folders on disk:




```
var solPath=studio.currentSolution.getSolutionFile().path;
    // returns C:\Wakanda solutions\MySolution\MySolution.waSolution
```

currentSolution.getSolutionName( )

String **currentSolution.getSolutionName**( )

Returns	String	Name of the current solution

Description

The **currentSolution.getSolutionName( )** method returns the name of the currently opened solution.

Example

You want to display the name of the currently opened solution:

```
studio.alert(studio.currentSolution.getSolutionName()+" is open.");
```

currentSolution.restoreItemsIcon( )

Boolean **currentSolution.restoreItemsIcon**(Array *filePathsToSet*)

Parameter	Type	Description
filePathsToSet	Array	Array of file full paths
Returns	Boolean	true if method executed successfully, false otherwise

Description

The **currentSolution.restoreItemsIcon( )** method removes any overlay icon added to icons of files referenced by the *filePathsToSet* parameter. Overlay icons can be added with the currentSolution.setItemsOverlayIcon( ) method.

In *filePathsToSet*, pass an array of strings (file full path names) to designate file icons whose overlay icon should be removed.

If any item designated does not have an overlay icon or is a folder, it is ignored.

currentSolution.setItemsOverlayIcon( )

void **currentSolution.setItemsOverlayIcon**(Array *filePathsToSet* , String *iconFilePath* [, String *position*])

Parameter	Type	Description
filePathsToSet	Array	Array of file full paths
iconFilePath	String	Path to the icon file
position	String	LowerRight (default), LowerLeft, UpperLeft or UpperRight

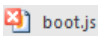
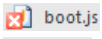
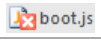
Description

The **currentSolution.setItemsOverlayIcon( )** method allows you to add an overlay icon to a set of file icons in the solution explorer area. This method can be used to 'mark' files that are involved in a specific action.

In *filePathsToSet*, pass an array of strings (file full path names) to designate files to receive an overlay icon. If a path designates a folder, it is ignored.

In *iconFilePath*, pass the full path of the icon file to use. The file must be in the *png* format. It is recommended that you use an 11x11 pixel icon.

The optional *position* parameter will define the position of the overlay icon on the solution file. You can pass one of the following strings:

position	Result
'UpperLeft'	
'UpperRight'	
'LowerLeft'	
'LowerRight' (default if omitted)	

An overlay icon will remain displayed during the entire session, unless you call **currentSolution.setItemsOverlayIcon( )** again or the currentSolution.restoreItemsIcon( ) method on the item.

Example

You want to add a specific overlay icon to the currently selected items. In the *index.js* file of the extension, you can add the following code:

```
var icons=[] // in;
var sel = studio.currentSolution.getSelectedItems();
for (var i = 0 ; i<sel.length;i++)
    icons[i] = sel[i].path;
var isOK = studio.currentSolution.setItemsOverlayIcon(icons,"C:/Graphic/mark.png","LowerLeft"
```

If the items selected include any folders, they are simply ignored.

API: Storage

Storage features are useful when an extension needs to share information between **index.js** and the Web Zone Dialog. The Wakanda Studio Extension proposes a *Storage* object simply named **storage**, thus available through:

```
studio.extension.storage //extension storage object
```

Note: *For more information about Storage objects in Wakanda, please refer to the Storage section.*

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'
For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

extension.storage.clear( )

void **extension.storage.clear**( )

Description

The **extension.storage.clear( )** method removes all the key/value pairs defined in the *storage* object.

extension.storage.getItem( )

String | Null **extension.storage.getItem**(String *keyName*)

Parameter	Type	Description
keyName	String	Name of key to get the value
Returns	String, Null	Value associated to the key

Description

The **extension.storage.getItem( )** method returns the current value associated with the given *keyName*.
If *keyName* is not an existing key in the *storage* object, the method returns **Null**.

extension.storage.key( )

String **extension.storage.key**(Number *keyIndex*)

Parameter	Type	Description
keyIndex	Number	Key index number
Returns	String	Key name

Description

The **extension.storage.key( )** method returns the key name for a given *keyIndex* in the *storage* object.

extension.storage.removeItem( )

void **extension.storage.removeItem**(String *keyName*)

Parameter	Type	Description
keyName	String	Name of the key to remove

Description

The **extension.storage.removeItem( )** method removes the *keyName* key and its associated value from the *storage* object.

extension.storage.setItem( )

void **extension.storage.setItem**(String *keyName*, String *keyValue*)

Parameter	Type	Description
keyName	String	Name of the key to set
keyValue	String	Value of the key to set

Description

The **extension.storage.setItem( )** method associates the *keyValue* to the given *keyName* in the *storage* object.

