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# Preface

Welcome to the Oracle OpenScript Programmers Reference Guide. Oracle OpenScript is an extensible, standards-based test automation platform designed to test the next generation of Web applications. This guide explains the Oracle OpenScript scripting Application Programming Interface (API) used to create or modify test scripts used for testing Web applications.

## Audience

This guide is intended for Web Testing Quality Assurance (QA) engineers who will be modifying OpenScript scripts using the Java-based OpenScript scripting API. OpenScript is based upon the Eclipse development environment. This guide assumes that the users of this guide have Java programming experience and are knowledgeable in using the Eclipse development environment.

The record/playback paradigm of Oracle OpenScript does not require any programming experience to develop scripts for testing. However, the advanced programming features available in Oracle OpenScript do require experience with the Java programming language. The programming sections and code examples of this manual assume that you understand programming concepts in Java.

## Using This Guide

This guide is organized as follows:

- [Part I, "Introduction"](#) introduces the OpenScript Programmers Reference and provides basic information for using the OpenScript scripting language and Application Programming Interface (API).
- [Part II, "Load Testing Modules API Reference"](#) provides a complete listing and reference for the methods in the OpenScript Load Testing Modules Application Programming Interface (API).
- [Part III, "Functional Testing Modules API Reference"](#) provides a complete listing and reference for the methods in the OpenScript Functional Testing Modules Application Programming Interface (API).
- [Part IV, "Utility Modules API Reference"](#) provides a complete listing and reference for the methods in the OpenScript Utilities Modules Application Programming Interface (API).

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## Related Documents

For more information, see the following documents in the Oracle Application Testing Suite documentation set:

- *Oracle Application Testing Suite Release Notes*
- *Oracle Application Testing Suite Installation Guide*
- *Oracle Application Testing Suite Security Guide*
- *Oracle Application Testing Suite Getting Started Guide*
- *Oracle Functional Testing OpenScript User's Guide*
- *Oracle Functional Testing OpenScript Programmer's Reference*
- *Oracle Load Testing Load Testing User's Guide*
- *Oracle Test Manager Test Manager User's Guide*

## Conventions

The following text conventions are used in this document:

<b>Convention</b>	<b>Meaning</b>
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.



# Part I

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## Introduction

This Part of the OpenScript Programmer's Reference introduces the OpenScript Programmers Reference and provides basic information for using the OpenScript scripting language and Application Programming Interface (API).

This Part contains the following chapters:

- [Chapter 1, "Introduction"](#)
- [Chapter 2, "OpenScript Scripting Basics"](#)
- [Chapter 3, "OpenScript Basic API Reference"](#)



# 1

## Introduction

OpenScript is an updated scripting platform for creating automated extensible test scripts in Java. Combining an intuitive graphical interface with the robust Java language, OpenScript serves needs ranging from novice testers to advanced QA automation experts.

OpenScript is built on a standards-based platform and provides the foundation for OpenScript Modules and Application Programming Interfaces (APIs). OpenScript APIs are used to build scripts for testing Web applications. The OpenScript API consists of a set of procedures that can be used to customize the scripts within the development environment. The API can also be used by advanced technical users to enhance scripts for unique testing needs.

### 1.1 About the OpenScript Scripting API

This guide provides reference information for OpenScript users who wish to modify script projects in the Java code view. This guide provides basic scripting information and detailed command reference information for the Application Programming Interfaces (APIs) for the technology and utility modules supported by the OpenScript Java scripting language.

The OpenScript scripting API is divided into modules based upon load testing scripts, functional testing scripts, and utilities.

Load testing scripts use protocol automation to simulate users creating load against a Web server. The HTTP load testing module of the OpenScript scripting API is the basic load testing module and is used to create load testing scripts. Other supported load testing modules are used with the HTTP module to provide support for specific Web technologies, such as Oracle EBS/Forms or Oracle Fusion/ADF web applications.

Functional testing scripts automate browser actions to simulate a user performing actions within a web application. The Web functional testing module of the OpenScript scripting API is the basic functional testing module and is used to create functional testing scripts. Other supported functional testing modules are used with the Web module to provide support for specific Web technologies, such as Oracle EBS/Forms or Oracle Fusion/ADF web applications.



# 2

## OpenScript Scripting Basics

This chapter explains the procedures for creating and modifying scripts in the OpenScript code view.

### 2.1 About Oracle OpenScript

OpenScript APIs are used to build scripts for testing Web applications. The OpenScript API consists of a set of procedures that can be used to customize the scripts within the development environment. The API can also be used by advanced technical users to enhance scripts for unique testing needs.

### 2.2 Starting the OpenScript Workbench

To start the OpenScript workbench:

From the Start menu:

- Select **Programs** from the **Start** menu and then select **OpenScript** from the **Oracle Application Testing Suite** menu.

### 2.3 Overview of the OpenScript Main Window (Workbench)

The OpenScript main window (Workbench) is where you perform the majority of your test development activities. The main window consists of the perspectives used for developing scripts. OpenScript includes a Tester Perspective and a Developer Perspective. The menu bar, toolbar, and the views and editors vary depending upon which perspective is being used. The following sections describe the functionality and various elements of the OpenScript Workbench.

Some dialogs and views require the user to hit the popup menu keyboard button in order to access some features in the UI that are normally accessible using the right-click menu.

#### 2.3.1 Tester Perspective

The OpenScript Tester Perspective provides a convenient way to record and edit scripts and view the playback results. The Tester Perspective opens the following views by default.

- **Script View:** Shows the recorded script in three tabs: Tree View, Java Code, and assets. The Tree View tab shows the steps and pages and the Initialize, Run, and Finish nodes of each step using a graphical tree view. The Java Code tab shows the underlying Java code used for the script. The Assets view tab shows the script

assets (databanks, jar files, Object libraries and child scripts) that have been added to the script.

- **Details View:** Shows the content details for URL navigations or pages added to the script.
- **Problems View:** Shows any problems in the script code that may produce errors or prevent compiling the script.
- **Properties View:** Shows the properties for the selected node in the script.
- **Console View:** Shows the playback command output and status information for the script. Script log message also appear in the Console.
- **Results View:** Shows the results of script playback.

The following views are also available from the **View** menu but do not open by default:

- **Error Log View:** Shows the error log information for the project and script.
- **Data Table View:** Shows a spreadsheet-like data table for Functional testing scripts.
- **Object Details View:** Shows the attributes and values for the object selected in the browser connected to the view.
- **Script Variables View:** Shows the name and value of script variables. The script variables are only shown when a running script is paused during playback.
- **Treeview Breakpoint View:** Shows the location of breakpoints set in the script tree view.

### 2.3.2 Developer Perspective

The OpenScript Developer Perspective provides advanced options for developers when creating and editing scripts using the advanced features of OpenScript and the Eclipse development platform. The Developer Perspective opens the following views by default:

- **Navigator and Package Explorer Views:** Shows hierarchical views of the script project resources. You can open the resource files in an editor to view and edit the contents.
- **Script View:** Shows the recorded script in three tabs: Tree View, Java Code, and Assets. The Tree View tab shows the steps and pages and the Initialize, Run, and Finish nodes of each step using a graphical tree view. The Java Code tab shows the underlying Java code used for the script. The Assets view tab shows the script assets (databanks, jar files, Object libraries and child scripts) that have been added to the script.
- **Debug View:** Shows the debugging options and provides options for stepping through code.
- **Variables and Breakpoint Views:** Shows the script variables and breakpoints set in the code.
- **Problems View:** Shows any problems in the script code that may produce errors or prevent compiling the script.
- **Declaration View:** shows the source of the element selected in the Java code view.

The following views are also available but do not open by default:

- **Details View:** Shows recorded page details in three tabs: HTML, Browser, and Header. The HTML tab shows the page HTML source. The Browser tab shows the page. The Header tab shows the page response header.
- **Properties View:** Shows the properties for the selected node in the script.
- **Console View:** Shows the playback command output and status information for the script. Script log message also appear in the Console.
- **Results View:** Shows the results of script playback.
- **Error Log View:** Shows the error log information for the project and script.
- **Data Table View:** Shows a spreadsheet-like data table for Functional testing scripts.
- **Object Details View:** Shows the attributes and values for the object selected in the browser connected to the view.
- **Script Variables View:** Shows the name and value of script variables. The script variables are only shown when a running script is paused during playback.
- **Treeview Breakpoint View:** Shows the location of breakpoints set in the script tree view.

The views are described in more detail in the following sections.

### 2.3.3 Script View

Shows the recorded script in two tabs: Tree View and Java Code. The Tree View tab shows the steps and pages and the Initialize, Run, and Finish nodes of each step using a graphical tree view. The Java Code tab shows the underlying Java code used for the script.

The script view is where you perform the majority of script editing actions. The Script view has the following tab views:

#### 2.3.3.1 Tree View

The Tree View shows the script navigations and data as nodes in a collapsible tree view. The Tree View corresponds to the Java Code view. Any changes in the Tree View will be automatically updated in the Java Code view. The Tree View has the following standard nodes:

- Initialize - specifies script actions to perform once at the beginning of script playback.
- Run - specifies script actions to perform one or more times during script playback depending upon databanks or other custom programming.
- Finish - specifies script actions to perform once at the end of script playback.

Use the Record options and right-click shortcut menu to add options to script nodes or modify the properties of script nodes in the Tree View.

#### 2.3.3.2 Java Code

The Java Code view shows the script navigations and data as Java programming code. The Java Code view corresponds to the Tree View. Any changes in the Code View will be automatically updated in the Tree View. The Java Code view has the following standard procedures:

- `initialize()` - corresponds to the Initialize node of the Tree View and executes any custom code added once at the beginning of script playback.

- `run()` - corresponds to the Run node of the Tree View and executes recorded and custom code one or more times during script playback depending upon databanks or other custom programming.
- `finish()` - corresponds to the Finish node of the Tree View and executes any custom code added once at the end of script playback.

Use Ctrl-space to open an Intellisense window listing available procedures. See the API Reference in the OpenScript Platform Reference help for additional programming information.

### 2.3.3.3 Assets

The Assets view tab shows the script assets (databanks, jar files, Object libraries and child scripts) that have been added to the script. If assets have been added to a script, the tree shows a plus/minus next to the asset name for expanding or collapsing the asset tree. The Assets tab has the following options:

- **Databanks:** Lists the Databank assets added to a script.
- **Object Libraries:** Lists the Object Library assets added to a script.
- **JAR files:** Lists generic JAR file assets added to a script.
- **Script:** Lists the child script assets added to a script.
- **Add:** Opens a file selection dialog box for selecting the file to add as an asset. Expand the My Repositories tree to navigate to a workspace folder containing the file. For Databanks, a submenu opens for selecting CSV file or database-type databanks. For CSV file databanks, you select the file. For database-type databanks, you specify the database driver and connection information.

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**Note:** Any scripts you plan to run, along with any associated assets, in the Oracle Load Testing application must be stored in a repository/workspace that can be accessed by the Oracle Load Testing Controller. If you create new repositories in OpenScript, you should also add the new repositories in Oracle Load Testing.

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- **Edit:** Opens a file selection dialog box for changing which file is added as an asset.
- **Open:** Opens the selected asset file in the appropriate editor.
- **Remove:** Removes the selected asset file from the Assets tree. The file still exists in repository/workspace.

## 2.3.4 Problems View

The Problems view shows any problems in the script code that may produce errors or prevent compiling the script. The Problems view shows the following information:

- **# error, # warnings, # infos** - shows the number of errors, warning messages, and information messages in the problems view.
- **Description** - shows a description of the errors, warning messages, and information messages.
- **Resource** - shows the name of the resource file where the error, warning, or information message was generated.
- **Path** - shows the script name, workspace, and repository path where the resource file is located.



- Location - shows the location/line number where the error, warning, or information message was generated.

The following toolbar button is available in the Problems View:

- Configure the filters to be applied to this view - opens a dialog box for configuring the filters to apply to the Problems View.

### 2.3.5 Error Log View

The Error Log view shows the error log information for the project and script. The following toolbar buttons are available in the Error Log View:

- Export Log - exports the error log to a text file.
- Import Log - imports an error log text file to the Error Log View.
- Clear Log Viewer - clears all entries from the Error Log View.
- Delete Log - deletes all logged events.
- Open Log - opens the log file in a text editor.
- Restore Log - restores the error log entries from the log file.

You can right-click on a log entry to open the shortcut menu. The shortcut menu includes the same options as the toolbar. The following additional options are available on the shortcut menu:

- Copy - copies the text for the selected log entry to the clipboard.
- Event Details - opens the event details dialog with the details for the selected log entry.

### 2.3.6 Data Table View

The Data Table view is a spreadsheet-like data table for Functional testing scripts. The Data Table content can be changed by manually inputting data into cells or by importing an Excel file before playback. The Data Table content can be changed at runtime using the `datatable` API or using the user interface when playback is paused by a breakpoint, paused by exception, or paused by clicking the Pause toolbar button. Changes to the Data Table are saved as part of script playback results only. The Data Table and Result Data Table can be exported to an Excel file. See the *Oracle OpenScript User's Guide* for additional information.

The following toolbar buttons are available in the Data Table view:

- Import - opens a dialog for selecting an Excel spreadsheet file to import into the Data Table.
- Export - opens a dialog for specifying where to save the Data Table as an Excel spreadsheet.

You can right-click on a data table cell to open the shortcut Edit menu. The following additional options are available on the shortcut menu:

- Edit - changes the selected cell to text edit mode. Type data into the cell and press Enter.
- Cut - cuts the data from the selected cell.
- Copy - copies the text for the selected cell to the clipboard.
- Paste - pastes text from the clipboard to the selected cell.

- Delete - deletes the text from the selected cell.
- Insert Row Before - inserts a new row into the table before the selected row.
- Insert Row After - inserts a new row into the table after the selected row.
- Delete Row - deletes the selected row from the table.
- Insert Column Before - inserts a new column into the table before the selected column.
- Insert Column After - inserts a new column into the table after the selected column.
- Rename Column - opens a dialog box for specifying a new heading name for the selected column.
- Delete Column - deletes the selected column from the table.

You can right-click on a worksheet tab in the Data Table view to open the worksheet shortcut menu. The following additional options are available on the shortcut menu:

- Insert Sheet Before - inserts a worksheet tab into the Data Table before the selected worksheet tab.
- Insert Sheet After - inserts a worksheet tab into the Data Table after the selected worksheet tab.
- Rename Sheet - opens a dialog box for specifying a new name for the selected worksheet tab.
- Delete Sheet - deletes the selected worksheet from the Data Table. A confirmation dialog box appears to confirm the deletion.

### 2.3.7 Object Details View

The Object Details view provides options for viewing the attributes and values for the object selected in the browser connected to the view. The Object Details view is available for Functional tests. See *The Oracle OpenScript User's Guide* for additional information about using the Object Details view.

The following toolbar buttons are available in the Object Details view:

- Refresh Tree - refreshes the Object Details tree pane.
- Find a node to inspect by selecting in browser - starts the capture mode for selecting the Web page object in the browser. Highlight the object in the browser and press F10 to select it and show the attributes in the Object Details View.
- Connect to browser/Disconnect from browser - connects or disconnects the Object Details View to the browser. The Object Details View must be connected to the browser to capture objects.

The following options are available in the Object Details view:

- Module - selects the type of OpenScript module. The objects in the tree view change to the specific module type. For example, the Web module shows the HTML DOM tree. The ADF module shows the ADF object tree.
- Find - provides search capabilities to locate specific text in the Object Details. Type the text to find and click **Next** or **Previous** to locate the attributes and values within the tree.

- Partial Match - when selected the **Next** or **Previous** search will match partial text strings specified in **Find**. When cleared, the **Next** or **Previous** search will match the entire **Find** string.
- Next - searches down the tree for the next object that matches the **Find** string.
- Previous - searches up the tree for the previous object that matches the **Find** string.
- Tree pane - shows a tree view of the Document Object Model (DOM). The right-click shortcut menu includes the following options for working with the object selected in the tree:
  - View Object Path - opens a dialog box showing the full path of the object.
  - Add Object Test - opens the Object Test dialog for defining an object test for the object selected in the tree.
  - Add Table Test - opens the Table test dialog box for defining a table test for the table object selected in the tree. This option is only available for table objects.
  - Save to Object Library - opens the Save to Object Library dialog box for saving the object path to an object library.
- Attribute - shows the attribute name of the object selected in the DOM tree.
- Value - shows the value of the object attribute selected in the DOM tree.

### 2.3.8 Script Variables View

The Script Variables view shows the name value of script variables. The script variables are only shown when a running script is paused during playback. To view the script variable values select **Script Variables** from the **View** menu, playback the script and click the pause button on the toolbar.

### 2.3.9 Treeview Breakpoint View

The Treeview Breakpoint view shows the location of breakpoints set in the script tree view. To add a breakpoint to the script tree view, right-click on a script tree node and select **Add Breakpoint** from the shortcut menu. The Treeview Breakpoint view shows the node, file name, and line number of the breakpoint.

### 2.3.10 Debug View

The Debug view provides options for debugging script playback. See the Debug View topics in the reference section of the Java development user guide online help for additional information about debugging toolbar options.

### 2.3.11 Declaration View

The Declaration view shows the source of the element selected in the Java code view. You can open the Java code view of a script and select a script method to view the declaration.

### 2.3.12 Variables and Breakpoints Views

The Variables and Breakpoints view shows variable values and breakpoints for debugging script playback. See the Breakpoints and Variables View topics in the reference section of the Java development user guide online help for additional information about breakpoints and variables toolbar options.

## 2.4 Creating a Script Project

You must create a script project to generate the basic structure that you can then customize. The type of script project you create depends upon the type of testing the script is intended to perform: Load Testing (Protocol Automation) or Functional Testing (Browser/GUI Automation) and the Web application that will be tested.

To create a script project:

1. Select **New** from the **File** menu.
2. Expand a group node and select the type of asset or script to create (see the *Oracle OpenScript User's Guide* for additional information):

**Functional Testing (Browser/GUI Automation):** The Functional Testing group contains the following script types:

- **Adobe Flex:** This option lets you create a new script for automated functional testing of web applications that use the Adobe Flex Automation Framework at the browser/gui level.
- **Image based recording:** This option lets you create a new script for automated functional testing of web applications that use screen capture images to compare between recording and playback.
- **Oracle EBS/Forms:** This option lets you create a new script for automated functional testing of Oracle E-Business Suite and other applications that utilize Web and Oracle Forms components at the browser/gui level.
- **Oracle Fusion/ADF:** This option lets you create a new script for automated functional testing of Oracle Application Development Framework (ADF)-based applications and other applications that utilize Web and ADF components at the browser/gui level.
- **Oracle JD Edwards EnterpriseOne:** This option lets you create a new script for automated functional testing of Oracle JD Edwards EnterpriseOne applications that utilize Web and JD Edwards EnterpriseOne Grid Control components at the browser/gui level.
- **Oracle JET:** This option lets you create a new script for automated functional testing of Oracle JET (Oracle JavaScript Extension Toolkit) applications that utilize Web and JET components at the browser/gui level.
- **Siebel HI/SI:** This option lets you create a new script for automated functional testing of Siebel applications that utilize Siebel High Interactivity and Standard Interactivity/Web controls at the browser/gui level.
- **Siebel Open UI:** This option lets you create a new script for automated functional testing of Siebel applications that utilize Siebel Open UI controls at the browser/gui level.
- **Web:** This option lets you create a new script for automated functional testing of Web applications at the browser/gui level.

**General:** The General group contains the following script types:

- **Block Scenario Script:** This option lets you create load scenarios in which they allocate a certain percentage of VUs to run dependent scripts in pre-determined sequences.
- **Database:** This option lets you create the basic structure of a Database script for automated testing of SQL statements to test a database and run them in the Oracle Load Testing application.

- **Java Code Script:** This option lets you create a new automated test script using your own custom Java code through the OpenScript Eclipse IDE. A basic script structure contains only the Initialize, Run, and Finish nodes. You can edit the script tree or Java code to develop your own custom script. Java Code scripts are typically used for function libraries.
- **Script from Template:** This option lets you create a new script from a script that has previously been saved as a template script. When you select this option, you select from a list of previously saved template scripts before specifying the name for the new script.
- **Web Services:** This option lets you create the basic structure of a Web Services script for automated testing of Web Services at the SOAP/HTTP protocol level.

**Load Testing (Protocol Automation):** The Load Testing group contains the following script types:

- **Adobe Flex (AMF):** This option lets you create a new script for load testing of Web applications that utilize HTTP and the Adobe Flex Action Message Format (AMF) protocols at the protocol level.
- **Oracle EBS/Forms:** This option lets you create a new script for load testing of Oracle E-Business Suite and other applications that utilize HTTP and Oracle Forms (NCA) protocols at the protocol level.
- **Oracle Fusion/ADF:** This option lets you create a new script for load testing of Oracle Application Development Framework (ADF)-based applications and other applications that utilize HTTP and ADF protocols at the protocol level.
- **Oracle Hyperion:** This option lets you create a new script for load testing of Oracle Hyperion-based applications and other applications that utilize HTTP and Hyperion correlation rules at the protocol level.
- **Oracle JD Edwards EnterpriseOne:** This option lets you create a new script for load testing of Oracle JD Edwards EnterpriseOne-based applications at the HTTP protocol level.
- **Oracle PeopleSoft:** This option lets you create a new script for load testing of Oracle PeopleSoft-based applications and other applications that utilize HTTP and PeopleSoft correlation rules at the protocol level.
- **Siebel:** This option lets you create a Siebel script structure of a new OpenScript script project. A Siebel script lets you record Siebel Web navigations using a browser for load testing Siebel applications.
- **Web/HTTP:** This option lets you create a new script for load testing of Web Applications at the HTTP protocol level.

**Script Asset:** The Script Asset group contains the following script asset types:

- **Databank:** This option lets you create a new databank or open an existing databank file.
- **Object Library:** This option lets you create a new Object Library or open an existing Object Library.

3. Click **Next**.
4. Select the location where you want to store the script project. Scripts can be stored in repositories and workspaces. Load test scripts developed for use with Oracle Load Testing must be stored in a repository/workspace.
  - **Path:** Shows the file path of the selected repository/workspace.

- **My Repositories:** Specifies the repository where the script project will be saved. Select a repository and workspace from the tree. Repositories can be managed using **Manage Repositories** on the **Tools** menu.
  - **[file list]:** List the names of the existing files or scripts in the selected repository/workspace.
  - **Script:** Specify a name for the script project. The script name is required and must be unique.
5. Enter a script name.
  6. Click **Finish** to create a script or select **Create as Function Library script** and click **Next** to create a function library.

For Java Code Scripts, a basic script tree will be created in the script view. You can edit the Java code in the code view. For module scripts, a script tree will be created in the script view. After you record the script, the tree view will contain the navigations and actions depending upon the type script.

For existing scripts, the file concurrency control prevents multiple users from editing the same script. If you try to open a script that is in use by another user, the script copy wizard opens and you will be asked if you want to make a copy of the script and additional files.

7. If you are creating a function library, enter a unique Package Name and Class Name to identify the library. The Package Name and Class Name must be unique among all function libraries used by a team. The Package Name and Class Name name should conform to the syntax of a Java class name, and must not contain Double-Byte Character Sets (DBCS). The suggested format for the Package name is "lib.orgName.groupName.subgroupName", for example: "lib.oracle.oats.dev.TestLibrary". The Class Name should be:
  - meaningful and provide context as to the purpose of the library,
  - clear and concise so it is easy to read and type in scripts,
  - something unique so it is not confused with other function libraries.
8. Click **Finish** to create the function library. If an existing script is converted to a function library, the initialize, run, and finish sections will appear in the function library, but they only can be called as any other method in the library from caller script.

When creating function libraries, you can use the menu options to add functions to the library file. Select the **Script** menu and then select **Other** from the **Add** sub menu. The procedure is similar to adding custom functions to a script. See [Section 2.7.10, "Using a Script as a Dedicated Function Library"](#) for additional information about creating a function library.

## 2.4.1 Recording Scripts

OpenScript includes Record capabilities for recording user actions within the application-under-test. After creating a script project, you can use the Record toolbar button or **Record** menu option on the **Script** menu to start the recorder for the type of script project. You can specify which section of the script (Initialize, Run, Finish) in which to record using the **Set Record Section** menu option on the **Script** menu.

In many cases, it is more convenient to initially record a script against the Web application-under-test and modify the script Java code than it is to create the script in script Java code.

See Chapter 3 in the *Oracle OpenScript User's Guide* for additional information about recording scripts.

## 2.5 Creating Functional Test Scripts

A script project creates the basic structure of an OpenScript script. Initially, the script project includes only the Initialize, Run, and Finish script nodes with the underlying Java code. You use the recording capabilities of OpenScript to record page navigations and generate the Java code for the script.

### 2.5.1 Creating a Web Functional Test Script Project

To create a functional test script project:

1. Select **New** from the **File** menu.
2. Select the script type under the **Functional Testing (Browser/GUI Automation)** folder.
3. Click **Next**.
4. Set the Repository/workspace.
5. Enter a script name.
6. Click **Finish**. OpenScript creates the script project and shows the Initialize, Run, and Finish nodes in the Script View.

The resulting script code appears as follows in the Java Code view:

```
import oracle.oats.scripting.modules.basic.api.*;
import oracle.oats.scripting.modules.browser.api.*;
import oracle.oats.scripting.modules.functionalTest.api.*;
import oracle.oats.scripting.modules.utilities.api.*;
import oracle.oats.scripting.modules.utilities.api.sql.*;
import oracle.oats.scripting.modules.utilities.api.xml.*;
import oracle.oats.scripting.modules.utilities.api.file.*;
import oracle.oats.scripting.modules.webdom.api.*;

public class script extends IteratingVUserScript {
    @ScriptService oracle.oats.scripting.modules.utilities.api.UtilitiesService utilities;
    @ScriptService oracle.oats.scripting.modules.browser.api.BrowserService browser;
    @ScriptService oracle.oats.scripting.modules.functionalTest.api.FunctionalTestService ft;
    @ScriptService oracle.oats.scripting.modules.webdom.api.WebDomService web;

    public void initialize() throws Exception {
    }

    /**
     * Add code to be executed each iteration for this virtual user.
     */

    public void run() throws Exception {

    }

    public void finish() throws Exception {
    }
}
```

The @ScriptService list will vary depending upon the type of functional test script project created. The script services are used to access the API for each particular service. The following table lists the service names and utilities for the types of functional test script projects:

**Table 2–1 Functional Test Script API Service Names**

Functional Test Script Type	Service Name
Adobe Flex	flexFT. [method]
Applet utilities	applet. [method]
Block Scenarios utilities	blockScenarios. [method]
Browser utilities	browser. [method]
Datatable utilities	datatable. [method]
Databank utilities	databank. [method]
Functional test	ft. [method]
Oracle EBS/Forms	forms. [method]
Oracle Fusion/ADF	adf. [method]
Oracle Hyperion	hyperion. [method]
Oracle JD Edwards EnterpriseOne	eone. [method]
Oracle JET	jet. [method]
Shared Data utilities	sharedData. [method]
Siebel	siebelFT. [method]
Siebel OpenUI	openui. [method]
Utilities (other)	utilities. [method]
Web (base scripting for functional tests).	web. [method]

## 2.5.2 Recording a Functional Test Scripts

Recording scripts captures the page navigations and generates the Java code that will be used to drive script playback for testing purposes. Web Functional test scripts record and playback actions performed on browser objects.

To record a functional test script:

1. Select **Record** from the **Script** menu or click the Record toolbar button. OpenScript opens a browser window and the OpenScript toolbar window.
2. Enter the URL of the Web application-under-test into the browser Address line and press **Enter**.
3. When the application loads, navigate the application to record browser actions against the application.
4. Click stop on the OpenScript toolbar to stop recording.
5. Save the script.

## 2.5.3 Opening and Closing a Browser

Functional test scripts use browser automation to simulate user actions against a Web application. You can use the `browser` service API to launch and close the browser and set the browser type programmatically, as follows



```

browser.launch();
browser.setBrowserType(BrowserType.InternetExplorer);
browser.close();
browser.closeAllBrowsers();

```

Typically, `browser.launch()` is used in the `initialize()` section of the script as the browser only needs to be launched once at the beginning of script playback. `browser.close()` can be used in the `finish()` section to close the browser at the end of script playback.

## 2.5.4 Navigating Web Pages in Functional Test Scripts

Functional test scripts use the `web.window()` methods to navigate web pages in the browser. Web page navigation is typically performed in the `run()` section of the script. The following example code navigates the browser to the `http://example.com/products.aspx` page, then waits for the page to load before continuing script execution:

```

web.window("/web:window[@index='0' or @title='about:blank']")
    .navigate("http://example.com/products.aspx");
web.window("/web:window[@index='0' or @title='http://example.com/products.aspx']")
    .waitForPage(null);

```

Once a page is loaded, you can use other API methods to perform actions on the page, for example click a link, as follows:

```

web.link("/web:window[@index='0' or @title='Products']" +
    "/web:document[@index='0']/web:a[@text='Mail Order Bikes' " +
    "or @href='http://example.com/bikes/Main.aspx' or @index='5']")
    .click();

```

## 2.5.5 About Object Identification Paths

The OpenScript functional test object identification paths specify how the API methods locate and identify browser objects on which to perform actions.

The object identification paths typically follow a hierarchical structure as follows:

```

window
  document
    [form]
      element

```

In order for the OpenScript playback to perform a click action on a particular button, the object identification path specified in the `web.button("path").click` method must include the path to the button object, as follows:

```

web.button(
    "/web:window[@index='0' or @title='Products']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform' or @name='loginform' or @index='0']" +
    "/web:input_submit[@name='LoginButton' or @value='Login' or @index='0']")
    .click();

```

This path specifies that the button is located in the browser window with index value 0 or the title "Products". Within the window is a web document with index value 0. Within the document is a web form with the ID "loginform" or the name attribute "loginform" or the form with index value 0. Within the form is the web input button

with the name attribute "LoginButton" or the value attribute "Login" or the index value 0.

Depending upon the module, a method uses a shorter path from within the context set by a previous method.

```
web.link(30, "/web:window[@index='0' or @title='Oracle Applications Home Page']" +
  "/web:document[@index='0']" +
  "/web:a[@text='Enter' or @href=\"javascript:launchForm(&apos;\" +
  "http://example.com:8000/OA_HTML/RF.jsp?function_id=2100&resp_id=52297" +
  "&resp_appl_id=8721&security_group_id=0&lang_code=US&apos;)\" or @index='35']")
  .click();

forms.button(32, "//forms:button[(@name='CALENDAR_OK_0')]")
  .click();
```

See the Object Identification tab in the Record Preferences of the specific functional test module for a list of the object names and attributes.

## 2.6 Creating a Load Test Script

Load test scripts record and playback navigations performed using the HTTP protocol. Load script are typically used for performing load tests on an application using the Oracle Load Testing application.

### 2.6.1 Creating a Load Test Script Project

To create a load test script project:

1. Select **New** from the **File** menu.
2. Select script type under the **Load Testing (Protocol Automation)** folder.
3. Click **Next**.
4. Set the Repository/workspace.
5. Enter a script name.
6. Click **Finish**. OpenScript creates the script project and shows the Initialize, Run, and Finish nodes in the Script view.

The resulting script code appears as follows in the Java Code view:

```
import oracle.oats.scripting.modules.basic.api.internal.*;
import oracle.oats.scripting.modules.basic.api.*;
import oracle.oats.scripting.modules.http.api.*;
import oracle.oats.scripting.modules.http.api.HTTPService.*;
import oracle.oats.scripting.modules.utilities.api.*;
import oracle.oats.scripting.modules.utilities.api.sql.*;
import oracle.oats.scripting.modules.utilities.api.xml.*;
import oracle.oats.scripting.modules.utilities.api.file.*;

public class script extends IteratingVUserScript {
    @ScriptService oracle.oats.scripting.modules.utilities.api.UtilitiesService utilities;
    @ScriptService oracle.oats.scripting.modules.http.api.HTTPService http;

    public void initialize() throws Exception {
    }

    /**
     * Add code to be executed each iteration for this virtual user.
```

```

*/
public void run() throws Exception {
}

public void finish() throws Exception {
}
}

```

The @ScriptService list will vary depending upon the type of load test script project created. The script services are used to access the API for each particular service. The following table lists the service names and utilities for the types of load test script projects:

**Table 2–2 Load Test Script API Service Names**

Load Test Script Type	Service Name
Adobe Flex (AMF)	amf.[method]
Databank utilities	databank.[method]
Datatable utilities	datatable.[method]
Oracle EBS/Forms	nca.[method]
Oracle Fusion/ADF	adffload.[method]
Shared Data utilities	sharedData.[method]
Siebel	siebel.[method]
Web/HTTP (base scripting for load tests).	http.[method]
Utilities (other)	utilities.[method]

## 2.6.2 Recording a Load Test Script

To record an load test script:

1. Select **Record** from the **Script** menu or click the Record toolbar button. OpenScript opens a browser window and the OpenScript toolbar window.
2. If asked if you want to clear the cache, click **Yes**.
3. Enter the URL of the Web application under test into the browser's Address bar and press **Enter**.
4. When the application loads, navigate the application to record the HTTP protocol traffic between the web browser and the web server.
5. Click stop on the OpenScript toolbar to stop recording.
6. Save the script.

## 2.6.3 Setting the User Agent and Language Type

Load test scripts use protocol automation to send requests and receive responses from the web server. A browser instance is not required. However, the request header typically sent by a browser. The request header specifies the type of request and sets various settings, such as the host name, Accept settings, Connection setting, User Agent settings, etc. The following example shows a GET request heading:

```

GET /Stocks HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 6.1; WOW64; Trident/4.0;

```

```
SLCC2; .NET CLR 2.0.50727; .NET CLR 3.5.30729; .NET CLR 3.0.30729; Media Center PC
6.0; .NET4.0C; .NET4.0E; InfoPath.2)
Host: example.com
Accept: text/html, image/gif, image/jpeg, */*
Accept-Language: en-us
Connection: Keep-Alive
Accept-Encoding: gzip, deflate
```

By specifying the user-agent string, you can simulate other types of browsers during load script playback. You can use the `http.setUserAgent` method to set the user agent settings, as follows:

```
http.setUserAgent("Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 6.1; " +
    "WOW64; Trident/4.0; SLCC2; .NET CLR 2.0.50727; .NET CLR 3.5.30729; " +
    ".NET CLR 3.0.30729; Media Center PC 6.0; .NET4.0C; .NET4.0E; InfoPath.2)");
```

Typically, `http.setUserAgent()` method used in the `initialize()` section of the script as the setting is set once at the beginning of script playback.

The request `Accept-Language` setting is used to specify which languages are acceptable for the response. The setting is set using the `http.setAcceptLanguage()` method. The String parameter specifies the ISO-639 language abbreviation and optionally a ISO-3166 country code, as follows:

```
http.setAcceptLanguage("en");
-or-
http.setAcceptLanguage("en-us");
```

Typically, `http.setAcceptLanguage()` method used in the `initialize()` section of the script as the setting is set once at the beginning of script playback.

## 2.6.4 Navigating Web Pages in Load Test Scripts

Load test scripts use the `http.get()` and `http.post()` methods to navigate web pages. Web page navigation is typically performed in the `run()` section of the script. The following example code send and HTTP request to the server to for the Web document `http://example.com/default.asp`:

```
http.get(4, "http://example.com/default.asp", null, null, true, "ASCII", "ASCII");
```

You can use other API methods to perform actions on the response, for example, extract values from the document, as follows:

```
{
    http.solveXPath("web.formaction.loginform", ".//FORM[@name='loginform']" +
        "@action", "default.asp", 0, EncodeOptions.None);
    http.solveXPath("web.input.login", ".//INPUT[@name='login']" +
        "@value", "ta287", 0, EncodeOptions.None);
    http.solveXPath("web.input.password", ".//INPUT[@name='password']" +
        "@value", "ta", 0, EncodeOptions.None);
    http.solveXPath("web.input.LoginButton", ".//INPUT[@name='LoginButton']" +
        "@value", "Login", 0, EncodeOptions.None);
}
```

The `http.post()` method is used to pass postdata to the Web server, as follows:

```
http.post(10, "http://example.com/{web.formaction.loginform,default.asp}",
    null, http.postdata(http.param("login", "{web.input.login,ta287}"),
        http.param("password", "{web.input.password,ta}"),
        http.param("LoginButton", "{web.input.LoginButton,Login}")),
    null, true, "ASCII", "ASCII");
```

## 2.7 Modifying Scripts

Once you have created a script project, you can customize the script for your specific testing purposes using the available menu options or editing your own code in the Java Code view.

### 2.7.1 Adding Step Groups to a Script

Step groups provide a way to group multiple procedures into a single reporting step.

To add a manual step group to a script in the Java code:

1. Open or create a script project.
2. Select the Java Code view and add the `beginStep()` and `endStep()` methods as follows:

```
beginStep("Step Group 1", 10);
{
    /**
     * Add code to be executed for the step group.
     */
    info("Step Group 1");
}
endStep();
```

The first parameter is a `String` specifying the step group name. The second parameter is an optional value specifying the amount of time to wait in milliseconds before beginning the step. The delay value will be adjusted based on the `VUser`'s current delay settings.

3. Add code to the step group.

### 2.7.2 Adding a Delay to a Script

To add a delay to a script:

1. Open or create a script project.
2. Select the Java Code view and add the `think()` method with a `Double` time value in seconds as follows:

```
{
think(10.0);
}
```

### 2.7.3 Adding a Log Message to a Script

To add a log message to a script:

1. Open or create a script project.
2. Select the Java Code view and add the `info()`, `warn()`, or `fail()` method with a `String` specifying the message, as follows:

```
info("message");
warn("message");
fail("message");
reportFailure("message");
reportPassed("message");
```

The log message text appears in the Console View when the script is played back. The `info()` method is similar to a `printf` command.

Warning messages report the error as a warning and continue script execution. Fail messages report the error as failure and stop script execution.

`reportFailure()` and `reportPassed()` methods write a message to the console/log file, and to the Results View.

These methods will never alter the flow of a script, such as stopping the script. Any variables specified in `message` will be evaluated to their current values. The status of this action, plus all parent functions and scripts, including the overall script result, will be reported as Passed/Warning/Failed.

If a variable expression is specified in `message` that does not exist, or if `message` cannot be evaluated for any reason:

- A warning-level message will be printed to the console/log file indicating why the message could not be evaluated.
- The original message, not evaluated, will be printed to the console/log file.
- The Results View comment field will contain the original message, plus a warning note explaining why the message could not be evaluated.
- Any problems that occur when evaluating the message itself will not be counted as an additional failure in the results report failure totals.
- The execution of the script will continue as if no problem occurred.

## 2.7.4 Encrypting and Decrypting Data

To add encrypt and decrypt data in a script:

1. Open or create a script project.
2. Select the Java Code view and add the `encrypt()` and `decrypt()` methods with a `String` specifying the text to encrypt or decrypt, as follows:

```
String encrypted = encrypt("encrypt this string");
    info(encrypted);
String decrypted = decrypt(encrypted);
    info(decrypted);
```

## 2.7.5 Setting the Password Encryption

Scripts can be encrypted and password protected to protect sensitive data that may be contained within the script code. Specific script encryption passwords can be set using the **Script Encryption** options on the **Tools** menu. To set script encryption passwords:

1. Create a script project and record a script or open an existing script.
2. Select **Script Encryption** options from the **Tools** menu.
3. Select script Encryption type from the sub menu.
4. If necessary for the encryption type, enter the encryption password to use for the script. This password will be required to play back the script in Oracle OpenScript, Oracle Test Manager, and Oracle Load Testing.

## 2.7.6 Running a Child Script from Within a Script

You can add a method to run another child script from within the current script using the `getScript("alias").run(iterationCount)` method.

1. Open or create a script project.

2. Select the Java Code view and add the `getScript("alias").run(iterationCount)` method with a String specifying the alias of the script to run and the iteration count, as follows:

```
getScript("alias").run(1);
```

You must also add the child script to the current script as a script asset to run the child script.

### 2.7.7 Calling a Function from a Child Script from Within a Script

You can add a method to call a function from a child script of the current script using the `getScript("alias").callFunction("functionName", "args")` method.

1. Open or create a script project.
2. Select the Java Code view and add the `getScript("alias").callFunction("functionName", "args")` method with a String specifying the alias of the script to run, the function and the function arguments, as follows:

```
getScript("alias").callFunction("functionName", "args");
```

You must also add the child script to the current script as a script asset to call the function in the child script.

### 2.7.8 Using Built-in Script Functions

You use the built-in script functions as variables to access or manipulate various type of data or parameters within OpenScript scripts. The built-in functions are indicated by the @ sign and include the following types of functions:

- Encryption and encoding functions
- File functions
- Information functions
- Random functions
- Time functions

The following sections explain how to add and use the built-in function with OpenScript scripts.

#### 2.7.8.1 Adding Built-in Functions to Scripts

Built-in function are added to scripts using the Variable Substitution option available for the various script actions and parameters. Dialog boxes for script actions with parameter values include a Substitute Variable icon that opens the list of script variable and built-in @ functions available to use a script parameters. Built-in @ functions can also be added directly in the code view.

To access the built-in @ function using the Tree view:

1. Select the script node where you want to add an action or substitute a parameter with a variable or built-in function.
2. Double-click the node if editing an existing node to open the parameters.
3. Click the Substitute Variable icon.
4. Expand the **@Functions** node.
5. Select the function to use and click **Finish**.

## 6. Click OK.

To add the built-in @ function using the Code view, add the function name and parameters to the code using the @ sign and double-curly brace transform syntax `{{}}`, similar to the following example:

```
{{@today(MM/dd/yyyy)}}
```

Use the `eval()` function to transform strings of data, substituting the values of variables where applicable. For example:

```
info(eval("{{@today(MM/dd/yyyy)}}"));
```

The following sections describe the available built-in functions and required parameters and syntax.

### 2.7.8.2 Encoding and Encryption Functions

This section describes the built-in encoding and encryption @ functions and the required parameters.

`@encode({{myVariable}})` - encode the data in `myVariable` converting binary content to hexadecimal string. It converts `\` to `\\` and any non-printable chars to `\##`. Returns `null` when input bytes are null. The allowable printable characters are:

- 9 (tab)
- 10 (line feed)
- 13 (carriage return)
- 32 through 126

`@decode({{myVariable}})` - decode the encoded data in `myVariable` converting hexadecimal string to binary content. It returns the decoded byte array for the given hexadecimal string. Returns `null` when input bytes are null.

The following code examples show the `@encode` and `@decode` functions both with and without the `eval()` function:

```
getVariables().set("varEncodeDecode", "abc\\%2Fxyz\\t\\r\\n \\0D\\0A");
info("no eval encode = {{@encode({{varEncodeDecode}})}}");
//or-
info(eval("eval encode = {{@encode({{varEncodeDecode}})}}"));
```

```
getVariables().set("varEncode", "{{@encode({{varEncodeDecode}})}}");
info("no eval decode = {{@decode({{varEncode}})}}");
//or-
info(eval("eval decode = {{@decode({{varEncode}})}}"));
```

`@encrypt({{myVariable}})` - encrypts the data in `myVariable` to protect sensitive data within scripts and makes the data non-human readable.

`@decrypt({{myVariable}})` - decrypts the encrypted data in `myVariable` and makes the data human readable.

The following code examples show the `@encrypt` and `@decrypt` functions:

```
getVariables().set("myVariable", "test123");
info("variable text is {{myVariable}}");
getVariables().set("encrypt", "{{@encrypt({{myVariable}})}}");
info("encrypted = {{encrypt}}");
//or-
info("encrypted = {{@encrypt({{myVariable}})}}");
```



```
getVariables().set("decrypt", "{{@decrypt({{encrypt}})}}");
info("decrypted = {{decrypt}}");
//or-
info("decrypted = {{@decrypt({{encrypt}})}}");
```

@obfuscate({{myVariable}}) - obfuscates the data in myVariable to protect sensitive data within scripts and makes the data non-human readable.

@deobfuscate({{myVariable}}) - deobfuscates the obfuscated data in myVariable and makes the data human readable.

The following code examples show the @obfuscate and @deobfuscate functions:

```
getVariables().set("myVariable", "test123");
getVariables().set("obfuscate", "{{@obfuscate({{myVariable}})}}");
info("obfuscated = {{obfuscate}}");
//or-
info("obfuscated = {{@obfuscate({{myVariable}})}}");

getVariables().set("deobfuscate", "{{@deobfuscate({{obfuscate}})}}");
info("deobfuscated = {{deobfuscate}}");
//or-
info("deobfuscated = {{@deobfuscate({{obfuscate}})}}");
```

@urlEncode({{myVariable}}) URL encode the value specified in myVariable. For example, the string, 'the file "abc" is in \root\etc', would be encoded as: the+file+%22abc%22+is+in+%5Croot%5Cetc. This function is only available for Load Testing scripts.

The following code example shows the @urlEncode function:

```
getVariables().set("myVariable", "the file \"abc\" is in \\root\\etc");
getVariables().set("urlEncode", "{{@urlEncode({{myVariable}})}}");
info("urlEncode = {{urlEncode}}");
//or-
info("urlEncode = {{@urlEncode({{myVariable}})}}");
```

The above example returns the String the+file+%22abc%22+is+in+%5Croot%5Cetc.

@xmlEncode({{myVariable}}) XML encode the value specified in myVariable. For example, the string, 'the file "abc" is in \root\etc', would be encoded as: the file &quot;abc&quot; is in \root\etc. This function is only available for Load Testing scripts.

The following code example shows the @xmlEncode function:

```
getVariables().set("myVariable", "the file \"abc\" is in \\root\\etc");
getVariables().set("xmlEncode", "{{@xmlEncode({{myVariable}})}}");
info("xmlDecode = {{xmlEncode}}");
//or-
info("xmlDecode = {{@xmlEncode({{myVariable}})}}");
```

The above example returns the String the file &quot;abc&quot; is in \root\etc.

@xmlDecode({{myVariable}}) decodes the XML encoded value specified in myVariable. This function is only available for Load Testing scripts.

The following code example shows the @xmlDecode function:

```
getVariables().set("xmlDecode", "{{@xmlDecode({{xmlEncode}})}}");
info("xmlDecode = {{xmlDecode}}");
//or-
```

```
info("xmlDecode = {{@xmlDecode({{xmlEncode}})}}");
```

The above example returns the String the file "abc" is in \root\etc.

### 2.7.8.3 File Functions

This section describes the built-in @ functions used for accessing data from files and the required parameters.

@dataFile('repository', 'relativeFilePath', 'encoding') specifies the file to use for inputting list or map data to function arguments. See [Section 2.7.9.4, "Inputting Values from a File"](#) for additional information. Specify the repository name and relative path to the data file containing the data to pass to the function.

- repository - specifies the name of the repository where the data file is located. The repository argument can be left blank (using two single quotation marks ' ') if a relative path is specified for the data file.
- relativeFilePath - specifies the path and file name of the data file. The file path is relative to the script directory. If the repository is not specified ( ' '), then relativeFilePath should begin with ../.
- encoding - specifies the file encoding to use. Although not automatically added the in the @dataFile() default value, the file encoding can be added as a third String value in the @dataFile() variable. For example, UTF-8, cp1252 (ANSI), SHIFT-JIS, cp1250 (Central Europe), cp1251 (Eastern Europe).

The following code example shows the @dataFile function:

```
getVariables().set("datafile", "{{@dataFile('OFT','datafiles/data.txt')}}");
info("data file contents = {{datafile}}");
//or-
myMapFunction(toMap({{@dataFile('OFT','files/datatxt','cp1252')}}))
```

@file({{myVariable}}) - specifies a file to use to get data for use in a script. myVariable specifies the path to the file. The file can be located anywhere in the file system.

The following code example shows the @file function:

```
getVariables().set("myVariable", "C:/myFiles/file.xml");
info("file data is = {{@file({{myVariable}})}}");
//or-
getVariables().set("file", "{{@file({{myVariable}})}}");
info("file data is = {{file}}");
```

@resourceFile('filename', 'encoding', tranform) - specifies a file to use as a script resource file. Resource files are typically used to store large data resources, such as large post data or XML strings, required as post data parameters.

- filename - specifies the name of the file containing the resource the data. The file must be located in the resources folder under the script folder.
- encoding - [optional] specifies the file encoding to use. Although not automatically added the in the @dataFile() default value, the file encoding can be added as a third String value in the @dataFile() variable. For example, UTF-8, cp1252 (ANSI), SHIFT-JIS, cp1250 (Central Europe), cp1251 (Eastern Europe).
- transform - [optional] a boolean specifying if the data should be transformed or not. Specify true to transform any parametrized data inside the contents of the file before returning the contents.

The following code examples show the @resourceFile function:

```

getVariables().set("resourceFile", "{{@resourceFile('data.txt')}}");
info("resourceFile = {{resourceFile}}");
//-or-
info("resourceFile2 = {{@resourceFile('data.txt','UTF-8', true)}}");
//-or-
http.param("{{@resourceFile(postData.rsc, UTF-8, true)}}")

```

If the contents of the file contain a transform variable, such as `{{@today(MM/dd/YYYY)}}`, the transform option determines if the data returned is the literal string `{{@today(MM/dd/YYYY)}}` (transform option false) or the actual date value (transform option true).

### 2.7.8.4 Information Functions

This section describes the built-in @ functions used for accessing data about the script, session, or system and any required parameters.

`@getAndIncrement(myVariable,delta)` - gets the value specified in `myVariable` and increments it by the `delta` value.

The following code examples show the `@getAndIncrement` function:

```

getVariables().set("myVariabletoInc", "1");
getVariables().set("myVariable", "myVariabletoInc");
getVariables().set("getandinc", "{{@getAndIncrement({{myVariable}}, '3')}}");
info("getandincrement = {{getandinc}}");
//-or-
info("getandincrement = {{@getAndIncrement({{myVariable}}, '3')}}");

```

`@guid` - returns the ID value.

The following code examples show the `@guid` function:

```

getVariables().set("guid", "{{@guid}}");
info("guid = {{guid}}");
//-or-
info("guid = {{@guid}}");

```

`@hostip` - returns the Host system IP address.

The following code examples show the `@hostip` function:

```

getVariables().set("hostip", "{{@hostip}}");
info("hostip = {{hostip}}");
//-or-
info("hostip = {{@hostip}}");

```

`@hostname` - returns the Host system name.

The following code examples show the `@hostname` function:

```

getVariables().set("hostname", "{{@hostname}}");
info("hostname = {{hostname}}");
//-or-
info("hostname = {{@hostname}}");

```

`@iterationnum` - returns the script playback iteration number.

The following code examples show the `@iterationnum` function:

```

getVariables().set("iterationnum", "{{@iterationnum}}");
info("iterationnum = {{iterationnum}}");
//-or-
info("iterationnum = {{@iterationnum}}");

```

@osName - returns the Operating System name.

The following code examples show the @osName function:

```
getVariables().set("osname", "{{@osName}}");
info("osname = {{osname}}");
//or-
info("osname 2 = {{@osName}}");
```

@osVersion - returns the Operating System version number.

The following code examples show the @osVersion function:

```
getVariables().set("osversion", "{{@osVersion}}");
info("osversion = {{osversion}}");
//or-
info("osversion = {{@osVersion}}");
```

@productVersion - returns the OpenScript product version number.

The following code examples show the @productVersion function:

```
getVariables().set("productVersion", "{{@productVersion}}");
info("productVersion = {{productVersion}}");
//or-
info("productVersion = {{@productVersion}}");
```

@len({{myVariable}}) - returns the length of the String specified in myVariable.

The following code examples show the @len function:

```
getVariables().set("myVariable", "0MheVyiHr6SLGddqMgm");
getVariables().set("len", "{{@len({{myVariable}})}}");
info("length = {{len}}");
//or-
info("length = {{@len({{myVariable}})}}");
```

@sessionname - returns the name of the Oracle Load Testing session.

The following code examples show the @sessionname function:

```
getVariables().set("sessionName", "{{@sessionname}}");
info("sessionName = {{sessionName}}");
//or-
info("sessionName = {{@sessionname}}");
```

@topLevelStepName - returns the name of the top level step group as defined in the beginStep() function of the OpenScript script.

The following code examples show the @topLevelStepName function:

```
beginStep("My Top Level Step Name");
getVariables().set("topLevelStepName", "{{@topLevelStepName}}");
info("topLevelStepName = {{topLevelStepName}}");
//or-
info("topLevelStepName = {{@topLevelStepName}}");

beginStep("My Second Level Step Name");
getVariables().set("topLevelStepName", "{{@topLevelStepName}}");
info("topLevelStepName3 = " + "{{topLevelStepName}}");
//or-
info("topLevelStepName4 = {{@topLevelStepName}}");
endStep();
```

```
endStep();
```

In the above cases, the `@topLevelStepName` function returns the String "My Top Level Step Name" from all locations.

`@vuid` - returns the Virtual User ID number of the Oracle Load Testing session.

The following code examples show the `@vuid` function:

```
getVariables().set("vuid", "{{@vuid}}");
info("vuid = {{vuid}}");
//or-
info("vuid = {{@vuid}}");
```

### 2.7.8.5 Random Functions

This section describes the built-in `@` functions used for generating random data and any required parameters.

`@jsRandomToken` - adds a random number to the specified token value.

The following code examples show the `@jsRandomToken` function:

```
getVariables().set("token", "0MheVyiHr6SLGddqMgm");
getVariables().set("jsRandomToken", "nfToken={{@jsRandomToken({{token}})}}");
info("jsRandomToken = {{jsRandomToken}}");
//or-
info("jsRandomToken = nfToken={{@jsRandomToken({{token}})}}");
//or-
info("jsRT = <token><!\[CDATA\[\[{{@jsRandomToken({{token}})}}\]\]></token>");
```

`@random({{min}}, {{max}})` - generates a random number between the `min` and `max` values. `min` is the minimum value limit for the random number. `max` is the maximum value limit for the random number. The generated random number is a uniformly distributed pseudorandom integer value between `min` value (inclusive) and `max` value (exclusive), drawn from this random number generator's sequence. For example, `{{@random(1,10)}}` will return a number between 1 (inclusive) and 10 (exclusive). The random value is an integer from the formula `randomValue = min + m_random.nextInt(max - min)`, where `m_random.nextInt` uses the `java.util.Random.nextInt` method.

The following code examples show the `@random({{min}}, {{max}})` function:

```
getVariables().set("min", "1");
getVariables().set("max", "10");
getVariables().set("random", "{{@random({{min}}, {{max}})}}");
info("random = {{random}}");
//or-
info("random2 = {{@random({{min}}, {{max}})}}");
```

`@randomPerIteration({{min}}, {{max}}, {{index}})` - generates a random number between the `min` and `max` values incremented by the `index` value after each iteration of script playback. `min` is the minimum value limit for the random number. `max` is the maximum value limit for the random number. The generated random number is a uniformly distributed pseudorandom integer value between `min` value (inclusive) and `max` value (exclusive), drawn from this random number generator's sequence. For example, `{{@randomPerIteration(1,10,3)}}` will return a number between 1 (inclusive) and 10 (exclusive), incremented by 3 for each iteration. The random value is an integer from the formula `randomValue = min + m_random.nextInt(max - min)`, where `m_random.nextInt` uses the `java.util.Random.nextInt` method.

The following code examples show the `@random({{min}}, {{max}})` function:

```

getVariables().set("min", "1");
getVariables().set("max", "10");
getVariables().set("index", "3");
etVariables().set("rPi", "{{@randomPerIteration({{min}},{{max}},{{index}})}}");
info("rPi = " + "{{rPi}}");
//or-
info("rPi = " + "{{@randomPerIteration({{min}},{{max}},{{index}})}}");

```

### 2.7.8.6 Time Functions

This section describes the built-in @ functions used for time and day values and any required parameters.

@timestamp - returns a time stamp value of the current time in milliseconds.

The following code example shows the @timestamp function:

```

getVariables().set("timestamp", "{{@timestamp}}");
info("timestamp = {{timestamp}}");
//or-
info("timestamp = {{@timestamp}}");

```

@timestampsecs - returns a time stamp value of the current time in seconds.

The following code example shows the @timestampsecs function:

```

getVariables().set("timestampsecs", "{{@timestampsecs}}");
info("timestampsecs = {{timestampsecs}}");
//or-
info("timestampsecs = {{@timestampsecs}}");

```

@today(MM/dd/yyyy) - returns the current date in the specified format.

The following code example shows the @today function:

```

getVariables().set("today", "{{@today(MM/dd/yyyy)}}");
info("today = " + "{{today}}");
//or-
info("today = {{@today(MM/dd/yyyy)}}");

```

## 2.7.9 Adding a Function to a Script

You can add your own custom functions to your script and specify the arguments to pass to the function. Custom functions can be in the current script or in another script or function library script that has been added to the current script's Scripts Assets Properties. See [Section 2.7.10, "Using a Script as a Dedicated Function Library"](#) for additional information about creating a dedicated function library script.

To add a function to a script:

1. Create a script project.
2. In the Java Code view, add the `public void function name` to the script code followed by the arguments with the data types:

```

/**
 * My custom Function
 * @param argString Description of argString
 * @param argInt Description of argInt
 * @param argDouble Description of argDouble
 * @param argLong Description of argLong
 * @param argBool Description of argBool
 */
public void myFunction(@Arg("argString") String argString,

```

```

    @Arg("argInt") int argInt,
    @Arg("argDouble") double argDouble,
    @Arg("argLong") long argLong,
    @Arg("argBool") boolean argBool)
    throws Exception {

```

3. Add items into the Function. You can use the Tree View drag/drop or cut/paste features to move Tree View items to the function. You can use the Script **Add** option to add variable items to the function. You can also use the Code View to add custom code to the function.

To pass arguments into a function:

Define the variables to use to pass values to the custom function arguments somewhere in the script before where the Call Function statement will be placed in the script:

In the Java Code view, add the `getVariables().set()` statement to the script code followed by the variable name and value for each variable:

```

getVariables().set("MyString", "String");
getVariables().set("MyInt", "1");
getVariables().set("MyDouble", "12.34");
getVariables().set("MyLong", "1234560");
getVariables().set("MyBool", "True");

```

The following is an example of a variable set to a Databank value:

```

getVariables().set("MyString", "{{db.customer.FirstName,String}}");

```

In the Java Code view, the message statement (info, warn or fail) or `getVariables().set()` statement will be added to the script code followed by the variable name and value for each variable:

```

public void myFunction(@Arg("argString") String argString,
    @Arg("argInt") int argInt,
    @Arg("argDouble") double argDouble,
    @Arg("argLong") long argLong,
    @Arg("argBool") boolean argBool)
    throws Exception {
    info("{{arg.argString}}");
    getVariables().set("MyArgString", "{{arg.argString}}");
    getVariables().set("MyArgInt", "{{arg.argInt}}");
    getVariables().set("MyArgDouble", "{{arg.argDouble}}");
    getVariables().set("MyArgLong", "{{arg.argLong}}");
    getVariables().set("MyArgBool", "{{arg.argBool}}");
}

```

To call a custom function in a script:

In the Java Code view, the `callFunction`, `getScript("ScriptAlias").callFunction()`, or `className.function()` statement will be added to the script code followed by the function name and arguments. If the function is in the same script, the `callFunction` statement is added:

```

callFunction("myFunction", "MyStringArg");

```

To pass data types other than String, enclose a defined variable name in double curly braces as follows, `{{VarName}}`.

```

callFunction("myFunction", "{{MyString}}", "{{MyInt}}", "{{MyDouble}}",
    "{{MyLong}}", "{{MyBool}}");

```

If the function is in a another script (a script containing functions that has been added to the current script as a script asset), the

`getScript("myScriptAlias").callFunction("myCustomFunction", "args");` statement is used to call the function similar to the following example:

```
getScript("myScriptAlias").callFunction("myCustomFunction",
    "MyString", "true", "2", "10.5", "100", "list1",
    toList("ListString1", "ListSting2"), toMap("key1=value1"));
```

If the function is in a dedicated function library script (a script specifically created as a function library that has been added to the current script as a script asset), the `className.function("args");` statement is used to call the function similar to the following example:

```
myFunctionLibrary.myLibraryFunction("MyString", true, 2, 10.5, 100,
    "list1", toList("ListString1", "ListString2"),
    toMap("key1=value1"));
```

See [Section 2.7.10, "Using a Script as a Dedicated Function Library"](#) for addition information about dedicated function libraries.

### 2.7.9.1 Adding Functions that Use Lists

The Type options of the Argument dialog box used when adding a function to a script includes a `List<String>` type that can be used to create a function that accepts a list of values as a parameter.

The following example code shows a function that uses `List<String>` for one of the parameter values:

```
/**
 * a function that uses List<String> parameter.
 * @param user a String specifying the user name.
 * @param password a String specifying the password.
 * @param urls a List<String> specifying the urls.
 */
public void myListFunction(@Arg("user") String user,
    @Arg("password") String password,
    @Arg("urls") java.util.List<String> urls)
    throws Exception{
}
```

When the user calls the function using the Script menu options, the Call Function dialog box will include a multi-line text box that allows a list of values to be entered. In the Java Code view, the `callFunction()` code will include a `toList` parameter similar to the following example:

```
callFunction("myListFunction", "testuser", "testpwd", toList(
    "http://example.com/url1.html",
    "http://example.com/url2.html",
    "http://example.com/url3.html"));
```

If the function is in a function library script (a function library script added as a script asset), the `ClassName.function()` statement is used to call the function similar to the following example:

```
MyClassNameAlias.myListFunction("testuser", "testpwd", toList(
    "http://example.com/url1.html",
    "http://example.com/url2.html",
    "http://example.com/url3.html"));
```



### 2.7.9.2 Adding Functions that Use Maps

The Type options of the Argument dialog box used when adding a function to a script includes a `Map<String, String>` type that can be used to create a function that accepts key/value pair maps as a parameter.

The following example code shows a function that uses `Map<String, String>` for the parameter values:

```
/**
 * a function that uses Map<String, String> parameter.
 * @param keyandvalue a Map<String, String> specifying key/value pair maps.
 */
public void myMapFunction(
    @Arg("keyandvalue") java.util.Map<String, String> keyandvalue)
    throws Exception {
}
```

When the user calls the function using the Script menu options, the Call Function dialog box will include a multi-line text box that allows a key/value pair maps to be entered. In the Java Code view, the `callFunction()` code will include a `toMap` parameter similar to the following example:

```
callFunction("myMapFunction", toMap(
    "key1=value1",
    "key2=value2",
    "key3=value3"));
```

If the function is in a function library script (a function library script added as a script asset), the `ClassName.function()` statement is used to call the function similar to the following example:

```
MyClassNameAlias.myMapFunction(toMap(
    "key1=value1",
    "key2=value2",
    "key3=value3"));
```

### 2.7.9.3 Adding Functions that use Enumerated Lists

The Type options of the Argument dialog box used when adding a function to a script includes a Select List type that can be used to create a function that accepts a value from a known list of values as parameters.

The following example code shows a function that uses Select List for the parameter values:

```
/**
 * a function that uses Select List parameter.
 * @param color a Select List specifying enumerated list of color values.
 */
public void mySelectListFunction(
    @Arg("color") @Values( { "red", "blue", "green" }) String color)
    throws Exception {
}
```

When the user calls the function using the Script menu options, the Call Function dialog box will include a select list box that allows a single value from a list of values to be selected. In the Java Code view, the `callFunction()` code will include the function name and selected parameter similar to the following example:

```
callFunction("mySelectListFunction", "blue")
```

If the function is in a function library script (a function library script added as a script asset), the `ClassName.function()` statement is used to call the function similar to the following example:

```
MyClassNameAlias.mySelectListFunction("blue");
```

#### 2.7.9.4 Inputting Values from a File

The list and map functions can also specify one or more files as an alternate method for inputting list or map data to function arguments using the `@dataFile` variable. The `@dataFile` variable specifies the optional repository name, data file path, and optional file encoding using the following format:

```
{{@dataFile('repository', 'relativeFilePath')}}
{{@dataFile('repository', 'relativeFilePath', 'encoding')}}}
```

Create data files containing the appropriate function argument data.

For list functions that use `toList()`, the data file might appear similar to the following example:

```
"http://example.com/url1.html"
"http://example.com/url2.html"
"http://example.com/url3.html"
```

For map functions that use `toMap()`, the data file might appear similar to the following example:

```
"key1=value1"
"key2=value2"
"key3=value3"
```

The `toList()` and `toMap()` methods also parse all arguments for any newline delimiters. Any newline delimiters embedded in a value or file will be converted into new list entries. For example,

```
"value1\r\nvalue2\r\nvalue3"
```

is equivalent to:

```
"value1"
"value2"
"value3"
```

When the user calls a function that uses lists or maps as argument values using the Script menu options, the Call Function dialog box will include the **Substitute Variable** icon next to the Arguments values field.

Click the **Substitute Variables** icon next to the Arguments values field.

Expand the `@Functions` tree, select `@dataFile`, and click **Finish**.

The argument value field will contain the `{{@dataFile('repository', 'relativeFilePath')}}}` transform variable. Edit the repository and `relativeFilePath` values to specify the repository name and relative path to the data file containing the data to pass to the function.

- repository - specifies the name of the repository where the data file is located. The repository argument can be left blank (using two single quotation marks ' ') if a relative path is specified for the data file.

- `relativeFilePath` - specifies the path and file name of the data file. The file path is relative to the script directory. If the repository is not specified ( ' '), then `relativeFilePath` should begin with `../`.
- `encoding` - specifies the file encoding to use. Although not automatically added in the `@dataFile()` default value, the file encoding can be added as a third String value in the `@dataFile()` variable. For example, UTF-8, cp1252 (ANSI), SHIFT-JIS, cp1250 (Central Europe), cp1251 (Eastern Europe).

When you click **OK**, the function will be added to the tree view similar to the following:

```
myMapFunction(toMap({{@dataFile('myRepo', 'files/datafile.txt', 'cp1252')}}))
```

In the Java Code view, the `callFunction()` code will include the function name and `@dataFile()` variable similar to the following example:

```
callFunction("myMapFunction", toMap(
    "{{@dataFile('myRepo', 'files/datafile.txt', 'cp1252')}}");
```

If the function is in a function library script (a function library script added as a script asset), the `ClassName.function()` statement is used to call the function similar to the following examples:

```
MyClassNameAlias.myMapFunction(toMap("{{@datafile('', '../files/datafile.txt')}}");
```

```
MyClassNameAlias.myListFunction("user", "pwd",
    toList("{{@datafile('', '../files/datafile.txt')}}");
```

## 2.7.10 Using a Script as a Dedicated Function Library

You can create a script that can be used as a dedicated function library that can be used by other scripts as a script asset. The dedicated function library script can contain custom functions that can be called from other scripts. A dedicated function library provides a way for having code assistance in scripts calling functions from the library. Code Assist or Content Assist provides you with a list of suggested completions for partially entered strings. In the Java editor press `Ctrl+Space` or select **Content Assist** from the **Edit** menu.

When creating dedicated function library scripts, you should make the library either a generic Java code script or the same type as the scripts (that is, Web, HTTP, Siebel, etc.) that will be calling functions from the library.

### 2.7.10.1 About Function Libraries

This section provides basic information and Frequently Asked Questions (FAQs) about function libraries.

#### What is a function library?

A function library is a means to make your code more reusable and modular. Any script can be used as a function library by creating a library of custom functions within the script code. The function library script can then be added to other scripts as a script asset. The other scripts can then call custom functions from the function library script.

#### What is the difference between a function library and a regular script?

In general, there is only a minor difference between a function library script and regular script. A function library is a script which you can record into and play back but also includes a unique package and class name. However, function library scripts are generally not intended to be played back. You use a function library script as an

asset for other scripts that can call the custom functions contained in the library. Function library scripts include the Initialize, Run, and Finish methods the same as a regular script. The Initialize, Run, and Finish methods in a dedicated function library script are not intended to be called from other scripts. The Initialize, Run, and Finish methods are provided for debugging function library scripts before publishing them.

### How do I create a function library?

Before OpenScript version 12.1.0.1, regular scripts were used as function libraries. Users simply added custom functions to a script which was designated as a function library. See [Section 2.7.9, "Adding a Function to a Script"](#) for additional information about adding functions to a script. OpenScript version 12.1.0.1 introduces dedicated function library scripts. See [Section 2.7.10.2, "Creating a Dedicated Function Library Script"](#) for additional information about creating a dedicated function library script.

### What are the advantages of using a dedicated function library?

There are three main advantages to using dedicated function libraries compared with using a script containing functions:

- The primary advantage is provided for teams that widely use the Java Code view with custom code. The style of calling functions from a dedicated function library script is much more straight forward and clear. For example, with the dedicated function library you call a function a function `foo` in the library with alias `myLib` as follows:

```
myLib.foo("myArg");
```

With custom functions in a regular script, you call a function using the Reflection style, as follows:

```
getScript("myLib").callFunction("foo", "MyArg")
```

- A second advantage of a dedicated function library is that the direct style of calls provides code assistance in the Java Code view for calling functions stored in a dedicated function library script. There is no code assistance in the Java Code view for calling functions stored in a regular script and called using the `callFunction` method.
- A third advantage of a dedicated function library is the ability to use custom classes in the library.

### What are the disadvantages of using a dedicated function library, versus using a script with functions in it?

There are some disadvantages to using dedicated function libraries compared with using a script containing functions:

- A dedicated function library not only has a unique script location, but also a unique library class name. The library class name is rendered when creating the dedicated function library and cannot be changed. If for some reason you need or want to change function library class name (for example, a duplicated function library name was found or something else), you will need to create a new script by selecting **Save As** from the **File** menu or by creating a script from an existing script. You will need to enter a new name for the function library class and a new script will be created. The new script will have all of the functions declared in the old function library.
- Another minor disadvantage of using a dedicated function library is that it needs to be assigned as an asset to each script that uses it. In contrast, using `getScript("funcLib").callFunction()`, you only need to assign a function library as an asset with the alias "funcLib" to the top level script. Any child scripts

will find the function library by its alias during runtime. However, this usage is blind as users have no Tree View or dialog support for inserting such code. By not assigning the dedicated function library directly to a script as an asset, you can only call its functions by typing code directly into the Java code view using the Reflection style syntax. Also, code assistance is not provided for Reflection style syntax.

### How can I use a common function library in all scripts I create?

Particularly when creating many test scripts, it can be time consuming to attach commonly used function libraries to each one individually. There are two approaches to solve this problem.

#### 1. Create Scripts from an Existing Script

You can create an empty script and attach to it all the common function libraries you want your scripts to use. Each time you create a new script, select **New** from the **File** menu, select **Script from Template** in the General section, then select the script with your common functions to create the new script. Each new script will have the common function libraries attached to it. Any saved script can be a template script.

The one downside to attaching a function library to every script. If you physically move a function library to a different location on disk, then all existing scripts referencing it from the old location will break.

#### 2. Attach Function Libraries to a Parent "Master" Script

If you have a test setup where one parent "master" script calls several "child" scripts, you can attach the common function libraries only to the parent script and not attach it to any child scripts. Child scripts will be able to directly call the function libraries from Java Code using the reflexive code syntax. For example

```
getScript("myLib").callFunction("foo", "MyArg");
```

The benefit to attaching the function library to the parent script, and not to the child scripts, is that if the function library is moved to a different location, you only need to update the parent script with the new function library location. All child scripts will continue to work. However, using this approach, child scripts cannot use the explicit code syntax when calling functions. For example:

```
myLib.foo("MyArg");
```

Child scripts will not be able to use any custom classes exposed by the function libraries or leverage any Java Code assistance features. The child scripts' Tree view will also not provide any UI for adding available functions. This approach is only recommended for teams not relying on the Tree view UI for adding function calls.

### Will my existing pre-12.1 function libraries continue to work in new releases?

Yes. See "Opening Existing Scripts" in Chapter 2 of the *Oracle OpenScript User's Guide* for additional information about backwards compatibility of scripts. Existing scripts and function libraries will continue to work, unmodified, in newer releases.

If you want to take advantage of new features such as code assistance, custom classes, and the explicit function calling syntax, then you would need to create a dedicated function library. However, it is optional if you want to convert your existing script-based function libraries into dedicated function libraries or leave them as regular scripts.

### What happens if two different dedicated function library scripts used in a test suite have the same library class name?

Using two function libraries with the same library class name will cause your script to behave unpredictably. Most likely, the OpenScript script editor will display an error when it compiles the script, indicating that some particular method or class cannot be found. This is why, when you are creating a name for library class, it is better to use a long package path to differentiate your library class from other libraries. For example, `lib.TestLib` is a poor choice. A much better choice would be similar to:  
`lib.myCompany.myTeam.framework2.UtilLib`.

### **Can I use custom classes as arguments and return values for functions in function libraries?**

You can only use custom classes as arguments and return values for functions in dedicated function libraries. In order for custom classes to be visible to calling scripts they should reside in package "lib" that is automatically created for each dedicated function library. If the author of the function library needs some internal custom classes, then their place is in a sub-package of "lib" package. This way they will be hidden from other scripts. It is better not to put any additional classes in the package where library class itself resides.

Be cautious and do not overuse custom classes. The user of the function library will not get help from UI or code assistance for them. Almost any task can be achieved with the set of data types provided in the OpenScript UI for providing assistance, which includes all primitive types, `Enum(selection)`, `List<String>`, and `Map<String, String>`.

### **I have a function in a function library that returns a custom type. How do I to save it for later use?**

You will need to know what type is returned and save it in a script or java variable. Note that OpenScript does not support declaring custom functions (in regular scripts or dedicated function library scripts) that expect the `varargs` argument feature. That is, `arg type, Something...`. For example, `Foo(String name, String... args);`.

Also, having an argument type of `List` is always preferable to argument of type `Array`. Thus `List<String>` is better than `Array[]`. The reason is creating functions with argument that has an `Array` type requires the users of the function resolve any ambiguity of casting `Array[]` vararg type, as it could be cast to `Object` or `Object[]`.

### **My function library needs to use third-party JAR files. How I can I do it?**

A function library is a script. Assign the JAR file to the script as a generic JAR script asset. You will then have access to all public methods from the Java Code view. Code assistance will help you add the required import statements and call methods in the code view.

---

**Note:** Generic JAR files should not contain any code that uses OpenScript API or Eclipse API.

---

### **I would like to expose some methods in third-party JAR files to test scripts to be able to call them. What I should do?**

You can assign this JAR file to each script that is going to use it as a script asset. However, it is a blind way for users to call functions in JAR file. A better way is to assign this JAR file to a function library script and wrap the methods in the JAR file that will be called by scripts within functions in the function library. You will be able to control access to the JAR file and, more importantly, add extensive comments on when and how to use these methods. This will benefit the other members in your group by making the use of the functions easier.

### What help should I provide to users of my function library?

Function library developers should provide meticulous and extensive Javadoc comments for each function in the function library. The Javadoc comments are what the user sees about each function in the Tree View and as code assistance in the Java Code view.

#### 2.7.10.2 Creating a Dedicated Function Library Script

To create a dedicated function library script:

1. Select **New** from the **File** menu.
2. Select the project type and click **Next**.
3. Enter a script name for the function library (for example, myScriptLib).
4. Select **Create script as a Function Library**.
5. Click **Next**. The script wizard opens the Create Function Library options:

**Package:** Specifies a unique Package name for the function library. Package must be a valid Java Package name that matches A-Z, a-z, 0-9, `_`. It must not contain spaces or Double-Byte Character Sets (DBCS). The initial default value is `myCompany.myTeam`. Subsequently, the default value will be set to the last value specified.

**Class:** Specifies a unique alias to use as the name (typically the Class name) for the function library script. **Class** must be a valid Java Class name that matches A-Z, a-z, 0-9, `_`. It must not contain spaces or Double-Byte Character Sets (DBCS). The Class Name should be:

- meaningful and provide context as to the purpose of the library,
- clear and concise so it is easy to read and type in scripts,
- something unique so it is not confused with other function libraries.

6. Enter a unique **Package** name for the function library in the form:

```
orgName.groupName.subgroupName
```

For example:

```
oracle.oats.dev
```

7. Enter a unique alias to use as the **Class** name for the function library to identify the library. For example:

```
WebFunctLib
```

8. Click **Finish**.
9. Select the **Script** menu and then select **Other** from the **Add** sub menu.
10. Expand the **Script Functions** and **Local Script** nodes.
11. Select [**New Function**] and click **OK**.
12. Enter a function name and description.
13. Click **Add** to add any arguments to the function.
  - Enter a name, specify the data type, and enter a description for the argument.
  - Click **OK** to add the argument.
14. Repeat step 14 for each argument to add to the function.

15. Click **OK** to add the function to the script.
16. Add your custom code to the function.
  - Use the script recorder to record steps.
  - Switch to the Java Code view and edit the code in the function.
17. Repeat steps 10 through 17 to add additional functions to the library script. See also [Section 2.7.9, "Adding a Function to a Script"](#) for additional information about adding functions to a script.
18. Save the library script.

### 2.7.10.3 Calling Functions from a Function Library Script

To call functions from the library script:

1. Create a new script project (for example, masterScript).
2. Select the **Script** menu and then select **Other** from the **Add** sub menu.
3. Expand **Script Functions**.
4. Select **[New Script]**.
5. Select the repository and library script.
6. Specify a script alias or use the default alias. The script alias must be unique for each library script added to a script.
7. Click **OK**.
8. Expand the **Script: *scriptLibraryAlias*** node.
9. Select the function name from the library script and click **OK**.
10. If the Call Function dialog box appears, enter the function arguments and click **OK**. The library script is automatically added to the current script as a script asset (click the Assets tab in the Script view to view script assets).

The function name appears in the script tree as  
*scriptLibraryAlias.functionName(args, [...])*

In the Java Code view, the `@FunctionLibrary` assignment will be added to the script code followed by the library Package Name and function library alias entered when the function library was created, as follows:

```
@FunctionLibrary("assetAlias") lib.package.assetAlias scriptAlias;
```

For example

```
@FunctionLibrary("Web_func_lib") lib.oracle.oats.dev.Web_func_lib webFuncLib;
```

Functions called from the function library appear in the Java Code view using the function library alias and called function name and arguments, as follows:

```
scriptAlias.functionName("args", "[...])
```

For example:

```
webFuncLib.selectColor("red");
```

When you type the function library alias followed by a period in the code view, the code assistance view opens listing the functions available in the function library with the required arguments.



In the Java Code view, the `getScript().callFunction()` statement can also be used with the script code followed by the function name and arguments, as follows:

```
getScript("scriptLibraryAlias").callFunction("functionName", "args", "[...])
```

However, code assistance is not available for functions called using the `getScript().callFunction()` statement.

11. Save the master script and play it back to execute the custom functions. See [Section 2.7.9, "Adding a Function to a Script"](#) for additional information about passing arguments to functions.

---



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**Note:** In the master script, be sure to add a "Launch Browser" command to the Initialize section if it is not in the first function called from the master script.

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### 2.7.11 Converting a Script to a Dedicated Function Library

You can convert existing scripts to a dedicated function library script.

To convert an existing script to a dedicated function library script:

1. Open the script to convert to a dedicated function library script.
2. Select **Convert to Function Library** from the **Tools** menu.
3. Specify a unique package name for the function library script.
4. Specify a unique alias as the Class name for the function library script. See [Section 2.7.10, "Using a Script as a Dedicated Function Library"](#) for additional information about package and class names.
5. Click **OK**. The converted script is saved and reopened.

### 2.7.12 Adding Script Assets

You can add assets to a script such as, databanks, generic JAR files, object libraries, or other scripts containing recorded steps or custom functions. The asset must exist before it can be added. Select **New** from the **File** menu to record scripts or create databanks and object libraries. You also use the Add option in the Assets tab of the script view to create databanks and object libraries.

To add assets to a script:

1. Open or create a script project.
2. Select the Assets tab in the script view. The Assets view has the following options:
  - **Databanks:** Lists the Databank assets added to a script.
  - **Object Libraries:** Lists the Object Library assets added to a script.
  - **JAR files:** Lists generic JAR file assets added to a script.
  - **Script:** Lists the child script assets added to a script.
  - **Add:** Opens a file selection dialog box for selecting the file to add as an asset. Expand the My Repositories tree to navigate to a workspace folder containing the file. For Databanks, a submenu opens for selecting CSV file or database-type databanks. For CSV file databanks, you select the file. For database-type databanks, you specify the database driver and connection information.

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**Note:** Any scripts you plan to run, along with any associated assets, in the Oracle Load Testing application must be stored in a repository/workspace that can be accessed by the Oracle Load Testing Controller. If you create new repositories in OpenScript, you should also add the new repositories in Oracle Load Testing.

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- **Edit:** Opens a file selection dialog box for changing which file is added as an asset.
  - **Open:** Opens the selected asset file in the appropriate editor.
  - **Remove:** Removes the selected asset file from the Assets tree. The file still exists in repository/workspace.
3. Select the type of asset to add and click **Add**.
  4. Select the asset to add from a repository.
  5. Set the **Relative to** option. The **Relative to current script** and **Relative to a repository** options specify how the current script will locate the specified script asset. The **Relative to a repository** option locates the script asset by a repository path such as, [Repository: Default] Default!/WebTutor, if the asset is selected from a repository. The **Relative to current script** option locates the script asset by a relative path such as ../WebTutor. Selecting the **Relative to current script** option is not recommended as script-relative paths are more brittle than repository-relative paths if scripts are moved or shared.

The following are guidelines when using script assets in a team or distributed environment:

- Do not use Absolute Paths when referring to assets or saving assets. Oracle Load Testing does not support absolute paths.
  - OpenScript, Oracle Test Manager, Oracle Load Testing, and all command-line agents should all use the same shared repository names and paths.
  - Do not refer to an asset in another repository by a relative path.
6. Click **OK** to add the asset to the script properties.
  7. Click **OK** when finished adding script assets to close the script properties.

Script asset information is stored in the assets.xml file located in the script project directory.

### 2.7.13 Adding a Synchronization Point to a Script

A sync point allows multiple scripts being run as virtual users in Oracle Load Testing to synchronize their actions and interactions with the application under test. Sync points provide the ability to create realistic multi-user situations that may expose resource conflicts such as deadlocks. When you specify a sync point, multiple virtual users executing the script will reach this sync point at various times depending on a number of factors (for example, the speed of the machine).

Sync points cause each virtual user to wait until all virtual users have reached that sync point. Each of the virtual users notifies the master upon reaching the sync point. The master waits for all of the virtual users to notify it and then issues the go-ahead for all the virtual users to continue past that sync point.

Sync points are added to individual scripts (parent or child scripts) when they are created in OpenScript. The execution parameters for sync points are defined in the Oracle Load Testing application.

To add a sync point to an OpenScript script:

1. Create or open a script in OpenScript.
2. In the Java Code view, add the `syncPointWait("name");` method to the script code, as follows:
 

```
syncPointWait("MySyncPoint");
```
3. Save the script in OpenScript.
4. Load the script into the Oracle Load Testing application and specify the execution parameters for the sync point(s) in the load test scenario. See the *Oracle Load Testing User's Guide* for additional information about specifying the sync point execution parameters.

## 2.7.14 Setting and Evaluating Script Variables

To add a Set Variable to a script:

1. Open or create a script project.
2. In the Java Code view, add the `getVariables().set("variable name", "value");` method to the script code:

```
getVariables().set("sVar_MyVar", "My_Value");
```

If you want to evaluate the variable with a value from an OpenScript transform variable (i.e. a variable value contained in `{{}}` syntax), use the `eval()` method as follow:

```
http.solve("varTitle", "<TITLE>(.)</TITLE>", "Page Title Error", false,
Source.Html, 0);
```

```
getVariables().set("sVar_MyVar", eval("{{varTitle}}"));
//or
String title = eval("{{varTitle}}");
info("Title = " + title);
//or
info ("Title = {{varTitle}}");
```

### 2.7.14.1 Variables with Scope

You can use the `variables` method in the Java code to get or set variable with scope. For example:

```
variables.set(String name, String Value, Variables.Scope.scope)
variables.get(String name, Variables.Scope.scope)
```

Script variables are global for all scripts and functions for a *single* Oracle Load Testing Virtual User.

- Each Virtual User keeps its own map of script variables.
- One Virtual User cannot read/write another Virtual User's script variables. The exception is that a Child Virtual User (i.e. a Virtual User as a child script) has access to all variables in its parent Virtual User.
- All scripts and functions that a Virtual User runs will have read/write access to all the Virtual User's variables.

