

# Proposed better new widget interface

Version 3

## params\_object

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Some methods receive or return a `params_object`. This is an object supporting JSON serialisation representing the configuration of a particular widget instance but its structure and content is otherwise opaque to the method's caller.

## Constructor

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`ExampleWidget(widget_id)` (required)

- `widget_id` : a unique id for this instance of the widget (string, required)

## Methods

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- `display(config, params)` (required)

Display or re-display the widget. This method may take responsibility for refreshing the widget in the future, otherwise there should be a `refresh()` method that does this (see below).

This method may be called more than once on any particular widget instance. When called a second and subsequent time the method must re-initialise data structures, cancel running timers, unsubscribe from external subscriptions, etc.

### Parameters:

- `config` : configuration information for the widget (object, required):
  - `container_id` : the id of the DOM object in which the widget must be displayed. [string, required, commonly having the same value as `widget_id`]
  - `static_url` : URL prefix under which the entire content of the widget source directory can be accessed. [string, required]
- `params` : `params_object` containing the configuration for this widget instance. [required]

This method has no return value.

- `refresh()` (optional)

Refresh the widget display.

This method has no return value.

- `obj = configure(config, current_params)` (required)

Render a configuration screen for the widget (initialised with current parameters if there are any), collect and validate new parameters and return them.

## Parameters

- `config` : configuration information for the configuration screen (object, required):
  - `config_id` : id of the DOM object in which the widget configuration should be displayed. [string, required, commonly `<widget_id>_config` ]
  - `static_url` : URL prefix under which the entire content of the widget source directory can be accessed. [string, required]
- `current_params` : `params_object` containing the current configuration for this widget instance. [required, pass an empty object when creating a new configuration]

## Return value

An object containing the following keys:

- `valid` : a parameterless function which when called will trigger validation of the current values and return `true` if they were valid and `false` if not. If the function returns `false` then the widget is responsible for alerting the user to the problems. [boolean, required]
- `value` : a parameterless function which when called returns a `params_object` containing a new or updated configuration. [required]

## Other properties

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Explicitly none -- these objects have no other externally-accessible properties.