API: Studio

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'

For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

openSolution( )

Boolean **openSolution**(String *solutionFilePath*)

Parameter	Type	Description
solutionFilePath	String	Solution file path
Returns	Boolean	True if the solution is opened, false otherwise

Description

The **openSolution( )** method allows you to close the current solution and open a given solution.

In *solutionFilePath*, pass a Posix path corresponding to the full path of the solution to be opened.

If the designated solution is opened successfully, the method returns **true**. If the designated solution is already opened, the method only returns **true** (the solution is now closed and reopened). Otherwise, if an error occurs (for example, the *solutionFilePath* is not found), the method returns **false**.

Example

You want to close the current solution and open the "Panic" solution. You can write the following code:

```
var isOpen = studio.openSolution("C:/wakanda/Panic/Panic Solution/Panic.waSolution");
if(isOK)
    studio.alert("Panic solution opened successfully");
```

sendCommand( )

Boolean **sendCommand**(String *commandName*)

Parameter	Type	Description
commandName	String	Action to execute
Returns	Boolean	true if the method executed successfully, false otherwise

Description

The **sendCommand( )** method runs the Wakanda Studio menu command or another extensions' action defined in the *commandName* parameter. The method returns **true** if the command was called with success, and **false** otherwise (for example, if *commandName* does not exist).

- To execute a command from the Wakanda Studio, pass one of the following strings in *commandName*:

```
About
Close
CloseSolution
NewCatalog
NewCSS
NewFile
NewFolder
NewGUI
NewHTML
NewJavascript
NewJSON
NewMobileGUI
NewPHP
NewProject
NewSolution
NewTabletGUI
NewTXT
NewWebComponent
NewXML
OpenFile
OpenSolution
```

```
Save
SaveAll
SaveAs
```

- To execute an action from another extension, use the following format in *commandName*:

  ```
  EXTENSIONNAME.ACTIONNAME
  ```

  where EXTENSIONNAME is the folder name of extension and ACTIONNAME is the action message name.
  When running **sendCommand( )** to call the action of another extension, the destination extension will receive "fromExtension" as *message.event* in the handleMessage function. For more information, please refer to **handleMessage Function** paragraph.

studio.SystemWorker( )

void **studio.SystemWorker** (commandLine , executionPath)

Parameter	Type	Description
commandLine	String	Command line to execute
executionPath	String, Folder	Directory where command is executed

Description

The **studio.SystemWorker( )** constructor method allows you to create and handle a SSJS *SystemWorker* type object from your extension code.

For more information about *SystemWorker* objects, please refer to the **SystemWorker Instances** description.

API: Web Zone Dialog

Wakanda Studio API provides ways to launch modal or non modal Web zones. It could be useful when an extension needs a customizable dialog box.

Use the Wakanda Studio extension *Storage* object (***studio.extension.storage***) to share information between modal/modless dialog boxes and **index.js**. If you want to get values from the dialog in **index.js**, the extension lifetime should be set as *application_lifetime*.

Note: *For more information about* ***studio.extension.storage****, please refer to the API: Storage chapter.*

Using 'studio' Object

All Wakanda Extension APIs are available through the "studio" object. Thus, you must prefix each API call with '**studio.**'

For example, to call the **alert( )** method, you should write:

```
studio.alert("Hello World!");
```

extension.quitDialog( )

void **extension.quitDialog**( )

Description

The **extension.quitDialog( )** method closes the dialog box opened by **extension.showModalDialog( )** or **extension.showModelessDialog( )**.

After having opened an HTML dialog, it is recommended that you attach this method to an **OK** or a **Cancel** button (or both) in your HTML page code.

extension.showModalDialog( )

Boolean **extension.showModalDialog**(String *htmlPage* [,String *arguments* [,Object *params* [,String *callback*]]])

Parameter	Type	Description
htmlPage	String	Relative file path to the HTML page to load
arguments	String	Arguments to process
params	Object	Window parameters: {title (string), dialogwidth (number), dialogheight (number), resizable (boolean)}
callback	String	Callback function
Returns	Boolean	True if the dialog box was validated, false otherwise

Description

The **extension.showModalDialog( )** method opens a modal dialog box displaying the *htmlPage*.