- In Functional Testing, a script typically represents only one Virtual User. In Functional Testing, script variables are generally global variables.

There are three scopes:

- Local - all variables that the current script explicitly defines as local variables.
- Parent - all variables that the parent (calling) script defines as its own local variables.
- Global - all other variables not defined in an explicit scope. This is the default scope when no scope is specified. The Global scope is the parent scope of top-level VUser (top-level script). So a top-level script will have two scopes (Global and Parent) that coincide.

Scope can be used to avoid confusion. If an author of a child script wants to change variables in global or parent scope, the script author should do it explicitly. If the author of a child script wants to change local script-level variables, then Scope Local should be used.

Child scripts inherit its entire parent script variables. It is not a copy of the variables, it is a reference to the same variables, i.e. `getParentVUser().variables`.

The following examples show uses of the Variable Scope:

```
//local variable
variables.set("user", "rich", Variables.Scope.Local);

//global variable (same as set("myData", "globalData", Variables.Scope.Global);)
variables.set("myData", "globalData");

//parent variable
variables.set("anotherData", "parentData", Variable.Scope.Parent);

getScript("Script2").run();

// "globalData" as parent and global scope for top-level script coincide.
variables.get("myData", Variables.Scope.Parent)
```

## 2.7.15 Adding Comments to Script Results

To add comments to script results:

1. Open or create a script.
2. Click the Code view tab.
3. Add comments or warnings using one of the following code examples:

- Using a step group:

```
beginStep("Any comment string", 0);
{
//The comment string appears in the Name column of the Results view.
}
endStep();
```

- Using the `getStepResult().addComment` method:

```
//The comment string appears in the Summary column of the Results view
getStepResult().addComment("Any comment string");
```

- Using the `getStepResult().addWarning` method:

```
//The warning string appears in the Summary column of the Results view.
```

```
//addWarning overrides addcomment.
getStepResult().addWarning("Any warning string");
```

## 2.7.16 Adding Error Recovery to a Script

To add error recovery to a script:

1. Open or create a script project.
2. Select the script node where you want to add the error recovery action.
3. Select the **Script** menu and then select **Other** from the **Add** sub menu.
4. Expand the General node and select **Error Recovery Action**.

**Exception:** Select the type of exception error. The list will vary depending upon the script type.

**Action:** Select the error recovery action: Fail, Warn, Ignore, Report, or Pause as follows:

- Fail: Report the error as failure and stop script execution.
  - Warn: Report the error as a warning and continue script execution.
  - Ignore: Ignore the error and continue script execution.
  - ReportErrorAndContinue: Report the error to the results log and continue script execution.
  - Pause: Pause playback and wait for user's decision to continue or abort script execution.
5. Click **OK**. The log message node is added to the script tree.
  6. In the Java Code view, the `setErrorRecovery(scriptType.constant, ErrorRecoveryAction.action);` method will be added to the script code:

```
setErrorRecovery(BasicErrorRecovery.ERR_VARIABLE_NOT_FOUND,
ErrorRecoveryAction.Fail);
```

### 2.7.16.1 Script Types

The following are the possible values for *scriptType* in the Java code statements:

BasicErrorRecovery (Basic module)

FormsErrorRecovery (EBS/Forms Functional module)

FTErrorRecovery (Generic Functional module)

HttpErrorRecovery (HTTP module)

HyperionLoadErrorRecovery (Hyperion Load module)

NcaErrorRecovery (EBS/Forms Load module)

UtilitiesErrorRecovery (Generic Utilities)

WebErrorRecovery (Web Functional module)

### 2.7.16.2 Constants

The following are the possible values for *constant* in the Java code statements:

BasicErrorRecovery (Basic module)

ERR\_VARIABLE\_NOT\_FOUND

ERR\_CREATE\_VARIABLE\_ERRORCODE

ERR\_FILE\_NOT\_FOUND  
ERR\_SEGMENT\_PARSER\_ERROR  
ERR\_BINARY\_DECODE  
ERR\_ENCRYPTION\_SERVICE\_NOT\_INITIALIZED  
ERR\_GENERIC\_ERROR\_CODE

FormsErrorRecovery (EBS/Forms Functional module)

ERR\_FORMS\_FT\_ERROR  
STATUSBAR\_TEST\_ERROR

FTErrorRecovery (Generic Functional Module)

ERR\_FT\_MATCH\_ERROR  
ERR\_OBJECT\_TEST\_ERROR  
ERR\_TABLE\_TEST\_ERROR

HttpErrorRecovery (HTTP Module)

ERR\_ZERO\_LENGTH\_DOWNLOAD  
ERR\_MATCH\_ERROR  
ERR\_RESPONSE\_TIME\_ERROR  
ERR SOLVE\_ERROR  
ERR\_HTML\_PARSING\_ERROR  
ERR\_INTERNET\_INVALID\_URL  
ERR\_INVALID\_HTTP\_RESPONSE\_CODE  
ERR\_KEYSTORE\_LOAD\_ERROR

HyperionLoadErrorRecovery (Hyperion Load Module)

ERR\_RESPONSE\_ERROR

NcaErrorRecovery (EBS/Forms Load Module)

CONNECT\_ERROR  
MESSAGE\_IO\_ERROR  
CONTROL\_INITIALIZE\_ERROR

UtilitiesErrorRecovery (Generic Utilities)

ERR\_SQL\_EXECUTE\_ERROR  
ERR\_XML\_PARSING\_ERROR  
ERR\_CSV\_LOADING\_ERROR

WebErrorRecovery (Web Functional module)

ERR\_RESPONSE\_TIME\_ERROR  
ERR\_WEBDOM SOLVE\_ERROR  
ERR\_WAIT\_FOR\_PAGE\_TIMEOUT\_ERROR

### 2.7.16.3 Actions

The following are the possible values for *action* in the Java code statements:

Fail  
Ignore  
Warn  
ReportErrorAndContinue  
Pause

## 2.7.17 Verifying Script Actions

You can verify script actions to check the result of a script action and adjust the behavior of the script based on the result of the action.

The basic process to use verify script actions is as follows:

1. Add an Error Recovery Action before the script node where you want to verify the result code. You can add the Error Recovery Action from the script **Add** sub menu or in the Java Code view. Set the error recovery action to Warn or Ignore to ensure that the Has Error block gets executed. This allows script execution to continue past the code where an exception occurred to the next statement in the script code.
2. Add a 'Has Error' Control Statement after the script node where you want to verify the result code. You can add the Has Error Control Statement from the script **Add** sub menu or in the Java Code view. The `if (hasLastError())` block is added to the script code directly after the script node where you want to verify the result code.
3. Add your custom code into the `if (hasLastError())` block in the Java Code view.
4. Add Results Object messages to return the result values. The Result Code Verification features provide access to a Results object. The Result Object provides Result Code, Summary, Error Message, and Duration information.

The following sections explain the steps in more detail.

### 2.7.17.1 Adding an Error Recovery Action

To add an Error Recovery Action:

1. Select the script node before the script node where you want to verify the result code.
2. Select the **Script** menu and then select **Other** from the **Add** sub menu.
3. Expand the General node.
4. Select Error Recovery Action and click **OK**.
5. Select the Exception type. See [Section 2.7.16, "Adding Error Recovery to a Script"](#) for additional information.
6. Select the **Action** type and click **OK**.
7. Add the Has Error condition to the script. See [Section 2.7.17.2, "Adding a Has Error Control Statement"](#) for additional information.

### 2.7.17.2 Adding a Has Error Control Statement

The Has Error Control Statement can be added to the script using the Tree view. However, the conditional behavior must be specified in the Java Code view.

To add a Has Error condition:

1. Select the script node after the script node where you want to verify the result code.
2. Select the **Script** menu and then select **Other** from the **Add** sub menu.
3. Expand the Control Statements node.
4. Select Has Error? and click **OK**. The `if (hasLastError())` node is added to the script tree.

5. Add a Result Object or add your custom code in the `if (hasLastError())` block in the Java Code view. See [Section 2.7.17.3, "Adding a Result Object Message"](#) for additional information.

### 2.7.17.3 Adding a Result Object Message

The Result Object can be used to return result values.

To add a Result Object message:

1. Select the `if (hasLastError())` node in the script tree.
2. Right-click the `if (hasLastError())` node and then select **Other** from the **Add** sub menu.
3. Expand the General node.
4. Select Message and click **OK**.
5. Select Info or Warn as the **Message Type**.
6. Click Substitute Variable.
7. Expand Last Result.
8. Expand All Actions or assertions and Verifications.
9. Select the Result to add to the message and click **Finish**.
10. Click **OK** to add the message to the script.

In the Java Code view, the message code with the result type is added to the `if (hasLastError())` block:

```
info("{{result.summary}}");
```

You can customize the message string in the Java Code view. For example:

```
info("Summary of last action: {{result.summary}}");
```

11. If necessary drag the message node into the `if (hasLastError())` node so the message is a child node of the `if (hasLastError())` block. For example:

```
if (hasLastError()) {
    info("Summary of last action: {{result.summary}}");
}
```

### 2.7.17.4 Actions That Can Be Verified

Only specific OpenScript actions provide the ability to verify their results. In general, all actions that are available for adding from the tree view UI, including all verifications and assertions, support verification.

The following types of actions typically do *not* support verification:

- Java methods that are only available from code and not from the UI
- Deprecated methods
- "Get" methods
- Methods that interact with OpenScript internal code such as `Logger`, `VUDisplay`, `Settings`, `Counters`
- Methods that don't throw any exceptions, such as `http.removeCookie`



## 2.7.18 Chaining Multiple Scripts

You can run multiple scripts from within a single script to chain playback of scripts together.

The procedure involves the following major steps:

- Setting the browser preferences
- Recording scripts
- Creating a shell script

### 2.7.18.1 Setting the Browser Preferences

The browser preferences specify if a new browser will launch when recording a different script. Because the navigation sequence between multiple scripts is important, the same instance of the browser should run all scripts if the scripts are a continuation of each other. If each script is self-contained and there is no navigation between scripts, each script can launch its own browser and you can skip the Browser Preferences steps.

1. Select **Preferences** from the **View** menu.
2. Expand the General category and select **Browsers**.
3. Clear the **Always launch a new browser when recording a different script** option.
4. Click **OK**.

### 2.7.18.2 Recording Scripts

When recording scripts for chained playback, it is important to plan the start and stop points between scripts. This is especially true if session state needs to be maintained between scripts. All of the scripts must be of the same type.

1. Create and record the first script, for example a Web Functional test log in script.
2. Stop the recording but do not close the browser.
3. Save the script.
4. Create and record the next script. The navigation in this script should start from the point in the browser where the first script stopped.
5. Stop the recording and save the script.
6. Create and record any additional scripts to chain. The navigation in these script should start from the point in the browser where the previous script stopped.

### 2.7.18.3 Creating a Shell Script

The shell script is used to run the previously recorded scripts in sequence.

1. Create a new script to use as the shell script.
2. Select the script node where you want to add the first script. This could be either the Initialize or Run nodes.
3. Select the **Script** menu and then select **Other** from the **Add** sub menu.
4. Expand the **General** node and select **Run Script**.
5. Click **OK**.
6. Click **New**.

7. Select the script to run from the available script assets in the Script properties. Use the **Add** button to add scripts to the script assets properties.
8. Click **OK**.
9. Select or clear the script sections to run and the iteration count.
10. Click **OK**.
11. Select the script node where you want to add the next script. This could be either the Initialize, Run, or Finish nodes.
12. Select the **Script** menu and then select **Other** from the **Add** sub menu.
13. Expand the **General** node and select **Run Script**.
14. Click **OK**.
15. Click **New**.
16. Select the next script to run from the available script assets in the Script properties. Use the **Add** button to add scripts to the script assets properties.
17. Click **OK**.
18. Select or clear the script sections to run and the iteration count.
19. Click **OK**.
20. Repeat the Add script steps for each additional script to run.
21. Save and playback the shell script to verify the script navigations work together correctly.
22. In the Java Code view, the `getScript().run()` methods will be added to the script code:

```
getScript("Web1").run(1);
getScript("Web2").run(1);
```

### 2.7.19 Aborting and Resuming a Script Programmatically

The Application Programming Interface (API) includes methods for aborting and resuming a script programmatically.

The `abort()` method immediately aborts the Virtual User as soon as possible. The remaining actions in the iteration, including any parent scripts and functions, will not complete. The `Finish` section will not be run. The currently running script will return a failed result indicating that the Virtual User was aborted.

If a Virtual User is aborted, it is possible to resume the script by catching the abort user exception and calling `resume()`.

The `resume()` method allows the caller to reset a previously fired `abort()` request so that script execution can successfully continue from that point on. The caller must first catch the `StopScriptRuntimeException` that gets thrown by the `abort()` request and then call `resume()`.

The `resume()` method works together with the `abort()` method. Calling `resume()` will only recover from a previously called `abort()`.

The following examples show how to use the `abort()` and `resume()` methods.

```
//Example Use Case 1 - Abort a script at any point
info("Running a script...");
abort();
info("This line will not be run.");
```

```

//Example Use Case 2 - Abort a script and resume
try {
    info("Perform any steps inside a try-catch block...");
    abort();
    info("This line will not be run.");
}
catch (StopScriptRuntimeException e) {
    // optionally take any corrective action and optionally resume script
    resume();
}

//Example Use Case 3 - Abort Script after 5 Minutes and Execute the Finish Section
public void initialize() throws Exception {
    abortAfter(5*60); // Abort after 5 minutes
    try {
        // Insert script Initialize section here
        info("initializing resources");
    }
    catch (StopScriptRuntimeException e) {
        // ignore this and continue to run()
    }
}

public void run() throws Exception {
    try {
        // Insert script Run section here
        http.get(null, "http://myServer/longrunningtask?length=10min");
    }
    catch (StopScriptRuntimeException e) {
        // ignore the exception; OpenScript will run the finish()
    }
}

public void finish() throws Exception {
    resume();
    info("cleanup resources");
    // Insert real customer script Finish section here
}

//Example Use Case 4 - abort() after waiting for the specified amount of time
// Usage Example:
//abortAfter(5); to abort after 5 seconds
//abortAfter(5*60); to abort after 5 minutes
private void abortAfter(int seconds) {
    new Timer().schedule(new TimerTask() {
        public void run() {
            try {
                abort();
            }
            catch (StopScriptRuntimeException e) { /* ignore exception thrown */ }
        }
    }, seconds*1000);
}

```

## 2.8 Using Script Databanks

Databanks are used to hold unlimited amounts of input data that can be automatically fed into your Web application. During playback, the parameters in the Web page are

filled with values from the Databank file. The Databank and script parameter shortcut menu options allow you to map parameters in a script to fields in a Databank file as variable names.

Scripts must be configured to use Databanks. Use the options on the **Assets** tab of the script view to specify the Databank file(s) to use with a script. Scripts can be configured to use more than one Databank file.

When you record a script that has a navigation that uses parameters, the parameter nodes appear under the Query String node for HTTP protocol load test scripts:

In the Code View, the parameters appear in the `http.param` parameters of the `http.querystring` parameter.

When you configure the Databank(s) to use with the script, the Get next Databank record from *databank name* node and Java code are added to the script.

Select the script parameter node to map to a Databank and use the **Substitute Variable** option on the right-click shortcut menu to select the Databank field name to map to the parameter. The Databank file and field name appear in the parameter node of the script tree.

The variable appears in the Code view in the `http.param` parameters of the `http.querystring` parameter.

Use the Playback iterations to playback using the records in the Databank. You can also use custom code to loop through Databank records and assign values to variables.

## 2.8.1 Configuring Databanks

You must configure the Databank to use with a script before you can get records from the Databank to use in a script.

To configure Databanks to use with a script:

1. Open or create a Script project.
2. Select the **Assets** tab in the script view.
3. Select **Databanks**.
4. Click **Add**.
5. Select **Databank**.
6. Select **CSV file** or **Database**. Once a databank is defined as CSV or Database (SQL), the databank type cannot be changed to the other type.
7. For CSV files:
  - a. Select the Repository from the **My Repositories** tree.
  - b. Select the Databank file from the repository.
  - c. Set the **Type** to Databanks (\*.csv, \*.txt).  
**Type:** Specifies the type of databank file to add to the script (\*.csv, \*.txt).
  - d. Select the **Charset** to use.

**Charset** - specifies the character set encoding used for the databank file. The suggested charset encoding of the databank .csv file is the native charset of user machine. For US machines the suggested encoding is cp1252. For East European machines, the suggested charset is cp1251. If a databank file was saved with UTF-8 encoding with Unicode byte order mark (BOM), OpenScript detects it, and sets encoding to UTF-8. If the charset used for the databank file

is different from the charset of the user machine or UTF-8 with BOM, then you must use the correct charset. Otherwise, the databank will not be read correctly and may cause a script failure. You can select the correct charset from the Charset list or enter the correct charset in the field.

During playback, the Agent will define the charset for reading the databank file in following order:

- If file has UTF-8 encoding with BOM, then it will be used.
  - The charset specified during asset configuration will be used.
  - If no charset specified, then UTF-8 encoding will be used.
- e. Enter an alias name to use for the Databank or leave the default alias name. The default alias name is the name of the .CSV Databank file.

**Alias:** Specifies an alias name to use for the Databank. The Databank file name is the default. The Databank alias name is the name that appears when you add a Databank record retrieval node to a script tree.

- f. Set the **Relative to** option. The **Relative to current script** and **Relative to a repository** options specify how the current script will locate the specified script asset. The **Relative to a repository** option locates the script asset by a repository path such as, [Repository: Default] Default!/WebTutor, if the asset is selected from a repository. The **Relative to current script** option locates the script asset by a relative path such as ../WebTutor. Selecting the **Relative to current script** option is not recommended as script-relative paths are more brittle than repository-relative paths if scripts are moved or shared.

The following are guidelines when using script assets in a team or distributed environment:

- Do not use Absolute Paths when referring to assets or saving assets. Oracle Load Testing does not support absolute paths.
- OpenScript, Oracle Test Manager, Oracle Load Testing, and all command-line agents should all use the same shared repository names and paths.
- Do not refer to an asset in another repository by a relative path.

- g. Click **OK**.

- h. Click **OK** to add the Databank file.

8. For Databases, a Databanks Database Assets dialog box appears. This dialog box lets you specify the database and query to use as a databank. Contact your Database Administrator for the appropriate settings for your database. The following options are available:

- a. Specify the Database Driver.

**Oracle Thin** - This driver option applies to Oracle databases.

- **Hostname** - Specify the host name of the machine running the database. This is not required for a JDBC:ODBC or Custom driver setting.
- **Port** - Specify the port for the driver you selected. For example, the default port for an Oracle Thin JDBC driver is 1521. Modify the port number if necessary. This is not required for a JDBC:ODBC or Custom driver setting.
- **SID** - Specify the database or server ID.
- **Service name** - Enter the Service name used for the Oracle database.

**ODBC** - This driver option is available as an option for SQL and Oracle databases and any other database for which you have a JDBC:ODBC Bridge driver.

- **Data Source** - Specifies the data source for the ODBC driver.
- b. Specify the URL, username, password, query string, and databank alias.
  - **URL** - Specifies the URL to use to connect to the database.
  - **Username** - Enter the username for connecting to the database, if required for authentication.
  - **Password** - Enter the password for connecting to the database, if required for authentication.
  - **Query** - Specify a single SQL query that returns all the rows needed as databank values. The SQL query cannot contain PL/SQL or SQL\*Plus code. Only pure SQL is supported. You must ensure that the query returns the column names (i.e. databank fields) that the script expects.

If you have a large database-backed databank, but will only use a small portion of the records in the test, then use the "Where" clause in the SQL query to minimize the amount of records retrieved from the database. For example, if you have database with 200000 records and only need to have 100 iterations retrieving records 201 through 301 sequentially starting from record 201. use a query such as `Select * From LargeTable Where id > 200 AND id < 302`. The start record will be 1 and no is range set. This reduces the databank preparation time and minimizes the amount of records retrieved from the database.

Use the "Order By" clause in the query to make sure the results returned from the database are ordered as intended. For example, if you have a database table with Columns `id`, `firstName`, and `lastName` that is populated it with the following data:

```
1, John, Smith
2, Jane, Doe
[...]
400, Maria, Sanchez
[...]
200000, Sachin, Rajaram
```

If you use the query `Select * From users`, the results of query could be unordered, meaning the first record in databank could be 400, Maria, Sanchez instead of 1, John, Smith. Using the query `Select * From users Order By id` would order the first databank record as 1, John, Smith as expected.

- **Alias**: Specifies an alias name to use for the Databank. The Databank alias name is the name that appears when you add a Databank record retrieval node to a script tree.
- c. Click **Test** to verify the connection to the database.
- d. Click **OK**.
- e. Click **OK** to add the Databank file. For Databases used as databanks, a copy of all data is retrieved and indexed before the start of the test. The data is not read live during the test. See [Section 2.8.4, "Playing Back Scripts With Iterations"](#) for additional information about playing back scripts with databanks.

## 2.8.2 Creating or Editing Databank Files

Databank files are comma-separated value (".csv" or ".txt") files with the addition of formatting rules specific for databanks and rules derived from Excel formatting. Databanks can also be data retrieved from a database using an appropriate query to that generates data that conforms to the .csv databank file formatting rules.

When you open a Databank file from the Assets tab of the script view, the Databank file opens in a text editor view. You can edit the Databank file directly in the text editor view. You can also create or edit databank files using another text editor or spreadsheet that can export to .csv formatted text files.

The general databank file formatting rules are as follows:

- The first line of the databank defines the field headers (column titles). A comma is used as the field header delimiter (no spaces). The field header names are user defined. For example, `FirstName, LastName, Mail, Phone` defines four field headers for a databank file. The field headers can be referenced in the script code to specify valid databank variables. For example, if the first line of a databank with the alias name "myDB" contains the field headers `user` and `password`, the following databank variables are valid in a script configured to use the "myDB" databank: `db.myDB.user` and `db.myDB.password`.
- Each line in the file following the field headers defines a databank record.
- A line can end with a Line Feed (LF) character or Carriage Return/Line Feed (CR LF) characters.
- Each databank record consists of field data (columns). A comma is used as the field delimiter (different line for each record, no spaces around commas). For example, `John, Smith, JohnS@example.com, x993` defines the field data for a databank record corresponding to the field headers `FirstName, Lastame, Mail, Phone`.
- Each databank record *must* have the same number of fields as the number of field headers. For example, if a databank file has four field headers in line 1 as `FirstName, LastName, Mail, Phone`, each databank record on lines 2 through *n* must have four field data columns in each record. The databank field data record `john, smith, JohnS@example.com, x993` is correct. However, `john, smith, JohnS@example.com` is incorrect as this record contains only three fields. Insert an extra comma to leave a field column blank. For example `Sachin, Bhat, , x783`. As follows:
 

```
FirstName, LastName, Mail, Phone
John, Smith, JohnS@example.com, x993
Mary, Ellen, MaryE@example.com, x742
Sachin, Bhat, , x783
```
- A quotation mark (") is used as an escape character for embedding new line characters (LF, CR) or comma (,) inside of a databank record. All escaped records, regardless if it has embedded LF, CR, or comma or not, should start with a quotation mark and end with a quotation mark followed by comma or CR/LF. For example, if a data value contains a comma, place quotation marks around the value, as follows:

```
John, Smith, "Anytown, MA", (603) 993-0000
```

New lines may be embedded inside of quotation marks, as follows:

```
field1, "field2 contains two lines: Line one.
Line two.", field3
```

To use a quotation mark as itself not as an escaped character, escape the quotation mark. The correct format is ". Quotation marks in the middle of a record should be escaped always. For example the following record,

```
THIS IS BEGINNING AND "\"THIS IS END\""
```

is formatted correctly. The following record,

```
THIS IS BEGINNING AND "THIS IS END"
```

is not formatted correctly.

- Blank lines are stripped out and ignored.

The character encoding of the CSV file is determined by an (optional) byte-order-mark (BOM) at the beginning of the file. Programs such as Notepad++ or Excel set this byte-order mark when users save a text document with a specific encoding character set like UTF-8. If no byte-order mark is specified, the CSV reader uses character set assigned to a databank asset, when the user adds the databank asset to a script, or uses the current platform's default character set to read the file (for example, cp1252 on most Windows English installations) for legacy databanks prior to Version 9.2.

### 2.8.3 Getting Databank Records

To get Databank records to use with a script:

- Open or create a script project.
- Click the **Assets** tab.
- Select **Databanks**.
- Click **Add** and select the CSV, text or database you want to get databank records from.
- In the Java Code view, highlight the text you want to replace with a databank record column.
- Right-click the highlighted text and select **Substitute Variable**.
- If necessary, expand the Databanks node and select the Databank field you want to use as the input parameter data.
- Click **Finish**.
- In the Java Code view, the parameter code changes to show the Databank alias name, field name, and recorded value as a variable value. For example:.

```
http.postdata(http.param("login", "{{db.customer, login, ta906}}");
```

- You will also see a line added to the section in which the parameter was substituted, for example:

```
getDatabank("customer").getNextDatabankRecord();
```

In the Java Code view, a `getDatabank("databank alias").method()` can be added to the script code depending upon the type of record selected:

```
getDatabank("customer").getNextDatabankRecord();
getDatabank("customer").getFirstRecord();
getDatabank("customer").getLastRecord();
getDatabank("customer").getRecord(5);
```



### 2.8.3.1 Getting Databank Records Using the API

You can use the additional API methods available with `getDatabank("databank alias")` in the Java Code view to retrieve specific records from the databank. This section provides examples of the available methods.

#### 2.8.3.1.1 Databank API Usage Notes

These API methods are not compatible with databank's iteration settings **Randomly** or **Shuffle Records**. The Databank Exception "incompatible with db setting" will be thrown if these methods are used with the **Randomly** or **Shuffle Records** iteration settings.

The records obtained through these API calls are not counted against the usage count of all records. It is possible for an infinite script loop to occur if the **When Out of Records** iteration setting is set to **Stop the User**, but the script only uses these API calls to read records.

#### 2.8.3.1.2 Loading a Databank

The following example uses the `load()` method to get a new databank that will override a statically defined databank in OpenScript:

```
getDatabank("alias").load("repository", "dbPathRelToRepository", "settings");
```

The `load()` method is used to programmatically override static databanks in a script. The `load()` method is used with functional testing scripts only. The parameters for the `load()` method are as follows:

*repository* - a String specifying the repository to look inside to locate the databank file. Valid repositories are mapped using the **Manage Repositories** options on the **Tools** menu. An example repository could be named "Default" and map to C:\OracleATS\OFT.

*dbPathRelToRepository* - a String specifying the path to the databank file within the named OpenScript repository. The file extension is not required. For example, it can be specified as "databank1", "databank1.csv", or "databank1.txt". Any leading file separator on the path, such as / or \ is ignored. The *dbPathRelToRepository* parameter cannot be null.

*settings* - a String specifying the databank settings to apply to the loaded databank. For example "startIndex=10:select=SEQUENTIAL:whenOut=LOOP\_FOREVER". See the `-dbopts` settings in the General Section of Appendix A of the *Oracle OpenScript User's Guide* for the databank settings. If null, the settings revert to the default databank settings.

The following example shows how to load a databank file "euroCustomer" dynamically from the Databanks/files folder in the default repository and use the default settings.

```
public void run(){
    getDatabank("customer").load("default", "Databanks/files/euroCustomer", null);
    getDatabank("customer").getNextDatabankRecord();
    web.textbox("...").setText("#{db.customer.column1}");
}
```

The following example shows how to load a databank file "euroCustomer.csv" to dynamically override the statically mapped databank file "customer.csv" from the Databanks/files folder in the default repository and use the default settings.

```
public void run(){
    //Alias "customer" is defined as a static Databank Asset customer.csv.
```

```

getDatabank("customer").getNextDatabankRecord();
web.textbox("...").setText("#{db.customer.accountNumber}");

//Override Alias "customer" with databank "euroCustomer.csv"
getDatabank("customer").load("default", "Databanks/files/euroCustomer", null);
getDatabank("customer").getNextDatabankRecord();
web.textbox("...").setText("#{db.customer.accountNumber}");
}

```

### 2.8.3.1.3 Getting a Record Count

The following example uses the `getDatabankRecordCount()` method to get the record count from the "customer" databank and prints the value to the Results view:

```

int recordCount = getDatabank("customer").getDatabankRecordCount();
info("Record Count = " + recordCount );

```

### 2.8.3.1.4 Getting a Specific Record

The following example uses the `getRecord(n)` method to get a specific record from the "customer" databank and prints the value to the Results view:

```

getDatabank("customer").getRecord(5);

```

The following code example use a `For` statement to loop through all records in the databank:

```

int recordCount = getDatabank("customer").getDatabankRecordCount();
for (int i=1; i<=recordCount; i++) {
    info("Record count = " + i + " of " + recordCount);
    getDatabank("customer").getRecord(i);
}

```

### 2.8.3.1.5 Getting the First Record

The following example uses the `getFirstRecord()` method to get the first record in the "customer" databank:

```

getDatabank("customer").getFirstRecord();

```

### 2.8.3.1.6 Getting the Last Record

The following example uses the `getLastRecord()` method to get the last record in the "customer" databank:

```

getDatabank("customer").getLastRecord();

```

## 2.8.4 Playing Back Scripts With Iterations

OpenScript allows repetitive playback of navigations in a script. The iterations can be performed with or without databanks.

1. Start OpenScript.
2. Open the script to play back.
3. Configure the script to use a databank as described in [Section 2.8.1, "Configuring Databanks"](#).
4. Select **Iterate** from the **Script** menu or click the toolbar button. The resulting dialog box has the following options:

**Use Databanks:** When selected, databanks will be used for script playback. Databanks configured for the script show the following settings:

- **Name:** Lists the alias name(s) for the databank file(s).
- **Range:** Lists the range of databank records to use for script playback. This list corresponds to the **Range** option selected for each databank file.
- **Start:** Lists the starting databank record to use for script playback. This list corresponds to the **Starting Record** specified for each databank file.
- **Select Record:** Lists the how databank records are selected for script playback. This list corresponds to the **Select Next Record** setting selected for each databank file.
- **When Out of Records:** Lists the action to take when the databank file is out of records during script playback. This list corresponds to the **When Out of Records** setting selected for each databank file.
- **Data:** Lists the data in the Starting Record of each databank file.

**Databank Source:** This section shows the following information about the selected databank:

- **Alias:** Shows the alias name of the selected databank file and the number of rows in the file.
- **Type:** Shows the type of the selected databank file. Databanks can be CSV text files or databases.
- **Source:** Shows the path and filename of CSV text files or the database query used for database databanks. While there is not a maximum file size, the recommended maximum sizes is 200 MB. The only limitation is how long it takes to generate the index. The databank must be indexable within 30 seconds, by default. This setting is configurable in the "Databank Setup Timeout" setting in the General Preferences.

**Databank Settings:** This section specifies the settings to use for the selected databank:

- **Advance to Next Record:** Specifies when the virtual user should advance to the next databank record during script playback. The master script being played is always the script that triggers when an iteration occurs. The following options are available:
  - **When Script Requests a Record:** The databank record advances every time a script explicitly requests a record during script playback. A record request corresponds to the script Java code calling the `getDatabank(alias).getNextRecord()` method. This is the default behavior.
  - **Each Occurrence:** The databank record advances when a script refers to a databank column (i.e. databank field) in the script. A record request corresponds to the script Java code evaluating a parameterized value such as `{{db.fmstocks_data.ticker}}`. You can specify that any column advances to the next record or specify a particular databank column advances to the next record. For example, if you have an employee databank with a `firstName` field and the `firstName` column is specified as the **Column** value, the databank record advances only when the `{{db.employees.firstName}}` value in the script Java code is evaluated on script playback. Select the databank field name as the **Column** value or select `<Any>` to allow any field to advance the databank record.
  - **Each Iteration of Script:** The databank record advances before a script containing the databank starts another playback iteration.

- **Select Next Record:** Specifies how a new record is selected from the databank when the databank record advances. The following options are available:
  - **Sequentially:** The databank records increment one by one in sequential order from the start of the specified range. When multiple virtual users are running, records are distributed in sequential order across all virtual users.
  - **Randomly:** The databank records are selected at random from the databank. The same record may be used multiple times before all records are exhausted. Random record selection is only provided for databanks that can be indexed. When configuring databank settings, if the databank file is too large to index, the **Randomly** or **Shuffle** record options may not be available. The **When Out of Records** setting does not apply when Random is selected.
  - **By Shuffling:** The databank records are selected at random from the databank ensuring that once a record is selected, it is never selected again. The setting works similar to selecting a random card from a deck until no cards are left. Shuffle mode only supports databanks containing fewer than 200,000 records. For databanks containing more than 200,000 records, you can shuffle the values in the actual data file or you should use the **Randomly** mode.
  - **Use Seed:** Specifies a randomization seed value to use when using the **Randomly** or **Shuffle** modes. Use the same seed across multiple tests to create the same sequence of random numbers for all tests. If 0 or not specified, a seed is generated automatically based on the current time.
- **When Out of Records:** Specifies the action the virtual user takes if all databank records in the specified range have been used and a new record is requested. The following options are available:
  - **Loop Over Range:** Loops back to the first record in the range after all records in the range are used and continues distributing records. Use the **Maximum Iterations** settings to prevent the virtual user from running forever.
  - **Keep the Same Record:** Continues to use the last record requested after all records in the range are used. No additional records are requested from the databank. Any calls in the Java code to `getNextDatabankRecord()` are ignored after all records are used. Custom Java code may be used in the script to have Virtual users request an individual record using `getRecord(n)`, `getLastRecord()`, or `getFirstRecord()`.
  - **Stop the User:** The virtual user immediately stops running the next time a record is requested from the databank after all records in the range are used. The virtual user will stop regardless of how many iterations are specified by the **Maximum Iterations** settings.
- **Range:** Specifies the range of records to use. The following options are available:
  - **All Records:** When selected, the virtual user uses all records in the databank. The first record is 1.
  - **Specific Records:** When selected, the virtual user uses a subset of records in the databank. Specify the first and last records to use for the range. The range includes both the starting and ending record in the specified range.
- **Starting Record:** Specifies which databank record to use first. The first record in a databank is 1. The starting record must be within the specified range of

records. For example if you select **Specific Records** and set the range to 5:10, the starting record must be at least 5, but not more than 10.

**Maximum Iterations:** This section specifies the maximum number of iterations of a main script's `run()` section to complete:

- **Run no more than [ ] iterations:** Specifies the maximum number of iterations. If a databank exhausts all records and **When Out of Records** specifies **Stop the User**, the virtual user will always stop running, even if the specified number of iterations has not completed.

5. Select **Use Databanks**.
6. Select which databank file to specify the settings for if more than one database is configured for the script.
7. Specify the settings for the databank file.
8. Select the **Run no more than [ ] iterations** option and set the iteration count to the desired number of playback iterations.
9. Click **OK**.

You can view the progress of the script playback in the Console View. You can review the results of script playback in the Results View.

#### 2.8.4.1 Notes and Limitations

Certain setting combinations are not allowed, or may cause exceptions when the script is run. The following are situations to be aware of when using iteration options.

1. The **When Out of Records** option is not available when **Select Next Record** is set to **Randomly**. When random is selected, an infinite supply of random records exists.
2. Virtual users may still request an individual record using `getRecord(n)` after all records are used up, and **When Out of Records** is set to **Keep the Same Record**.
3. The `getRecord(n)`, `getFirstRecord()`, and `getLastRecord()` Java code methods do not advance the record cursor used by `getNextDatabankRecord()`. Therefore:
 

```
getNextDatabankRecord();// returns 1
getRecord(7);// returns 7
getNextDatabankRecord();//returns 2, not 7
```
4. The `getRecord(n)`, `getFirstRecord()`, and `getLastRecord()` Java code methods throw an exception when they are invoked if **Select Next Record** is set to **Shuffle Records** or **Randomly**.
5. The `getRecord(n)`, `getFirstRecord()`, and `getLastRecord()` Java code methods throw an exception if they are invoked and the databank is not indexed.
6. **Use Seed** is only available when **Select Next Record** is set to **Shuffle Records** or **Randomly**.
7. A specific databank range and starting index may not be set if the databank cannot be indexed.
8. The **Select Next Record: Shuffle Records** and **Randomly** options are only allowed when the databank can be indexed.
9. The **Select Next Record: Shuffle Records** is only allowed when the databank can be indexed and when there are fewer than 200,000 records.

### 2.8.4.2 Using Very Large Databanks

If you want to use an extremely large databank (for example, records in the millions), use the follow procedure:

1. Make sure the script does not use these databanking methods in the script code:
 

```
getRecordNumber ()
getFirst ()
getLast ()
getRecord(n)
```
2. Set the Databank Setup Timeout to a very *small* value, for example, 1 second.
  - a. Select **OpenScript Preferences** from the **View** menu.
  - b. Select **General** in the preferences.
  - c. Set **Databank Setup Timeout** to 1 (sec).
3. Set the databank setting to Sequential mode.
  - a. Select **Iterate** from the **Script** menu.
  - b. Make sure **Select Next Record** is set to "Sequentially".
4. Save the script and playback in Oracle Load Testing. The index preparation will timeout (expected). Although the index will not be generated, Oracle Load Testing will still be able to run with the databank using Sequential mode and deliver records to Virtual users.

## 2.9 Using Data Tables

Data Table is a script service that allows users to use an Excel file as a data input and output for scripts. The Data Table is a spreadsheet-like data table for Functional testing scripts. As a script service, a Data Table exists only during script playback. If you need to have persistent data from the Data Table, the data can be saved to an Excel file. While Excel file data can be imported and exported to and from a Data Table, the OpenScript Data Table is not as robust as Excel in handling custom formats. The Data Table is primarily used for data manipulation. To avoid format incompatibilities you should use only basic formats like General and String. Use Numeric and Date format only if absolutely needed.

There are two versions of the Data Table: the view/edit Data Table and the runtime Data Table. The view/edit Data Table can be accessed using the **Data Table** option on the **View** menu. The view/edit **Data Table** tab appears in the tab views of the OpenScript main window. The view/edit Data Table content can be changed by manually inputting data into cells or by importing an Excel file before playback.

The Data Table API provides methods for accessing the data in the Data Table programmatically within functional test scripts during playback of a script.

When you play back a script and select the results in the Results view, the Details view includes a Result Data Table tab that shows the runtime Data Table resulting from the playback of the script. Changes made to the runtime Data Table during script playback do not appear in the view/edit Data Table. The Result Data Table can be exported to an Excel file to view the changes.

The following sections explain how to use Data Tables within functional test scripts.

## 2.9.1 Enabling the Data Table Service

The Data Table Service provides programmatic access to data stored in a Data Table using the Data Table API. The Data Table service must be enabled to provide access to the Data Table view and the runtime Data Table.

To enable the Data Table Service:

1. Record a functional test script.
2. Select **Script Properties** from the **Script** menu.
3. Select **Modules**.
4. Select the **Data Table** option and click **OK**.

In the Java Code view, the datatable service is added to the script code as follows:

```
@ScriptService oracle.oats.scripting.modules.datatable.api.DataTableService
datatable;
```

5. Select **Data Table** from the **View** menu to show the view/edit Data Table tab view. The runtime Data Table is accessed using the Data Table API.

## 2.9.2 Setting the First Row Policy

The First Row policy specifies how the data in the first row of the Data Table will be used. The first row policy should be set before any data is manipulated within a Data Table sheet. The first row policy is important because Data Tables and Excel differ in the use of data as column headers. Data Tables can use the first row of data as column headers. Excel files use fixed indexes (for example, A, B, C) as the column headers. If your script manipulates data and columns in a Data Table during script playback, how the columns are referenced is important. For example, if you add a column in an Excel file, the new column inserts into the sheet essentially moving the current data to be under a different column header. If a new column is added before column C, the new column is inserted as column C and the data that was under column C is now under column D. If you add a column in a Data Table and the first row policy is not to use the first row of data as the column header, the Data Table will perform the same as an Excel file. However, if the first row policy is set to use the first row of data as the column header, the inserted column will have a new column header inserted, and the existing data will still be under the same column header as before the new column was added. If your script imports and exports the manipulated data from a Data Table to and from an Excel file, the first row policy will affect how the data is referenced.

To set the first row policy, right-click in the Data Table view and select **Use First Row as Column Header**. The data values in the first row of the table move up into the table header as column names.

In the Java Code view, the first row policy for each Data Table sheet is set using the `useFirstRowAsColumnHeader()` method, as follows:

```
datatable.useFirstRowAsColumnHeader("Sheet1");
```

## 2.9.3 Importing Data from a Spreadsheet File

Data can be loaded into a Data Table from an Excel spreadsheet file.

---



---

**Note:** Excel restricts sheet names to 31 characters. Other spreadsheet applications may allow longer sheet names. The Data Table conforms to the Excel restrictions. If a sheet name is longer than the 31 character restriction, then the Data Table truncates the length of name to 31 characters. Any illegal characters, such as colon (:), backslash (\), asterisk (\*), question mark (?), forward slash (/), opening square bracket ([) losing square bracket (]), will be substituted with the underscore (\_) character.

---



---

To load data from an Excel spreadsheet file:

1. Enable the Data Table service for the functional test script.
2. In the Java Code view, add the `importSheet()` method, as follows:

```
datatable.importSheet("C:\\OracleATS\\Book1.xls", "Sheet1", "Sheet1", false);
```

## 2.9.4 Exporting Data to a Spreadsheet File

Data in a Data Table can be exported to an Excel spreadsheet file.

To Export data from a Data Table to an spreadsheet file:

1. Enable the Data Table service for the functional test script and show the Data Table view.
2. In the Java Code view, add the `exportSheet()` method, as follows:

```
datatable.exportSheet("C:\\OracleATS\\Book1.xls", "Sheet1", "Sheet1",
    ExportMode.CREATE);
```

When exporting Data Tables to Excel files, you can set the export policy: Create or Merge. Create will completely recreate the destination file. The resulting file will contain only the exported sheets from the Data Table. Merge will add exported sheets to the existing file, overwriting existing sheets only if the sheet is named as an exported sheet from the Data Table.

## 2.9.5 Changing Data During Script Playback

The runtime Data Table content can be changed during script playback in the following ways:

- manually when playback is paused by a breakpoint
- manually when playback is paused by an exception
- manually when playback is paused using the Pause toolbar button
- programmatically at runtime using the `datatable` API

Changes to the runtime Data Table can be saved can be saved to the script's session result folder during script playback using the `datatable.save` method. The view/edit Data Table and Result Data Table can be exported to an Excel file.

The following sections provide examples of how to change data in the runtime Data Table programmatically using the `datatable` API.

### 2.9.5.1 Getting and Setting Cell Values

You can use the `datatable` API to get and set Data Table values programmatically during playback of a script. The following examples show how to get and set values



using the `datatable` API `getValue()` and `setValue()` methods. Data table rows are 0 based. Cell A1 in the data table is accessed by `datatable.getValue(0, "A")`.

#### 2.9.5.1.1 Getting Data by Row and Column Value

The following example script code retrieves the value in the cell at row 1, column A of the current worksheet and prints the value to the Results view:

```
String cellValue1 = datatable.getValue(0, "A").toString();
info(cellValue1);
```

#### 2.9.5.1.2 Getting Data by Sheet, Row, and Column Value

The following example script code retrieves the value in the cell at row 1, column A of the worksheet named "Sheet1" and prints the value to the Results view:

```
String cellValue2 = datatable.getValue("Sheet1", 0, "A").toString();
info("cell value = " + cellValue2);
```

#### 2.9.5.1.3 Setting Data by Row and Column Value

The following example script code sets the value in the cell at row 1, column A to a boolean value of `true`:

```
datatable.setValue(0, "A", true);
```

The following example script code sets the value in the cell at row 1, column A to a double value of 10.5:

```
datatable.setValue(0, "A", 10.5);
```

The following example script code sets the value in the cell at row 1, column A to a String value of `myString`:

```
datatable.setValue(0, "A", "myString");
```

#### 2.9.5.1.4 Setting Data by Sheet, Row, and Column Value

The following example script code sets the value in the cell at row 1, column A of "Sheet1" to a boolean value of `true`:

```
datatable.setValue("Sheet1", 0, "A", true);
```

The following example script code sets the value in the cell at row 1, column A of "Sheet1" to a double value of 10.5:

```
datatable.setValue("Sheet1", 0, "A", 10.5);
```

The following example script code sets the value in the cell at row 1, column A of "Sheet1" to a String value of `myString`:

```
datatable.setValue("Sheet1", 0, "A", "myString");
```

### 2.9.5.2 Adding and Deleting Rows and Columns

You can use the `datatable` API to add and delete Data Table rows and columns programmatically during playback of a script. The following examples show how to add and delete rows and columns using the `datatable` API `addColumn()`, `deleteColumn()`, `insertRow()`, and `deleteRow()` methods.

#### 2.9.5.2.1 Adding Columns

The following example script code adds a new column named `New Column` to the current worksheet after the last column in the worksheet:

```
datatable.addColumn("New Column");
```

The following example script code adds a new column named `New Column` to the current worksheet before the column with an index value of 0:

```
datatable.addColumn("New Column", 0);
```

The following example script code adds a new column named `New Column` to the worksheet named "Sheet1" after the last column in the worksheet:

```
datatable.addColumn("Sheet1", "New Column");
```

The following example script code adds a new column named `New Column` to the worksheet named "Sheet1" before the column with an index value of 0:

```
datatable.addColumn("Sheet1", "New Column", 0);
```

#### 2.9.5.2.2 Deleting Columns

The following example script code deletes the column named `A` from the current worksheet:

```
datatable.deleteColumn("A");
```

The following example script code deletes the column named `A` from the current worksheet named "Sheet1":

```
datatable.deleteColumn("Sheet1", "A");
```

#### 2.9.5.2.3 Adding Rows

The following example script code adds a new row to the current worksheet before the row with an index value of 0:

```
datatable.insertRow(0);
```

The following example script code adds a new row to the worksheet named "Sheet1" before the row with an index value of 0:

```
datatable.insertRow("Sheet1", 0);
```

#### 2.9.5.2.4 Deleting Rows

The following example script code deletes the row before the row with an index value of 1 from the worksheet named "Sheet1":

```
datatable.deleteRow("Sheet1", 1);
```

### 2.9.5.3 Adding and Deleting Worksheets

You can use the `datatable` API to add and delete worksheets programmatically during playback of a script. The following examples show how to add and delete worksheets using the `datatable` API `addSheet()` and `deleteSheet()` methods.

#### 2.9.5.3.1 Adding Worksheets

The following example script code adds a new worksheet named "Sheet1" to the Data Table:

```
datatable.addSheet("Sheet1");
```

The following example script code adds a new worksheet named "Sheet1" to the Data Table before "Sheet2":

```
datatable.addSheet("Sheet1", "Sheet2");
```

### 2.9.5.3.2 Deleting Worksheets

The following example script code deletes the worksheet named "Sheet1" from the Data Table:

```
datatable.deleteSheet("Sheet1");
```

### 2.9.5.4 Getting Worksheet, Row, and Column Counts

You can use the `datatable` API to get sheet, row, and column counts programmatically during playback of a script. The following examples show how to get sheet, row, and column counts using the `datatable` API `getSheetCount()`, `getRowCount()`, and `getColumnCount()` methods.

#### 2.9.5.4.1 Getting Worksheet Counts

The following example script code gets the sheet count from the Data Table and prints the value to the Results view:

```
int sheetCount = datatable.getSheetCount();
info("Sheet count = " + sheetCount);
```

#### 2.9.5.4.2 Getting Row Counts

The following example script code gets the row count from the current worksheet and prints the value to the Results view:

```
int rowCount = datatable.getRowCount();
info("row count = " + rowCount);
```

The following example script code gets the row count from the worksheet named "Sheet1" and prints the value to the Results view:

```
int rowCount1 = datatable.getRowCount("Sheet1");
info("row count Sheet1 = " + rowCount1);
```

#### 2.9.5.4.3 Getting Column Counts

The following example script code gets the column count from the worksheet named "Sheet1" and prints the value to the Results view:

```
int columnCount = datatable.getColumnCount("Sheet1");
info("column count Sheet1 = " + columnCount);
```

The following example script code gets the column count from the worksheet with an index of 0 and prints the value to the Results view:

```
int columnCount0 = datatable.getColumnCount(0);
info("column count Sheet index 0 = " + columnCount);
```

### 2.9.5.5 Getting the Current Sheet and Row

You can use the `datatable` API to get the current sheet, row, and column programmatically during playback of a script. The following examples show how to get the current sheet, row, and column using the `datatable` API `getCurrentSheet()` and `getCurrentRow()` methods.

#### 2.9.5.5.1 Getting the Current Sheet

The following example script code gets the name of the current sheet from the Data Table and prints the value to the Results view:

```
String currentSheet = datatable.getCurrentSheet();
info("Current Sheet = " + currentSheet)
```

#### 2.9.5.5.2 Getting the Current Row

The following example script code gets the current row from the current worksheet and prints the value to the Results view:

```
int currentRow = datatable.getCurrentRow();
info("Current row = " + currentRow);
```

#### 2.9.5.6 Setting Next and Previous Rows

You can use the `datatable` API to set the next and previous row programmatically during playback of a script. The following examples show how to set the next and previous rows using the `datatable` API `setNextRow()` and `getCurrentRow()` methods.

##### 2.9.5.6.1 Setting the Next Row

The following example script code sets the next row of the current sheet in the Data Table:

```
datatable.setNextRow();
```

##### 2.9.5.6.2 Setting the Previous Row

The following example script code sets the previous row of the current sheet in the Data Table:

```
datatable.setPreviousRow();
```

#### 2.9.5.7 Importing and Exporting Documents and Sheets

You can use the `datatable` API to get the import and export spreadsheet documents and worksheets programmatically during playback of a script. The following examples show how to import and export spreadsheet files and worksheets using the `datatable` API `importExcel()`, `importSheet()`, `exportToExcel()` and `exportSheet()` methods.

##### 2.9.5.7.1 Importing an Excel Spreadsheet Document

The following example script code imports the `myXls.xls` Excel spreadsheet document into the Data Table:

```
datatable.importExcel("c:\\myXls.xls");
```

##### 2.9.5.7.2 Importing Worksheets

The following example script code imports the single worksheet named "SourceSheet" from the `myXls.xls` Excel spreadsheet document and adds it to the Data Table with the name "DestinationSheet":

```
datatable.importSheet("c:\\myXls.xls", "SourceSheet", "DestinationSheet");
```

The following example script code imports all worksheet from the `myXls.xls` Excel spreadsheet document and adds them to the Data Table overwriting any sheets with the same names:

```
datatable.importSheets("c:\\myXls.xls", true);
```

The following example script code imports the specified list of worksheets from the `myXls.xls` Excel spreadsheet document and adds them to the Data Table overwriting any sheets with the same names:

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.importSheets("c:\\myXls.xls", sheetList, true);
```

The following example script code imports the specified list of worksheets from the `myXls.xls` Excel spreadsheet document and adds them to the Data Table overwriting any sheets with the same names using the first row:

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.importSheets("c:\\myXls.xls", sheetList, true, true);
```

### 2.9.5.7.3 Exporting an Excel Spreadsheet Document

The following example script code exports the `myXls.xls` Excel spreadsheet document from the Data Table to a file:

```
datatable.exportToExcel("c:\\myXls.xls");
```

### 2.9.5.7.4 Exporting Worksheets

The following example script code exports the single worksheet named "SourceSheet" from the Data Table to the `myXls.xls` Excel spreadsheet document with the name "DestinationSheet":

```
datatable.exportSheet("c:\\myXls.xls", "SourceSheet", "DestinationSheet");
```

The following example script code imports all worksheet from the `myXls.xls` Excel spreadsheet document and adds them to the Data Table overwriting any sheets with the same names:

```
datatable.importSheets("c:\\myXls.xls", true);
```

The following example script code exports the specified list of worksheets from the Data Table to the `myXls.xls` Excel spreadsheet document:

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.exportSheets("c:\\myXls.xls", sheetList);
```

### 2.9.5.8 Using Data Tables with Parent and Child Scripts

You can use the `datatable` API to change data in the Data Table of a parent script that runs a child script programmatically during playback of parent and child scripts. The following examples show how to change data in parent scripts from child scripts using the `datatable` API `getParentDatatable()` and `getGlobalDatatable()` methods.

### 2.9.5.8.1 Accessing the Parent Data Table from a Child Script

The following example script code shows how a child script can access and change data in the Data Table of the parent script. Both the parent and child scripts must have the Data Table service enabled. It is important that it always should be verified that the return value is not null. In the child script, make sure the Data Table service is enabled and create a parent Data Table instance:

```
import oracle.oats.scripting.modules.datatable.api.DataTableService;
//[...]
DataTableService parentDatatable = datatable.getParentDatatable();
if(parentDatatable != null)
{
    info("set parent datatable value");
    parentDatatable.setValue(0, "A", 30);
    parentDatatable.save();
}
```

In the parent script, run the child script using the `getScript("alias").run()` method:

```
getScript("childScript").run(1);
```

The Data Table results appear in the parent script Results and the Results Data Table of the Details view.

### 2.9.5.8.2 Accessing the Top-Most Data Table in Chain of Parent Scripts

The following example script code shows how a child script can access and change data in the top-most Data Table in a chain of parent scripts. All scripts in the chain must have the Data Table service enabled. In the child script, make sure the Data Table service is enabled and create a global Data Table instance:

```
import oracle.oats.scripting.modules.datatable.api.DataTableService;
//[...]
DataTableService globalDatatable = datatable.getGlobalDatatable();
info("set global datatable value");
globalDatatable.setValue(0, "B", 20);
globalDatatable.save();
```

If the script containing this code is run as a stand alone script the return value is a datatable of the script itself.

## 2.10 Using the Shared Data Service

This section describes how to enable and use the Shared Data Service.

### 2.10.1 Basic Scenarios

The following are the basic scenarios for using the Shared Data Service:

- **Queue Mode:** Items are stored sequentially in queues. Scripts can get the first or last data item in the queue. Other items cannot be accessed randomly.

Script A is run by 100 Virtual Users, which act as message producers putting message objects to the shared data queues.

Script B is run by another 100 Virtual Users, which act as consumers getting message objects from the shared data queues.

Consumer Virtual Users can get an object from the beginning or end and the information from a queue. If the queue is empty, the consumer Virtual User is blocked until the timeout is reached. Once the object can be retrieved, the consumer Virtual User is resumed.

- **Hash Map mode:** Any item can be accessed using a key. The hash map may already contain a mapping for a key. The hash map needs to be checked before a new item is put into a hash map.

Script A is run by 100 Virtual Users, which put key-value objects to a shared data hash map.

Script B is run by another 100 Virtual Users, which get values with keys from the shared data hash map.

If a Virtual User cannot get the value to which the specified key is mapped, it will be blocked until the timeout is reached or the key-value is added to the map.

## 2.10.2 Enabling the Shared Data Service

To enable the Shared Data Service:

1. Start OpenScript.
2. Open an existing script or create and record a new script.
3. Select **Script Properties** from the **Script** menu.
4. Select the Modules category.
5. Select the **Shared Data** module.
6. Click **OK**. The Shared Data Service will be added to the script class in the Java Code as follows.

```
@ScriptService oracle.oats.scripting.modules.sharedData.api.SharedDataService
sharedData;
```

Once you have enabled the Shared Data service, you can set the password encryption and the connection parameters and then use the Shared Data API to manipulate message queues or hash maps. See [Section 2.7.5, "Setting the Password Encryption"](#) for additional information about setting the encryption password. You use the `sharedData` class in the Java code view to create manipulate message queues and hash maps.

## 2.10.3 Setting the Connection Parameters

The connection parameters specify the Oracle Load Testing server to use for the Shared Data Service and the authentication settings. During a load test, the Shared Data Service is limited to running only on the Oracle Load Testing controller running the test. To set the connection parameters:

1. Make sure the Shared Data Service is enabled and the password encryption is specified as previously described.
2. Select the script node where you want to set the connection parameters.
3. Select **Add** from the **Script** menu and then select **Other**.
4. Expand the Shared Data folder.
5. Select **Set Connection Parameters** and click **OK**.
6. Set the connection parameters as follows:

**Address:** Specify the address of the machine to use for the Shared Data Service. For example: `t3://localhost:8088` or `t3://machinename.com:8088`.

**User Name:** Specify the user name to use for authentication. The default name is `oats` unless changed in the Oracle Application Testing Suite configuration.

**Password:** Specify the password to use for authentication.

7. Click **OK**. A Connection Parameters node will be added to the script tree.
8. In the Java Code view, the Connection Parameters consist of the code executed in the `sharedData.setConnectionParameters` procedure:

```
sharedData.setConnectionParameters("t3://localhost:8088", "oats",  
    decrypt("L4I57b+KpnI2BQSRKPG88w=="));
```

After setting the connection parameters, you can use the Shared Data API in the Java Code view to manipulate data in message queues and hash maps.

## 2.10.4 Creating a Shared Data Queue

To create a shared data queue:

1. Create an script project.
2. Make sure the Shared Data Service is enabled, the password encryption, and connection parameters are specified as previously described.
3. Open the Java Code view and insert the `sharedData.createQueue` code with a life time value into the script where you want to create the queue, as follows:

```
info("Create queueA with life time of 10 minutes");  
sharedData.createQueue("queueA", 10);
```

The maximum number of queues is 1000. The maximum capacity of a queue is 65535. If the maximum is exceeded, an exception occurs. Once the life time expires, the queue is destroyed.

## 2.10.5 Inserting Data into a Shared Data Queue

The types of the "values" that can be put into a queue are as follows:

- String
- boolean
- integer
- long
- double
- float
- a List of any of the above data types
- User-defined serializable java objects.

To insert data into an existing queue:

1. Set up the shared data service and create a queue as previously described.
2. Open the Java Code view and insert the `sharedData.offerFirst` or `sharedData.offerLast` code with a value into the script where you want to insert data into the queue, as follows:



```
int iterationNum = getIteration().getTotalIterationsCompleted() + 1;
info("Insert data at the front of an existing queueA");
sharedData.offerFirst("queueA", "first" + iterationNum);
```

or

```
int iterationNum = getIteration().getTotalIterationsCompleted() + 1;
info("Insert data at the end of an existing queueA");
sharedData.offerLast("queueA", "last" + iterationNum);
```

```
info("parameter type - String");
sharedData.offerFirst("queueA", "value");
```

```
info("parameter type - list of Strings");
ArrayList<String> listOfStr = new ArrayList<String>();
listOfStr.add(0, "val1");
listOfStr.add(1, "val2");
sharedData.offerFirst("queueA", listOfStr);
ArrayList<String> queueValue = (ArrayList<String>)
    sharedData.pollFirst("queueA");
```

```
info("parameter type - boolean");
sharedData.offerFirst("queueA", true);
```

```
info("parameter type - int");
sharedData.offerFirst("queueA", 10);
```

```
info("parameter type - double");
sharedData.offerFirst("queueA", 10.5);
```

```
info("parameter type - long");
sharedData.offerFirst("queueA", 100);
```

## 2.10.6 Getting Data from a Shared Data Queue

To get data from a queue:

1. Set up the shared data service, create a queue, and insert data to the queue as previously described.
2. Open the Java Code view and insert the Shared Data method(s) to use to get data into the script where you want to get data from the queue. The Shared Data Service includes methods for getting the length and peeking (gets the data) and polling (gets and removes the data) data, as follows:

```
info("Get the length of queueA");
int actualLength = sharedData.getLengthOfQueue("queueA");
```

```
info("Get the most current item of queueA");
String queueValue1 = (String) sharedData.peekFirst("queueA");
```

```
info("Get the most current item of queueA - timeout after 5 seconds");
String queueValue2 = (String) sharedData.peekFirst("queueA", 5000);
```

```
info("Get the oldest item of queueA");
String queueValue1 = (String) sharedData.peekLast("queueA");
```

```
info("Get the oldest item of queueA - timeout after 5 seconds");
String queueValue2 = (String) sharedData.peekLast("queueA", 5000);
```

```
info("Get and remove the most current item from queueA");
```

```
String pollValue1 = (String) sharedData.pollFirst("queueA");

info("Remove the most current item from queueA - Timeout after 5 seconds");
String pollValue2 = (String) sharedData.pollFirst("queueA", 5000);

info("Remove the oldest item from queueA");
String pollValue1 = (String) sharedData.pollLast("queueA");

info("Remove the oldest item from queueA - Timeout after 5 seconds");
String pollValue2 = (String) sharedData.pollLast("queueA", 5000);

info("Waiting for an existing value 100 in queueA");
boolean isFound1 = sharedData.waitFor("queueA", 100);

info("Waiting for an existing value 100 in queueA - timeout afer 5 seconds");
boolean isFound2 = sharedData.waitFor("queueA", 100, 5000);
```

3. Add other custom code to the script to use the data from the queue.

## 2.10.7 Clearing a Shared Data Queue

Clear queues when the script is finished using the data.

To clear a shared data queue:

1. Open the Java Code view and insert the `sharedData.clearQueue` code with a the name of the queue to clear into the script where you want to clear the queue, as follows:

```
info("Clear queueA");
sharedData.clearQueue("queueA");
```

## 2.10.8 Destroying a Shared Queue

Destroy queues when the script is finished using the data. Destroying queues releases the queues' data and its listeners and release the memory that is allocated to a queue.

To destroy a shared data queue:

1. Open the Java Code view and insert the `sharedData.destroyQueue` code with a the name of the queue to destroy into the script where you want to destroy the queue, as follows:

```
info("Destroy queueA");
sharedData.destroyQueue("queueA");
```

## 2.10.9 Creating a Shared Data Hash Map

To create a shared data hash map:

1. Create an script project.
2. Make sure the Shared Data Service is enabled, the password encryption, and connection parameters are specified as previously described.
3. Open the Java Code view and insert the `sharedData.createMap` code with a life time value into the script where you want to create the hash map, as follows:

```
info("Create mapA with life time of 10 minutes");
sharedData.createMap("mapA", 10);
```

The maximum number of hash maps is 1000. The maximum capacity of a hash map is 65535. If the maximum is exceeded, an exception occurs. Once the life time expires, the hash map is destroyed.

### 2.10.10 Inserting Data into a Shared Data Hash Map

The types of the "values" that can be put into a hash map are the same as for queues. See [Section 2.10.5, "Inserting Data into a Shared Data Queue"](#) for a list of the data types.

To insert data into an existing hash map:

1. Set up the shared data service and create a hash map as previously described.
2. Open the Java Code view and insert the `sharedData.putToMap` code with a key and value into the script where you want to insert data into the hash map, as follows:

```
int iterationNum = getIteration().getTotalIterationsCompleted() + 1;
info("put key/value pair to an existing mapA");
sharedData.putToMap("mapA", "key" + iterationNum, "value" + iterationNum);

info("parameter type - String");
sharedData.putToMap("mapA", "key", "value");
String mapValue = (String) sharedData.getFromMap("mapA", "key");

info("parameter type - list of Strings");
ArrayList<String> listOfStr = new ArrayList<String>();
listOfStr.add(0, "val1");
listOfStr.add(1, "val2");
sharedData.putToMap("mapA", "key", listOfStr);
ArrayList<String> mapVal = (ArrayList<String>) sharedData.getFromMap("mapA",
    "key");

info("parameter type - boolean");
sharedData.putToMap("mapA", "key", true);

info("parameter type - int");
sharedData.putToMap("mapA", "key", 10);

info("parameter type - double");
sharedData.putToMap("mapA", "key", 10.5);

info("parameter type - long");
sharedData.putToMap("mapA", "key", 100);
```

### 2.10.11 Getting Data from a Shared Data Hash Map

To get data from a hash map:

1. Set up the shared data service, create a queue, and insert data to the hash map as previously described.
2. Open the Java Code view and insert the Shared Data method(s) to use to get data into the script where you want to get data from the hash map. The Shared Data Service includes methods for getting the keys of the hash map and getting data and removing data from the hash map, as follows:

```
info("Get all keys of mapA");
String [] lsKey = sharedData.getKeysOfMap("mapA");
```

```

info("Get key/value pair from mapA");
String actualValue = (String) sharedData.getFromMap("mapA", "key");

info("Get key/value pair from mapA - timeout after 5 seconds");
String actualValue1 = (String) sharedData.getFromMap("mapA", "key", 5000);

info("Remove key/value pair from mapA");
String removeValue = (String) sharedData.removeFromMap("mapA", "key");

info("Remove key/value pair from mapA - timeout after 5 seconds");
String removeValue1 = (String) sharedData.removeFromMap("mapA", "key", 5000);

```

3. Add other custom code to the script to use the data from the hash map.

## 2.10.12 Clearing a Shared Data Hash Map

Clear hash maps when the script is finished using the data.

To clear a shared data hash map:

1. Open the Java Code view and insert the `sharedData.clearMap` code with a the name of the map to clear into the script where you want to clear the hash map, as follows:

```

info("Clear mapA");
sharedData.clearMap("mapA");

```

## 2.10.13 Destroying a Shared Data Hash Map

Destroy hash maps when the script is finished using the data. Destroying hash maps releases the map's data and its listeners and release the memory that is allocated to a map.

To destroy a shared data hash map:

1. Open the Java Code view and insert the `sharedData.destroyMap` code with a the name of the map to destroy into the script where you want to destroy the hash map, as follows:

```

info("Destroy mapA");
sharedData.destroyMap("mapA");

```

## 2.11 Using The Utilities API

You can use the utilities API to read values from text files including CSV and XML. The following sections explain how to use the utilities API.

### 2.11.1 Working with Text Files

The Utilities API includes a `getFileService()` object with methods for working with text files such as reading lines of text from a file or appending to a file. The following examples show some ways to use `getFileService`.

To add code that reads text from a file:

1. Create a script project.
2. Open the Java Code view.

3. Add the `readLines()` method to specify the file to read. The following example shows how to parse the lines of text in a file and print to the OpenScript console view:

```
import java.io.File;
//[...]
String[] lines = utilities.getFileService().readLines("C:/Sample.txt");
for (String line : lines) {
    info(line);
}
```

To add code that appends text to a file:

1. Create a script project.
2. Open the Java Code view.
3. Add the `appendStringToFile()` method to specify the file to which to append text strings. The following example shows how to create a new file and append lines of text to the file:

```
import java.io.File;
//[...]
utilities.getFileService().createDestinationFile("myFile.txt", false);
String line1 = "This is a new line 1";
String line2 = "This is a another new line 2";
String contents = "\n" + line1 + "\n" + line2;
utilities.getFileService().appendStringToFile("myFile.txt", contents);
```

## 2.11.2 Working with CSV Files

The Utilities API includes a `loadCSV()` object for working with data from a Comma Separated Value text file.

To add code that loads and prints data from a .CSV file:

1. Create a script project.
2. Open the Java Code view.
3. Add the `loadCSV` method to specify the file to read. For this example the file, "C:\customer.csv" contains this data:

```
FirstName,LastName,MiddleInitial
John,James,R
Mary,Simpson,J
```

The following example shows one way to parse a table of text in a .CSV file and print values to the OpenScript console view:

```
import java.io.File;
import java.util.List;
//[...]
String filePath = "c:\\";
String csvFile = filePath + "fmstocks_data.csv";
File file = new File(csvFile);

Table table = utilities.loadCSV(csvFile);

//Print the CSV file
String columns = "";
int columnNumber = table.getColumns().getColumnCount();
String [] columnNames = table.getColumns().getColumnNames();
```

```

for (int index=0; index<columnNumber; index++)
    columns += columnNames[index] + " ";
info(columns);

List <Row> rows = table.getRows();
for (int index=0; index<rows.size(); index++) {
    String [] rowValue = rows.get(index).getAll();
    String rowContent = "";
    for (int columnIndex=0; columnIndex<rowValue.length; columnIndex++)
        rowContent += rowValue[columnIndex] + " ";
    info(rowContent);
}

```

### 2.11.3 Working with XML Files

The Utilities API includes a `loadXML()` object for reading text from a XML formatted text file.

To add code that reads text from a .XML file:

1. Create a script project.
2. Open the Java Code view.
3. Add the `loadXML` method to specify the file to read. For this example the file, "C:\oceans.xml" contains this data:

```

<?xml version="1.0" encoding="utf-8"?>
<Oceans>
  <ocean name="Arctic"/>
  <ocean name="Atlantic"/>
  <ocean name="Indian"/>
  <ocean name="Pacific"/>
  <ocean name="Southern"/>
</Oceans>

```

The following example shows how to parse a table of text in a .XML file and print values to the OpenScript console view:

```

XML xml = utilities.loadXML("C:/oceans.xml");
XML root = xml.getChildren()[0];
info(root.getTagname());
XML[] oceans = root.getChildren();

for (XML ocean : oceans){
    info(ocean.getAttribute("name"));
}

```

### 2.11.4 Getting Values from a Database

Getting values from a database requires a database definition, a database SQL query or SQL execute and a disconnect from the database. This section explains how to manually add database actions to a script. See the *Oracle OpenScript User's Guide* for additional information about importing a DBReplay capture file or SQL statements from a plain SQL and PL/SQL statements .SQL script file to generate an OpenScript load testing script.

To get values from a database:

1. Create a database script project.
2. Select the node where you want to add the database definition.

3. Select the **Script** menu and then select **Other** from the **Add** sub menu.
4. Expand the Database node and select Database Definition.
5. Click **OK**.
6. Specify the database definition information.
  - Database Driver** - specify the database driver to use.
    - **Oracle Thin (oracle.jdbc.driver.OracleDriver)** - when selected, the database connection uses the Oracle Thin database driver. Specify the following connection information:
      - Hostname** - specify the name of the host machine on which the database is located.
      - Port** - specify the port number to use.
        - **SID** - when selected, specify the System ID to identify the particular database on the system.
        - **Service Name** - when selected, specify the Service Name defined as the alias for the database instance.
    - **ODBC (sun.jdbc.odbc.JdbcOdbcDriver)** - when selected, the database connection uses the ODBC database driver. Specify the following connection information:
      - Data source** - specify the name of the ODBC data source to which to connect.
      - URL** - specify the URL to use to access the database.
      - Username** - specify a user name to log into the database.
      - Password** - specify a password to log into the database.
      - Alias** - specify an alias name to use to identify the database definition. The alias appears in the script tree for the definition and is selected when adding database actions to the script.
      - Test** - test the connection to the database based upon the specified driver and database information.
7. Click **Test** to verify a successful connection.
8. Click **OK**.
9. Select the node where you want to add the database connection. The OpenScript database connect method is optional. The database connect is invoked automatically when calling execute or query methods
10. Select the **Script** menu and then select **Other** from the **Add** sub menu.
11. Expand the Database node and select Connect.
12. Select the database alias and click **OK**.
13. Select the node where you want to add the database query or execute statement.
14. Select the **Script** menu and then select **Other** from the **Add** sub menu.
15. Expand the Database node and select SQL Query or SQL Execute.
16. Specify the SQL statement to query or execute and click **Add**.
17. Specify a data type and define a name for the parameter.
18. Click **OK**.

19. Click **OK**.
20. Select the node where you want to add the database disconnect.
21. Select the **Script** menu and then select **Other** from the **Add** sub menu.
22. Expand the Database node and select Disconnect.
23. Select the database alias and click **OK**.

In the Java Code view, the `utilities.getSQLService()` methods will be added to the script code for each database script action (additional code and comments added):

```
//define database
utilities.getSQLService().define("oracledb",
    "oracle.jdbc.driver.OracleDriver", "00.000.000.000", "myuserID",
    decrypt("ZgEQLMIUx8EVDahfAenvyg=="));

//connect to database
utilities.getSQLService().connect("oracledb");

//execute SQL statement
String query = "Create table Employee (ID number(4) not null unique, " +
"FirstName varchar2(40) not null, LastName varchar2(40) not null, " +
"Country varchar2(40), HireDate date)";
info("Query: " + query);
utilities.getSQLService().execute("oracledb", query);

//execute update SQL statement
query = "Insert into Employee (ID, FirstName, LastName, Country, HireDate) " +
"Values (101, 'Tom', 'Smith', 'USA', '01-JAN-95)";
utilities.getSQLService().executeUpdate("oracledb", query);

//query SQL statement
query = "Select * from Employee";
Table table = utilities.getSQLService().query("oracledb", query);

//print table
for (int i=0; i<table.getRowCount(); i++) {
    Row row = table.getRow(i);
    String [] rowValue = row.getAll();
    String rowContent = "";
    for (int col=0; col<rowValue.length; col++)
        rowContent += rowValue[col] + " ";
    info(rowContent);
}

//disconnect from database
utilities.getSQLService().disconnect("oracledb");
```

#### 2.11.4.1 Adding a SQL Query Test

A SQL Query test can be used to test data values retrieved from a database using a SQL query against expected values.

To add a SQL Query test:

1. Create a database script project.
2. Select the node where you want to add the SQL Query test.
3. Select the **Script** menu and then select **Other** from the **Add** sub menu.



4. Expand the Database node and select SQL Query.
5. Click **OK**.
6. If you have already created a database connection, select the database alias. If you have not already created a database connection, click **New** and specify a new database definition. See [Section 2.11.4, "Getting Values from a Database"](#) for additional information about creating a database definition.
7. Enter a SQL Statement to use to define the data to retrieve from the database.
8. Click **Test** to verify the data is retrieved from the database. If the **Test Results** dialog does not appear listing the data from the SQL Statement, verify the SQL Statement is correctly structured.
9. Click **Close** to close the **Test Results** dialog box.
10. Click **Create SQL Query Test**.
11. Enter a name for the test.
12. Set the **Verify only, never fail** option.
13. Select the **Test Data** option:
  - **Entire Table** - when selected, the entire table of data retrieved from the SQL Statement is included in the test.
  - **Filter table by query**- when selected, only the data that matches the filter query is included in the test. Enter a SQL query and click **Apply** to apply the filter to the test data.
  - **Apply** - applies the query filter to the test data.
14. Enable testing on specific data values by selecting or clearing the check boxes in each cell. Click **Enable All** to enable testing on all data values in the grid. Click **Disable All** to disable testing on all data values in the grid, then select individual cells manually.
  - [Row] - shows the row number of the test data.
  - [Table column name(s)] - shows the name(s) of the database table field(s) retrieved from the database by the SQL Statement. Each column in the SQL Query Test will show table field names as the column headers. Select the check box to enable testing or clear the check box to disable testing on specific data values.
15. For each selected table cell, specify the SQL Query Test Details:
 

**SQL Query Test Details** - shows the test details for the selected table cell.

  - **Value from DB** - shows the actual value of the data retrieved from the database for the selected table cell.
 

**Enable** - when selected, testing for the selected cell is enabled.
  - **Cell** - shows the row and column information for the selected table cell.
 

**Row** - the row number of the selected table cell.

**Column Name** - the column name of the selected table cell. This is the field name retrieved from the database.
  - **Value Type** - specifies the data type for the value in the selected table cell.
  - **Operator** - specifies the test operator used to compare the data value in the selected table cell against the expected value.

- **Expected Value** - specifies the expected value to compare against the value retrieved from the database.

**Substitute Variable** - opens a dialog box for selecting a script variable to use for the Expected Value.

16. Click **OK** when finished. New Query and Query Test nodes will be added to the script tree.

In the Java Code view, the `utilities.getSQLService()` methods will be added to the script code for the database query and SQL test:

```
utilities.getSQLService().query(9, "mydb", "Select FName from Employee", null);
{
utilities.getSQLService().assertQuery(
    null, "mySQLtest", null,
    utilities.getSQLService().cell(1, "FNAME",
        "Aaron", SQLTestOperator.StringExact),
    utilities.getSQLService().cell(2, "FNAME",
        "Adrian", SQLTestOperator.StringExact));
}
```

When you play back the script, the test results appear in the Results view.

#### 2.11.4.2 Calling a Database Procedure Statement

You can use the `utilities` API to execute a SQL call database procedure statement and return a list object for an out type parameter value list.

You can use the `utilities.getSQLService().callProcedure("recid", "alias", "sql", "params")` method to call the procedure and return a list object for out type, where:

- `recid` is an optional Integer specifying the recorded ID.
- `alias` is a String specifying the user-defined database alias specified for the database containing the procedure.
- `sql` is a String specifying the SQL statement to be sent to the database, typically a static SQL to call database procedure statement.
- `params` is an optional `List<Object>` object containing all the `SQLService.parameter` or `SQLService.SQLParameterType`-wrapped parameter values by index. The index starts with 1.

The following example shows the code used to define and connect to a database, call a database procedure, and disconnect from the database:

```
utilities.getSQLService().define("local_XE_DB",
    "oracle.jdbc.driver.OracleDriver",
    "jdbc:oracle:thin:@localhost:1521/XE", "system",
    ;deobfuscate("6GaD7eW3kGVe5TKHmuI/+w="));

utilities.getSQLService().connect("local_XE_DB");

utilities.getSQLService().callProcedure(44, "local_XE_DB",
    "Begin\n insertInfo2(014,'anna14',21,'F','ecnu14',
    'History','1288',to_date(?, 'yyyy-mm-dd'));\nEnd";
    utilities.parameters(
        SQLService.parameter("1989-02-18",
        SQLService.SQLParameterType.In));

utilities.getSQLService().disconnect("local_XE_DB");
```

## 2.11.5 Using the XPath Generator

The Utilities Module includes an XPath generator utility that you can use to generate an XPath Expression to a selected element from a valid XML file.

To use the XPath Generator:

1. Create an XML file that contains the tags and values to use to generate the XPath expression. The following is an example of a simple XML file that can be used with the XPath Generator:

```
<?xml version="1.0" encoding="utf-8"?>
<Oceans>
  <ocean name="Arctic"/>
  <ocean name="Atlantic"/>
  <ocean name="Indian"/>
  <ocean name="Pacific"/>
  <ocean name="Southern"/>
</Oceans>
```

2. Create and record a test script. The **Tools** menu appears on the OpenScript menu bar for functional and load test scripts.
3. Select **Generate XPath**s from the **Tools** menu.
4. Click **Browse** and select the XML file to load.
5. Expand the XML tree under the Tags section of the XML file.
6. Select the XML tag to use to generate the XPath. The generated XPath appears in the XPath Expression field in a form similar to `/Oceans/ocean[1]/@name`.
7. Use the Ctrl+C and Ctrl+V keyboard combinations to copy and paste the generated XPath to a method in the Java Code tab of the script view.

The XPath Expression can be used in the utilities `findByXPath` API method, as follows:

```
utilities.loadXML("filePath").findByXPath(xpath, xml)
```

## 2.12 Debugging Scripts

You can use features of the Eclipse IDE to debug scripts. For debugging purposes, it is not always necessary to switch to the Debug Perspective to debug a script. You can add views to the Tester Perspective, such as Breakpoints, Debug, and Expressions views. In most cases, you do not need to use the Outline, Variables, and Tasks views. This section provides tips for basic script debugging techniques.

### 2.12.1 Adding Views to the Tester Perspective

In some cases, you may want to add additional views to the Tester Perspective for debugging purposes. You select the view to open using the shortcut keys to get to the Show View window.

To open the Show View window:

1. Press and hold the Shift and Alt keys, then press the Q key (Shift+Alt+Q).
2. Press the Q key again. The Show View window opens.
3. If necessary, expand the Debug tree.
4. Select the View(s) you want to open:

- Press and hold the Shift key and click to select multiple contiguous view names.
  - Press and hold the Ctrl key and click to select multiple non-contiguous view names.
5. Click **OK**.

The selected views open in the Tester Perspective.

---



---

**Note:** If you are in the Developer Perspective, you can add a view by selecting **Show View** from the **Window** menu and then selecting **Other**.

---



---

## 2.12.2 Adding Breakpoints to a Script

You can add breakpoints to the Java Code to halt script execution at a specific line of code in the script.

To add a breakpoint to the script code:

1. Create a script project.
2. Record the script.
3. In the Script view, click the Java Code tab.
4. Double-click in the right-most column of the code view frame next to the code line where you want to add a breakpoint. You can also select **Toggle Breakpoint** from the right-click shortcut menu. The breakpoint indicator appears as a round dot in the frame. You can add as many breakpoints as needed.
5. Play back the script.

When you play back the script, code execution will stop at the breakpoint. The **Confirm Perspective Switch** message appears when the code execution arrives at a breakpoint. Select the **Remember my decision** option if you do not want the message to appear again during future script playback.

6. Click **No** to stay in the Tester perspective or **Yes** to switch to the Debug Perspective. You can use the following keyboard debug features to execute code while in debugging mode:
  - Single-step (F6) - executes the next line of code.
  - Step-into (F5) - opens the method/function class file.

---



---

**Note:** Source code for the JRE or for the Eclipse IDE is not included with the product. When stepping into code, an editor may appear that does not contain source code. In this case, close the editor and resume script playback. You can use the Step-into feature to step into your own custom functions that you have added to a script.

---



---

- Resume (F8) - resumes code execution to the script end or to the next breakpoint.

## 2.12.3 Adding a Java Exception Breakpoint

You can pause a script when any error occurs by adding a "Java Exception Breakpoint" to the Breakpoints list.

To add a Java Exception Breakpoint:

1. Create a script project.
2. Record the script.
3. Open the Breakpoints view.
4. Click the **Add Java Exception Breakpoint** icon on the Breakpoints View toolbar.
5. Type "AbstractScriptException" and click **OK** to add this exception to the breakpoint list.
6. Right-click on the breakpoint in the Breakpoints view and select **Breakpoint Properties**.
7. Select the **Suspend on Subclasses of this Exception** option in the breakpoint properties and click **OK**.

During script playback, if an exception occurs, you can correct the problem and then continue script playback.

### 2.12.4 Pausing and Resuming Script Playback in Debug Mode

You can pause and resume script playback using the Tree view or the Debug view.

To pause and resume play back in the Tree view:

1. Create a script project.
2. Record the script.
3. Play back the script.
4. Click the Pause toolbar button to pause playback.
5. Click the Resume toolbar button to resume playback of a paused script.

To pause and resume play back in Debug mode:

1. Create a script project.
2. Record the script.
3. In the Script view, click the Java code tab.
4. If necessary, add a Debug view to the Tester Perspective. If the Developer Perspective is open the Debug view should already be open.
5. Play back the script.
6. In the Debug view tree, select the Thread [Iterating Agent 1] thread and click the **Pause** toolbar button. The Thread [Iterating Agent 1] thread is the Virtual User's thread. You can ignore the others.
7. In the Debug view tree, select `script.run()` and click the **Resume** toolbar button to resume playback.

If you want to resume from a specific point in a script, comment out all lines before the current one, save the script, and then resume.

You can also execute portions of the script without having to comment out lines and restart the playback.

1. Insert a breakpoint at the first line of the `run()` section.
2. Playback the script. You can execute or inspect any line when playback halts at the breakpoint.

3. Select the specific line(s) of code you want to playback, right-click and select **Execute**. You can modify the code and re-execute without having to save the script.
4. Repeat the select code, right-click, Execute process until the script works the way you want it to work.
5. Stop playback, or select the **Resume** button on the Debug view to replay from the breakpoint.

### 2.12.5 Inspecting and Changing Script Variable Values

You can inspect or watch script variable values to debug scripts. The script must be running or stopped at a breakpoint.

There is a difference between Java local variables and script variables. Java local variables are declared using standard Java syntax, such as `String x` or `int i`. Script variables are set using the OpenScript API methods, such as `getVariables().set("someVariable", "123"` or `http.solve()`.

To inspect the value of a script variable:

1. Create a script project.
2. Record the script.
3. Add a breakpoint to the script.
4. Play back the script.
5. At the breakpoint highlight the script code containing the variable or type the following code and highlight the code:
 

```
getVariables().get("someVariable")
```
6. Right-click and select **Inspect** or **Watch**.
  - **Inspect** opens a pane that shows the variable (Shift-Alt-I adds the variable to the Expressions view).
  - **Watch** copies the variable to the Expressions view.
7. To change the value of a script variable, type the following code:
 

```
getVariables().set("someVariable", "newValue")
```
8. Highlight the code.
9. Right-click and select **Execute**.

---

**Note:** You can also test individual web actions by pausing the script, selecting the code for the action to test, then right-clicking and selecting **Execute** (or pressing Ctrl+U).

---

## 2.13 Enabling Debug Logging

OpenScript provides debug logging capability using Jakarta Log4j.

To enable debug logging:

1. Close OpenScript.
2. Open the file `log4j.xml` located in `C:\OracleATS\OpenScript`.

**3. Locate the following section at the end of the file:**

```

<!-- ===== -->
<!-- Setup the Root category -->
<!-- ===== -->

    <!-- For production -->
<root>
  <priority value="WARN"/>
  <appender-ref ref="AGENTFILE" />
</root>

    <!-- For debugging
<root>
  <priority value="DEBUG"/>
  <appender-ref ref="AGENTFILE" />
  <appender-ref ref="CONSOLE" />
</root>
-->

```

**4. Move the ending comment brackets from:**

```

<!-- For production -->
<root>
  <priority value="WARN"/>
  <appender-ref ref="AGENTFILE" />
</root>

    <!-- For debugging
<root>
  <priority value="DEBUG"/>
  <appender-ref ref="AGENTFILE" />
  <appender-ref ref="CONSOLE" />
</root>
-->

```

**to:**

```

<!-- For production
<root>
  <priority value="WARN"/>
  <appender-ref ref="AGENTFILE" />
</root>
-->

    <!-- For debugging -->
<root>
  <priority value="DEBUG"/>
  <appender-ref ref="AGENTFILE" />
  <appender-ref ref="CONSOLE" />
</root>

```

**5. Save the file log4j.xml and restart OpenScript.****6. Run scripts.**

The debug messages are stored in the file `OpenScript.log` located in `<installdir>\OpenScript`.

To turn off debugging, move the ending comment braces back to the original locations.





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## OpenScript Basic API Reference

This chapter provides a complete listing and reference for the methods in the Basic OpenScript Application Programming Interface (API).

### 3.1 OpenScript Basic API Reference

The following section provides an alphabetical listing of the methods in the Basic OpenScript API.

#### 3.1.1 Alphabetical Command Listing

The following table lists the OpenScript Basic API methods in alphabetical order.

**Table 3–1** *List of Basic Methods*

Method	Description
<a href="#">abort</a>	Immediately aborts the VUser as soon as possible.
<a href="#">beginStep</a>	Specifies the beginning of a new Step Group with or without delay timing.
<a href="#">callEncryptedFunctionByPath</a>	Calls functions from remote encrypted scripts that are not attached as script assets.
<a href="#">callFunction</a>	Call a function in the current script.
<a href="#">callFunctionByPath</a>	Calls functions from remote scripts that are not attached as script assets.
<a href="#">decrypt</a>	Decrypts a string previously encrypted with the Base-64 Crypt algorithm.
<a href="#">delay</a>	Delays the current VUser for the specified number of milliseconds.
<a href="#">deobfuscate</a>	Deobfuscates a string previously obfuscated with the Base-64 Crypt algorithm.
<a href="#">encrypt</a>	Encrypts a string with the Base-64 Crypt algorithm.
<a href="#">endStep</a>	Ends the Step Group that was most recently started using <code>beginStep()</code> .
<a href="#">eval</a>	Transforms a string of data, substituting the values of variables where applicable.
<a href="#">fail</a>	Allows the user to call a <code>fail(String)</code> operation in the script.
<a href="#">finish</a>	Defines the <code>finish()</code> section of a script.
<a href="#">getController</a>	Service containing controller information.

**Table 3–1 (Cont.) List of Basic Methods**

<b>Method</b>	<b>Description</b>
<a href="#">getCounters</a>	Service for reporting numeric counter values to a controller.
<a href="#">getDatabank</a>	Gets the Databank defined by the specified alias.
<a href="#">getIteration</a>	Service containing iteration information.
<a href="#">getIterationResult</a>	Gets and sets iteration results in a script.
<a href="#">getLastError</a>	Helper method to find the AbstractScriptException in latest run Result.
<a href="#">getLastResult</a>	Helper method to find the latest run Result.
<a href="#">getLogger</a>	Service for logging debug messages to a log file.
<a href="#">getScript</a>	Gets a child script that can run from this script or a public function defined in the child script can be called.
<a href="#">getScriptPackage</a>	Gets script package information.
<a href="#">getSession</a>	Gets session information.
<a href="#">getSettings</a>	Gets the script settings.
<a href="#">getStepResult</a>	Gets and set step results.
<a href="#">getTotalIterationsCompleted</a>	Gets the total number of completed iterations.
<a href="#">getVariables</a>	Gets variables for this virtual user.
<a href="#">hasLastError</a>	Checks whether last run Result has exception.
<a href="#">info</a>	Writes a comment message to the console/log file, and to the Result View.
<a href="#">initialize</a>	Defines the <code>initialize()</code> section of a script.
<a href="#">obfuscate</a>	Obfuscate a string with the Base-64 Crypt algorithm.
<a href="#">reportFailure</a>	Writes a failure message to the console/log file, and to the Result View.
<a href="#">reportPassed</a>	Writes a passed message to the console/log file, and to the Result View.
<a href="#">resume</a>	Resume the script after abort.
<a href="#">run</a>	Defines the <code>run()</code> section of a script.
<a href="#">runScript</a>	Find and run the specified script.
<a href="#">setErrorRecovery</a>	Sets the script Error Recovery settings.
<a href="#">setLastResult</a>	Helper method to set the last run Result.
<a href="#">syncPointWait</a>	Notify the controller that the virtual user has reached the specified synchronization point.
<a href="#">think</a>	Inserts "think time" delay into the script.
<a href="#">toBoolean</a>	Helper method to parse a String as a boolean.
<a href="#">toDate</a>	Helper method to parse a String as a Date.
<a href="#">toDouble</a>	Helper method to parse a String as a signed decimal double in base 10.
<a href="#">toInt</a>	Helper method to parse a String as a signed decimal integer in base 10.
<a href="#">toList</a>	Helper method to convert a list of arguments into a <code>List&lt;String&gt;</code> .

**Table 3–1 (Cont.) List of Basic Methods**

<b>Method</b>	<b>Description</b>
<a href="#">toLong</a>	Helper method to parse a String as a signed decimal long in base 10.
<a href="#">toMap</a>	Helper method to convert a list of arguments into a Map<String>.
<a href="#">warn</a>	Writes a warning message to the console/log file, and to the Result View

The following sections provide detailed reference information for each method in the OpenScript Basic Application Programming Interface.

## abort

Immediately aborts the VUser as soon as possible. The remaining actions in the iteration, including any parent scripts and functions, will not complete.

The `finish()` section will not be run. The currently running script will return a failed result indicating that the VUser was aborted.

If a VUser is aborted, it is possible to resume the script by catching the abort user exception and calling `resume()`.

### Format

The abort method has the following command format:

```
abort();
```

### Throws

#### **StopScriptRuntimeException**

To stop script execution immediately.

### Example

Abort a script at any point.

