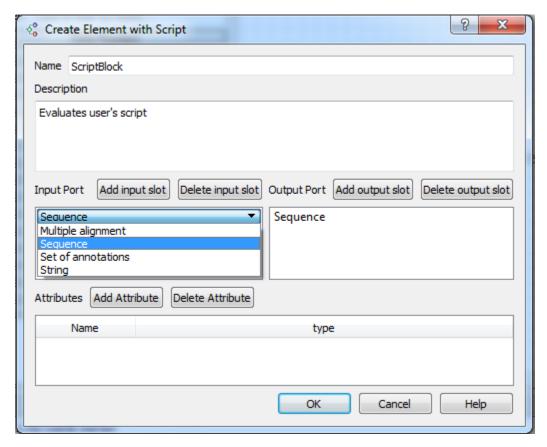
Custom Elements with Scripts

It is possible to create custom algorithmic blocks using scripts in the Workflow Designer.

To create an element either select Actions Create Script Object in the main menu, select Create element with script in the context menu or click on the following button on the toolbar:



The Create Element with Script dialog will appear:



Here you should set the name of the element, its description and input / output ports of the element. It is possible to create a port with several input / output slots

There are 4 types of data for a slot available:

- Multiple alignment
- Sequence
- · Set of annotations
- Files

You can also add an attribute. The following types are supported for attributes:

- String
- Number
- Boolean

The element created is stored in a directory that can be set in the Application Settings dialog.

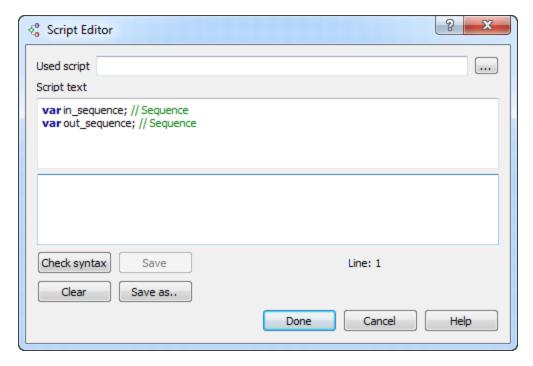
The element also becomes available in the Custom Elements with Scripts group on the Palette.

It is required to write a script for the element. Supported languages for the script are languages based on the ECMAScript (Javascript, QtScript).

To edit the script select the element on the Scene and either select Actions Edit script of the element in the main menu, use the Edit script of the element it em in the context menu or click on the following button on the toolbar:



The Script editor dialog will appear:



As you can see there are predefined variables for the ports and the attributes in the script. The variables for the input slots begin with the "in_" prefix, variables for the output slots begin with the "out_" prefix. It is possible to load a script from a file (use the *Used script* field to do it).

For each supported data type UGENE provides a number of functions that can be used in the scripts.

- Functions Supported for Multiple Alignment Data
 Functions Supported for Sequence Data
 Functions Supported for Set of Annotations Data
 Functions Supported for Files
 Common Function