Pass in the *htmlPage* parameter a file path, relative to the extension folder, indicating which HTML page to load.

arguments is an object or a valid javascript value containing any parameters to pass to the HTML page.
On the HTML page side, you will access these *arguments* through the **userArguments** key of the Studio *Storage* object. For example, you can use an instruction such as:

```
var myArgs = studio.extension.storage.getItem('userArguments');
```

You can pass in *params* an object containing title and size parameters as properties:

- *title* (string): title for the dialog box. Example {title: "Select Settings"}. By default if this parameter is omitted, the title area is empty.
- *dialogwidth* (number): width of the dialog box in pixels. By default if this parameter is omitted, the width is 640 pixels.
- *dialogheight* (number): height of the dialog box in pixels. By default if this parameter is omitted, the height is 400 pixels.
- *resizable* (boolean): true if the dialog box must be resizable, false otherwise. By default if this parameter is omitted, the dialog is resizable.

The HTML modal dialog is executed asynchronously. If you want to get a result from the HTML dialog, you need to define a *callback* function, that will be called when the dialog is closed.
Again, you can use the Studio *Storage* object. For example, you could put the result value into the **studio.extension.storage.returnValue** key and get this value in *callback* function. When the HTML dialog is closed, the *callback* function is executed, then you get back in the **index.js** file any result from your dialog.

Note that the *callback* function should be defined in the same way as the other actions.

Example

We want to open a custom Settings dialog box to allow the user to set parameters.

- In the **index.js** file, we added the following actions:

```
    //the settings action is called when the user clicks a button
actions.settings = function settings(message) {
    var option;
    option = DefaultOption;
    option = getOptFromPref(option); // gets current values from existing preferences
    studio.extension.showModalDialog(
        "settingsDialog.html",
        option,
        {title:"My Settings", dialogwidth:470, dialogheight:380, resizable:false},
        'writeOptions');
};

    //The "writeOptions" callback function
actions.writeOptions = function writeOptions(message) {
    var newOption = studio.extension.storage.returnValue; // gets values from the dialog
    if (newOption) //if there are new values
    {
        studio.extension.setPref("pref1", newOption.pref1);
        studio.extension.setPref("pref2", newOption.pref2);
        //...
    }
}
```

- In the HTML page named "settingsDialog.html", you should have defined the corresponding functions, for example:

```
function init() {
    document.getElementById('pref1').value = studio.extension.storage.dialogArguments.pref1;
    document.getElementById('pref2').value = studio.extension.storage.dialogArguments.pref2;
    setValidation();
}

function getValueAndQuitHtmlPage() {
    var hpref1;
    var hpref2;

    hpref1= document.getElementById('pref1').value;
    hpref2= document.getElementById('pref2').value;

    studio.extension.storage.returnValue = {
    "pref1":hpref1,
    "pref2":hpref2
    };
    studio.extension.quitDialog();
}
```

extension.showModelessDialog( )

Boolean **extension.showModelessDialog**(String *htmlPage* [,String *arguments* [,Object *params* [,String *callback*]]])

Parameter	Type	Description
htmlPage	String	Relative file path to the HTML page to load
arguments	String	Arguments to process
params	Object	Window parameters
callback	String	Callback function name
Returns	Boolean	True if the dialog box was validated, false otherwise

Description

The **extension.showModelessDialog( )** method opens a non modal dialog box displaying the *htmlPage*.

This method is similar to the **extension.showModalDialog( )** method, except that it opens a non modal dialog box.

extensions.resizeDialog( )

void **extensions.resizeDialog**(Number *dialogwidth*, Number *dialogheight*)

Parameter	Type	Description
dialogwidth	Number	New width value
dialogheight	Number	New height value

Description

The **extensions.resizeDialog( )** method allows you to resize the current dialog. The original size is defined in the dialog creation method, such as **extension.showModalDialog( )**.

In *dialogwidth*, pass the new width of the dialog box in pixels. By default, the dialog width is 640 pixels.
In *dialogheight*, pass the height of the dialog box in pixels. By default, the dialog height is 400 pixels.