```
info("Running a script...");  
abort()  
info("This line will not be run.");
```

Abort and then resume.

```
try {  
    info("Perform any steps inside a try-catch block...");  
    abort()  
    info("This line will not be run.");  
} catch (StopScriptRuntimeException e) {  
    // optionally take any corrective action and optionally resume script  
    resume();  
}
```

---

## beginStep

Specifies the beginning of a new Step Group with or without delay timing. Steps Groups may be used to group sequences of actions together and to report timing information.

`beginStep()` must always be closed with `endStep()`.

### Format

The `beginStep` method has the following command format:

```
beginStep(stepName);  
beginStep(stepName, delayMs);
```

### Command Parameters

**stepName**

a String specifying the name used to identify this step, similar to a page title.

**delayMs**

an Integer specifying the amount of time to wait in milliseconds before beginning the step. The `delayMs` value will be adjusted based on the VUser's current delay settings.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Specifies the beginning of a new Step Group named "[1] Stocks" with a delay of 5 milliseconds.

```
beginStep(" [1] Stocks", 5)  
{  
    http.window(15, "window[@index='0']").get(  
        "http://example.com/fmstocks/", null, null,  
        true, "ASCII", "ASCII");  
}  
endStep();
```

## callEncryptedFunctionByPath

This API enables the invoking of functions from remote encrypted scripts that are not attached as script assets as long as the remote script is stored within a user defined script repository location.

### Format

The callEncryptedFunctionByPath method has the following command format:

```
callEncryptedFunctionByPath(repository, scriptPathRelToRepository, scriptPassword, functionName,  
args);
```

### Command Parameters

**repository**

a String specifying the name of the user defined repository mapping where the remote script is stored. Must not be null.

**scriptPathRelToRepository**

a String specifying the path to the script within the named repository. Any leading file separator on the path, such as / or \, is ignored. Must not be null.

**scriptPassword**

a String specifying the password of the specified script. May be null if the script is not encrypted.

**functionName**

a String specifying the name of the function to call within the specified script. Must not be null.

**args**

an Object specifying an optional list of arguments to pass to the called function. All String arguments will be evaluated before sending to the function.

### Throws

**Exception**

on any exception while invoking the specified function.

### Returns

Optional result of function call. If function is void, then the result will be null. User should cast return result to correct return object type. Thus if function returns int or Integer, then result should be cast to Integer.

### Example

Example of calling function with API that is defined in same repository without any sub level directories.

```
public void run() throws Exception  
{  
    beginStep("Call Remote Function Example");  
    {  
        callEncryptedFunctionByPath("Default", "myRemoteScript", "myEncryptionKey",
```

```
"calculateTax", (Object[])null);
}
endStep();
}
```

Example of calling function with API that is defined in different repository with 'n' sub level directories.

```
public void run() throws Exception
{
    beginStep("Call Remote Function Example");
    {
        callEncryptedFunctionByPath("ProductionScripts",
"ApplicationOne/Finance/English/myRemoteScript", "myEncryptionKey",
"calculateTax", (Object[])null);
    }
    endStep();
}
```

Example of calling function with API that is defined in the same repository with a return type of String.

```
public void run() throws Exception
{
    beginStep("Call Remote Function Example");
    {
        String taxCalculationOutcome =
(String)callEncryptedFunctionByPath("ProductionScripts",
"ApplicationOne/Finance/English/myRemoteScript", "myEncryptionKey",
"calculateTax", (Object[])null);
        info("Result of Tax calculation: "+taxCalculationOutcome);
    }
    endStep();
}
```

## callFunction

Call a function in the current script.

### Format

The callFunction method has the following command format:

```
callFunction(functionName, args);
```

### Command Parameters

**functionName**

a String specifying the name of function to call. Must not be null.

**args**

an Object specifying an optional list of arguments to pass to the called function. All String arguments will be evaluated before sending to the function.

### Throws

**Exception**

on any exception while invoking the specified function.

### Returns

Optional result of function call. If function is void, then the result will be null. User should cast return result to proper class. Thus if function returns int or Integer, then result should be cast to Integer. If function returns boolean or Boolean, then result should be cast to Boolean.

### Example

Calls the function "myFunction" with arguments String, Int, double, long, boolean, Selectlist List<String>, and Map<String, String>.

```
callFunction("myFunction", "name", "1", "10.0", "100", "true", "val2",  
toList("list1", "list2", "list3"), toMap("key1=val1", "key2=val2", "key3=val3"));
```



---

## callFunctionByPath

This API enables the invoking of functions from remote scripts that are not attached as script assets as long as the remote script is stored within a user defined script repository location.

### Format

The callFunctionByPath method has the following command format:

```
callFunctionByPath(repository, scriptPathRelToRepository, functionName, args);
```

### Command Parameters

**repository**

a String specifying the name of the user defined repository mapping where the remote script is stored. Must not be null.

**scriptPathRelToRepository**

a String specifying the path to the script within the named repository. Any leading file separator on the path, such as / or \, is ignored. Must not be null.

**functionName**

a String specifying the name of the function to call within the specified script. Must not be null.

**args**

an Object specifying an optional list of arguments to pass to the called function. All String arguments will be evaluated before sending to the function.

### Throws

**Exception**

on any exception while invoking the specified function.

### Returns

Optional result of function call. If function is void, then the result will be null. User should cast return result to correct return object type. Thus if function returns int or Integer, then result should be cast to Integer.

### Example

Example of calling function with API that is defined in same repository without any sub level directories.

```
public void run() throws Exception
{
    beginStep("Call Remote Function Example");
    {
        callFunctionByPath("Default", "myRemoteScript", "calculateTax", (Object[])null);
    }
    endStep();
}
```

Example of calling function with API that is defined in different repository with 'n' sub level directories.

```
public void run() throws Exception
{
    beginStep("Call Remote Function Example");
    {
        callFunctionByPath("ProductionScripts",
"ApplicationOne/Finance/English/myRemoteScript", "calculateTax", (Object[])null);
    }
    endStep();
}
```

Example of calling function with API that is defined in the same repository with a return type of String.

```
public void run() throws Exception
{
    beginStep("Call Remote Function Example");
    {
        String taxCalculationOutcome =
(String)callEncryptedFunctionByPath("ProductionScripts",
"ApplicationOne/Finance/English/myRemoteScript", "calculateTax", (Object[])null);
        info("Result of Tax calculation: "+taxCalculationOutcome);
    }
    endStep();
}
```

---

## decrypt

Decrypts a string previously encrypted with the Base-64 Crypt algorithm.

### Format

The decrypt method has the following command format:

```
decrypt(data);
```

### Command Parameters

**data**

a String specifying the encrypted text to decrypt.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**EncryptionServiceNotInitializedException**

if no password is specified for the encryption service.

### Example

Decrypts the specified string.

```
String encrypted = encrypt("encrypt this string");  
info(encrypted);  
String decrypted = decrypt(encrypted);  
info(decrypted);
```

## delay

Delays the current VUser for the specified number of milliseconds.

This method does NOT honor the VU Pacing settings defined in playback preferences. If the VUser is stopped for any reason (for example, if the Stop button is pressed), the VUser will be awakened immediately.

The VUser's status will be updated to reflect the fact that it is sleeping.

### Format

The delay method has the following command format:

```
delay(milliseconds);
```

### Command Parameters

**milliseconds**

an Integer specifying the number of milliseconds to delay the VUser.

### Throws

**EncryptionServiceNotInitializedException**

if no password is specified for the encryption service.

### Returns

`false` if the delay operation is interrupted prematurely, otherwise return `true`.

### Example

Delays the current VUser for 1000 milliseconds.

```
delay(1000);
```

## deobfuscate

Deobfuscates a string previously obfuscated with the Base-64 Crypt algorithm.

### Format

The deobfuscate method has the following command format:

```
deobfuscate(data);
```

### Command Parameters

**data**

a String specifying the text to deobfuscate.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Deobfuscates the specified string.

```
String obfuscated = obfuscate("obfuscate this string");  
info(obfuscated);  
String deobfuscated = deobfuscate(obfuscated);  
info(deobfuscated);
```

## encrypt

Encrypts a string with the Base-64 Crypt algorithm.

### Format

The encrypt method has the following command format:

```
encrypt(data);
```

### Command Parameters

**data**

a String specifying the text to encrypt.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**EncryptionServiceNotInitializedException**

if no password is specified for the encryption service.

### Example

Encrypts the specified string.

```
String encrypted = encrypt("encrypt this string");  
    info(encrypted);  
String decrypted = decrypt(encrypted);  
    info(decrypted);
```

## endStep

Ends the Step Group that was most recently started using `beginStep()` .

### Format

The `endStep` method has the following command format:

```
endStep();  
endStep(stepName);
```

### Command Parameters

**stepName**

a String specifying the name of step that was previously started using `beginStep(stepName)`.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Specifies the end of the Step Group previously started as "[1] Stocks".

```
beginStep("[1] Stocks", 5)  
{  
    http.window(15, "window[@index='0']").get(  
        "http://example.com/fmstocks/", null, null,  
        true, "ASCII", "ASCII");  
}  
endStep();
```

---

## eval

Transforms a string of data, substituting the values of variables where applicable.

The `Transforms` class provides utility functions for performing variable substitution inside strings containing custom transform syntax notation.

Many scripting languages support the ability to easily embed variable values inside strings. For example:

Ruby:

```
varDay = "Monday"
puts "Today is #{varDay}."
```

Perl:

```
$varDay = "Monday"
print "Today is $varDay."
```

The above examples would print "Today is Monday." to the standard output. In Java, the user has to type a more wordy expression to solve the above example:

```
String varDay = "Monday";
System.out.println("Today is " + varDay + ".");
```

OpenScript scripts provide an API to reference script variables using a special string format consisting of double-curly braces `{{}}`, dubbed "custom transform syntax". Here is an example:

```
getVariables().set("varDay", "Monday");
getLogger().info("Today is {{varDay}}");
```

This class provides helper methods to substitute a collection of named variables and functions into a transform-syntax-formatted string. Transform syntax may contain zero or more variable or function references embedded inside double-curly brace characters.

Example:

```
"X is {{varX}} and Y is {{varY}}"
```

Indexed variable values may be referenced directly in the transform syntax by specifying the variable name and its 0-based indexed value inside brackets `[ ]`. The 0-based indexed value is returned if no index is specified.

Example:

```
"X is {{varX}} and {{varX[0]}}. X[1] is {{varX[1]}}."
```

Nested curly brace expressions are supported, and are evaluated from the inner-most expression to the outer-most expression.

Example:

```
"X[varIndex] is {{varX[{{varIndex}}]}}."
```

Function references are denoted by an `@` sign preceding the function ID. Arguments are separated by commas. Literal commas inside arguments are escaped using two comma characters. See also: `CustomFunction`.

Example:



```
"Current timestamp is {{@timestamp()}}.
```

Variable and function references may be annotated with the variable's recorded value by appending a comma and the recorded value after the variable or function reference name.

Example:

```
"X is {{varX,123}}.
```

Literal `{{` and/or `}}` sequences inside a string should be escaped with a `#` character prefix. Any literal `#` characters inside a string containing escaped `{{` or `}}` sequences should be doubled.

Example (without transform syntax):

```
"Today is Monday. Other characters: {{}}!@#$$%"
```

Example (with transform syntax):

```
"Today is {{varDay}}. Other characters: #{{#}}!@##$$%"
```

## Format

The `eval` method has the following command format:

```
eval(data);
```

## Command Parameters

### **data**

a String containing custom transform syntax to transform.

## Throws

### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

## Example

Evaluate a `@today` function transform syntax string.

```
info("evaluate @today function transform");
info eval("{{@today(MM/dd/yyyy)}}");
```

## fail

Allows the user to call a `fail(String)` operation in the script.

When this operation is called it stops execution of the script and displays the error string as a new step in results log.

Aborts the script playback by throwing a `UserCausedFailureException`.

### Format

The fail method has the following command format:

```
fail(message);
```

### Command Parameters

**message**

a String specifying the message to be written to the results log.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**UserCausedFailureException**

when the `fail(String)` is invoked.

### Example

Prints a Failure message to the Results view.

```
fail("a Failure message");
```

## finish

Defines the `finish()` section of a script. The `finish()` section is automatically added to the script code when you create a script project in OpenScript.

Add any cleanup code or perform any operations after all iterations are performed for this virtual user.

### Format

The finish method has the following command format:

```
finish();
```

### Throws

#### Exception

on any exception. On error, scripts should throw `AbstractScriptException` instead of `Exception` whenever possible to provide more detail.

### Example

Defines the `finish()` section of a script.

```
public void finish() throws Exception {  
}
```

## getController

Service containing controller information.

### Format

The getController method has the following command format:

```
getController();
```

### Example

Gets the controller name. May be null.

```
String contName = getController().getControllerName();  
info("Controller Name " + contName);
```

---

## getCounters

Service for reporting numeric counter values to a controller.

### Format

The getCounters method has the following command format:

```
getCounters();
```

### Example

Check how timeres are treated and report counters to load controller.

```
boolean isPageTimer = getCounters().isTreatPageAsTimers();
if(isPageTimer){
    info("treat page as timer");
}
else{
    info("do not treat page as timer");
}

boolean isResTimer = getCounters().isTreatResourcesAsTimers();
if(isResTimer{
    info("treat resource as timer");
}
else{
    info("do not treat resource as timer");
}

boolean isTestTimer = getCounters().isTreatTestsAsTimers();
if(isTestTimer){
    info("treat test as timer");
}
else{
    info("do not treat test as timer");
}

getCounters().report("scriptName", "timerName", "timerId",
    "myCounter", AggType.Average, 10.0);

getCounters().report("scriptName", "timerName", "timerId",
    "myNextcounter", 10.0, 0, 10);

getCounters().setSessionName("mySessionName");
```

## getDatabank

Gets the Databank defined by the specified alias.

The Databank file or database and alias must be specified in the Script Assets of the Script Properties.

### Format

The getDatabank method has the following command format:

```
getDatabank(dbAlias);
```

### Command Parameters

**dbAlias**

a String specifying the Databank alias.

### Example

Gets the Databank specified by the alias "customer".

```
getDatabank ("customer").getNextDatabankRecord();
```

## getIteration

Service containing iteration information.

### Format

The getIteration method has the following command format:

```
getIteration();
```

### Example

Gets the total iterations completed.

```
int i = getIteration().getTotalIterationsCompleted();  
info("Total Iterations completed = " + i);
```

## getIterationResult

Gets and sets iteration results in a script.

Use in the `Finish` section of the script.

### Format

The `getIterationResult` method has the following command format:

```
getIterationResult();
```

### Returns

The virtual user's current iteration result.

### Example

Gets and sets iteration results in a script.

```
public void finish() throws Exception {
    //Iterations completed
    int totalComp = getTotalIterationsCompleted();
    String competedIterations = String.valueOf(totalComp);
    info("Total Completed Iterations = " + competedIterations);

    //Comments and Warnings
    getIterationResult().addComment("iteration result comment");
    getIterationResult().addWarning("iteration result warning");
    String sCommentString = getIterationResult().getCommentString();
    info("Comment String : " + sCommentString);
    String sWarningString = getIterationResult().getWarningsString();
    info("Warning String: " + sWarningString);

    //Data Used 1
    getIterationResult().addDataUsed("add data used1");
    getIterationResult().addDataUsed("add data used2");
    String dataUsedString = getIterationResult().getDataUsed();
    info("Data used String: " + dataUsedString);
    //Data Used 2
    ArrayList<String> dataUsed = new ArrayList<String>();
    dataUsed.add("Data used 1");
    dataUsed.add("Data used 2");
    dataUsed.add("Data used 3");
    getIterationResult().setDataUsed(dataUsed);
    info("Data Used" + dataUsed);

    //Get and Set Error (Sets Script failure)
    getIterationResult().setError("error string");
    String getErrorString = getIterationResult().getErrorString();
    info("Error String: " + getErrorString);
    getIterationResult().getError();// check for exception

    boolean isScriptPassed = getIterationResult().isPassed();
    if(isScriptPassed){
        info("script passed");
    }
    else{
        info("script not passed");
    }
}
```



```
}

//Start and Finish time
long lFinishTime = getIterationResult().getFinishTime();
String sFinishTime = String.valueOf(lFinishTime);
info("Finish time: " + sFinishTime);
String outcome = getIterationResult().getOutcome();
info("Outcome: " + outcome);
long lStartTime = getIterationResult().getStartTime();
String sStartTime = String.valueOf(lStartTime);
info("Start time: " + sStartTime);
getIterationResult().setFinishTime(lFinishTime);
getIterationResult().setStartTime(lStartTime);

//Step Name
String sStepName = getIterationResult().getStepName();
info("Step Name: " + sStepName);
getIterationResult().setStepName("stepName");
}
```

## getLastError

Helper method to find the AbstractScriptException in latest run Result.

### Format

The getLastError method has the following command format:

```
getLastError();
```

### Returns

AbstractScriptException on any exception in the last run Result.

### Example

Gets the last error. Use `String.valueOf` instead of `toString()` to prevent throwing a `NullPointerException` if the value returned is null.

```
//Correct - String.valueOf(...);  
info(String.valueOf(getLastError()));
```

```
//Incorrect - if null is returned will result in NullPointerException  
info(getLastError().toString());
```

---

## getLastResult

Helper method to find the latest run Result.

### Format

The getLastResult method has the following command format:

```
getLastResult();
```

### Returns

IResult. The result contains last run status or null if there is no result generated yet.

### Example

Gets the last result.

```
AttachedData attachedData = getLastResult().getAttachedData();
info("Response Time: " + attachedData.get(ResultDeclaration.responseTime));

String summary = getLastResult().getSummary();
info("Summary = " + summary);

Long dur = getLastResult().getDuration();
info("duration = " + dur);

if (getLastResult().isFailed()) {
    info("Failed");
}
```

## getLogger

Service for logging debug messages to a log file.

### Format

The getLogger method has the following command format:

```
getLogger();
```

### Example

Log various messages.

```
getLogger().debug("A debug string");  
getLogger().error("An error string");  
getLogger().fatal("A fatal error string");  
getLogger().info("An info string");
```

## getScript

Gets a child script that can run from this script or a public function defined in the child script can be called.

The script file and alias must be specified in the Script Assets of the Script Properties.

### Format

The getScript method has the following command format:

```
getScript(alias);
```

### Command Parameters

**alias**

a String specifying the alias of the script to find.

### Throws

**ScriptException**

if script cannot be found.

### Returns

IScript for script to get.

### Example

Gets the script specified by the alias "http1".

```
getScript("http1").run(1);
```

## getScriptPackage

Gets script package information.

Reference to the virtual user's script (i.e. .JWG package) that the controller is running. Script package data is shared across all virtual users in an agent process.

### Format

The getScriptPackage method has the following command format:

```
getScriptPackage();
```

### Example

Gets script package information.

```
String scriptID = getScriptPackage().getScriptId();  
info("Script Id: " + scriptID);
```

```
ArrayList<String> dbAliases = getScriptPackage().getDatabankAliases();  
info("dbAliases" + dbAliases);
```

## getSession

Gets session information.

Service containing session information.

### Format

The getSession method has the following command format:

```
getSession();
```

### Example

Sets and gets Session Name.

```
getSession() .setName("session0001");  
getVariables().set("Session Name", getSession().getName());  
info("{{Session Name}}");
```

## getSettings

Gets the script settings.

The error recovery settings use IDs specific to the script type as follows:

Basic Script Settings:

```
getSettings().getErrorRecovery(BasicErrorRecovery.setting);
```

Utilities Settings:

```
getSettings().getErrorRecovery(UtilitiesErrorRecovery.setting);
```

Functional Test Module Script Settings:

```
getSettings().getErrorRecovery(FTErrorRecovery.setting);
```

Web Functional Module Script Settings:

```
getSettings().getErrorRecovery(WebErrorRecovery.setting);
```

Oracle EBS/Forms Functional Module Script Settings:

```
getSettings().getErrorRecovery(FormsErrorRecovery.setting);
```

Http Load Module Script Settings:

```
getSettings().getErrorRecovery(HttpErrorRecovery.setting);
```

Adobe Flex (AMF) Load Module Script Settings:

```
getSettings().getErrorRecovery(AmfErrorRecovery.setting);
```

Oracle EBS/Forms Load Module Script Settings:

```
getSettings().getErrorRecovery(NcaErrorRecovery.setting);
```

## Format

The getSettings method has the following command format:

```
getSettings();
```

## Example

Gets the script settings and prints the value to the Results view.

```
VUserSettings VUSettings = getSettings();  
info("Delay Between Iterations: " + VUSettings.getDelayBetweenIterations());  
info("Delay Between Steps: " + VUSettings.getDelayBetweenSteps());  
info("Encryption Properties File: " + VUSettings.getEncryptionPropertiesFile());  
info("Machine Unique Number: " + VUSettings.getMachineUniqueNumber());  
info("Max Save Cont Size: " + VUSettings.getMaxSaveContSize());  
info("Port Number Maximum: " + VUSettings.getPortNumberMaximum());  
info("Port Number Minimum: " + VUSettings.getPortNumberMinimum());  
info("Replace URLs: " + VUSettings.getReplaceURLs());  
info("Report Sender Interval: " + VUSettings.getReportSenderInterval());  
info("Result Report Folder: " + VUSettings.getResultReportFolder());  
info("Is On Error Stop VU: " + VUSettings.getIsOnErrorStopVU());  
info("Is Using Databank: " + VUSettings.getIsUsingDatabank());  
info("Report Counters: " + VUSettings.getReportCounters());  
info("Use Recorded Value: " + VUSettings.getUseRecordedValue());  
info("VU Logging Options: " + VUSettings.getVULoggingOptions());  
info("is Execute User Defined Tests: " + VUSettings.isExecuteUserDefinedTests());
```



```
info("is No Report: " + VUSettings.isNoReport());
info("set Date Format: M/d/yy" );
    VUSettings.setDateFormat("M/d/yy");
info("set Is Using Databank: false" );
    VUSettings.setIsUsingDatabank(false);
info("File not found error setting: " +
    VUSettings.getErrorRecovery(BasicErrorRecovery.ERR_FILE_NOT_FOUND));
```

## getStepResult

Gets and set step results.

Use in Step Groups in the Run section of the script

### Format

The getStepResult method has the following command format:

```
getStepResult();
```

### Returns

The virtual user's current StepResult.

### Example

Gets and sets step results in a script.

```
//Comments and Warnings
getStepResult().addComment("step result comment");
getStepResult().addWarning("step result warning");
String sCommentString = getStepResult().getCommentString();
info("Comment String : " + sCommentString);
String sWarningString = getStepResult().getWarningsString();
info("Warning String: " + sWarningString);

//Data Used 1
getStepResult().addDataUsed("add data used1");
getStepResult().addDataUsed("add data used2");
String dataUsedString = getStepResult().getDataUsed();
info("Data used String: " + dataUsedString);
//Data Used 2
ArrayList<String> dataUsed = new ArrayList<String>();
dataUsed.add("Data used 1");
dataUsed.add("Data used 2");
dataUsed.add("Data used 3");
getStepResult().setDataUsed(dataUsed);
info("Data Used" + dataUsed);

//Get and Set Error (Sets Step failure)
getStepResult().setError("error string");
String getErrorString = getStepResult().getErrorString();
info("Error String: " + getErrorString);
getStepResult().getError();// check for exception

boolean isStepPassed = getStepResult().isPassed();
if(isStepPassed){
    info("step passed");
}
else{
    info("step not passed");
}

//Start and Finish time
long lFinishTime = getStepResult().getFinishTime();
String sFinishTime = String.valueOf(lFinishTime);
info("Finish time: " + sFinishTime);
```

---

```
String outcome = getStepResult().getOutcome();
info("Outcome: " + outcome);
long lStartTime = getStepResult().getStartTime();
String sStartTime = String.valueOf(lStartTime);
info("Start time: " + sStartTime);
getStepResult().setFinishTime(lFinishTime);
getStepResult().setStartTime(lStartTime);

//Step Name
String sStepName = getStepResult().getStepName();
info("Step Name: " + sStepName);
getStepResult().setStepName("stepName");
```

---

## getTotalIterationsCompleted

Gets the total number of completed iterations.

### Format

The getTotalIterationsCompleted method has the following command format:

```
getTotalIterationsCompleted();
```

### Returns

The number of completed iterations.

### Example

Get the total number of completed iterations and prints the value to the Results view.

```
public void finish() throws Exception {  
    int totalComp = getTotalIterationsCompleted();  
    String completedIterations = String.valueOf(totalComp);  
    info("Total Completed Iterations = " + completedIterations);  
}
```

## getVariables

Gets variables for this virtual user. Variables persist for the lifetime of the virtual user.

### Format

The getVariables method has the following command format:

```
getVariables();
```

### Returns

Script variables.

### Example

Examples of using getVariables() to get and set script variables.

```
getVariables().set("myTodayVar", "{{@today(MM/dd/yyyy)}}",
    Variables.Scope.LOCAL);
getVariables().set("timestamp", "{{@timestamp}}", Variables.Scope.GLOBAL);
String myToday = getVariables().get("myTodayVar");
String myTime = getVariables().get("timestamp");
info(myToday);
info(myTime);

Variables variables = new Variables();
variables.set("myvarname", "myVarValue");
variables.set("myvarname1", "myVarValue1");
getVariables().addVariables(variables);
info(getVariables().get("myvarname"));
info(getVariables().get("myvarname1"));

String[] myVarArray = { "now", "then", "later" };
getVariables().setAll("myVarArray", myVarArray, Scope.LOCAL);
getVariables().getAll("myVarArray");
info("{{myVarArray[0]}}");
info("{{myVarArray[1]}}");
info("{{myVarArray[2]}}");

String[] allLocalVarNames = getVariables().getAllVariableNames(Scope.LOCAL);
for (int i = 0; i < allLocalVarNames.length; i++)
    info("local var name: " + allLocalVarNames[i]);

String[] myGlobalVarArray = { "US", "Europe", "Asia" };
getVariables().setAll("myGlobalVarArray", myGlobalVarArray, Scope.GLOBAL);
info("{{myGlobalVarArray[0]}}");
info("{{myGlobalVarArray[1]}}");
info("{{myGlobalVarArray[2]}}");

String[] allGlobalVarNames = getVariables().getAllVariableNames(Scope.GLOBAL);
for (int i = 0; i < allGlobalVarNames.length; i++)
    info("global var name: " + allGlobalVarNames[i]);

String[] allVarNames = getVariables().getAllVariableNames();
for (int i = 0; i < allVarNames.length; i++)
    info("var name: " + allVarNames[i]);

getVariables().clearVariables();
```

## hasLastError

Checks whether last run Result has exception.

### Format

The hasLastError method has the following command format:

```
hasLastError();
```

### Throws

**ResultUnavailableException**

if Result is unavailable.

### Returns

The boolean to indicate whether last run Result has exception.

### Example

Checks last run result for error.

```
if (hasLastError()) {  
    info("has error");  
}
```

---

## info

Writes a comment message to the console/log file, and to the Result View.

This method will never alter the flow of a script, such as stopping the script. Any variables specified in `message` will be evaluated to their current values.

If a variable expression is specified in `message` that does not exist, or if `message` cannot be evaluated for any reason:

1. A warning-level message will be printed to the console/log file indicating why the message could not be evaluated.
2. The original message, not evaluated, will be printed to the console/log file.
3. The Results View comment field will contain the original message, plus a warning note explaining why the message could not be evaluated.
4. Any problems that occur when evaluating the message will not be counted as a warning in the results report warnings total.
5. The execution of the script will continue as if no problem occurred.

## Format

The `info` method has the following command format:

```
info(message);
```

## Command Parameters

### **message**

a String specifying the message to write to the console/log file and Results view. May contain embedded function and variable expressions using the Transforms syntax. Must NOT be null.

## Throws

### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

## Example

Get the total number of completed iterations and prints the value to the Results view.

```
public void finish() throws Exception {
    int totalComp = getTotalIterationsCompleted();
    String completedIterations = String.valueOf(totalComp);
    info("Total Completed Iterations = " + completedIterations);
}
```

## initialize

Defines the `initialize()` section of a script. The `initialize()` section is automatically added to the script code when you create a script project in OpenScript.

Add code to be executed once before any iterations are run for this virtual user.

### Format

The `initialize` method has the following command format:

```
initialize();
```

### Throws

#### Exception

on any exception. On error, scripts should throw `AbstractScriptException` instead of `Exception` whenever possible to provide more detail.

### Example

Defines the `initialize()` section of a script.

```
public void initialize() throws Exception {  
}
```



## obfuscate

Obfuscate a string with the Base-64 Crypt algorithm.

### Format

The obfuscate method has the following command format:

```
obfuscate(stepName);
```

### Command Parameters

**data**

a String specifying the name used to identify this step, similar to a page title.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Obfuscates the specified string.

```
String obfuscated = obfuscate("obfuscate this string");  
    info(obfuscated);  
String deobfuscated = deobfuscate(obfuscated);  
    info(deobfuscated);
```

## reportFailure

Writes a failure message to the console/log file, and to the Result View.

This method will never alter the flow of a script, such as stopping the script. Any variables specified in `message` will be evaluated to their current values.

If a variable expression is specified in `message` that does not exist, or if `message` cannot be evaluated for any reason:

1. A warning-level message will be printed to the console/log file indicating why the message could not be evaluated.
2. The original message, not evaluated, will be printed to the console/log file.
3. The Results View comment field will contain the original message, plus a warning note explaining why the message could not be evaluated.
4. Any problems that occur when evaluating the message will not be counted as a warning in the results report warnings total.
5. The execution of the script will continue as if no problem occurred.

### Format

The `reportFailure` method has the following command format:

```
reportFailure(message);
```

### Command Parameters

**message**

a String specifying the message to write to the console/log file and Results view. May contain embedded function and variable expressions using the Transforms syntax. Must NOT be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Prints a reported Failure message to the Results view.

```
reportFailure("a reported Failure message");
```

---

## reportPassed

Writes a passed message to the console/log file, and to the Result View.

This method will never alter the flow of a script, such as stopping the script. Any variables specified in `message` will be evaluated to their current values.

If a variable expression is specified in `message` that does not exist, or if `message` cannot be evaluated for any reason:

1. A warning-level message will be printed to the console/log file indicating why the message could not be evaluated.
2. The original message, not evaluated, will be printed to the console/log file.
3. The Results View comment field will contain the original message, plus a warning note explaining why the message could not be evaluated.
4. Any problems that occur when evaluating the message will not be counted as a warning in the results report warnings total.
5. The execution of the script will continue as if no problem occurred.

### Format

The `reportPassed` method has the following command format:

```
reportPassed(message);
```

### Command Parameters

**message**

a String specifying the message to write to the console/log file and Results view. May contain embedded function and variable expressions using the Transforms syntax. Must NOT be `null`.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Prints a reported Passed message to the Results view.

```
reportPassed("a reported Passed message");
```

## resume

Resume the script after abort. Allows the caller to reset a previously fired abort request so that script execution can successfully continue from that point on. Caller must first catch the `StopScriptRuntimeException` that gets thrown by the `abort()` request and then call `resume()`.

### Format

The resume method has the following command format:

```
resume();
```

### Example

Aborts, catches exception and then resumes.

```
try {
    info("Perform any steps inside a try-catch block...");
    abort()
    info("This line will not be run.");
} catch (StopScriptRuntimeException e) {
    // optionally take any corrective action and optionally resume script
    resume();
}
```

---

## run

Defines the `run()` section of a script. The `run()` section is automatically added to the script code when you create a script project in OpenScript.

Add code to be executed during each iteration for this virtual user.

### Format

The `run` method has the following command format:

```
run();
```

### Throws

#### Exception

on any exception. On error, scripts should throw `AbstractScriptException` instead of `Exception` whenever possible to provide more detail.

### Example

Defines the `run()` section of a script.

```
public void run() throws Exception {  
}
```

## runScript

Find and run an encrypted script given the script's name, workspace, repository and its password.

If the script cannot be found on the local machine using the given repository, this method will ask this script's controller to find the script on its machine.

In order to run this script, `iterationCount` must be greater or equal to 1.

The script's `initialize` and `finish` sections will be executed exactly once. The `initialize` section will be executed first; the `finish` section will be executed last; the `run` section may be executed at most `iterationCount` times between the `initialize` and `finish` sections.

If there is an error in the `initialize` section, the `run` section will not be executed.

If the playback error handling preference "On iteration failure, do not run more iterations" is `true` and there is an error thrown during the `run` section, the remaining iterations will not be executed.

If there is an error during child script execution, the "Child Script Failed" error recovery setting will recover the error according to its setting.

## Format

The `runScript` method has the following command format:

```
runScript(repository, scriptPathRelToRepository, iterationCount);
```

```
runScript(repository, scriptPathRelToRepository, iterationCount, scriptPassword);
```

## Command Parameters

### **repository**

a String specifying the name of the repository where the script is stored. For example, "Repository1".

### **scriptPathRelToRepository**

a String specifying the path to the script within the named repository. Any leading file separator on the path, such as `/` or `\`, is ignored. Must not be `null`. Legacy repository structures required a trailing `!` character at the end of folder names.

### **iterationCount**

an integer that defines how many times this script's `run` section should run. If `iterationCount` is less than 1, then the script will not run at all.

### **scriptPassword**

a String specifying the password of the script. May be `null` if the script is not encrypted.

## Throws

### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**Example**

Run an encrypted script for 5 iterations.

```
runScript("Repository1", "scripts/crmApp/staging/Script19", 5, "MyEncryptionKey")
```

## setErrorRecovery

Sets the script Error Recovery settings.

The error recovery action can be set to the following:

```
.Fail  
.Ignore  
.Pause  
.ReportErrorAndContinue  
.Warn
```

The error recovery settings IDs are specific to the script type as follows:

### Basic Script Settings

```
setErrorRecovery(BasicErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Utilities Settings

```
setErrorRecovery(UtilitiesErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Functional Test Module Script Settings

```
setErrorRecovery(FTErrrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Web Functional Module Script Settings

```
setErrorRecovery(WebErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Oracle EBS/Forms Functional Module Script Settings

```
setErrorRecovery(FormsErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Http Load Module Script Settings

```
setErrorRecovery(HttpErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Adobe Flex (AMF) Load Module Script Settings

```
setErrorRecovery(AmfErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

### Oracle EBS/Forms Load Module Script Settings

```
setErrorRecovery(NcaErrorRecovery.setting,  
    ErrorRecoveryAction.setting);
```

## Format

The setErrorRecovery method has the following command format:

```
setErrorRecovery(id, action);
```



## Command Parameters

**id**

an ErrorRecoveryId enum specifying the error recovery type.

**action**

an ErrorRecoveryAction enum specifying the error recovery action.

## Example

Sets the error recovery action for "file not found" to Warn.

```
setErrorRecovery(BasicErrorRecovery.ERR_FILE_NOT_FOUND,  
    ErrorRecoveryAction.Warn);
```

## setLastResult

Helper method to set the last run Result.

### Format

The setLastResult method has the following command format:

```
setLastResult(result);
```

### Command Parameters

**result**

an IResult object specifying the last result details.

### Example

How to build Result object for http.verifyText() API.

```
import oracle.oats.scripting.modules.functionalTest.api.exceptions.MatchException;
import oracle.oats.scripting.modules.basic.api.IResult.ResultCode;
//[...]
AttachedData data = new AttachedData();
data.set(ResultDeclaration.verifyText_expected, "expected text");
data.set(ResultDeclaration.verifyText_actual, "actual text");
long duration = 1000;
MatchException matchException = new MatchException("Text match test failed", null,
    false);
IResult result = new Result(ResultCode.FAIL, duration, matchException, data,
    matchException.getLocalizedMessage());
setLastResult(result);
```

---

## syncPointWait

Notify the controller that the virtual user has reached the specified synchronization point.

The virtual user will wait until the controller responds indicating that it is OK to proceed. The controller defines when it is OK to proceed; for example, continue running only after 80% of virtual users have reached the synchronization point.

When running from within OpenScript, the synchronization point will be released immediately; the virtual user will not wait.

This method will update the last result object with details of the synchronization point operation, including how long the operation took.

### Format

The syncPointWait method has the following command format:

```
syncPointWait(syncPointName);
```

### Command Parameters

**syncPointName**

a String specifying the unique synchronization point name upon which to notify and wait, as defined in the controller.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Prints a reported Passed message to the Results view.

```
info("VU reached the 'Login' sync point. " +  
    "Waiting for other users to reach it before proceeding...");  
syncPointWait("login");  
info("VU passed the 'Login' sync point");
```

## think

Inserts "think time" delay into the script.

This method honors the VU Pacing settings defined in playback preferences. Invoke this method to sleep the current VUser for a given number of seconds. If the VUser is stopped for any reason (for example, if the Stop button is pressed), the VUser will be awakened immediately.

The VUser's status will be updated to reflect the fact that it is "thinking."

### Format

The think method has the following command format:

```
think(seconds);
```

### Command Parameters

**seconds**

a String specifying the unique synchronization point name upon which to notify and wait, as defined in the controller.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

false if the delay operation is interrupted prematurely, otherwise returns true.

### Example

Prints a reported Passed message to the Results view.

```
Inserts 10.0 seconds of "think time" into the script.  
think(10.0);
```

## toBoolean

Helper method to parse a String as a boolean.

The string is also transformed before it is returned using `eval (String)`.

### Format

The toBoolean method has the following command format:

```
toBoolean(data);
```

### Command Parameters

**data**

a String specifying the data to parse. Must not be null.

### Throws

**AbstractScriptException**

on any failure to transform the string.

### Returns

The boolean form of the parsed, evaluated data.

### Example

Convert as String to a Boolean.

```
boolean result = toBoolean("true");
```

## toDate

Helper method to parse a String as a Date.

The string is also transformed before it is returned using `eval (String)`.

### Format

The `toDate` method has the following command format:

```
toDate(data);
```

### Command Parameters

**data**

a String specifying the data to parse. Must not be null.

### Throws

**AbstractScriptException**

on any failure to transform the string.

**ParseException**

on failure to parse the string.

### Returns

The Date form of the parsed, evaluated data.

### Example

Convert a String to a date.

```
import java.util.Date;
//[...]
Date today = toDate("@today(MM/dd/yyyy)");
info("Today transform: " + today.toString());
Date stoday = toDate("01/04/2016");
info("Today string: " + stoday.toString());
```

## toDouble

Helper method to parse a String as a signed decimal double in base 10.  
The string is also transformed before it is returned using `eval(String)`.

### Format

The toDouble method has the following command format:

```
toDouble(data);
```

### Command Parameters

**data**

a String specifying the data to parse. Must not be null.

### Throws

**AbstractScriptException**

on any failure to transform the string.

**NumberFormatException**

if the string does not contain a parsable double.

### Returns

The double form of the parsed, evaluated data.

### Example

Convert a String to a Double.

```
double value = toDouble("10.0");
```

## toInt

Helper method to parse a String as a signed decimal integer in base 10. The string is also transformed before it is returned using `eval (String)`.

### Format

The `toInt` method has the following command format:

```
toInt(data);
```

### Command Parameters

**data**

a String specifying the data to parse. Must not be null.

### Throws

**AbstractScriptException**

on any failure to transform the string.

**NumberFormatException**

if the string does not contain a parsable Integer.

### Returns

The integer form of the parsed, evaluated data.

### Example

Convert a String to an Integer.

```
int count = toInt("10");
```



## toList

Helper method to convert a list of arguments into a `List<String>`.

The string is also transformed before it is returned using `eval(String)`.

### Format

The `toList` method has the following command format:

```
toList(values);
```

### Command Parameters

**values**

The Strings specifying the list of values.

### Throws

**AbstractScriptException**

on any failure to transform any of the the values.

### Returns

The `List<String, String>`.

### Example

Converts a list of arguments into a `List<String>`.

```
callFunction("myFunction", "name", "1", "10.0", "100", "true", "val2",
  toList("list1", "list2", "list3"),
  toMap("key1=val1", "key2=val2", "key3=val3"));
```

## toLong

Helper method to parse a String as a signed decimal long in base 10.  
The string is also transformed before it is returned using `eval (String)`.

### Format

The toLong method has the following command format:  
`toLong(data);`

### Command Parameters

**data**  
a String specifying the data to parse. Must not be null.

### Throws

**AbstractScriptException**  
on any failure to transform the string.

**NumberFormatException**  
if the string does not contain a parsable long.

### Returns

The long form of the parsed, evaluated data.

### Example

Convert as String to a Long.  
`long counter = toLong("100");`

---

## toMap

Helper method to convert a list of arguments into a `Map<String>`.  
The string is also transformed before it is returned using `eval(String)`.

### Format

The `toMap` method has the following command format:  
`toMap(values);`

### Command Parameters

**values**  
The Strings specifying the `key=value` pairs.

### Throws

**AbstractScriptException**  
on any failure to transform any of the values.

### Returns

The `Map<String, String>`.

### Example

Converts a list of arguments into a `Map<String>`.

```
callFunction("myFunction", "name", "1", "10.0", "100", "true", "val2",  
  toList("list1", "list2", "list3"),  
  toMap("key1=val1", "key2=val2", "key3=val3"));
```

## warn

Writes a warning message to the console/log file, and to the Result View.

This method will never alter the flow of a script, such as stopping the script. Any variables specified in `message` will be evaluated to their current values.

If a variable expression is specified in `message` that does not exist, or if `message` cannot be evaluated for any reason:

1. A warning-level message will be printed to the console/log file indicating why the message could not be evaluated.
2. The original message, not evaluated, will be printed to the console/log file.
3. The Results View comment field will contain the original message, plus a warning note explaining why the message could not be evaluated.
4. Any problems that occur when evaluating the message will not be counted as a warning in the results report warnings total.
5. The execution of the script will continue as if no problem occurred.

### Format

The `warn` method has the following command format:

```
warn(message);
```

### Command Parameters

**message**

a String specifying the message to write to the console/log file and Results view. May contain embedded function and variable expressions using the Transforms syntax. Must NOT be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Prints a warning message to the console and Results view.

```
warn("a Warning message");
```

# Part II

---

## Load Testing Modules API Reference

This Part of the OpenScript Programmer's Reference provides a complete listing and reference for the methods in the OpenScript Load Testing Modules Application Programming Interface (API).

Each chapter in this part contains alphabetical listings and detailed command references for the methods in each class.

This Part contains the following chapters:

- [Chapter 4, "Adobe Flex \(AMF\) Load Module"](#)
- [Chapter 5, "Oracle EBS/Forms Load Module"](#)
- [Chapter 6, "Oracle Fusion/ ADF Load Module"](#)
- [Chapter 7, "Oracle Hyperion Load Module"](#)
- [Chapter 8, "Siebel Load Module"](#)
- [Chapter 9, "Web/HTTP Load Module"](#)



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## Adobe Flex (AMF) Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript AmfService Class of AMF Load Module Application Programming Interface (API).

### 4.1 AmfService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript AmfService API.

#### 4.1.1 Alphabetical Command Listing

The following table lists the AmfService API methods in alphabetical order.

**Table 4–1** *List of AmfService Methods*

Method	Description
<a href="#">amf.assertText</a>	Search the AMF contents of all documents in all browser windows for the specified text pattern.
<a href="#">amf.post</a>	Post an AMF request to the AMF server identified by recID, description, and urlPath.
<a href="#">amf.solve</a>	Parses a value from the most recent navigation's contents and store it as a variable.
<a href="#">amf.solveXPath</a>	Extract a value from the last retrieved response using XPath notation.
<a href="#">amf.verifyText</a>	Search the AMF contents of all documents in all browser windows for the specified text pattern.

The following sections provide detailed reference information for each method and enum in the AmfService Class of AMF Load Module Application Programming Interface.

## amf.assertText

Search the AMF contents of all documents in all browser windows for the specified text pattern.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

### Format

The `amf.assertText` method has the following command format(s):

```
amf.assertText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToAssert**

a String specifying the text to match on the page, or not match on the page if `TextPresence` says `TextPresence.FailIfPresent`.

**sourceType**

an `AmfSource` enum specifying where to match the text, i.e. in the XML contents or HTTP response headers.

**textPresence**

a `TestPresence` enum specifying either `PassIfPresent` or `FailIfPresent`, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a `MatchOption` enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

### Throws

**MatchException**

if the assertion fails.

**AbstractScriptException**

on any other failure when attempting to assert the text.

### Example

Adds Text Matching tests for Response Header and XML Content.

`myTextMatchingTest1` passes if the text to match string is present in the XML Content and matches exactly.

`myTextMatchingTest2` passes if the text to match string is present in the Response header and matches the Regular Expression.

`myTextMatchingTest3` fails if the text to match string is present in the XML Content and matches the Wildcard.

```
amf.assertText("myTextMatchingTest1", "match this text string",
```



```
AmfSource.Content, TextPresence.PassIfPresent,  
MatchOption.Exact);  
amf.assertText("myTextMatchingTest2", "jsessionId=(.+?) (?:\\\\\"|&)",  
AmfSource.ResponseHeader, TextPresence.PassIfPresent,  
MatchOption.RegEx);  
amf.assertText("myTextMatchingTest3", "match this *",  
AmfSource.Content, TextPresence.FailIfPresent,  
MatchOption.Wildcard);
```

## amf.post

Post an AMF request to the AMF server identified by `recID`, `description`, and `urlPath`.

Reads the XML `postMessage` as a `String`, serializes it into an `ActionScript` (AMF) object and then makes a post to the `urlPath` provided.

### Format

The `amf.post` method has the following command format(s):

```
amf.post(description, urlPath, postMessage);
```

```
amf.post(recId, description, urlPath, postMessage);
```

### Command Parameters

#### **description**

a `String` specifying a human-readable description of the operation which will be invoked on the server. Used for reporting and script display purposes only.

#### **urlPath**

a `String` specifying the AMF endpoint on the server where all AMF requests are posted. For example: "http://server:8080/todolist-web/messagebroker/amf"

#### **postMessage**

a `String` specifying an XML string containing the AMF message which will be posted to the `urlPath`.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Throws

#### **AbstractScriptException**

on any exception posting data to the server.

### Example

Posts the xml `postMessage` as an `ActionScript` (AMF) object to the specified URL.

```
amf.post(10, "Click the button", "http://server-xyz:8080/openamf/gateway",
"<?xml version=\"1.0\" encoding=\"utf-8\"?\>\r\n" +
"<amf version=\"0\"\>" +
"<headers><header name=\"amf_server_debug\" required=\"true\"\> " +
"<asobject type=\"NetDebugConfig\"\>" +
"<entry key=\"m_debug\" type=\"boolean\"\>true</entry>" +
"<entry key=\"coldfusion\" type=\"boolean\"\>true</entry>" +
"<entry key=\"error\" type=\"boolean\"\>true</entry>" +
"<entry key=\"amf\" type=\"boolean\"\>false</entry>" +
"<entry key=\"trace\" type=\"boolean\"\>true</entry>" +
"<entry key=\"httpheaders\" type=\"boolean\"\>false</entry>" +
"<entry key=\"recordset\" type=\"boolean\"\>true</entry>" +
"<entry key=\"amfheaders\" type=\"boolean\"\>false</entry>" +
"</asobject>" +
"</header></headers>" +
```

---

```
"<bodies>" +
  "<body operation=\"org.openamf.examp.Test.getNumber\" response=\"/1\">" +
  "  <list><item type=\"double\">123.456</item></list>" +
  "</body>" +
"</bodies>" +
"</amf>");
```

## amf.solve

Parses a value from the most recent navigation's contents and store it as a variable.

This method honors the "Solve Variable Failed" error recovery setting. If "Solve Variable Failed" error recovery is not set to fail, then the script will continue running even if a non-optional variable cannot be solved.

### Format

The `amf.solve` method has the following command format(s):

```
amf.solve(varName, pattern, errorMsg, isOptional, sourceType, resultIndex, encodeOption);
```

### Command Parameters

**varName**

a String specifying then name of the variable to create. Must not be `null`.

**pattern**

a Regular expression pattern specifying what to extract from the most recent navigation's contents. May contain a transform expression. Must not be `null`.

**errorMsg**

a String specifying an optional error message to display if the pattern cannot be solved. If `null`, a meaningful error message is automatically generated.

**isOptional**

True if the pattern does not have to be solved. If the pattern cannot be solved, the method quietly returns.

**sourceType**

an `AmfSource` enum specifying where to match the text, i.e. in the XML contents or HTTP response headers.

**resultIndex**

an index value specifying the 0-based index of the specific result to retrieve if the pattern matches more than one value. If `null`, all results will be added into the variables collection.

**encodeOption**

an `EncodeOptions` enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A `null` value is equivalent to `EncodeOptions.None`.

### Throws

**Exception**

if an error parsing the value.

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the given pattern cannot be matched to the previous contents and the pattern is not optional.

**Example**

Parse a value from the most recent navigation's specified source using a Regular Expression and store it in a variable. An optional error message returns if the pattern cannot be solved. The pattern is optional and does not have to be solved. Includes a result index value of 0 to specify it should retrieve the first match result.

```
amf.solve("flex.dsid",  
  "<entry key=\"DSID\" type=\"string\">(.*?)</entry>",  
  "DSID is a required field", true, AmfSource.Content,  
  0, EncodeOptions.URLEncode);
```

## amf.solveXPath

Extract a value from the last retrieved response using XPath notation.  
The value will be stored to the given variable.

### Format

The `amf.solveXPath` method has the following command format(s):  
`amf.solveXPath(varName, xpath, lastValue, resultIndex, encodeOption);`

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**xpath**

a String specifying the XPath to the value to parse from the last retrieved contents.  
Must not be null.

**lastValue**

an optional String specifying the recorded or last known value of the value about to be parsed. May be null. For informational purposes only.

**resultIndex**

an index value specifying the 0-based index of the specific result to retrieve if the XPath returns multiple results. A null value specifies that all results should be returned.

**encodeOption**

an `EncodeOptions` enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A null value is equivalent to `EncodeOptions.None`.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Extracts a value from the browser's last retrieved contents using XPath notation and stores it in the specified script variable. Encode or decode using the specified options.

```
amf.solveXPath("amf.formaction.loginform",  
    ".//FORM[@name='loginform']/@action",  
    "default.asp", 0, EncodeOptions.None);  
info("Login form = {{amf.formaction.loginform}}");
```

---

## amf.verifyText

Search the AMF contents of all documents in all browser windows for the specified text pattern.

This method will never cause a script to fail, regardless of the text matching test error recovery settings.

Use [amf.assertText](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are NOT reported in OLT.

### Format

The `amf.verifyText` method has the following command format(s):

```
amf.verifyText(testName, textToVerify, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToVerify**

a String specifying the text to match on the page, or not match on the page if TextPresence says TextPresence.FailIfPresent.

**sourceType**

an AmfSource enum specifying where to match the text, i.e. in the XML contents or HTTP response headers.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

### Throws

**MatchException**

if the assertion fails.

**AbstractScriptException**

on any other failure when attempting to assert the text.

### Example

Adds a Verify only, never fail Text Matching tests for Response Header and XML Content.

`myTextMatchingTest1` passes if the text to match string is present in the XML Content and matches exactly.

myTextMatchingTest2 passes if the text to match string is present in the Response header and matches the Regular Expression.

myTextMatchingTest3 fails if the text to match string is present in the XML Content and matches the Wildcard.

```
amf.verifyText("myTextMatchingTest1", "match this text string",
    AmfSource.Content, TextPresence.PassIfPresent,
    MatchOption.Exact);
amf.verifyText("myTextMatchingTest2", "jsessionId=(.+?)(?:\\\\"|&)",
    AmfSource.ResponseHeader, TextPresence.PassIfPresent,
    MatchOption.RegEx);
amf.verifyText("myTextMatchingTest3", "match this *",
    AmfSource.Content, TextPresence.FailIfPresent,
    MatchOption.Wildcard);
```



---



---

## Oracle EBS/Forms Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript FormsService Class of Forms Load Module Application Programming Interface (API).

### 5.1 FormsService ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript FormsService API.

#### 5.1.1 Alphabetical Enum Listing

The following table lists the FormsService Enums in alphabetical order.

**Table 5–1** *List of FormsService Enums*

Enum	Description
<a href="#">NcaSource</a>	Specify which part of the contents to find the source data.

### 5.2 FormsService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript FormsService API.

#### 5.2.1 Alphabetical Command Listing

The following table lists the FormsService API methods in alphabetical order.

**Table 5–2** *List of FormsService Methods*

Method	Description
<a href="#">nca.alertDialog</a>	Identifies an Oracle Forms alertDialog object by its handler name.
<a href="#">nca.application</a>	Initializes the Oracle Forms Application specified by its handler name.
<a href="#">nca.assertStatusBarText</a>	Searches the status bar contents for the specified text pattern.
<a href="#">nca.assertText</a>	Searches the text of selected source type for the specified text pattern.
<a href="#">nca.blockScroller</a>	Identifies an Oracle Forms blockScroller object by its handler name.
<a href="#">nca.button</a>	Identifies an Oracle Forms Button object by its handler name.

**Table 5–2 (Cont.) List of FormsService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">nca.cancelQueryDialog</a>	Identifies an Oracle Forms cancelQueryDialog object by its recorded ID and handler name.
<a href="#">nca.canvas</a>	Identifies an Oracle Forms canvas object by its recorded ID and handler name.
<a href="#">nca.cfmOLE</a>	Identifies an Oracle Forms cfmOLE object by its recorded ID and handler name.
<a href="#">nca.cfmVBX</a>	Identifies an Oracle Forms cfmVBX object by its recorded ID and handler name.
<a href="#">nca.checkBox</a>	Identifies an Oracle Forms CheckBox object by its handler name.
<a href="#">nca.choiceBox</a>	Identifies an Oracle Forms choiceBox object by its handler name.
<a href="#">nca.comboBox</a>	Identifies an Oracle Forms comboBox object by its recorded ID and handler name.
<a href="#">nca.connect</a>	Connects to an Oracle Forms server.
<a href="#">nca.disconnect</a>	Disconnects from Oracle Forms Server.
<a href="#">nca.displayErrorDialog</a>	Identifies an Oracle Forms displayErrorDialog object by its recorded ID and handler name.
<a href="#">nca.displayList</a>	Identifies an Oracle Forms displayList object by its recorded ID and handler name.
<a href="#">nca.editBox</a>	Identifies an Oracle Forms editBox object by its handler name.
<a href="#">nca.editorDialog</a>	Identifies an Oracle Forms editorDialog object by its recorded ID and handler name.
<a href="#">nca.flexWindow</a>	Identifies an Oracle Forms flexWindow object by its handler name.
<a href="#">nca.genericClient</a>	Identifies an Oracle Forms genericClient object by its handler name.
<a href="#">nca.getLastKnownContents</a>	Returns the string version of contents for the specified ContentSource that was last retrieved for this virtual user.
<a href="#">nca.getStatusBarText</a>	Gets the contents of the last known status bar text.
<a href="#">nca.helpDialog</a>	Identifies an Oracle Forms helpDialog object by its handler name.
<a href="#">nca.image</a>	Identifies an Oracle Forms image object by its recorded ID and handler name.
<a href="#">nca.infoBox</a>	Identifies an Oracle Forms infoBox object by its handler name.
<a href="#">nca.jContainer</a>	Identifies an Oracle Forms jContainer object by its handler name.
<a href="#">nca.list</a>	Identifies an Oracle Forms PopList object by its handler name.
<a href="#">nca.listOfValues</a>	Identifies an Oracle Forms List Of Values object by its handler name.
<a href="#">nca.logon</a>	Identifies an Oracle Forms Logon Dialog object by its handler name.
<a href="#">nca.menuParametersDialog</a>	Identifies an Oracle Forms menuParametersDialog object by its recorded ID and handler name.
<a href="#">nca.popupHelp</a>	Identifies an Oracle Forms popupHelp object by its recorded ID and handler name.

**Table 5–2 (Cont.) List of FormsService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">nca.promptList</a>	Identifies an Oracle Forms promptList object by its handler name.
<a href="#">nca.radioButton</a>	Identifies an Oracle Forms RadioButton object by its handler name.
<a href="#">nca.registerProperty</a>	Registers a property for any object.
<a href="#">nca.responseBox</a>	Identifies an Oracle Forms responseBox object by its handler name.
<a href="#">nca.send</a>	Sends an Oracle Forms Message to the Oracle Forms server.
<a href="#">nca.sendMessagees</a>	Sends raw Oracle Forms Messages to the Oracle Forms server.
<a href="#">nca.sendTerminal</a>	Sends an Oracle Forms Terminal Message request to the Oracle Forms server.
<a href="#">nca.solve</a>	Parses a value from the source of latest action and store it as a variable.
<a href="#">nca.statusBar</a>	Identifies an Oracle Forms statusBar object by its recorded ID and handler name.
<a href="#">nca.tab</a>	Identifies an Oracle Forms TabControl object by its handler name.
<a href="#">nca.tableBox</a>	Identifies an Oracle Forms tableBox object by its recorded ID and handler name.
<a href="#">nca.textField</a>	Creates a reference to a text field object in the Forms applet by handler name.
<a href="#">nca.timer</a>	Identifies an Oracle Forms timer object by its handler name.
<a href="#">nca.tree</a>	Identifies an Oracle Forms Tree object by its handler name.
<a href="#">nca.treeList</a>	Identifies an Oracle Forms TreeList object by its handler name.
<a href="#">nca.unregisterProperty</a>	Unregister a property that was previously registered using registerProperty.
<a href="#">nca.verifyStatusBarText</a>	Searchs the status bar contents for the specified text pattern and performs a verify only matching test.
<a href="#">nca.verifyText</a>	Searches the text of selected source type for the specified text pattern performing a verify only text match.
<a href="#">nca.window</a>	Identifies an Oracle Forms FormWindow object by its handler name.

The following sections provide detailed reference information for each method and enum in the FormsService Class of Forms Load Module Application Programming Interface.

## nca.alertDialog

Identifies an Oracle Forms alertDialog object by its handler name.

### Format

The nca.alertDialog method has the following command format(s):

```
nca.alertDialog(handlerName);
```

```
nca.alertDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional. The ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the alertDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTAlertDialog object.

### Example

Performs an action on an Oracle Forms alertDialog object specified by its recorded ID and handler name.

```
nca.window(436, "GROUPS_DETAIL").activate("");  
nca.alertDialog(437, "Forms").clickButton(2, "12");  
nca.textField(438, "GROUPS_EXPENDITURE_GROUP_0").select(0, 4, 4, "1");
```

---

## nca.application

Initializes the Oracle Forms Application specified by its handler name.

### Format

The nca.application method has the following command format(s):

```
nca.application(handlerName);
```

```
nca.application(recid, handlerName);
```

### Command Parameters

**recid**

Optional. The ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the Form Application. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTRunForm object.

### Example

Performs an action on an Oracle Forms Application specified by its recorded ID and handler name.

```
nca.application(161, "Oracle Applications").sendMessage(  
    "<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" \" +  
    "mHandlerClassId=\"1\" mHandlerId=\"1\">\r\n\" +  
    "<Property actionString=\"HEARTBEAT\" action=\"517\" \" +  
    "type=\"null\" />\r\n</Message>\r\n", "1");
```

## nca.assertStatusBarText

Searchs the status bar contents for the specified text pattern.

If the test fails, always fail the script unless the status bar text test error recovery setting specifies a different action such as Warn or Ignore. If any part of the status bar text matches `textToAssert`, the assertion succeeds.

### Format

The `nca.assertStatusBarText` method has the following command format(s):

```
nca.assertStatusBarText(testName, textToAssert, matchOption);
```

```
nca.assertStatusBarText(reclId, testName, textToVerify, matchOption);
```

### Command Parameters

**reclId**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**testName**

a String specifying the test name.

**textToVerify**

a String specifying the Text to match on the page, or not match on the page if TextPresence is set as PassIfPresent.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

**textToAssert**

a String specifying the Text to match on the page, or not match on the page if TextPresence is set as PassIfPresent.

### Throws

**AbstractScriptException**

on any other failure when attempting to assert the text.

**MatchException**

if the assertion fails.

### Example

Verifies the specified text matches exactly.

```
nca.assertStatusBarText(161, "Assert StatusBar Text" +  
    "text value", "FRM-40400: Transaction complete: " +  
    "1 records applied and saved.", MatchOption.Exact);
```

---

## nca.assertText

Searches the text of selected source type for the specified text pattern.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

If any part of the source text matches `textToAssert`, the assertion succeeds.

### Format

The `nca.assertText` method has the following command format(s):

```
nca.assertText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToAssert**

a String specifying the Text to match on the page, or not match on the page if TextPresence is set as PassIfPresent.

**sourceType**

a NcaSource enum specifying where to match the text, i.e. in the Object Details, Request and Response, or Status Bar text.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

### Throws

**MatchException**

if the assertion fails.

**AbstractScriptException**

on any other failure when attempting to assert the text.

### Example

Adds Text Matching tests for Statu Bar text.

```
nca.assertText("myTextMatchingTest", "match this text string",  
NcaSource.StatusBarText, TextPresence.PassIfPresent, MatchOption.Exact);
```

## nca.blockScroller

Identifies an Oracle Forms blockScroller object by its handler name.

### Format

The nca.blockScroller method has the following command format(s):

```
nca.blockScroller(handlerName);  
nca.blockScroller(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the blockScroller. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTBlockScroller object.

### Example

Performs an action on an Oracle Forms blockScroller object specified by its recorded ID and handler name.

```
nca.textField(571, "PROJECT_OPTIONS_OPTION_NAME_DISP_5")  
    .select(0, 0, 0, "");  
nca.textField(572, "PROJECT_OPTIONS_OPTION_NAME_DISP_6")  
    .setFocus("1");  
nca.application(573, "Oracle Applications")  
    .sendMessage("<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" \" +  
        \"mHandlerClassId=\"1\" mHandlerId=\"1\">\r\n\" +  
        <Property actionString=\"HEARTBEAT\" action=\"517\" \" +  
        \" type=\"null\" />\r\n</Message>\r\n\", "1");  
nca.textField(574, "PROJECT_OPTIONS_OPTION_NAME_DISP_6")  
    .select(0, 27, 27, "");  
nca.blockScroller(575, "COMPONENT_ID_478").scrollTo(0, 8, "1");  
nca.blockScroller(575, "COMPONENT_ID_478").scrollPageUp(0, 1);  
nca.blockScroller(575, "COMPONENT_ID_478").scrollPageDown(0, 1);  
nca.textField(576, "PROJECT_OPTIONS_OPTION_NAME_DISP_7")  
    .select(0, 18, 18, "");  
nca.textField(577, "PROJECT_OPTIONS_OPTION_NAME_DISP_6")  
    .clearFocus("");  
nca.textField(578, "PROJECT_OPTIONS_OPTION_NAME_DISP_6")  
    .select(0, 0, 0, "");  
nca.textField(579, "PROJECT_OPTIONS_OPTION_NAME_DISP_7")  
    .setFocus("");
```



---

## nca.button

Identifies an Oracle Forms Button object by its handler name.

### Format

The nca.button method has the following command format(s):

```
nca.button(handlerName);
```

```
nca.button(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the Button. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTButton object.

### Example

Performs an action on an Oracle Forms Button object specified by its recorded ID and handler name.

```
nca.button(130, "FOLDER_QF_NEW_HEADER_0").setFocus("1");  
nca.button(131, "FOLDER_QF_NEW_HEADER_0").click();
```

## nca.cancelQueryDialog

Identifies an Oracle Forms cancelQueryDialog object by its recorded ID and handler name.

### Format

The nca.cancelQueryDialog method has the following command format(s):

```
nca.cancelQueryDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the cancelQueryDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTCancelQueryDialog object.

### Example

Identifies an Oracle Forms cancelQueryDialog object specified by its recorded ID and handler name.

```
nca.cancelQueryDialog(169, "cancelQueryDialog");
```

## nca.canvas

Identifies an Oracle Forms canvas object by its recorded ID and handler name.

### Format

The nca.canvas method has the following command format(s):

```
nca.canvas(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the canvas. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTCanvas object.

### Example

Identifies an Oracle Forms canvas object specified by its recorded ID and handler name.

```
nca.canvas(169, "canvas");
```

## nca.cfmOLE

Identifies an Oracle Forms cfmOLE object by its recorded ID and handler name.

### Format

The nca.cfmOLE method has the following command format(s):

```
nca.cfmOLE(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the cfmOLE. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTCfmOLE object.

### Example

Identifies an Oracle Forms cfmOLE object specified by its recorded ID and handler name.

```
nca.cfmOLE(169, "cfmole");
```

## nca.cfmVBX

Identifies an Oracle Forms cfmVBX object by its recorded ID and handler name.

### Format

The nca.cfmVBX method has the following command format(s):

```
nca.cfmVBX(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the cfmVBX. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTCfmVBX object.

### Example

Identifies an Oracle Forms cfmVBX object specified by its recorded ID and handler name.

```
nca.cfmVBX(169, "cfmVBX");
```

## nca.checkBox

Identifies an Oracle Forms CheckBox object by its handler name.

### Format

The nca.checkBox method has the following command format(s):

```
nca.checkBox(handlerName);
```

```
nca.checkBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the CheckBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTCheckBox object.

### Example

Performs an action on an Oracle Forms CheckBox object specified by its recorded ID and handler name.

```
nca.checkBox(289, "GROUPS_ALLOW_NEGATIVE_TR_0").setFocus();  
nca.checkBox(291, "GROUPS_ALLOW_NEGATIVE_TR_0").check(true);  
nca.checkBox(297, "GROUPS_ALLOW_NEGATIVE_TR_0").clearFocus();
```

---

## nca.choiceBox

Identifies an Oracle Forms choiceBox object by its handler name.

### Format

The nca.choiceBox method has the following command format(s):

```
nca.choiceBox(handlerName);
```

```
nca.choiceBox(recid, handlerName);
```

### Command Parameters

#### recid

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### handlerName

a String specifying the handler name of the choiceBox. Must not be null.

### Throws

#### Exception

if the object is not found.

### Returns

a new TFormsLTChoiceBoxMessenger object.

### Example

Performs an action on an Oracle Forms choiceBox object specified by its recorded ID and handler name.

```
nca.button(264, "GROUPS_SUBMIT_0").click("1");
nca.button(265, "GROUPS_SUBMIT_0").sendMessage(
  "<Message mActionString=\"MSG_GET\" mActionCode=\"4\" \" +
    \"mHandlerClassId=\"261\" mHandlerId=\"289\">\r\n\" +
    <Property actionString=\"VISIBLERECT\" action=\"155\" \" +
    \"type=\"java.awt.Rectangle\" topleftx=\"0.0\" \" +
    toplefty=\"0.0\" width=\"124.0\" height=\"28.0\"/>\r\n\" +
  </Message>\r\n\", "3");
nca.textField(266, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");
nca.button(267, "GROUPS_SUBMIT_0").clearFocus("");
nca.textField(268, "GROUPS_OPERATING_UNIT_0").setFocus("");
nca.window(269, "GROUPS_DETAIL").deactivate("11");
String alertMsg=nca.choiceBox(270, "Error").getAlertMessage();
info("alert message:"+alertMsg);
nca.choiceBox(270, "Error").clickButton(0);
nca.textField(271, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");
```

## nca.comboBox

Identifies an Oracle Forms comboBox object by its recorded ID and handler name.

### Format

The nca.comboBox method has the following command format(s):

```
nca.comboBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the comboBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTComboBox object.

### Example

Identifies an Oracle Forms comboBox object specified by its recorded ID and handler name.

```
nca.comboBox(169, "comboBox");
```



---

## nca.connect

Connects to an Oracle Forms server.

If already connected to an Oracle Forms server, this method quietly returns.

### Format

The `nca.connect` method has the following command format(s):

```
nca.connect(connMode, formsServerHost, serverPort, formsUrl);
```

```
nca.connect(reclId, connMode, formsServerHost, serverPort, formsUrl);
```

### Command Parameters

**reclId**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be `null`.

**connMode**

a `ConnectMode` enum specifying if the Forms server expects to use `Socket` or `HTTP` connection mode.

**formsServerHost**

a `String` specifying the server host. For `ConnectMode.Socket`, specify the host name or IP of the Oracle Forms server to connect to. For `ConnectMode.HTTP`, this parameter is ignored and should be `null`.

**serverPort**

a value specifying the server port. For `ConnectMode.Socket`, specify the port number on the Oracle Forms server to connect to. For `ConnectMode.HTTP`, this parameter is ignored and should be 0.

**formsUrl**

a `String` specifying the URL. For `ConnectMode.HTTP`, specify the Oracle Forms URL to which the Forms applet posts messages. This URL is specified in the Oracle Forms Applet loading web page. The Oracle Forms Recorder automatically records this URL and correlates it appropriately. For `ConnectMode.Socket`, this parameter is ignored and should be `null`.

### Throws

**AbstractScriptException**

on a failure to connect to the Oracle Forms server.

### Example

Connects to the specified Oracle Forms server.

```
nca.connect(90, ConnectMode.HTTP, null, 0, "http://example.com:8002  
{{formsload.url,/forms/lervlet;jsessionid=" +  
8c57166455fa6173d468e0ae4e09966886262ac3b5b3.e380bheNbx4Ne38Qe0}}");
```

## nca.disconnect

Disconnects from Oracle Forms Server.

If not connected to the Forms server, this method quietly returns.

**IMPORTANT:** No matter how Forms statements are programmed, `nca.disconnect()` must be the last statement to disconnect from the Forms server. In multiple iterations if `nca.connect()` is called in each iteration, `nca.disconnect()` must be called before the end of each iteration.

### Format

The `nca.disconnect` method has the following command format(s):

```
nca.disconnect();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Disconnects from Oracle Forms Server.

```
nca.disconnect();
```

## nca.displayErrorDialog

Identifies an Oracle Forms displayErrorDialog object by its recorded ID and handler name.

### Format

The nca.displayErrorDialog method has the following command format(s):

```
nca.displayErrorDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the displayErrorDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTDisplayErrorDialog object.

### Example

Identifies an Oracle Forms displayErrorDialog object specified by its recorded ID and handler name.

```
nca.displayErrorDialog(169, "displayErrorDialog");
```

## nca.displayList

Identifies an Oracle Forms displayList object by its recorded ID and handler name.

### Format

The nca.displayList method has the following command format(s):

```
nca.displayList(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the displayList. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTDisplayList object.

### Example

Identifies an Oracle Forms displayList object specified by its recorded ID and handler name.

```
nca.displayList(169, "displayList");
```

---

## nca.editBox

Identifies an Oracle Forms editBox object by its handler name.

### Format

The nca.editBox method has the following command format(s):

```
nca.editBox(handlerName);  
nca.editBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the editBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTEditBoxMessenger object.

### Example

Performs an action on an Oracle Forms editBox object specified by its recorded ID and handler name.

```
nca.window(123, "GROUPS_DETAIL").activate("21");  
nca.textField(124, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");  
nca.window(125, "GROUPS_DETAIL").selectMenu(  
    "HELP.ABOUT_ORACLE_APPLICATIONS", "1");  
nca.window(126, "GROUPS_DETAIL").deactivate("1");  
nca.editBox(127, "About Oracle Applications").clickOk("");  
nca.textField(128, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");
```

## nca.editorDialog

Identifies an Oracle Forms editorDialog object by its recorded ID and handler name.

### Format

The nca.editorDialog method has the following command format(s):

```
nca.editorDialog(handlerName);
```

```
nca.editorDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the editorDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTEditorDialog object.

### Example

Performs an action on an Oracle Forms editorDialog object specified by its recorded ID and handler name.

```
nca.textField(485, "GROUPS_EXPENDITURE_GROUP_0")
    .sendMessage("<Message mActionString=\"MSG_GET\" " +
        "mActionCode=\"4\" mHandlerClassId=\"257\" mHandlerId=\"272\">\r\n" +
        "<Property actionString=\"VISIBLERECT\" action=\"155\" " +
        "type=\"java.awt.Rectangle\" topleftx=\"0.0\" toplefty=\"0.0\" " +
        "width=\"173.0\" height=\"24.0\"/>\r\n</Message>\r\n", "3");
nca.window(486, "GROUPS_DETAIL").selectMenu("EDIT.EDIT_FIELD", "1");
nca.window(487, "GROUPS_DETAIL").deactivate("1");
nca.editorDialog(488, "Editor").setText("ABCD");
nca.textField(489, "GROUPS_EXPENDITURE_GROUP_0").setCursorPosition(4, "");
```

---

## nca.flexWindow

Identifies an Oracle Forms flexWindow object by its handler name.

### Format

The nca.flexWindow method has the following command format(s):

```
nca.flexWindow(handlerName);
```

```
nca.flexWindow(recid, handlerName);
```

### Command Parameters

#### recid

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### handlerName

a String specifying the handler name of the flexWindow. Must not be null.

### Throws

#### Exception

if the object is not found.

### Returns

a new TFormsLTFlexWindowMessenger object.

### Example

Performs an action on an Oracle Forms flexWindow object specified by its recorded ID and handler name.

```
nca.textField(141, "WORK_ORDER_PARAMETERS_0").setFocus("2");
nca.listOfValues(142, "Reporting Level").displayRows(1, 2, "1");
nca.listOfValues(143, "Reporting Level").selectByIndex(1, "1");
nca.application(144, "Oracle Applications").sendMessage(
  "<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" " +
  "mHandlerClassId=\"1\" mHandlerId=\"1\">\r\n" +
  "<Property actionString=\"HEARTBEAT\" action=\"517\" " +
  "type=\"null\" />\r\n</Message>\r\n", "1");
nca.flexWindow(145, "Parameters").clickLOV(1, 0, "122");
nca.listOfValues(146, "Reporting Context").displayRows(1, 11, "1");
nca.listOfValues(147, "Reporting Context").clickCancel("1");
nca.flexWindow(148, "Parameters").focusField(2, 0, "1");
nca.flexWindow(149, "Services Accounting Flex").clickCancel("1");
nca.flexWindow(150, "Parameters").focusField(3, 0, "1");
nca.flexWindow(151, "Services Accounting Flex").clickClear("1");
```

## nca.genericClient

Identifies an Oracle Forms genericClient object by its handler name.

### Format

The nca.genericClient method has the following command format(s):

```
nca.genericClient(handlerName);
```

```
nca.genericClient(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the genericClient. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTGenericClientMessenger object.

### Example

Performs an action on an Oracle Forms genericClient object specified by its recorded ID and handler name.

```
nca.genericClient(96, "COMPONENT_ID_54").sendGenericClientMessage();  
nca.genericClient(96, "COMPONENT_ID_54").sendGenericClientMessage("", "1");
```



---

## nca.getLastKnownContents

Returns the string version of contents for the specified ContentSource that was last retrieved for this virtual user.

### Format

The nca.getLastKnownContents method has the following command format(s):

```
nca.getLastKnownContents(sourceType);
```

### Command Parameters

**sourceType**

an NcaSource Enum specifying the portion of the contents to return as a String. If null, assumes NcaSource.ObjectDetails.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

String version of the contents last retrieved by the client. Returns null if contents are null.

### Example

Gets the specified last known contents.

```
String details = nca.getLastKnownContents(NcaSource.ObjectDetails);  
info("Object Details " + details);  
String reqresp = nca.getLastKnownContents(NcaSource.RequestsAndResponses);  
info("Requests and Responses " + reqresp);  
String statusbar = nca.getLastKnownContents(NcaSource.StatusBarText);  
info("StatusBarText " + statusbar);
```

## nca.getStatusBarText

Gets the contents of the last known status bar text.

This is useful when user wants to grab the last known value of the status bar within the script.

### Format

The `nca.getStatusBarText` method has the following command format(s):

```
nca.getStatusBarText( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

String value for the last known text value of the status bar. If the server has never updated the status bar, this method returns an empty string. This method never returns null.

### Example

Gets the contents of the last known status bar text.

```
String statusBarText1=nca.getStatusBarText( );  
info("exist status bar text:"+statusBarText1);
```

---

## nca.helpDialog

Identifies an Oracle Forms helpDialog object by its handler name.

### Format

The nca.helpDialog method has the following command format(s):

```
nca.helpDialog(handlerName);
```

```
nca.helpDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the helpDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTHelpDialog object.

### Example

Performs an action on an Oracle Forms helpDialog object specified by its recorded ID and handler name.

```
nca.window(121, "GROUPS_DETAIL").activate("");  
nca.textField(122, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");  
nca.helpDialog(123, "Keys").clickCancel("1");
```

## nca.image

Identifies an Oracle Forms image object by its recorded ID and handler name.

### Format

The nca.image method has the following command format(s):

```
nca.image(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the image. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTImage object.

### Example

Identifies an Oracle Forms image object specified by its recorded ID and handler name.

```
nca.image(169, "image");
```

---

## nca.infoBox

Identifies an Oracle Forms infoBox object by its handler name.

### Format

The nca.infoBox method has the following command format(s):

```
nca.infoBox(handlerName);  
nca.infoBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the infoBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTInfoBoxMessenger object.

### Example

Performs an action on an Oracle Forms infoBox object specified by its recorded ID and handler name.

```
nca.window(1033, "GROUPS_DETAIL").activate("1");  
nca.window(1034, "GROUPS_DETAIL").selectMenu("HELP.RECORD_HISTORY",  
"1");  
nca.window(1035, "GROUPS_DETAIL").deactivate("1");  
nca.infoBox(1036, "About This Record").clickOk();
```

## nca.jContainer

Identifies an Oracle Forms jContainer object by its handler name.

### Format

The nca.jContainer method has the following command format(s):

```
nca.jContainer(handlerName);
```

```
nca.jContainer(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the jContainer. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTJavaContainer object.

### Example

Performs an action on an Oracle Forms jContainer object specified by its recorded ID and handler name.

