



# Open2Test Test Automation Framework for OpenScript - Extensibility for Developers

Version 1.0

January 2010

## DISCLAIMER

*Verbatim copying and distribution of this entire article is permitted worldwide, without royalty, in any medium, provided this notice is preserved.*

**TABLE OF CONTENTS**

<b>1. PURPOSE OF THE DOCUMENT .....</b>	<b>3</b>
1.1. Scope .....	3
1.2. Overview .....	3
<b>2. ADDING NEW FUNCTIONS/ADDING NEW KEYWORDS .....</b>	<b>4</b>
2.1. Adding New Functions .....	4
2.1.1. Include the function in the framework and call the function from the framework code.....	4
2.1.2. Include function in the framework and call from keyword script.....	4
2.2. Adding New Keywords .....	4
<b>3. MODIFYING FUNCTIONS AND KEYWORDS .....</b>	<b>6</b>
3.1. Modifying Functions .....	6
3.2. Modifying Keywords .....	6
<b>4. ADDING NEW OBJECTS AND ACTIONS .....</b>	<b>7</b>
4.1. Adding New Objects .....	7
4.2. Adding New Actions .....	7
<b>5. GENERAL GUIDELINES .....</b>	<b>9</b>

## 1. Purpose of the Document

The purpose of this document is to share guidelines for customizing Open2Test Test Automation Framework code. This document will help with adding or modifying functions or keywords in the framework code.

### 1.1. Scope

The scope of this document is to provide guidelines for customizing Open2Test Test Automation Framework code.

### 1.2. Overview

This document provides guidelines for:

- Adding new functions
- Adding new keywords
- Modifying functions
- Modifying keywords
- Adding new objects
- Adding new actions

## 2. Adding New Functions/Adding New Keywords

### 2.1. Adding New Functions

The Open2Test Test Automation Framework's easily extensible features include custom functions. New functions can be added to the framework in two ways.

#### 2.1.1. Include the function in the framework and call the function from the framework code

To add new custom functions to the framework, follow the steps below:

- Refer to coding standards for naming the function.
- Define the function and declare the arguments that are passed to the function.
- Assign value to the function if it has to return the value.
- Call the function in the framework code.

#### 2.1.2. Include the function in the framework and call the function from the keyword script

To add new functions and call those functions from keyword scripts, follow the steps below:

- Refer to coding standards for naming the function.
- Add the name of the function to the 'Functions' enum in UDF Class.
- Define the function and declare the arguments that are passed to the function.
- Assign value to the function if it has to return the value.
- Call the function from the keyword script.

Syntax:

CallFunction	<FunctionName>;par1:par2:par3	<VarnName> (To hold the return value)
--------------	-------------------------------	---------------------------------------

### 2.2. Adding New Keywords

New keywords can be added to the framework by following these steps:

- Design the keyword.
- Use ';' as a delimiter in the third and fourth columns.
- Include the second column cell value as a case in the 'run()' (keyword()) function and in 'Keywords' enum of Web\_Framework class.
- Call any existing function or a new function in the case statement.

- Use the values of the third and fourth columns to pass parameters to the function and to handle the value that is returned by the function (depending on the function definition).

Example:

To add a keyword for comparing two strings:

1. Design the keyword syntax.

StrCompare	<String1>;<String2>	Variable<holds return value>
------------	---------------------	------------------------------

2. Add the case statement 'strcmpare' to the switch case in the run() function and also add 'strcmpare' to the enum 'Keywords' in Web\_Framework class.
3. Define the function corresponding to strcmpare in Web\_Framework class and call it appropriately.
4. Design the logic in such a way that system should return a value 'true' in case two strings are equal; otherwise, it should store a value 'false'.
5. Use Map object to store the returned value in the specified variable.

## 3. Modifying Functions and Keywords

### 3.1. Modifying Functions

Refer to the Open2Test Test Automation Framework description document for a list of functions in the framework code. These functions can be modified or customized by following the below steps:

- Identify the function that needs to be modified.
- Identify where this functions is called throughout the framework code.
- Modify the function.
- Based on the modifications, update the framework code where this function is called.

### 3.2. Modifying Keywords

Refer to the Open2Test Test Automation Framework Keyword Naming conventions document for a list of keywords that are available in the Open2Test Test Automation Framework. The keyword functionality can be modified or customized by following the below steps:

- Identify the keywords that need to be modified.
- Identify where these keywords are used in the framework code and modify them accordingly.

## 4. Adding New Objects and Actions

### 4.1. Adding New Objects

Refer to the Open2Test Test Automation Framework Keyword Naming Conventions document for a list of objects that are handled in the framework code. When you encounter new or custom objects that are not handled in the framework, you can include them in the framework code by following the below steps:

- Identify the object class and name it based on object naming conventions.
- Identify the list of actions that are performed on the object.
- Identify the list of check points that are needed.
- Include code for finding the object.
- Include code for performing actions on the object.
- Include code for performing checks on the object.

Example:

Adding an object: 'WebTreeView'

1. Add an entry 'WebTreeView' in the 'Objects' enum of Web\_Framework class.
2. Add any new actions corresponding to 'WebTreeView' object in 'Actions' enum of Web\_Framework class.
3. Add any new attributes corresponding to 'WebTreeView' object in 'Attributes' enum of Web\_Framework class.
4. Add the code to find the object in 'Func\_FindObj' function by inserting the corresponding case statement.
5. Add the code to perform action on the object in 'Func\_Action' function by inserting the corresponding case statement.
6. Add the code to retrieve the attribute value of the object in 'Func\_Attrval' function by inserting the corresponding case statement.

### 4.2. Adding New Actions

When you encounter new actions that are not handled in the framework, you can add them into the framework code by following the below steps:

- Identify the action and name it.
- Include the defined name of the action in 'Action' enum of Web\_Framework class.
- Identify the list of objects where this action should be performed.
- Include code for performing this action in 'Func\_Action' function by inserting corresponding case statement.

Example:

Adding a new action: 'Rightclick'

1. Add an entry 'rightclick' in 'Actions' enum of Web\_Framework class.
2. Add a case statement 'rightclick' in the switch case of function Func\_Action.
3. In the case statement, mention the code "object.rightclick". This will perform the required action on the required object.



## 5. General Guidelines

- Follow coding standards for defining and naming functions.
- Refer to the Open2Test Test Automation Framework Keyword Naming Conventions document for including new objects or new actions in the framework code.
- Before adding or modifying functions, add necessary comments, such as date of modification, modified by, or created by, as well as what was modified or added.
- Use, but don't change, global variables within the function.
- Use local variables as much as possible.
- Use pass by value and pass by variable for passing values and variables.
- If a new class needs to be created and is intended for use in the existing framework, make sure to initialize the internal objects (like WebDOMService, InternalWebDOMService, Connection etc) with the values of the calling script.
- Add new keywords or functions only when existing functions are not able to perform the desired action.

---

### **COPYRIGHT**

*This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.*

*This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.*