```
nca.window(9078, "FOLDER_INCIDENT_TRACKING").activate("2");
nca.textField(9079, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .select(0, 20, 20, "");
nca.button(9080, "CALENDAR_OK_0").clearFocus("");
nca.textField(9081, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .setFocus("1");
nca.window(9082, "Oracle Applications - Main Window")
    .resize(1364, 768, "1");
nca.textField(9083, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .clearFocus("");
nca.jContainer(9084, "SR_TASK_GRID_GRID_ITEM_0")
    .setFocus("");
nca.jContainer(9085, "SR_TASK_GRID_GRID_ITEM_0")
    .sendMessage("<Message mActionString=\<MSG_UPDATE\> mActionCode=\<2\> " +
        "mHandlerClassId=\<271\> mHandlerId=\<496\>\>\r\n" +
        "<Property actionString=\<EVENT\> action=\<398\> " +
        "type=\<oracle.forms.engine.Message\> >\r\n" +
        "<Message mActionString=\<MSG_UPDATE\> mActionCode=\<2\> " +
        "mHandlerClassId=\<271\> mHandlerId=\<496\>\>\r\n" +
        "<Property actionString=\<EVENTNAME\> action=\<399\> " +
        "type=\<java.lang.String\> value=\<focusChanged\>/>\r\n" +
        "<Property actionString=\<EVENT_ARGNAME\> action=\<400\> " +
```

```
"type=\"java.lang.String\" value=\"currentColumn\"/>\r\n" +
"<Property actionString=\"EVENT_ARGVALUE\" action=\"401\" \" +
"type=\"java.lang.String\" value=\" \"/>\r\n" +
"<Property actionString=\"EVENT_ARGNAME\" action=\"400\" \" +
"type=\"java.lang.String\" value=\"currentRow\"/>\r\n" +
"<Property actionString=\"EVENT_ARGVALUE\" action=\"401\" \" +
"type=\"java.lang.String\" value=\"2\"/>\r\n" +
</Message>\r\n</Property>\r\n</Message>\r\n", "12");
nca.timer(9086, "COMPONENT_ID_1216").expired("1");
nca.window(9087, "FOLDER_INCIDENT_TRACKING").deactivate("1");
```

## nca.list

Identifies an Oracle Forms PopList object by its handler name.

### Format

The `nca.list` method has the following command format(s):

```
nca.list(handlerName);
```

```
nca.list(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the PopList. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new `TFormsLTPopListItem` object.

### Example

Performs an action on an Oracle Forms PopList object specified by its recorded ID and handler name.

```
nca.list(120, "GROUPS_SYSTEM_LINKAGE_FUNCTION_0")
    .setFocus();
nca.list(121, "GROUPS_SYSTEM_LINKAGE_FUNCTION_0")
    .sendMessage("<Message mActionString=\"MSG_UPDATE\" " +
        "mActionCode=\"2\" mHandlerClassId=\"263\" " +
        "mHandlerId=\"274\">\r\n<Property actionString=\"MOUSEDOWN\" " +
        "action=\"180\" type=\"oracle.forms.engine.Message\" >\r\n" +
        "<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" " +
        "mHandlerClassId=\"263\" mHandlerId=\"274\">\r\n" +
        "<Property actionString=\"MOUSEDOWN_POS\" action=\"185\" " +
        "type=\"java.awt.Point\" pointx=\"185.0\" " +
        "pointy=\"11.0\"/>\r\n" +
        "<Property actionString=\"MOUSEDOWN_MOD\" action=\"186\" " +
        "type=\"java.lang.Byte\" value=\"16\"/>\r\n" +
        "</Message>\r\n</Property>\r\n</Message>\r\n", "1");
```



---

## nca.listOfValues

Identifies an Oracle Forms List Of Values object by its handler name.

### Format

The `nca.listOfValues` method has the following command format(s):

```
nca.listOfValues(handlerName);
```

```
nca.listOfValues(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the List Of Values. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new `TFormsLTListValuesDialog` object.

### Example

Performs an action on an Oracle Forms List Of Values object specified by its recorded ID and handler name.

```
nca.listOfValues(133, "Customers").searchByText("cus", "1");  
nca.listOfValues(134, "Customers").displayRows(1, 1, "1");
```

## nca.logon

Identifies an Oracle Forms Logon Dialog object by its handler name.

### Format

The nca.logon method has the following command format(s):

```
nca.logon(handlerName);
```

```
nca.logon(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the Logon Dialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTLogonDialog object.

### Example

Performs an action on an Oracle Forms Logon Dialog object specified by its recorded ID and handler name.

```
nca.logon(133, "Logon").connect("username", "password", "database");
```

---

## nca.menuParametersDialog

Identifies an Oracle Forms menuParametersDialog object by its recorded ID and handler name.

### Format

The nca.menuParametersDialog method has the following command format(s):

```
nca.menuParametersDialog(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the menuParametersDialog. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTMenuParametersDialog object.

### Example

Identifies an Oracle Forms menuParametersDialog object specified by its recorded ID and handler name.

```
nca.menuParametersDialog(169, "menu");
```

## NcaSource

The NcaSource has the following values:

**Table 5-3** *List of NcaSource Values*

<b>Value</b>	<b>Description</b>
ObjectDetails	Retrieve the contents of Object Details.
StatusBarText	Retrieve the contents of StatusBarText.
RequestsAndResponses	Retrieve the contents of the last sent and received request/response pairs.

## nca.popupHelp

Identifies an Oracle Forms popupHelp object by its recorded ID and handler name.

### Format

The nca.popupHelp method has the following command format(s):

```
nca.popupHelp(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the popupHelp. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTPopupHelp object.

### Example

Identifies an Oracle Forms popupHelp object specified by its recorded ID and handler name.

```
nca.popupHelp(169, "popupHelp");
```

## nca.promptList

Identifies an Oracle Forms promptList object by its handler name.

### Format

The nca.promptList method has the following command format(s):

```
nca.promptList(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the tpromptList. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTPromptList object.

### Example

Identifies an Oracle Forms promptList object specified by its recorded ID and handler name.

```
nca.promptList(172, "promptList");
```

---

## nca.radioButton

Identifies an Oracle Forms RadioButton object by its handler name.

### Format

The nca.radioButton method has the following command format(s):

```
nca.radioButton(handlerName);
```

```
nca.radioButton(recid, handlerName);
```

### Command Parameters

#### recid

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### handlerName

a String specifying the handler name of the RadioButton. Must not be null.

### Throws

#### Exception

if the object is not found.

### Returns

a new TFormsLTRadioButton object.

### Example

Performs an action on an Oracle Forms RadioButton object specified by its recorded ID and handler name.

```
nca.radioButton(724, "JOBS_QF_WHICH_JOBS_ALL_MY_JOBS_0").setFocus("1");
nca.radioButton(725, "JOBS_QF_WHICH_JOBS_ALL_MY_JOBS_0")
    .sendMessage("<Message mActionString=\"MSG_UPDATE\" " +
        "mActionCode=\"2\" mHandlerClassId=\"267\" " +
        "mHandlerId=\"375\">\r\n<Property actionString=\"MOUSEUP\" " +
        "action=\"181\" type=\"oracle.forms.engine.Message\" >\r\n" +
        "<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" " +
        "mHandlerClassId=\"267\" mHandlerId=\"375\">\r\n" +
        "<Property actionString=\"MOUSEDOWN_POS\" action=\"185\" " +
        "type=\"java.awt.Point\" pointx=\"1.0\" pointy=\"8.0\"/>\r\n" +
        "<Property actionString=\"MOUSEDOWN_MOD\" action=\"186\" " +
        "type=\"java.lang.Byte\" value=\"16\"/>\r\n" +
        "</Message>\r\n</Property>\r\n</Message>\r\n", "");
nca.radioButton(726, "JOBS_QF_WHICH_JOBS_ALL_MY_JOBS_0").select("");
nca.radioButton(727, "JOBS_QF_WHICH_JOBS_ALL_MY_JOBS_0").unselect("");
```

## nca.registerProperty

Registers a property for any object.

The property will be sent to the server in subsequent client request(s) in the following cases:

- If the server asks the client for a specific property, the client responds with the property using a `MSG_GET` type message.
- Whenever a client sends a `MSG_UPDATE` type message for an object, the client will send any registered properties in the message.

If a property is already registered, this method will overwrite its existing value.

If a property does not exist, this method will add the property.

### Format

The `nca.registerProperty` method has the following command format(s):

```
nca.registerProperty(name, value, handlerId, options);
```

### Command Parameters

**name**

a String specifying the name of the property to be registered.

**value**

a Property value in its Object form. The type of the object is inferred automatically when the property value is submitted to the server. For example, if a boolean `true` value is specified, then the property will be submitted to the server using type `"java.lang.boolean"`.

**handlerId**

the specific object for which this property should be registered. The object does NOT have to exist at the time this method is invoked.

**options**

a `RegisterPropertyOptions` enum specifying the scenario in which to register the custom property, such as only when sending a `MSG_GET` message, or when sending a `MSG_UPDATE` message.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**NullPointerException**

if the name is `null`.

### Example

Example 1 Sends a `WINSYS_REQUIREDVA_LIST` property when the application is initialized.



---

Example 2 Registers a blank custom TITLE property for a window in case the server asks for the title later in the script.

```
//Example 1
nca.registerProperty("WINSYS_REQUIREDVA_LIST", "true", 1,
  RegisterPropertyOptions.RegisterForMSG_UPDATE);
nca.application("ORACLE_APPLICATIONS").initialize(...);
//Example 2
nca.registerProperty("TITLE", "", 6,
  RegisterPropertyOptions.RegisterForMSG_GET);
```

## nca.responseBox

Identifies an Oracle Forms responseBox object by its handler name.

### Format

The nca.responseBox method has the following command format(s):

```
nca.responseBox(handlerName);
```

```
nca.responseBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the responseBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTResponseBoxMessenger object.

### Example

Performs an action on an Oracle Forms responseBox object specified by its recorded ID and handler name.

```
nca.window(263, "GROUPS_DETAIL").activate("2");
nca.textField(264, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");
nca.textField(265, "GROUPS_OPERATING_UNIT_0").setFocus("1");
nca.textField(266, "GROUPS_OPERATING_UNIT_0").select(0, 17, 17, "");
nca.window(267, "GROUPS_DETAIL").selectMenu(
    "PREFERENCES.CHANGE_PASSWORD", "1");
nca.textField(268, "GROUPS_OPERATING_UNIT_0").clearFocus("");
nca.window(269, "GROUPS_DETAIL").deactivate("1");
nca.responseBox(270, "Password Update").validate("F", 0, "sdfas,,",
    "1");
nca.responseBox(271, "Password Update").validate("F", 1,
    "sdfas,as,", "1");
nca.responseBox(272, "Password Update").validate("F", 2,
    "sdfas,as,as", "1");
nca.responseBox(273, "Password Update").validate("0", 2,
    "sdfas,as,as", "");
nca.responseBox(273, "Password Update").clickOk("", 1);
```

## nca.send

Sends an Oracle Forms Message to the Oracle Forms server.

### Format

The nca.send method has the following command format(s):

```
nca.send(strMessage);
```

```
nca.send(reclId, strMessage);
```

### Command Parameters

#### **reclId**

Optionally specify a recorded element ID. Only used for comparison purposes in the results. May be null.

#### **strMessage**

a String specifying the Oracle Forms Message object in XML format.

### Throws

#### **AbstractScriptException**

on any exception while sending the message to the Oracle Forms server.

### Example

Sends the specified Oracle Forms Message.

```
nca.send(20,
"<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" \" +
"mHandlerClassId=\"1\" mHandlerId=\"1\">\r\n\" +
"<Property actionString=\"INITIAL_VERSION\" action=\"268\" \" +
"type=\"java.lang.Integer\" value=\"1012000\"/>\r\n\" +
"<Property actionString=\"INITIAL_RESOLUTION\" action=\"263\" \" +
"type=\"java.awt.Point\" pointx=\"96.0\" pointy=\"96.0\"/>\r\n\" +
"<Property actionString=\"INITIAL_DISP_SIZE\" action=\"264\" \" +
"type=\"java.awt.Point\" pointx=\"1364.0\" pointy=\"768.0\"/>\r\n\" +
"<Property actionString=\"INITIAL_CMDLINE\" action=\"265\" \" +
"type=\"java.lang.String\" value=\"server module=\" +
"{{formsload.module_1,/dl/oracle01/EBS/VIS/apps/apps_st/" +
"appl/fnd/12.0.0/forms/US/FNDSCSGN}} fndnam=APPS record=names \" +
"config={{formsload.config_1,VIS}}' \" +
"icx_ticket={{formsload.icx_ticket_11i_3,.jAcPSETjvCOKvXLRX3StGA..}}' \" +
"resp='ONT/ORDER_MGMT_SUPER_USER' secgrp='STANDARD' \" +
"start_func='ONT_OEXOEOED_SUMMARY' other_params='\"/>\r\n\" +
"<Property actionString=\"INITIAL_COLOR_DEPTH\" action=\"266\" \" +
"type=\"java.lang.Integer\" value=\"256\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"0\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"255\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"65535\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"4210752\"/>\r\n\" +
```

```

"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"8421504\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"65280\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"12632256\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16711935\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16762880\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16756655\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16711680\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16777215\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16776960\"/>\r\n\" +
"<Property actionString=\"FONT_NAME\" action=\"383\" \" +
"type=\"java.lang.String\" value=\"dialog\"/>\r\n\" +
"<Property actionString=\"FONT_SIZE\" action=\"377\" \" +
"type=\"java.lang.Integer\" value=\"900\"/>\r\n\" +
"<Property actionString=\"FONT_STYLE\" action=\"378\" \" +
"type=\"java.lang.Byte\" value=\"0\"/>\r\n\" +
"<Property actionString=\"FONT_WEIGHT\" action=\"379\" \" +
"type=\"java.lang.Byte\" value=\"0\"/>\r\n\" +
"<Property actionString=\"INITIAL_SCALE_INFO\" action=\"267\" \" +
"type=\"java.awt.Point\" pointx=\"7.0\" pointy=\"21.0\"/>\r\n\" +
"<Property actionString=\"WINSYS_REQUIREDVA_LIST\" action=\"291\" \" +
"type=\"java.lang.Boolean\" value=\"true\"/>\r\n\" +
"<Property actionString=\"SERVER_USER_PARAMS\" action=\"510\" \" +
"type=\"java.lang.String\" value=\"NLS_LANG='AMERICAN_AMERICA' \" +
  \"FORMS_USER_DATE_FORMAT='DD-MON-RRRR' \" +
  \"FORMS_USER_DATETIME_FORMAT='DD-MON-RRRR HH24:MI:SS' \" +
  \"NLS_DATE_LANGUAGE='AMERICAN' NLS_SORT='BINARY' \" +
  \"NLS_NUMERIC_CHARACTERS=','\"/>\r\n\" +
"<Property actionString=\"DEFAULT_LOCAL_TZ\" action=\"530\" \" +
"type=\"java.lang.String\" value=\"Asia/Shanghai\"/>\r\n\" +
"</Message>\r\n");

```

## nca.sendMessagees

Sends raw Oracle Forms Messages to the Oracle Forms server.

### Format

The nca.sendMessagees method has the following command format(s):

```
nca.sendMessagees(description, strMessages);
```

```
nca.sendMessagees(reclId, description, strMessages);
```

### Command Parameters

#### reclId

Optionally specify a recorded element ID. Only used for comparison purposes in the results. May be null.

#### description

Optional a String specifying a human-readable description explaining what this message does. May be null.

#### strMessages

String containing Oracle Forms Messages in XML format.

### Throws

#### AbstractScriptException

on any exception while sending the message to the Oracle Forms server.

### Example

Sends the specified Oracle Forms Messages.

```
nca.sendMessagees(20, "Message Description"
  "<Message mActionString=\"MSG_UPDATE\" mActionCode=\"2\" " +
  "mHandlerClassId=\"1\" mHandlerId=\"1\">\r\n" +
  "<Property actionString=\"INITIAL_VERSION\" action=\"268\" " +
  "type=\"java.lang.Integer\" value=\"1012000\"/>\r\n" +
  "<Property actionString=\"INITIAL_RESOLUTION\" action=\"263\" " +
  "type=\"java.awt.Point\" pointx=\"96.0\" pointy=\"96.0\"/>\r\n" +
  "<Property actionString=\"INITIAL_DISP_SIZE\" action=\"264\" " +
  "type=\"java.awt.Point\" pointx=\"1364.0\" pointy=\"768.0\"/>\r\n" +
  "<Property actionString=\"INITIAL_CMDLINE\" action=\"265\" " +
  "type=\"java.lang.String\" value=\"server module=" +
  "{{formsload.module_1,/d1/oracle01/EBS/VIS/apps/apps_st/" +
  "apl/fnd/12.0.0/forms/US/FNDSCSGN}} fndnam=APPS record=names " +
  "config={{formsload.config_1,VIS}}" ' " +
  "icx_ticket={{formsload.icx_ticket_11i_3,.jAcPSETjvCokvXLRX3StGA..}}" ' " +
  "resp='ONT/ORDER_MGMT_SUPER_USER' secgrp='STANDARD' " +
  "start_func='ONT_OEXOORD_SUMMARY' other_params=''\>\r\n" +
  "<Property actionString=\"INITIAL_COLOR_DEPTH\" action=\"266\" " +
  "type=\"java.lang.Integer\" value=\"256\"/>\r\n" +
  "<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" " +
  "type=\"java.lang.Integer\" value=\"0\"/>\r\n" +
  "<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" " +
  "type=\"java.lang.Integer\" value=\"255\"/>\r\n" +
```

```

"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"65535\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"4210752\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"8421504\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"65280\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"12632256\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16711935\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16762880\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16756655\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16711680\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16777215\"/>\r\n\" +
"<Property actionString=\"WINSYS_COLOR_ADD\" action=\"284\" \" +
"type=\"java.lang.Integer\" value=\"16776960\"/>\r\n\" +
"<Property actionString=\"FONT_NAME\" action=\"383\" \" +
"type=\"java.lang.String\" value=\"dialog\"/>\r\n\" +
"<Property actionString=\"FONT_SIZE\" action=\"377\" \" +
"type=\"java.lang.Integer\" value=\"900\"/>\r\n\" +
"<Property actionString=\"FONT_STYLE\" action=\"378\" \" +
"type=\"java.lang.Byte\" value=\"0\"/>\r\n\" +
"<Property actionString=\"FONT_WEIGHT\" action=\"379\" \" +
"type=\"java.lang.Byte\" value=\"0\"/>\r\n\" +
"<Property actionString=\"INITIAL_SCALE_INFO\" action=\"267\" \" +
"type=\"java.awt.Point\" pointx=\"7.0\" pointy=\"21.0\"/>\r\n\" +
"<Property actionString=\"WINSYS_REQUIREDVA_LIST\" action=\"291\" \" +
"type=\"java.lang.Boolean\" value=\"true\"/>\r\n\" +
"<Property actionString=\"SERVER_USER_PARAMS\" action=\"510\" \" +
"type=\"java.lang.String\" value=\"NLS_LANG='AMERICAN_AMERICA' \" +
  \"FORMS_USER_DATE_FORMAT='DD-MON-RRRR' \" +
  \"FORMS_USER_DATETIME_FORMAT='DD-MON-RRRR HH24:MI:SS' \" +
  \"NLS_DATE_LANGUAGE='AMERICAN' NLS_SORT='BINARY' \" +
  \"NLS_NUMERIC_CHARACTERS=','\"/>\r\n\" +
"<Property actionString=\"DEFAULT_LOCAL_TZ\" action=\"530\" \" +
"type=\"java.lang.String\" value=\"Asia/Shanghai\"/>\r\n\" +
"</Message>\r\n");

```

## nca.sendTerminal

Sends an Oracle Forms Terminal Message request to the Oracle Forms server.

### Format

The nca.sendTerminal method has the following command format(s):

```
nca.sendTerminal(responseCode);
```

```
nca.sendTerminal(reclId, responseCode);
```

### Command Parameters

**reclId**

Optionally specify a recorded element ID. Only used for comparison purposes in the results. May be null.

**responseCode**

Specify the type of terminal message to send, i.e. 1, 2, or 3.

### Throws

**AbstractScriptException**

on any exception while sending the terminal message to the Oracle Forms server.

### Example

Sends an Oracle Forms Terminal Message 1.

```
nca.sendTerminal(90, 1);
```

## nca.solve

Parses a value from the source of latest action and store it as a variable.

### Format

The `nca.solve` method has the following command format(s):

```
nca.solve(name, pattern, errorMessage, isOptional, source, resultIndex, encoding);
```

### Command Parameters

**name**

a String specifying the Name of the variable to create. Must not be `null`.

**pattern**

a String specifying the Regular expression specifying what to extract from the most recent navigation's contents. May contain a transform expression. Must not be `null`.

**errorMessage**

an optional String specifying the error message to display if the pattern cannot be solved. If `null`, a meaningful error message is automatically generated.

**isOptional**

a boolean specifying if pattern must be solved or not. Set to `True` if the pattern does not have to be solved. If the pattern cannot be solved, the method quietly returns.

**source**

an `NcaSource` enum specifying which contents to return as a String.

**resultIndex**

an index value that specifies the 0-based index of the specific result to retrieve if the pattern matches more than one value. If `null`, all results will be added into the variables collection.

**encoding**

an `EncodeOptions` enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A `null` value is equivalent to `EncodeOptions.None`.

### Throws

**Exception**

if the object is not found.

### Example

Parse a value from the specified source using a Regular Expression and store it in a variable. An optional error message returns if the pattern cannot be solved. The pattern is optional and does not have to be solved. Includes a result index value of 0 to specify it should retrieve the first match result and encoding or decode using the specified option.

```
nca.solve("varStatusBar0", "FRM-(.): Transaction complete: (.) records " +  
    "applied and saved.", "Text not Found", false,  
    NcaSource.StatusBarText, 0, EncodeOptions.None);
```



---

## nca.statusBar

Identifies an Oracle Forms statusBar object by its recorded ID and handler name.

### Format

The nca.statusBar method has the following command format(s):

```
nca.statusBar(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the statusBar. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTStatusBar object.

### Example

Identifies an Oracle Forms statusBar object specified by its recorded ID and handler name.

```
nca.statusBar(173, "statusBar");
```

## nca.tab

Identifies an Oracle Forms TabControl object by its handler name.

### Format

The nca.tab method has the following command format(s):

```
nca.tab(handlerName);
```

```
nca.tab(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the TabControl. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTTabControl object.

### Example

Performs an action on an Oracle Forms TabControl object specified by its recorded ID and handler name.

```
nca.tab(119, "SUMMARY_TABS").setFocus("");  
nca.tab(120, "SUMMARY_TABS").selectByIndex(9, "1");  
nca.tab(121, "SUMMARY_TABS").clearFocus("");
```

---

## nca.tableBox

Identifies an Oracle Forms tableBox object by its recorded ID and handler name.

### Format

The nca.tableBox method has the following command format(s):

```
nca.tableBox(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the tableBox. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTTableBox object.

### Example

Identifies an Oracle Forms tableBox object specified by its recorded ID and handler name.

```
nca.tableBox(171, "tablebox");
```

## nca.textField

Creates a reference to a text field object in the Forms applet by handler name.  
The object is not actually found until performing some action against the object.

### Format

The `nca.textField` method has the following command format(s):

```
nca.textField(handlerName);  
nca.textField(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes.  
May be `null`.

**handlerName**

a String specifying the handler name of the text field. Must not be `null`.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a new `TFormsLTTextField` object.

### Example

Performs an action on an Oracle Forms text field object specified by its recorded ID and handler name.

```
nca.window(307, "NAVIGATOR").activate("");  
nca.window(308, "NAVIGATOR").setVisible(true, "");  
nca.textField(325, "GROUPS_OPERATING_UNIT_0").setFocus();  
String text=nca.textField(327, "GROUPS_OPERATING_UNIT_0").getText();  
info("text: " + text);  
nca.textField(327, "GROUPS_OPERATING_UNIT_0").clickButton();
```

## nca.timer

Identifies an Oracle Forms timer object by its handler name.

### Format

The nca.timer method has the following command format(s):

```
nca.timer(handlerName);
nca.timer(recid, handlerName);
```

### Command Parameters

#### recid

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### handlerName

a String specifying the handler name of the timer. Must not be null.

### Throws

#### Exception

if the object is not found.

### Returns

a new TFormsLTApplicationTimer object.

### Example

Performs an action on an Oracle Forms timer object specified by its recorded ID and handler name.

```
nca.window(9078, "FOLDER_INCIDENT_TRACKING").activate("2");
nca.textfield(9079, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .select(0, 20, 20, "");
nca.button(9080, "CALENDAR_OK_0").clearFocus("");
nca.textfield(9081, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .setFocus("1");
nca.window(9082, "Oracle Applications - Main Window")
    .resize(1364, 768, "1");
nca.textfield(9083, "CREATE_TASK_PLANNED_END_DATE_UI_0")
    .clearFocus("");
nca.jContainer(9084, "SR_TASK_GRID_GRID_ITEM_0")
    .setFocus("");
nca.jContainer(9085, "SR_TASK_GRID_GRID_ITEM_0")
    .sendMessage("<Message mActionString=\<MSG_UPDATE\< mActionCode=\<2\< " +
        "mHandlerClassId=\<271\< mHandlerId=\<496\< >\<r\n" +
        "<Property actionString=\<EVENT\< action=\<398\< " +
        "type=\<oracle.forms.engine.Message\< >\<r\n" +
        "<Message mActionString=\<MSG_UPDATE\< mActionCode=\<2\< " +
        "mHandlerClassId=\<271\< mHandlerId=\<496\< >\<r\n" +
        "<Property actionString=\<EVENTNAME\< action=\<399\< " +
        "type=\<java.lang.String\< value=\<focusChanged\</>\<r\n" +
        "<Property actionString=\<EVENT_ARGNAME\< action=\<400\< " +
```

```
"type=\"java.lang.String\" value=\"currentColumn\"/>\r\n" +
"<Property actionString=\"EVENT_ARGVALUE\" action=\"401\" \" +
"type=\"java.lang.String\" value=\" \"/>\r\n" +
"<Property actionString=\"EVENT_ARGNAME\" action=\"400\" \" +
"type=\"java.lang.String\" value=\"currentRow\"/>\r\n" +
"<Property actionString=\"EVENT_ARGVALUE\" action=\"401\" \" +
"type=\"java.lang.String\" value=\"2\"/>\r\n" +
</Message>\r\n</Property>\r\n</Message>\r\n", "12");
nca.timer(9086, "COMPONENT_ID_1216").expired("1");
nca.window(9087, "FOLDER_INCIDENT_TRACKING").deactivate("1");
```

---

## nca.tree

Identifies an Oracle Forms Tree object by its handler name.

### Format

The nca.tree method has the following command format(s):

```
nca.tree(handlerName);
```

```
nca.tree(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the Tree. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTTreeItem object.

### Example

Performs an action on an Oracle Forms Tree object specified by its recorded ID and handler name.

```
nca.tree(334, "APPTREE_NAV_TREE_NAVIGATOR_0").setFocus("");  
nca.tree(335, "APPTREE_NAV_TREE_NAVIGATOR_0").expandNode(1, "1");
```

## nca.treeList

Identifies an Oracle Forms TreeList object by its handler name.

### Format

The `nca.treeList` method has the following command format(s):

```
nca.treeList(handlerName);
```

```
nca.treeList(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be `null`.

**handlerName**

a String specifying the handler name of the TreeList. Must not be `null`.

### Throws

**Exception**

if the object is not found.

### Returns

a new `TFormsLTTListItem` object.

### Example

Performs an action on an Oracle Forms TreeList object specified by its recorded ID and handler name.

```
nca.treeList(124, "NAVIGATOR_LIST_0").setFocus("1");  
nca.treeList(125, "NAVIGATOR_LIST_0").selectByIndex(1);
```



## nca.unregisterProperty

Unregister a property that was previously registered using `registerProperty`.  
If the specified property does not exist, this method does not do anything.

### Format

The `nca.unregisterProperty` method has the following command format(s):

```
nca.unregisterProperty(name, handlerId);
```

### Command Parameters

**name**

a String specifying the name of the property previously registered using `registerProperty`.

**handlerId**

a value specifying the object for which this property was registered.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**NullPointerException**

if the name is null.

### Example

Unregisters the previously registered property.

```
nca.unregisterProperty("TITLE", 6);
```

## nca.verifyStatusBarText

Searches the status bar contents for the specified text pattern and performs a verify only matching test.

If the test fails, report a warning.

This method will never cause a script to fail, regardless of the text matching test error recovery settings. Use [nca.assertStatusBarText](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are NOT reported in OLT. If any part of the status bar text matches `textToVerify`, the verification succeeds.

### Format

The `nca.verifyStatusBarText` method has the following command format(s):

```
nca.verifyStatusBarText(testName, textToVerify, matchOption);
```

```
nca.verifyStatusBarText(reclId, testName, textToVerify, matchOption);
```

### Command Parameters

**reclId**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**testName**

a String specifying the test name.

**textToVerify**

a String specifying the Text to match on the page, or not match on the page if TextPresence is set as PassIfPresent.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Verifies the specified text matches exactly.

```
nca.verifyStatusBarText(151, "Verify StatusBar Text" +  
"text value", "FRM-40400: Transaction complete: " +  
"1 records applied and saved.", MatchOption.Exact);
```

---

## nca.verifyText

Searches the text of selected source type for the specified text pattern performing a verify only text match.

If the test fails, report a warning. This method will never cause a script to fail, regardless of the text matching test error recovery settings. Use [nca.assertText](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are NOT reported in OLT. If any part of the source text matches `textToVerify`, the verification succeeds.

### Format

The `nca.verifyText` method has the following command format(s):

```
nca.verifyText(testName, textToVerify, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToVerify**

a String specifying the Text to match on the page, or not match on the page if TextPresence is set as PassIfPresent.

**sourceType**

a NcaSource enum specifying where to match the text, i.e. in the Object Details, Request and Response, or Status Bar text.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a regular expression, wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds a Verify only, never fail, Text Matching tests for Statu Bar text.

```
nca.verifyText("myTextMatchingTest", "match this text string",  
NcaSource.StatusBarText, TextPresence.PassIfPresent, MatchOption.Exact);
```

## nca.window

Identifies an Oracle Forms FormWindow object by its handler name.

### Format

The nca.window method has the following command format(s):

```
nca.window(handlerName);
```

```
nca.window(recid, handlerName);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**handlerName**

a String specifying the handler name of the FormWindow. Must not be null.

### Throws

**Exception**

if the object is not found.

### Returns

a new TFormsLTFormWindow object.

### Example

Performs an action on an Oracle Forms FormWindow object specified by its recorded ID and handler name.

```
nca.window(102, "NAVIGATOR").activate("");  
nca.registerProperty("TITLE", "", 102, RegisterPropertyOptions.RegisterForMSG_  
GET);  
nca.unregisterProperty("title", 102);  
nca.textField(103, "NAVIGATOR_TYPE_0").setFocus("22");  
nca.window(105, "NAVIGATOR").resize(586, 451, "22222");  
nca.window(106, "FIND_ORDER_NUMBER_0").setCursorPosition(0, "");  
nca.window(107, "CONFIGURATOR_PROCESSING").move(288, 192, "");
```

---



---

## Oracle Fusion/ADF Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript AdfLoadService Class of ADF Load Module Application Programming Interface (API).

### 6.1 AdfLoadService ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript AdfLoadService API.

#### 6.1.1 Alphabetical Enum Listing

The following table lists the AdfLoadService Enums in alphabetical order.

**Table 6–1** List of AdfLoadService Enums

Enum	Description
<a href="#">VariableType</a>	Specifies the tag types of the ADF response content for the <code>solveGroupAdf()</code> method.

### 6.2 AdfLoadService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript AdfLoadService API.

#### 6.2.1 Alphabetical Command Listing

The following table lists the AdfLoadService API methods in alphabetical order.

**Table 6–2** List of AdfLoadService Methods

Method	Description
<a href="#">adfload.getAdfVariable</a>	Constructor for an ADF variable.
<a href="#">adfload.solveGroupAdf</a>	Extracts multiple ADF variables from the ADF Rich Response Content and stores them in the variables collection.

The following sections provide detailed reference information for each method and enum in the AdfLoadService Class of ADF Load Module Application Programming Interface.

## adfload.getAdfVariable

Constructor for an ADF variable.

### Format

The adfload.getAdfVariable method has the following command format(s):

```
adfload.getAdfVariable(name, xpath, variableValue, segmentIndex, variableIndex, variableType,  
encodeOption);
```

### Command Parameters

**name**

a String specifying the variable name. Must not be null.

**xpath**

a String specifying the XPath which is used to locate the value of an ADF variable from the last retrieved contents. Must not be null.

**variableValue**

a String specifying last value of the variable. Must not be null.

**segmentIndex**

an int specifying the index of the segment in which variable appears. Must not be null.

**variableIndex**

an int specifying the index of the appearance that matches the XPath in a segment. Must not be null.

**variableType**

an enum specifying the type of ADF Variable, such as VariableType.RICHCOMPONENT or VariableType.INPUT. Must not be null.

**encodeOption**

an EncodeOptions enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A null value is equivalent to EncodeOptions.None.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of adfload script.

### Returns

an AdfVariable Object. Must not be null.

### Example

Constructor for an ADF variable using properties of an ADF variable.

```
adfload.getAdfVariable("adf_option_0_9", ".//OPTION[@id='opt']/@value",  
"2", 0, 0, VariableType.OPTION, EncodeOptions.None);
```

---

## adfload.solveGroupAdf

Extracts multiple ADF variables from the ADF Rich Response Content and stores them in the variables collection.

### Format

The adfload.solveGroupAdf method has the following command format(s):

```
adfload.solveGroupAdf(adfVariables);
```

### Command Parameters

**adfVariables**

one or more AdfVariable objects representing multiple ADF variables. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of adfload script.

### Example

Extracts two ADF variables from the ADF Rich Response Content and stores them in the variables collection.

```
adfload.solveGroupAdf(adfload.getAdfVariable("adf_comp_ptemppt_soc1",  
    "//AdfRichSelectOneChoice[@immediate='true']" +  
    "/@fullId","ptemp:pt_soc1", -1, -1, VariableType.RICHCOMPONENT,  
    EncodeOptions.None),  
    adfload.getAdfVariable("adf_option_0_9", ".//OPTION[@id='opt']" +  
    "/@value", "2",0, 0, VariableType.OPTION, EncodeOptions.None));
```

## VariableType

The VariableType has the following values:

**Table 6–3** *List of VariableType Values*

<b>Value</b>	<b>Description</b>
LINK	LINK tag.
FORMACTION	FORMACTION tag.
FRAMESRC	FRAMESRC tag.
INPUT	INPUT tag.
TEXTAREA	TEXTAREA tag.
OPTION	OPTION tag.
RICHCOMPONENT	RICHCOMPONENT tag.



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## Oracle Hyperion Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript HyperionLoadService Class of Hyperion Load Module Application Programming Interface (API).

### 7.1 HyperionLoadService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript HyperionLoadService API.

#### 7.1.1 Alphabetical Command Listing

The following table lists the HyperionLoadService API methods in alphabetical order.

**Table 7–1** *List of HyperionLoadService Methods*

Method	Description
<a href="#">hyperion.getAtSignEncoder</a>	Gets an implementation class of IEncoder, providing an encode method of replacing '\n' to '@'.
<a href="#">hyperion.getBNTOCRLFEncoder</a>	Gets an implementation class of IEncoder, providing an encode method of replacing '\ plus \n' to "\r\n".
<a href="#">hyperion.getBNTOLFEncoder</a>	Gets an implementation class of IEncoder, providing an encode method of replacing '\ plus \n' to '\n'.
<a href="#">hyperion.getCRLFSEncoder</a>	Gets an implementation class of IEncoder, providing an encode method of replacing '\n' to "\r\n*".
<a href="#">hyperion.getStarEncoder</a>	Gets an implementation class of IEncoder, providing an encode method of replacing '\n' to '*'.

The following sections provide detailed reference information for each method and enum in the HyperionLoadService Class of Hyperion Load Module Application Programming Interface.

## hyperion.getAtSignEncoder

Gets an implementation class of IEncoder, providing an encode method of replacing 'n' to '@'. Will be used to provide custom encode options.

### Format

The hyperion.getAtSignEncoder method has the following command format(s):

```
hyperion.getAtSignEncoder();
```

### Returns

an implementation class of IEncoder, providing an encode method of replacing newlines to '@'.

### Example

Performs an encode action replacing replacing newlines to '@'.

```
String str_withnewline = "test\nnclassofIEncoder";
String str_line = "test\\nclassofIEncoder";
{
String str_getAtSign = hyperion.getAtSignEncoder().encode(str_withnewline);
String str_getAtSign1 = hyperion.getAtSignEncoder().encode(str_line); *
if (str_getAtSign.equals("test@classofIEncoder"))
    info("API getAtSignEncoder().encode() passed!");
else
    warn("API getAtSignEncoder().encode() failed!");
if (str_getAtSign1.equals("test\\nclassofIEncoder"))
    info("API getAtSignEncoder().encode() passed!");
else
    warn("API getAtSignEncoder().encode() failed!");
if (hyperion.getAtSignEncoder().getEncoderName().equals("getAtSignEncoder"))
    info("API getAtSignEncoder().getEncoderName() passed!");
else
    warn("API getAtSignEncoder().getEncoderName() failed!");
}
```

---

## hyperion.getBNTOCRLFEncoder

Gets an implementation class of IEncoder, providing an encode method of replacing " plus 'n' to "rn". Will be used to provide custom encode options.

### Format

The hyperion.getBNTOCRLFEncoder method has the following command format(s):

```
hyperion.getBNTOCRLFEncoder();
```

### Returns

an implementation class of IEncoder, providing an encode method of replacing '\ ' plus '\n' to "\r\n".

### Example

Performs an encode action replacing replacing " plus 'n' to "rn".

```
String str_withnewline = "test\nclassofIEncoder";
String str_line = "test\\nclassofIEncoder";
{
String getBNTOCRLF = hyperion.getBNTOCRLFEncoder().encode(str_withnewline);
String getBNTOCRLF1 = hyperion.getBNTOCRLFEncoder().encode(str_line);
if (getBNTOCRLF.equals("test\nclassofIEncoder"))
    info("API getBNTOCRLFEncoder().encode() passed!");
else
    warn("API getBNTOCRLFEncoder().encode() failed!");
if (getBNTOCRLF1.equals("test\r\nclassofIEncoder"))
    info("API getBNTOCRLFEncoder().encode() passed!");
else
    warn("API getBNTOCRLFEncoder().encode() failed!");
if (hyperion.getBNTOCRLFEncoder().getEncoderName().equals("getBNTOCRLFEncoder"))
    info("API getBNTOCRLFEncoder().getEncoderName() passed!");
else
    warn("API getBNTOCRLFEncoder().getEncoderName() failed!");
}
```

## hyperion.getBNTToLFEncoder

Gets an implementation class of IEncoder, providing an encode method of replacing " plus 'n' to 'n'. Will be used to provide custom encode options.

### Format

The hyperion.getBNTToLFEncoder method has the following command format(s):

```
hyperion.getBNTToLFEncoder();
```

### Returns

an implementation class of IEncoder, providing an encode method of replacing '\ ' plus '\n' to '\n'.

### Example

Performs an encode action replacing replacing " plus 'n' to 'n'.

```
String str_withnewline = "test\nclassofIEncoder";
String str_line = "test\\nclassofIEncoder";
{
String getBNTToLF = hyperion.getBNTToLFEncoder().encode(str_withnewline);
String getBNTToLF1 = hyperion.getBNTToLFEncoder().encode(str_line);
if (getBNTToLF.equals("test\nclassofIEncoder"))
    info("API getBNTToLFEncoder().encode() passed!");
else
    warn("API getBNTToLFEncoder().encode() failed!");
if (getBNTToLF1.equals("test\nclassofIEncoder"))
    info("API getBNTToLFEncoder().encode() passed!");
else
    warn("API getBNTToLFEncoder().encode() failed!");
if (hyperion.getBNTToLFEncoder().getEncoderName().equals("getBNTToLFEncoder"))
    info("API getBNTToLFEncoder().getEncoderName() passed!");
else
    warn("API getBNTToLFEncoder().getEncoderName() failed!");
}
```

---

## hyperion.getCRLFSEncoder

Gets an implementation class of IEncoder, providing an encode method of replacing 'n' to "rn\*". Will be used to provide custom encode options.

### Format

The hyperion.getCRLFSEncoder method has the following command format(s):

```
hyperion.getCRLFSEncoder( );
```

### Returns

an implementation class of IEncoder, providing an encode method of replacing '\n' to "\r\n\*".

### Example

Performs an encode action replacing replacing 'n' to "rn\*".

```
String str_withnewline = "test\nnclassofIEncoder";
String str_line = "test\\nclassofIEncoder";
{
String str_getCRLF = hyperion.getCRLFSEncoder().encode(str_withnewline);
String str_getCRLF1 = hyperion.getCRLFSEncoder().encode(str_line);
if (str_getCRLF.equals("test\r\n*nclassofIEncoder"))
    info("API getCRLFSEncoder().encode() passed!");
else
    warn("API getCRLFSEncoder().encode() failed!");
if (str_getCRLF1.equals("test\\nclassofIEncoder"))
    info("API getCRLFSEncoder().encode() passed!");
else
    warn("API getCRLFSEncoder().encode() failed!");
if (hyperion.getCRLFSEncoder().getEncoderName().equals("getCRLFSEncoder"))
    info("API getCRLFSEncoder().getEncoderName() passed!");
else
    warn("API getCRLFSEncoder().getEncoderName() failed!");
}
```

## hyperion.getStarEncoder

Gets an implementation class of IEncoder, providing an encode method of replacing 'n' to '\*'. Will be used to provide custom encode options.

### Format

The hyperion.getStarEncoder method has the following command format(s):

```
hyperion.getStarEncoder( );
```

### Returns

an implementation class of IEncoder, providing an encode method of replacing newlines to '\*'.

### Example

Performs an encode action replacing newlines to '\*'

```
String str_withnewline = "test\nnclassofIEncoder";
String str_line = "test\\nclassofIEncoder";
{
String str_getStar = hyperion.getStarEncoder().encode(str_withnewline);
String str_getStar1 = hyperion.getStarEncoder().encode(str_line);
if (str_getStar.equals("test*nclassofIEncoder"))
    info("API getStarEncoder().encode() passed!");
else
    warn("API getStarEncoder().encode() failed!");
if (str_getStar1.equals("test\\nclassofIEncoder"))
    info("API getStarEncoder().encode() passed!");
else
    warn("API getStarEncoder().encode() failed!");
if (hyperion.getStarEncoder().getEncoderName().equals("getStarEncoder"))
    info("API getStarEncoder().getEncoderName() passed!");
else
    warn("API getStarEncoder().getEncoderName() failed!");
}
```

---

---

# Siebel Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript SiebelService Class of Siebel Load Module Application Programming Interface (API).

## 8.1 SiebelService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript SiebelService API.

### 8.1.1 Alphabetical Command Listing

The following table lists the SiebelService API methods in alphabetical order.

**Table 8–1** *List of SiebelService Methods*

Method	Description
<a href="#">siebel.getSettings</a>	Gets the Siebel Settings object.
<a href="#">siebel.solve</a>	Parse a Siebel value from the most recent navigation's contents and store it as a variable.

The following sections provide detailed reference information for each method and enum in the SiebelService Class of Siebel Load Module Application Programming Interface.

## siebel.getSettings

Gets the Siebel Settings object.

### Format

The siebel.getSettings method has the following command format(s):

```
siebel.getSettings( );
```

### Returns

Settings pertaining to the Siebel Service.

### Example

Gets the Siebel Settings object and check validation enabled.

```
import oracle.oats.scripting.modules.siebel.api.SiebelSettings;
//[...]
SiebelSettings settings = siebel.getSettings();
settings.setIsSiebelValidationEnabled(true);
boolean isvalidationEnabled = settings.getIsSiebelValidationEnabled();
info("isvalidationEnabled = " + isvalidationEnabled);
```



---

## siebel.solve

Parse a Siebel value from the most recent navigation's contents and store it as a variable.

This method honors the "Solve Variable Failed" error recovery setting. If "Solve Variable Failed" error recovery is not set to fail, then the script will continue running even if a non-optional variable cannot be solved.

### Format

The siebel.solve method has the following command format(s):

```
siebel.solve(varName, pattern, errorMsg, isOptional, sourceType);
```

### Command Parameters

**varName**

a String specifying the name of the variable to create. Must not be null.

**pattern**

a String specifying the Siebel pattern specifying what to extract from the most recent navigation's contents. May contain a transform expression. Must not be null.

**errorMsg**

a String specifying an optional error message to display if the pattern cannot be solved. If null, a meaningful error message is automatically generated.

**isOptional**

a Boolean specifying true if the pattern does not have to be solved. If the pattern cannot be solved, the method quietly returns.

**sourceType**

a Source enum specifying the part of the most recent navigation's contents (i.e. body or headers) against which to solve the pattern. If null, this method will assume Source.Html.

### Throws

**Exception**

if any failure.

**SolveException**

If the given pattern cannot be matched to the previous contents and the pattern is not optional.

### Example

Parse a Siebel value from the most recent navigation's contents and store it as a variable.

```
http.post(107,  
  "http://siebel005.example.com/callcenter_enu/start.swe",  
  null, http.postdata(http.param("SWEC", "@SWECInc(1)")),  
  http.param("SWERPC", "1"),  
  http.param("SWENeedContext", "false"),
```

```
    http.param("SWEView", "Account List View"),
    http.param("SWECmd", "GotoView"),
    http.param("SWEKeepContext", "1"), null, true,
    "UTF8", "UTF8");
{
  siebel.solve(
    "_Siebel_CORRLIB_FIELD_1294336896147__S_BC1_S17_R01_F01_#_3 scripts co",
    "_Siebel_CORRLIB_FIELD__TEXT", null, false,
    Source.Html);
  siebel.solve(
    "_Siebel_CORRLIB_FIELD_1294336896147__S_BC1_S17_R01_F04_#_Qualified",
    "_Siebel_CORRLIB_FIELD__TEXT", null, false,
    Source.Html);
  siebel.solve(
    "_Siebel_CORRLIB_FIELD_1294336896147__S_BC1_S17_R01_F03_#_",
    "_Siebel_CORRLIB_FIELD__PHONE", null, false,
    Source.Html);
  siebel.solve(
    "_Siebel_CORRLIB_FIELD_1294336896147__S_BC1_S17_R01_F05_#_",
    "_Siebel_CORRLIB_FIELD__TEXT", null, false,
    Source.Html);
  siebel.solve(
    "_Siebel_CORRLIB_FIELD_1294336896147__S_BC1_S17_R01_F02_#_abc",
    "_Siebel_CORRLIB_FIELD__TEXT", null, false,
    Source.Html);
  siebel.solve(
    "_Siebel_CORRLIB_ROWID_1294336896147__S_BC1_S17_R01_FID_#_1-J8TZ",
    "_Siebel_CORRLIB_ROWID", null, false,
    Source.Html);
}
http.get(111, "http://siebel005.example.com/callcenter_enu/start.swe",
  http.querystring(
    http.param("SWECmd", "GetViewLayout"),
    http.param("SWEView", "Account List View"),
    http.param("SWEVI", ""),
    http.param("SWEVLC",
      "{{SWEVLC,0-1_Siebel+Universal+Agent_37%7c1119321220%7c0_0_19221_00_L}}"),
    null, true, "UTF8", "UTF8");
```

---



---

## Web/HTTP Load Module

This chapter provides a complete listing and reference for the methods in the OpenScript HTTPService Class of HTTP Load Module Application Programming Interface (API).

### 9.1 HTTPService ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript HTTPService API.

#### 9.1.1 Alphabetical Enum Listing

The following table lists the HTTPService Enums in alphabetical order.

**Table 9–1** List of HTTPService Enums

Enum	Description
<a href="#">EncodeOptions</a>	When solving variables using <code>solve()</code> , specify an additional encoding/decoding transformation to apply the variable's value.
<a href="#">Source</a>	For the <code>find()</code> and <code>solve()</code> functions, specify which part of the browser response in which to look.

### 9.2 HTTPService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript HTTPService API.

#### 9.2.1 Alphabetical Command Listing

The following table lists the HTTPService API methods in alphabetical order.

**Table 9–2** List of HTTPService Methods

Method	Description
<a href="#">http.addAuthentication</a>	Add a username and password to use when authenticating a URL that requires NTLM or Basic authentication.
<a href="#">http.addCookie</a>	Adds a cookie to the cookie jar.
<a href="#">http.addGlobalAssertText</a>	Registers a text assertion test to run every time a page is requested.
<a href="#">http.addGlobalVerifyText</a>	Registers a text verification test to run every time a page is requested.

**Table 9–2 (Cont.) List of HTTPService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">http.addValidator</a>	Adds a class to provide custom validation for all browser responses.
<a href="#">http.assertJSONPath</a>	Verify the text in a JSONPath expression to select content from the target and compare the result to the value you expect.
<a href="#">http.assertJSONPathCount</a>	Verify the text in a JSONPath expression to count the occurrences of an element in a request or response.
<a href="#">http.assertJSONPathExistence</a>	Verify the text in a JSONPath expression to select content from the target and check whether it exists.
<a href="#">http.assertResponseTime</a>	Tests the server response time for the previous request.
<a href="#">http.assertText</a>	Searches the HTML contents of the specified document XPath for the specified text pattern.
<a href="#">http.assertTitle</a>	Searches the <title> tag in the HTML content for the specified title pattern, reporting a failure if the test fails.
<a href="#">http.assertXPath</a>	Extracts a value from the browser's last retrieved contents using XPath notation.
<a href="#">http.beginConcurrent</a>	Begins a concurrent section used to make multiple HTTP requests at the same time by the same Virtual User using a different HTTP connection.
<a href="#">http.clearCookies</a>	Clears the Cookies during playback.
<a href="#">http.delete</a>	Requests a web page using an HTTP DELETE method.
<a href="#">http.deletedata</a>	Convenience method to return a deletedata ParamCollection.
<a href="#">http.element</a>	Finds the element from the browser's DOM tree using XPath notation.
<a href="#">http.endConcurrent</a>	Ends the specified concurrent section waiting the specified amount of time for requests to finish.
<a href="#">http.form</a>	Finds the form element from the browser's DOM tree using XPath notation.
<a href="#">http.frame</a>	Finds the frame element from the browser's DOM tree using XPath notation.
<a href="#">http.get</a>	Requests a web page using an HTTP GET method.
<a href="#">http.getBrowser</a>	Gets a Thin browser for making HTTP requests.
<a href="#">http.getHtmlContent</a>	Gets the HTML content of a document which is specified by the XPath.
<a href="#">http.getLastBrowserResponse</a>	Gets the last retrieved response from this Virtual User's browser.
<a href="#">http.getLastResponseContents</a>	Returns a String version of a given browser response from the specified source type.
<a href="#">http.getResponseHeaders</a>	Gets the headers of a response and its ancestors that is received by a window specified by the XPath.
<a href="#">http.getSettings</a>	Gets the settings for the HTTP service.
<a href="#">http.getValidatorList</a>	Returns all the validators added by addValidator.
<a href="#">http.head</a>	Requests a web page using an HTTP HEAD method with querystrings, headers, URL encoding, and character sets.
<a href="#">http.header</a>	Convenience method for creating a new Header object.

**Table 9–2 (Cont.) List of HTTPService Methods**

Method	Description
<a href="#">http.headers</a>	Convenience method to create a new Header array.
<a href="#">http.httpdata</a>	Convenience method to return a httpdata ParamCollection.
<a href="#">http.javascriptPath</a>	Builds the JavaScript path(s) to use to extract JavaScript strings using <a href="#">http.solveGroupJavaScript</a> .
<a href="#">http.link</a>	Finds the link element from the browser's DOM tree using XPath notation.
<a href="#">http.loadKeystore</a>	Loads the keystore file using the specified password.
<a href="#">http.multipartPost</a>	Requests a web page using a multipart HTTP POST method with querystring, postdata, headers, boundary, URL-encoding, and character sets.
<a href="#">http.navigate</a>	Navigates to a web page using the specified ID, URL, additional headers, redirect, character set, method, and input stream.
<a href="#">http.options</a>	Convenience method to create a new File Parameter object.
<a href="#">http.optionsdata</a>	Convenience method to return a new optionsdata ParamCollection.
<a href="#">http.param</a>	Convenience method to create a new File Parameter object.
<a href="#">http.patch</a>	Requests a web page using an HTTP PATCH method with querystrings, putdata, headers, URL encoding, and character sets..
<a href="#">http.patchdata</a>	Convenience method to return a patchdata ParamCollection object.
<a href="#">http.post</a>	Requests a web page using an HTTP POST method with querystrings, postdata, headers, URL encoding, and character sets.
<a href="#">http.postdata</a>	Convenience method to return a postdata ParamCollection.
<a href="#">http.put</a>	Requests a web page using an HTTP PUT method with querystrings, putdata, headers, URL encoding, and character sets.
<a href="#">http.putdata</a>	Convenience method to return a putdata ParamCollection object.
<a href="#">http.querystring</a>	Convenience method to create a query string ParamCollection object.
<a href="#">http.removeCookie</a>	Removes the cookie named <i>cookieName</i> from the cookie jar.
<a href="#">http.removeGlobalTextValidator</a>	Removes a global text assertion or verification test that was previously added using the <a href="#">http.addGlobalAssertText</a> .
<a href="#">http.removeValidator</a>	Removes a previously added validator.
<a href="#">http.setAcceptLanguage</a>	Specifies the Accept-Language header that the browser should use when sending HTTP requests.
<a href="#">http.setUserAgent</a>	Specifies the User-Agent header that the browser should use when sending HTTP requests.
<a href="#">http.solve</a>	Parses a value from the document found by XPath and stores it as a variable.
<a href="#">http.solveCookieHeader</a>	Extracts the "Set-Cookie" header value which matches the cookie key from the last response header and stores it in the specified script variable.

**Table 9–2 (Cont.) List of HTTPService Methods**

Method	Description
<a href="#">http.solveGroupJavaScript</a>	Extracts a JavaScript string from a document by XPath using a String and stores it in the script's variables collection.
<a href="#">http.solveHeader</a>	Extracts the specified header value using from the last request's response header according to header name.
<a href="#">http.solveRedirectNavs</a>	Parses a value from the re-directed navigation's contents and stores it as a variable.
<a href="#">http.solveRefererHeader</a>	Extracts the "Referer" header value using from the last request's response header using XPath notation.
<a href="#">http.solveXPath</a>	Extracts a value from the specified document contents using XPath notation.
<a href="#">http.text</a>	Convenience method to return a ParamCollection object.
<a href="#">http.urlEncode</a>	URL-encodes a given string using a specific character set excluding the specified character array.
<a href="#">http.validate</a>	Validates the browser result for correctness.
<a href="#">http.verifyJSONPath</a>	Verify the text in a JSONPath expression to select content from the target and compare the result to the value you expect.
<a href="#">http.verifyJSONPathCount</a>	Verify the text in a JSONPath expression to count the occurrences of an element in a request or response.
<a href="#">http.verifyJSONPathExistence</a>	Verify the text in a JSONPath expression to select content from the target and check whether it exists.
<a href="#">http.verifyResponseTime</a>	Tests the server response time for the previous request without failing.
<a href="#">http.verifyText</a>	Searches the HTML contents in the document specified by XPath notation for the specified text pattern.
<a href="#">http.verifyTitle</a>	Searches the <title> tag in HTML content for the specified title pattern, reporting a warning if the test fails.
<a href="#">http.verifyXPath</a>	Verify the text of a DOM element in the browser's last retrieved contents.
<a href="#">http.webSocketClient</a>	Gets an object of WebSocketClient.
<a href="#">http.window</a>	Finds the window element from browser's DOM tree using the window index.
<a href="#">http.xmlPost</a>	Posts an XML string to a web server using the HTTP POST method.

The following sections provide detailed reference information for each method and enum in the HTTPService Class of HTTP Load Module Application Programming Interface.

## http.addAuthentication

Add a username and password to use when authenticating a URL that requires NTLM or Basic authentication.

When the browser requests a URL that returns a 401 or 407 "Unauthorized" HTTP response code, the browser will authenticate using a username and password in its authentication list whose corresponding URL matches the unauthorized URL. All querystring parameters in the URL are ignored. The protocol of the URL is also ignored. The URL is case-sensitive.

If multiple authentication entries are added for similar looking URLs, the URL that matches the most successive characters will be chosen. The order in which authentication entries are added to the list and searched is arbitrary.

### Format

The http.addAuthentication method has the following command format(s):

```
http.addAuthentication(url, username, password);
```

```
http.addAuthentication(url, username, password, bNTLMv2);
```

```
http.addAuthentication(url, username, password, mechanism);
```

### Command Parameters

**url**

a String specifying the URL for this authentication information. May contain {{ }} syntax for transforming.

**username**

a String specifying the username. May contain {{ }} syntax for transforming. Must not be null. For NTLM-based authentication, username may be preceded by a domain and a single backslash. For example, in Java code, type: oracle\user1. Note that two backslashes are typed because Java requires a backslash to be escaped with a backslash.

**password**

a String specifying the password. May contain {{ }} syntax for transforming. Must not be null.

**bNTLMv2**

a Boolean specifying if NTLM v2 is used.

**mechanism**

a String specifying the authentication mechanism: Default, NTLMv2, or Kerberos.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

## Example

Sets username and encrypted password authentication for `example.com`. See also the `decrypt` and `encrypt` methods in the Basic module API.

```
//Using bNTLMv2
http.addAuthentication("http://example.com", "myUsername",
    decrypt("encryptedPassword"), true);

//Using Mechanism
http.addAuthentication("http://example.com", "myUsername",
    decrypt("encryptedPassword"), "Default");

//-or-

http.addAuthentication("http://example.com", "myUsername",
    decrypt("encryptedPassword"), Mechanism.Kerberos.toString());
```



---

## http.addCookie

Adds a cookie to the cookie jar. The browser will submit this cookie in subsequent HTTP requests.

This method is identical to `http.getBrowser().getCookieJar().addCookie(String, String)`.

This method URL-encodes the value specified in the cookie string using the specified character set. If no URL-encoding is desired, specify a `null` character set.

The *cookieString* is formatted like a Set-Cookie header as if it were sent by the server. The name, value, and other optional attributes are extracted from *cookieString* and set into the Cookie object.

If an empty or null domain is specified in *cookieString*, this cookie will apply to all domains.

If no path is specified in *cookieString* then this cookie will apply to all paths.

If a cookie with the specified name/domain/path (case-sensitive) does not yet exist, then it will be added.

If a cookie with the specified name/domain/path (case-sensitive) exists and its value and attributes are also the same, this method does nothing.

If a cookie with the specified name/domain/path (case-sensitive) exists but its value or attributes differ, then the new cookie will replace the old one.

### Format

The `http.addCookie` method has the following command format(s):

```
http.addCookie(cookieString, charset);
```

### Command Parameters

#### **cookieString**

a String specifying the Response cookie header. May contain `{{ }}` syntax for transforming. Must not be `null`. The "Set-Cookie:" portion of the header is optional, and so are any additional attributes.

Example 1: Set-Cookie: cookieFavoriteColor=Blue; path=/; expires=Thursday, 11-Dec-2008 11:15:00 GMT; domain=www.example.com

Example 2: client\_user=user123

#### **charset**

a String specifying the Character set to use when URL-encoding the value part of the cookie. May contain `{{ }}` syntax for transforming. May be `null`. If `null`, this method will not URL-encode the value.

### Throws

#### **UnsupportedEncodingException**

if *charset* is not a supported character encoding.

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

## Example

Adds a custom cookie to the cookie jar using the specified character set.

```
http.addCookie("JSESSIONID=JLCTLkmMxvqfL6J7h", "ASCII");
```

---

## http.addGlobalAssertText

Registers a text assertion test to run every time a page is requested.

The text assertion test searches the HTML contents of all documents in all browser windows for the specified text pattern.

If the test fails, the script will always fail and stop running, unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

The assertion is performed for all requests made by this Virtual User, including requests made inside concurrent sections. The assertion is not performed for resources requested by the Download Manager.

This method supports result code verification methods including `getLastResult()` and `getLastError()`.

To unregister a global text assertion, use [http.removeGlobalTextValidator](#).

### Format

The `http.addGlobalAssertText` method has the following command format(s):

```
http.addGlobalAssertText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying a descriptive name of the test being applied. This name may be used by a subsequent call to the [http.removeGlobalTextValidator](#). Must not be null.

**textToAssert**

a String specifying the text to match on the page, or not match on the page if `TextPresence` is set to `TextPresence.PassIfPresent`. Must not be null.

**sourceType**

a Source enum specifying where to match the text: the HTML contents or HTTP response headers. Must not be null.

**textPresence**

a TextPresence enum specifying either `PassIfPresent` or `FailIfPresent`, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Example

Adds a Global Text Matching test for Display Content, Response Header, and Source HTML respectively.

`globalTextMatchingTest1` passes if the text to match string is present in the Display Content and matches exactly.

`globalTextMatchingTest2` passes if the text to match string is present in the Response header and matches the Regular Expression.

globalTextMatchingTest3 fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
http.addGlobalAssertText("globalTextMatchingTest1",
    "match this text string", Source.DisplayContent,
    TextPresence.PassIfPresent, MatchOption.Exact);
http.addGlobalAssertText("globalTextMatchingTest2",
    "jsessionId=(.+?)(?:\\\"|&)", Source.ResponseHeader,
    TextPresence.PassIfPresent, MatchOption.RegEx);
http.addGlobalAssertText("globalTextMatchingTest3",
    "match this *", Source.Html,
    TextPresence.FailIfPresent, MatchOption.Wildcard);
```

---

## http.addGlobalVerifyText

Registers a text verification test to run every time a page is requested.

The text verification test searches the HTML contents of all documents in all browser windows for the specified text pattern.

If the test fails, a warning is always reported, irrespective of current Error Recovery settings.

The verification is performed for all requests made by this Virtual User, including requests made inside concurrent sections. The verification is not performed for resources requested by the Download Manager.

This method supports result code verification methods including `getLastResult()` and `getLastError()`.

To unregister a global text verification, use [http.removeGlobalTextValidator](#).

### Format

The `http.addGlobalVerifyText` method has the following command format(s):

```
http.addGlobalVerifyText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying a descriptive name of the test being applied. This name may be used by a subsequent call to [http.removeGlobalTextValidator](#). Must not be null.

**textToAssert**

A String specifying the text to match on the page, or not match on the page if `TextPresence` is set to `TextPresence.PassIfPresent`. Must not be null.

**sourceType**

a Source enum specifying where to match the text: the HTML contents or HTTP response headers. Must not be null.

**textPresence**

a TextPresence enum specifying either `PassIfPresent` or `FailIfPresent`, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Example

Adds a Global Text Matching test for Display Content, Response Header, and Source HTML respectively.

`globalTextMatchingTest1` passes if the text to match string is present in the Display Content and matches exactly.

`globalTextMatchingTest2` passes if the text to match string is present in the Response header and matches the Regular Expression.

globalTextMatchingTest3 fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
http.addGlobalVerifyText("globalTextMatchingTest1",
    "match this text string", Source.DisplayContent,
    TextPresence.PassIfPresent, MatchOption.Exact);
http.addGlobalVerifyText("globalTextMatchingTest2",
    "jsessionId=(.+?)(?:\\\"|&)", Source.ResponseHeader,
    TextPresence.PassIfPresent, MatchOption.RegEx);
http.addGlobalVerifyText("globalTextMatchingTest3",
    "match this *", Source.Html,
    TextPresence.FailIfPresent, MatchOption.Wildcard);
```

---

## http.addValidator

Adds a class to provide custom validation for all browser responses.

Custom IValidator instances are invoked after HTTPService performs its own validation.

### Format

The http.addValidator method has the following command format(s):

```
http.addValidator(validator);
```

### Command Parameters

**validator**

a Custom validator object.

### Example

Adds a custom validator to test a response.

```
import oracle.oats.scripting.modules.basic.api.exceptions
    .AbstractScriptException;
public class script extends IteratingVUserScript {
    @ScriptService oracle.oats.scripting.modules.utilities.api.
        UtilitiesService utilities;
    @ScriptService oracle.oats.scripting.modules.http.api.HTTPService http;
    public void initialize() throws Exception {
    }
    public void run() throws Exception {
        //define databanks and variables
        getNextDatabankRecord();
        String link = eval("#{navigation_info.link}");
        LinkValidator linkValidator = null;
        //[script navigation code...]
        //add a validator
        http.addValidator(linkValidator = new LinkValidator(link));
        //[additional script navigation code...]
    }
    public void finish() throws Exception {
    }
    //define class for custom validator action
    class LinkValidator implements IValidator {
        @ScriptService oracle.oats.scripting.modules.utilities
            .api.UtilitiesService utilities;
        @ScriptService oracle.oats.scripting.modules.http.api.HTTPService http;
        private String link;
        public LinkValidator(String link) {
            this.link = link;
        }
        public void validate(Response response) {
            String contents = response.getContents();
            if (!contents.contains(link))
                try {
                    info("Not found link '" + link + "'");
                } catch (AbstractScriptException e) {
                    e.printStackTrace();
                }
        }
    }
}
```

```
    }
  else
  try {
    info("Found link '" + link + "'");
  } catch (AbstractScriptException e) {
    e.printStackTrace();
  }
}
}
```

## See Also

[http.removeValidator](#) and [http.getValidatorList](#)



---

## http.assertJSONPath

Verify the text in a JSONPath expression to select content from the target and compare the result to the value you expect. Compare this value to the *expectedValue* parameter.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The http.assertJSONPath method has the following command format(s):

```
http.assertJSONPath(testName, jsonPath, expectedValue, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**expectedValue**

a String specifying the Text to match, or not match with the JSON path expression result if TextPresence is set to TextPresence.PassIfPresent.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds Text Matching tests using JSONPath expression.

```
http.assertJSONPath("JSONPathMatch1", "$.limit", "25",
    TextPresence.PassIfPresent, MatchOption.Exact);

http.assertJSONPath("JSONPathMatch2", "$.links[0].name",
    "publicSectorOwnershipTypes",
    TextPresence.PassIfPresent, MatchOption.ExactEntireString);
```

## http.assertJSONPathCount

Verify the text in a JSONPath expression to count the occurrences of an element in a request or response. Compare this value to the *expectedValue* parameter.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The http.assertJSONPathCount method has the following command format(s):

```
http.assertJSONPathCount(testName, jsonPath, expectedValue, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**expectedValue**

a String specifying the Text to match, or not match with the JSON path expression result if TextPresence is set to TextPresence.PassIfPresent.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds JSON path count test using JSONPath expression and expected value.

```
http.assertJSONPathCount("JSONCount", "$.items", "14",  
    TextPresence.PassIfPresent, MatchOption.Exact);
```

## http.assertJSONPathExistence

Verify the text in a JSONPath expression to select content from the target and check whether it exists.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The http.assertJSONPathExistence method has the following command format(s):

```
http.assertJSONPathExistence(testName, jsonPath, textPresence);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds JSON path count test using JSONPath expression and expected value.

```
http.assertJSONPathExistence("JSONPathExist2", $.links[0].name",  
    TextPresence.PassIfPresent);
```

## http.assertResponseTime

Tests the server response time for the previous request.

This method does nothing if the Response already has an exception set.

If the test fails, always fail the script unless the server response test error recovery setting specifies a different action such as Warn or Ignore.

Subclasses may override this method if they need to modify how the HTTP Service itself validates server response times.

### Format

The http.assertResponseTime method has the following command format(s):

```
http.assertResponseTime(testName, minTime, maxTime);
```

### Command Parameters

**testName**

a String specifying a descriptive name describing what request is being tested. The name may appear in results and counter names.

**minTime**

a double specifying the minimum server response time (inclusive).

**maxTime**

a double specifying maximum server response time (inclusive).

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**ResponseTimeException**

if no previous response to validate, or if the response time does not fall within the given range and stopIterationOnFailure is true.

### Example

Adds Server Response test with a minimum of 1 second and a maximum of 15 seconds.

```
http.assertResponseTime("myServerResponseTest", 1.0, 15.0);
```

---

## http.assertText

Searches the HTML contents of the specified document XPath for the specified text pattern.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

### Format

The http.assertText method has the following command format(s):

```
http.assertText(testName, textToAssert, sourceType, textPresence, matchOption);
```

```
http.assertText(testName, documentXPath, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToAssert**

a String specifying the text to match on the page, or not match on the page if TextPresence is set to TextPresence.PassIfPresent.

**sourceType**

a Source enum specifying where to match the text: the HTML contents or HTTP response headers.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

**documentXPath**

a String specifying the XPath to the document that contains the contents.

### Throws

**MatchException**

if the assertion fails. AbstractScriptException on any other failure when attempting to assert the text.

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**Exception**

if the assertion fails.

## Example

Adds Text Matching tests in the specified document for Display Content, Response Header and Source HTML respectively.

myTextMatchingTest1 passes if the text to match string is present in the Display Content and matches exactly.

myTextMatchingTest2 passes if the text to match string is present in the Response header and matches the Regular Expression.

myTextMatchingTest3 fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
http.assertText("myTextMatchingTest1", "window[@index='0']",
    "match this text string", Source.DisplayContent,
    TextPresence.PassIfPresent, MatchOption.Exact);
http.assertText("myTextMatchingTest2", "window[@index='0']",
    "jsessionId=(.+?)(?:\\\"|&)", Source.ResponseHeader,
    TextPresence.PassIfPresent, MatchOption.RegEx);
http.assertText("myTextMatchingTest3", "window[@index='0']",
    "match this *", Source.Html,
    TextPresence.FailIfPresent, MatchOption.Wildcard);
```

---

## http.assertTitle

Searches the <title> tag in the HTML content for the specified title pattern, reporting a failure if the test fails.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

### Format

The http.assertTitle method has the following command format(s):

```
http.assertTitle(title, matchOption);
```

```
http.assertTitle(documentXPath, title, matchOption);
```

### Command Parameters

**title**

a String specifying the text pattern specifying the expected title.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

**documentXPath**

a String specifying the XPath to the document that contains the contents.

### Throws

**Exception**

on any exception while navigating or transforming the data.

**MatchException**

if the assertion fails.

**AbstractScriptException**

on any other failure when attempting to assert the text.

### Example

Adds a Verify only, never fail Text Title tests for the HTML document title using exact match, Regular Expression match, and Wildcard match respectively.

```
http.assertTitle("window[@index='0']", "Summary Report", MatchOption.Exact);  
http.assertTitle("window[@index='0']", "Summary Report For (.+?)",  
MatchOption.RegEx);  
http.assertTitle("window[@index='0']", "Summary Report For ???",  
MatchOption.Wildcard);
```

## http.assertXPath

Extracts a value from the browser's last retrieved contents using XPath notation. Compare this value to the `textToVerify` parameter.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The `http.assertXPath` method has the following command format(s):

```
http.assertXPath(testName, xpath, resultIndex, textToVerify, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**xpath**

a String specifying the XPath describing which value to parse from the last retrieved contents. Must not be null.

**resultIndex**

a 0-based index value specifying the specific result to retrieve if the XPath returns multiple results. A null value specifies that all results should be returned.

**textToVerify**

a String specifying the Text to match, or not match with the XPath result if `TextPresence` is set to `TextPresence.PassIfPresent`.

**textPresence**

a `TextPresence` enum specifying either `PassIfPresent` or `FailIfPresent`, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a `MatchOption` enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds Text Matching tests using XPath notation.

`myTextMatchingTest1` passes if the text to match string is present and matches exactly.

`myTextMatchingTest2` passes if the text to match string is present and matches the entire string exactly.



myTextMatchingTest3 passes if the text to match string is present and matches the Regular Expression.

myTextMatchingTest4 passes if the text to match string is present and matches the entire string from the Regular Expression.

myTextMatchingTest5 fails if the text to match string is present and matches the Wildcard.

```
http.assertXPath("myTextMatchingTest1", ".//input[@name='j_id_id3']" +
  "@value", 0, "match this text string",
  TextPresence.PassIfPresent, MatchOption.Exact);
http.assertXPath("myTextMatchingTest2", ".//input[@name='j_id_id3']" +
  "@value", 1, "match this text string",
  TextPresence.PassIfPresent, MatchOption.ExactEntireString);
http.assertXPath("myTextMatchingTest3", ".//input[@name='j_id_id3']" +
  "@value", 0, "jsessionId=(.+)?(?:\\\"|&)",
  TextPresence.PassIfPresent, MatchOption.RegEx);
http.assertXPath("myTextMatchingTest4", ".//input[@name='j_id_id3']" +
  "@value", 1, "jsessionId=(.+)?(?:\\\"|&)",
  TextPresence.PassIfPresent, MatchOption.RegExEntireString);
http.assertXPath("myTextMatchingTest5", ".//input[@name='j_id_id3']" +
  "@value", 0, "match this *",
  TextPresence.FailIfPresent, MatchOption.Wildcard);
```

## http.beginConcurrent

Begins a concurrent section used to make multiple HTTP requests at the same time by the same Virtual User using a different HTTP connection.

The maximum number of concurrent requests allowed by one Virtual User at any time is determined by the Maximum Connections playback setting.

When inside a concurrent section, the script will not wait for the completion of any HTTP requests that are started. Use [http.endConcurrent](#) to end a concurrent section and wait for all concurrent HTTP requests in the given section to finish.

While inside a concurrent section, responses for individual requests cannot be determined. For example, calling [http.getLastBrowserResponse](#) will throw a `@link oracle.oats.scripting.modules.http.api.exceptions.ConcurrentException`

Invoking this method more than once on the same `concurrentSectionId` is harmless and does not begin a new concurrent section with the existing ID.

Notes: The API `getLastResult` and the "result" variables will not work reliably inside HTTP script `beginConcurrent/endConcurrent` sections.

Accessing a databank directly within concurrent blocks is not supported. You can read the databank value outside of the concurrent block and save it to a local variable. You can then use the variable inside concurrent block. For example:

```
getVariables().set("url", "{{db.fmstocks.url}}");
[....]
// replace all requests inside the concurrent block with the variable, as follows:
http.get(23, "http://{{url}}/fmstocks/", null, null, true, "ASCII", "ASCII");
```

### Format

The `http.beginConcurrent` method has the following command format(s):

```
http.beginConcurrent(concurrentSectionId);
```

### Command Parameters

#### **concurrentSectionId**

a user-defined String specifying a unique identifier for the concurrent section. Multiple concurrent sections may be started and stopped independently of each other by providing a different name. Must not be null.

### Throws

#### **Exception**

on any failure.

### Example

Begins a concurrent section with the ID `mySessionID_0001`.

```
http.beginConcurrent("mySessionID_0001");
```

### See Also

[http.endConcurrent](#)

## http.clearCookies

Clears the Cookies during playback.

### Format

The http.clearCookies method has the following command format(s):

```
http.clearCookies();
```

### Example

Clears the browser Cookies added within the run section of a given script.

Cookies added to the browser in the initialize section will be preserved forever unless the playback setting "Preserve Cookies between Iterations" is set to false.

```
http.clearCookies();
```

## http.delete

Requests a web page using an HTTP DELETE method with querystrings, deletedata, headers, URL encoding, and character sets.

### Format

The http.delete method has the following command format(s):

```
http.delete(recid,urlPath,querystring, deletedata);
```

```
http.delete(recid,urlPath,querystring, deletedata, headers,encode);
```

```
http.delete(recid,urlPath,querystring, deletedata, headers,encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**querystring**

a ParamCollection specifying the Query string data parameter collection. May be null.

**deletedata**

a ParamCollection specifying the Data to DELETE to the URL's host, in the form of a parameter collection or a String specifying the delete data. Must not be null.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

Exception on any exception while navigating or transforming the data.

### Example

Specifies a DELETE navigation with querystrings, deletedata, headers, URL encoding, and character sets.

```
http.delete(9, "http://example.com/{web.formaction.loginform,default.asp}",
  http.deletedata(http.param("login", "{{web.input.login,ta793}}"),
    http.param("password", "{{web.input.password,ta}}"),
    http.param("LoginButton", "{{web.input.LoginButton,Login}}"));
```

-or-

```
http.delete(12, "http://example.com",
  http.querystring(http.param("QueryString1", "QueryValue1"),
    http.param("QueryString2", "QueryValue2"),
    http.param("QueryString3", "QueryValue3")),
  http.deletedata(http.param("DeleteString1", "DeleteValue1"),
    http.param("DeleteString2", "DeleteValue2"),
    http.param("DeleteString3", "DeleteValue3")),
  http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
    Header.HeaderAction.Add),
    http.header("HeaderString2", "HeaderValue2SetifNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("HeaderString3", "HeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("HeaderString4", "HeaderValue4BothActions",
    Header.HeaderAction.GlobalSetIfNotSet)),
  true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) and [http.deletedata](#) for creating a parameter collection.

## http.deletedata

Convenience method to return a deletedata ParamCollection.

### Format

The http.deletedata method has the following command format(s):

```
http.deletedata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a DELETE navigation with deletedata parameters.

```
http.delete(9, "http://example.com", http.deletedata(  
    http.param("DeleteString1", "DeleteValue1"),  
    http.param("DeleteString2", "DeleteValue2"),  
    http.param("DeleteString3", "DeleteValue3")));
```

### See Also

[http.get](#) and [http.delete](#) Methods.

---

## http.element

Finds the element from the browser's DOM tree using XPath notation.  
The element instance will be returned.

### Format

The http.element method has the following command format(s):  
`http.element(xpathToElement);`

### Command Parameters

**xpathToElement**

a String specifying the XPath of the element describing which value to parse from the DOM tree. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the element's reference.

### Example

Finds the form element with ID 'frmTest' from the browser's DOM tree.

```
boolean element_xpath_exists = http.element("window[@index='0']" +  
  "/frame[@name='right']//form[@id='frmTest' " +  
  "and @name='frmTest']")  
  .exists();  
if(element_xpath_exists){  
  info("WebHTTPElement exists");  
}  
else{  
  warn("WebHTTPElement does not exist");  
}
```

## EncodeOptions

The EncodeOptions has the following values:

**Table 9–3 List of EncodeOptions Values**

<b>Value</b>	<b>Description</b>
None	Leaves the input string alone; do not apply any additional encoding/decoding transformations.
URLEncode	URL-encodes a string. For example, the string <code>abc/xyz</code> becomes <code>abc%2Fxyz</code> .
URLDecode	URL-decodes a string. For example, the string <code>abc%2Fxyz</code> becomes <code>abc/def</code> .
XMLEncode	Encodes any characters that should be escaped for XML serialization. For example, the string <code>abc&lt;xyz</code> becomes <code>abc&amp;lt;xyz</code> .
XMLDecode	Decodes any characters that were escaped for XML serialization. For example, the string <code>abc&amp;lt;xyz</code> becomes <code>abc&lt;xyz</code> .
RemoveNewlines	Strips all newlines.
ConvertNewlinesToCRLF	Replaces <code>\0A</code> (not followed by <code>\0D</code> ) with <code>\0D\0A</code> .
ConvertNewlinesToLF	Replaces <code>\0D\0A</code> with <code>\0A</code> .
EncodeURIComponent	Encodes special characters. In addition, it encodes the following characters: <code>, / ? : @ &amp; = + \$ #</code>



---

## http.endConcurrent

Ends the specified concurrent section waiting the specified amount of time for requests to finish.

It waits the specified maximum amount of time for all pending HTTP requests in the specified concurrent section to finish.

### Format

The `http.endConcurrent` method has the following command format(s):

```
http.endConcurrent(concurrentSectionId);
```

```
http.endConcurrent(concurrentSectionId, timeoutSeconds);
```

### Command Parameters

**concurrentSectionId**

a String specifying the ID of the concurrent section that was already started using [http.beginConcurrent](#). If `null`, this method will stop the most recently started concurrent section.

**timeoutSeconds**

a long specifying the maximum number of seconds allocated to wait for the concurrent section to finish. Specify `Long.MAX_VALUE` to wait forever. This method will return immediately after the requests finish, even if the timeout has not been reached.

### Throws

**Exception**

on any exception that occurs when executing the concurrent requests.

**ConcurrentException**

if a timeout occurs while waiting for the concurrent requests to finish.

**InterruptedException**

if the thread is interrupted while waiting for the concurrent requests to finish.

### Example

Ends a concurrent section previously started with the ID `mySessionID_0001`. It waits up to 15 seconds for all pending HTTP requests in the specified concurrent section to finish.

```
http.endConcurrent("mySessionID_0001", 15);
```

### See Also

[http.beginConcurrent](#)

## http.form

Finds the form element from the browser's DOM tree using XPath notation.  
The element instance will be returned.

### Format

The http.form method has the following command format(s):  
`http.form(recId, xpathToForm);`

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**xpathToForm**

a String specifying the XPath of the form element describing which value to parse from the DOM tree. Must not be null.

### Throws

**AbstractScriptException**

on any exception while transforming `xpathToForm`.

### Returns

The form element's reference.

### Example

Gets the form named 'mainForm' under the first window.

```
boolean form_exists = http.form(142, "window[@index='0']" +
    "//form[@action={{web.link.research,\" +
    \"http://example.com/Ticker.asp}}'']")
    .exists();
String form_exists_str = String.valueOf(form_exists);
if(form_exists){
    info("WebHTTPForm exists: + form_exists_str");
}
else{
    warn("WebHTTPForm exists: + form_exists_str");
}
```

---

## http.frame

Finds the frame element from the browser's DOM tree using XPath notation.  
The element instance will be returned.

### Format

The http.frame method has the following command format(s):

```
http.frame(recId, xpathToFrame);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**xpathToFrame**

a String specifying the XPath of the frame element describing which value to parse from the DOM tree. Must not be null.

### Throws

**AbstractScriptException**

on any exception while transforming *xpathToFrame*.

### Returns

The frame element's reference.

### Example

Gets the frame named 'right' under the first window.

```
http.frame(192, "window[@index='0']" +  
  "/frame[@name='right']")  
  .get("http://example.com/FramenumSet.htm",  
    null, null, true, "ASCII", "ASCII");
```

## http.get

Requests a web page using an HTTP GET method.

### Format

The `http.get` method has the following command format(s):

```
http.get(recid, urlPath);
```

```
http.get(recid, urlPath, querystring);
```

```
http.get(recid, urlPath, querystring, encode);
```

```
http.get(recid, urlPath, querystring, headers, encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be `null`.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain `{{ }}` syntax for transforming. Must not be `null`.

**querystring**

an Object specifying the Query string data, either as a String or `ParamCollection`. May be `null`.

**headers**

a headers array specifying additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to `true` to URL-encode the `querystring` parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any exception while navigating or transforming the data.

### Example

Requests the specified web pages using an HTTP GET method. Expanded examples add a query string parameter `myQueryString` and header actions.

```
http.get(30[...]) requests the specified web page without parameters, headers, or URL-encoding.
```

`http.get(31[...])` requests the specified web page without URL-encoded parameters and will always add the header using ASCII character sets for the request and response headers.

`http.get(32[...])` requests the specified web page with URL-encoded parameters and will always add the header using ASCII character sets for the request and response headers.

`http.get(33[...])` requests the specified web page with URL-encoded parameters and will add the header only if it is not set using UTF-8 character sets for the request and response headers.

`http.get(34[...])` requests the specified web page with URL-encoded parameters and will add the header only if it is not set and add it to all navigations after using OracleBinary character sets for the request and response headers.

```
http.get(30, "http://example.com/", null, null, false, "ASCII", "ASCII");
http.get(31, "http://example.com/", http.querystring(
    http.param("myQueryString", "my String Value")),
    http.headers(http.header("myheaderName", "myHeaderValue",
        Header.HeaderAction.Add)), false, "ASCII", "ASCII");
http.get(32, "http://example.com/", http.querystring(
    http.param("myQueryString", "my String Value")),
    http.headers(http.header("myheaderName", "myHeaderValue",
        Header.HeaderAction.Add)), true, "ASCII", "ASCII");
http.get(33, "http://example.com/", http.querystring(
    http.param("myQueryString", "my String Value")),
    http.headers(http.header("myheaderName", "myHeaderValue",
        Header.HeaderAction.SetIfNotSet)), true, "UTF-8", "UTF-8");
http.get(34, "http://example.com/", http.querystring(
    http.param("myQueryString", "my String Value")),
    http.headers(http.header("myheaderName", "myHeaderValue",
        Header.HeaderAction.GlobalSetIfNotSet)),
    true, "OracleBinary", "OracleBinary");
```

## See Also

[http.querystring](#) for creating a parameter collection.

## http.getBrowser

Gets a Thin browser for making HTTP requests.

### Format

The http.getBrowser method has the following command format(s):

```
http.getBrowser();
```

### Returns

a Thin browser object for making HTTP requests.

### Example

Gets a Thin browser object using an OpenScript script variable and a Java variable.

```
//using script variable
getVariables().set("browserId", http.getBrowser().getBrowserId());
info("The browser ID string using script var: {{browserId}}");
//using Java variable
ThinBrowser browser = http.getBrowser();
info("The browser ID is: " + browser.getBrowserId());
```

---

## http.getHtmlContent

Gets the HTML content of a document which is specified by the XPath.

If the XPath refers to a window, the document is the document in the window. If the XPath refers to a frame, the document is the frame's content document. If the XPath refers to an element, the document is the owner document of the element.

### Format

The http.getHtmlContent method has the following command format(s):

```
http.getHtmlContent(xpath);
```

### Command Parameters

**xpath**

a String specifying the XPath to the window, document, frame, or element containing the HTML content.

### Returns

the HTML content string.

### Example

Gets the HTML contents of the document in the window with the index of 0.

```
//using Script variable
getVariables().set("htmlContents",
    http.getHtmlContent("/window[@index=0]"));
info("HTML Contents Type in script var = {{htmlContents}}" );
//using Java variable
String htmlContents = http.getHtmlContent("/window[@index=0]");
info("HTML Contents = " + htmlContents);
```

## http.getLastBrowserResponse

Gets the last retrieved response from this Virtual User's browser.

The result of this method is unpredictable if more than one navigation occurs at the same time for the same Virtual User. For example, when running multiple concurrent requests using [http.beginConcurrent](#), the last response contents are indeterminate.

Regardless of how many threads are being run, this method will only ever return a response for the current Virtual User that owns this HTTP service instance. This method will never return a response from a different running Virtual User.

### Format

The `http.getLastBrowserResponse` method has the following command format(s):

```
http.getLastBrowserResponse( );
```

### Returns

this Virtual User's browser's last retrieved response. May be null.

### Example

Gets the last retrieved response from this Virtual User's browser.

```
//using script variable
getVariables().set("contentType",
    http.getLastBrowserResponse().getContentType());
info("Content Type in script var = {{contentType}}" );
//using Java variable
String contentType = http.getLastBrowserResponse().getContentType();
info("Content Type = " + contentType);
```



---

## http.getLastResponseContents

Returns a String version of a given browser response from the specified source type.

### Format

The http.getLastResponseContents method has the following command format(s):

```
http.getLastResponseContents();
```

```
http.getLastResponseContents(sourceType);
```

```
http.getLastResponseContents(lastBrowserResponse, sourceType);
```

### Command Parameters

**sourceType**

the Source enum specifying which contents to return as a String. If null, assumes Source.Html.

**lastBrowserResponse**

a Response object from which to return the last browser contents.

### Returns

String version of the given browser response. Returns null when the last browser response is null.

### Example

Get the contents of the Response Header, Display HTML and source HTML last retrieved by the browser for this Virtual User.

```
//using script variable
getVariables().set("lastRespHeader",
  http.getLastResponseContents(http.getLastBrowserResponse(),
  Source.ResponseHeader));
info("Last Response Header in script var = {{lastRespHeader}}");
//using Java variable
String lastRespHeader = http.getLastResponseContents(
  http.getLastBrowserResponse(), Source.ResponseHeader);
info("Last Response Header = " + lastRespHeader);
//using script variable
getVariables().set("lastDisplayConts", http.getLastResponseContents(
  http.getLastBrowserResponse(), Source.DisplayContent));
info("Last Display Contents in script var = {{lastDisplayConts}}");
//using Java variable
String lastDisplayConts = http.getLastResponseContents(
  http.getLastBrowserResponse(), Source.DisplayContent);
info("Last Display Contents = " + lastDisplayConts);
//using script variable
getVariables().set("lastHtml", http.getLastResponseContents(
  http.getLastBrowserResponse(), Source.Html));
info("Last HTML Contents in script var = {{lastHtml}}");
//using Java variable
String lastHtml = http.getLastResponseContents(
  http.getLastBrowserResponse(), Source.Html);
info("Last HTML Contents = " + lastHtml);
```

## http.getResponseHeaders

Gets the headers of a response and its ancestors that is received by a window specified by the XPath.

If the XPath refers to a frame, the window is the frame's window. If the XPath refers to an element, the window is the window of the element's owner document.

### Format

The http.getResponseHeaders method has the following command format(s):

```
http.getResponseHeaders(xpath);
```

### Command Parameters

**xpath**

a String specifying the XPath to the window, frame, or element containing the response headers.

### Returns

the response headers String.

### Example

Gets the HTML contents of the document in the window with the index of 0.

```
//using Script variable
getVariables().set("respHeader",
  http.getResponseHeaders("/window[@index=0]"));
info("Response Headers in script var = {{respHeader}}" );
//using Java variable
String respHeader = http.getResponseHeaders("/window[@index=0]");
info("Response Headers = " + respHeader);
```

---

## http.getSettings

Gets the settings for the HTTP service.

### Format

The http.getSettings method has the following command format(s):

```
http.getSettings();
```

### Returns

all settings pertaining to the HTTP Service.

### Example

Gets the settings for the HTTP service.

```
import java.util.List;
import oracle.oats.scripting.modules.http.api.Settings;
//[...]
info("Calling http.getSettings()...");
Settings settings = http.getSettings();
info("Connection Timeout: " + settings.getConnectionTimeout());
info("Proxy Host: " + settings.getProxyHost());
info("Proxy Password: " + settings.getProxyPassword());
info("Proxy Port: " + settings.getProxyPort());
info("Proxy User Name: " + settings.getProxyUsername());
info("Socket Timeout: " + settings.getSocketTimeout());
info("Speed Emulation (Bytes/sec): " +
    settings.getSpeedEmulationBytesPerSecond());
info("User Agent: " + settings.getUserAgent());
info("Cache Setting: " + settings.getCacheSetting());
info("Global Headers: " + settings.getGlobalHeaders());
List <String> resources = http.getSettings().getIgnoredResources();
if (resources != null) {
    for (int i=0; i<resources.size(); i++)
        info("IgnoredResources: " + resources.get(i));
}
else info("IgnoredResources is null");
List <String> urls = http.getSettings().getIgnoredUrls();
if (urls != null) {
    for (int i=0; i<urls.size(); i++)
        info("IgnoredUrl: " + urls.get(i));
}
else info("IgnoredUrl is null");
info("Preserve Connections: " + settings.getPreserveConnections());
info("Preserve Cookies: " + settings.getPreserveCookies());
info("Preserve Variables: " + settings.getPreserveVariables());
info("Proxy Enabled: " + settings.getProxyEnabled());
info("Use Cache: " + settings.getUseCache());
```

## http.getValidatorList

Returns all the validators added by `addValidator`.

### Format

The `http.getValidatorList` method has the following command format(s):

```
http.getValidatorList( );
```

### Returns

an `ArrayList` copy of the validators or `null` when the validator list is empty.

### Example

Gets an `ArrayList` copy of the validators and writes the simple name for each validator to the results.

```
import java.util.List;
//[...]
List<IValidator> list = http.getValidatorList();
for (int i = 0; i < list.size(); i++) {
    IValidator validator = list.get(i);
    info("Validator Name: " + validator.getClass()
        .getSimpleName());
    if (validator.getClass().getSimpleName()
        .equals("LinkValidator")) {
        info("Removing LinkValidator");
        http.removeValidator(validator);
    } else if
        (validator.getClass().getSimpleName()
        .equals("CategoryValidator")) {
        info("Removing CategoryValidator");
        http.removeValidator(validator);
    } else
        info("Other validator: "
            + validator.getClass().getSimpleName());
}
```

### See Also

[http.addValidator](#) and [http.removeValidator](#)

## http.head

Requests a web page using an HTTP HEAD method with querystrings, putdata, headers, URL encoding, and character sets.

### Format

The http.head method has the following command format(s):

```
http.head(recid,urlPath);
```

```
http.head(recid,urlPath,querystring);
```

```
http.head(recid,urlPath,querystring, encode);
```

```
http.head(recid,urlPath, querystring, headers, encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**querystring**

a ParamCollection specifying the Query string data parameter collection, a String specifying the querystring data, or an object specifying the querystring data. May be null.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

Exception on any exception while navigating or transforming the data.

### Example

Specifies a HEAD navigation with querystrings, headers, URL encoding, and character sets.

```
http.head(12, "http://example.com",  
  http.querystring(http.param("QueryString1", "QueryValue1")),
```

```
http.param("QueryString2", "QueryValue2"),
http.param("QueryString3", "QueryValue3")),
http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
    Header.HeaderAction.Add),
    http.header("HeaderString2", "HeaderValue2SetifNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("HeaderString3", "HeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("HeaderString4", "HeaderValue4BothActions",
    Header.HeaderAction.GlobalSetIfNotSet)),
true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) for creating a parameter collection.

---

## http.header

Convenience method for creating a new `Header` object.

### Format

The `http.header` method has the following command format(s):

```
http.header(name, value, action);
```

### Command Parameters

**name**

a String specifying the header name. May contain `{{}}` syntax for transforming. Must not be null.

**value**

a String specifying the header value. May contain `{{}}` syntax for transforming. Must not be null.

**action**

a `HeaderAction` object, such as remove or add the header.

### Throws

**AbstractScriptException**

on any exception while transforming the name and value.

### Returns

a new `Header` object, with the name and value transformed.

### Example

Creates new headers using the specified header names, values, and actions.

```
http.headers(http.header("HeaderString1", "HeaderValue1NoActions",  
    Header.HeaderAction.Add),  
    http.header("HeaderString2", "HeaderValue2IfNotSet",  
    Header.HeaderAction.SetIfNotSet),  
    http.header("HeaderString3", "HeaderValue3ApplytoAll",  
    Header.HeaderAction.GlobalAdd),  
    http.header("HeaderString4", "HeaderValue4Both",  
    Header.HeaderAction.GlobalSetIfNotSet));
```

### See Also

[http.get](#) and [http.post](#) Methods.

## http.headers

Convenience method to create a new Header array.

### Format

The http.headers method has the following command format(s):

```
http.headers(headers);
```

### Command Parameters

**headers**

one or more Header objects.

### Returns

a new Header array.

### Example

Creates a new header collection using the specified header names, values, and actions.

```
http.headers(http.header("HeaderString1", "HeaderValue1NoActions",  
    Header.HeaderAction.Add),  
    http.header("HeaderString2", "HeaderValue2IfNotSet",  
    Header.HeaderAction.SetIfNotSet),  
    http.header("HeaderString3", "HeaderValue3ApplytoAll",  
    Header.HeaderAction.GlobalAdd),  
    http.header("HeaderString4", "HeaderValue4Both",  
    Header.HeaderAction.GlobalSetIfNotSet));
```

### See Also

[http.get](#) and [http.post](#) Methods.



## http.httpdata

Convenience method to return a httpdata ParamCollection.

### Format

The http.httpdata method has the following command format(s):

```
http.httpdata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a navigation with httpdata parameters..

```
http.put(9, "http://example.com", http.httpdata(  
    http.param("HttpString1", "HttpValue1"),  
    http.param("HttpString2", "HttpValue2"),  
    http.param("HttpString3", "HttpValue3")));
```

### See Also

[http.delete](#) and [http.put](#) Methods.

## http.javaScriptPath

Builds the JavaScript path(s) to use to extract JavaScript strings using [http.solveGroupJavaScript](#).

### Format

The http.javaScriptPath method has the following command format(s):

```
http.javaScriptPath(name, scriptLanguage, scriptIndex, literalIndex, literalType);
```

### Command Parameters

**name**

a String specifying the variable name to use.

**scriptLanguage**

an Integer specifying the the script language. 1 to parse JavaScript, 0 to parse VB Script.

**scriptIndex**

an Integer specifying the 0-based index of the script block in the HTML contents to parse.

**literalIndex**

an Integer specifying the 0-based index of the dynamic JavaScript literal inside the block to extract.

**literalType**

an Integer specifying the data type. Specify '0' to parse a String from JavaScript, or '1' to parse a number.

### Returns

the javascript path.

### Example

Extracts a JavaScript String from the page and stores it in the variable "varJavaScript" in the script's variables collection. It parses the first script block in the HTML contents for the third the dynamic JavaScript literal as a String from JavaScript.

```
http.solveGroupJavaScript("window[@index='1']",  
http.javaScriptPath("varJavaScript", 1, 1, 2, 0));  
info("Java Script = {{varJavaScript}}");
```

### See Also

[http.solveGroupJavaScript](#)

## http.link

Finds the link element from the browser's DOM tree using XPath notation.  
The element instance will be returned.

### Format

The http.link method has the following command format(s):

```
http.link(recId, xpathToLink);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**xpathToLink**

a String specifying the XPath of the link element describing which value to parse from the DOM tree. Must not be null.

### Throws

**AbstractScriptException**

on any exception while transforming *xpathToLink*.

### Returns

the link element's reference.

### Example

Clicks the link with the text 'research a company' under the first window.

```
http.link(130, "window[@index='0']//a[@text='research a company']")  
    .click();
```

## http.loadKeystore

Loads the keystore file using the specified password.

Allows the current virtual user to use a client-side certificate when connecting to any secure website.

Specify a path to a Java keystore file containing the certificate that the Virtual User should use for as long as it is running. The Virtual User will only ever use one keystore at a time when creating secure connections.

Calling this method more than once for the same Virtual User will cause subsequent secure connections to use the most recently loaded keystore.

To stop using a keystore for new connections, call this method with a null or empty value for the *keystoreFilePath*.

### Format

The http.loadKeystore method has the following command format(s):

```
http.loadKeystore(keystoreFilePath, keystorePassword);
```

### Command Parameters

**keystoreFilePath**

a String specifying the Absolute path to a certificate keystore file on the machine where the script will be played back. The keystore file should be generated using Java's `keytool.exe` program. If the path is null, an empty string, or the file does not exist, no keystore will be used.

**keystorePassword**

a String specifying the password used to read certificates from the keystore.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**KeystoreLoadException**

if the keystore cannot be loaded for any reason.

### Example

Loads the keystore file using the specified password.

```
http.loadKeystore("C:\\keys\\DummyClientKeyFile.jks", "WebAS");
```

## http.multipartPost

Requests a web page using a multipart HTTP POST method with *querystring*, *postdata*, *headers*, *boundary*, URL-encoding, and character sets.

This method formats the post data using a multi-part format.

### Format

The `http.multipartPost` method has the following command format(s):

```
http.multipartPost(recid, urlPath, postdata);
```

```
http.multipartPost(recid, urlPath, querystring, postdata, headers, boundary);
```

```
http.multipartPost(recid, urlPath, querystring, postdata, headers, reqCharset, respCharset);
```

```
http.multipartPost(recid, urlPath, querystring, postdata, headers, boundary, encode, reqCharset, respCharset);
```

### Command Parameters

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **urlPath**

a String specifying the URL to request, excluding query string data. May contain `{{}}` syntax for transforming. Must not be null.

#### **postdata**

a `ParamCollection` of the postdata to POST to the URL's host. Must not be null.

#### **querystring**

a `ParamCollection` of query string data parameters. May be null.

#### **headers**

a Header array of additional headers to add/remove from the request before submitting it to the server.

#### **boundary**

a String specifying the Multi-part post boundary string as it would appear in the header of the multi-part post.

For example, if the header is:

```
Content-Type: multipart/form-data;
boundary=-----7d82f120260a68
```

Specify boundary as:

```
-----7d82f120260a68
```

Note that the boundary string submitted in the body of the multi-part post contains two additional "-" characters.

#### **reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**Throws****Exception**

on any exception while navigating or transforming the data.

**Example**

Requests a web page using a multipart HTTP POST method. This method formats the post data using a multipart format with query strings, postdata, headers, Boundary, URL-encoding, and character sets.

```
http.multipartPost(15, "http://example.com",
    http.querystring(http.param("QueryString1", "QueryValue1"),
        http.param("QueryString2", "QueryValue2"),
        http.param("QueryString3", "QueryValue3")),
    http.postdata(http.param("PostDataString1", "PostDataValue1Standard"),
        http.param("PostDataString2", "PostDataValue2FilePath",
            "PostDataValue2FileName", "ASCII"),
        http.param("PostDataString3", "C:\\OracleATS\\OFT\\DataBank\\mydata.csv",
            "C:\\OracleATS\\OFT\\DataBank\\mydata.csv", "CSV")),
    http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
        Header.HeaderAction.Add),
        http.header("HeaderString2", "HeaderValue2IfNotSet",
            Header.HeaderAction.SetIfNotSet),
        http.header("HeaderString3", "HeaderValue3ApplytoAll",
            Header.HeaderAction.GlobalAdd),
        http.header("HeaderString4", "HeaderValue4Both",
            Header.HeaderAction.GlobalSetIfNotSet)),
    "-----7d82f120260a68",
    true, "ASCII", "ASCII");
```

**See Also**

[http.querystring](#) and [http.postdata](#) for creating parameter collections.

---

## http.navigate

Navigates to a web page using the specified ID, URL, additional headers, redirect, character set, method, and input stream. Only Multipart Post and XmlPost would call this method.

### Format

The http.navigate method has the following command format(s):

```
http.navigate(id, url);  
http.navigate(id, url, method);  
http.navigate(url, postdata, method);  
http.navigate(url, postdata, followRedirects, method);  
http.navigate(id, url, postdata, followRedirects, method);  
http.navigate(id, url, postdata, additionalHeaders, followRedirects, method);  
http.navigate(id, url, postdata, additionalHeaders, followRedirects, method);  
http.navigate(id, url, postdata, additionalHeaders, followRedirects, respCharset, method);  
http.navigate(id, url, postdata, additionalHeaders, followRedirects, respCharset, method);  
http.navigate(id, url, additionalHeaders, followRedirects, respCharset, method, postStream);
```

### Command Parameters

**id**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**url**

a String specifying the URL to request. Must not be null.

**method**

an HTTPMethod enum specifying the HTTP request header method: GET or POST.

**postdata**

a String specifying the Postdata to POST to the URL's host. May be null.

**followRedirects**

a boolean specifying if redirects are followed. Set to false to specify that the browser should not follow any redirects, such as a 302 response.

**additionalHeaders**

a Headers object specifying additional headers to add to the request.

**respCharset**

a String specifying the character set to use when reading the response contents.

**postStream**

an InputStream containing postdata to POST to URL. Should be OpenScriptInputStream.

## Throws

### Exception

on any exception while navigating.

## Example

Navigates to the specified URL using the specified headers, character set, POST method, and poststream. Does not follow redirects.

```
String filePath = "C:\\ADF_Load.xml";
String fileName = "ADFLoad";
Headers myheaders = new Headers();
myheaders.add("POST / HTTP/1.1", "");
myheaders.add("Accept-Encoding", "gzip, deflate");
ParamCollection postdata = http.postdata(
    http.param("__EVENTTARGET", "btnUploadTheFile"),
    http.param("__EVENTARGUMENT", ""),
    http.param("__VIEWSTATE", "dDwxNDc5ODAzNTs7PkPGUbp9tEJUQkJkazuBM8/TR8"),
    http.param("uplTheFile", filePath, fileName, "text/xml"));
InputStream postStream = postdata == null ? null :
    buildMultiPartPostStream(postdata.getParams(),
        "-----7da1482d461390", "UTF8");
http.navigate(11, "http://example.com/mockups/uploadfile.aspx",
    myheaders, false, "UTF8", HTTPMethod.POST, postStream);
//[...]
protected InputStream buildMultiPartPostStream(Param params[], String boundary,
String reqCharset) throws AbstractScriptException
{
    if (boundary == null)
        boundary = MultiPartUtil.MULTIPART_HEADER_BOUNDARY_STRING;
    List<InputStream> inList = new ArrayList<InputStream>();
    ByteArrayOutputStream bis = new ByteArrayOutputStream();
    //sb.append("--");
    bis.write(45);
    bis.write(45);
    byte[] bBoundary = boundary.getBytes();
    try {
        bis.write(bBoundary);
        for (Param param : params) {
            //sb.append("\r\n")
            bis.write(13);
            bis.write(10);
            inList.add(new ByteArrayInputStream(bis.toByteArray()));
            bis.reset();
            inList.add(param.toStream(reqCharset));
            //sb.append("\r\n--").append(boundary)
            bis.write(13);
            bis.write(10);
            bis.write(45);
            bis.write(45);
            bis.write(bBoundary);
        }
        bis.write("--\r\n".getBytes());
        inList.add(new ByteArrayInputStream(bis.toByteArray()));
        bis.close();
    }
    catch (IOException e) {
        http.getCurrentVUSer().handleException(new ScriptException(e));
    }
}
```



```
return new OpenScriptInputStream(inList);  
}
```

## http.options

Requests a web page using an HTTP OPTIONS method with querystrings, headers, URL encoding, and character sets.

### Format

The http.options method has the following command format(s):

```
http.options(recid,urlPath,querystring, optionsdata);
```

```
http.options(recid,urlPath,querystring, optionsdata, encode);
```

```
http.options(recid,urlPath,querystring, optionsdata, headers, encode, reqCharset, respCharset);
```

```
http.options(recid,urlPath,querystring, encode, optionsdata, headers, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**querystring**

a ParamCollection specifying the Query string data parameter collection. May be null.

**optionsdata**

a ParamCollection specifying the OPTIONS Data the from URL's host, in the form of a parameter collection or a String specifying the options data. Must not be null.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

Exception on any exception while navigating or transforming the data.

## Example

Specifies a OPTIONS navigation with querystrings, optionsdata, headers, URL encoding, and character sets.

```
http.options(9, "http://example.com/{{web.formaction.loginform,default.asp}}",
  http.optionsdata(http.param("login", "{{web.input.login,ta793}}"),
    http.param("password", "{{web.input.password,ta}}"),
    http.param("LoginButton", "{{web.input.LoginButton,Login}}"));
```

-or-

```
http.options(12, "http://example.com",
  http.querystring(http.param("QueryString1", "QueryValue1"),
    http.param("QueryString2", "QueryValue2"),
    http.param("QueryString3", "QueryValue3")),
  http.optionsdata(http.param("OptionsString1", "Optionsvalue1"),
    http.param("OptionsString2", "Optionsvalue2"),
    http.param("OptionsString3", "OptionsValue3")),
  http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
    Header.HeaderAction.Add),
    http.header("HeaderString2", "HeaderValue2SetifNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("HeaderString3", "HeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("HeaderString4", "HeaderValue4BothActions",
    Header.HeaderAction.GlobalSetIfNotSet)),
  true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) and [http.optionsdata](#) for creating a parameter collection.

## http.optionsdata

Convenience method to return a optionsdata ParamCollection.

### Format

The http.optionsdata method has the following command format(s):

```
http.optionsdata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a navigation with optionsdata parameters.

```
http.optionsput(9, "http://example.com", http.optionsdata(  
    http.param("OptionsString1", "OptionsValue1"),  
    http.param("OptionsString2", "OptionsValue2"),  
    http.param("OptionsString3", "OptionsValue3")));
```

### See Also

[http.options](#).

---

## http.param

Convenience method to create a new File Parameter object.

### Format

The http.param method has the following command format(s):

```
http.param(value);
```

```
http.param(name, value);
```

```
http.param(name, value, fileName, contentType);
```

### Command Parameters

**name**

a String specifying the parameter name.

**value**

a String specifying the parameter value.

**fileName**

a String specifying the full path to a file whose contents will be submitted to the server.

**contentType**

a String specifying the Content-type string to appear in the multi-part post parameter element when submitting the file contents to the server.

### Returns

a new Param object with the given name and value.

### Example

Specifies the file name and content type parameters as postdata for the multipart post navigation.

```
http.multipartPost(24, "http://example.com/", http.querystring(  
    http.param("PostName", "PostValue")), http.postdata(  
    http.param("MyFileParameterName",  
        "C:\\myfile.txt", "C:\\myfile.txt", "ASCII"),  
    null, "", false, "ASCII", "ASCII");
```

### See Also

[http.get](#) and [http.post](#), and [http.multipartPost](#) Methods.

## http.patch

Requests a web page using an HTTP PATCH method with querystrings, putdata, headers, URL encoding, and character sets.

### Format

The http.patch method has the following command format(s):

```
http.patch(recid,urlPath, patchdata);
```

```
http.patch(recid,urlPath, patchdata, encode);
```

```
http.patch(recid,urlPath,querystring, patchdata, headers,encode, reqCharset, respCharset);
```

```
http.patch(recid,urlPath,querystring, encode, patchdata, headers, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**querystring**

a ParamCollection specifying the Query string data parameter collection. May be null.

**patchdata**

a ParamCollection specifying the Data to PATCH to the URL's host, in the form of a parameter collection or a String specifying the Data to PATCH to the URL's host. Must not be null.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Example

Specifies a PUT navigation with querystrings, putdata, headers, URL encoding, and character sets.

```
http.patch(12, "http://example.com",  
  http.querystring(http.param("QueryString1", "QueryValue1"),
```

```
http.param("QueryString2", "QueryValue2"),
http.param("QueryString3", "QueryValue3")),
http.patchdata(http.param("PatchString1", "PatchValue1"),
http.param("PatchString2", "PatchValue2"),
http.param("PatchString3", "PatchValue3"),
http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
Header.HeaderAction.Add),
http.header("HeaderString2", "HeaderValue2SetifNotSet",
Header.HeaderAction.SetIfNotSet),
http.header("HeaderString3", "HeaderValue3ApplytoAll",
Header.HeaderAction.GlobalAdd),
http.header("HeaderString4", "HeaderValue4BothActions",
Header.HeaderAction.GlobalSetIfNotSet)),
true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) and [http.patchdata](#) Methods.

## http.patchdata

Convenience method to return a patchdata ParamCollection.

### Format

The http.patchdata method has the following command format(s):

```
http.patchdata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a PATCH navigation with patchdata parameters.

```
http.patch(9, "http://example.com", http.patchdata(  
    http.param("PatchString1", "PatchValue1"),  
    http.param("PatchString2", "PatchValue2"),  
    http.param("PutString3", "PatchValue3")));
```

### See Also

[http.patch](#) Method.



## http.post

Requests a web page using an HTTP POST method with querystrings, postdata, headers, URL encoding, and character sets.

### Format

The http.post method has the following command format(s):

```
http.post(recid, urlPath, postdata);
```

```
http.post(recid, urlPath, postdata, encode);
```

```
http.post(recid, urlPath, querystring, postdata, headers, encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**postdata**

a ParamCollection or String specifying the data to POST to the URL's host. Must not be null.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters using the agent machine's default character set before submitting them to the sever.

**querystring**

a ParamCollection specifying the Query string data parameter collection. May be null.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any exception while navigating or transforming the data.

## Example

Specifies a POST navigation with querystrings, postdata, headers, URL encoding, and character sets.

```
http.post(12, "http://example.com",
  http.querystring(http.param("QueryString1", "QueryValue1"),
    http.param("QueryString2", "QueryValue2"),
    http.param("QueryString3", "QueryValue3")),
  http.postdata(http.param("PostString1", "PostValue1"),
    http.param("PostString2", "PostValue2"),
    http.param("PostString3", "PostValue3")),
  http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
    Header.HeaderAction.Add),
    http.header("HeaderString2", "HeaderValue2SetifNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("HeaderString3", "HeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("HeaderString4", "HeaderValue4BothActions",
    Header.HeaderAction.GlobalSetIfNotSet)),
  true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) and [http.postdata](#) for creating parameter collections.

## http.postdata

Convenience method to return a postdata ParamCollection.

### Format

The http.postdata method has the following command format(s):

```
http.postdata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a POST navigation with postdata parameters.

```
http.post(9, "http://example.com", http.postdata(  
    http.param("PostString1", "PostValue1"),  
    http.param("PostString2", "PostValue2"),  
    http.param("PostString3", "PostValue3")));
```

### See Also

[http.get](#) and [http.post](#), and [http.multipartPost](#) Methods. [http.param](#) for creating a Param object.

## http.put

Requests a web page using an HTTP PUT method with querystrings, putdata, headers, URL encoding, and character sets.

### Format

The http.put method has the following command format(s):

```
http.put(recid,urlPath,querystring, putdata);
```

```
http.put(recid,urlPath,querystring, putdata, headers,encode);
```

```
http.put(recid,urlPath,querystring, putdata, headers, encode, reqCharset, respCharset);
```

```
http.put(recid,urlPath,putdata, querystring, headers, encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain {{ }} syntax for transforming. Must not be null.

**querystring**

a ParamCollection specifying the Query string data parameter collection or a String specifying the querystring data. May be null.

**putdata**

a ParamCollection specifying the data to PUT to the URL's host, in the form of a parameter collection or a String specifying the put data. Must not be null. None of the parameters will be URL-encoded before they are submitted to the server.

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to true to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

Exception on any exception while navigating or transforming the data.

## Example

Specifies a PUT navigation with querystrings, putdata, headers, URL encoding, and character sets.

```
http.put(9, "http://example.com/{{web.formaction.loginform,default.asp}}",
  http.putdata(http.param("login", "{{web.input.login,ta793}}"),
    http.param("password", "{{web.input.password,ta}}"),
    http.param("LoginButton", "{{web.input.LoginButton,Login}}"));
```

-or-

```
http.put(12, "http://example.com",
  http.querystring(http.param("QueryString1", "QueryValue1"),
    http.param("QueryString2", "QueryValue2"),
    http.param("QueryString3", "QueryValue3")),
  http.putdata(http.param("PutString1", "PutValue1"),
    http.param("PutString2", "PutValue2"),
    http.param("PutString3", "PutValue3")),
  http.headers(http.header("HeaderString1", "HeaderValue1NoActions",
    Header.HeaderAction.Add),
    http.header("HeaderString2", "HeaderValue2SetIfNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("HeaderString3", "HeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("HeaderString4", "HeaderValue4BothActions",
    Header.HeaderAction.GlobalSetIfNotSet)),
  true, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) and [http.putdata](#) for creating a parameter collection.

## http.putdata

Convenience method to return a putdata ParamCollection.

### Format

The http.putdata method has the following command format(s):

```
http.putdata(params);
```

### Command Parameters

**params**

a Param object collection specifying all parameters to add to the collection.

### Returns

a new ParamCollection object from the given Param objects.

### Example

Specifies a PUT navigation with putdata parameters.

```
http.put(9, "http://example.com", http.putdata(  
    http.param("PutString1", "PutValue1"),  
    http.param("PutString2", "PutValue2"),  
    http.param("PutString3", "PutValue3")));
```

### See Also

[http.get](#) and [http.put](#) Methods.

---

## http.querystring

Convenience method to create a query string `ParamCollection` object.

### Format

The `http.querystring` method has the following command format(s):

```
http.querystring(params);
```

### Command Parameters

**params**

a `Param` object collection specifying all parameters to add to the collection.

### Returns

a new `ParamCollection` object from the given `Param` objects.

### Example

Specifies a POST navigation with querystring parameters.

```
http.post(12, "http://example.com",  
  http.querystring(http.param("QueryString1", "QueryValue1"),  
    http.param("QueryString2", "QueryValue2"),  
    http.param("QueryString3", "QueryValue3")),  
  null, null, true, "ASCII", "ASCII");
```

### See Also

`get`, `post`, and `multipartPost` Methods. [http.param](#) for creating a `Param` object.

## http.removeCookie

Removes the cookie named *cookieName* from the cookie jar.

This method removes all Cookies named *cookieName* for all domains and paths.

This method is identical to `http.getBrowser().getCookieJar().removeCookie(String)`.

### Format

The `http.removeCookie` method has the following command format(s):

```
http.removeCookie(cookieName);
```

### Command Parameters

**cookieName**

a String specifying the case-sensitive name of the cookie. May contain `{{}}` syntax for transforming. Must not be `null`.

For example: `sessionid`

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Removes the specified cookie from the cookie jar.

```
http.removeCookie("sessionid");
```



## http.removeGlobalTextValidator

Removes a global text assertion or verification test that was previously added using the [http.addGlobalAssertText](#).

If the specified test was not previously added, this method does nothing. No error is thrown.

### Format

The `http.removeGlobalTextValidator` method has the following command format(s):

```
http.removeGlobalTextValidator(testName);
```

### Command Parameters

**testName**

a String specifying the name of the test previously added by [http.addGlobalAssertText](#).

### Returns

true if the test was removed, otherwise false.

### Example

Removes the global text matching test named "GlobalTextMatch".

```
boolean wasRemoved = http.removeGlobalTextValidator("GlobalTextMatch");
if(wasRemoved){
    info("Global Test Removed: " + wasRemoved);
}
else{
    info("Global Test Removed: " + wasRemoved);
}
```

## http.removeValidator

Removes a previously added validator.

### Format

The http.removeValidator method has the following command format(s):

```
http.removeValidator(validator);
```

### Command Parameters

**validator**

a Validator previously added using [http.addValidator](#)

### Returns

true if the validator was removed or false if the validator was not found in the list of validators previously added.

### Example

Removes a previously added validator.

```
import java.util.List;
//[...]
List<IValidator> list = http.getValidatorList();
for (int i = 0; i < list.size(); i++) {
    IValidator validator = list.get(i);
    info("Validator Name: " + validator.getClass()
        .getSimpleName());
    if (validator.getClass().getSimpleName()
        .equals("LinkValidator")) {
        info("Removing LinkValidator");
        http.removeValidator(validator);
    } else if
        (validator.getClass().getSimpleName()
        .equals("CategoryValidator")) {
        info("Removing CategoryValidator");
        http.removeValidator(validator);
    } else
        info("Other validator: "
            + validator.getClass().getSimpleName());
}
```

### See Also

[http.addValidator](#) and [http.getValidatorList](#).

## http.setAcceptLanguage

Specifies the `Accept-Language` header that the browser should use when sending HTTP requests.

This can be used to emulate different language settings in a browser.

### Format

The `http.setAcceptLanguage` method has the following command format(s):

```
http.setAcceptLanguage(acceptLanguage);
```

### Command Parameters

**`acceptLanguage`**

a String specifying the value of the `Accept-Language` header.

### Example

Specifies the `Accept-Language` header that the browser should use when sending HTTP requests.

```
http.setAcceptLanguage("en-us");
```

## http.setUserAgent

Specifies the `User-Agent` header that the browser should use when sending HTTP requests.

This can be used to emulate different browsers.

### Format

The `http.setUserAgent` method has the following command format(s):

```
http.setUserAgent(userAgent);
```

### Command Parameters

**userAgent**

a String specifying the `User-Agent` header value. May contain `{ }` syntax for transforming. For example, `Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1; .NET CLR 1.1.4322; .NET CLR 2.0.50727)`

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the browser Request Header `User-Agent` string.

```
http.setUserAgent("Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 5.1; " +  
".NET CLR 1.1.4322; InfoPath.1; .NET CLR 2.0.50727; " +  
".NET CLR 3.0.04506.30; .NET CLR 3.0.04506.648;" +  
".NET CLR 3.0.4506.2152; .NET CLR 3.5.30729)");
```

---

## http.solve

Parses a value from the document found by XPath and stores it as a variable.

### Format

The http.solve method has the following command format(s):

```
http.solve(varName, pattern);
```

```
http.solve(varName, pattern, errorMsg);
```

```
http.solve(varName, pattern, errorMsg, isOptional);
```

```
http.solve(varName, pattern, errorMsg, isOptional, sourceType);
```

```
http.solve(varName, pattern, errorMsg, isOptional, sourceType, resultIndex);
```

```
http.solve(varName, pattern, errorMsg, isOptional, sourceType, resultIndex, encodeOption);
```

```
http.solve(varName, documentXPath, pattern, errorMsg, isOptional, sourceType, resultIndex, encodeOption);
```

### Command Parameters

**varName**

a String specifying the name of the script variable to create. Must not be null.

**pattern**

a String specifying the Regular Expression pattern specifying what to extract from the most recent navigation's contents. May contain a transform expression. Must not be null.

**errorMsg**

an optional String specifying the error message to display if the pattern cannot be solved. If null, a meaningful error message is automatically generated.

**isOptional**

a boolean specifying if the pattern must be solved or not. Set to true if the pattern does not have to be solved. If the pattern cannot be solved, the method quietly returns.

**sourceType**

the Source enum specifying which contents to return as a String. If null, assumes Source.Html.

**resultIndex**

a 0-based index value specifying the specific result to retrieve if the pattern matches more than one value. If null, all results will be added into the variables collection.

**encodeOption**

an EncodeOptions enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A null value is equivalent to EncodeOptions.None.

**documentXPath**

a String specifying the XPath to the document containing the target html against which to solve the variable. Optional, may be null. If null, the variable will be solved against the last retrieved contents.

## Throws

### Exception

on any exception while navigating or transforming the data.

### AbstractScriptException

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### SolveException

if the given pattern cannot be matched to the previous contents and the pattern is not optional.

## Example

Parses a value from the most recent navigation's contents using a Regular Expression and stores it as a variable.

```
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.None);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.URLEncode);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.URLDecode);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.XMLEncode);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.XMLDecode);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0,
  EncodeOptions.ConvertNewlinesToCRLF);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.ConvertNewlinesToLF);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.RemoveNewlines);
http.solve("solvetitle", "window[@index='0']", "<TITLE>(.)</TITLE>",
  "Cannot Solve Pattern", true, Source.Html, 0, EncodeOptions.EncodeURIComponent);
```

---

## http.solveCookieHeader

Extracts the "Set-Cookie" header value which matches the cookie key from the last response header and stores it in the specified script variable.

### Format

The http.solveCookieHeader method has the following command format(s):

```
http.solveCookieHeader(varName, key, lastValue, encodeOption);
```

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**key**

a String specifying the 0-based key of the cookie header to look for. Must not be null.

**lastValue**

an optional String specifying the recorded or last known value of the value about to be parsed. May be null. For informational purposes only.

**encodeOption**

an EncodeOptions enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A null value is equivalent to EncodeOptions.None.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the referer cannot be solved.

### Example

Extract the first (key value 0) "Set-Cookie" header value from the Reponse header (last known value of "Color=Blue") with no encoding.

```
http.solveCookieHeader("varCookieHead", "0", "Color=Blue",  
    EncodeOptions.None);  
info("Cookie Header = {{varCookieHead}}");
```

## http.solveGroupJavaScript

Extracts a JavaScript string from a document by XPath using a String and stores it in the script's variables collection.

### Format

The `http.solveGroupJavaScript` method has the following command format(s):

```
http.solveGroupJavaScript(paths);
```

```
http.solveGroupJavaScript(path);
```

```
http.solveGroupJavaScript(documentXPath, paths);
```

```
http.solveGroupJavaScript(documentXPath, path);
```

### Command Parameters

#### **paths**

a String Array specifying the JavaScript paths to extract.

#### **path**

a String path specifying which JavaScript to extract. Path is a ":" separated list of arguments in the form `varName:vbOrJava:blkIndex:literalIndex:literal`, as follows:

- `varName`: the name of the variable to add to the script's variables collection.
- `vbOrJava`: 1 to parse JavaScript, 0 to parse VB Script.
- `blkIndex`: 0-based index of the script block in the HTML contents to parse.
- `literalIndex`: 0-based index of the dynamic JavaScript literal inside the block to extract.
- `literal`: Specify '0' to parse a String from JavaScript, or '1' to parse a number.

#### **documentXPath**

a String specifying the document that provides the contents.

### Throws

#### **SolveException**

if the specified JavaScript path identifiers cannot be found.

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Extracts a JavaScript String from the page and stores it in the variable "varJavaScript" in the script's variables collection. It parses the first script block in the HTML contents for the third the dynamic JavaScript literal as a String from JavaScript.

```
http.solveGroupJavaScript("window[@index='0']", "varJavaScript:1:0:2:0");  
info("Java Script = {{varJavaScript}}");
```



---

## http.solveHeader

Extracts the specified header value using from the last request's response header according to header name.

The value will be stored in the specified variable.

### Format

The http.solveHeader method has the following command format(s):

```
http.solveHeader(varName, headerName, lastValue);
```

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**headerName**

a String specifying the header name.

**lastValue**

an optional String specifying the recorded or last known value of the value. May be null. For informational purposes only.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the header cannot be solved.

### Example

Extract the specified header value from the last request's response header and store it in the specified script variable.

```
http.solveHeader("varHeader", "X-ORACLE-BPMUI-CSRF",  
    "EC92521CFE4D4D8FDEBC3EA6AD36EFADCF87A2B29794A325D7044B14CF8D14597BD62732CEBE1F75  
C71FB3BF679F6B9E1B00705432C7137A3D64FCCE8571C060");  
info("CSRF = {{varHeader}}");
```

## http.solveRedirectNavs

Parses a value from the re-directed navigation's contents and stores it as a variable.

Always lookup from the latest redirected navigation. A `SolveException` is thrown if there is nothing found for all the re-directed navigations or no re-directed navigation at all.

This API can only be used manually in HTTP scripts.

This method honors the "Solve Variable Failed" error recovery setting. If "Solve Variable Failed" error recovery is not set to fail, then the script will continue running even if a non-optional variable cannot be solved.

### Format

The `http.solveRedirectNavs` method has the following command format(s):

```
http.solveRedirectNavs(varName, pattern, errorMsg, isOptional, sourceType, resultIndex, encodeOption);
```

### Command Parameters

**varName**

a String specifying the name of the variable to create. Must not be `null`.

**pattern**

a String specifying the Regular Expression pattern specifying what to extract from the most recent navigation's contents. May contain a transform expression. Must not be `null`.

**errorMsg**

an optional String specifying the error message to display if the pattern cannot be solved. If `null`, a meaningful error message is automatically generated.

**isOptional**

a boolean specifying if the pattern must be solved or not. Set to `true` if the pattern does not have to be solved. If the pattern cannot be solved, the method quietly returns.

**sourceType**

the `Source` enum specifying which contents to return as a String. If `null`, assumes `Source.Html`.

**resultIndex**

a 0-based index value specifying the specific result to retrieve if the pattern matches more than one value. If `null`, all results will be added into the variables collection.

**encodeOption**

an `EncodeOptions` enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A `null` value is equivalent to `EncodeOptions.None`.

### Throws

**Exception**

if redirected navigation cannot be solved.

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the given pattern cannot be matched to the previous contents and the pattern is not optional.

**Example**

Parses a value from the most recent re-directed navigation's specified source using a Regular Expression and stores it in a variable. An optional error message returns if the pattern cannot be solved. The pattern is optional and does not have to be solved. Includes a result index value of 0 to specify it should retrieve the first match result and encode or decode using the specified options.

```
http.solveRedirectNavs("varTitle0", "<TITLE>(.)</TITLE>",  
    "Title not Found", true, Source.Html, 0, EncodeOptions.None);  
info("Page Title = {{varTitle}}");
```

## http.solveRefererHeader

Extracts the "Referer" header value using from the last request's response header using XPath notation.

The value will be stored in the specified variable.

### Format

The http.solveRefererHeader method has the following command format(s):

```
http.solveRefererHeader(varName, lastValue);
```

```
http.solveRefererHeader(varName, documentXPath, lastValue);
```

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**lastValue**

an optional String specifying the recorded or last known value of the value about to be parsed. May be null. For informational purposes only.

**documentXPath**

a String specifying the XPath to the document that provides the contents.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the referer cannot be solved.

### Example

Extract the "Referer" header value from the last request's response header and store it in the specified script variable.

```
http.solveRefererHeader("varRefHeader", "window[@index='0']",  
    "http://example.com/");  
info("Referer = {{varRefHeader}}");
```

---

## http.solveXPath

Extracts a value from the specified document contents using XPath notation.

This API handles the following two rules:

- Web DOM rule: Combine *documentXPath* with *xpath* to create a full XPath, and find the element in the DOM jBrowser.
- XML Dom rule: Use *documentXPath* to find the document in DOM jBrowser, then use *xpath* to find the element in the document.

### Format

The http.solveXPath method has the following command format(s):

```
http.solveXPath(varName, xpath, lastValue, resultIndex, encodeOption);
```

```
http.solveXPath(varName, documentXPath, xpath, lastValue, resultIndex, encodeOption);
```

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**xpath**

a String specifying the XPath describing which value to parse from the last retrieved contents. Must not be null.

**lastValue**

an optional String specifying the recorded or last known value of the value about to be parsed. May be null. For informational purposes only.

**resultIndex**

a 0-based index value specifying the specific result to retrieve if the XPath returns multiple results. A null value specifies that all results should be returned.

**encodeOption**

an EncodeOptions enum specifying the encoding or decoding operation to perform on the variable's value after solving the variable. A null value is equivalent to EncodeOptions.None.

**documentXPath**

a String specifying the XPath to the document that provides the contents.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**HTMLParserException**

on any failure to parse the HTML.

**SolveException**

if the XPath cannot be solved.

## Example

Extracts a value from the browser's last retrieved contents using XPath notation and stores it in the specified script variable. Encode or decode using the specified options.

```
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.None);
info("Login form = {"web.formaction.loginform}");
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.URLEncode);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.URLDecode);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.XMLEncode);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.XMLDecode);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.ConvertNewlinesToCRLF);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.ConvertNewlinesToLF);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.RemoveNewlines);
http.solveXPath("web.formaction.loginform", "/window[@index=0]",
    ".//FORM[@name='loginform']/@action", "default.asp", 0,
    EncodeOptions.EncodeURIComponent);
```

---

## Source

The Source has the following values:

**Table 9–4 List of Source Values**

<b>Value</b>	<b>Description</b>
Html	Raw HTML, including tags.
ResponseHeader	HTTP response header.
DisplayContent	Received HTML content, excluding markup tags.
RequestHeader	HTTP request header.

## http.text

Convenience method to return a `ParamCollection` object.

### Format

The `http.text` method has the following command format(s):

```
http.text(text);
```

### Command Parameters

**text**

a String specifying the raw text data to include in the parameter collection.

### Returns

a new `ParamCollection` object from the specified text.

### Example

Returns a `ParamCollection` from the specified text.

```
ParamCollection collection = http.text("abc");
if(collection.getText().equals("abc")){
    info("passed!");
}
else{
    warn("failed!");
}
```



---

## http.urlEncode

URL-encodes a given string using a specific character set excluding the specified character array.

For example, the string, 'the file "abc" is in rootetc', would be encoded as:  
the+file+%22abc%22+is+in+%5Croot%5Cetc

### Format

The http.urlEncode method has the following command format(s):

```
http.urlEncode(s);
```

```
http.urlEncode(s, charset);
```

```
http.urlEncode(s, charset, noEncodeList);
```

### Command Parameters

**s**

a String specifying the string to encode.

**charset**

a String specifying the character set to use to encoded the string. May be null.

**noEncodeList**

a char[] array of characters not to encode. May be null.

### Throws

**URLEncodingException**

if any characters cannot be encoded.

### Returns

a URL-encoded String.

### Example

Encodes the specified string using the specified character set and excludes the specified character list.

```
char[] noEncodeList = {'&', '\\', '?', '"', '*'};
//using script variable
getVariables().set("urlEncoded", HTTPService
    .urlEncode("the file \"abc\" is in \\root\\etc\\*.*",
        "ASCII", noEncodeList));
info("Encoded Text in script var = {{urlEncoded}}");
//using Java variable
String urlEncoded = HTTPService
    .urlEncode("the file \"abc\" & test?s in \\root\\etc\\*.*",
        "ASCII", noEncodeList);
info("The Encoded String is: " + urlEncoded);
```

## http.validate

Validates the browser result for correctness.

This method does nothing if the Response already has an exception set.

If a content failure is found, this method sets an error for the response by calling `oracle.oats.scripting.modules.http.api.Response.setException(AbstractScriptException)`.

Scripts may add custom validation handlers to provide additional content validation, using [http.addValidator](#).

Subclasses may override this method if they need to modify how the HTTP Service itself validates all browser responses.

### Format

The `http.validate` method has the following command format(s):

```
http.validate(r);
```

### Command Parameters

**r**  
a Browser Response object. May be null.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Gets the last browser browser response for validation.

```
Response r = http.getLastBrowserResponse().getRequest()
    .getLastRequest().getResponse();
r.setResponseCode(600);
http.validate(r);
if (r.getException() != null&& r.getException().getMessage()
    .trim().equals("HTTP response code: 600 OK") ) {
    info("validate passed!");
}
else{
    warn("validate failed!");
}
```

### See Also

[http.addValidator](#)

## http.verifyJSONPath

Verify the text in a JSONPath expression to select content from the target and compare the result to the value you expect. Compare this value to the *expectedValue* parameter.

### Format

The http.verifyJSONPath method has the following command format(s):

```
http.verifyJSONPath(testName, jsonPath, expectedValue, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**expectedValue**

a String specifying the Text to match, or not match with the JSON path expression result if TextPresence is set to TextPresence.PassIfPresent.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds Text Matching tests using JSONPath expression.

```
http.verifyJSONPath("JSONPathMatch1", "$.limit", "25",  
    TextPresence.PassIfPresent, MatchOption.Exact);
```

```
http.verifyJSONPath("JSONPathMatch2", "$.links[0].name",  
    "publicSectorOwnershipTypes",  
    TextPresence.PassIfPresent, MatchOption.ExactEntireString);
```

## http.verifyJSONPathCount

Verify the text in a JSONPath expression to count the occurrences of an element in a request or response. Compare this value to the *expectedValue* parameter.

### Format

The http.verifyJSONPathCount method has the following command format(s):

```
http.verifyJSONPathCount(testName, jsonPath, expectedValue, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**expectedValue**

a String specifying the Text to match, or not match with the JSON path expression result if TextPresence is set to TextPresence.PassIfPresent.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds JSON path count test using JSONPath expression and expected value.

```
http.verifyJSONPathCount("JSONCount", "$.items", "14",  
    TextPresence.PassIfPresent, MatchOption.Exact);
```

## http.verifyJSONPathExistence

Verify the text in a JSONPath expression to select content from the target and check whether it exists.

### Format

The http.verifyJSONPathExistence method has the following command format(s):

```
http.verifyJSONPathExistence(testName, jsonPath, textPresence);
```

### Command Parameters

**testName**

a String specifying the test name.

**jsonPath**

a String specifying the JSON path describing which value to parse from the last retrieved contents. Must not be null.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds JSON path count test using JSONPath expression and expected value.

```
http.verifyJSONPathExistence("JSONPathExist2", $.links[0].name",  
    TextPresence.PassIfPresent);
```

## http.verifyResponseTime

Tests the server response time for the previous request without failing.

This method does nothing if the Response already has an exception set.

This method will never cause a script to fail, regardless of the server response test error recovery settings.

Use [http.assertResponseTime](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

Subclasses may override this method if they need to modify how the HTTP Service itself validates server response times.

### Format

The http.verifyResponseTime method has the following command format(s):

```
http.verifyResponseTime(testName, minTime, maxTime);
```

### Command Parameters

**testName**

an optional String specifying a descriptive name describing what request is being tested. The name may appear in results and counter names.

**minTime**

a double specifying the minimum server response time (inclusive).

**maxTime**

a double specifying the maximum server response time (inclusive).

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**ResponseTimeException**

if no previous response to validate, or if the response time does not fall within the given range *and* stopIterationOnFailure is false.

### Example

Adds a Verify only, never fail Server Response test with a minimum of 1 second and a maximum of 15 seconds.

```
http.verifyResponseTime("myServerResponseTest", 1.0, 15.0);
```

---

## http.verifyText

Searches the HTML contents in the document specified by XPath notation for the specified text pattern.

If the test fails, report a warning.

This method will never cause a script to fail, regardless of the text matching test error recovery settings.

Use [http.assertText](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The http.verifyText method has the following command format(s):

```
http.verifyText(testName, textToVerify, sourceType, textPresence, matchOption);
```

```
http.verifyText(testName, documentXPath, textToVerify, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**textToVerify**

a String specifying the text to match on the page, or not match on the page if TextPresence is set to TextPresence.PassIfPresent.

**sourceType**

a Source enum specifying where to match the text: the HTML contents or HTTP response headers.

**textPresence**

a TestPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

**documentXPath**

a String specifying the XPath to the document that contains the contents.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

**Exception**

on any exception while navigating or transforming the data.

## Example

Adds a Verify only, never fail Text Matching tests for Display Content, Response Header, and Source HTML respectively.

myTextMatchingTest1 passes if the text to match string is present in the Display Content and matches exactly.

myTextMatchingTest2 passes if the text to match string is present in the Response Header and matches the Regular Expression.

myTextMatchingTest3 fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
http.verifyText("myTextMatchingTest1", "window[@index='0']",
    "match this text string", Source.DisplayContent,
    TextPresence.PassIfPresent, MatchOption.Exact);
http.verifyText("myTextMatchingTest2", "window[@index='0']",
    "jsessionId=(.+?)(?:\\\"|&)", Source.ResponseHeader,
    TextPresence.PassIfPresent, MatchOption.RegEx);
http.verifyText("myTextMatchingTest3", "window[@index='0']",
    "match this *", Source.Html,
    TextPresence.FailIfPresent, MatchOption.Wildcard);
```



---

## http.verifyTitle

Searches the <title> tag in HTML content for the specified title pattern, reporting a warning if the test fails.

### Format

The http.verifyTitle method has the following command format(s):

```
http.verifyTitle(title, matchOption);
```

```
http.verifyTitle(documentXPath, title, matchOption);
```

### Command Parameters

**title**

a String specifying the text pattern specifying the expected title.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

**documentXPath**

a String specifying the XPath to the document that contains the contents.

### Throws

**Exception**

on any exception while navigating or transforming the data.

**MatchException**

if the assertion fails.

**AbstractScriptException**

on any other failure when attempting to assert the text.

### Example

Adds Text Title tests for the HTML document title using exact match, Regular Expression match, and Wildcard match respectively.

```
http.verifyTitle("window[@index='0']", "Summary Report", MatchOption.Exact);  
http.verifyTitle("window[@index='0']", "Summary Report For (.+?)",  
MatchOption.RegEx);  
http.verifyTitle("window[@index='0']", "Summary Report For ???",  
MatchOption.Wildcard);
```

## http.verifyXPath

Verify the text of a DOM element in the browser's last retrieved contents.

Compare this value to the *textToVerify* parameter. If the test fails, report a warning.

This method will never cause a script to fail, regardless of the XPath test error recovery settings. Use [http.assertXPath](#) to make the script fail when the test fails.

When playing back a script in Oracle Load Testing, always use Assertions; failed Verifications are *not* reported in the Oracle Load Test controller.

### Format

The http.verifyXPath method has the following command format(s):

```
http.verifyXPath(testName, xpath, resultIndex, textToVerify, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**xpath**

a String specifying the XPath describing which value to parse from the last retrieved contents. Must not be null.

**resultIndex**

a 0-based index value specifying the specific result to retrieve if the XPath returns multiple results. A null value specifies that all results should be returned.

**textToVerify**

a String specifying the text to match, or not match with the XPath result if TextPresence is set to TextPresence.PassIfPresent.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the test to pass or fail if the text to match is present or not.

**matchOption**

a MatchOption enum specifying how the text to match should be searched on the page, such as using a Regular Expression, Wildcard, or exact match.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds Text Matching tests using XPath notation.

myTextMatchingTest1 passes if the text to match string is present and matches exactly.

myTextMatchingTest2 passes if the text to match string is present and matches the entire string exactly.

myTextMatchingTest3 passes if the text to match string is present and matches the Regular Expression.

myTextMatchingTest4 passes if the text to match string is present and matches the entire string from the Regular Expression.

myTextMatchingTest5 fails if the text to match string is present and matches the Wildcard.

```
http.verifyXPath("myTextMatchingTest1", ".//input[@name='j_id_id3']" +
  "@value", 0, "match this text string",
  TextPresence.PassIfPresent, MatchOption.Exact);
http.verifyXPath("myTextMatchingTest2", ".//input[@name='j_id_id3']" +
  "@value", 1, "match this text string",
  TextPresence.PassIfPresent, MatchOption.ExactEntireString);
http.verifyXPath("myTextMatchingTest3", ".//input[@name='j_id_id3']" +
  "@value", 0, "jsessionId=(.+)?(?:\\\"|&)",
  TextPresence.PassIfPresent, MatchOption.RegEx);
http.verifyXPath("myTextMatchingTest4", ".//input[@name='j_id_id3']" +
  "@value", 1, "jsessionId=(.+)?(?:\\\"|&)",
  TextPresence.PassIfPresent, MatchOption.RegExEntireString);
http.verifyXPath("myTextMatchingTest5", ".//input[@name='j_id_id3']" +
  "@value", 0, "match this *",
  TextPresence.FailIfPresent, MatchOption.Wildcard);
```

## http.webSocketClient

Gets an object of WebSocketClient.

You should implement IWebSocketCallback.

### Format

The http.webSocketClient method has the following command format(s):

```
http.webSocketClient(uri, callback);
```

### Command Parameters

**uri**

a String specifying the Web Socket URI.

**callback**

an IWebSocketCallback.

### Returns

a websocket client object.

### Example

WebSocketClient example.

```
WebSocketClient client;
class CustomerCallback implements IWebSocketCallback{

    @Override public void onClose(CloseReason reason) {
        // Do something when websocket is closed.
    }

    @Override public void onMessage(String message) {
        // Do something when websocket send you a message.
        try {
            info(message);
        } catch (AbstractScriptException e) {
            // Auto-generated catch block
            e.printStackTrace();
        }
        client.closeConnection();
    }

    @Override public void onOpen(Session session) {
        // Do something when websocket is opened.
        client.sendMessage("aa");
    }
}

public void run() throws Exception {
    CustomerCallback callback = new CustomerCallback();
    client = http.webSocketClient("ws://echo.websocket.org", callback);
    client.startConnect();
    client.waitForClose();
}
```

## http.window

Finds the window element from browser's DOM tree using the window index.  
The element instance will be returned.

### Format

The http.window method has the following command format(s):

```
http.window(recId, xpathToWindow);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

**xpathToWindow**

a String specifying the XPath of the window element describing which value to parse from the DOM tree. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the window element's reference.

### Example

Finds the window element from browser's DOM tree indexed as 0.

```
boolean http_window_exists = http.window(184, "window[" +
    "@index='0']").exists();
if(http_window_exists){
    info("WebHTTPWindow exists: " + http_window_exists);
}
else{
    warn("WebHTTPWindow exists: " + http_window_exists);
}
```

## http.xmlPost

Posts an XML string to a web server using the HTTP POST method.

### Format

The `http.xmlPost` method has the following command format(s):

```
http.xmlPost(recid, urlPath, querystring, postdata, headers, encode, reqCharset, respCharset);
```

### Command Parameters

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be `null`.

**urlPath**

a String specifying the URL to request, excluding query string data. May contain `{{}}` syntax for transforming. Must not be `null`.

**querystring**

a `ParamCollection` specifying the query string data. May be `null`.

**postdata**

a String specifying the XML data to POST to the URL's host. Must not be `null`.

**headers**

a Header array of additional headers to add/remove from the request before submitting it to the server.

**encode**

a boolean specifying the parameter encoding. Set to `true` to URL-encode the querystring parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any exception while navigating or transforming the data.

### Example

Specifies an XML POST navigation with querystrings, postdata, headers, URL encoding, and Character sets.

```
http.xmlPost(0, "http://example.com",  
    http.querystring(http.param("xmlQueryString1", "xmlQueryValue1"),  
        http.param("xmlQueryString2", "xmlQueryValue2"),  
        http.param("xmlQueryString3", "xmlQueryValue3")),  
    "xmlPostDataString",
```

```
http.headers(http.header("xmlHeaderString1", "xmlHeaderValue1NoAction",
    Header.HeaderAction.Add),
    http.header("xmlHeaderString2", "xmlHeaderValue2IfNotSet",
    Header.HeaderAction.SetIfNotSet),
    http.header("xmlHeaderString3", "xmlHeaderValue3ApplytoAll",
    Header.HeaderAction.GlobalAdd),
    http.header("xmlHeaderString4", "xmlHeaderValue4Both",
    Header.HeaderAction.GlobalSetIfNotSet)),
false, "ASCII", "ASCII");
```

## See Also

[http.querystring](#) for creating a parameter collection.





# Part III

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## Functional Testing Modules API Reference

This Part of the OpenScript Programmer's Reference provides a complete listing and reference for the methods in the OpenScript Functional Testing Modules Application Programming Interface (API).

Each chapter in this part contains alphabetical listings and detailed command references for the methods in each class.

This Part contains the following chapters:

- [Chapter 10, "Applet Module"](#)
- [Chapter 11, "Adobe Flex Functional Module"](#)
- [Chapter 12, "Functional Test Module"](#)
- [Chapter 13, "Image Based Recording Functional Module"](#)
- [Chapter 14, "Oracle Application Framework Functional Module"](#)
- [Chapter 15, "Oracle EBS/Forms Functional Module"](#)
- [Chapter 16, "Oracle Fusion/ADF Functional Module"](#)
- [Chapter 17, "Oracle JD Edwards EnterpriseOne Functional Module"](#)
- [Chapter 18, "Oracle JET Functional Module"](#)
- [Chapter 19, "Siebel Functional Module"](#)
- [Chapter 20, "Oracle Siebel Open UI Functional Module"](#)
- [Chapter 21, "Siebel OpenUI Function Library"](#)
- [Chapter 22, "Webdom Module"](#)



This chapter provides a complete listing and reference for the methods in the OpenScript AppletService Class of Applet Module Application Programming Interface (API).

## 10.1 AppletService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript AppletService API.

### 10.1.1 Alphabetical Command Listing

The following table lists the AppletService API methods in alphabetical order.

**Table 10–1** *List of AppletService Methods*

<b>Method</b>	<b>Description</b>
<a href="#">applet.applet</a>	Identifies an applet object by its path.
<a href="#">applet.appWindow</a>	Identifies a top window object that doesn't have an owner, by its path.
<a href="#">applet.button</a>	Identifies a button object by its path.
<a href="#">applet.checkBox</a>	Identifies a check box object by its path.
<a href="#">applet.comboBox</a>	Identifies a combo box object by its path.
<a href="#">applet.dialog</a>	Identifies a dialog object by its path.
<a href="#">applet.dtree</a>	Identifies a DTree object by its path.
<a href="#">applet.expansionTree</a>	Identifies an expansion tracking tree by its path.
<a href="#">applet.grid</a>	Identifies a grid object by its path.
<a href="#">applet.infiniteScrollBar</a>	Identifies a infinite scroll bar object by its path.
<a href="#">applet.javaObject</a>	Identifies a component object by its path if this component could not be recognized as a specific type of object.
<a href="#">applet.label</a>	Identifies a label object by its path.
<a href="#">applet.list</a>	Identifies a list object by its path.
<a href="#">applet.mdiChild</a>	Identifies a mdiChild object by its path.
<a href="#">applet.menu</a>	Identifies a menu object by its path.
<a href="#">applet.radioButton</a>	Identifies a radio button object by its path.
<a href="#">applet.scrollBar</a>	Identifies a scroll bar object by its path.

**Table 10–1 (Cont.) List of AppletService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">applet.tab</a>	Identifies a tab bar object by its path.
<a href="#">applet.tabbedPage</a>	Identifies a tabbed page object by its path.
<a href="#">applet.table</a>	Identifies a table object by its path.
<a href="#">applet.textField</a>	Identifies a text field object by its path.
<a href="#">applet.textView</a>	Identifies a text view object by its path.
<a href="#">applet.timeBrowser</a>	Identifies a time browser object by its path.
<a href="#">applet.timeline</a>	Identifies a time line object by its path.
<a href="#">applet.toolBar</a>	Identifies a tool bar object by its path.
<a href="#">applet.treeBrowser</a>	Identifies a tree browser object by its path.
<a href="#">applet.treeView</a>	Identifies a tree view object by its path.
<a href="#">applet.window</a>	Identifies a Java window object by its path.

The following sections provide detailed reference information for each method and enum in the AppletService Class of Applet Module Application Programming Interface.

## applet.applet

Identifies an applet object by its path.

### Format

The applet.applet method has the following command format(s):

```
applet.applet(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the applet object.

### Throws

**Exception**

on any error.

### Returns

the applet object.

### Example

Identifies an applet object by its path.

```
applet.applet(399, "/applet:TApplet[@text='Oracle Applications' " +  
"or @posIndex='1']");
```

## applet.appWindow

Identifies a top window object that doesn't have an owner, by its path.

### Format

The `applet.appWindow` method has the following command format(s):

```
applet.appWindow(reclId, scriptId);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the window object.

### Throws

**Exception**

on any error.

### Returns

the window object.

### Example

Performs an action on a window object specified by its path.

```
TJavaAppWindow window = applet.appWindow(399,  
"/applet:TJavaAppWindow[@text='Oracle Applications' " +  
"or @posIndex='1']");
```

## applet.button

Identifies a button object by its path.

### Format

The applet.button method has the following command format(s):

```
applet.button(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the button object.

### Throws

**Exception**

on any error.

### Returns

the button object.

### Example

Performs an action on a button object specified by its path.

```
applet.button(2967, "/applet:TJavaDialog[@posIndex='0']" +  
  "/applet:TJavaButton[@text=' OK ' or @posIndex='0']")  
  .click();
```

## applet.checkBox

Identifies a check box object by its path.

### Format

The `applet.checkBox` method has the following command format(s):

```
applet.checkBox(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the check box object.

### Throws

**Exception**

on any error.

### Returns

the check box object.

### Example

Performs an action on a check box object specified by its path.

```
applet.checkBox(8956, "/applet:TJavaDialog[@text='Source Questions - " +  
    "Create Conditional Blocks' or @posIndex='0']" +  
    "/applet:TJavaCheckbox[@text='AE_ANY1' or @posIndex='0']")  
    .setCheck(true);
```



---

## applet.comboBox

Identifies a combo box object by its path.

### Format

The `applet.comboBox` method has the following command format(s):

```
applet.comboBox(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the combo box object.

### Throws

**Exception**

on any error.

### Returns

the combo box object.

### Example

Performs an action on a combo box object specified by its path.

```
applet.comboBox(8092, "/applet:TJavaDcmLayoutEditor[" +  
    "@text='AE_IND SUBSET 1 LAYOUT 1 Adverse Events' or @posIndex='4']" +  
    "/applet:TJavaToolbar[@posIndex='0']" +  
    "/applet:TJavaCombobox[@posIndex='0']")  
    .selectItem("200%");
```

## applet.dialog

Identifies a dialog object by its path.

### Format

The `applet.dialog` method has the following command format(s):

```
applet.dialog(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the dialog object.

### Throws

**Exception**

on any error.

### Returns

the dialog object.

### Example

Performs an action on a dialog object specified by its path.

```
TJavaDialog dialog = applet.dialog(1097, "/applet:TJavaDcmLayoutEditor " +  
    "[@text='AE_IND SUBSET 1 " +  
    "LAYOUT 1 Adverse Events' or @posIndex='4']" +  
    "/applet:TJavaDialog[@text='Validation' or @posIndex='-1']");
```

## applet.dtree

Identifies a DTree object by its path.

### Format

The applet.dtree method has the following command format(s):

```
applet.dtree(reclId, xPath);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**xPath**

a String specifying the path to identify the DTree object.

### Throws

**Exception**

on any error.

### Returns

the DTree object.

### Example

Performs an action on a DTree object specified by its path.

```
applet.dtree(110, "/applet:TJavaWindow[@text='Edit Schedule' " +  
  " or @posIndex='4']" +  
  "/applet:TJavaDTree[@posIndex='0']")  
  .selectNode("49010");
```

## applet.expansionTree

Identifies an expansion tracking tree by its path.

### Format

The applet.expansionTree method has the following command format(s):

```
applet.expansionTree(recId, xPath);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**xPath**

a String specifying the path to identify the expansion tracking tree object.

### Throws

**Exception**

on any error.

### Returns

the expansion tracking tree object.

### Example

Performs an action on an expansion tracking tree object specified by its path.

```
applet.expansionTree(3284, "/applet:TJavaWindow[@text='Flow Workstation (M1)' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaExpansionTree[@posIndex='0']")  
    .expandNode("Vision Pad:CASE|Assemblies");
```

## applet.grid

Identifies a grid object by its path.

### Format

The applet.grid method has the following command format(s):

```
applet.grid(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the grid object.

### Throws

**Exception**

on any error.

### Returns

the grid object.

### Example

Performs an action on a grid object specified by its path.

```
applet.grid(3490, "/applet:TJavaWindow[@text='Edit Schedule' " +  
  "or @posIndex='5']" +  
  "/applet:TJavaGrid[@posIndex='0']")  
  .editCell(3, 1);
```

## applet.infiniteScrollBar

Identifies a infiniteScrollBar object by its path.

### Format

The applet.infiniteScrollBar method has the following command format(s):

```
applet.infiniteScrollBar(recld, scriptld);
```

### Command Parameters

**recl**d

the ID of a previously recorded navigation, used for comparison purposes.

**script**ld

a String specifying the path to identify the infiniteScrollBar object.

### Throws

**Exception**

on any error.

### Returns

the infiniteScrollBar object.

### Example

Performs an action on a infiniteScrollBar object specified by its path.

```
applet.infiniteScrollBar(152, "/applet:TJavaWindow[@text='Job Scheduling  
Workbench' " +  
    or @posIndex='3']  
"/applet:TJavaInfiniteScrollBar[@posIndex='0']")  
.scroll(-349);
```

## applet.javaObject

Identifies a component object by its path if this component could not be recognized as a specific type of object. Gives a default representation to the component object.

### Format

The applet.javaObject method has the following command format(s):

```
applet.javaObject(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the Java object.

### Throws

**Exception**

on any error.

### Returns

the component object.

### Example

Performs an action on a component object specified by its path.

```
applet.javaObject(6315, "/applet:TJavaObject[@posIndex='4']")  
    .click();
```

## applet.label

Identifies a label object by its path.

### Format

The `applet.label` method has the following command format(s):

```
applet.label(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the label object.

### Throws

**Exception**

on any error.

### Returns

the label object.

### Example

Identifies a label object specified by its path.

```
TJavaLabel label = applet.label(533, "/applet:TJavaWindow[@text='Filter' " +  
    "or @posIndex='4']" +  
    "/applet:TJavaLabel[@text='Date' or @posIndex='8']");
```



---

## applet.list

Identifies a list object by its path.

### Format

The applet.list method has the following command format(s):

```
applet.list(recld, scriptld);
```

### Command Parameters

**recl***d*

the ID of a previously recorded navigation, used for comparison purposes.

**script***l**d*

a String specifying the path to identify the list object.

### Throws

**Exception**

on any error.

### Returns

the list object.

### Example

Performs an action on a Java list object specified by its path.

```
String selected = applet.list(533, "/applet:TJavaWindow[@text='Filter' " +  
    "or @posIndex='4']" +  
    "/applet:TJavaList[@text='Names' or @posIndex='8']")  
    .getSelected();
```

## applet.mdiChild

Identifies a mdiChild object by its path.

### Format

The applet.mdiChild method has the following command format(s):

```
applet.mdiChild(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the mdiChild object.

### Throws

**Exception**

on any error.

### Returns

the mdiChild object.

### Example

Performs an action on a mdiChild object specified by its path.

```
applet.mdiChild(533, "/applet:TJavaWindow[@text='Filter' " +  
    "or @posIndex='4']" +  
    "/applet:TJavamdiChild[@text='Names' or @posIndex='8']")  
    .setActive();
```

## applet.menu

Identifies a menu object by its path.

### Format

The applet.menu method has the following command format(s):

```
applet.menu(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the menu object.

### Throws

**Exception**

on any error.

### Returns

the menu object.

### Example

Performs an action on a menu object specified by its path.

```
applet.menu(53, "/applet:TJavaWindow[@text='Filter' " +  
  "or @posIndex='4']" +  
  "/applet:TJavaMenu[@text='Edit' or @posIndex='2']")  
  .menuClick();
```

## applet.radioButton

Identifies a radio button object by its path.

### Format

The `applet.radioButton` method has the following command format(s):

```
applet.radioButton(reclId, scriptId);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the radio button object.

### Throws

**Exception**

on any error.

### Returns

the radio button object.

### Example

Performs an action on a radio button object specified by its path.

```
applet.radioButton(533, "/applet:TJavaWindow[@text='Filter' " +  
    "or @posIndex='4']" +  
    "/applet:TJavaRadioButton[@text='Date' or @posIndex='8']")  
    .select();
```

---

## applet.scrollBar

Identifies a scroll bar object by its path.

### Format

The applet.scrollBar method has the following command format(s):

```
applet.scrollBar(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the scroll bar object.

### Throws

**Exception**

on any error.

### Returns

the scroll bar object.

### Example

Performs an action on a scroll bar object specified by its path.

```
applet.scrollBar(6658, "/applet:TJavaDcmLayoutEditor[@text='AE_IND SUBSET 1 " +  
  "LAYOUT 1 Adverse Events' or @posIndex='4']" +  
  "/applet:TJavaScrollbar[@posIndex='0']")  
  .setPosition(0);
```

## applet.slider

Identifies a slider object by its path.

### Format

The `applet.slider` method has the following command format(s):

```
applet.slider(reclid, scriptId);
```

### Command Parameters

**reclid**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the slider object.

### Throws

**Exception**

on any error.

### Returns

the slider object.

### Example

Performs an action on a slider object specified by its path.

```
applet.slider(725, "/applet:TJavaWindow[@text='Flow Workstation (M1)' " +  
"or @posIndex='3']" +  
"/applet:TJavaSlider[posIndex=0 and tClass='TJavaSlider']")  
.setPosition(3);
```

## applet.tab

Identifies a tab bar object by its path.

### Format

The `applet.tab` method has the following command format(s):

```
applet.tab(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the tab bar object.

### Throws

**Exception**

on any error.

### Returns

the tab bar object.

### Example

Performs an action on a tab bar object specified by its path.

```
applet.tab(725, "/applet:TJavaWindow[@text='Flow Workstation (M1)' " +  
  "or @posIndex='3']" +  
  "/applet:TJavaTabBar[posIndex=0 and tClass='TJavaTabBar']")  
  .select("Properties");
```

## applet.tabbedPage

Identifies a tabbedPage object by its path.

### Format

The applet.tabbedPage method has the following command format(s):

```
applet.tabbedPage(reclId, scriptId);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the tabbed page object.

### Throws

**Exception**

on any error.

### Returns

the tabbedPage object.

### Example

Performs an action on a tabbedPage object specified by its path.

```
applet.tabbedPage(725, "/applet:TJavaWindow[@text='Flow Workstation (M1)' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaTabbedPage[posIndex=0 and tClass='TJavaTabbedPage']")  
    .selectByIndex(2);
```



## applet.table

Identifies a table object by its path.

### Format

The applet.table method has the following command format(s):

```
applet.table(reclid, scriptid);
```

### Command Parameters

**reclid**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptid**

a String specifying the path to identify the table object.

### Throws

**Exception**

on any error.

### Returns

the table object.

### Example

Performs an action on a table object specified by its path.

```
applet.table(725, "/applet:TJavaWindow[@text='Flow Workstation (M1)' " +  
  "or @posIndex='3']" +  
  "/applet:TJavaTable[posIndex=0 and tClass='TJavaTable']")  
  .selectCell(1, 1, "");
```

## applet.textField

Identifies a text field object by its path.

### Format

The `applet.textField` method has the following command format(s):

```
applet.textField(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the text field object.

### Throws

**Exception**

on any error.

### Returns

the text field object.

### Example

Performs an action on a text field object specified by its path.

```
applet.textField(7945, "/applet:TJavaDcmLayoutEditor[@text='AE_IND SUBSET 1 " +  
  "LAYOUT 1 Adverse Events' or @posIndex='4']" +  
  "/applet:TJavaTextfield[@posIndex='31']")  
  .setText("Owner");
```

---

## applet.textView

Identifies a textView object by its path.

### Format

The applet.textView method has the following command format(s):

```
applet.textView(recId, scriptId);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the textView object.

### Throws

**Exception**

on any error.

### Returns

the textView object.

### Example

Performs an action on a textView object specified by its path.

```
applet.textView(7945, "/applet:TJavaDcmLayoutEditor[@text='AE_IND SUBSET 1 " +  
"LAYOUT 1 Adverse Events' or @posIndex='4']" +  
"/applet:TJavaTextView[@posIndex='31']")  
.getSelectedText();
```

## applet.timeBrowser

Identifies a time browser object by its path.

### Format

The `applet.timeBrowser` method has the following command format(s):

```
applet.timeBrowser(recId, xPath);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**xPath**

a String specifying the path to identify the time browser object.

### Throws

**Exception**

on any error.

### Returns

the time browser object.

### Example

Performs an action on a time browser object specified by its path.

```
applet.timeBrowser(145, "/applet:TJavaWindow[@text='Job Scheduling Workbench' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaTimeBrowser[@posIndex='0']")  
    .move("243645 : XA1000", "07-DEC-2006 17:03:00", "05-DEC-2006 15:45:55");
```

## applet.timeline

Identifies a time line object by its path.

### Format

The applet.timeline method has the following command format(s):

```
applet.timeline(recId, xPath);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**xPath**

a String specifying the path to identify the time line object.

### Throws

**Exception**

on any error.

### Returns

the time line object.

### Example

Performs an action on a time line object specified by its path.

```
applet.timeline(186, "/applet:TJavaWindow[@text='Job Scheduling Workbench' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaTimeline[@posIndex='0']")  
    .selectPopupMenu("Months");
```

## applet.toolBar

Identifies a tool bar object by its path.

### Format

The `applet.toolBar` method has the following command format(s):

```
applet.toolBar(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the tool bar object.

### Throws

**Exception**

on any error.

### Returns

the tool bar object.

### Example

Performs an action on a tool bar object specified by its path.

```
applet.toolBar(7086, "/applet:TJavaDcmLayoutEditor[@text='AE_IND SUBSET 1 " +  
  LAYOUT 1 Adverse Events' or @posIndex='4']" +  
  "/applet:TJavaToolbar[@posIndex='0']")  
  .clickItemByLabel("Center items horizontally");
```

---

## applet.treeBrowser

Identifies a treeBrowser object by its path.

### Format

The applet.treeBrowser method has the following command format(s):

```
applet.treeBrowser(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the treeBrowser object.

### Throws

**Exception**

on any error.

### Returns

the treeBrowser object.

### Example

Performs an action on a tree browser object specified by its path.

```
applet.treeBrowser(145, "/applet:TJavaWindow[@text='Job Scheduling Workbench' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaTreeBrowser[@posIndex='0']")  
    .click();
```

## applet.treeView

Identifies a treeView object by its path.

### Format

The applet.treeView method has the following command format(s):

```
applet.treeView(recl, scriptId);
```

### Command Parameters

**recl**

the ID of a previously recorded navigation, used for comparison purposes.

**scriptId**

a String specifying the path to identify the treeView object.

### Throws

**Exception**

on any error.

### Returns

the treeView object.

### Example

Performs an action on a treeView object specified by its path.

```
in count = applet.treeView(145, "/applet:TJavaWindow " +  
    "[@text='Job Scheduling Workbench' " +  
    "or @posIndex='3']" +  
    "/applet:TJavaTreeView[@posIndex='0']")  
    .itemCount();
```



## applet.window

Identifies a Java window object by its path.

### Format

The applet.window method has the following command format(s):

```
applet.window(recld, scriptld);
```

### Command Parameters

**recl**d

the ID of a previously recorded navigation, used for comparison purposes.

**script**ld

a String specifying the path to identify the Java window object.

### Throws

**Exception**

on any error.

### Returns

the Java window object.

### Example

Performs an action on a treeView object specified by its path.

```
applet.window(145, "/applet:TJavaWindow " +  
  "[@text='Job Scheduling Workbench' " +  
  "or @posIndex='3']" +  
  "/applet:TJavaWindow[@posIndex='0']")  
  .close();
```



---

---

## Adobe Flex Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript FlexFTService Class of Flex Functional Module Application Programming Interface (API).

### 11.1 FlexFTService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript FlexFTService API.

#### 11.1.1 Alphabetical Command Listing

The following table lists the FlexFTService API methods in alphabetical order.

**Table 11–1** List of FlexFTService Methods

Method	Description
<a href="#">flexFT.accordion</a>	Creates a Flex Accordion element.
<a href="#">flexFT.alert</a>	Creates a Flex Alert element.
<a href="#">flexFT.application</a>	Creates a Flex Application element.
<a href="#">flexFT.areaChart</a>	Creates a Flex AreaChart element.
<a href="#">flexFT.areaSeries</a>	Creates a Flex AreaSeries element.
<a href="#">flexFT.barChart</a>	Creates a Flex BarChart element.
<a href="#">flexFT.barSeries</a>	Creates a Flex BarSeries element.
<a href="#">flexFT.box</a>	Creates a Flex Box element.
<a href="#">flexFT.bubbleSeries</a>	Creates a Flex BubbleSeries element.
<a href="#">flexFT.button</a>	Creates a Flex Button element.
<a href="#">flexFT.buttonBar</a>	Creates a Flex ButtonBar element.
<a href="#">flexFT.cartesianChart</a>	Creates a Flex CartesianChart element.
<a href="#">flexFT.checkbox</a>	Creates a Flex CheckBox element.
<a href="#">flexFT.colorPicker</a>	Creates a Flex ColorPicker element.
<a href="#">flexFT.columnChart</a>	Creates a Flex ColumnChart element.
<a href="#">flexFT.columnSeries</a>	Creates a Flex ColumnSeries element.
<a href="#">flexFT.combobox</a>	Creates a Flex ComboBox element.
<a href="#">flexFT.dataGrid</a>	Creates a Flex DataGrid element.

**Table 11–1 (Cont.) List of FlexFTService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">flexFT.dateChooser</a>	Creates a Flex DateChooser element.
<a href="#">flexFT.dateField</a>	Creates a Flex DateField element.
<a href="#">flexFT.dividedBox</a>	Creates a Flex DividedBox element.
<a href="#">flexFT.lineChart</a>	Creates a Flex LineChart element.
<a href="#">flexFT.lineSeries</a>	Creates a Flex LineSeries element.
<a href="#">flexFT.linkBar</a>	Creates a Flex LinkBar element.
<a href="#">flexFT.list</a>	Creates a Flex List element.
<a href="#">flexFT.menu</a>	Creates a Flex Menu element.
<a href="#">flexFT.menuBar</a>	Creates a Flex MenuBar element.
<a href="#">flexFT.numericStepper</a>	Creates a Flex NumericStepper element.
<a href="#">flexFT.panel</a>	Creates a Flex Panel element.
<a href="#">flexFT.pieChart</a>	Creates a Flex PieChart element.
<a href="#">flexFT.pieSeries</a>	Creates a Flex PieSeries element.
<a href="#">flexFT.plotSeries</a>	Creates a Flex PlotSeries element.
<a href="#">flexFT.popupButton</a>	Creates a Flex PopUpButton element.
<a href="#">flexFT.progressBar</a>	Creates a Flex ProgressBar element.
<a href="#">flexFT.radioButton</a>	Creates a Flex RadioButton element.
<a href="#">flexFT.scrollbar</a>	Creates a Flex ScrollBar element.
<a href="#">flexFT.slider</a>	Creates a Flex Slider element.
<a href="#">flexFT.toggleButtonBar</a>	Creates a Flex ToggleButtonBar element.
<a href="#">flexFT.tree</a>	Creates a Flex Tree element.

The following sections provide detailed reference information for each method and enum in the FlexFTService Class of Flex Functional Module Application Programming Interface.

---

## flexFT.accordion

Creates a Flex Accordion element.

### Format

The flexFT.accordion method has the following command format(s):

```
flexFT.accordion(path);
```

```
flexFT.accordion(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Accordion.

### Example

Performs an action on Flex Accordion element.

```
String accordion="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='explorer' " +
  "and @label='' " +
  "and @automationIndex='index:-1' " +
  "and @automationName='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:0' " +
  "and @className='mx.containers.HDividedBox' " +
  "and @automationName='index:0']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:1' " +
  "and @className='mx.containers.VDividedBox' " +
  "and @automationName='index:1']" +
"/flex:panel[@automationClassName='FlexPanel' " +
  "and @className='loaderPanel' " +
  "and @label='' " +
  "and @automationIndex='index:0' " +
  "and @automationName='swfLoader' " +
  "and @id='swfLoader']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='AccordionExample' " +
  "and @label='' " +
```

```
"and @automationIndex='index:1' " +
"and @automationName='containers/AccordionExample.swf' " +
"and @id='null'" +
"/flex:panel[@automationClassName='FlexPanel' " +
"and @className='mx.containers.Panel' " +
"and @label='' " +
"and @automationIndex='index:0' " +
"and @automationName='Accordion%20Container%20Example' " +
"and @id='null'" +
"/flex:accordion[@automationClassName='FlexAccordion' " +
"and @className='mx.containers.Accordion' " +
"and @label='' " +
"and @automationIndex='index:1' " +
"and @automationName='accordion' " +
"and @id='accordion']";
flexFT.accordion(10, accordion).change("Accordion Button for Panel 2");
try{
String result=flexFT.accordion(15, accordion).getSelectedChild();
if (!result.equals("Accordion Button for Panel 2")) {
warn("getSelectedChild returned " + result);
}
}catch(Exception exp) {warn("getSelectedChild exception: "
+ exp.getMessage());}
try{
Integer result=flexFT.accordion(20, accordion).getSelectedIndex();
if (result !=1) {
warn("getSelectedIndex returned " + result);
}
}catch(Exception exp) {warn("getSelectedIndex exception: "
+ exp.getMessage());}
```

---

## flexFT.alert

Creates a Flex Alert element.

### Format

The flexFT.alert method has the following command format(s):

```
flexFT.alert(path);
```

```
flexFT.alert(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Alert.

### Example

Performs an action on a Flex Alert element.

```
String Alert="/web:window[@index='0']" +
  "/web:document[@index='0']" +
  "/flex:application[@automationName='explorer' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationIndex='index:-1' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
  "/flex:alert[@automationName='Color%20Selection' " +
  "and @automationClassName='FlexAlert' " +
  "and @automationIndex='index:1' " +
  "and @label='' " +
  "and @className='mx.controls.Alert' " +
  "and @id='null']";
try{
  String result=flexFT.alert(10, Alert).getText();
  if (!result.equals("Select a color:")) {
    warn("getText returned " + result);
  }
}catch(Exception exp) {warn("getText exception: "
  + exp.getMessage());}
```

## flexFT.application

Creates a Flex Application element.

### Format

The flexFT.application method has the following command format(s):

```
flexFT.application(path);
```

```
flexFT.application(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Application.

### Example

Performs an action on Flex Application element.

```
String application="/web:window[@index='0' " +  
  "or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationClassName='FlexApplication' " +  
    "and @className='explorer' " +  
    "and @label='' " +  
    "and @automationIndex='index:-1' " +  
    "and @automationName='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @id='null' " +  
    "and @automationIndex='index:0' " +  
    "and @className='mx.containers.HDividedBox' " +  
    "and @automationName='index:0']" +  
  "/flex:dividedBox[@automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @id='null' " +  
    "and @automationIndex='index:1' " +  
    "and @className='mx.containers.VDividedBox' " +  
    "and @automationName='index:1']" +  
  "/flex:panel[@automationClassName='FlexPanel' " +  
    "and @className='loaderPanel' " +  
    "and @label='' " +  
    "and @automationIndex='index:0' " +  
    "and @automationName='swfLoader' " +  
    "and @id='swfLoader']" +  
  "/flex:application[@automationClassName='FlexApplication' " +  
    "and @className='SimpleApplicationExample' " +  
    "and @label='' and @automationIndex='index:1' " +
```



---

```
        "and @automationName='core/SimpleApplicationExample.swf' " +
        "and @id='null']";
flexFT.application(10, application).click(KeyModifier.None);
try{
    String result=flexFT.application(15, application).getUrl();
    if (!result.equals("http://example.com/core/SimpleApplicationExample.swf")) {
        warn("getUrl returned " + result);
    }
} catch(Exception exp) {warn("getUrl exception: "
    + exp.getMessage());}
```

## flexFT.areaChart

Creates a Flex AreaChart element.

### Format

The flexFT.areaChart method has the following command format(s):

```
flexFT.areaChart(path);
```

```
flexFT.areaChart(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new AreaChart.

### Example

Performs an action on Flex AreaChart element.

```
String areaChart="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationIndex='index:-1' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationName='explorer' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationName='index:0' " +  
    "and @automationIndex='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
  "/flex:dividedBox[@automationName='index:1' " +  
    "and @automationIndex='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']" +  
  "/flex:panel[@automationIndex='index:0' " +  
    "and @automationClassName='FlexPanel' " +  
    "and @automationName='swfLoader' " +  
    "and @label='' " +  
    "and @className='loaderPanel' " +  
    "and @id='swfLoader']" +  
  "/flex:application[@automationIndex='index:1' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationName='charts/Line_AreaChartExample.swf' " +
```

```
"and @label='' " +
"and @className='Line_AreaChartExample' " +
"and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
"and @automationClassName='FlexPanel' " +
"and @automationName='LineChart%20and%20AreaChart%20Controls%20Example' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:areaChart[@automationIndex='index:5' " +
"and @automationClassName='FlexAreaChart' " +
"and @automationName='Areachart' " +
"and @className='mx.charts.AreaChart' " +
"and @id='Areachart']";
flexFT.areaChart(10, areaChart).click(KeyModifier.None);
try{
String result=flexFT.areaChart(15, areaChart).getType();
if (!result.equals("overlaid")) {
warn("getType returned " + result);
}
}catch(Exception exp) {warn("getType exception: "
+ exp.getMessage());}
```

## flexFT.areaSeries

Creates a Flex AreaSeries element.

### Format

The flexFT.areaSeries method has the following command format(s):

```
flexFT.areaSeries(path);
```

```
flexFT.areaSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new AreaSeries.

### Example

Performs an action on Flex AreaSeries element.

```
String areaSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationIndex='index:-1' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
  "and @automationName='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
  "and @automationName='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationIndex='index:0' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationName='charts/Line_AreaChartExample.swf' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationIndex='index:1' " +
```

```

    "and @label='' " +
    "and @className='Line_AreaChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationName='LineChart%20and%20AreaChart%20Controls%20Example'
" +
    "and @automationClassName='FlexPanel' " +
    "and @automationIndex='index:0' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:areaChart[@automationName='Areachart' " +
    "and @automationClassName='FlexAreaChart' " +
    "and @automationIndex='index:5' " +
    "and @className='mx.charts.AreaChart' " +
    "and @id='Areachart']" +
"/flex:areaSeries[@automationName='Expenses' " +
    "and @automationClassName='FlexAreaSeries' " +
    "and @automationIndex='index:1' " +
    "and @className='mx.charts.series.AreaSeries' " +
    "and @id='_Line_AreaChartExample_AreaSeries2']";
flexFT.areaSeries(10, areaSeries).clickSeries(2.0);
try{
    String result=flexFT.areaSeries(15, areaSeries).getXField();
    if (!result.equals("")) {
        warn("getXField returned " + result);
    }
}catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.areaSeries(20, areaSeries).getYField();
    if (!result.equals("Expenses")) {
        warn("getYField returned " + result);
    }
}catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```

## flexFT.barChart

Creates a Flex BarChart element.

### Format

The flexFT.barChart method has the following command format(s):

```
flexFT.barChart(path);
```

```
flexFT.barChart(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new BarChart.

### Example

Performs an action on Flex BarChart element.

```
String barChart="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/Column_BarChartExample.swf' " +
```

```

    "and @label='' " +
    "and @className='Column_BarChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='ColumnChart%20and%20BarChart%20Controls%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:barChart[@automationIndex='index:5' " +
    "and @automationClassName='FlexBarChart' " +
    "and @automationName='bar' " +
    "and @className='mx.charts.BarChart' " +
    "and @id='bar']";
flexFT.barChart(10, barChart).click(KeyModifier.None);
try{
    Double result=flexFT.barChart(15, barChart).getBarWidthRatio();
    if (result !=0.65) {
        warn("getBarWidthRatio returned " + result);
    }
}catch(Exception exp) {warn("getBarWidthRatio exception: "
    + exp.getMessage());}
try{
    Double result=flexFT.barChart(20, barChart).getMaxBarWidth();
    if (result !=null) {
        warn("getMaxBarWidth returned " + result);
    }
}catch(Exception exp) {warn("getMaxBarWidth exception: "
    + exp.getMessage());}

```

## flexFT.barSeries

Creates a Flex BarSeries element.

### Format

The flexFT.barSeries method has the following command format(s):

```
flexFT.barSeries(path);
```

```
flexFT.barSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new BarSeries.

### Example

Performs an action on Flex BarSeries element.

```
String barSeries= "/web:window[@index='0' " +  
    "or @title='Adobe Flex 3 Component Explorer']" +  
    "/web:document[@index='0']" +  
    "/flex:application[@automationIndex='index:-1' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationName='explorer' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
    "/flex:dividedBox[@automationName='index:0' " +  
    "and @automationIndex='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
    "/flex:dividedBox[@automationName='index:1' " +  
    "and @automationIndex='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']" +  
    "/flex:panel[@automationIndex='index:0' " +  
    "and @automationClassName='FlexPanel' " +  
    "and @automationName='swfLoader' " +  
    "and @label='' " +  
    "and @className='loaderPanel' " +  
    "and @id='swfLoader']" +  
    "/flex:application[@automationIndex='index:1' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationName='charts/Column_BarChartExample.swf' " +
```



```

    "and @label='' " +
    "and @className='Column_BarChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
"and @automationClassName='FlexPanel' " +
"and @automationName='ColumnChart%20and%20BarChart%20Controls%20Example' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:barChart[@automationIndex='index:5' " +
"and @automationClassName='FlexBarChart' " +
"and @automationName='bar' " +
"and @className='mx.charts.BarChart' " +
"and @id='bar']" +
"/flex:barSeries[@automationIndex='index:1' " +
"and @automationClassName='FlexBarSeries' " +
"and @automationName='Silver;Country' " +
"and @className='mx.charts.series.BarSeries' " +
"and @id='_Column_BarChartExample_BarSeries2']";
flexFT.barSeries(10, barSeries).clickSeries(1.0);
try{
    String result=flexFT.barSeries(15, barSeries).getXField();
    if (!result.equals("Silver")) {
        warn("getXField returned " + result);
    }
} catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.barSeries(20, barSeries).getYField();
    if (!result.equals("Country")) {
        warn("getYField returned " + result);
    }
} catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```

## flexFT.box

Creates a Flex Box element.

### Format

The flexFT.box method has the following command format(s):

```
flexFT.box(path);
```

```
flexFT.box(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Box.

### Example

Performs an action on Flex Box element.

```
String box="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='explorer' " +
  "and @label='' " +
  "and @automationIndex='index:-1' " +
  "and @automationName='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:0' " +
  "and @className='mx.containers.HDividedBox' " +
  "and @automationName='index:0']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:1' " +
  "and @className='mx.containers.VDividedBox' " +
  "and @automationName='index:1']" +
"/flex:panel[@automationClassName='FlexPanel' " +
  "and @className='loaderPanel' " +
  "and @label='' " +
  "and @automationIndex='index:0' " +
  "and @automationName='swfLoader' " +
  "and @id='swfLoader']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='SimpleCanvasExample' " +
  "and @label='' " +
```

```
"and @automationIndex='index:1' " +
"and @automationName='containers/SimpleCanvasExample.swf' " +
"and @id='null'" +
"/flex:panel[@automationClassName='FlexPanel' " +
"and @className='mx.containers.Panel' " +
"and @label='' " +
"and @automationIndex='index:0' " +
"and @automationName='Canvas%20Container%20Example' " +
"and @id='null'" +
"/flex:box[@automationClassName='FlexBox' " +
"and @label='' " +
"and @id='null' " +
"and @automationIndex='index:6' " +
"and @className='mx.containers.VBox' " +
"and @automationName='index:6']";
flexFT.box(10, box).click(KeyModifier.None);
try{
String result=flexFT.box(15, box).getDirection();
if (!result.equals("vertical")) {
warn("getDirection returned " + result);
}
}catch(Exception exp) {warn("getDirection exception: "
+ exp.getMessage());}
```

## flexFT.bubbleSeries

Creates a Flex BubbleSeries element.

### Format

The flexFT.bubbleSeries method has the following command format(s):

```
flexFT.bubbleSeries(path);
```

```
flexFT.bubbleSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new BubbleSeries.

### Example

Performs an action on Flex BubbleSeries element.

```
String bubbleSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/BubbleChartExample.swf' " +
```

```

    "and @label='' " +
    "and @className='BubbleChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='BubbleChart%20Control%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:cartesianChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexCartesianChart' " +
    "and @automationName='bubblechart' " +
    "and @className='mx.charts.BubbleChart' " +
    "and @id='bubblechart']" +
"/flex:bubbleSeries[@automationIndex='index:0' " +
    "and @automationClassName='FlexBubbleSeries' " +
    "and @automationName='Profit/Expenses/Amount' " +
    "and @className='mx.charts.series.BubbleSeries' " +
    "and @id='_BubbleChartExample_BubbleSeries1']";
flexFT.bubbleSeries(10, bubbleSeries).clickSeries(1.0);
try{
    String result=flexFT.bubbleSeries(15, bubbleSeries).getXField();
    if (!result.equals("Profit")) {
        warn("getXField returned " + result);
    }
} catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.bubbleSeries(20, bubbleSeries).getYField();
    if (!result.equals("Expenses")) {
        warn("getYField returned " + result);
    }
} catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```

## flexFT.button

Creates a Flex Button element.

### Format

The flexFT.button method has the following command format(s):

```
flexFT.button(path);
```

```
flexFT.button(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Button

### Example

Performs an action on a Flex Button element.

```
String Button="/web:window[@index='0']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' a" +
"nd @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/SimpleAlert.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
"and @label='' " +
"and @className='SimpleAlert' " +
```

```
"and @id='null']" +
"/flex:panel[@automationName='Alert%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' and @id='null']" +
"/flex:button[@automationName='Click%20Me' " +
"and @automationClassName='FlexButton' " +
"and @automationIndex='index:6' " +
"and @label='Click%20Me' " +
"and @className='mx.controls.Button' " +
"and @id='null']";
flexFT.button(10, Button).click(KeyModifier.None);
```

## flexFT.buttonBar

Creates a Flex ButtonBar element.

### Format

The flexFT.buttonBar method has the following command format(s):

```
flexFT.buttonBar(path);
```

```
flexFT.buttonBar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ButtonBar.

### Example

Performs an action on Flex buttonBar element.

```
String ButtonBar="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @id='explorer' " +  
    "and @className='explorer' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @automationClassName='FlexApplication']" +  
  "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:0' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:0' " +  
    "and @className='mx.containers.HDividedBox' " +  
    "and @label='']" +  
  "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:1' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:1' " +  
    "and @className='mx.containers.VDividedBox' " +  
    "and @label='']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @id='swfLoader' " +  
    "and @className='loaderPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @automationClassName='FlexPanel']" +  
  "/flex:application[@automationName='controls/ButtonBarExample.swf' " +  
    "and @id='null' " +  
    "and @className='ButtonBarExample' " +
```



```
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='ButtonBar%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:buttonBar[@id='null' " +
"and @automationIndex='index:2' " +
"and @automationClassName='FlexButtonBar' " +
"and @automationName='index:2' " +
"and @className='mx.controls.ButtonBar' " +
"and @label='' ]";
flexFT.buttonBar(10, ButtonBar).change("Flash");
{
  think(10.5);
}
flexFT.buttonBar(15, ButtonBar).type("EnterKey",
  KeyModifier.None);
```

## flexFT.cartesianChart

Creates a Flex CartesianChart element.

### Format

The flexFT.cartesianChart method has the following command format(s):

```
flexFT.cartesianChart(path);
```

```
flexFT.cartesianChart(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new CartesianChart.

### Example

Performs an action on Flex CartesianChart element.

```
String cartesianChart="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/PlotChartExample.swf' " +
```

```

    "and @label='' " +
    "and @className='PlotChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='PlotChart%20Control%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:cartesianChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexCartesianChart' " +
    "and @automationName='plot' " +
    "and @className='mx.charts.PlotChart' " +
    "and @id='plot']";
flexFT.cartesianChart(10, cartesianChart).click(KeyModifier.None); *
try{
    String result=flexFT.cartesianChart(15, cartesianChart).getTextAlign() ;
    if (!result.equals("left")) {
        warn("getTextAlign returned " + result);
    }
} catch(Exception exp) {warn("getTextAlign exception: "
    + exp.getMessage());}

```

## flexFT.checkbox

Creates a Flex CheckBox element.

### Format

The flexFT.checkbox method has the following command format(s):

```
flexFT.checkbox(path);
```

```
flexFT.checkbox(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new CheckBox.

### Example

Performs an action on Flex checkBox element.

```
String CheckBox="/web:window[@index='0' or @title='Adobe Flex 3 Component
Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @id='explorer' " +
"and @className='explorer' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:0' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:0' " +
"and @className='mx.containers.HDividedBox' " +
"and @label='']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:1' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:1' " +
"and @className='mx.containers.VDividedBox' " +
"and @label='']" +
"/flex:panel[@automationName='swfLoader' " +
"and @id='swfLoader' " +
"and @className='loaderPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:application[@automationName='controls/CheckBoxExample.swf' " +
"and @id='null' " +
"and @className='CheckBoxExample' " +
```

```
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='CheckBox%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:checkbox[@automationName='milk' " +
"and @id='milkCB' " +
"and @className='mx.controls.CheckBox' " +
"and @automationIndex='index:1' " +
"and @label='milk' " +
"and @automationClassName='FlexCheckBox']";
flexFT.checkbox(10, CheckBox).click(KeyModifier.None);
```

## flexFT.colorPicker

Creates a Flex ColorPicker element.

### Format

The flexFT.colorPicker method has the following command format(s):

```
flexFT.colorPicker(path);
```

```
flexFT.colorPicker(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ColorPicker

### Example

Performs an action on a Flex ColorPicker element.

```
String ColorPicker="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationIndex='index:0' " +  
    "and @automationName='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
  "/flex:dividedBox[@automationIndex='index:1' " +  
    "and @automationName='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @automationClassName='FlexPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @className='loaderPanel' " +  
    "and @id='swfLoader']" +  
  "/flex:application[@automationName='controls/ColorPickerExample.swf' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:1' " +
```

```
"and @label='' " +
"and @className='ColorPickerExample' " +
"and @id='null'" +
"/flex:panel[@automationName='ColorPicker%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:colorPicker[@automationName='cp' " +
"and @automationClassName='FlexColorPicker' " +
"and @automationIndex='index:1' " +
"and @className='mx.controls.ColorPicker' " +
"and @id='cp']";
flexFT.colorPicker(10, ColorPicker).change("#00cc00");
```

## flexFT.columnChart

Creates a Flex ColumnChart element.

### Format

The flexFT.columnChart method has the following command format(s):

```
flexFT.columnChart(path);
```

```
flexFT.columnChart(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ColumnChart.

### Example

Performs an action on Flex ColumnChart element.

```
String columnChart="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
  "/web:document[@index='0']" +
  "/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
  "/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
  "/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
  "/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
  "/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/Column_BarChartExample.swf' " +
  "and @label='' " +
```



```

    "and @className='Column_BarChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='ColumnChart%20and%20BarChart%20Controls%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:columnChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexColumnChart' " +
    "and @automationName='column' " +
    "and @className='mx.charts.ColumnChart' " +
    "and @id='column']";
flexFT.columnChart(10, columnChart).click(KeyModifier.None);
try{
    Double result=flexFT.columnChart(15, columnChart).getColumnWidthRatio();
    if (result !=0.65) {
        warn("getColumnWidthRatio returned " + result);
    }
}catch(Exception exp) {warn("getColumnWidthRatio exception: "
    + exp.getMessage());}
try{
    Double result=flexFT.columnChart(20, columnChart).getMaxColumnWidth();
    if (result !=null) {
        warn("getMaxColumnWidth returned " + result);
    }
}catch(Exception exp) {warn("getMaxColumnWidth exception: "
    + exp.getMessage());}

```

## flexFT.columnSeries

Creates a Flex ColumnSeries element.

### Format

The flexFT.columnSeries method has the following command format(s):

```
flexFT.columnSeries(path);
```

```
flexFT.columnSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ColumnSeries.

### Example

Performs an action on Flex ColumnSeries element.

```
String columnSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/Column_BarChartExample.swf' " +
```

```

    "and @label='' " +
    "and @className='Column_BarChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='ColumnChart%20and%20BarChart%20Controls%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:columnChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexColumnChart' " +
    "and @automationName='column' " +
    "and @className='mx.charts.ColumnChart' " +
    "and @id='column']" +
"/flex:columnSeries[@automationIndex='index:2' " +
    "and @automationClassName='FlexColumnSeries' " +
    "and @automationName='Country;Bronze' " +
    "and @className='mx.charts.series.ColumnSeries' " +
    "and @id='_Column_BarChartExample_ColumnSeries3']";
flexFT.columnSeries(10, columnSeries).clickSeries(0.0);
try{
    String result=flexFT.columnSeries(15, columnSeries).getXField();
    if (!result.equals("Country")) {
        warn("getXField returned " + result);
    }
} catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.columnSeries(20, columnSeries).getYField();
    if (!result.equals("Bronze")) {
        warn("getYField returned " + result);
    }
} catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```

## flexFT.combobox

Creates a Flex ComboBox element.

### Format

The flexFT.combobox method has the following command format(s):

```
flexFT.combobox(path);
```

```
flexFT.combobox(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ComboBox.

### Example

Performs an action on a Flex ComboBox element.

```
String ComboBox="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationIndex='index:0' " +  
    "and @automationName='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
  "/flex:dividedBox[@automationIndex='index:1' " +  
    "and @automationName='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @automationClassName='FlexPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @className='loaderPanel' " +  
    "and @id='swfLoader']" +  
  "/flex:application[@automationName='controls/SimpleComboBox.swf' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:1' " +
```

```

    "and @label='' " +
    "and @className='SimpleComboBox' " +
    "and @id='null'" +
"/flex:panel[@automationName='ComboBox%20Control%20Example' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationIndex='index:0' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null'" +
"/flex:combobox[@automationName='_SimpleComboBox_ComboBox1' " +
    "and @automationClassName='FlexComboBox' " +
    "and @automationIndex='index:0' " +
    "and @className='mx.controls.ComboBox' " +
    "and @id='_SimpleComboBox_ComboBox1']";
flexFT.combobox(10, ComboBox).open(TriggerEvent.Mouse);
{
    think(0.764);
}
flexFT.combobox(15, ComboBox).select("MasterCard", TriggerEvent.Mouse,
KeyModifier.None);
flexFT.combobox(20, ComboBox).input("zopa");
flexFT.combobox(25, ComboBox).type("Enter", KeyModifier.None);
flexFT.combobox(30, ComboBox).storeCell("var", 1, 1);
if (!eval("{{var}}").equals("Visa")){
    warn("storeCell returned " + eval("{{var}}"));
}
{
    think(1.231);
}

```

## flexFT.dataGrid

Creates a Flex DataGrid element.

### Format

The flexFT.dataGrid method has the following command format(s):

```
flexFT.dataGrid(path);
```

```
flexFT.dataGrid(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new DataGrid.

### Example

Performs an action on Flex DataGrid element.

```
String DataGrid="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/SimpleDataGrid.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
```

```
"and @label='' " +
"and @className='SimpleDataGrid' " +
"and @id='null']" +
"/flex:panel[@automationName='DataGrid%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:dataGrid[@automationName='dg' " +
"and @automationClassName='FlexDataGrid' " +
"and @automationIndex='index:1' " +
"and @className='mx.controls.DataGrid' " +
"and @id='dg']";

flexFT.dataGrid(10, DataGrid).select("*Chris* | 2270 | chris@example.com"
,TriggerEvent.Mouse, KeyModifier.None);
think(1);
try{
String result=flexFT.dataGrid(DataGrid).getCell(1, 1);
if (!result.equals("Chris")) {
warn("getCell returned " + result);
}
}catch(Exception exp) {warn("getCell exception: "
+ exp.getMessage());}
```

## flexFT.dateChooser

Creates a Flex DateChooser element.

### Format

The flexFT.dateChooser method has the following command format(s):

```
flexFT.dateChooser(path);
```

```
flexFT.dateChooser(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new DateChooser.

### Example

Performs an action on Flex DateChooser element.

```
String DateChooser="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @id='explorer' " +  
    "and @className='explorer' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @automationClassName='FlexApplication']" +  
  "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:0' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:0' " +  
    "and @className='mx.containers.HDividedBox' " +  
    "and @label='']" +  
  "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:1' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:1' " +  
    "and @className='mx.containers.VDividedBox' " +  
    "and @label='']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @id='swfLoader' " +  
    "and @className='loaderPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @automationClassName='FlexPanel']" +  
  "/flex:application[@automationName='controls/DateChooserExample.swf' " +  
    "and @id='null' " +  
    "and @className='DateChooserExample' " +
```



```
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='DateChooser%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:dateChooser[@automationName='dateChooser1' " +
"and @id='dateChooser1' " +
"and @className='mx.controls.DateChooser' " +
"and @automationIndex='index:5' " +
"and @automationClassName='FlexDateChooser']";
flexFT.dateChooser(10, DateChooser).scroll(DateChooserDetail.nextMonth);
{
  think(1.0);
}
flexFT.dateChooser(15, DateChooser).change("2012-09-12");
```

## flexFT.dateField

Creates a Flex DateField element.

### Format

The flexFT.dateField method has the following command format(s):

```
flexFT.dateField(path);
```

```
flexFT.dateField(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new DateField.

### Example

Performs an action on Flex DateField element.

```
String dateField="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @id='explorer' " +  
    "and @className='explorer' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @automationClassName='FlexApplication']" +  
  "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:0' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:0' " +  
    "and @className='mx.containers.HDividedBox' " +  
    "and @label='']/flex:dividedBox[@id='null' " +  
    " and @automationIndex='index:1' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:1' " +  
    "and @className='mx.containers.VDividedBox' " +  
    "and @label='']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @id='swfLoader' " +  
    "and @className='loaderPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @automationClassName='FlexPanel']" +  
  "/flex:application[@automationName='controls/DateFieldExample.swf' " +  
    "and @id='null' " +  
    "and @className='DateFieldExample' " +  
    "and @automationIndex='index:1' " +
```

```
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='DateField%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:dateField[@automationName='dateField1' " +
"and @id='dateField1' " +
"and @className='mx.controls.DateField' " +
"and @automationIndex='index:2' " +
"and @automationClassName='FlexDateField']";
flexFT.dateField(10, dateField).open(TriggerEvent.Mouse);
{
  think(2.0);
}
flexFT.dateField(15, dateField).change("2010-09-12");
```

## flexFT.dividedBox

Creates a Flex DividedBox element.

### Format

The flexFT.dividedBox method has the following command format(s):

```
flexFT.dividedBox(path);
```

```
flexFT.dividedBox(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new DividedBox.

### Example

Performs an action on Flex dividedBox element.

```
String dividedBox="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationIndex='index:0' " +  
    "and @automationName='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
  "/flex:dividedBox[@automationIndex='index:1' " +  
    "and @automationName='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']";  
flexFT.dividedBox(10, dividedBox).released(0, 153.0);  
flexFT.dividedBox(15, dividedBox).dragged(0, 148.0);  
flexFT.dividedBox(20, dividedBox).pressed(0, 148.0);
```

## flexFT.lineChart

Creates a Flex LineChart element.

### Format

The flexFT.lineChart method has the following command format(s):

```
flexFT.lineChart(path);
```

```
flexFT.lineChart(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new LineChart.

### Example

Performs an action on Flex LineChart element.

```
String lineChart="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
"and @automationClassName='FlexApplication' " +
"and @automationName='explorer' " +
"and @label='' " +
"and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
"and @automationIndex='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
"and @automationIndex='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
"and @automationClassName='FlexPanel' " +
"and @automationName='swfLoader' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
"and @automationClassName='FlexApplication' " +
"and @automationName='charts/Line_AreaChartExample.swf' " +
```

```
"and @label='' " +
"and @className='Line_AreaChartExample' " +
"and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
"and @automationClassName='FlexPanel' " +
"and @automationName='LineChart%20and%20AreaChart%20Controls%20Example' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:lineChart[@automationIndex='index:0' " +
"and @automationClassName='FlexLineChart' " +
"and @automationName='linechart' " +
"and @className='mx.charts.LineChart' " +
"and @id='linechart']";
flexFT.lineChart(10, lineChart).click(KeyModifier.None);
```

## flexFT.lineSeries

Creates a Flex LineSeries element.

### Format

The flexFT.lineSeries method has the following command format(s):

```
flexFT.lineSeries(path);
```

```
flexFT.lineSeries(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new LineSeries.

### Example

Performs an action on Flex LineSeries element.

```
String lineSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
  "/web:document[@index='0']" +
  "/flex:application[@automationName='explorer' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationIndex='index:-1' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
  "/flex:dividedBox[@automationIndex='index:0' " +
  "and @automationName='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
  "/flex:dividedBox[@automationIndex='index:1' " +
  "and @automationName='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
  "/flex:panel[@automationName='swfLoader' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationIndex='index:0' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
  "/flex:application[@automationName='charts/Line_AreaChartExample.swf' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationIndex='index:1' " +
```

```

    "and @label='' " +
    "and @className='Line_AreaChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationName='LineChart%20and%20AreaChart%20Controls%20Example'
" +
    "and @automationClassName='FlexPanel' " +
    "and @automationIndex='index:0' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:lineChart[@automationName='linechart' " +
    "and @automationClassName='FlexLineChart' " +
    "and @automationIndex='index:0' " +
    "and @className='mx.charts.LineChart' " +
    "and @id='linechart']" +
"/flex:lineSeries[@automationName='Profit' " +
    "and @automationClassName='FlexLineSeries' " +
    "and @automationIndex='index:0' " +
    "and @className='mx.charts.series.LineSeries' " +
    "and @id='_Line_AreaChartExample_LineSeries1']";
flexFT.lineSeries(10, lineSeries).clickSeries(1.0);
try{
    String result=flexFT.lineSeries(15, lineSeries).getXField();
    if (!result.equals("")) {
        warn("getXField returned " + result);
    }
} catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.lineSeries(20, lineSeries).getYField();
    if (!result.equals("Profit")) {
        warn("getYField returned " + result);
    }
} catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```



## flexFT.linkBar

Creates a Flex LinkBar element.

### Format

The flexFT.linkBar method has the following command format(s):

```
flexFT.linkBar(path);
```

```
flexFT.linkBar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new LinkBar.

### Example

Performs an action on Flex linkBar element.

```
String LinkBar="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @id='explorer' " +
"and @className='explorer' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:0' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:0' " +
"and @className='mx.containers.HDividedBox' " +
"and @label='']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:1' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:1' " +
"and @className='mx.containers.VDividedBox' " +
"and @label='']" +
"/flex:panel[@automationName='swfLoader' " +
"and @id='swfLoader' " +
"and @className='loaderPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:application[@automationName='controls/LinkBarExample.swf' " +
"and @id='null' " +
"and @className='LinkBarExample' " +
```

```
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='LinkBar%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:linkBar[@automationName='_LinkBarExample_LinkBar1' " +
"and @id='_LinkBarExample_LinkBar1' " +
"and @className='mx.controls.LinkBar' " +
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexLinkBar']";
flexFT.linkBar(10, LinkBar).change("Customer Info");
try{
Integer result=flexFT.linkBar(15, LinkBar).getSelectedIndex();
if (result !=1) {
warn("getSelectedIndex returned " + result);
}
}catch(Exception exp) {warn("getSelectedIndex exception: "
+ exp.getMessage());}
```

## flexFT.list

Creates a Flex List element.

### Format

The flexFT.list method has the following command format(s):

```
flexFT.list(path);
```

```
flexFT.list(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new List

### Example

Performs an action on Flex List element.

```
String List="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']"
+
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/HorizontalListExample.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
```

```
"and @label='' " +
"and @className='HorizontalListExample' " +
"and @id='null'" +
"/flex:panel[@automationName='HorizontalList%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null'" +
"/flex:list[@automationName='CameraSelection' " +
"and @automationClassName='FlexList' " +
"and @automationIndex='index:1' " +
"and @className='mx.controls.HorizontalList' " +
"and @id='CameraSelection']";
try{
String result=flexFT.list(10, List).getCell(1, 1);
if (!result.equals("Nokia 6630")) {
warn("getCell returned " + result);
}
}catch(Exception exp) {warn("getCell exception: "+ exp.getMessage());}
```

---

## flexFT.menu

Creates a Flex Menu element.

### Format

The flexFT.menu method has the following command format(s):

```
flexFT.menu(path);
```

```
flexFT.menu(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Menu.

### Example

Performs an action on Flex Menu element.

```
String menu="/web:window[@index='0' " +  
    "or @title='Adobe Flex 3 Component Explorer']" +  
    "/web:document[@index='0']" +  
    "/flex:application[@automationClassName='FlexApplication' " +  
    "and @className='explorer' " +  
    "and @label='' " +  
    "and @automationIndex='index:-1' " +  
    "and @automationName='explorer' " +  
    "and @id='explorer']" +  
    "/flex:menu[@automationClassName='FlexMenu' " +  
    "and @className='mx.controls.Menu' " +  
    "and @automationIndex='index:1' " +  
    "and @automationName='index:1' " +  
    "and @id='null']";  
flexFT.menu(menu).select(10, "MenuItem 1");
```

## flexFT.menubar

Creates a Flex MenuBar element.

### Format

The flexFT.menubar method has the following command format(s):

```
flexFT.menubar(path);
```

```
flexFT.menubar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new MenuBar.

### Example

Performs an action on Flex MenuBar element.

```
String menubar="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='explorer' " +
  "and @label='' " +
  "and @automationIndex='index:-1' " +
  "and @automationName='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:0' " +
  "and @className='mx.containers.HDividedBox' " +
  "and @automationName='index:0']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @id='null' " +
  "and @automationIndex='index:1' " +
  "and @className='mx.containers.VDividedBox' " +
  "and @automationName='index:1']" +
"/flex:panel[@automationClassName='FlexPanel' " +
  "and @className='loaderPanel' " +
  "and @label='' " +
  "and @automationIndex='index:0' " +
  "and @automationName='swfLoader' " +
  "and @id='swfLoader']" +
"/flex:application[@automationClassName='FlexApplication' " +
  "and @className='MenuBarExample' " +
  "and @label='' " +
```

```
"and @automationIndex='index:1' " +
"and @automationName='controls/MenuBarExample.swf' " +
"and @id='null'" +
"/flex:panel[@automationClassName='FlexPanel' " +
"and @className='mx.containers.Panel' " +
"and @label='' " +
"and @automationIndex='index:0' " +
"and @automationName='MenuBar%20Control%20Example' " +
"and @id='null'" +
"/flex:menubar[@automationClassName='FlexMenuBar' " +
"and @className='mx.controls.MenuBar' " +
"and @automationIndex='index:1' " +
"and @automationName='_MenuBarExample_MenuBar1' " +
"and @id='_MenuBarExample_MenuBar1']";
flexFT.menubar(10, menubar).show("Menu1");
try{
    Double result=flexFT.menubar(15, menubar).getSelectedIndex();
    if (result !=0) {
        warn("getSelectedIndex returned " + result);
    }
} catch(Exception exp) {warn("getSelectedIndex exception: "
    + exp.getMessage());}
flexFT.menubar(20, menubar).hide();
```

## flexFT.numericStepper

Creates a Flex NumericStepper element.

### Format

The flexFT.numericStepper method has the following command format(s):

```
flexFT.numericStepper(path);
flexFT.numericStepper(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new NumericStepper.

### Example

Performs an action on Flex numericStepper element.

```
String numericStepper="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/NumericStepperExample.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
```



```
"and @label='' " +
"and @className='NumericStepperExample' " +
"and @id='null']" +
"/flex:panel[@automationName='NumericStepper%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']" +
"/flex:numericStepper[@automationName='index:1' " +
"and @automationClassName='FlexNumericStepper' " +
"and @automationIndex='index:1' " +
"and @className='mx.controls.NumericStepper' " +
"and @id='null']";
flexFT.numericStepper(10, numericStepper).change(1.0);
think(2.0);
flexFT.numericStepper(15, numericStepper).selectText(0, 1);
```

## flexFT.panel

Creates a Flex Panel element.

### Format

The flexFT.panel method has the following command format(s):

```
flexFT.panel(path);
```

```
flexFT.panel(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Panel

### Example

Performs an action on Flex Panel element.

```
String Panel="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']"
+
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/SimpleHRule.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
"and @label='' " +
```

```
"and @className='SimpleHRule' " +
"and @id='null']" +
"/flex:panel[@automationName='HRule%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='myPanel']";
try{
String result=flexFT.panel(10, Panel).getTitle();
if (!result.equals("HRule Control Example")) {
warn("getTitle returned " + result);
}
}catch(Exception exp) {warn("getTitle exception: "+ exp.getMessage());}
```

## flexFT.pieChart

Creates a Flex PieChart element.

### Format

The flexFT.pieChart method has the following command format(s):

```
flexFT.pieChart(path);
```

```
flexFT.pieChart(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new PieChart.

### Example

Performs an action on Flex PieChart element.

```
String pieChart="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/PieChartExample.swf' " +
```

```
"and @label='' " +
"and @className='PieChartExample' " +
"and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
"and @automationClassName='FlexPanel' " +
"and @automationName='Olympics%202004%20Medals%20Tally%20Panel' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='null']/flex:pieChart[@automationIndex='index:0' " +
"and @automationClassName='FlexPieChart' " +
"and @automationName='chart' " +
"and @className='mx.charts.PieChart' " +
"and @id='chart']";
flexFT.pieChart(10, pieChart).click(KeyModifier.None);
try{
Double result=flexFT.pieChart(15, pieChart).getInnerRadius();
if (result !=0) {
warn("getInnerRadius returned " + result);
}
}catch(Exception exp) {warn("getInnerRadius exception: "
+ exp.getMessage());}
```

## flexFT.pieSeries

Creates a Flex PieSeries element.

### Format

The flexFT.pieSeries method has the following command format(s):

```
flexFT.pieSeries(path);
```

```
flexFT.pieSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new PieSeries.

### Example

Performs an action on Flex PieSeries element.

```
String pieSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/PieChartExample.swf' " +
```

```

    "and @label='' " +
    "and @className='PieChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='Olympics%202004%20Medals%20Tally%20Panel' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:pieChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexPieChart' " +
    "and @automationName='chart' " +
    "and @className='mx.charts.PieChart' " +
    "and @id='chart']" +
"/flex:pieSeries[@automationIndex='index:0' " +
    "and @automationClassName='FlexPieSeries' " +
    "and @automationName='_PieChartExample_PieSeries1' " +
    "and @className='mx.charts.series.PieSeries' " +
    "and @id='_PieChartExample_PieSeries1']";
flexFT.pieSeries(10, pieSeries).clickSeries(1.0);
try{
    String result=flexFT.pieSeries(15, pieSeries).getField() ;
    if (!result.equals("Gold")) {
        warn("getField returned " + result);
    }
}catch(Exception exp) {warn("getField exception: "
    + exp.getMessage());}

```

## flexFT.plotSeries

Creates a Flex PlotSeries element.

### Format

The flexFT.plotSeries method has the following command format(s):

```
flexFT.plotSeries(path);
```

```
flexFT.plotSeries(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new PlotSeries.

### Example

Performs an action on Flex PlotSeries element.

```
String plotSeries="/web:window[@index='0' " +
  "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationIndex='index:-1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='explorer' " +
  "and @label='' " +
  "and @className='explorer' " +
  "and @id='explorer']" +
"/flex:dividedBox[@automationName='index:0' " +
  "and @automationIndex='index:0' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationName='index:1' " +
  "and @automationIndex='index:1' " +
  "and @id='null' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @label='' " +
  "and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationIndex='index:0' " +
  "and @automationClassName='FlexPanel' " +
  "and @automationName='swfLoader' " +
  "and @label='' " +
  "and @className='loaderPanel' " +
  "and @id='swfLoader']" +
"/flex:application[@automationIndex='index:1' " +
  "and @automationClassName='FlexApplication' " +
  "and @automationName='charts/PlotChartExample.swf' " +
```



```

    "and @label='' " +
    "and @className='PlotChartExample' " +
    "and @id='null']" +
"/flex:panel[@automationIndex='index:0' " +
    "and @automationClassName='FlexPanel' " +
    "and @automationName='PlotChart%20Control%20Example' " +
    "and @label='' " +
    "and @className='mx.containers.Panel' " +
    "and @id='null']" +
"/flex:cartesianChart[@automationIndex='index:0' " +
    "and @automationClassName='FlexCartesianChart' " +
    "and @automationName='plot' " +
    "and @className='mx.charts.PlotChart' " +
    "and @id='plot']" +
"/flex:plotSeries[@automationIndex='index:0' " +
    "and @automationClassName='FlexPlotSeries' " +
    "and @automationName='Expenses;Profit' " +
    "and @className='mx.charts.series.PlotSeries' " +
    "and @id='_PlotChartExample_PlotSeries1']";
flexFT.plotSeries(10, plotSeries).clickSeries(1.0);
try{
    String result=flexFT.plotSeries(15, plotSeries).getXField() ;
    if (!result.equals("Expenses")) {
        warn("getXField returned " + result);
    }
} catch(Exception exp) {warn("getXField exception: "
    + exp.getMessage());}
try{
    String result=flexFT.plotSeries(20, plotSeries).getYField() ;
    if (!result.equals("Profit")) {
        warn("getYField returned " + result);
    }
} catch(Exception exp) {warn("getYField exception: "
    + exp.getMessage());}

```

## flexFT.popupButton

Creates a Flex PopUpButton element.

### Format

The flexFT.popupButton method has the following command format(s):

```
flexFT.popupButton(path);
```

```
flexFT.popupButton(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new PopUpButton.

### Example

Performs an action on Flex PopupButton element.

```
String popupButton="/web:window[@index='0' " +
    "or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationClassName='FlexApplication' " +
    "and @className='explorer' " +
    "and @label='' " +
    "and @automationIndex='index:-1' " +
    "and @automationName='explorer' " +
    "and @id='explorer']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
    "and @label='' " +
    "and @id='null' " +
    "and @automationIndex='index:0' " +
    "and @className='mx.containers.HDividedBox' " +
    "and @automationName='index:0']" +
"/flex:dividedBox[@automationClassName='FlexDividedBox' " +
    "and @label='' " +
    "and @id='null' " +
    "and @automationIndex='index:1' " +
    "and @className='mx.containers.VDividedBox' " +
    "and @automationName='index:1']" +
"/flex:panel[@automationClassName='FlexPanel' " +
    "and @className='loaderPanel' " +
    "and @label='' " +
    "and @automationIndex='index:0' " +
    "and @automationName='swfLoader' " +
    "and @id='swfLoader']" +
"/flex:application[@automationClassName='FlexApplication' " +
    "and @className='PopUpButtonExample' " +
    "and @label='' " +
```

```
"and @automationIndex='index:1' " +
"and @automationName='controls/PopUpButtonExample.swf' " +
"and @id='null']" +
"/flex:panel[@automationClassName='FlexPanel' " +
"and @className='mx.containers.Panel' " +
"and @label='' " +
"and @automationIndex='index:0' " +
"and @automationName='PopUpButton%20Control%20Example' " +
"and @id='null']" +
"/flex:popupButton[@automationClassName='FlexPopUpButton' " +
"and @className='mx.controls.PopUpButton' " +
"and @label='Put%20in:%20New%20Folder' " +
"and @automationIndex='index:1' " +
"and @automationName='popB' and @id='popB']";
flexFT.popupButton(10, popupButton).open(TriggerEvent.Mouse);
{
    think(1.328);
}
flexFT.popupButton(15, popupButton).close(TriggerEvent.Mouse);
```

## flexFT.progressBar

Creates a Flex ProgressBar element.

### Format

The flexFT.progressBar method has the following command format(s):

```
flexFT.progressBar(path);
```

```
flexFT.progressBar(recid, path);
```

### Command Parameters

#### path

a String specifying the path of the element.

#### recid

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ProgressBar.

### Example

Performs an action on Flex progressBar element.

```
String progressBar="/web:window[@index='0']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @label='' " +
"and @className='explorer' " +
"and @automationIndex='index:-1' " +
"and @id='explorer']" +
"/flex:dividedBox[@label='' " +
"and @automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @automationClassName='FlexDividedBox' " +
"and @className='mx.containers.HDividedBox' " +
"and @id='null']" +
"/flex:dividedBox[@label='' " +
"and @automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @automationClassName='FlexDividedBox' " +
"and @className='mx.containers.VDividedBox' " +
"and @id='null']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @automationIndex='index:0' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/SimpleProgressBar.swf' " +
"and @automationClassName='FlexApplication' " +
"and @label='' " +
"and @className='SimpleProgressBar' " +
```

```
"and @automationIndex='index:1' " +
"and @id='null']" +
"/flex:panel[@automationName='ProgressBar%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @id='null']" +
"/flex:progressBar[@automationName='CurrentProgress%200%25' " +
"and @automationClassName='FlexProgressBar' " +
"and @label='CurrentProgress%200%25' " +
"and @className='mx.controls.ProgressBar' " +
"and @automationIndex='index:2' " +
"and @id='bar']";
try{
Double result=flexFT.progressBar(10, ProgressBar).getPercentComplete();
if (result !=0) {
warn("getPercentComplete returned " + result);
}
}catch(Exception exp) {warn("getPercentComplete exception: "
+ exp.getMessage());}
```

## flexFT.radioButton

Creates a Flex RadioButton element.

### Format

The flexFT.radioButton method has the following command format(s):

```
flexFT.radioButton(path);
```

```
flexFT.radioButton(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new RadioButton.

### Example

Performs an action on Flex RadioButton element.

```
String RadioButton="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @id='explorer' " +
"and @className='explorer' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:0' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:0' " +
"and @className='mx.containers.HDividedBox' " +
"and @label='']" +
"/flex:dividedBox[@id='null' " +
"and @automationIndex='index:1' " +
"and @automationClassName='FlexDividedBox' " +
"and @automationName='index:1' " +
"and @className='mx.containers.VDividedBox' " +
"and @label='']" +
"/flex:panel[@automationName='swfLoader' " +
"and @id='swfLoader' " +
"and @className='loaderPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:application[@automationName='controls/RadioButtonExample.swf' " +
"and @id='null' " +
"and @className='RadioButtonExample' " +
```

```

    "and @automationIndex='index:1' " +
    "and @label='' " +
    "and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='RadioButton%20Control%20Example' " +
"and @id='null' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:radioButton[@automationName='1952' " +
"and @id='option2' " +
"and @className='mx.controls.RadioButton' " +
"and @automationIndex='index:2' " +
"and @label='1952' " +
"and @automationClassName='FlexRadioButton']";
flexFT.radioButton(RadioButton).click(KeyModifier.None);
try{
    String result=flexFT.radioButton(RadioButton).getGroupName();
    if (!result.equals("year")) {
        warn("getGroupName returned " + result);
    }
} catch(Exception exp) {warn("getSGroupName exception: "
+ exp.getMessage());}

```

## flexFT.scrollbar

Creates a Flex ScrollBar element.

### Format

The flexFT.scrollbar method has the following command format(s):

```
flexFT.scrollbar(path);
```

```
flexFT.scrollbar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ScrollBar.

### Example

Performs an action on Flex Scrollbar element.

```
String scrollbar="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
"/web:document[@index='0']" +
"/flex:application[@automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:-1' " +
"and @label='' " +
"and @className='explorer' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.HDividedBox']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @id='null' " +
"and @automationClassName='FlexDividedBox' " +
"and @label='' " +
"and @className='mx.containers.VDividedBox']" +
"/flex:panel[@automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='loaderPanel' " +
"and @id='swfLoader']" +
"/flex:application[@automationName='controls/HScrollBarExample.swf' " +
"and @automationClassName='FlexApplication' " +
"and @automationIndex='index:1' " +
```



```
"and @label='' " +
"and @className='HScrollBarExample' " +
"and @id='null']" +
"/flex:panel[@automationName='HScrollBar%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='panel']" +
"/flex:scrollbar[@automationName='bar' " +
"and @automationClassName='FlexScrollBar' " +
"and @automationIndex='index:1' " +
"and @className='mx.controls.HScrollBar' " +
"and @id='bar']";
flexFT.scrollbar(10, scrollbar).scroll(100,
ScrollDirection.horizontal,
ScrollDetail.pageRight);
```

## flexFT.slider

Creates a Flex Slider element.

### Format

The flexFT.slider method has the following command format(s):

```
flexFT.slider(path);
```

```
flexFT.slider(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Slider.

### Example

Performs an action on Flex Slider element.

```
String Slider="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +  
  "/web:document[@index='0']" +  
  "/flex:application[@automationName='explorer' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @className='explorer' " +  
    "and @id='explorer']" +  
  "/flex:dividedBox[@automationIndex='index:0' " +  
    "and @automationName='index:0' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.HDividedBox']" +  
  "/flex:dividedBox[@automationIndex='index:1' " +  
    "and @automationName='index:1' " +  
    "and @id='null' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @label='' " +  
    "and @className='mx.containers.VDividedBox']" +  
  "/flex:panel[@automationName='swfLoader' " +  
    "and @automationClassName='FlexPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @className='loaderPanel' " +  
    "and @id='swfLoader']" +  
  "/flex:application[@automationName='controls/SimpleImageHSlider.swf' " +  
    "and @automationClassName='FlexApplication' " +  
    "and @automationIndex='index:1' " +
```

```
"and @label='' " +
"and @className='SimpleImageHSlider' " +
"and @id='null'" +
"/flex:panel[@automationName='HSlider%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @className='mx.containers.Panel' " +
"and @id='panel']" +
"/flex:slider[@automationName='hSlider' " +
"and @automationClassName='FlexSlider' " +
"and @automationIndex='index:3' " +
"and @direction='horizontal' " +
"and @className='mx.controls.HSlider' " +
"and @id='hSlider']";
flexFT.slider(10, Slider).change(54.0, 0, "track",
TriggerEvent.Mouse, "");
flexFT.slider(15, Slider).change(52.0, 0, "thumb",
TriggerEvent.Mouse, "");
```

## flexFT.toggleButtonBar

Creates a Flex ToggleButtonBar element.

### Format

The flexFT.toggleButtonBar method has the following command format(s):

```
flexFT.toggleButtonBar(path);
```

```
flexFT.toggleButtonBar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new ToggleButtonBar.

### Example

Performs an action on Flex toggleButtonBar element.

```
flexFT.toggleButtonBar(19, "/web:window[@index='0' " +  
    "or @title='Adobe Flex 3 Component Explorer' " +  
    "/web:document[@index='0']" +  
    "/flex:application[@automationName='explorer' " +  
    "and @id='explorer' " +  
    "and @className='explorer' " +  
    "and @automationIndex='index:-1' " +  
    "and @label='' " +  
    "and @automationClassName='FlexApplication']" +  
    "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:0' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:0' " +  
    "and @className='mx.containers.HDividedBox' " +  
    "and @label='']" +  
    "/flex:dividedBox[@id='null' " +  
    "and @automationIndex='index:1' " +  
    "and @automationClassName='FlexDividedBox' " +  
    "and @automationName='index:1' " +  
    "and @className='mx.containers.VDividedBox' " +  
    "and @label='']" +  
    "/flex:panel[@automationName='swfLoader' " +  
    "and @id='swfLoader' " +  
    "and @className='loaderPanel' " +  
    "and @automationIndex='index:0' " +  
    "and @label='' " +  
    "and @automationClassName='FlexPanel']" +  
    "/flex:application[@automationName='controls/ToggleButtonBarExample.swf' " +  
    "and @id='null' " +  
    "and @className='ToggleButtonBarExample' " +
```

```
"and @automationIndex='index:1' " +
"and @label='' " +
"and @automationClassName='FlexApplication']" +
"/flex:panel[@automationName='ToggleButtonBar%20Control%20Example' " +
"and @id='null' and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @label='' " +
"and @automationClassName='FlexPanel']" +
"/flex:toggleButtonBar[@id='null' " +
"and @automationIndex='index:2' " +
"and @automationClassName='FlexToggleButtonBar' " +
"and @automationName='index:2' " +
"and @className='mx.controls.ToggleButtonBar' " +
"and @label=''").change("Director");
```

## flexFT.tree

Creates a Flex Tree element.

### Format

The flexFT.tree method has the following command format(s):

```
flexFT.tree(path);
```

```
flexFT.tree(recid, path);
```

### Command Parameters

#### path

a String specifying the path of the element.

#### recid

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

new Tree.

### Example

Performs an action on Flex progressBar element.

```
flexFT.tree(5, "/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']" +
  "/web:document[@index='0']" +
  "/flex:application[@label='' " +
  "and @className='explorer' " +
  "and @automationIndex='index:-1' " +
  "and @automationName='explorer' " +
  "and @automationClassName='FlexApplication' " +
  "and @id='explorer']" +
  "/flex:dividedBox[@automationIndex='index:0' " +
  "and @automationName='index:0' " +
  "and @label='' " +
  "and @automationClassName='FlexDividedBox' " +
  "and @className='mx.containers.HDividedBox' " +
  "and @id='null']" +
  "/flex:panel[@label='' " +
  "and @className='mx.containers.Panel' " +
  "and @automationIndex='index:0' " +
  "and @automationName='Adobe%20Flex%203%20Component%20Explorer' " +
  "and @automationClassName='FlexPanel' " +
  "and @id='null']" +
  "/flex:tree[@className='mx.controls.Tree' " +
  "and @automationIndex='index:0' " +
  "and @automationName='compLibTree' " +
  "and @automationClassName='FlexTree' " +
  "and @id='compLibTree']")
  .select("Visual Components>General Controls>Tree",
  TriggerEvent.Mouse, KeyModifier.None);
String Tree="/web:window[@index='0' or @title='Adobe Flex 3 Component Explorer']"
+
```

```

"/web:document[@index='0']" +
"/flex:application[@label=' ' " +
"and @className='explorer' " +
"and @automationIndex='index:-1' " +
"and @automationName='explorer' " +
"and @automationClassName='FlexApplication' " +
"and @id='explorer']" +
"/flex:dividedBox[@automationIndex='index:0' " +
"and @automationName='index:0' " +
"and @label=' ' " +
"and @automationClassName='FlexDividedBox' " +
"and @className='mx.containers.HDividedBox' " +
"and @id='null']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @label=' ' " +
"and @automationClassName='FlexDividedBox' " +
"and @className='mx.containers.VDividedBox' " +
"and @id='null']" +
"/flex:panel[@label=' ' " +
"and @className='loaderPanel' " +
"and @automationIndex='index:0' " +
"and @automationName='swfLoader' " +
"and @automationClassName='FlexPanel' " +
"and @id='swfLoader']" +
"/flex:application[@label=' ' " +
"and @className='TreeExample' " +
"and @automationIndex='index:1' " +
"and @automationName='controls/TreeExample.swf' " +
"and @automationClassName='FlexApplication' " +
"and @id='null']" +
"/flex:panel[@label=' ' " +
"and @className='mx.containers.Panel' " +
"and @automationIndex='index:0' " +
"and @automationName='Tree%20Control%20Example' " +
"and @automationClassName='FlexPanel' " +
"and @id='null']" +
"/flex:dividedBox[@automationIndex='index:1' " +
"and @automationName='index:1' " +
"and @label=' ' " +
"and @automationClassName='FlexDividedBox' " +
"and @className='mx.containers.HDividedBox' " +
"and @id='null']" +
"/flex:tree[@className='mx.controls.Tree' " +
"and @automationIndex='index:0' " +
"and @automationName='myTree' " +
"and @automationClassName='FlexTree' " +
"and @id='myTree']";
{
  think(2.0);
}
flexFT.tree(10, Tree).open("Inbox", TriggerEvent.Mouse);
{
  think(1.5);
}
flexFT.tree(15, Tree).select("Inbox>Marketing",
  TriggerEvent.Mouse, KeyModifier.None);

```





---

---

## Functional Test Module

This chapter provides a complete listing and reference for the methods in the OpenScript FunctionalTestService Class of Functional Test Module Application Programming Interface (API).

### 12.1 FunctionalTestService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript FunctionalTestService API.

#### 12.1.1 Alphabetical Command Listing

The following table lists the FunctionalTestService API methods in alphabetical order.

**Table 12–1** List of FunctionalTestService Methods

Method	Description
<a href="#">ft.drag</a>	Perform a drag operation with the mouse.
<a href="#">ft.dragAndDrop</a>	Perform a drag and drop operation with the mouse.
<a href="#">ft.getScreenCapture</a>	Capture the specified region of the screen to a file.
<a href="#">ft.keyDown</a>	Perform key down action on the keys in the form of Key Code.
<a href="#">ft.keyUp</a>	Release key on the keyboard if it is pressed down.
<a href="#">ft.mouseClick</a>	Move the mouse to the specified coordinates on the screen and press the specified mouse button.
<a href="#">ft.mouseDown</a>	Move the mouse to the specified coordinates on the screen and depress the specified mouse button without releasing it.
<a href="#">ft.mouseUp</a>	Move the mouse to the specified coordinates on the screen and release the specified mouse button.
<a href="#">ft.typeCharacters</a>	Simulate typing a string of character keys on the keyboard.
<a href="#">ft.typeKeyCode</a>	Simulate pressing keys on the keyboard by keycodes.
<a href="#">ft.typeKeys</a>	Simulate pressing keys on the keyboard.

The following sections provide detailed reference information for each method and enum in the FunctionalTestService Class of Functional Test Module Application Programming Interface.

## ft.drag

Perform a drag operation with the mouse. The mouse button is NOT released after the drag operation finishes.

All coordinates are relative to the entire screen.

Mouse operations are synchronized within the running agent process, but, as of 2.3.0, are NOT synchronized across all running agent processes on the machine. Therefore, if multiple agent processes are running, there is contention for the mouse.

For reliable playback, it is imperative not to move the mouse when this action is being performed during script playback.

### Format

The ft.drag method has the following command format(s):

```
ft.drag(xDragStart, yDragStart, xDragEnd, yDragEnd);
```

### Command Parameters

**xDragStart**

X coordinate where to start the drag operation. Coordinates are relative to the screen, and specified in pixels.

**yDragStart**

Y coordinate where to start the drag operation. Coordinates are relative to the screen, and specified in pixels.

**xDragEnd**

X coordinate where to stop the drag operation. Coordinates are relative to the screen, and specified in pixels.

**yDragEnd**

Y coordinate where to stop the drag operation. Coordinates are relative to the screen, and specified in pixels.

### Throws

**FTCoreException**

if the method fails.

### Example

Performs a mouse drag starting at screen coordinate x=100, y=100 and ending at coordinate x=200, y=200.

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
ft.drag(100, 100, 200, 200);
```

### See Also

[ft.dragAndDrop](#)

---

## ft.dragAndDrop

Perform a drag and drop operation with the mouse.

All coordinates are relative to the entire screen.

Mouse operations are synchronized within the running agent process, but, as of 2.3.0, are NOT synchronized across all running agent processes on the machine. Therefore, if multiple agent processes are running, there is contention for the mouse.

For reliable playback, it is imperative not to move the mouse when this action is being performed during script playback.

### Format

The ft.dragAndDrop method has the following command format(s):

```
ft.dragAndDrop(xDragStart, yDragStart, xDropTo, yDropTo);
```

### Command Parameters

#### **xDragStart**

X coordinate where to start the drag operation. Coordinates are relative to the screen, and specified in pixels.

#### **yDragStart**

Y coordinate where to start the drag operation. Coordinates are relative to the screen, and specified in pixels.

#### **xDropTo**

X coordinate where to release the mouse after dragging the item over its target. Coordinates are relative to the screen, and specified in pixels.

#### **yDropTo**

Y coordinate where to release the mouse after dragging the item over its target. Coordinates are relative to the screen, and specified in pixels.

### Throws

#### **FTCoreException**

if the method fails.

### Example

Performs a mouse drag and drop starting at screen coordinate x=100, y=100 and ending at coordinate x=200, y=200.

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
ft.dragAndDrop(100, 100, 200, 200);
```

### See Also

[ft.drag](#)

## ft.getScreenCapture

Capture the specified region of the screen to a file.

The file name must end with `.jpg` or `.png`, not case-sensitive, depending on the output format desired.

Coordinates are relative to the screen, and specified in pixels.

### Format

The `ft.getScreenCapture` method has the following command format(s):

```
ft.getScreenCapture(left, top, width, height, imgFileName);
```

### Command Parameters

**left**

Left (X) corner of the region to capture. Coordinates are relative to the screen, and specified in pixels.

**top**

Top (Y) corner of the region to capture. Coordinates are relative to the screen, and specified in pixels.

**width**

Right (X) corner of the region to capture. Coordinates are relative to the screen, and specified in pixels.

**height**

Bottom (Y) corner of the region to capture. Coordinates are relative to the screen, and specified in pixels.

**imgFileName**

Local filename to which to write the captured image. Must have write-access to the output file name. Any existing contents in the file will be overwritten. The file name must end with `.jpg` or `.png`, not case-sensitive, depending on the output format desired.

### Throws

**FTCoreException**

if the method fails.

### Example

Captures the screen image from coordinates `x=0, y=0` to coordinates `x=400, y=400`.

```
import java.io.File;
import java.io.FileOutputStream;
[...]
String path = getScriptPackage().getScriptPath();
String folder = path.substring(0, path.lastIndexOf("\\"));
String imgName = folder + "\\capturedImg.jpg";
File imgFile = new File (imgName);
[...]
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
```

```
.navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
.waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
"/web:document[@index='0']" +
"/web:input_text[@name='Text' or @index='0']")
.focus();
if(imgFile.exists()){
    if(imgFile.setReadOnly()){
        imgFile.setWritable(true);
    }
    imgFile.delete();
}
ft.getScreenCapture(0, 0, 400, 400, imgName);
if(!imgFile.exists()){
    warn("getScreenCapture() failed.");
}
```

## ft.keyDown

Perform key down action on the keys in the form of Key Code.

### Format

The ft.keyDown method has the following command format(s):

```
ft.keyDown(keyCodes);
```

### Command Parameters

**keyCodes**

an int Array specifying the keys to be pressed down.

### Throws

**FTCoreException**

if the method fails.

### Example

Simulates pressing down the keys "g" "o" "o" "d".

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
    "/web:document[@index='0']" +
    "/web:input_text[@name='Text' or @index='0']")
    .focus();
ft.keyDown(KeyEvent.VK_G, KeyEvent.VK_O, KeyEvent.VK_O, KeyEvent.VK_D);
```

---

## ft.keyUp

Release key on the keyboard if it is pressed down.

### Format

The ft.keyUp method has the following command format(s):

```
ft.keyUp(keyCodes);
```

### Command Parameters

**keyCodes**

an int Array specifying the keys to be pressed down.

### Throws

**FTCoreException**

if the method fails.

### Example

Simulates pressing down the keys "g" "o" "o" "d".

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
    "/web:document[@index='0']" +
    "/web:input_text[@name='Text' or @index='0']")
    .focus();
ft.keyUp(KeyEvent.VK_G, KeyEvent.VK_O, KeyEvent.VK_O, KeyEvent.VK_D);
```

## ft.mouseClick

Move the mouse to the specified coordinates on the screen and press the specified mouse button.

This method is different from a DHTML-based click event because it literally moves the mouse before clicking, and it requires the correct window to be in the foreground and visible. All coordinates are relative to the entire screen.

Mouse operations are synchronized within the running agent process, but, as of 2.3.0, are NOT synchronized across all running agent processes on the machine. Therefore, if multiple agent processes are running, there is contention for the mouse.

For reliable playback, it is imperative not to move the mouse when this action is being performed during script playback.

### Format

The ft.mouseClick method has the following command format(s):

```
ft.mouseClick(x, y, clickCount, rightButton, modifiers);
```

### Command Parameters

**x**

X coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**y**

Y coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**clickCount**

Specifies how many times to click the mouse. For example, specify 2 to double-click, or 1 to single-click.

**rightButton**

Set to `true` to click the secondary mouse button, `false` to click the primary mouse button. On most systems, the right mouse button is the secondary mouse button.

**modifiers**

Specify a string of keyboard modifiers to hold down when clicking the mouse. Example values include any combination of `ALT`, `SHIFT`, and `CTRL`, surrounded by angle brackets. For example, to hold down the Shift and Control keys, specify the string:  
<SHIFT><CTRL>

### Throws

**FTCoreException**

if the method fails.

### Example

Performs a mouse click at screen coordinate x=100, y=100.

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")  
    .navigate("http://example.com/Web_Event.html");
```



```
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
  .waitForPage(null);
ft.mouseClick(100, 100, 1, false, "");
ft.mouseClick(100, 100, 1, false, "<SHIFT>");
```

## ft.mouseDown

Move the mouse to the specified coordinates on the screen and depress the specified mouse button without releasing it.

This method is different from a DHTML-based `onMouseDown` event because it literally moves the mouse before clicking, and it requires the correct window to be in the foreground and visible. All coordinates are relative to the entire screen.

Mouse operations are synchronized within the running agent process, but, as of 2.3.0, are NOT synchronized across all running agent processes on the machine. Therefore, if multiple agent processes are running, there is contention for the mouse.

For reliable playback, it is imperative not to move the mouse when this action is being performed during script playback.

### Format

The `ft.mouseDown` method has the following command format(s):

```
ft.mouseDown(x, y, rightButton);
```

### Command Parameters

**x**

X coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**y**

Y coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**rightButton**

Set to `true` to press down on the secondary mouse button, `false` to press down on the primary mouse button. On most systems, the right mouse button is the secondary mouse button.

### Throws

**FTCoreException**

if the method fails.

### Example

Performs a mouse down at screen coordinate `x=500, y=500`.

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
ft.mouseDown(500, 500, false);
```

### See Also

[ft.mouseUp](#)

---

## ft.mouseUp

Move the mouse to the specified coordinates on the screen and release the specified mouse button.

This method is different from a DHTML-based `onMouseUp` event because it literally moves the mouse before releasing it, and it requires the correct window to be in the foreground and visible. All coordinates are relative to the entire screen.

Mouse operations are synchronized within the running agent process, but, as of 2.3.0, are NOT synchronized across all running agent processes on the machine. Therefore, if multiple agent processes are running, there is contention for the mouse.

For reliable playback, it is imperative not to move the mouse when this action is being performed during script playback.

### Format

The `ft.mouseUp` method has the following command format(s):

```
ft.mouseUp(x, y, rightButton);
```

### Command Parameters

**x**

X coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**y**

Y coordinate to which to move the mouse. Coordinates are relative to the screen, and specified in pixels.

**rightButton**

Set to `true` to release the secondary mouse button, `false` to release the primary mouse button. On most systems, the right mouse button is the secondary mouse button.

### Throws

**FTCoreException**

if the method fails.

### Example

Performs a mouse up at screen coordinate `x=500, y=500`.

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
ft.mouseUp(500, 500, false);
```

### See Also

[ft.mouseDown](#)

## ft.typeCharacters

Simulate typing a string of character keys on the keyboard.

This API would press the keys directly by the sequence of the characters String.

No function keys like "SHIFT","CTRL","ALT","F1" , etc. would be supported.

### Format

The ft.typeCharacters method has the following command format(s):

```
ft.typeCharacters(characters);
```

### Command Parameters

**characters**

a String specifying the keys to type.

### Throws

**FTCoreException**

if the method fails.

### Example

Simulates typing the keys "g" "o" "o" "d".

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
    "/web:document[@index='0']" +
    "/web:input_text[@name='Text' or @index='0']")
    .focus();
ft.typeCharacters("good");
web.verifyText("tmt", "good", Source.DisplayContent,
    TextPresence.PassIfPresent, MatchOption.Exact);
```

---

## ft.typeKeyCode

Simulate pressing keys on the keyboard by keycodes.

Special keys should be formatted as a Java KEYNAME (without prefix VK\_) inside < > characters, i.e. <Insert>, <Less>, <SHIFT-A>, <TAB> This method automatically inserts < > around ASCII characters like A-Z, 0-9. <SHIFT-A><TAB><H>ome types: A home.

### Format

The ft.typeKeyCode method has the following command format(s):

```
ft.typeKeyCode(keyCodes);
```

### Command Parameters

**keyCodes**

an int Array specifying the keys to type.

### Throws

**FTCoreException**

if the method fails.

### Example

Simulates typing the keys "g" "o" "o" "d".

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
    "/web:document[@index='0']" +
    "/web:input_text[@name='Text' or @index='0']")
    .focus();
ft.typeKeyCode(KeyEvent.VK_G, KeyEvent.VK_O, KeyEvent.VK_O, KeyEvent.VK_D);
{
    web.verifyText("tmt", "good", Source.DisplayContent,
        TextPresence.PassIfPresent, MatchOption.Exact);
}
```

## ft.typeKeys

Simulate pressing keys on the keyboard.

Special keys should be formatted as a Java KEYNAME (without prefix VK\_) inside < > characters, i.e. <Insert>, <Less>, <SHIFT-A>, <TAB> This method automatically inserts < > around ASCII characters like A-Z, 0-9. <SHIFT-A><TAB><H>ome types: A home.

### Format

The ft.typeKeys method has the following command format(s):

```
ft.typeKeys(keys);
```

### Command Parameters

**keys**

a String specifying the keys to type.

### Throws

**FTCoreException**

if the method fails.

### Example

Simulates typing the keys "g" "o" "o" "d".

```
web.window(5, "/web:window[@index='0' or @title='Test Web Events']")
    .navigate("http://example.com/Web_Event.html");
web.window(7, "/web:window[@index='0' or @title='Test Web Events']")
    .waitForPage(null);
web.textBox("/web:window[@index='0' or @title='Test Web Events']" +
    "/web:document[@index='0']" +
    "/web:input_text[@name='Text' or @index='0']")
    .focus();
ft.typeKeys("<g>");
ft.typeKeys("<o>");
ft.typeKeys("<o>");
ft.typeKeys("<d>");
{
    web.verifyText("tmt", "good", Source.DisplayContent,
        TextPresence.PassIfPresent, MatchOption.Exact);
}
```

---

---

## Image Based Recording Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript Image based recording Class of the OpenScript Application Programming Interface (API).

### 13.1 Image Based Recording API Reference

The following section provides an alphabetical listing of the methods in the OpenScript Image based recording API.

#### 13.1.1 Alphabetical Command Listing

The following table lists the Image based recording API methods in alphabetical order.

**Table 13–1** *List of Image Based Recording Methods*

Method	Description
<a href="#">img.target</a>	Identifies a target screen capture image by its filename, offset coordinates, and threshold.

The following sections provide detailed reference information for each method in the Image based recording Module Application Programming Interface.

## img.target

Identifies a target screen capture image by its filename, offset coordinates, and threshold.

### Format

The `img.target` method has the following command format(s):

```
img.target(imageName, threshold);  
img.target(imageName, threshold, title);  
img.target(imageName, offsetX, offsetY, threshold);  
img.target(imageName, offsetX, offsetY, threshold, title);
```

### Command Parameters

**imageName**

a String specifying the target image name and location. Image files are recorded to the `ImageLib` folder under the script's `resources` folder. The image name can be specified using the `{{@resourceFile(ImageLib/filename.png)}}` transform.

**offsetX**

a value specifying the X-offset coordinate where to perform the image action within the screen capture boundaries. The upper left corner of the capture image is the 0 point.

**offsetY**

a value specifying the Y-offset coordinate where to perform the image action within the screen capture boundaries. The upper left corner of the capture image is the 0 point.

**threshold**

a double value specifying a threshold of similarity to use when comparing the recorded screen capture image to the screen that appears during playback.

**title**

a String specifying the image title.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clicks on a target area of the screen identified by the screen capture image.

```
img.target ("{{@resourceFile(ImageLib/0.png)}}",  
45, 49, 0.9, "Image Title")  
.click();
```



---

---

# Oracle Application Framework Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript OAFService Class of Oracle Application Framework Module Application Programming Interface (API).

These API provide OpenScript the ability to record the Partial Page Refresh (PPR) Page Sync event of EBS/Forms web pages during functional testing.

## 14.1 Oracle Application Framework API Reference

The following section provides an alphabetical listing of the methods in the OpenScript OAFService API.

### 14.1.1 Alphabetical Command Listing

The following table lists the OAFService API methods in alphabetical order.

**Table 14–1** List of OAFService Methods

Method	Description
<a href="#">oaf.waitPPR</a>	Waits until the class name 'OALoading' disappears or a timeout occurs.
<a href="#">oaf.waitFramePPR</a>	Waits until class name 'OALoading' in a frame/iframe disappears or a timeout occurs.

The following sections provide detailed reference information for each method in the OAFService Class of Oracle Application Framework Module Application Programming Interface.

## oaf.waitPPR

Waits until the class name 'OALoading' disappears or a timeout occurs. This function repeatedly checks OALoading class name until 'OALoading' is not present.

Enable the Oracle Application Framework (OAF) Functional Test module in the Oracle EBS/Forms script Properties.

### Format

The oaf.waitPPR method has the following command format(s):

```
oaf.waitPPR(windowPath);
```

```
oaf.waitPPR(recId, windowPath);
```

```
oaf.waitPPR(windowPath, timeoutMillis);
```

```
oaf.waitPPR(windowPath, timeoutMillis, durationMillisBetweenEachCheck, consecutiveNum,  
delayMillisAfterWait);
```

### Command Parameters

**windowPath**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**timeoutMillis**

a Long specifying the timeout in milliseconds.

**durationMillisBetweenEachCheck**

a Long specifying the delay between each check.

**consecutiveNum**

an Integer value specifying the number of checks. Must be greater or equal to 1.

**delayMillisAfterWait**

a Long specifying the delay in milliseconds after finished waiting.

### Throws

**Exception**

on any error.

**OAFWaitPPRTimeoutException**

if timeout occurs.

### Example

The function checks 'OALoading' class name in the <body> element every 500 milliseconds. If there are 3 consecutive checks that 'OALoading' is not present (that means the page has finished loading), the function stops, waits 1000 milliseconds and then returns. Otherwise, a timeout occurs after 80000 milliseconds.

```
oaf.waitPPR("/web:window[@index='0' or @title='Suppliers']",80000,500,3,1000);;
```

---

## oaf.waitForPPR

Waits until class name 'OALoading' in a frame/iframe disappears or a timeout occurs. This function repeatedly checks OALoading class name in an iframe until OALoading is not present. The frame/iframe is specified by a document path.

Enable the Oracle Application Framework (OAF) Functional Test module in the Oracle EBS/Forms script Properties.

### Format

The oaf.waitForPPR method has the following command format(s):

```
oaf.waitForPPR(documentPath);
```

```
oaf.waitForPPR(reclId, documentPath);
```

```
oaf.waitForPPR(documentPath, timeoutMillis);
```

```
oaf.waitForPPR(documentPath, timeoutMillis, durationMillisBetweenEachCheck, consecutiveNum,  
delayMillisAfterWait);
```

### Command Parameters

**documentPath**

a String specifying the document path of the iframe.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**timeoutMillis**

a Long specifying the timeout in milliseconds.

**durationMillisBetweenEachCheck**

a Long specifying the delay between each check.

**consecutiveNum**

an Integer value specifying the number of checks. Must be greater or equal to 1.

**delayMillisAfterWait**

a Long specifying the delay in milliseconds after finished waiting.

### Throws

**Exception**

on any error.

**OAFWaitPPRTimeoutException**

if timeout occurs.

### Example

The function checks 'OALoading' class name in the frame/iframe's <body> element every 300 milliseconds. If there are 5 consecutive checks that 'OALoading' is not present (that means the page has finished loading), the function stops, waits 2000 milliseconds and then returns. Otherwise, a timeout occurs after 30000 milliseconds.

```
oaf.waitPPR("/web:window[@index='0' or @title='Oracle iProcurement: Shop']" +  
"/web:document[@index='5' or @name='null']",30000,300,5,2000);
```

---



---

## Oracle EBS/Forms Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript FormsService Class of Forms Functional Module Application Programming Interface (API).

### 15.1 FormsService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript FormsService API.

#### 15.1.1 Alphabetical Command Listing

The following table lists the FormsService API methods in alphabetical order.

**Table 15–1** List of FormsService Methods

Method	Description
<a href="#">forms.alertDialog</a>	Identifies an Oracle Forms alertDialog object by its path.
<a href="#">forms.appletAdapter</a>	Identifies an Oracle Forms AppletAdapter object by its applet name.
<a href="#">forms.attribute</a>	Construct property data of a single attribute.
<a href="#">forms.attributes</a>	Utility function to return a list of property tests.
<a href="#">forms.blockScroller</a>	Identifies an Oracle Forms blockScroller object by its path.
<a href="#">forms.button</a>	Identifies an Oracle Forms Button object by its path.
<a href="#">forms.calendar</a>	Identifies an Oracle Forms calendar object by its path.
<a href="#">forms.captureScreenshot</a>	Capture the screen shot at runtime.
<a href="#">forms.cell</a>	Constructs the test data of a table cell.
<a href="#">forms.cells</a>	Constructs the list of table cell tests.
<a href="#">forms.checkBox</a>	Identifies an Oracle Forms checkBox object by its path.
<a href="#">forms.choiceBox</a>	Identifies an Oracle Forms choiceBox object by its path.
<a href="#">forms.close</a>	Close the running forms.
<a href="#">forms.comboBox</a>	Identifies an Oracle Forms comboBox object by its path.
<a href="#">forms.editBox</a>	Identifies an Oracle Forms editBox object by its path.
<a href="#">forms.editorDialog</a>	Identifies an Oracle Forms EditorDialog object by its path.
<a href="#">forms.flexWindow</a>	Identifies an Oracle Forms FlexWindow object by its path.

**Table 15–1 (Cont.) List of FormsService Methods**

<b>Method</b>	<b>Description</b>
<code>forms.getAllObjects</code>	Gets all forms objects.
<code>forms.getStatusBarCount</code>	Gets the bar count shown in the bottom of the forms client.
<code>forms.getStatusBarErrorCode</code>	Gets the error code shown in the status bar of the forms client.
<code>forms.getStatusBarItem</code>	Gets the item shown in the status bar of forms client.
<code>forms.getStatusBarItemCount</code>	Gets the item count shown in the status bar of forms client.
<code>forms.getStatusBarMessage</code>	Gets the message shown in the status bar of forms client.
<code>forms.getStatusBarRecordInfo</code>	Gets the record info shown in the status bar of the forms client.
<code>forms.hGridApp</code>	Identifies an Oracle Forms HGridApp object by its path.
<code>forms.helpDialog</code>	Identifies an Oracle Forms helpDialog object by its path.
<code>forms.imageItem</code>	Identifies an Oracle Forms imageItem object by its path.
<code>forms.infoBox</code>	Identifies an Oracle Forms infoBox object by its path.
<code>forms.list</code>	Identifies an Oracle Forms list object by its path.
<code>forms.listOfValues</code>	Identifies an Oracle Forms listOfValues object by its path.
<code>forms.logonDialog</code>	Identifies an Oracle Forms logonDialog object by its path.
<code>forms.otsHGrid</code>	Identifies an Oracle Forms otsHGrid object by its path.
<code>forms.radioButton</code>	Identifies an Oracle Forms radioButton object by its path.
<code>forms.responseBox</code>	Identifies an Oracle Forms responseBox object by its path.
<code>forms.schedulingDataClient</code>	Identifies an Oracle Forms schedulingDataClient object by its path.
<code>forms.spreadTable</code>	Identifies an Oracle Forms spreadTable object by its path.
<code>forms.statusBar</code>	Identifies an Oracle Forms StatusBar object by its recorded ID and path.
<code>forms.tab</code>	Identifies an Oracle Forms tab object by its path.
<code>forms.tableBox</code>	Identifies an Oracle Forms tableBox object by its path.
<code>forms.textField</code>	Identifies an Oracle Forms textField object by its path.
<code>forms.tree</code>	Identifies an Oracle Forms tree object by its path.
<code>forms.treeList</code>	Identifies an Oracle Forms treeList object by its path.
<code>forms.window</code>	Identifies an Oracle Forms window object by its path.

The following sections provide detailed reference information for each method and enum in the FormsService Class of Forms Functional Module Application Programming Interface.

---

## forms.alertDialog

Identifies an Oracle Forms alertDialog object by its path.

### Format

The forms.alertDialog method has the following command format(s):

```
forms.alertDialog(path);
```

```
forms.alertDialog(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms alertDialog. For example, `//forms:alertDialog`. Must not be null. Since it is only possible to show one alertDialog in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the alertDialog object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms alertDialog.

### Example

Performs an action on an Oracle Forms alertDialog object specified by its recorded ID and path.

```
String msg=forms.alertDialog(128, "//forms:alertDialog")
    .getAlertMessage();
info("alertDialog: " + msg);
forms.alertDialog(128, "//forms:alertDialog")
    .clickNo();
```

## forms.appletAdapter

Identifies an Oracle Forms AppletAdapter object by its applet name.

### Format

The forms.appletAdapter method has the following command format(s):

```
forms.appletAdapter(path);
```

```
forms.appletAdapter(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the applet name to identify the forms appletAdapter. For example, `//forms:appletAdapter[(@appName='NAV_CONTROLS_EXPAND_ALL_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms AppletAdapter.

### Example

Performs an action on an Oracle Forms appletAdapter object specified by its recorded ID and applet name.

```
forms.appletAdapter(10, "//forms:appletAdapter[" +  
    "(@appName='NAV_CONTROLS_EXPAND_ALL_0')]" )  
    .execute("value", "prompt");
```



---

## forms.attribute

Construct property data of a single attribute.

### Format

The forms.attribute method has the following command format(s):

```
forms.attribute(property, expectedValue, operator);
```

### Command Parameters

**property**

a String specifying the property name.

**expectedValue**

a String specifying the expected value.

**operator**

a TestOperator enum defining the type and the match approach of the data.

### Returns

a PropertyTest object.

### Example

Specify the attributes of an object.

```
forms.textField(248, "//forms:textField[" +
  "(@name='STUB_APPLICATION_NAME_0')]")
  .setFocus();
forms.textField(249, "//forms:textField[" +
  "(@name='STUB_APPLICATION_NAME_0')]")
  .setText("abc");
forms.textField("//forms:textField[" +
  "(@name='STUB_APPLICATION_NAME_0')]")
  .verifyAttributes("test1", forms.attributes(
    forms.attribute("enabled", "true",
      TestOperator.StringExact),
    forms.attribute("text", "Sales",
      TestOperator.StringExact),
    forms.attribute("visible", "true",
      TestOperator.StringExact),
    forms.attribute("name", "STUB_APPLICATION_NAME_0",
      TestOperator.StringExact),
    forms.attribute("showing", "true",
      TestOperator.StringExact),
    forms.attribute("prompt", "Application",
      TestOperator.StringExact),
    forms.attribute("editable", "true",
      TestOperator.StringExact)));
```

## forms.attributes

Utility function to return a list of property tests.

### Format

The forms.attributes method has the following command format(s):

```
forms.attributes(tests);
```

### Command Parameters

#### **tests**

an array of PropertyTest attribute objects specifying all the tests included in the forms object test.

### Returns

a new PropertyTest[[]].

### Example

Specify the attributes of an object.

```
forms.textField(248, "//forms:textField[" +
    "@name='STUB_APPLICATION_NAME_0']")
    .setFocus();
forms.textField(249, "//forms:textField[" +
    "@name='STUB_APPLICATION_NAME_0']")
    .setText("abc");
forms.textField("//forms:textField[" +
    "@name='STUB_APPLICATION_NAME_0']")
    .verifyAttributes("test1", forms.attributes(
        forms.attribute("enabled", "true",
            TestOperator.StringExact),
        forms.attribute("text", "Sales",
            TestOperator.StringExact),
        forms.attribute("visible", "true",
            TestOperator.StringExact),
        forms.attribute("name", "STUB_APPLICATION_NAME_0",
            TestOperator.StringExact),
        forms.attribute("showing", "true",
            TestOperator.StringExact),
        forms.attribute("prompt", "Application",
            TestOperator.StringExact),
        forms.attribute("editable", "true",
            TestOperator.StringExact)));
```

## forms.blockScroller

Identifies an Oracle Forms blockScroller object by its path.

### Format

The forms.blockScroller method has the following command format(s):

```
forms.blockScroller(path);
forms.blockScroller(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms blockScroller. For example, //forms:blockScroller. Must not be null. Without further notice, this method only works properly when only one blockScroller exists in a window.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms blockScroller.

### Example

Performs an action on an Oracle Forms blockScroller object specified by its recorded ID and path.

```
int maxNum=forms.blockScroller(50, "//forms:blockScroller")
    .getMaximum();
int minNum=forms.blockScroller50, "//forms:blockScroller")
    .getMinimum();
int value=forms.blockScroller(50, "//forms:blockScroller")
    .getValue();
info("maxNum:"+maxNum+" minNum:"+minNum+" value8:"+value);
forms.blockScroller(50, "//forms:blockScroller")
    .scrollDown();
int scrollDownValue=forms.blockScroller(50, "//forms:blockScroller")
    .getValue();
forms.blockScroller(50, "//forms:blockScroller")
    .scrollUp();
int scrollUpValue=forms.blockScroller(50, "//forms:blockScroller")
    .getValue();
    if(value!=8)warn("scroll to error!");
    if(scrollDownValue!=9)warn("scroll to error!");
    if(scrollUpValue!=8)warn("scroll up error!");
```

## forms.button

Identifies an Oracle Forms Button object by its path.

### Format

The forms.button method has the following command format(s):

```
forms.button(path);  
forms.button(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms button. For example, `//forms:button[(@name='NAV_CONTROLS_EXPAND_ALL_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms Button object.

### Example

Performs an action on an Oracle Forms Button object specified by its recorded ID and path.

```
forms.button(32, "//forms:button[(@name='CALENDAR_OK_0')]")  
    .setFocus();  
String accName1=forms.button(32, "//forms:button[(@name='CALENDAR_OK_0')]")  
    .getAccessibleName();  
String label1=forms.button(32, "//forms:button[(@name='CALENDAR_OK_0')]")  
    .getLabel();  
info("accssibleName: " + accName1);  
info("Label: " + label1);
```

---

## forms.calendar

Identifies an Oracle Forms calendar object by its path.

### Format

The forms.calendar method has the following command format(s):

```
forms.calendar(path);
```

```
forms.calendar(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms calendar. For example, `//forms:calendar`. Must not be null. Since it is only possible to show one calendar in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the calendar object.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms calendar.

### Example

Performs an action on an Oracle Forms calendar object specified by its recorded ID and path.

```
forms.textField(111, "//forms:textField[" +  
    "(@name='GROUPS_EXPENDITURE_ENDING_DATE_0')]" )  
    .openDialog();  
forms.button(114, "//forms:button[" +  
    "(@name='CALENDAR_OK_0')]" )  
    .setFocus();  
forms.calendar(115, "//forms:calendar")  
    .enter("06-JAN-2011");  
forms.window(118, "//forms:window[" +  
    "(@name='GROUPS_DETAIL')]" )  
    .activate(true);  
forms.textField(119, "//forms:textField[" +  
    "(@name='GROUPS_EXPENDITURE_ENDING_DATE_0')]" )  
    .openDialog();  
forms.button(122, "//forms:button[(@name='CALENDAR_OK_0')]" )  
    .setFocus();  
forms.calendar(123, "//forms:calendar")  
    .clickOk();
```

## forms.captureScreenshot

Capture the screen shot at runtime. Please refer to [{@link #captureScreenshot\(Integer,String\)}](#).

### Format

The forms.captureScreenshot method has the following command format(s):

```
forms.captureScreenshot( );
```

```
forms.captureScreenshot(recid);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Captures the screen shot at runtime.

```
forms.captureScreenshot(103);
```

---

## forms.cell

Constructs the test data of a table cell.

### Format

The forms.cell method has the following command format(s):

```
forms.cell(row, column, expectedValue, operator);
```

### Command Parameters

**row**

a 1-based index value specifying the row number.

**column**

a 1-based index value specifying the column number.

**expectedValue**

a String specifying the expected value of the property.

**operator**

a TestOperator enum that defines the type and the match approach of the data.

### Returns

a CellTest object with the specified row, column, expectedValue, and operator.

### Example

Adds a table test for specifying exact match or wildcard match for individual cells.

```
forms.otsHGrid("//forms:otsHGrid[@name='ASTEVENR_CONF_HGRID_ITEMS_0']" +  
  .assertCells("MyTableTest",  
    forms.cells(forms.cell(1, 1, "Ticker ", TestOperator.StringExact),  
      forms.cell(1, 2, "Company ", TestOperator.StringExact),  
      forms.cell(2, 1, "ORCL*", TestOperator.StringWildcard),  
      forms.cell(2, 2, "Oracle", TestOperator.StringExact)));
```

## forms.cells

Constructs the list of table cell tests.

### Format

The forms.cells method has the following command format(s):

```
forms.cells(tests);
```

### Command Parameters

**tests**

a list of table cells.

### Returns

a CellTest[] with the specified cells.

### Example

Adds a table test for specifying exact match or wildcard match for each cell.

```
forms.otsHGrid("//forms:otsHGrid[(@name='ASTEVENR_CONF_HGRID_ITEMS_0')]") +  
  .assertCells("MyTableTest",  
    web.cells(forms.cell(1, 1, "Ticker ", TestOperator.StringExact),  
              forms.cell(1, 2, "Company ", TestOperator.StringExact),  
              forms.cell(2, 1, "ORCL*", TestOperator.StringWildcard),  
              forms.cell(2, 2, "Oracle", TestOperator.StringExact)));
```



## forms.checkBox

Identifies an Oracle Forms checkBox object by its path.

### Format

The forms.checkBox method has the following command format(s):

```
forms.checkBox(path);
forms.checkBox(recid, path);
```

### Command Parameters

#### recid

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### path

a String specifying the path to identify the forms checkBox. For example, `//forms:checkBox[(@name='MTL_SYSTEM_ITEMS_INVENTORY_ITEM_FLAG_MIR_0')]`. Must not be null.

### Throws

#### AbstractScriptException

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms checkBox.

### Example

Performs an action on an Oracle Forms checkBox object specified by its recorded ID and path.

```
forms.checkBox(35, "//forms:checkBox[" +
  "@name='JOBS_QF_SHOW_STAGES_0']")
  .check(true);
forms.checkBox(35, "//forms:checkBox[" +
  "@name='JOBS_QF_SHOW_STAGES_0']")
  .verifyAttribute("checkbox status", "state",
  "true", TestOperator.StringExact);
if( !forms.checkBox(35, "//forms:checkBox[" +
  "@name='JOBS_QF_SHOW_STAGES_0']")
  .isSelected())warn("check statement error");
String accessibleName=forms.checkBox(35, "//forms:checkBox[" +
  "@name='JOBS_QF_SHOW_STAGES_0']")
  .getAccessibleName();
String label=forms.checkBox(35, "//forms:checkBox[" +
  "@name='JOBS_QF_SHOW_STAGES_0']")
  .getLabel();
//output accessible name and label
info("check box's accessible name: " + accessibleName);
info("check box's label: " + label);
```

## forms.choiceBox

Identifies an Oracle Forms choiceBox object by its path.

### Format

The forms.choiceBox method has the following command format(s):

```
forms.choiceBox(path);
```

```
forms.choiceBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms choiceBox. For example, `//forms:choiceBox`. Must not be null. Since it is only possible to show one choiceBox in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the choiceBox object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms choiceBox.

### Example

Performs an action on an Oracle Forms choiceBox object specified by its recorded ID and path.

```
forms.choiceBox(147, "//forms:choiceBox").clickButton("OK");
```

## forms.close

Close the running forms. Please refer to [forms.close](#)

### Format

The forms.close method has the following command format(s):

```
forms.close( );
```

```
forms.close(recid);
```

### Command Parameters

**recid**

the ID of a previously recorded element which is another corresponding element to this, holding all the info recorded.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Closes the running forms.

```
forms.close(144);
```

## forms.comboBox

Identifies an Oracle Forms comboBox object by its path.

### Format

The forms.comboBox method has the following command format(s):

```
forms.comboBox(path);
```

```
forms.comboBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms comboBox. For example, `//forms:comboBox[(@name='ALL_WIDGETS_LIST508_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms comboBox.

### Example

Performs an action on an Oracle Forms comboBox object specified by its recorded ID and path.

```
//get accessible name and count
String accessName=forms.comboBox(20, "//forms:comboBox[" +
    "@name='ALL_WIDGETS_LIST508_0']")
    .getAccessibleName();
int itemCount=forms.comboBox(20, "//forms:comboBox[" +
    "@name='ALL_WIDGETS_LIST508_0']")
    .getItemCount();
info("accessible Name: " + accessName);
info("item count: " + itemCount);
forms.comboBox(20, "//forms:comboBox[" +
    "@name='ALL_WIDGETS_LIST508_0']")
    .setFocus();
forms.comboBox(20, "//forms:comboBox[" +
    "@name='ALL_WIDGETS_LIST508_0']")
    .setText("text");
String itemValue = forms.comboBox(20, "//forms:comboBox[" +
    "@name='ALL_WIDGETS_LIST508_0']")
    .getItemValue("");
info(itemValue);
```

---

## forms.editBox

Identifies an Oracle Forms editBox object by its path.

### Format

The forms.editBox method has the following command format(s):

```
forms.editBox(path);  
forms.editBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms editBox. For example, //forms:calendar. Must not be null. Since it is only possible to show one editBox in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the editBox object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms editBox.

### Example

Performs an action on an Oracle Forms editBox object specified by its recorded ID and path.

```
forms.window(65, "//forms:window[(@name='GROUPS_DETAIL')]")  
    .selectMenu("Help|About Oracle Applications...");  
forms.editBox(68, "//forms:editBox").clickOk();  
String text1 = forms.editBox(68, "//forms:editBox")  
    .getText();  
info("editBox text: " + text1);
```

## forms.editorDialog

Identifies an Oracle Forms EditorDialog object by its path.

### Format

The forms.editorDialog method has the following command format(s):

```
forms.editorDialog(path);
```

```
forms.editorDialog(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms editorDialog. For example, //forms:editorDialog. Must not be null. Since it is only possible to show one editorDialog in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the editorDialog object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms editorDialog.

### Example

Performs an action on an Oracle Forms editorDialog object specified by its recorded ID and path.

```
forms.editorDialog(31, "//forms:editorDialog")  
    .setText("4500217");  
forms.editorDialog(32, "//forms:editorDialog")  
    .clickOk();
```

---

## forms.flexWindow

Identifies an Oracle Forms FlexWindow object by its path.

### Format

The forms.flexWindow method has the following command format(s):

```
forms.flexWindow(path);
```

```
forms.flexWindow(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms flexWindow. For example, //forms:flexWindow. Must not be null. Since it is only possible to show one flexWindow in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the flexWindow object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms flexWindow.

### Example

Performs an action on an Oracle Forms FlexWindow object specified by its recorded ID and path.

```
forms.textField(156, "//forms:textField[" +  
    " (@name='LINES_ACCOUNTING_FLEXFIELD_0')]")  
    .openDialog();  
forms.flexWindow(159, "//forms:flexWindow")  
    .setTextAndClickOk("Account Alias", "",  
    "01-000-2225-0000-000");
```

## forms.getAllObjects

Gets all forms objects.

### Format

The forms.getAllObjects method has the following command format(s):

```
forms.getAllObjects( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

all objects in XML format.

### Example

Gets all forms objects.

```
String objXML = forms.getAllObjects();  
info("Forms objects: " + objXML);
```



---

## forms.getStatusBarCount

Gets the bar count shown in the bottom of the forms client.

### Format

The forms.getStatusBarCount method has the following command format(s):

```
forms.getStatusBarCount( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the bar count.

### Example

Gets the status bar count.

```
for(int i=0;i<forms.getStatusBarCount();i++)
  for(int j=0;j>forms.getStatusBarItemCount(i);j++)
  {
    info("get status bar "+ i+" item count:"+forms.getStatusBarItemCount(i));
    info("get status bar item("+i+", "+j+"): "+forms.getStatusBarItem(i, j));
  }
```

## forms.getStatusBarErrorCode

Gets the error code shown in the status bar of the forms client.

### Format

The forms.getStatusBarErrorCode method has the following command format(s):

```
forms.getStatusBarErrorCode( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the error code.

### Example

Gets the status bar error code.

```
info("get Status Bar error code: " + forms.getStatusBarErrorCode());
```

---

## forms.getStatusBarItem

Gets the item shown in the status bar of forms client.

### Format

The forms.getStatusBarItem method has the following command format(s):

```
forms.getStatusBarItem(barIndex, barItemIndex);
```

### Command Parameters

**barIndex**

the index of the status bar starting from 0.

**barItemIndex**

the item index of the status bar starting from 0.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the item.

### Example

Gets the status bar item.

```
for (int i=0; i<forms.getStatusBarCount(); i++)
  for (int j=0; j>forms.getStatusBarItemCount(i); j++)
  {
    info("get status bar "+ i+ " item count:"+forms.getStatusBarItemCount(i));
    info("get status bar item("+i+", "+j+"): "+forms.getStatusBarItem(i, j));
  }
```

## forms.getStatusBarItemCount

Gets the item count shown in the status bar of forms client.

### Format

The forms.getStatusBarItemCount method has the following command format(s):

```
forms.getStatusBarItemCount(index);
```

### Command Parameters

**index**

the index of status bar starting from 0.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the item count.

### Example

Gets the status bar item count.

```
for(int i=0;i<forms.getStatusBarCount();i++)
  for(int j=0;j>forms.getStatusBarItemCount(i);j++)
  {
    info("get status bar "+ i+" item count:"+forms.getStatusBarItemCount(i));
    info("get status bar item("+i+", "+j+"): "+forms.getStatusBarItem(i, j));
  }
```

## forms.getStatusBarMessage

Gets the message shown in the status bar of forms client.

### Format

The forms.getStatusBarMessage method has the following command format(s):

```
forms.getStatusBarMessage( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the message.

### Example

Gets the status bar message.

```
info("Status Bar message: " + forms.getStatusBarMessage());
```

## forms.getStatusBarRecordInfo

Gets the record info shown in the status bar of the forms client.

### Format

The forms.getStatusBarRecordInfo method has the following command format(s):

```
forms.getStatusBarRecordInfo( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the record info.

### Example

Gets the status bar record info.

```
info("get Status Bar record info: " + forms.getStatusBarRecordInfo());
```

---

## forms.helpDialog

Identifies an Oracle Forms helpDialog object by its path.

### Format

The forms.helpDialog method has the following command format(s):

```
forms.helpDialog(path);
```

```
forms.helpDialog(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms helpDialog. For example, //forms:helpDialog. Must not be null. Since it is only possible to show one helpDialog in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the helpDialog object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms helpDialog.

### Example

Performs an action on an Oracle Forms helpDialog object specified by its recorded ID and path.

```
forms.helpDialog(74, "//forms:helpDialog").clickOk();
```

## forms.hGridApp

Identifies an Oracle Forms HGridApp object by its path.

### Format

The forms.hGridApp method has the following command format(s):

```
forms.hGridApp(path);
```

```
forms.hGridApp(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms HGridApp. For example, //hGridApp[@name='IEU\_HGRID\_IEU\_HGRID\_0']. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms HGridApp.

### Example

Performs an action on an Oracle Forms HGridApp object specified by its recorded ID and path.

```
forms.hGridApp(43, "//forms:hGridApp[(@name='IEU_HGRID_IEU_HGRID_0')]")  
  .selectNode("Delinquent Transactions|Active");
```



---

## forms.imageItem

Identifies an Oracle Forms imageItem object by its path.

### Format

The forms.imageItem method has the following command format(s):

```
forms.imageItem(path);
```

```
forms.imageItem(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms imageItem. For example, `//forms:imageItem[(@name='NAV_CONTROLS_EXPAND_ALL_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms imageItem.

### Example

Performs an action on an Oracle Forms imageItem object specified by its recorded ID and path.

```
forms.imageItem(100, "//forms:imageItem[" +  
    "(@name='NAV_CONTROLS_EXPAND_ALL_0')]" )  
    .click();
```

## forms.infoBox

Identifies an Oracle Forms infoBox object by its path.

### Format

The forms.infoBox method has the following command format(s):

```
forms.infoBox(path);
```

```
forms.infoBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms infoBox. For example, `//forms:infoBox`. Must not be null. Since it is only possible to show one infoBox in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the infoBox object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms infoBox.

### Example

Performs an action on an Oracle Forms infoBox object specified by its recorded ID and path.

```
forms.infoBox(42, "//forms:infoBox").close();
```

---

## forms.list

Identifies an Oracle Forms list object by its path.

### Format

The forms.list method has the following command format(s):

```
forms.list(path);
```

```
forms.list(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms list. For example, `//forms:list[(@name='JTF_SORT_COLUMN1_0')]`. Must not be null.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms list.

### Example

Performs an action on an Oracle Forms list object specified by its recorded ID and path.

```
String accessName=forms.list(25, "//forms:list[" +
    "(@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0')]" )
    .getAccessibleName();
int itemCount=forms.list(25, "//forms:list[" +
    "(@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0')]" )
    .getItemCount();
info("accessible Name: " + accessName);
info("item count: " + itemCount);
//getItemValue
forms.list(25, "//forms:list[" +
    "(@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0')]" )
    .selectItem("Usages");
String itemValue=forms.list(25, "//forms:list[" +
    "(@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0')]" )
    .getItemValue();
info(itemValue);
//isItemInList
boolean isItem=forms.list(25, "//forms:list[" +
    "(@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0')]" )
    .isItemInList("Usages");
```

```
if(!isItem)warn("Item not in list");
//isItemSelected
boolean isSelected=forms.list(25, "//forms:list[" +
    "@name='GROUPS_SYSTEM_LINKAGE_FUNCTION_0']")
    .isSelected("Usages");
if(!isSelected)warn("Item not selected");
```

---

## forms.listOfValues

Identifies an Oracle Forms listOfValues object by its path.

### Format

The forms.listOfValues method has the following command format(s):

```
forms.listOfValues(path);
```

```
forms.listOfValues(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms listOfValues. For example, //forms:listOfValues. Must not be null. Since it is only possible to show one listOfValues in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the listOfValues object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms listOfValues.

### Example

Performs an action on an Oracle Forms listOfValues object specified by its recorded ID and path.

```
//get item count
int itemcount=forms.listOfValues(20, "//forms:listOfValues")
    .getItemCount();
info("Item count: " + itemcount);
//get text
String text = "";
for(int i=0;i<itemcount;i++)
{
    text=forms.listOfValues(21, "//forms:listOfValues")
        .getText(i);
    info("Item " + i + "text: " + text);
}
```

## forms.logonDialog

Identifies an Oracle Forms logonDialog object by its path.

### Format

The forms.logonDialog method has the following command format(s):

```
forms.logonDialog(path);
```

```
forms.logonDialog(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms logonDialog. For example, //logonDialog. Must not be null. Since it is only possible to show one logonDialog in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the logonDialog object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms logonDialog.

### Example

Performs an action on an Oracle Forms logonDialog object specified by its recorded ID and path.

```
forms.logonDialog(10, "//logonDialog")  
  .activate(true);  
forms.logonDialog(10, "//logonDialog")  
  .clickConnect("name", "password", "database");
```

---

## forms.otsHGrid

Identifies an Oracle Forms otsHGrid object by its path.

### Format

The forms.otsHGrid method has the following command format(s):

```
forms.otsHGrid(path);
```

```
forms.otsHGrid(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms otsHGrid. For example, `//forms:otsHGrid[(@name='ASTEVENR_CONF_HGRID_ITEMS_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms otsHGrid.

### Example

Performs an action on an Oracle Forms otsHGrid object specified by its recorded ID and path.

```
if(forms.otsHGrid(10, "//forms:otsHGrid[(@name='ASTEVENR_CONF_HGRID_ITEMS_0')]")  
    .exists())  
    info("otsHGrid passed!");  
else warn("otsHGrid failed!");
```

---

## forms.radioButton

Identifies an Oracle Forms radioButton object by its path.

### Format

The forms.radioButton method has the following command format(s):

```
forms.radioButton(path);
```

```
forms.radioButton(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms radioButton. For example, `//forms:radioButton[(@name='EXPENDITURES_TRANSACTION_STATUS_REJECTED_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms radioButton.

### Example

Performs an action on an Oracle Forms radioButton object specified by its recorded ID and path.

```
String radioLabel=forms.radioButton(24,"//forms:radioButton[" +
    "@name='JOBS_QF_WHICH_JOBS_MY_UNCOMPLETED_0']")
    .getLabel();
boolean isSelected=forms.radioButton(24, "//forms:radioButton[" +
    "@name='JOBS_QF_WHICH_JOBS_MY_UNCOMPLETED_0']")
    .isSelected();
info("radio label:"+radioLabel+" selected:"+isSelected);
if(isSelected)warn("select error!");
forms.radioButton(24, "//forms:radioButton[" +
    "@name='JOBS_QF_WHICH_JOBS_MY_UNCOMPLETED_0']")
    .select();
```



---

## forms.responseBox

Identifies an Oracle Forms responseBox object by its path.

### Format

The forms.responseBox method has the following command format(s):

```
forms.responseBox(path);  
forms.responseBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms responseBox. For example, //forms:responseBox. Must not be null. Since it is only possible to show one responseBox in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the responseBox object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms responseBox.

### Example

Performs an action on an Oracle Forms responseBox object specified by its recorded ID and path.

```
forms.responseBox(154, "//forms:responseBox")  
    .setText("Old Password", "abc");  
forms.responseBox(155, "//forms:responseBox")  
    .setText("New Password", "xyz");
```

## forms.schedulingDataClient

Identifies an Oracle Forms schedulingDataClient object by its path.

### Format

The forms.schedulingDataClient method has the following command format(s):

```
forms.schedulingDataClient(path);
```

```
forms.schedulingDataClient(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms schedulingDataClient. For example, //forms:schedulingDataClient[(@name='GANTT\_GANTTBEAN\_0')]. Must not be null.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms schedulingDataClient.

### Example

Performs an action on an Oracle Forms schedulingDataClient object specified by its recorded ID and path.

```
forms.schedulingDataClient(32, "//forms:schedulingDataClient[" +  
    "@name='GANTT_GANTTBEAN_0']")  
    .clickNext();  
forms.schedulingDataClient(33, "//forms:schedulingDataClient[" +  
    "@name='GANTT_GANTTBEAN_0']")  
    .clickPrevious();  
forms.schedulingDataClient(34, "//forms:schedulingDataClient[" +  
    "@name='GANTT_GANTTBEAN_0']")  
    .clickAssigneeCell(3, 1);
```

## forms.spreadTable

Identifies an Oracle Forms spreadTable object by its path.

### Format

The forms.spreadTable method has the following command format(s):

```
forms.spreadTable(path);
forms.spreadTable(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms spreadTable. For example, `//forms:spreadTable[(@name='BLK_INBOX_INBOX_GRID_0')]`. Must not be null.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms spreadTable.

### Example

Performs an action on an Oracle Forms spreadTable object specified by its recorded ID and path.

```
forms.spreadTable(66, "//forms:spreadTable[" +
    "@name='SR_TASK_GRID_GRID_ITEM_0']")
    .selectRows(1, 1);
forms.spreadTable(66, "//forms:spreadTable[" +
    "@name='SR_TASK_GRID_GRID_ITEM_0']")
    .focusCell(1, 1);
String cellValue=forms.spreadTable(66, "//forms:spreadTable[" +
    "@name='SR_TASK_GRID_GRID_ITEM_0']")
    .getCell(1, 2);
forms.spreadTable(66, "//forms:spreadTable[" +
    "@name='SR_TASK_GRID_GRID_ITEM_0']")
    .storeCell("testVar", 1, 2);
if(!cellValue.equals("{testVar}"))warn("get cell value error");
//test column count and row count
forms.spreadTable(66, "//forms:spreadTable[" +
    "@name='SR_TASK_GRID_GRID_ITEM_0']")
    .verifyAttributes("objectTest1",
        forms.attributes(
            forms.attribute("columnCount", "42",
                TestOperator.StringExact),
```

```
forms.attribute("rowCount", "2",
    TestOperator.StringExact));
forms.spreadTable(66, "//forms:spreadTable[" +
    "(@name='SR_TASK_GRID_GRID_ITEM_0')]")
    .focusRow(1);
```

---

## forms.statusBar

Identifies an Oracle Forms StatusBar object by its recorded ID and path.

### Format

The forms.statusBar method has the following command format(s):

```
forms.statusBar(path);
```

```
forms.statusBar(recid, path);
```

### Command Parameters

**path**

a String specifying the path to identify the forms statusBar. For example, `//forms:statusBar`. Must not be null. Since it is only possible to show one statusBar in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the Status Bar object.

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms StatusBar.

### Example

Performs an action on an Oracle Forms statusBar object specified by its recorded ID and path.

```
forms.statusBar(100, "//forms:statusBar")  
  .assertText("FormsFT AutoValidation: Verify StatusBar text value",  
    "FRM-40400: Transaction complete: 1 records applied and saved.",  
    MatchOption.Exact);
```

## forms.tab

Identifies an Oracle Forms tab object by its path.

### Format

The forms.tab method has the following command format(s):

```
forms.tab(path);
```

```
forms.tab(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms tab. For example, `//forms:tab[(@name='ATTRIBUTE_GROUPS_REGIONS')]`. Must not be null.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms tab.

### Example

Performs an action on an Oracle Forms tab object specified by its recorded ID and path.

```
forms.tab(485, "//forms:tab[" +
    "(@name='FLOWDOWN_TAB')]")
    .select("Terms & Conditions");
String selectedStr=forms.tab(485, "//forms:tab[" +
    "(@name='FLOWDOWN_TAB')]")
    .getSelectedTabLabel();
if(!selectedStr.equals("Terms & Conditions"))
    warn("getSelectedTabLabel() error");
boolean isItem=forms.tab(485, "//forms:tab[" +
    "(@name='FLOWDOWN_TAB')]")
    .isItemInList("Terms & Conditions");
if(!isItem)
    warn("isItemInList(string) error");
boolean isSelected=forms.tab(485, "//forms:tab[" +
    "(@name='FLOWDOWN_TAB')]")
    .isItemSelected("Terms & Conditions");
if(!isSelected)
    warn("isItemSelected(string) error");
```

---

## forms.tableBox

Identifies an Oracle Forms tableBox object by its path.

### Format

The forms.tableBox method has the following command format(s):

```
forms.tableBox(path);
```

```
forms.tableBox(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms tableBox. For example, //forms:tableBox. Must not be null. Since it is only possible to show one tableBox in Oracle Forms at runtime, it is not necessary to specify additional conditions in the path to locate the tableBox object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms tableBox.

### Example

Performs an action on an Oracle Forms tableBox object specified by its recorded ID and path.

```
forms.tableBox(100, "//forms:tableBox")  
    .check(1, 1);  
forms.tableBox(100, "//forms:tableBox")  
    .clickOk();
```

## forms.textField

Identifies an Oracle Forms textField object by its path.

### Format

The forms.textField method has the following command format(s):

```
forms.textField(path);
```

```
forms.textField(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms textField. For example, `//forms:textField[(@name='NAVIGATOR_TYPE_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms TextField.

### Example

Performs an action on an Oracle Forms textField object specified by its recorded ID and path.

```
forms.textField(248, "//forms:textField[" +
    "(@name='STUB_APPLICATION_NAME_0')]")
    .setFocus();
forms.textField(249, "//forms:textField[" +
    "(@name='STUB_APPLICATION_NAME_0')]")
    .setText("abc");
forms.textField("//forms:textField[" +
    "(@name='STUB_APPLICATION_NAME_0')]")
    .verifyAttributes("test1", forms.attributes(
        forms.attribute("enabled", "true",
            TestOperator.StringExact),
        forms.attribute("text", "Sales",
            TestOperator.StringExact),
        forms.attribute("visible", "true",
            TestOperator.StringExact),
        forms.attribute("name", "STUB_APPLICATION_NAME_0",
            TestOperator.StringExact),
        forms.attribute("showing", "true",
            TestOperator.StringExact),
        forms.attribute("prompt", "Application",
```



```
TestOperator.StringExact),  
forms.attribute("editable", "true",  
TestOperator.StringExact));
```

## forms.tree

Identifies an Oracle Forms tree object by its path.

### Format

The forms.tree method has the following command format(s):

```
forms.tree(path);
```

```
forms.tree(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms tree. For example, `//forms:tree[@accessibleName='Navigator']`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms tree.

### Example

Performs an action on an Oracle Forms tree object specified by its recorded ID and path.

```
forms.tree(24, "//forms:tree[@name='APPTREE_NAV_TREE_NAVIGATOR_0']")
    .selectNode("Personal Shortcuts");
forms.list(25, "//forms:list[@name='APPTREE_VIEW_BY_VIEW_BY_0']")
    .setFocus();
forms.tree(26, "//forms:tree[@name='APPTREE_NAV_TREE_NAVIGATOR_0']")
    .expandNode("People By Name");
forms.tree(27, "//forms:tree[@name='APPTREE_NAV_TREE_NAVIGATOR_0']")
    .selectNode("People By Name|A");
forms.tree(28, "//forms:tree[@name='APPTREE_NAV_TREE_NAVIGATOR_0']")
    .expandNode("People By Name|B");
forms.tree(29, "//forms:tree[@name='APPTREE_NAV_TREE_NAVIGATOR_0']")
    .collapseNode("People By Name|B");
```

---

## forms.treeList

Identifies an Oracle Forms treeList object by its path.

### Format

The forms.treeList method has the following command format(s):

```
forms.treeList(path);  
forms.treeList(recid, path);
```

### Command Parameters

**recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

**path**

a String specifying the path to identify the forms treeList. For example, `//forms:treeList[(@name='NAVIGATOR_LIST_0')]`. Must not be null.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms treeList.

### Example

Performs an action on an Oracle Forms treeList object specified by its recorded ID and path.

```
forms.treeList(79, "//forms:treeList[(@name='NAVIGATOR_LIST_0')]")  
  .focusItem("Contract Groups");  
forms.treeList(80, "//forms:treeList[(@name='NAVIGATOR_LIST_0')]")  
  .selectItem("Contract Groups");
```

## forms.window

Identifies an Oracle Forms window object by its path.

### Format

The forms.window method has the following command format(s):

```
forms.window(path);
```

```
forms.window(recid, path);
```

### Command Parameters

#### **recid**

Optional the ID of a previously recorded navigation, used for comparison purposes. May be null.

#### **path**

a String specifying the path to identify the forms window. For example, `//forms:window[(@name='NAVIGATOR')]`. **Must not be null.**

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the forms window.

### Example

Performs an action on an Oracle Forms window object specified by its recorded ID and path.

```
forms.window(24, "//forms:window[(@name='STUB')]")
    .activate(true);
forms.window(25, "//forms:window[(@name='STUB')]")
    .clickToolBarButton("Save");
forms.statusBar(26, "//forms:statusBar").assertText(
    "FormsFT AutoValidation: Verify StatusBar text value",
    "FRM-40401: No changes to save.", MatchOption.Exact);
forms.window(27, "//forms:window[(@name='STUB')]")
    .selectMenu("File|Print...");
boolean isMenu=forms.window(27, "//forms:window[" +
    "@name='STUB']")
    .isMenuEnabled("File|Print...");
if(!isMenu)warn("isMenuEnabled(string) error");
forms.window(28, "//forms:window[(@name='STUB')]")
    .close();
```

---



---

## Oracle Fusion/ADF Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript ADFService Class of ADF Module Application Programming Interface (API).

### 16.1 ADFService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript ADFService API.

#### 16.1.1 Alphabetical Command Listing

The following table lists the ADFService API methods in alphabetical order.

**Table 16–1** List of ADFService Methods

Method	Description
<a href="#">adf.button</a>	Identifies an ADFButton by its recorded ID and path.
<a href="#">adf.calendar</a>	Identifies an ADFCalendar by its recorded ID and path.
<a href="#">adf.carousel</a>	Identifies an ADFCarousel by its recorded ID and path.
<a href="#">adf.chart</a>	Identifies an ADFDVTChart by its recorded ID and path.
<a href="#">adf.codeEditor</a>	Identifies an ADFCodeEditor by its recorded ID and path.
<a href="#">adf.commandButton</a>	Identifies an ADFCommandButton by its recorded ID and path.
<a href="#">adf.commandImageLink</a>	Identifies an ADFCommandImageLink by its recorded ID and path.
<a href="#">adf.commandLink</a>	Identifies an ADFCommandLink by its recorded ID and path.
<a href="#">adf.commandMenuItem</a>	Identifies an ADFCommandMenuItem by its recorded ID and path.
<a href="#">adf.commandNavigationItem</a>	Identifies an ADFCommandNavigationItem by its path.
<a href="#">adf.commandToolbarButton</a>	Identifies an ADFCommandToolbarButton by its recorded ID and path.
<a href="#">adf.contextInfo</a>	Identifies an ADFContextInfo by its recorded ID and path.
<a href="#">adf.diagram</a>	Identifies an ADFDVTDiagram by its recorded ID and path.
<a href="#">adf.dialog</a>	Identifies an ADFDialog by its recorded ID and path.
<a href="#">adf.gauge</a>	Identifies an ADFDVTGauge by its path.
<a href="#">adf.goButton</a>	Identifies an ADFGoButton by its path.

**Table 16–1 (Cont.) List of ADFSERVICE Methods**

<b>Method</b>	<b>Description</b>
<a href="#">adf.goImageLink</a>	Identifies an ADFGoImageLink by its path.
<a href="#">adf.goLink</a>	Identifies an ADFGoLink by its path.
<a href="#">adf.goMenuItem</a>	Identifies an ADFGoMenuItem by its recorded ID and path.
<a href="#">adf.graph</a>	Identifies an ADFDVTGraph by its recorded ID and path.
<a href="#">adf.hierarchyViewer</a>	Identifies an ADFDVTHierarchyViewer by its recorded ID and path.
<a href="#">adf.image</a>	Identifies an ADFImage by its recorded ID and path.
<a href="#">adf.inputColor</a>	Identifies an ADFInputColor by its recorded ID and path.
<a href="#">adf.inputComboboxListOfValues</a>	Identifies an ADFInputComboboxListOfValues by its recorded ID and path.
<a href="#">adf.inputDate</a>	Identifies an ADFInputDate by its recorded ID and path.
<a href="#">adf.inputFile</a>	Identifies an ADFInputFile by its recorded ID and path.
<a href="#">adf.inputListOfValues</a>	Identifies an ADFInputListOfValues by its recorded ID and path.
<a href="#">adf.inputNumberSlider</a>	Identifies an ADFInputNumberSlider by its recorded ID and path.
<a href="#">adf.inputNumberSpinbox</a>	Identifies an ADFInputNumberSpinbox by its recorded ID and path.
<a href="#">adf.inputRangeSlider</a>	Identifies an ADFInputRangeSlider by its recorded ID and path.
<a href="#">adf.inputText</a>	Identifies an ADFInputText by its recorded ID and path.
<a href="#">adf.link</a>	Identifies an ADFLink by its recorded ID and path.
<a href="#">adf.listItem</a>	Identifies an ADFListItem by its recorded ID and path.
<a href="#">adf.listView</a>	Identifies an ADFListView by its recorded ID and path.
<a href="#">adf.menu</a>	Identifies an ADFMenu by its recorded ID and path.
<a href="#">adf.message</a>	Identifies an ADFMessage by its recorded ID and path.
<a href="#">adf.messages</a>	Identifies an ADFMessages by its recorded ID and path.
<a href="#">adf.navigationPane</a>	Identifies an ADFNavigationPane by its recorded ID and path.
<a href="#">adf.noteWindow</a>	Identifies an ADFNoteWindow by its recorded ID and path.
<a href="#">adf.outputFormatted</a>	Identifies an ADFOutputFormatted by its recorded ID and path.
<a href="#">adf.outputLabel</a>	Identifies an ADFOutputLabel by its recorded ID and path.
<a href="#">adf.outputText</a>	Identifies an ADFOutputText by its recorded ID and path.
<a href="#">adf.page</a>	Identifies an ADFPage by its recorded ID and path.
<a href="#">adf.panelAccordion</a>	Identifies an ADFPanelAccordion by its recorded ID and path.
<a href="#">adf.panelBox</a>	Identifies an ADFPanelBox by its recorded ID and path.
<a href="#">adf.panelDrawer</a>	Identifies an ADFPanelDrawer by its recorded ID and path.
<a href="#">adf.panelDrawer</a>	Identifies an ADFPanelHeader by its recorded ID and path.
<a href="#">adf.panelLabelAndMessage</a>	Identifies an ADFPanelLabelAndMessage by its recorded ID and path.
<a href="#">adf.panelList</a>	Identifies an ADFPanelList by its recorded ID and path.
<a href="#">adf.panelSplitter</a>	Identifies an ADFPanelSplitter by its recorded ID and path.

**Table 16–1 (Cont.) List of ADFService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">adf.panelSpringboard</a>	Identifies an ADFPanelSpringboard by its recorded ID and path.
<a href="#">adf.panelTabbed</a>	Identifies an ADFPanelTabbed by its recorded ID and path.
<a href="#">adf.panelWindow</a>	Identifies an ADFPanelWindow by its recorded ID and path.
<a href="#">adf.pivotTable</a>	Identifies an ADFDVTPivotTable by its path.
<a href="#">adf.progressIndicator</a>	Identifies an ADFProgressIndicator by its recorded ID and path.
<a href="#">adf.query</a>	Identifies an ADFQuery by its recorded ID and path.
<a href="#">adf.quickQuery</a>	Identifies an ADFQuickQuery by its recorded ID and path.
<a href="#">adf.region</a>	Identifies an ADFRegion by its path.
<a href="#">adf.resetButton</a>	Identifies an ADFResetButton by its recorded ID and path.
<a href="#">adf.richTextEditor</a>	Identifies an ADFRichTextEditor by its recorded ID and path.
<a href="#">adf.selectBooleanCheckbox</a>	Identifies an ADFSelectBooleanCheckbox by its recorded ID and path.
<a href="#">adf.selectBooleanRadio</a>	Identifies an ADFSelectBooleanRadio by its recorded ID and path.
<a href="#">adf.selectManyCheckbox</a>	Identifies an ADFSelectManyCheckbox by its recorded ID and path.
<a href="#">adf.selectManyChoice</a>	Identifies an ADFSelectManyChoice by its recorded ID and path.
<a href="#">adf.selectManyListbox</a>	Identifies an ADFSelectManyListbox by its recorded ID and path.
<a href="#">adf.selectManyShuttle</a>	Identifies an ADFSelectManyShuttle by its recorded ID and path.
<a href="#">adf.selectOneChoice</a>	Identifies an ADFSelectOneChoice by its recorded ID and path.
<a href="#">adf.selectOneListbox</a>	Identifies an ADFSelectOneListbox by its recorded ID and path.
<a href="#">adf.selectOneRadio</a>	Identifies an ADFSelectOneRadio by its recorded ID and path.
<a href="#">adf.selectOrderShuttle</a>	Identifies an ADFSelectOrderShuttle by its recorded ID and path.
<a href="#">adf.showDetail</a>	Identifies an ADFShowDetail by its recorded ID and path.
<a href="#">adf.showDetailHeader</a>	Identifies an ADFShowDetailHeader by its recorded ID and path.
<a href="#">adf.sunburst</a>	Identifies an ADFDVTSunburstNode by its recorded ID and path.
<a href="#">adf.table</a>	Identifies an ADFTable by its recorded ID and path.
<a href="#">adf.toolbar</a>	Identifies an ADFToolbar by its recorded ID and path.
<a href="#">adf.train</a>	Identifies an ADFTrain by its path.
<a href="#">adf.trainButtonBar</a>	Identifies an ADFTrain by its recorded ID and path.
<a href="#">adf.tree</a>	Identifies an ADFTree by its recorded ID and path.
<a href="#">adf.treeTable</a>	Identifies an ADFTreeTable by its recorded ID and path.
<a href="#">adf.waitForPageLoaded</a>	Wait for ADF page to be fully loaded.

The following sections provide detailed reference information for each method and enum in the ADFService Class of ADF Module Application Programming Interface.



---

## adf.button

Identifies an ADFButton by its recorded ID and path.

### Format

The adf.button method has the following command format(s):

```
adf.button(path);
```

```
adf.button(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFButton object specified by its recorded ID and path.

```
adf.button(22, "/web:window[@index='0' or @title='Button Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFButton[@id='dmoTpl:usewindowButton' and @text='Click here']")  
  .click();
```

## adf.calendar

Identifies an ADFCalendar by its recorded ID and path.

### Format

The adf.calendar method has the following command format(s):

```
adf.calendar(path);
```

```
adf.calendar(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCalendar object specified by its recorded ID and path.

```
adf.calendar(11, "/web:window[@index='0' or @title='Calendar Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFCalendar[@id='dmoTpl:cal']")  
  .calendarEvent("today", 9, 0, false);
```

---

## adf.carousel

Identifies an ADFCarousel by its recorded ID and path.

### Format

The adf.carousel method has the following command format(s):

```
adf.carousel(path);
```

```
adf.carousel(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a select action on an ADFCarousel object specified by its recorded ID and path.

```
adf.carousel(7, "/web:window[@index='0' or @title='carousel Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/ADFCarousel[@id='pt:carousel']")  
  .select(2);
```

## adf.chart

Identifies an ADFDVTChart by its recorded ID and path.

### Format

The adf.chart method has the following command format(s):

```
adf.chart(path);
```

```
adf.chart(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a `getAttribute` action on an ADFDVTChart object specified by its recorded ID and path.

```
adf.chart(7, "/web:window[@index='0' or @title='barGraph']" +  
  "/web:document[@index='0']" +  
  "/ADFDVTChart[@absoluteLocator='demo:chart']")  
  .getAttribute("seriesCount");
```

---

## adf.codeEditor

Identifies an ADFCodeEditor by its recorded ID and path.

### Format

The adf.codeEditor method has the following command format(s):

```
adf.codeEditor(path);
```

```
adf.codeEditor(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a setValue action on an ADFCodeEditor object specified by its recorded ID and path.

```
adf.codeEditor(7, "/web:window[@index='0' or @title='Tag Guide']" +  
  "/web:ADFCodeEditor[@id='tmpl:abcCols:cols:0:secs:2:itms:13:cmd' " +  
  "and @text='tmpl:abcCols:cols:0:secs:2:itms:13:cmd']")  
  .setValue();
```

## adf.commandButton

Identifies an ADFCommandButton by its recorded ID and path.

### Format

The adf.commandButton method has the following command format(s):

```
adf.commandButton(path);
```

```
adf.commandButton(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandButton object specified by its recorded ID and path.

```
adf.commandButton(22, "/web:window[@index='0' " +  
    "or @title='commandButton Demo']" +  
    "/web:document[@index='0' or @name='_afr_init']" +  
    "/web:ADFCommandButton[@id='dmoTpl:usewindowButton' " +  
    "and @text='Click here']")  
    .click();
```

---

## adf.commandImageLink

Identifies an ADFCommandImageLink by its recorded ID and path.

### Format

The adf.commandImageLink method has the following command format(s):

```
adf.commandImageLink(path);
```

```
adf.commandImageLink(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandImageLink object specified by its recorded ID and path.

```
adf.commandImageLink(6, "/web:window[@index='0' " +  
    "or @title='commandImageLink Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFCommandImageLink[@id='dmoTpl:cill1' and @text='dmoTpl:cill1']")  
    .click();
```

## adf.commandLink

Identifies an ADFCommandLink by its recorded ID and path.

### Format

The adf.commandLink method has the following command format(s):

```
adf.commandLink(path);
```

```
adf.commandLink(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandLink object specified by its recorded ID and path.

```
adf.commandLink(32, "/web:window[@index='0' or @title='Tag Guide']" +  
"/web:ADFCommandLink[@id='tmpl:abcCols:cols:0:secs:2:itms:13:cmd' " +  
"and @text='tmpl:abcCols:cols:0:secs:2:itms:13:cmd']")  
.click();
```



---

## adf.commandMenuItem

Identifies an ADFCommandMenuItem by its recorded ID and path.

### Format

The adf.commandMenuItem method has the following command format(s):

```
adf.commandMenuItem(path);
```

```
adf.commandMenuItem(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandMenuItem object specified by its recorded ID and path.

```
adf.commandMenuItem(45, "/web:window[@index='0' " +  
    "or @title='commandMenuItem Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFCommandMenuItem[@text='Radio 1' " +  
        "and @id='dmoTpl:commandMenuItem8']")  
.click();
```

## adf.commandNavigationItem

Identifies an ADFCommandNavigationItem by its path.

### Format

The adf.commandNavigationItem method has the following command format(s):

```
adf.commandNavigationItem(path);
```

```
adf.commandNavigationItem(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandNavigationItem object specified by its recorded ID and path.

```
import oracle.oats.scripting.modules.adf.api.elements.ADFCommandNavigationItem;
[...]
```

```
Map<String, String> attributes = adf.commandNavigationItem(7,
"/web:window[@index='0' " +
    "or @title='commandNavigationItem Demo']" +
"/web:document[@index='0']" +
"/web:ADFCommandNavigationItem[@id='dmoTpl:editorExample:commandNavigationItem1'
" +
    "and @text='Editor Item' " +
    "and @absoluteLocator='dmoTpl:editorExample:commandNavigationItem1' " +
    "and @disabled='False']")
.attributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key)
        .equals("dmoTpl:editorExample:commandNavigationItem1"))
        pass_attr++;
    if (key.equals("text") && attributes.get(key)
        .equals("Editor Item"))
        pass_attr++;
    if (key.equals("absoluteLocator") && attributes.get(key)
        .equals("dmoTpl:editorExample:commandNavigationItem1"))
        pass_attr++;
    if (key.equals("disabled") && attributes.get(key)
        .equals("False"))
        pass_attr++;
}
```

```
        info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
    }
    if (pass_attr == 4)
        info("API getAttributes() passed");
    else
        fail("API getAttributes() failed");
    }
```

## adf.commandToolBarButton

Identifies an ADFCommandToolBarButton by its recorded ID and path.

### Format

The adf.commandToolBarButton method has the following command format(s):

```
adf.commandToolBarButton(path);  
adf.commandToolBarButton(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFCommandToolBarButton object specified by its recorded ID and path.

```
adf.commandToolBarButton(57, "/web:window[@index='0' " +  
    "or @title='commandToolBarButton Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFCommandToolBarButton[@id='dmoTpl:commandToolBarButton3' " +  
    "and @text='forward']")  
.clickButton();
```

---

## adf.contextInfo

Identifies an ADFContextInfo by its recorded ID and path.

### Format

The adf.contextInfo method has the following command format(s):

```
adf.contextInfo(path);
```

```
adf.contextInfo(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFContextInfo object specified by its recorded ID and path.

```
adf.contextInfo((22, "/web:window[@index='0' " +  
    "or @title='commandButton Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFContextInfo[@id='dmoTpl:usewindowButton']")  
    .click());
```

## adf.diagram

Identifies an ADFDVTDiagram by its recorded ID and path.

### Format

The adf.diagram method has the following command format(s):

```
adf.diagram(path);
```

```
adf.diagram(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFDVTDiagram object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFDVTDiagram object specified by its recorded ID and path.

```
adf.diagram(27, "/web:window[@index='0' or @title='Dependency Graph Demo']" +  
  "/web:document[@index='0' or @name='9pgocazpp']" +  
  "/web:ADFDVTDiagram[@absoluteLocator='r5:DEPENDENCYGRAPH']")  
  .leftClick("node[19]:ecardIconLayout");
```

```
ADFDVTDiagramNode node = adf.diagram(27, "/web:window[@index='0' " +  
  "or @title='Dependency Graph Demo']" +  
  "/web:document[@index='0' or @name='9pgocazpp']" +  
  "/web:ADFDVTDiagram[@absoluteLocator='r5:DEPENDENCYGRAPH']")  
  .getNode("node[1]");  
info(node.getShortDesc());
```

```
adf.diagram(33, "/web:window[@index='0' or @title='Dependency Graph Demo']" +  
  "/web:document[@index='0' or @name='9pgocazpp']" +  
  "/web:ADFDVTDiagram[@absoluteLocator='r5:DEPENDENCYGRAPH']")  
  .rightClick("node[0]:titlePanel2");
```

## adf.dialog

Identifies an ADFDialog by its recorded ID and path.

### Format

The adf.dialog method has the following command format(s):

```
adf.dialog(path);
```

```
adf.dialog(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFDialog object specified by its recorded ID and path.

```
adf.dialog(19, "/web:window[@index='0' or @title='Calendar Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFDIALOG[@id='dmoTpl:cal:d5' and @title='Create New Activity']")  
  .closeDialog();
```

## adf.gauge

Identifies an ADFDVTGauge by its path.

### Format

The adf.gauge method has the following command format(s):

```
adf.gauge(path);
```

```
adf.gauge(reclId, path);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFDVTGauge object specified by its recorded ID and path.

```
Map<String, String> attributes =adf.gauge(7, "/web:window[@index='0' " +
    "or @title='Gauge Gallery']" +
    "/web:document[@index='0' or @name='w0']" +
    "/web:ADFDVTGauge[@absoluteLocator='demo:g3']").getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("demo:g3"))
        pass_attr++;
    if (key.equals("absoluteLocator") && attributes.get(key).equals("demo:g3"))
        pass_attr++;
    if (key.equals("indicatorValue") && attributes.get(key).equals("63.0"))
        pass_attr++;
}
if (pass_attr == 3)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```



---

## adf.goButton

Identifies an ADFGoButton by its path.

### Format

The adf.goButton method has the following command format(s):

```
adf.goButton(path);
```

```
adf.goButton(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a click action on an ADFGoButton object specified by its recorded ID and path.

```
adf.goButton(7, "/web:window[@index='0' or @title='goButton Demo']" +  
  "/web:document[@index='0' or @name='_afr_init']" +  
  "web:ADFGoButton[@absoluteLocator='dmoTpl:btn1' or @text='A link to  
example.com']")  
  .click();
```

## adf.goImageLink

Identifies an ADFGoImageLink by its path.

### Format

The adf.goImageLink method has the following command format(s):

```
adf.goImageLink(path);
```

```
adf.goImageLink(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a click action on an ADFGoImageLink object specified by its recorded ID and path.

```
adf.goImageLink(7, "/web:window[@index='0' or @title='outputText Demo']" +  
  "/web:document[@index='0' or @name='_afr_init']" +  
  "/web:ADFGoImageLink[@absoluteLocator='dmoTpl:gill' or @text='A link to  
example.com']")  
  .click();
```

---

## adf.goLink

Identifies an ADFGoLink by its path.

### Format

The adf.goLink method has the following command format(s):

```
adf.goLink(path);
```

```
adf.goLink(reclId, path);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a click action on an ADFGoLink object specified by its recorded ID and path.

```
adf.goLink(7, "/web:window[@index='0' or @title='goLink Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "web:ADFGoLink[@absoluteLocator='dmoTpl:g11' or @text='A link to example.com']")  
  .click();
```

## adf.goMenuItem

Identifies an ADFGoMenuItem by its recorded ID and path.

### Format

The adf.goMenuItem method has the following command format(s):

```
adf.goMenuItem(path);
```

```
adf.goMenuItem(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFGoMenuItem object specified by its recorded ID and path.

```
adf.goMenuItem(157, "/web:window[@index='0' or @title='goMenuItem Demo']" +  
"/web:document[@index='0' or @name='_afr_init']" +  
"/web:ADFGoMenuItem[@id='dmoTpl:gmi7' and @text='shortDesc']")  
.click();
```

---

## adf.graph

Identifies an ADFDVTGraph by its recorded ID and path.

### Format

The adf.graph method has the following command format(s):

```
adf.graph(path);
```

```
adf.graph(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Get seriesCount attribute from an ADFDVTGraph object specified by its path.

```
adf.graph(7, "/web:window[@index='0' or @title='barGraph']" +  
  "/web:document[@index='0']" +  
  "/ADFDVTGraph[@absoluteLocator='demo:barGraph']")  
  .getAttribute("seriesCount");
```

## adf.hierarchyViewer

Identifies an ADFDVTHierarchyViewer by its recorded ID and path.

### Format

The adf.hierarchyViewer method has the following command format(s):

```
adf.hierarchyViewer(path);
```

```
adf.hierarchyViewer(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFDVTHierarchyViewer object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Defines an ADFDVTHierarchyViewer object specified by its recorded ID and path.

```
ADFDVTHierarchyViewer hv = adf.hierarchyViewer(6, "/web:window[@index='0' " +  
    "or @title='pivotTable']" +  
    "/web:document[@index='0' or @name='n6ceri8cu']" +  
    "/web:ADFDVTHierarchyViewer[@absoluteLocator='demo:hv1']");
```

---

## adf.image

Identifies an ADFImage by its recorded ID and path.

### Format

The adf.image method has the following command format(s):

```
adf.image(path);
```

```
adf.image(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFImage object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Defines an ADFImage object specified by its recorded ID and path.

```
ADFImage img = adf.image(0, "/web:window[@index='0' " +  
    "or @title='image']" +  
    "/web:document[@index='0' or @name='n6ceri8cu']" +  
    "/web:ADFImage[@id='demo:t1' or @absoluteLocator='demo:t1']");  
info(img.getImagePath());
```

## adf.inputColor

Identifies an ADFInputColor by its recorded ID and path.

### Format

The adf.inputColor method has the following command format(s):

```
adf.inputColor(path);
```

```
adf.inputColor(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputColor object specified by its recorded ID and path.

```
adf.inputColor(7, "/web:window[@index='0' or @title='InputColor Demo']" +  
"/web:document[@index='0' or @name='_afr_init']" +  
"/web:ADFInputColor[@id='dmoTpl:iColor' and @label='Select a color']")  
.setValue("FFFFFF");
```



---

## adf.inputComboboxListOfValues

Identifies an ADFInputComboboxListOfValues by its recorded ID and path.

### Format

The adf.inputComboboxListOfValues method has the following command format(s):

```
adf.inputComboboxListOfValues(path);
```

```
adf.inputComboboxListOfValues(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputComboboxListOfValues object specified by its recorded ID and path.

```
adf.inputComboboxListOfValues(7, "/web:window[@index='0' " +  
    "or @title='inputComboboxListOfValues Demo']" +  
    "/web:document[@index='0' or @name='_afr_init']" +  
    "/web:ADFInputComboboxListOfValues[" +  
        @id='dmoTpl:idInputComboboxListOfValues' " +  
        "and @label='Ename']")  
.showDropDown();
```

## adf.inputDate

Identifies an ADFInputDate by its recorded ID and path.

### Format

The adf.inputDate method has the following command format(s):

```
adf.inputDate(path);
```

```
adf.inputDate(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputDate object specified by its recorded ID and path.

```
adf.inputDate(9, "/web:window[@index='0' or @title='inputDate Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFInputDate[@id='dmoTpl:iDate' " +  
    "and @label='Select a date: ']" )  
  .setValue("12/12/2010");
```

## adf.inputFile

Identifies an ADFInputFile by its recorded ID and path.

### Format

The adf.inputFile method has the following command format(s):

```
adf.inputFile(path);
adf.inputFile(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputFile object specified by its recorded ID and path.

```
import java.util.Map;
[...]
Map<String, String> attributes = adf.inputFile(7, "/web:window[@index='0' " +
    "or @title='inputFile Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFInputFile[@id='dmoTpl:testid' " +
    "and @label='File Upload']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:testid"))
        pass_attr++;
    if (key.equals("value") && attributes.get(key).equals(""))
        pass_attr++;
    if (key.equals("label") && attributes.get(key).equals("File Upload"))
        pass_attr++;
    if (key.equals("required") && attributes.get(key).equals("False"))
        pass_attr++;
    //info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 4)
    info("API getAttributes() passed");
else {
    info(pass_attr + " attributes passed");
    fail("API getAttributes() failed");
}
```

## adf.inputListOfValues

Identifies an ADFInputListOfValues by its recorded ID and path.

### Format

The adf.inputListOfValues method has the following command format(s):

```
adf.inputListOfValues(path);
```

```
adf.inputListOfValues(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputListOfValues object specified by its recorded ID and path.

```
adf.inputListOfValues(7, "/web:window[@index='0' " +  
    "or @title='inputListOfValues Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFInputListOfValues[@id='dmoTpl:idInputText' " +  
    "and @label='Ename']")  
    .setValue("test", "Click");
```

---

## adf.inputNumberSlider

Identifies an ADFInputNumberSlider by its recorded ID and path.

### Format

The adf.inputNumberSlider method has the following command format(s):

```
adf.inputNumberSlider(path);  
adf.inputNumberSlider(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputNumberSlider object specified by its recorded ID and path.

```
adf.inputNumberSlider(89, "/web:window[@index='0' " +  
    "or @title='inputNumberSlider Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFInputNumberSlider[@id='dmoTpl:slider12' " +  
    "and @label='Vertical Slider']")  
    .setValue("300");
```

## adf.inputNumberSpinbox

Identifies an ADFInputNumberSpinbox by its recorded ID and path.

### Format

The adf.inputNumberSpinbox method has the following command format(s):

```
adf.inputNumberSpinbox(path);
```

```
adf.inputNumberSpinbox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputNumberSpinbox object specified by its recorded ID and path.

```
adf.inputNumberSpinbox(7, "/web:window[@index='0' " +  
    "or @title='InputNumberSpinbox Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFInputNumberSpinbox[@id='dmoTpl:idInputNumberSpinbox' " +  
    "and @label='Label']")  
    .setValue("2011");
```

---

## adf.inputRangeSlider

Identifies an ADFInputRangeSlider by its recorded ID and path.

### Format

The adf.inputRangeSlider method has the following command format(s):

```
adf.inputRangeSlider(path);  
adf.inputRangeSlider(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputRangeSlider object specified by its recorded ID and path.

```
adf.inputRangeSlider(113, "/web:window[@index='0' " +  
    "or @title='inputRangeSlider Demo']" +  
    "/web:document[@index='0' or @name='_afr_init']" +  
    "/web:ADFInputRangeSlider[@id='dmoTpl:rangeSlider1' " +  
    "and @label='Horizontal Slider']")  
    .setRange("0", "6");
```

## adf.inputText

Identifies an ADFInputText by its recorded ID and path.

### Format

The adf.inputText method has the following command format(s):

```
adf.inputText(path);
```

```
adf.inputText(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFInputText object specified by its recorded ID and path.

```
adf.inputText(68, "/web:window[@index='0' or @title='dialog Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFInputText[@id='dmoTpl:it1' and @label='* Required']")  
  .setValue("1");
```



---

## adf.link

Identifies an ADFLink by its recorded ID and path.

### Format

The adf.link method has the following command format(s):

```
adf.link(path);
```

```
adf.link(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFLink object specified by its recorded ID and path.

```
adf.link(32, "/web:window[@index='0' or @title='Tag Guide']" +  
  "/web:ADFLink[@id='tmpl:abcCols:cols:0:secs:2:itms:13:cmd' " +  
  "and @text='tmpl:abcCols:cols:0:secs:2:itms:13:cmd']")  
  .click();
```

## adf.listItem

Identifies an ADFListItem by its recorded ID and path.

### Format

The adf.listItem method has the following command format(s):

```
adf.listItem(path);  
adf.listItem(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFListItem object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Gets the attributes of an ADFListItem object specified by its recorded ID and path.

```
import java.util.Map;  
[...]  
Map<String, String> attributes = adf.listItem(0, "/web:window[@index='0' " +  
    "or @title='listItem']" +  
    "/web:document[@index='0' or @name='n6ceri8cu']" +  
    "/web:ADFLListItem[@id='demo:t1' or @absoluteLocator='demo:t1']")  
    .getAttributes();  
int pass_attr = 0;  
for (String key : attributes.keySet()) {  
    if (key.equals("id") && attributes.get(key)  
        .equals("demo:t1"))  
        pass_attr++;  
    if (key.equals("absoluteLocator") && attributes.get(key)  
        .equals("demo:t1"))  
        pass_attr++;  
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));  
}  
if (pass_attr == 2)  
    info("API getAttributes() passed");  
else  
    fail("API getAttributes() failed");
```

---

## adf.listView

Identifies an ADFListView by its recorded ID and path.

### Format

The adf.listView method has the following command format(s):

```
adf.listView(path);
```

```
adf.listView(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFListView object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Defines an ADFListView object specified by its recorded ID and path.

```
ADFListView view = adf.listView(0, "/web:window[@index='0' " +  
    "or @title='listView']" +  
    "/web:document[@index='0' or @name='n6ceri8cu']" +  
    "/web:ADFListView[@id='demo:t1' or @absoluteLocator='demo:t1']");  
int count = view.getItemCount();  
info("item count = " + count);
```

## adf.menu

Identifies an ADFMenu by its recorded ID and path.

### Format

The adf.menu method has the following command format(s):

```
adf.menu(path);
```

```
adf.menu(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFMenu object specified by its recorded ID and path.

```
adf.menu(44, "/web:window[@index='0' or @title='commandMenuItem Demo']" +  
  "/web:document[@index='0' or @name='_afr_init']" +  
  "/web:ADFMenu[@id='dmoTpl:m1' and @text='File']")  
  .clickShow();
```

## adf.message

Identifies an ADFMessage by its recorded ID and path.

### Format

The adf.message method has the following command format(s):

```
adf.message(path);
adf.message(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFMessage object specified by its recorded ID and path.

```
import java.util.Map;
[...]
Map<String, String> attributes = adf.message(7, "/web:window[@index='0' " +
    "or @title='message Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFMessage[@id='dmoTpl:message1']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:message1"))
        pass_attr++;
    if (key.equals("message") && attributes.get(key).equals(""))
        pass_attr++;
    if (key.equals("shortDesc") && attributes.get(key).equals(""))
        pass_attr++;
    if (key.equals("messageType") && attributes.get(key).equals("none"))
        pass_attr++;
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 4)
    info("API getAttributes() passed");
else {
    fail("API getAttributes() failed");
}
```

## adf.messages

Identifies an ADFMessages by its recorded ID and path.

### Format

The adf.messages method has the following command format(s):

```
adf.messages(path);
```

```
adf.messages(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFMessages object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.messages(7, "/web:window[@index='0' " +
    "or @title='messages Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFMessages[@id='dmoTpl:messages1']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key)
        .equals("dmoTpl:messages1"))
        pass_attr++;
    if (key.equals("message") && attributes.get(key)
        .equals("Please read this carefully:"))
        pass_attr++;
    if (key.equals("shortDesc") && attributes.get(key)
        .equals("Sample shortDesc text"))
        pass_attr++;
    if (key.equals("rendererType") && attributes.get(key)
        .equals("oracle.adf.rich.Messages"))
        pass_attr++;
}
if (pass_attr == 4)
    info("API getAttributes() passed");
else {
    fail("API getAttributes() failed");
}
```

---

## adf.navigationPane

Identifies an ADFNavigationPane by its recorded ID and path.

### Format

The adf.navigationPane method has the following command format(s):

```
adf.navigationPane(path);  
adf.navigationPane(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFNavigationPane object specified by its recorded ID and path.

```
adf.navigationPane(152, "/web:window[@index='0' " +  
    "or @title='navigationPane Demo']" +  
    "/web:document[@index='0' or @name='_afr_init']" +  
    "/web:ADINavigationPane[@id='dmoTpl:barExample']")  
    .select("Bar Item 1", "xdc xh5");
```

## adf.noteWindow

Identifies an ADFNoteWindow by its recorded ID and path.

### Format

The adf.noteWindow method has the following command format(s):

```
adf.noteWindow(path);
```

```
adf.noteWindow(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFNoteWindow object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.noteWindow(
    7, "/web:window[@index='0' " +
        "or @title='noteWindow Demo']" +
        "/web:document[@index='0' or @name='_afr_init_']" +
        "/web:ADFNoteWindow[@id='dmoTpl:nw1']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:nw1"))
        pass_attr++;
    if (key.equals("content") && !attributes.get(key).equals(""))
        pass_attr++;
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 2)
    info("API getAttributes() passed");
else {
    info(pass_attr + " attributes passed");
    fail("API getAttributes() failed");
}
```



## adf.outputFormatted

Identifies an ADFOutputFormatted by its recorded ID and path.

### Format

The adf.outputFormatted method has the following command format(s):

```
adf.outputFormatted(path);
adf.outputFormatted(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFOutputFormatted object specified by its path.

```
import java.util.Map;
[...]
Map<String, String> attributes = adf.outputFormatted("/web:window[@index='0' " +
    "or @title='outputFormatted Demo']" +
    "/web:document[@index='0' or @name='w0']" +
    "/web:ADFOutputFormatted[@id='dmoTpl:of3']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:of3"))
        pass_attr++;
    if (key.equals("displayText") && attributes.get(key).equals("This should be
red"))
        pass_attr++;
    if (key.equals("value") && attributes.get(key)
        .equals("<SPAN style=\"COLOR: red\">This should be red</SPAN>"))
        pass_attr++;
    if (key.equals("absoluteLocator") && attributes.get(key).equals("dmoTpl:of3"))
        pass_attr++;
}
if (pass_attr == 4)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```

## adf.outputLabel

Identifies an ADFOutputLabel by its recorded ID and path.

### Format

The adf.outputLabel method has the following command format(s):

```
adf.outputLabel(path);
```

```
adf.outputLabel(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFOutputLabel object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.outputLabel(7, "/web:window[@index='0' " +
    "or @title='outputLabel Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFOutputLabel[@id='dmoTpl:_OutputLabel']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:_OutputLabel"))
        pass_attr++;
    if (key.equals("value") && attributes.get(key).equals("Test Output Label"))
        pass_attr++;
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 2)
    info("API getAttributes() passed");
else {
    fail("API getAttributes() failed");
}
```

---

## adf.outputText

Identifies an ADFOutputText by its recorded ID and path.

### Format

The adf.outputText method has the following command format(s):

```
adf.outputText(path);  
adf.outputText(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Get value attribute from an ADFOutputText object specified by its recorded ID and path.

```
String value = adf.outputText(7, "/web:window[@index='0' " +  
    " or @title='outputText Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFOutputText[@id='dmoTpl:ot1']")  
    .getAttribute("value");  
info("value = " + value);
```

## adf.page

Identifies an ADFPage by its recorded ID and path.

### Format

The adf.page method has the following command format(s):

```
adf.page(path);
```

```
adf.page(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPage object specified by its recorded ID and path.

```
adf.page(5, "/web:window[@index='0' or @title='Shop Fusion Order Demo']" +  
"/web:document[@index='0' or @name='_afr_init_']" +  
"/web:ADFPAGE[@title='Shop Fusion Order Demo']")  
.waitForPage(10000);
```

---

## adf.panelAccordion

Identifies an ADFPanelAccordion by its recorded ID and path.

### Format

The adf.panelAccordion method has the following command format(s):

```
adf.panelAccordion(path);  
adf.panelAccordion(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelAccordion object specified by its recorded ID and path.

```
adf.panelAccordion(8, "/web:window[@index='0' " +  
    "or @title='panelAccordion Demo']/" +  
    "web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFPanelsAccordion[@id='dmoTpl:sampleAccordion']")  
    .expand("dmoTpl:doubleFlexPane");
```

## adf.panelBox

Identifies an ADFPanelBox by its recorded ID and path.

### Format

The adf.panelBox method has the following command format(s):

```
adf.panelBox(path);
```

```
adf.panelBox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelBox object specified by its recorded ID and path.

```
adf.panelBox(8, "/web:window[@index='0' or @title='panelBox Demo']" +  
  "/web:document[@index='0' or @name='_afr_init']" +  
  "/web:ADFPanels[@id='dmoTpl:panelBoxB3' " +  
    "and @text='Highlight Light']")  
  .expand();
```

## adf.panelDrawer

Identifies an ADFPanelHeader by its recorded ID and path.

### Format

The adf.panelDrawer method has the following command format(s):

```
adf.panelDrawer(path);
adf.panelDrawer(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelDrawer object specified by its recorded ID and path.

```
import java.util.Map;
[...]
Map<String, String> attributes = adf.panelDrawer(7, "/web:window[@index='0' " +
    "or @title='panelHeader Demo']" +
    "/web:document[@index='0' or @name='w0']" +
    "/web:ADFPanHeader[@id='dmoTpl:panelHeader' " +
    "and @text='Automatic Header' " +
    "and @absoluteLocator='dmoTpl:panelDrawer']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:panelDrawer"))
        pass_attr++;
    if (key.equals("absoluteLocator") &&
        attributes.get(key).equals("dmoTpl:panelDrawer"))
        pass_attr++;
}
if (pass_attr == 2)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```

## adf.panelHeader

Identifies an ADFPanelHeader by its recorded ID and path.

### Format

The adf.panelHeader method has the following command format(s):

```
adf.panelHeader(path);
```

```
adf.panelHeader(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelHeader object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.panelHeader(7, "/web:window[@index='0' " +
    "or @title='panelHeader Demo']" +
    "/web:document[@index='0' or @name='w0']" +
    "/web:ADFPanHeader[@id='dmoTpl:panelHeader' " +
    "and @text='Automatic Header' " +
    "and @absoluteLocator='dmoTpl:panelHeader']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:panelHeader"))
        pass_attr++;
    if (key.equals("text") && attributes.get(key).equals("Automatic Header"))
        pass_attr++;
    if (key.equals("absoluteLocator") &&
        attributes.get(key).equals("dmoTpl:panelDrawer"))
        pass_attr++;
}
if (pass_attr == 3)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```



## adf.panelLabelAndMessage

Identifies an ADFPanelLabelAndMessage by its recorded ID and path.

### Format

The adf.panelLabelAndMessage method has the following command format(s):

```
adf.panelLabelAndMessage(path);
adf.panelLabelAndMessage(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelLabelAndMessage object specified by its recorded ID and path.

```
import oracle.oats.scripting.modules.adf.api.elements.ADFPanelLabelAndMessage;
import java.util.Map;
[...]
Map<String, String> attributes = adf.panelLabelAndMessage(7,
"/web:window[@index='0' " +
    "or @title='panelLabelAndMessage Demo']" +
"/web:document[@index='0' or @name='w0']" +
"/web:ADFPanLabelAndMessage[@id='dmoTpl:panelLabelAndMessage' " +
    "and @absoluteLocator='dmoTpl:panelLabelAndMessage' and @label='Label']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") &&
attributes.get(key).equals("dmoTpl:panelLabelAndMessage"))
        pass_attr++;
    if (key.equals("label") && attributes.get(key).equals("Label"))
        pass_attr++;
    if (key.equals("absoluteLocator") && attributes.get(key)
        .equals("dmoTpl:panelLabelAndMessage"))
        pass_attr++;
}
if (pass_attr == 3)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```

## adf.panelList

Identifies an ADFPanelList by its recorded ID and path.

### Format

The adf.panelList method has the following command format(s):

```
adf.panelList(path);
```

```
adf.panelList(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelList object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.panelList(8, "/web:window[@index='0' " +
    "or @title='panelList Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFPanellist[@id='dmoTpl:panelList']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("dmoTpl:panelList"))
        pass_attr++;
    if (key.equals("maxColumns") && attributes.get(key).equals("3"))
        pass_attr++;
    if (key.equals("rows") && attributes.get(key).equals("2147483647"))
        pass_attr++;
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 3)
    info("API getAttributes() passed");
else {
    fail("API getAttributes() failed");
}
```

---

## adf.panelSplitter

Identifies an ADFPanelSplitter by its recorded ID and path.

### Format

The adf.panelSplitter method has the following command format(s):

```
adf.panelSplitter(path);
```

```
adf.panelSplitter(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelSplitter object specified by its recorded ID and path.

```
adf.panelSplitter(6, "/web:window[@index='0' " +  
    "or @title='panelSplitter Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFPanelsplitter[@id='dmoTpl:outerSplitter']")  
    .collapse();
```

## adf.panelSpringboard

Identifies an ADFPanelSpringboard by its recorded ID and path.

### Format

The adf.panelSpringboard method has the following command format(s):

```
adf.panelSpringboard(path);  
adf.panelSpringboard(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFPanelSpringboard object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Defines an ADFPanelSpringboard object specified by its recorded ID and path.

```
ADFPanelspringboard springboard = adf.panelSpringboard(6, +  
    "/web:window[@index='0' or @title='panelSpringboard']" +  
    "/web:document[@index='0' or @name='n6ceri8cu']" +  
    "/web:ADFPanelspringboard[@absoluteLocator='demo:ps1']");  
String itemName = springboard.getSelectedItemName();  
info("itemName = " + itemName);
```

---

## adf.panelTabbed

Identifies an ADFPanelTabbed by its recorded ID and path.

### Format

The adf.panelTabbed method has the following command format(s):

```
adf.panelTabbed(path);
```

```
adf.panelTabbed(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelTabbed object specified by its recorded ID and path.

```
adf.panelTabbed(8, "/web:window[@index='0' or @title='panelTabbed Demo']" +  
  "/web:document[@index='0' or @name='_afr_init']" +  
  "/web:ADFPanelsTabbed[@id='dmoTpl:ShowOneTab']")  
  .selectTab("");
```

## adf.panelWindow

Identifies an ADFPanelWindow by its recorded ID and path.

### Format

The `adf.panelWindow` method has the following command format(s):

```
adf.panelWindow(path);
```

```
adf.panelWindow(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFPanelWindow object specified by its recorded ID and path.

```
adf.commandButton(7, "/web:window[@index='0' or @title='panelWindow Demo']" +  
  "/web:document[@index='0']" +  
  "/web:ADFCommandButton[@id='dmoTpl:commandButton' " +  
    "and @text='Show Window']")  
.click();  
adf.panelWindow(8, "/web:window[@index='0' or @title='panelWindow Demo']" +  
  "/web:document[@index='0']" +  
  "/web:ADFPanelsWindow[@id='dmoTpl:panelWindow1' " +  
    "and @title='Test Window']")  
.clickCloseIcon();
```

## adf.pivotTable

Identifies an ADFDVTPivotTable by its path.

### Format

The adf.pivotTable method has the following command format(s):

```
adf.pivotTable(path);
adf.pivotTable(recId, path);
```

### Command Parameters

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

#### **path**

a String specifying the object path.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFDVTPivotTable object specified by its recorded ID and path.

```
Map<String, String> attributes =adf.pivotTable(7, "/web:window[@index='0' " +
    "or @title='PivotTable']" +
    "/web:document[@index='0' or @name='w0']" +
    "/web:ADFDVTPivotTable[@id='demo:pt1' and @absoluteLocator='demo:pt1']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key).equals("demo:pt1"))
        pass_attr++;
    if (key.equals("absoluteLocator") && attributes.get(key).equals("demo:pt1"))
        pass_attr++;
}
if (pass_attr == 2)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
}
```

## adf.progressIndicator

Identifies an ADFProgressIndicator by its recorded ID and path.

### Format

The adf.progressIndicator method has the following command format(s):

```
adf.progressIndicator(path);
```

```
adf.progressIndicator(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFProgressIndicator object specified by its recorded ID and path.

```
import java.util.Map;
[...]
```

```
Map<String, String> attributes = adf.progressIndicator(
    7, "/web:window[@index='0' or @title='progressIndicator Demo']" +
    "/web:document[@index='0' or @name='_afr_init_']" +
    "/web:ADFPProgressIndicator[@id='dmoTpl:progressIndicator']")
    .getAttributes();
int pass_attr = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key)
        .equals("dmoTpl:progressIndicator"))
        pass_attr++;
    if (key.equals("value") && attributes.get(key).equals("0%"))
        pass_attr++;
    // info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr == 2)
    info("API getAttributes() passed");
else {
    info(pass_attr + " attributes passed");
    fail("API getAttributes() failed");
}
```



---

## adf.query

Identifies an ADFQuery by its recorded ID and path.

### Format

The adf.query method has the following command format(s):

```
adf.query(path);
```

```
adf.query(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFQuery object specified by its recorded ID and path.

```
adf.query(11, "/web:window[@index='0' or @title='query Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFQuery[@id='dmoTpl:highSalariedClerksQueryId' " +  
    "and @headerText='Search']")  
  .clickButton("Search");
```

## adf.quickQuery

Identifies an ADFQuickQuery by its recorded ID and path.

### Format

The adf.quickQuery method has the following command format(s):

```
adf.quickQuery(path);
```

```
adf.quickQuery(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFQuickQuery object specified by its recorded ID and path.

```
adf.quickQuery(8, "/web:window[@index='0' or @title='quickQuery Demo']" +  
"/web:document[@index='0' or @name='_afr_init']" +  
"/web:ADFQuickQuery[@id='dmoTpl:search' and @label='Search']")  
.click();
```

---

## adf.region

Identifies an ADFRegion by its path.

### Format

The adf.region method has the following command format(s):

```
adf.region(path);
```

```
adf.region(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs a select action on an ADFRegion object specified by its recorded ID and path.

```
adf.region(7, "/web:window[@index='0' or @title='region Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/ADFRegion[@id='dmoTpl:r1']")  
  .expand;
```

## adf.resetButton

Identifies an ADFResetButton by its recorded ID and path.

### Format

The adf.resetButton method has the following command format(s):

```
adf.resetButton(path);
```

```
adf.resetButton(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFResetButton object specified by its recorded ID and path.

```
adf.resetButton(351, "/web:window[@index='0' or @title='resetButton Demo']" +  
"/web:document[@index='0' or @name='_afr_init_']" +  
"/web:ADFResetButton[@id='dmoTpl:idResetButton' " +  
"and @text='Rich ResetButton']")  
.click();
```

---

## adf.richTextEditor

Identifies an ADFRichTextEditor by its recorded ID and path.

### Format

The adf.richTextEditor method has the following command format(s):

```
adf.richTextEditor(path);
```

```
adf.richTextEditor(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFRichTextEditor object specified by its recorded ID and path.

```
adf.richTextEditor(35, "/web:window[@index='0' " +  
    "or @title='richTextEditor Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFRichTextEditor[@id='dmoTpl:idRichTextEditor' " +  
    "and @label='Rich text value']")  
    .setValue("<P dir=ltr style=\"MARGIN-RIGHT: 0px\">Hello World</P>\r\n");
```

## adf.selectBooleanCheckbox

Identifies an ADFSelectBooleanCheckbox by its recorded ID and path.

### Format

The adf.selectBooleanCheckbox method has the following command format(s):

```
adf.selectBooleanCheckbox(path);
```

```
adf.selectBooleanCheckbox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectBooleanCheckbox object specified by its recorded ID and path.

```
adf.selectBooleanCheckbox(47, "/web:window[@index='0' " +  
    "or @title='selectBooleanCheckbox Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectBooleanCheckbox[@id='dmoTpl:idSBC2' " +  
    "and @label='Extra Keys']")  
.select();
```

---

## adf.selectBooleanRadio

Identifies an ADFSelectBooleanRadio by its recorded ID and path.

### Format

The adf.selectBooleanRadio method has the following command format(s):

```
adf.selectBooleanRadio(path);
```

```
adf.selectBooleanRadio(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectBooleanRadio object specified by its recorded ID and path.

```
adf.selectBooleanRadio(8, "/web:window[@index='0' " +  
    "or @title='selectBooleanRadio Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectBooleanRadio[@id='dmoTpl:radio1' " +  
    "and @label='Age']")  
.select("10-18");
```

## adf.selectManyCheckbox

Identifies an ADFSelectManyCheckbox by its recorded ID and path.

### Format

The adf.selectManyCheckbox method has the following command format(s):

```
adf.selectManyCheckbox(path);
```

```
adf.selectManyCheckbox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectManyCheckbox object specified by its recorded ID and path.

```
adf.selectManyCheckbox(8, "/web:window[@index='0' " +  
    "or @title='selectManyCheckbox Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectManyCheckbox[@id='dmoTpl:targetListbox' " +  
    "and @label='Drinks']")  
.select("milk", "4");
```



---

## adf.selectManyChoice

Identifies an ADFSelectManyChoice by its recorded ID and path.

### Format

The adf.selectManyChoice method has the following command format(s):

```
adf.selectManyChoice(path);
```

```
adf.selectManyChoice(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectManyChoice object specified by its recorded ID and path.

```
adf.selectManyChoice(7, "/web:window[@index='0' " +  
    "or @title='selectManyChoice Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectManyChoice[@id='dmoTpl:targetChoice' " +  
    "and @label='Drinks']")  
.select("coffee");
```

## adf.selectManyListbox

Identifies an ADFSelectManyListbox by its recorded ID and path.

### Format

The adf.selectManyListbox method has the following command format(s):

```
adf.selectManyListbox(path);
```

```
adf.selectManyListbox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectManyListbox object specified by its recorded ID and path.

```
adf.selectManyListbox(8, "/web:window[@index='0' " +  
    "or @title='selectManyListbox Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectManyListbox[@id='dmoTpl:targetListbox' " +  
    "and @label='Drinks']")  
.select("tea;green", "1");
```

---

## adf.selectManyShuttle

Identifies an ADFSelectManyShuttle by its recorded ID and path.

### Format

The adf.selectManyShuttle method has the following command format(s):

```
adf.selectManyShuttle(path);
```

```
adf.selectManyShuttle(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectManyShuttle object specified by its recorded ID and path.

```
adf.selectManyShuttle(18, "/web:window[@index='0' " +  
    "or @title='selectManyShuttle Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectManyShuttle[@id='dmoTpl:manyShuttle' " +  
    "and @label='Drinks']")  
    .move();
```

## adf.selectOneChoice

Identifies an ADFSelectOneChoice by its recorded ID and path.

### Format

The adf.selectOneChoice method has the following command format(s):

```
adf.selectOneChoice(path);
```

```
adf.selectOneChoice(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectOneChoice object specified by its recorded ID and path.

```
adf.selectOneChoice(127, "/web:window[@index='0' " +  
    "or @title='selectOneChoice Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectOneChoice[@id='dmoTpl:targetChoice' " +  
    "and @label='Drink']")  
.select("coffee");
```

---

## adf.selectOneListbox

Identifies an ADFSelectOneListbox by its recorded ID and path.

### Format

The adf.selectOneListbox method has the following command format(s):

```
adf.selectOneListbox(path);  
adf.selectOneListbox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectOneListbox object specified by its recorded ID and path.

```
adf.selectOneListbox(7, "/web:window[@index='0' " +  
    "or @title='selectOneListbox Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectOneListbox[@id='dmoTpl:targetListbox' " +  
    "and @label='Drinks']")  
.select("tea;green");
```

## adf.selectOneRadio

Identifies an ADFSelectOneRadio by its recorded ID and path.

### Format

The adf.selectOneRadio method has the following command format(s):

```
adf.selectOneRadio(path);
```

```
adf.selectOneRadio(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectOneRadio object specified by its recorded ID and path.

```
adf.selectOneRadio(7, "/web:window[@index='0' " +  
    "or @title='selectOneRadio Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectOneRadio[@id='dmoTpl:targetRadio' " +  
    "and @label='Drinks']")  
    .select("lemonade");
```

---

## adf.selectOrderShuttle

Identifies an ADFSelectOrderShuttle by its recorded ID and path.

### Format

The adf.selectOrderShuttle method has the following command format(s):

```
adf.selectOrderShuttle(path);  
adf.selectOrderShuttle(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFSelectOrderShuttle object specified by its recorded ID and path.

```
adf.selectOrderShuttle(11, "/web:window[@index='0' " +  
    "or @title='selectOrderShuttle Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFSelectOrderShuttle[@id='dmoTpl:manyShuttle' " +  
    "and @label='Drinks']")  
.moveUp();
```

## adf.showDetail

Identifies an ADFShowDetail by its recorded ID and path.

### Format

The adf.showDetail method has the following command format(s):

```
adf.showDetail(path);
```

```
adf.showDetail(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFShowDetail object specified by its recorded ID and path.

```
adf.showDetail(7, "/web:window[@index='0' " +  
    "or @title='showDetail Demo']" +  
    "/web:document[@index='0' or @name='_afr_init']" +  
    "/web:ADFShowDetail[@id='dmoTpl:showDetail']")  
    .expand();
```



---

## adf.showDetailHeader

Identifies an ADFShowDetailHeader by its recorded ID and path.

### Format

The adf.showDetailHeader method has the following command format(s):

```
adf.showDetailHeader(path);
```

```
adf.showDetailHeader(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFShowDetailHeader object specified by its recorded ID and path.

```
adf.showDetailHeader(7, "/web:window[@index='0' " +  
    "or @title='showDetailHeader Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFShowDetailHeader[@id='dmoTpl:showDetailHeader' " +  
    "and @text='Automatic Header']")  
.expand();
```

## adf.sunburst

Identifies an ADFDVTSunburst by its recorded ID and path.

### Format

The adf.sunburst method has the following command format(s):

```
adf.sunburst(path);
```

```
adf.sunburst(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Returns

an ADFDVTSunburst object.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Gets the attributes of an ADFDVTSunburst object specified by its recorded ID and path.

```
Map<String, String> attributes1 = adf.sunburst (11,
    "/web:window[@index='0' or @title='sunburst']" +
    "/web:document[@index='0' or @name='wp410']" +
    "/web:ADFDVTSunburst[@id='demo:sunburst1' " +
    "and @absoluteLocator='demo:sunburst1']")
    .getAttributes();
int pass_attr1 = 0;
for (String key : attributes.keySet()) {
    if (key.equals("id") && attributes.get(key)
        .equals("demo:sunburst1"))
        pass_attr1++;
    if (key.equals("absoluteLocator") && attributes.get(key)
        .equals("demo:sunburst1"))
        pass_attr1++;
    info("Attribute: " + key + " ; " + "Value: " + attributes.get(key));
}
if (pass_attr1 == 2)
    info("API getAttributes() passed");
else
    warn("API getAttributes() failed");
```

---

## adf.table

Identifies an ADFTable by its recorded ID and path.

### Format

The adf.table method has the following command format(s):

```
adf.table(path);
```

```
adf.table(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFTable object specified by its recorded ID and path.

```
String getCell = adf.table(11, "/web:window[@index='0' " +  
    "or @title='table Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFTable[@id='dmoTp1:table']")  
    .getCell(1, 1);  
info("Cell Value = " + getCell);
```

## adf.toolbar

Identifies an ADFToolbar by its recorded ID and path.

### Format

The adf.toolbar method has the following command format(s):

```
adf.toolbar(path);
```

```
adf.toolbar(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFToolbar object specified by its recorded ID and path.

```
adf.toolbar(7, "/web:window[@index='0' " +  
    "or @title='toolbar Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFToolbar[@id='dmoTpl:toolbar2']")  
    .expand();
```

---

## adf.train

Identifies an ADFTrain by its path.

### Format

The adf.train method has the following command format(s):

```
adf.train(path);
```

```
adf.train(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFTrain object specified by its recorded ID and path.

```
adf.train(7, "/web:window[@index='0' or @title='train Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFTrain[@id='dmoTpl:train']")  
  .clickNode("Current Step: Second Step");
```

## adf.trainButtonBar

Identifies an ADFTrain by its recorded ID and path.

### Format

The adf.trainButtonBar method has the following command format(s):

```
adf.trainButtonBar(path);
```

```
adf.trainButtonBar(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFTrain object specified by its recorded ID and path.

```
adf.trainButtonBar(7, "/web:window[@index='0' " +  
    "or @title='trainButtonBar Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']" +  
    "/web:ADFTrainButtonBar[@id='dmoTpl:trainBB']")  
    .clickNode("next");
```

---

## adf.tree

Identifies an ADFTree by its recorded ID and path.

### Format

The adf.tree method has the following command format(s):

```
adf.tree(path);
```

```
adf.tree(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFTree object specified by its recorded ID and path.

```
adf.tree(14, "/web:window[@index='0' or @title='tree Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFTree[@id='dmoTpl:folderTree']")  
  .expandCollapse("Expand", "2");
```

## adf.treeTable

Identifies an ADFTreeTable by its recorded ID and path.

### Format

The adf.treeTable method has the following command format(s):

```
adf.treeTable(path);
```

```
adf.treeTable(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an ADFTreeTable object specified by its recorded ID and path.

```
adf.treeTable(7, "/web:window[@index='0' or @title='treeTable Demo']" +  
  "/web:document[@index='0' or @name='_afr_init_']" +  
  "/web:ADFTreeTable[@id='dmoTpl:folderTree']")  
  .expandCollapse("Collapse", "2");
```



---

## adf.waitForPageLoaded

Wait for ADF page to be fully loaded. It would use the object time out value as the default time out value.

### Format

The adf.waitForPageLoaded method has the following command format(s):

```
adf.waitForPageLoaded(path);
```

```
adf.waitForPageLoaded(path, timeout);
```

### Command Parameters

**path**

a String specifying the document path.

**timeout**

a Long specifying the timeout value (in miliseconds) of the wait action.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Wait for page fully loaded.

```
adf.waitForPageLoaded("/web:window[@index='0' " +  
    "or @title='Shop Fusion Order Demo']" +  
    "/web:document[@index='0' or @name='_afr_init_']", 3);
```



---

---

# Oracle JD Edwards EnterpriseOne Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript EnterpriseOneService Class of EnterpriseOne Module Application Programming Interface (API).

## 17.1 EnterpriseOneService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript EnterpriseOneService API.

### 17.1.1 Alphabetical Command Listing

The following table lists the EnterpriseOneService API methods in alphabetical order.

**Table 17–1** *List of EnterpriseOneService Methods*

Method	Description
<a href="#">eone.grid</a>	Identifies an EnterpriseOne Grid Control by its recorded ID and path.

The following sections provide detailed reference information for each method and enum in the EnterpriseOneService Class of EnterpriseOne Module Application Programming Interface.

## eone.grid

Identifies an EnterpriseOne Grid Control by its recorded ID and path.

### Format

The eone.grid method has the following command format(s):

```
eone.grid(path);
```

```
eone.grid(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an EOneGrid object specified by its recorded ID and path.

```
eone.grid(11,  
"/web:window[@index='0' or @title='Work With Leave Verification Rules']" +  
"/web:document[@index='7' or @name='elmenuAppIframe']" +  
"/web:EOneGrid[@gridId='0_1' or @gridName='Work With Leave Verification Rules']")  
.selectRow(3);
```

---



---

## Oracle JET Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript JET (Oracle JavaScript Extension Toolkit) Class of the OpenScript JET Module Application Programming Interface (API).

### 18.1 Oracle JET API Reference

The following section provides an alphabetical listing of the methods in the OpenScript JET API.

#### 18.1.1 Alphabetical Command Listing

The following table lists the OpenScript JET API methods in alphabetical order.

**Table 18–1** List of JET Methods

Method	Description
<a href="#">jet.accordion</a>	Identifies a JETAccordion by its recorded ID and path.
<a href="#">jet.button</a>	Identifies a JETButton by its recorded ID and path.
<a href="#">jet.chart</a>	Identifies a JETChart by its recorded ID and path.
<a href="#">jet.checkboxset</a>	Identifies a JETCheckboxset by its recorded ID and path.
<a href="#">jet.collapsible</a>	Identifies a JETCollapsible by its recorded ID and path.
<a href="#">jet.colorPalette</a>	Identifies a JETColorPalette by its recorded ID and path.
<a href="#">jet.colorSpectrum</a>	Identifies a JETColorSpectrum by its recorded ID and path.
<a href="#">jet.combobox</a>	Identifies a JETCombobox by its recorded ID and path.
<a href="#">jet.dataGrid</a>	Identifies a JETDataGrid by its recorded ID and path.
<a href="#">jet.diagram</a>	Identifies a JETDiagram by its recorded ID and path.
<a href="#">jet.dialGauge</a>	Identifies a JETDialGauge by its recorded ID and path.
<a href="#">jet.dialog</a>	Identifies a JETDialog by its recorded ID and path.
<a href="#">jet.filmStrip</a>	Identifies a JETFilmStrip by its recorded ID and path.
<a href="#">jet.findComponent</a>	Find a component in a specified location by CSS selector.
<a href="#">jet.findComponents</a>	Find a list of components in a specified location by CSS selector.
<a href="#">jet.gantt</a>	Identifies a JETGantt by its recorded ID and path.
<a href="#">jet.getComponent</a>	Return the JET component if the DOMElement <i>element</i> is a supported JET component.

**Table 18–1 (Cont.) List of JET Methods**

<b>Method</b>	<b>Description</b>
<a href="#">jet.indexer</a>	Identifies a JETIndexer by its recorded ID and path.
<a href="#">jet.inputDate</a>	Identifies a JETInputDate by its recorded ID and path.
<a href="#">jet.inputDateTime</a>	Identifies a JETInputDateTime by its recorded ID and path.
<a href="#">jet.inputNumber</a>	Identifies a JETInputNumber by its recorded ID and path.
<a href="#">jet.inputPassword</a>	Identifies a JETInputPassword by its recorded ID and path.
<a href="#">jet.inputSearch</a>	Identifies a JETInputSearch by its recorded ID and path.
<a href="#">jet.inputText</a>	Identifies a JETInputText by its recorded ID and path.
<a href="#">jet.inputTime</a>	Identifies a JETInputTime by its recorded ID and path.
<a href="#">jet.isBusyContextEnabled</a>	Check if busyContext is enabled.
<a href="#">jet.ledGauge</a>	Identifies a JETLedGauge by its recorded ID and path.
<a href="#">jet.legend</a>	Identifies a JETLegend by its recorded ID and path.
<a href="#">jet.listView</a>	Identifies a JETListView by its recorded ID and path.
<a href="#">jet.menu</a>	Identifies a JETMenu by its recorded ID and path.
<a href="#">jet.navigationList</a>	Identifies a JETNavigationList by its recorded ID and path.
<a href="#">jet.nbox</a>	Identifies a JETNBox by its recorded ID and path.
<a href="#">jet.pagingControl</a>	Identifies a JETPagingControl by its recorded ID and path.
<a href="#">jet.popup</a>	Identifies a JETPopup by its recorded ID and path.
<a href="#">jet.progressbar</a>	Identifies a JETProgressbar by its recorded ID and path.
<a href="#">jet.radioset</a>	Identifies a JETRadioset by its recorded ID and path.
<a href="#">jet.ratingGauge</a>	Identifies a JETRatingGauge by its recorded ID and path.
<a href="#">jet.select</a>	Identifies a JETSelect by its recorded ID and path.
<a href="#">jet.slider</a>	Identifies a JETSlider by its recorded ID and path.
<a href="#">jet.statusMeterGauge</a>	Identifies a JETStatusMeterGauge by its recorded ID and path.
<a href="#">jet.sunburst</a>	Identifies a JETSunburst by its recorded ID and path.
<a href="#">jet.Switch</a>	Identifies a JETSwitch by its recorded ID and path.
<a href="#">jet.table</a>	Identifies a JETTable by its recorded ID and path.
<a href="#">jet.tabs</a>	Identifies a JETTabs by its recorded ID and path.
<a href="#">jet.tagCloud</a>	Identifies a JETTagCloud by its recorded ID and path.
<a href="#">jet.textArea</a>	Identifies a JETTextArea by its recorded ID and path.
<a href="#">jet.thematicMap</a>	Identifies a JETThematicMap by its recorded ID and path.
<a href="#">jet.train</a>	Identifies a JETTrain by its recorded ID and path.
<a href="#">jet.tree</a>	Identifies a JETTree by its recorded ID and path.
<a href="#">jet.treemap</a>	Identifies a JETTreemap by its recorded ID and path.
<a href="#">jet.waitForPageLoaded</a>	Wait for the JET page to be loaded.

The following sections provide detailed reference information for each method in the JET Class of the OpenScript JET Module Application Programming Interface.

---

## jet.accordion

Identifies a JETAccordion by its recorded ID and path.

### Format

The jet.accordion method has the following command format(s):

```
jet.accordion(path);  
jet.accordion(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETAccordion object specified by its recorded ID and path.

```
jet.accordion(525,  
  "/web:window[@index='0' or @title='Accordion - Accordion']" +  
  "/web:document[@index='0']" +  
  "/web:JETAccordion[@id='accordionPage']"  
  .expand('c1');
```

## jet.button

Identifies a JETButton by its recorded ID and path.

### Format

The jet.button method has the following command format(s):

```
jet.button(path);
```

```
jet.button(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETButton object specified by its recorded ID and path.

```
Boolean disabled = jet.button(11,  
    "/web:window[@index='0' or @title='Button']" +  
    "/web:document[@index='0']" +  
    "/web:JETButton[@id='button']")  
    .isDisabled();  
info("disabled = " + disabled);
```



---

## jet.chart

Identifies a JETChart by its recorded ID and path.

### Format

The `jet.chart` method has the following command format(s):

```
jet.chart(path);
```

```
jet.chart(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETChart object specified by its recorded ID and path.

```
int groupCount = jet.chart(11,  
    "/web:window[@index='0' or @title='Area Chart - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETChart[@id='areaChart']")  
    .getGroupCount();  
info("groupCount: " + Integer.toString(groupCount));
```

## jet.checkboxset

Identifies a JETCheckboxset by its recorded ID and path.

### Format

The jet.checkboxset method has the following command format(s):

```
jet.checkboxset(path);
```

```
jet.checkboxset(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETCheckboxset object specified by its recorded ID and path.

```
jet.checkboxset (11,  
  "/web:window[@index='0' or @title='Checkboxset - Checkboxset']" +  
  "/web:document[@index='0']" +  
  "/JETCheckboxset[@id='checkboxSetId']"  
  .checkByValues ("blue", "green");
```

---

## jet.collapsible

Identifies a JETCollapsible by its recorded ID and path.

### Format

The jet.collapsible method has the following command format(s):

```
jet.collapsible(path);  
jet.collapsible(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETCollapsible object specified by its recorded ID and path.

```
jet.collapsible(525,  
  "/web:window[@index='0' or @title='Collapsible - Collapsible']" +  
  "/web:document[@index='0']" +  
  "/web:JETCollapsible[@id='collapsiblePage']"  
  .expand();
```

## jet.colorPalette

Identifies a JETColorPalette by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.colorPalette method has the following command format(s):

```
jet.colorPalette(path);
```

```
jet.colorPalette(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETColorPalette object specified by its recorded ID and path.

```
Color color = jet.colorPalette(11,  
    "/web:window[@index='0' or @title='Color - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETColorPalette[@id='color']")  
    .getColor();  
info("Red: " + Integer.toString(color.getRed()));
```

---

## jet.colorSpectrum

Identifies a JETColorSpectrum by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.colorSpectrum method has the following command format(s):

```
jet.colorSpectrum(path);  
jet.colorSpectrum(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETColorSpectrum object specified by its recorded ID and path.

```
Color color = jet.colorSpectrum(11,  
    "/web:window[@index='0' or @title='Color - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETColorSpectrum[@id='color']")  
    .getColor();  
info("Red: " + Integer.toString(color.getRed()));
```

## jet.combobox

Identifies a JETCombobox by its recorded ID and path.

### Format

The jet.combobox method has the following command format(s):

```
jet.combobox(path);
```

```
jet.combobox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETCombobox object specified by its recorded ID and path.

```
jet.combobox(11,  
  "/web:window[@index='0' or @title='Combobox - Combobox']" +  
  "/web:document[@index='0']" +  
  "/web:JETCombobox[@id='combobox']")  
  .selectByValues("testValue");
```

---

## jet.dataGrid

Identifies a JETDataGrid by its recorded ID and path.

### Format

The jet.dataGrid method has the following command format(s):

```
jet.dataGrid(path);  
jet.dataGrid(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETDataGrid object specified by its recorded ID and path.

```
jet.dataGrid(11,  
  "/web:window[@index='0' or @title='DataGrid - DataGrid']" +  
  "/web:document[@index='0']" +  
  "/web:JETDataGrid[@id='dataGrid']")  
  .selectRows(1);
```

## jet.diagram

Identifies a JETDiagram by its recorded ID and path.

### Format

The jet.diagram method has the following command format(s):

```
jet.diagram(path);
```

```
jet.diagram(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETDiagram object specified by its recorded ID and path.

```
jet.diagram(11,  
  "/web:window[@index='0' or @title='Diagram - Default']" +  
  "/web:document[@index='0']" +  
  "/web:JETDiagramt[@id='diagram']")  
  .getLinkCount();  
info("Count: " + Integer.toString(linkCount));
```



---

## jet.dialGauge

Identifies a JETDialGauge by its recorded ID and path.

### Format

The jet.dialGauge method has the following command format(s):

```
jet.dialGauge(path);  
jet.dialGauge(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETDialGauge object specified by its recorded ID and path.

```
jet.dialGauge(11,  
  "/web:window[@index='0' or @title='Dial Gauge - Dial Gauge']" +  
  "/web:document[@index='0']" +  
  "/web:JETDialGauge[@id='gauge1']")  
  .setValue(10);
```

## jet.dialog

Identifies a JETDialog by its recorded ID and path.

### Format

The jet.dialog method has the following command format(s):

```
jet.dialog(path);
```

```
jet.dialog(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETDialog object specified by its recorded ID and path.

```
jet.dialog(11,  
  "/web:window[@index='0' or @title='Dialog - Dialog']" +  
  "/web:document[@index='0']" +  
  "/web:JETDialog[@id='dialog']")  
  .close();
```

## jet.filmStrip

Identifies a JETFilmStrip by its recorded ID and path.

### Format

The jet.filmStrip method has the following command format(s):

```
jet.filmStrip(path);
```

```
jet.filmStrip(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETFilmStrip object specified by its recorded ID and path.

```
jet.filmStrip(11,  
  "/web:window[@index='0' or @title='filmStrip Demo']" +  
  "/web:document[@index='0']" +  
  "/JETFilmStrip[@componentIndex = '0']")  
  .getCurrentItem();
```

## jet.findComponent

Find a component in a specified location by CSS selector.

### Format

The `jet.findComponent` method has the following command format(s):

```
jet.findComponent(selector);  
jet.findComponent(selector, windowIndex);  
jet.findComponent(selector, windowIndex, documentIndex);
```

### Command Parameters

**selector**

a String targeting the element.

**windowIndex**

a 0 based index for each window.

**documentIndex**

a 0 based index for each document.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Click a jet button in the specified document.

```
BaseJETComponent target = jet.findComponent("#button", 0, 1);  
((JETButton)target).click();
```

---

## jet.findComponents

Find a list of components in a specified location by CSS selector.

### Format

The `jet.findComponents` method has the following command format(s):

```
jet.findComponents(selector);
```

```
jet.findComponents(selector, windowIndex);
```

```
jet.findComponents(selector, windowIndex, documentIndex);
```

### Command Parameters

**selector**

a String targeting the elements.

**windowIndex**

a 0 based index for each window.

**documentIndex**

a 0 based index for each document.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Click the first jet button in the specified document.

```
List<BaseJETComponent> targets = jet.findComponents(".oj-button", 0, 1);  
((JETButton)targets.get(0)).click();
```

## jet.gantt

Identifies a JETGantt by its recorded ID and path. This component is supported in Jet version 4.0.0 and above.

### Format

The `jet.gantt` method has the following command format(s):

```
jet.gantt(path);
```

```
jet.gantt(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETGantt object specified by its recorded ID and path.

```
jet.gantt(11,  
  "/web:window[@index='0' or @title='Gantt - Default']" +  
  "/web:document[@index='0']" +  
  "/web:JETGantt[@id='gantt']")  
  .getTask("task1-1");
```

## jet.getComponent

Return the JET component if the `DOMElement` *element* is a supported JET component. Otherwise, return `null`.

### Format

The `jet.getComponent` method has the following command format(s):

```
jet.getComponent(element);
```

### Command Parameters

**element**  
a `DOMElement`.

### Throws

**Exception**  
on any error.

### Example

Click a jet button in the first window.

```
BaseJETComponent target = jet.getComponent(web.element("//div[@id='button']"));  
((JETButton)target).click();
```

## jet.indexer

Identifies a JETIndexer by its recorded ID and path.

### Format

The jet.indexer method has the following command format(s):

```
jet.indexer(path);
```

```
jet.indexer(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETIndexer object specified by its recorded ID and path.

```
jet.indexer(11,  
  "/web:window[@index='0' or @title='Indexer - Basic']" +  
  "/web:document[@index='0']" +  
  "/JETIndexer[@id='indexer']")  
  .selectByPrefix("2");
```



---

## jet.inputDate

Identifies a JETInputDate by its recorded ID and path.

### Format

The jet.inputDate method has the following command format(s):

```
jet.inputDate(path);  
jet.inputDate(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputDate object specified by its recorded ID and path.

```
String value = jet.inputDate(11,  
    "/web:window[@index='0' or @title='InputDate - InputDate']" +  
    "/web:document[@index='0']" +  
    "/web:JETInputDate[@id='inputDate']")  
    .getDisplayValue();  
info("value = " + value);
```

## jet.inputDateTime

Identifies a JETInputDateTime by its recorded ID and path.

### Format

The jet.inputDateTime method has the following command format(s):

```
jet.inputDateTime(path);  
jet.inputDateTime(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputDateTime object specified by its recorded ID and path.

```
String value = jet.inputDateTime(11,  
    "/web:window[@index='0' or @title='InputDateTime - InputDateTime']" +  
    "/web:document[@index='0']" +  
    "/web:JETInputDateTime[@id='inputDateTime']")  
    .getDisplayValue();  
info("value = " + value);
```

---

## jet.inputNumber

Identifies a JETInputNumber by its recorded ID and path.

### Format

The jet.inputNumber method has the following command format(s):

```
jet.inputNumber(path);  
jet.inputNumber(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputNumber object specified by its recorded ID and path.

```
jet.inputNumber(11,  
  "/web:window[@index='0' or @title='InputNumber - InputNumber']" +  
  "/web:document[@index='0']" +  
  "/web:JETInputNumber[@id='inputNumber']")  
  .setValue("15");
```

## jet.inputPassword

Identifies a JETInputPassword by its recorded ID and path.

### Format

The jet.inputPassword method has the following command format(s):

```
jet.inputPassword(path);
```

```
jet.inputPassword(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputPassword object specified by its recorded ID and path.

```
jet.inputPassword(11,  
"/web:window[@index='0' or @title='InputPassword - InputPassword']" +  
"/web:document[@index='0']" +  
"/web:JETInputPassword[@id='inputPassword']")  
.setPassword(deobfuscate("5blNah5kX/XuZnepYwInFw=="));
```

---

## jet.inputSearch

Identifies a JETInputSearch by its recorded ID and path.

### Format

The jet.inputSearch method has the following command format(s):

```
jet.inputSearch(path);
```

```
jet.inputSearch(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputSearch object specified by its recorded ID and path.

```
jet.inputSearch(11,  
  "/web:window[@index='0' or @title='InputSearch - InputSearch']" +  
  "/web:document[@index='0']" +  
  "/web:JETInputSearch[@id='inputSearch']")  
  .search("value");
```

## jet.inputText

Identifies a JETInputText by its recorded ID and path.

### Format

The jet.inputText method has the following command format(s):

```
jet.inputText(path);
```

```
jet.inputText(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputText object specified by its recorded ID and path.

```
String value = jet.inputText(11,  
    "/web:window[@index='0' or @title='InputText - InputText']" +  
    "/web:document[@index='0']" +  
    "/web:JETInputText[@id='inputText']")  
    .getValue();  
info("value = " + value);
```

---

## jet.inputTime

Identifies a JETInputTime by its recorded ID and path.

### Format

The jet.inputTime method has the following command format(s):

```
jet.inputTime(path);  
jet.inputTime(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETInputTime object specified by its recorded ID and path.

```
String value = jet.inputTime(11,  
    "/web:window[@index='0' or @title='InputTime - InputTime']" +  
    "/web:document[@index='0']" +  
    "/web:JETInputTime[@id='inputTime']")  
    .getDisplayValue();  
info("value = " + value);
```

## jet.isBusyContextEnabled

Check if busyContext is enabled. busyContext is a mechanism provided by JET to manage the busy context.

BusyContext was supported since JET V2.3, but by default it is disabled. To enable busyContext, set the "oj\_whenReady" global variable to "true". More detail can be found at JET documentation.

The JET official cookbook enables busyContext by default since V3.1. If this function returns "true", the jet.waitForPageLoaded method waits until the page is loaded, otherwise jet.waitForPageLoaded method does nothing.

### Format

The jet.isBusyContextEnabled method has the following command format(s):

```
jet.isBusyContextEnabled(documentPath);
```

### Command Parameters

**documentPath**

a String specifying the document path.

### Throws

**Exception**

on any error.

### Example

Check if busyContext is enabled.

```
boolean isEnabled=jet.isBusyContextEnabled("/web:window[@index='0' " +  
"/web:document[@index='0']");  
info(String.valueOf(isEnabled));
```



## jet.ledGauge

Identifies a JETLedGauge by its recorded ID and path.

### Format

The jet.ledGauge method has the following command format(s):

```
jet.ledGauge(path);  
jet.ledGauge(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETLedGauge object specified by its recorded ID and path.

```
String label = jet.ledGauge(11,  
    "/web:window[@index='0' or @title='LED Gauge - LED Gauge']" +  
    "/web:document[@index='0']" +  
    "/web:JETLedGauge[@id='' or @componentIndex='6']")  
    .getMetricLabel();  
info("Label = " + label);
```

## jet.legend

Identifies a JETLegend by its recorded ID and path.

### Format

The jet.legend method has the following command format(s):

```
jet.legend(path);
```

```
jet.legend(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETLegend object specified by its recorded ID and path.

```
int count = jet.legend(11,  
    "/web:window[@index='0' or @title='Legend - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETLegend[@id='legend']")  
    .getSectionCount();  
info("count: " + Integer.toString(count));
```

## jet.listView

Identifies a JETListView by its recorded ID and path.

### Format

The jet.listView method has the following command format(s):

```
jet.listView(path);
```

```
jet.listView(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETListView object specified by its recorded ID and path.

```
jet.listView(11,  
  "/web:window[@index='0' or @title='ListView - ListView']" +  
  "/web:document[@index='0']" +  
  "/web:JETListView[@id='listView']")  
  .selectByIndices(1);
```

## jet.menu

Identifies a JETMenu by its recorded ID and path.

### Format

The jet.menu method has the following command format(s):

```
jet.menu(path);
```

```
jet.menu(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETMenu object specified by its recorded ID and path.

```
jet.menu(11,  
  "/web:window[@index='0' or @title='Menu - Menu']" +  
  "/web:document[@index='0']" +  
  "" /web:JETMenu[@id='menu']")  
  .clickItemByIndex(1);
```

---

## jet.navigationList

Identifies a JETNavigationList by its recorded ID and path.

### Format

The jet.navigationList method has the following command format(s):

```
jet.navigationList(path);
```

```
jet.navigationList(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on a JETNavigationList object specified by its recorded ID and path.

```
jet.navigationList(11,  
  "/web:window[@index='0' or @title='NavigationList - NavigationList']" +  
  "/web:document[@index='0']" +  
  "/web:JETNavigationList[@id='navigationList']")  
  .selectItemByKey("home");
```

## jet.nbox

Identifies a JETNBox by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.nbox method has the following command format(s):

```
jet.nbox(path);
```

```
jet.nbox(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on a JETNBox object specified by its recorded ID and path.

```
int count = jet.nbox(11,  
    "/web:window[@index='0' or @title='NBox - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETNBox[@id='box']")  
    .getColumnCount();  
info("count: " + Integer.toString(count));
```

---

## jet.pagingControl

Identifies a JETPagingControl by its recorded ID and path.

### Format

The jet.pagingControl method has the following command format(s):

```
jet.pagingControl(path);
```

```
jet.pagingControl(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETPagingControl object specified by its recorded ID and path.

```
jet.pagingControl(11,  
"/web:window[@index='0' or @title='Paging Control - Partial Row Count']" +  
"/web:document[@index='0']" +  
"/web:JETPagingControl[@id='paging']")  
.previousPage();
```

## jet.popup

Identifies a JETPopup by its recorded ID and path.

### Format

The jet.popup method has the following command format(s):

```
jet.popup(path);
```

```
jet.popup(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETPopup object specified by its recorded ID and path.

```
jet.popup(11,  
  "/web:window[@index='0' or @title='Popup - Popup']" +  
  "/web:document[@index='0']" +  
  "/web:JETPopup[@id='popup']")  
  .close();
```



---

## jet.progressbar

Identifies a JETProgressbar by its recorded ID and path.

### Format

The jet.progressbar method has the following command format(s):

```
jet.progressbar(path);
```

```
jet.progressbar(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETProgressbar object specified by its recorded ID and path.

```
Double max = jet.progressbar(11,  
    "/web:window[@index='0' or @title='Progress Bar']" +  
    "/web:document[@index='0']" +  
    "/web:JETProgressbar[@id='progressbar']")  
    .getMax();  
info("max = " + max);
```

## jet.radioset

Identifies a JETRadioset by its recorded ID and path.

### Format

The jet.radioset method has the following command format(s):

```
jet.radioset(path);
```

```
jet.radioset(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETRadioset object specified by its recorded ID and path.

```
jet.radioset (11,  
  "/web:window[@index='0' or @title='Radioset - Radioset']" +  
  "/web:document[@index='0']" +  
  "/JETRadioset[@id='radiosetId']")  
  .selectByValue("testValue");
```

## jet.ratingGauge

Identifies a JETRatingGauge by its recorded ID and path.

### Format

The jet.ratingGauge method has the following command format(s):

```
jet.ratingGauge(path);
```

```
jet.ratingGauge(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETRatingGauge object specified by its recorded ID and path.

```
jet.ratingGauge(11,  
  "/web:window[@index='0' or @title='Rating Gauge - Rating Gauge']"+  
  "/web:document[@index='0']" +  
  ""/web:JETRatingGauge[@id='gauge1']")  
  .setValue(10);
```

## jet.select

Identifies a JETSelect by its recorded ID and path.

### Format

The jet.select method has the following command format(s):

```
jet.select(path);
```

```
jet.select(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETSelect object specified by its recorded ID and path.

```
jet.select(11,  
  "/web:window[@index='0' @title='Select - Select']" +  
  "/web:document[@index='0']" +  
  "/web:JETSelect[@id='select']")  
  .selectByValues("testValue");
```

## jet.slider

Identifies a JETSlider by its recorded ID and path.

### Format

The jet.slider method has the following command format(s):

```
jet.slider(path);
```

```
jet.slider(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETSlider object specified by its recorded ID and path.

```
Double max = jet.slider(11,  
    "/web:window[@index='0' or @title='Slider']" +  
    "/web:document[@index='0']" +  
    "/web:JETSlider[@id='slider']")  
    .getMax();  
info("max = " + max);
```

## jet.statusMeterGauge

Identifies a JETStatusMeterGauge by its recorded ID and path.

### Format

The jet.statusMeterGauge method has the following command format(s):

```
jet.statusMeterGauge(path);
```

```
jet.statusMeterGauge(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETStatusMeterGauge object specified by its recorded ID and path.

```
Double max = jet.statusMeterGauge(11,  
  "/web:window[@index='0' or @title='Status Meter Gauge - Center Content']" +  
  "/web:document[@index='0']" +  
  "/web:JETStatusMeterGauge[@id='gauge']")  
  .setValue(1000);
```

---

## jet.sunburst

Identifies a JETSunburst by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.sunburst method has the following command format(s):

```
jet.sunburst(path);
```

```
jet.sunburst(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETSunburst object specified by its recorded ID and path.

```
int count = jet.sunburst(11,  
    "/web:window[@index='0' or @title='Sunburst - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETSunburst[@id='sunburst']")  
    .expand(0);
```

## jet.Switch

Identifies a JETSwitch by its recorded ID and path.

### Format

The jet.Switch method has the following command format(s):

```
jet.Switch(path);
```

```
jet.Switch(reclid, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclid**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETSwitch object specified by its recorded ID and path.

```
jet.Switch(11,  
  "/web:window[@index='0' or @title='Switch - Switch']" +  
  "/web:document[@index='0']" +  
  "/web:JETSwitch[@id='switch']")  
  .on();
```



## jet.table

Identifies a JETTable by its recorded ID and path.

### Format

The jet.table method has the following command format(s):

```
jet.table(path);
```

```
jet.table(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTable object specified by its recorded ID and path.

```
jet.table(11,  
  "/web:window[@index='0' or @title='Table - Table']" +  
  "/web:document[@index='0']" +  
  "/web:JETTable[@id='table']")  
  .selectRowByIndices(1, 2);
```

## jet.tabs

Identifies a JETTabs by its recorded ID and path.

### Format

The jet.tabs method has the following command format(s):

```
jet.tabs(path);
```

```
jet.tabs(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTabs object specified by its recorded ID and path.

```
jet.tabs(11,  
  "/web:window[@index='0' or @title='Tabs - Tabs']" +  
  "/web:document[@index='0']" +  
  "/web:JETTabs[@id='tabs']")  
  .selectByIndex(0);
```

---

## jet.tagCloud

Identifies a JETTagCloud by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.tagCloud method has the following command format(s):

```
jet.tagCloud(path);  
jet.tagCloud(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTagCloud object specified by its recorded ID and path.

```
int count = jet.tagCloud(11,  
    "/web:window[@index='0' or @title='TagCloud - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETTagCloud[@id='tag']")  
    .getItemCount();  
info("Item count: " + Integer.toString(count));
```

## jet.textArea

Identifies a JETTextArea by its recorded ID and path.

### Format

The jet.textArea method has the following command format(s):

```
jet.textArea(path);
```

```
jet.textArea(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTextArea object specified by its recorded ID and path.

```
String value = jet.textArea(11,  
    "/web:window[@index='0' or @title='TextArea - TextArea']" +  
    "/web:document[@index='0']" +  
    "/web:JETTextArea[@id='textArea']")  
    .getValue();  
info("value = " + value);
```

---

## jet.thematicMap

Identifies a JETThematicMap by its recorded ID and path. This component is supported in jet version 4.0.0 and above.

### Format

The jet.thematicMap method has the following command format(s):

```
jet.thematicMap(path);  
jet.thematicMap(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETThematicMap object specified by its recorded ID and path.

```
int count = jet.thematicMap(11,  
    "/web:window[@index='0' or @title='ThematicMap - Default']" +  
    "/web:document[@index='0']" +  
    "/web:JETThematicMap[@id='map']")  
    ..getAreaCount();  
info("Area count: " + Integer.toString(count));
```

## jet.train

Identifies a JETTrain by its recorded ID and path.

### Format

The jet.train method has the following command format(s):

```
jet.train(path);
```

```
jet.train(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTrain object specified by its recorded ID and path.

```
String value = jet.train(11,  
    "/web:window[@index='0' or @title='Train - Train']" +  
    "/web:document[@index='0']" +  
    "/web:JETTrain[@id='train']")  
    .selectByStepIndex(0);
```

## jet.tree

Identifies a JETTree by its recorded ID and path.

### Format

The jet.tree method has the following command format(s):

```
jet.tree(path);
```

```
jet.tree(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTree object specified by its recorded ID and path.

```
String value = jet.tree(11,  
    "/web:window[@index='0' or @title='Tree - Node reorder using drag/drop']" +  
    "/web:document[@index='0']" +  
    "/web:JETTree[@id='tree']")  
    .expandAllRecursive("blogs");
```

## jet.treemap

Identifies a JETTreemap by its recorded ID and path.

### Format

The `jet.treemap` method has the following command format(s):

```
jet.treemap(path);
```

```
jet.treemap(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Performs an action on an JETTreemap object specified by its recorded ID and path.

```
int[] paths = jet.treemap(11,
    "/web:window[@index='0' or @title='Treemap - Default']" +
    "/web:document[@index='0']" +
    "/web:JETTreemap[@id='map']")
    .getNodeIndexPath("Test");
if(paths.length > 0)
    info("path 0: " + Integer.toString(paths[0]));
```



---

## jet.waitForPageLoaded

Wait for JET page to be loaded. It uses the object time out value as the default time out value. If JET version is lower than V2.3 and the strategy that the busy context whenRead is not enabled, i.e. the "oj\_whenReady" global variable is false or undefined, this function does nothing. You can use `jet.isBusyContextEnabled` to check if this function will be used based upon the busy context as shown in the example below.

### Format

The `jet.waitForPageLoaded` method has the following command format(s):

```
jet.waitForPageLoaded(documentPath);  
jet.waitForPageLoaded(documentPath, timeout);
```

### Command Parameters

**documentPath**

a String specifying the document path.

**timeout**

a Long specifying the timeout value (in milliseconds) of the wait action.

### Throws

**Exception**

on any error.

### Example

Wait for JET page to be loaded based upon the busy context.

```
long timeOut = 3000;  
if(jet.isBusyContextEnabled("/web:window[@index='0' /web:document[@index='0']"));){  
    jet.waitForPageLoaded("/web:window[@index='0' " +  
        "/web:document[@index='0']]", timeOut);  
}
```



---



---

## Siebel Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript SiebelFTService Class of Siebel Functional Module Application Programming Interface (API).

The Siebel Functional Test Module provides support for functional testing of Siebel web applications that use Standard Siebel High Interactivity (HI) and Standard Interactivity (SI) components. **If the Siebel application uses the Siebel OpenUI, use the OpenScript Web Functional Testing module to record Siebel OpenUI scripts and use the OpenScript Siebel OpenUI function library to customize scripts.** See [Chapter 21, "Siebel OpenUI Function Library"](#) for information about the function library.

### 19.1 SiebelFTService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript SiebelFTService API.

#### 19.1.1 Alphabetical Command Listing

The following table lists the SiebelFTService API methods in alphabetical order.

**Table 19–1** List of SiebelFTService Methods

Method	Description
<a href="#">siebelFT.applet</a>	Creates a Siebel Applet element.
<a href="#">siebelFT.application</a>	Creates a Siebel Application element.
<a href="#">siebelFT.attribute</a>	Construct property data of a single attribute.
<a href="#">siebelFT.attributes</a>	Utility function to return a list of property tests.
<a href="#">siebelFT.button</a>	Creates a Siebel Button element.
<a href="#">siebelFT.calculator</a>	Creates a Siebel Calculator element.
<a href="#">siebelFT.calendar</a>	Creates a Siebel Calendar element.
<a href="#">siebelFT.cell</a>	Construct a test data of a table cell.
<a href="#">siebelFT.cells</a>	Utility function to return a list of cell tests.
<a href="#">siebelFT.currency</a>	Creates a Siebel Currency element.
<a href="#">siebelFT.element</a>	Creates a generic Siebel element.
<a href="#">siebelFT.exists</a>	Checks for the existence of a Siebel control.
<a href="#">siebelFT.list</a>	Creates a Siebel List element.

**Table 19–1 (Cont.) List of SiebelFTService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">siebelFT.menu</a>	Creates a Siebel Menu element.
<a href="#">siebelFT.pageTabs</a>	Creates a Siebel PageTabs element.
<a href="#">siebelFT.pdq</a>	Creates a Siebel PDQ element.
<a href="#">siebelFT.richText</a>	Creates a Siebel RichText element.
<a href="#">siebelFT.screen</a>	Creates a Siebel Screen element.
<a href="#">siebelFT.screenViews</a>	Creates a Siebel ScreenViews element.
<a href="#">siebelFT.text</a>	Creates a Siebel Text element.
<a href="#">siebelFT.textArea</a>	Creates a Siebel TextArea element.
<a href="#">siebelFT.threadbar</a>	Creates a Siebel Threadbar element.
<a href="#">siebelFT.toolbar</a>	Creates a Siebel Toolbar element.
<a href="#">siebelFT.tree</a>	Creates a Siebel Tree element.

The following sections provide detailed reference information for each method and enum in the SiebelFTService Class of Siebel Functional Module Application Programming Interface.

## siebelFT.applet

Creates a Siebel Applet element.

### Format

The siebelFT.applet method has the following command format(s):

```
siebelFT.applet(path);
```

```
siebelFT.applet(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Applet.

### Example

Performs an action on a Siebel Applet element.

```
String SiebApplet="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']";
try{
    String result=siebelFT.applet(10, SiebApplet)
        .childPathFromRepositoryName("SiebTextArea", "Description");
    String expected="/siebelft:cas[@ClassName='SiebApplication' " +
        "and @RepositoryName='Siebel Universal Agent']" +
        "/siebelft:cas[@ClassName='SiebScreen' " +
        "and @RepositoryName='Opportunities Screen']" +
        "/siebelft:cas[@ClassName='SiebView' " +
        "and @RepositoryName='Opportunity List View']" +
        "/siebelft:cas[@ClassName='SiebApplet' " +
        "and @RepositoryName='Opportunity Form Applet - Child']" +
        "/siebelft:cas[@ClassName='SiebTextArea' " +
        "and @RepositoryName='Description']";
    if (!result.equals(expected)) {
        warn("childPathFromRepositoryName returned " + result);
    }
}catch(Exception exp) {}
```

## siebelFT.application

Creates a Siebel Application element.

### Format

The siebelFT.application method has the following command format(s):

```
siebelFT.application(path);
```

```
siebelFT.application(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Application.

### Example

Performs an action on a Siebel Application element.

```
String SiebApplication="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']";
try{
    String expected="/siebelft:cas[@ClassName='SiebApplication' " +
        "and @RepositoryName='Siebel Universal Agent']" +
        "/siebelft:cas[@ClassName='SiebScreen' " +
        "and @RepositoryName='Web Call Center Home Screen']";
    String result=siebelFT.application(10, SiebApplication)
        .childPathFromRepositoryName("SiebScreen", "Web Call Center Home Screen");
    if (!result.equals(expected)) {
        warn("childPathFromRepositoryName returned " + result);
    }
} catch(Exception exp) {}
```

---

## siebelFT.attribute

Construct property data of a single attribute.

### Format

The siebelFT.attribute method has the following command format(s):

```
siebelFT.attribute(property, expectedValue, operator);
```

### Command Parameters

#### **property**

A String specifying the property to test.

#### **expectedValue**

a String specifying the expected value.

#### **operator**

a TestOperator that defines the type and the match approach of the data.

### Returns

PropertyTest object.

### Example

Specifies individual Siebel element attributes.

```
String path="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebMenu' " +
    "and @RepositoryName='SiebMenu']";
siebelFT.menu(path).assertAttributes("attributes",
siebelFT.attributes(siebelFT.attribute("ClassName",
    "SiebMenu", TestOperator.StringExact),
siebelFT.attribute("RepositoryName", "SiebMenu",
    TestOperator.StringExact),
siebelFT.attribute("UIName", "Menu",
    TestOperator.StringExact),
siebelFT.attribute("Count", "60",
    TestOperator.StringExact)));
siebelFT.menu(path).assertAttribute("attribute", "UIName", "Menu",
    TestOperator.StringExact);
try{
    boolean result=siebelFT.element(path).exists();
    if (!result) {
        warn("exists returned " + result);
    }
} catch(Exception exp) {}
```

## siebelFT.attributes

Utility function to return a list of property tests.

### Format

The siebelFT.attributes method has the following command format(s):

```
siebelFT.attributes(tests);
```

### Command Parameters

#### **tests**

- array of property tests.

### Returns

an array of property tests.

### Example

Specifies a set of Siebel element attributes.

```
String path="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebMenu' " +
    "and @RepositoryName='SiebMenu']";
siebelFT.menu(path).assertAttributes("attributes",
siebelFT.attributes(siebelFT.attribute("ClassName",
    "SiebMenu", TestOperator.StringExact),
siebelFT.attribute("RepositoryName", "SiebMenu",
    TestOperator.StringExact),
siebelFT.attribute("UIName", "Menu",
    TestOperator.StringExact),
siebelFT.attribute("Count", "60",
    TestOperator.StringExact));
siebelFT.menu(path).assertAttribute("attribute", "UIName", "Menu",
    TestOperator.StringExact);
try{
    boolean result=siebelFT.element(path).exists();
    if (!result) {
        warn("exists returned " + result);
    }
} catch(Exception exp) {}
```



## siebelFT.button

Creates a Siebel Button element.

### Format

The siebelFT.button method has the following command format(s):

```
siebelFT.button(path);
```

```
siebelFT.button(recid, path);
```

### Command Parameters

#### path

a String specifying the path of the element.

#### recid

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Button.

### Example

Performs an action on a Siebel Button element.

```
String SiebButton="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Accounts Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Account List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Account Entry Applet']" +
  "/siebelft:cas[@ClassName='SiebButton' " +
  "and @RepositoryName='NewRecord']";
try{
  Boolean result=siebelFT.button(10, SiebButton).isEnabled();
  if (!result) {
    warn("isEnabled() returned " + result);
  }
}catch(Exception exp) {}

siebelFT.button(15, "/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Accounts Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Account List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Account Entry Applet']" +
  "/siebelft:cas[@ClassName='SiebButton' " +
  "and @RepositoryName='DeleteRecord']")
.click();
```

## siebelFT.calculator

Creates a Siebel Calculator element.

### Format

The siebelFT.calculator method has the following command format(s):

```
siebelFT.calculator(path);
```

```
siebelFT.calculator(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Calculator.

### Example

Performs an action on a Siebel Calculator element.

```
String SiebCurrency="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']" +
    "/siebelft:cas[@ClassName='SiebCurrency' " +
    "and @RepositoryName='Revenue']";

String SiebCalculator="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']" +
    "/siebelft:cas[@ClassName='SiebCurrency' " +
    "and @RepositoryName='Revenue']" +
    "/siebelft:cas[@ClassName='SiebCalculator' " +
    "and @RepositoryName='Amount']";
siebelFT.currency(SiebCurrency).openPopup();
siebelFT.calculator(10, SiebCalculator).openPopup();
siebelFT.calculator(12, SiebCalculator).clickKey("9");
siebelFT.calculator(14, SiebCalculator).clickKeys("99");
siebelFT.calculator(16, SiebCalculator).processKey("EnterKey");
siebelFT.calculator(18, SiebCalculator).processKey("EnterKey");
```

```
try{
  String result=siebelFT.calculator(20, SiebCalculator).getText();
  if (!result.equals("$999.00")) {
    warn("getText returned " + result);
  }
}catch(Exception exp) {}
try{
  Boolean result=siebelFT.calculator(22, SiebCalculator).isEnabled();
  if (!result) {
    warn("isEnabled returned " + result);
  }
}catch(Exception exp) {}

try{
  Boolean result=siebelFT.calculator(24, SiebCalculator).isOpen();
  if (result) {
    warn("isOpen returned " + result);
  }
}catch(Exception exp) {}

siebelFT.currency(SiebCurrency).closePopup();
```

## siebelFT.calendar

Creates a Siebel Calendar element.

### Format

The siebelFT.calendar method has the following command format(s):

```
siebelFT.calendar(path);
```

```
siebelFT.calendar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Calendar.

### Example

Performs an action on a Siebel Calendar element.

```
String SiebCalendar="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']" +
    "/siebelft:cas[@ClassName='SiebCalendar' " +
    "and @RepositoryName='CloseDate']";
siebelFT.calendar(SiebCalendar).openPopup();
try{
    String result=siebelFT.calendar(SiebCalendar)
        .getCalendarType();
    if (!result.equals("Date")) {
        warn("getCalendarType returned " + result);
    }
} catch(Exception exp) {}

try{
    String result=siebelFT.calendar(10, SiebCalendar)
        .getDay();
    if (!result.equals("27")) {
        info("getDay returned " + result);
    }
} catch(Exception exp) {}

try{
    String result=siebelFT.calendar(12, SiebCalendar)
```

```
.getMonth();
if (!result.equals("8")) {
    info("getMonth returned " + result);
}
}catch(Exception exp) {}

try{
String result=siebelFT.calendar(14, SiebCalendar)
    .getYear();
if (!result.equals("2010")) {
    info("getYear returned " + result);
}
}catch(Exception exp) {}

try{
String result="none"+siebelFT.calendar(16, SiebCalendar)
    .getTime();
if (!result.equals("none")) {
    warn("getTime returned " + result);
}
}catch(Exception exp) {}
```

## siebelFT.cell

Construct a test data of a table cell.

### Format

The siebelFT.cell method has the following command format(s):

```
siebelFT.cell(row, column, expectedValue, operator);
```

### Command Parameters

**row**

the row value starting from 1.

**column**

the column value starting from 1.

**expectedValue**

a String specifying the expected value.

**operator**

a TestOperator that defines the type and the match approach of the data.

### Returns

CellTest.

### Example

Specifies individual Siebel cell elements.

```
String SiebThreadbar1="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Activities Screen']" +
    "/siebelft:cas[@ClassName='SiebThreadbar' " +
    "and @RepositoryName='SiebThreadbar']";
siebelFT.threadbar(SiebThreadbar).assertCells("assert",
    siebelFT.cells(
        siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
            TestOperator.StringExact));
siebelFT.threadbar(SiebThreadbar).verifyCells("verify",
    siebelFT.cells(
        siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
            TestOperator.StringExact));
try{
    String result=siebelFT.threadbar(SiebThreadbar)
        .getActiveThreadItem();
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getActiveThreadItem returned " + result);
    }
} catch(Exception exp) {}
```

---

## siebelFT.cells

Utility function to return a list of cell tests.

### Format

The siebelFT.cells method has the following command format(s):

```
siebelFT.cells(tests);
```

### Command Parameters

#### **tests**

- array of property tests.

### Returns

array of cell tests.

### Example

Specifies set of Siebel cell elements.

```
String SiebThreadbar1="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Activities Screen']" +
    "/siebelft:cas[@ClassName='SiebThreadbar' " +
    "and @RepositoryName='SiebThreadbar']";
siebelFT.threadbar(SiebThreadbar).assertCells("assert",
    siebelFT.cells(
        siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
            TestOperator.StringExact));
siebelFT.threadbar(SiebThreadbar).verifyCells("verify",
    siebelFT.cells(
        siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
            TestOperator.StringExact));
try{
    String result=siebelFT.threadbar(SiebThreadbar)
        .getActiveThreadItem();
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getActiveThreadItem returned " + result);
    }
}
}catch(Exception exp) {}
```

## siebelFT.currency

Creates a Siebel Currency element.

### Format

The siebelFT.currency method has the following command format(s):

```
siebelFT.currency(path);
```

```
siebelFT.currency(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Currency.

### Example

Performs an action on a Siebel Currency element.

```
String SiebCurrency="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']" +
    "/siebelft:cas[@ClassName='SiebCurrency' " +
    "and @RepositoryName='Revenue']";

try{
    String result=siebelFT.currency(5, SiebCurrency)
        .getAmount();
    if (!result.equals("$.00")) {
        info("getAmount returned " + result);
    }
}catch(Exception exp) {}

try{
    String result=siebelFT.currency(7, SiebCurrency)
        .getText();
    if (!result.equals("$0.00")) {
        info("getText() returned " + result);
    }
}catch(Exception exp) {}

try{
    Boolean result=siebelFT.currency(9, SiebCurrency).isEnabled();
```



---

```
    if (!result) {
        warn("isEnabled returned " + result);
    }
} catch(Exception exp) {}

try{
    Boolean result=siebelFT.currency(11, SiebCurrency).isOpen();
    if (result) {
        warn("isOpen returned " + result);
    }
} catch(Exception exp) {}

siebelFT.currency(14, SiebCurrency).setText("999");
siebelFT.currency(16, SiebCurrency).processKey("EnterKey");
siebelFT.currency(18, SiebCurrency).openPopup();
siebelFT.currency(20, SiebCurrency).cancelPopup();
```

## siebelFT.element

Creates a generic Siebel element.

### Format

The siebelFT.element method has the following command format(s):

```
siebelFT.element(path);
```

```
siebelFT.element(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Element.

### Example

Performs an action on a generic Siebel element.

```
web.window(1376, "/web:window[@index='0' " +
    "or @title='about:blank']")
    .navigate("http://example.com/callcenter_enu/start.swe?SWECmd=AutoOn");
web.textBox(1378, "/web:window[@index='0' " +
    "or @title='Siebel Call Center']" +
    "/web:document[@index='0']" +
    "/web:form[@name='SWEEntryForm' or @index='0']" +
    "/web:input_text[@rn='_SweUserName' " +
    "and @ot='SiebWebText' and @un='_SweUserName']")
    .setText("sadmin");
{
    think(0.156);
}
web.textBox(1379, "/web:window[@index='0' " +
    "or @title='Siebel Call Center']" +
    "/web:document[@index='0']" +
    "/web:form[@name='SWEEntryForm' or @index='0']" +
    "/web:input_text[@rn='_SweUserName' " +
    "and @ot='SiebWebText' and @un='_SweUserName']")
    .pressTab();
{
    think(0.031);
}
web.textBox(1380, "/web:window[@index='0' " +
    "or @title='Siebel Call Center']" +
    "/web:document[@index='0']" +
    "/web:form[@name='SWEEntryForm' or @index='0']" +
    "/web:input_password[@rn='_SwePassword' " +
    "and @ot='SiebWebPassword' and @un='_SwePassword']")
```

```

        .setPassword(decrypt("OvCQi9wcp7lT2jehewJtOQ=="));
    {
        think(1.232);
    }
web.image(1381, "/web:window[@index='0' " +
    "or @title='Siebel Call Center']" +
    "/web:document[@index='0']" +
    "/web:img[@alt='Login' or @index='3' " +
    "or @src='http://example.com/callcenter_enu/images/login77_d.gif']")
.click();

String path="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebMenu' " +
    "and @RepositoryName='SiebMenu']";
siebelFT.menu(path).assertAttributes("attributes", siebelFT.attributes(
    siebelFT.attribute("ClassName", "SiebMenu",
        TestOperator.StringExact),
    siebelFT.attribute("RepositoryName", "SiebMenu",
        TestOperator.StringExact),
    siebelFT.attribute("UIName", "Menu",
        TestOperator.StringExact),
    siebelFT.attribute("Count", "60",
        TestOperator.StringExact)));

siebelFT.menu(path).assertAttribute("attribute", "UIName", "Menu",
    TestOperator.StringExact);

try{
    boolean result=siebelFT.element(10, path).exists();
    if (!result) {
        warn("exists returned " + result);
    }
}catch(Exception exp) {}

try{
    String result=siebelFT.element(12, path).getAttribute("RepositoryName");
    if (!result.equals("SiebMenu")) {
        warn("getClassName returned " + result);
    }
}catch(Exception exp) {}

try{
    String result=siebelFT.element(14, path).getRepositoryName();
    if (!result.equals("SiebMenu")) {
        warn("getRepositoryName returned " + result);
    }
}catch(Exception exp) {}

try{
    siebelFT.element(16, path).storeAttribute("var", "Count");
    if (!eval("#{var}").equals("60")) {
        warn("Count returned " + eval("#{var}"));
    }
}catch(Exception exp) {}

siebelFT.element(18, path).waitForAttribute("Count", "60", 10);

```

## siebelFT.exists

Checks for the existence of a Siebel control.

### Format

The siebelFT.exists method has the following command format(s):

```
siebelFT.exists(path);
```

### Command Parameters

**path**

pathname of the Siebel control.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

true if the control exists, otherwise false.

### Example

Checks if the specified Siebel element exists.

```
try{
  if(siebelFT.exists("/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Activities Screen']" +
    "/siebelft:cas[@ClassName='SiebThreadbar' " +
    "and @RepositoryName='SiebThreadbar']")) {
    info("element exists");
  }
}catch(Exception exp) {}
```

## siebelFT.list

Creates a Siebel List element.

### Format

The siebelFT.list method has the following command format(s):

```
siebelFT.list(path);
siebelFT.list(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new List.

### Example

Performs an action on a Siebel List element.

```
String pdq="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebPDQ' " +
  "and @RepositoryName='SiebPDQ']";
siebelFT.pdq(pdq).select("** All Opportunities");
think(11.13);
siebelFT.list(72,"/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Opportunity List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Opportunity List Applet']" +
  "/siebelft:cas[@ClassName='SiebList' " +
  "and @RepositoryName='SiebList']")
  .activateRow(1);
{
  think(0.031);
}
siebelFT.list(73,"/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Opportunity List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
```

```
"and @RepositoryName='Opportunity List Applet']" +  
"/siebelft:cas[@ClassName='SiebList' " +  
"and @RepositoryName='SiebList']")  
.drillDownColumn("Name", 1);
```

---

## siebelFT.menu

Creates a Siebel Menu element.

### Format

The siebelFT.menu method has the following command format(s):

```
siebelFT.menu(path);
```

```
siebelFT.menu(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Menu.

### Example

Performs an action on a Siebel Menu element.

```
siebelFT.menu(256, "/siebelft:cas[@ClassName='SiebApplication' " +  
  "and @RepositoryName='Siebel Universal Agent']" +  
  "/siebelft:cas[@ClassName='SiebMenu' " +  
  "and @RepositoryName='SiebMenu']")  
  .select("File\\\\\\\\File - Logout");
```

## siebelFT.pageTabs

Creates a Siebel PageTabs element.

### Format

The siebelFT.pageTabs method has the following command format(s):

```
siebelFT.pageTabs(path);
```

```
siebelFT.pageTabs(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new PageTabs.

### Example

Performs an action on a Siebel PageTabs element.

```
siebelFT.pageTabs (41, "/siebelft:cas[@ClassName='SiebApplication' " +  
  "and @RepositoryName='Siebel Universal Agent']" +  
  "/siebelft:cas[@ClassName='SiebPageTabs' " +  
  "and @RepositoryName='SiebPageTabs']")  
  .gotoScreen("Opportunities Screen");
```



## siebelFT.pdq

Creates a Siebel PDQ element.

### Format

The siebelFT.pdq method has the following command format(s):

```
siebelFT.pdq(path);
```

```
siebelFT.pdq(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new PDQ.

### Example

Performs an action on a Siebel PDQ element.

```
String pdq="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebPDQ' " +
  "and @RepositoryName='SiebPDQ']";
siebelFT.pdq(10, pdq).select("** All Opportunities");
think(11.13);
siebelFT.list(72, "/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Opportunity List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Opportunity List Applet']" +
  "/siebelft:cas[@ClassName='SiebList' " +
  "and @RepositoryName='SiebList']")
  .activateRow(1);
{
  think(0.031);
}
siebelFT.list(73, "/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Opportunities Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Opportunity List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
```

```
"and @RepositoryName='Opportunity List Applet']" +  
"/siebelft:cas[@ClassName='SiebList' " +  
"and @RepositoryName='SiebList']")  
.drillDownColumn("Name", 1);
```

## siebelFT.richText

Creates a Siebel RichText element.

### Format

The siebelFT.richText method has the following command format(s):

```
siebelFT.richText(path);
```

```
siebelFT.richText(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new RichText.

### Example

Performs an action on a Siebel RichText element.

```
String SiebRichText="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Projects Screen (ePS)']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Project Private Note View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Project Private Note Form Applet']" +
  "/siebelft:cas[@ClassName='SiebRichText' " +
  "and @RepositoryName='Note']";
siebelFT.button(249, "/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Projects Screen (ePS)']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Project Private Note View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Project Private Note Form Applet']" +
  "/siebelft:cas[@ClassName='SiebButton' " +
  "and @RepositoryName='NewRecord']")
.click();
{
  think(6.812);
}
siebelFT.richText(5, SiebRichText).setText("zopa");
try{
  String result=siebelFT.richText(7, SiebRichText).getText();
  if (!result.equals("zopa")) {
    warn("getText returned " + result);
  }
}
```

```
    }  
  }catch(Exception exp) {}  
  
try{  
  Boolean result=siebelFT.richText(9, SiebRichText).isEnabled();  
  if (!result) {  
    warn("isEnabled returned " + result);  
  }  
}catch(Exception exp) {}  
  
try{  
  Boolean result=siebelFT.richText(11, SiebRichText).isRequired();  
  if (result) {  
    warn("isRequired returned " + result);  
  }  
}catch(Exception exp) {}
```

## siebelFT.screen

Creates a Siebel Screen element.

### Format

The siebelFT.screen method has the following command format(s):

```
siebelFT.screen(path);
```

```
siebelFT.screen(recid, path);
```

### Command Parameters

#### path

a String specifying the path of the element.

#### recid

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Screen.

### Example

Performs an action on a Siebel Screen element.

```
String SiebScreen="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Accounts Screen']";

try{
  String result=siebelFT.screen(3, SiebScreen)
    .childPathFromRepositoryName("SiebPDQ", "SiebPDQ");
  String expected="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Accounts Screen']" +
    "/siebelft:cas[@ClassName='SiebPDQ' " +
    "and @RepositoryName='SiebPDQ']";
  if (!result.equals(expected)) {
    warn("childPathFromRepositoryName returned " + result);
  }
}catch(Exception exp) {}

try{
  Integer result=siebelFT.screen(5, SiebScreen)
    .getClassCount("SiebPDQ");
  if (result<1) {
    warn("getClassCountreturned " + result);
  }
}catch(Exception exp) {}

try{
  String result=siebelFT.screen(7, SiebScreen)
    .getRepositoryNameByIndex("SiebPDQ", 0);
```

```
if (!result.equals("SiebPDQ")) {  
    warn("getRepositoryNameByIndex returned " + result);  
}  
}catch(Exception exp) {} *
```

---

## siebelFT.screenViews

Creates a Siebel ScreenViews element.

### Format

The siebelFT.screenViews method has the following command format(s):

```
siebelFT.screenViews(path);
```

```
siebelFT.screenViews(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new ScreenViews.

### Example

Performs an action on a Siebel ScreenViews element.

```
String SiebScreenView="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Activities Screen']" +
    "/siebelft:cas[@ClassName='SiebScreenViews' " +
    "and @RepositoryName='SiebScreenViews']";
siebelFT.screenViews(5, SiebScreenView).assertCells("screenView assert",
    siebelFT.cells(siebelFT.cell(2, 1, "Attachments",
        TestOperator.StringExact)));
siebelFT.screenViews(6, SiebScreenView).verifyCells("screenView verify",
    siebelFT.cells(siebelFT.cell(2, 1, "Attachments",
        TestOperator.StringExact)));
try{
    String result=siebelFT.screenViews(7, SiebScreenView)
        .getActiveView();
    if (!result.equals("Activity Attachment View")) {
        warn("getActiveView returned " + result);
    }
}catch(Exception exp) {}
try{
    String result=siebelFT.screenViews(8, SiebScreenView)
        .getCell(1, 1);
    if (!result.equals("More Info")) {
        warn("getCell returned " + result);
    }
}catch(Exception exp) {}
try{
    Integer result=siebelFT.screenViews(9, SiebScreenView)
        .getL2Count();
```

```
    if (result <0) {
        warn("getL2Count returned " + result);
    }
    }catch(Exception exp) {}
try{
Integer result=siebelFT.screenViews(10, SiebScreenView)
    .getL3Count();
if (result <1) {
    warn("getL3Count returned " + result);
}
}catch(Exception exp) {}
try{
Integer result=siebelFT.screenViews(11, SiebScreenView)
    ;.getL4Count();
if (result <0) {
    warn("getL4Count returned " + result);
}
}catch(Exception exp) {}
try{
String result=siebelFT.screenViews(12, SiebScreenView)
    .getUIName("Activity Detail View", "L3");
if (!result.equals("More Info")) {
    warn("getUIName returned " + result);
}
}catch(Exception exp) {}
```



---

## siebelFT.text

Creates a Siebel Text element.

### Format

The siebelFT.text method has the following command format(s):

```
siebelFT.text(path);
siebelFT.text(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Text.

### Example

Performs an action on a Siebel Text element.

```
String SiebText="/siebelft:cas[@ClassName='SiebApplication' " +
  "and @RepositoryName='Siebel Universal Agent']" +
  "/siebelft:cas[@ClassName='SiebScreen' " +
  "and @RepositoryName='Accounts Screen']" +
  "/siebelft:cas[@ClassName='SiebView' " +
  "and @RepositoryName='Account List View']" +
  "/siebelft:cas[@ClassName='SiebApplet' " +
  "and @RepositoryName='Account Entry Applet']" +
  "/siebelft:cas[@ClassName='SiebText' " +
  "and @RepositoryName='Location']";
siebelFT.text(SiebText).setText("zopa");
siebelFT.text(SiebText).getPopupType();
try{
  String result=siebelFT.text(5, SiebText).getText();
  if (!result.equals("zopa")) {
    warn("getText returned " + result);
  }
}catch(Exception exp) {}

try{
  Boolean result=siebelFT.text(6, SiebText).isEnabled();
  if (!result) {
    warn("isEnabled returned " + result);
  }
}catch(Exception exp) {}

try{
  Boolean result=siebelFT.text(7, SiebText).isEncrypted();
  if (result) {
```

```
    warn("isEncrypted() returned " + result);
  }
} catch(Exception exp) {}

siebelFT.text(8, SiebText).openPopup();
siebelFT.text(9, SiebText).setPassword("abc");
siebelFT.text(10, SiebText).processKey("EnterKey");
```

## siebelFT.textArea

Creates a Siebel TextArea element.

### Format

The siebelFT.textArea method has the following command format(s):

```
siebelFT.textArea(path);
```

```
siebelFT.textArea(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new TextArea.

### Example

Performs an action on a Siebel TextArea element.

```
String SiebTextArea="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity List View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Form Applet - Child']" +
    "/siebelft:cas[@ClassName='SiebTextArea' " +
    "and @RepositoryName='Description']";
siebelFT.textArea(5, SiebTextArea).setText("zopa");
try{
    String result=siebelFT.textArea(6, SiebTextArea)
        .getText();
    if (!result.equals("zopa")) {
        warn("getText returned " + result);
    }
} catch(Exception exp) {}

try{
    Boolean result=siebelFT.textArea(7, SiebTextArea)
        .isEnabled();
    if (!result) {
        warn("isEnabled returned " + result);
    }
} catch(Exception exp) {}
```

## siebelFT.threadbar

Creates a Siebel Threadbar element.

### Format

The siebelFT.threadbar method has the following command format(s):

```
siebelFT.threadbar(path);
```

```
siebelFT.threadbar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Threadbar.

### Example

Performs an action on a Siebel Threadbar element.

```
String SiebThreadbar="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Activities Screen']" +
    "/siebelft:cas[@ClassName='SiebThreadbar' " +
    "and @RepositoryName='SiebThreadbar']";
siebelFT.threadbar(2, SiebThreadbar).assertCells("assert",
    siebelFT.cells(siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
        TestOperator.StringExact)));
siebelFT.threadbar(4, SiebThreadbar).verifyCells("verify",
    siebelFT.cells(siebelFT.cell(1, 1,"Opportunity Detail - Activities View0",
        TestOperator.StringExact)));
try{
    String result=siebelFT.threadbar(5, SiebThreadbar)
        .getActiveThreadItem();
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getActiveThreadItem returned " + result);
    }
} catch(Exception exp) {}
try{
    String result=siebelFT.threadbar(6, SiebThreadbar)
        .getCell(1, 1);
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getCell returned " + result);
    }
} catch(Exception exp) {}
try{
    Integer result=siebelFT.threadbar(7, SiebThreadbar)
        .getCount();
```

```
    if (result <1) {
        warn("getCount returned " + result);
    }
} catch(Exception exp) {}
try{
    String result=siebelFT.threadbar(8, SiebThreadbar)
        .getThreadItemByIndex(0);
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getThreadItemByIndex returned " + result);
    }
} catch(Exception exp) {}
try{
    String result=siebelFT.threadbar(9, SiebThreadbar)
        .getThreadItems();
    if (!result.equals("Opportunity Detail - Activities View0")) {
        warn("getThreadItems returned " + result);
    }
} catch(Exception exp) {}
try{
    Boolean result=siebelFT.threadbar(10, SiebThreadbar)
        .isExists("Opportunity Detail - Activities View0");
    if (!result) {
        warn("isExists returned " + result);
    }
} catch(Exception exp) {}

siebelFT.threadbar(11, SiebThreadbar).storeCell("var", 1, 1);
if (!eval("#{var}").equals("Opportunity Detail - Activities View0")){
    warn("storeCell returned " + eval("#{var}"));
}
```

## siebelFT.toolbar

Creates a Siebel Toolbar element.

### Format

The siebelFT.toolbar method has the following command format(s):

```
siebelFT.toolbar(path);
```

```
siebelFT.toolbar(recid, path);
```

### Command Parameters

**path**

a String specifying the path of the element.

**recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Toolbar.

### Example

Performs an action on a Siebel Toolbar element.

```
siebelFT.toolbar(185, "/siebelft:cas[@ClassName='SiebApplication' " +  
    "and @RepositoryName='Siebel Universal Agent']" +  
    "/siebelft:cas[@ClassName='SiebToolbar' " +  
    "and @RepositoryName='HIMain']")  
    .click("SiteMap");
```

---

## siebelFT.tree

Creates a Siebel Tree element.

### Format

The siebelFT.tree method has the following command format(s):

```
siebelFT.tree(path);
siebelFT.tree(recid, path);
```

### Command Parameters

#### **path**

a String specifying the path of the element.

#### **recid**

the ID of a previously recorded navigation, used for comparison purposes. May be null.

### Returns

a new Tree.

### Example

Performs an action on a Siebel Tree element.

```
String SiebTree="/siebelft:cas[@ClassName='SiebApplication' " +
    "and @RepositoryName='Siebel Universal Agent']" +
    "/siebelft:cas[@ClassName='SiebScreen' " +
    "and @RepositoryName='Opportunities Screen']" +
    "/siebelft:cas[@ClassName='SiebView' " +
    "and @RepositoryName='Opportunity Explorer View']" +
    "/siebelft:cas[@ClassName='SiebApplet' " +
    "and @RepositoryName='Opportunity Tree Applet']" +
    "/siebelft:cas[@ClassName='SiebTree' " +
    "and @RepositoryName='SiebTree']";
siebelFT.tree(4, SiebTree).expand("1");
siebelFT.tree(5, SiebTree).select("1.2");
try{
    String result=siebelFT.tree(6, SiebTree)
        .getActiveTreeItem();
    if ((result.length()<1)) {
        warn("getActiveTreeItem returned " + result);
    }
}catch(Exception exp) {}
try{
    String result=siebelFT.tree(7, SiebTree)
        .getTreeItemName("1.2");
    if (result.length()<1) {
        warn("getTreeItemName returned " + result);
    }
}catch(Exception exp) {}
try{
    Integer result=siebelFT.tree(8, SiebTree)
        .getChildCount("1");
```

```
    if (result <1) {
        warn("getChildCount returned " + result);
    }
} catch(Exception exp) {}
try{
    Boolean result=siebelFT.tree(9, SiebTree)
    .isExpanded("1");
    if (!result) {
        warn("isExpanded returned " + result);
    }
} catch(Exception exp) {}

siebelFT.tree(10, SiebTree).nextPage();
siebelFT.tree(11, SiebTree).previousPage();
siebelFT.tree(12, SiebTree).collapse("1");
```



---

---

## Oracle Siebel Open UI Functional Module

This chapter provides a complete listing and reference for the methods in the OpenScript Siebel Open UI Module Application Programming Interface (API).

### 20.1 Siebel Open UI API Reference

The following section provides an alphabetical listing of the methods in the OpenScript Siebel OpenUI API.

#### 20.1.1 Alphabetical Command Listing

The following table lists the Siebel Open UI API methods in alphabetical order.

**Table 20–1** *List of Siebel Open UI Methods*

Method	Description
<a href="#">openui.syncPage</a>	Identifies an Siebel Open UI Control by its recorded ID and path.

The following sections provide detailed reference information for each method in the Open UI Class of Siebel open UI Module Application Programming Interface.

## openui.syncPage

Identifies an Siebel Open UI Control by its recorded ID and path.

### Format

The `openui.syncPage` method has the following command format(s):

```
openui.syncPage(windowPath);
```

```
openui.syncPage(reclId, windowPath);
```

```
openui.syncPage(reclId, windowPath, timeoutMillis);
```

```
openui.syncPage(reclId, windowPath, timeoutMillis, delayMillisBeforeSync,  
durationMillisBetweenEachCheck, matchCount);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**timeoutMillis**

a Long specifying the timeout in milliseconds.

**delayMillisBeforeSync**

a Long specifying the delay in milliseconds before sync.

**durationMillisBetweenEachCheck**

a Long specifying the duration in milliseconds between each check.

**matchCount**

an Int specifying the match count.

### Throws

**Exception**

on any error.

### Example

Performs a sync action on an Open UI page specified by its recorded ID and path.

```
openui.syncPage(11,  
"/web:window[@index='0' or @title='Siebel Call Center']", 60L*1000);
```

---

---

## Siebel OpenUI Function Library

This chapter explains how to use the Siebel OpenUI function library and provides a complete listing and reference for the methods in the OpenScript Siebel OpenUI Function Library Application Programming Interface (API).

### 21.1 Using the Siebel OpenUI Function Library

The Siebel Open UI function library is an add-on feature to the OpenScript functional testing product. The Siebel OpenUI function library can be used to enhance testing capabilities of Web Functional testing scripts used to test applications based on the Siebel OpenUI platform. If you are testing Siebel applications that use Standard Siebel High Interactivity (HI) and Standard Interactivity (SI) components, you should use the Siebel Functional test module instead. See [Chapter 19, "Siebel Functional Module"](#) for information.

The Siebel OpenUI function library must be downloaded and added to your test script repository after the OpenScript platform is installed.

To use the Siebel OpenUI function library:

1. Download the Siebel OpenUI function library zip file from:  
<http://www.oracle.com/technetwork/oem/downloads/index-084446.html>
2. Unzip the Siebel OpenUI function library zip file into your OpenScript repository directory. For example: C:\OracleATS\OFT.
3. Create a Web Functional test script for your Siebel OpenUI testing project.
4. Add the Siebel OpenUI function library as a script asset of the Web Functional test script:
  - Click the **Assets** tab of the Web Functional test script.
  - Click **Add** and select **Script**.
  - Select the `FunctionLib` script that you unzipped from the Siebel OpenUI function library download zip.
5. Record actions and add functions from the Siebel OpenUI function library to test Call center applications with automation set to On (Siebel server side parameter "EnableAutomation" is set to "True". Sample url:  
[http://server.example.com/callcenter\\_enu/start.swe?SWECmd=AutoOn](http://server.example.com/callcenter_enu/start.swe?SWECmd=AutoOn)).
  - Add functions to your script using the **Add** option on the **Script** menu.
  - Insert code from the Siebel OpenUI function library in the Java Code view. Type `functionLib` in the code view to access the functions in the library.

## 21.2 Siebel OpenUI Function Library ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript Siebel OpenUI Function Library API.

### 21.2.1 Alphabetical Enum Listing

The following table lists the Siebel OpenUI Function Library Enums in alphabetical order.

**Table 21–1 List of Siebel OpenUI Function Library Enums**

Enum	Description
<a href="#">CommunicationtoolbarGetROproperty</a>	Gets the Communicationtoolbar ROproperty attributes <code>classname</code> , <code>name</code> , <code>rn</code> , <code>un</code> .
<a href="#">GetROPropertyApplet</a>	Get the ROPropertyApplet attributes <code>exist</code> , <code>rn</code> , <code>un</code> .
<a href="#">GetROPropertyBtn</a>	Get the ROPropertyBtn attributes <code>classname</code> , <code>isenabled</code> , <code>rn</code> , <code>text</code> , <code>un</code> .
<a href="#">GetROPropertyCheckbox</a>	Get the ROPropertyCheckbox attributes <code>isChecked</code> , <code>isEnabled</code> , <code>un</code> , <code>rn</code> .
<a href="#">GetROPropertyImage</a>	Get the ROPropertyImage attributes <code>classname</code> , <code>isenabled</code> , <code>repositoryname</code> , <code>text</code> , <code>uiname</code> .
<a href="#">GetROPropertyLink</a>	Get the ROPropertyLink attributes <code>text</code> , <code>uiname</code> , <code>repositoryname</code> , <code>classname</code> , <code>isenabled</code> .
<a href="#">GetROPropertyPDQ</a>	Get the ROPropertyPDQ attributes <code>rn</code> , <code>text</code> , <code>un</code> .
<a href="#">GetROPropertyScreen</a>	Get the ROPropertyScreen attributes <code>classname</code> , <code>rn</code> , <code>un</code> , <code>value</code> .
<a href="#">GetROPropertyText</a>	Gets the ROPropertyText attributes <code>classname</code> , <code>isenabled</code> , <code>rn</code> , <code>text</code> , <code>un</code> .
<a href="#">ViewGetROProperties</a>	Gets the ViewGetROProperties attributes <code>ActiveApplet</code> , <code>AppletCount</code> , <code>rn</code> , <code>un</code> .
<a href="#">getROPropertyAdvancedEdit</a>	Get the ROPropertyAdvancedEdit attributes <code>classname</code> , <code>rn</code> , <code>un</code> , <code>value</code> .
<a href="#">months</a>	List of months in three-letter format Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec.
<a href="#">pagetabsGetROProperty</a>	Get the pagetabs ROProperty attributes <code>activeView</code> , <code>pageTabActiveScreen</code> , <code>screenCount</code> , <code>viewCount</code> .
<a href="#">picklist_GetroProperty</a>	Gets the picklist ROProperty attributes <code>classname</code> , <code>rn</code> , <code>un</code> , <code>value</code> .
<a href="#">siebScreenViewsValue</a>	Sets the screen view level values L2, L3, L4.

## 21.3 Siebel Function Library API Reference

The following section provides an alphabetical listing of the methods in the OpenScript Siebel OpenUI Function Library API.

## 21.3.1 Alphabetical Command Listing

The following table lists the Siebel OpenUI Function Library API methods in alphabetical order.

**Table 21–2 List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<a href="#">functionLib.ActiveTreeItem</a>	Gets the active tree item in the specified Applet.
<a href="#">functionLib.ApplicationMenuClick</a>	Performs click action on the Application Menu Links.
<a href="#">functionLib.Collapse</a>	Collapses the object specified by String ID.
<a href="#">functionLib.CurrencyText</a>	Gets the text value of the target HTML element defined by the xpath.
<a href="#">functionLib.DataLevel</a>	Gets the level at which the Current row exists in the Hierarchial <b>List Applet</b> .
<a href="#">functionLib.DataParentId</a>	Gets the parent ID of the Specified row in the Hierarchial <b>List Applet</b> .
<a href="#">functionLib.Drilldown</a>	Drill down the specified object row of the <b>List Applet</b> .
<a href="#">functionLib.Expand</a>	Expands the object specified by String ID.
<a href="#">functionLib.GetChildCount</a>	Gets the child count of the object specified by String ID.
<a href="#">functionLib.GetTreeItemName</a>	Gets the name of the tree item specified by String ID.
<a href="#">functionLib.Hcollapse</a>	Collapses the specified row in the Hierarchial <b>List Applet</b> .
<a href="#">functionLib.Hexpand</a>	Expands the specified row in the Hierarchial <b>List Applet</b> .
<a href="#">functionLib.IsSelected</a>	Detects whether the object specified by String ID is selected or not.
<a href="#">functionLib.Login</a>	Launches the browser and logs into the Application.
<a href="#">functionLib.Navigate_Screen</a>	Navigates to the Screen/View from SiteMap.
<a href="#">functionLib.NextPage</a>	Go to the next page of the specified Applet.
<a href="#">functionLib.Nextmonth</a>	Gets the number of the next month.
<a href="#">functionLib.PreviousPage</a>	Go to the previous page of the specified Applet.
<a href="#">functionLib.Previousmonth</a>	Gets the number of the previous month.
<a href="#">functionLib.SetCellData</a>	Sets the value of the input in the specified cell.
<a href="#">functionLib.SetText</a>	Sets the text when the field has same repository name across multiple applets in same screen and modifies or renames the text in the text field.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.Static</code>	Gets the specified attribute ( <code>Property</code> ) of the target HTML element defined by the path.
<code>functionLib.activateRow</code>	Activates a row in the list.
<code>functionLib.activeApplet</code>	Gets the repository name of the current view.
<code>functionLib.activeRow</code>	Gets the active row number in the specified Applet.
<code>functionLib.activeScreen</code>	Gets the specified attribute ( <code>RepositoryName</code> ) of the activeScreen of the target HTML element defined by the path.
<code>functionLib.activeView</code>	Gets the specified attribute ( <code>RepositoryName</code> ) of the active view of the target HTML element defined by the path.
<code>functionLib.advancededitGetRoProperty</code>	Gets the <code>property</code> attribute of the target HTML element defined by the path.
<code>functionLib.appletClassName</code>	Gets the <code>class</code> attribute of the target HTML element.
<code>functionLib.appletCount</code>	Gets the Applet count under the current screen.
<code>functionLib.appletGetROProperty</code>	Gets the specified attribute ( <code>un, rn, exist</code> ) of the target HTML element defined by the path.
<code>functionLib.appletRepositoryName</code>	Gets the Repository Name of the active Applet.
<code>functionLib.appletUiName</code>	Gets the UI name of the active Applet.
<code>functionLib.buttonClassName</code>	Gets the <code>class</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.buttonGetRoProperty</code>	Gets the specified attribute ( <code>text, un, rn, classname, isenabled</code> ) of the target HTML element defined by the path.
<code>functionLib.buttonIsEnabled</code>	Gets the <code>disabled</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.buttonRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.buttonUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.buttonclick</code>	Clicks on any button with specified repository name in the <b>List</b> or <b>Form Applet</b> .
<code>functionLib.calculatorClassName</code>	Gets the specified attribute ( <code>ClassName</code> ) of the target HTML element defined by the path.
<code>functionLib.calculatorGetROProperty</code>	Gets the specified attribute ( <code>propertyname</code> ) of the target HTML element defined by the path.
<code>functionLib.calculatorIsEnabled</code>	Detects whether the calculator object is enabled or disabled.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.calculatorIsOpen</code>	Detects whether the specified calculator popup is open or closed.
<code>functionLib.calculatorRepositoryName</code>	Gets the specified attribute ( <code>RepositoryName</code> ) of the target HTML element defined by the path.
<code>functionLib.calculatorText</code>	Gets the text value of the target HTML element defined by the xpath.
<code>functionLib.calculatorUiName</code>	Gets the specified attribute ( <code>UiName</code> ) of the target HTML element defined by the path.
<code>functionLib.calendarDay</code>	Gets the day value of the calendar object in the <b>Form Applet</b> .
<code>functionLib.calendarDayClick</code>	Clicks on the day link in the Calendar object/popup in <b>Form Applets</b> .
<code>functionLib.calendarDayListApplet</code>	Gets the calendar day value in the <b>List Applet</b> .
<code>functionLib.calendarIsOpen</code>	Detects whether the specified calendar popup is open or closed.
<code>functionLib.calendarMonth</code>	Gets the month of the calendar object for the <b>Form Applet</b> .
<code>functionLib.calendarMonthListApplet</code>	Gets the calendar month value in the <b>List Applet</b> .
<code>functionLib.calendarYear</code>	Gets the year value of the Calendar object in the <b>Form Applet</b> .
<code>functionLib.calendarYearListApplet</code>	Gets the calendar year value in the <b>List Applet</b> .
<code>functionLib.calenderClassName</code>	Gets the <code>classname</code> attribute of the target HTML element defined by the path.
<code>functionLib.calenderGetROProperty</code>	Gets the specified attribute ( <code>rn</code> , <code>un</code> , <code>classname</code> , <code>value</code> ) of the target HTML element defined by the path.
<code>functionLib.calenderIsEnabled</code>	Detects whether the calendar object is enabled or disabled.
<code>functionLib.calenderUiName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.checkBoxClassName</code>	Gets the <code>class</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.checkBoxUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.checkboxGetROProperty</code>	Gets the specified attribute( <code>isChecked</code> , <code>isEnabled</code> , <code>un</code> , <code>rn</code> ) of the target HTML element defined by the path.
<code>functionLib.checkboxRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.clickDone</code>	Clicks the Done button in the Calendar popup in <b>List</b> or <b>Form Applets</b> .
<code>functionLib.clickNow</code>	Clicks the Now button in the Calendar popup in <b>List</b> or <b>Form Applets</b> .

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.columnCount</code>	Gets the number of currently visible columns in the list (determined by show more/less).
<code>functionLib.commToolbarClassname</code>	Gets the <code>class</code> attribute of the communication toolbar object from the target HTML element defined by the <code>xpath</code> .
<code>functionLib.commToolbarGetRoProperty</code>	Gets the <code>property</code> attribute of the target HTML element defined by the path.
<code>functionLib.commToolbarIsEnabled</code>	Detects whether or not the communication toolbar object is enabled from the target HTML element defined by the <code>xpath</code> .
<code>functionLib.commToolbarRepositoryname</code>	Gets the <code>rn</code> attribute of the communication toolbar object from the target HTML element defined by the <code>xpath</code> .
<code>functionLib.commToolbarShowButtonToolTip</code>	Gets the <code>alt</code> attribute (ToolTip) of the target HTML element defined by the <code>xpath</code> .
<code>functionLib.commToolbarText</code>	Gets the <code>text</code> value attribute of the communication toolbar object from the target HTML element defined by the <code>xpath</code> .
<code>functionLib.commToolbarUiName</code>	Gets the <code>un</code> attribute of the communication toolbar object from the target HTML element defined by the <code>xpath</code> .
<code>functionLib.currencyAmount</code>	Gets the <code>Amount</code> attribute of the target HTML element defined by the path.
<code>functionLib.currencyClassName</code>	Gets the <code>class</code> attribute of the target HTML element defined by the <code>xpath</code> .
<code>functionLib.currencyCode</code>	Returns the Currency Code value of the currency field in the <b>List Applet</b> .
<code>functionLib.currencyCodeClassName</code>	Gets the <code>classname</code> attribute of the target HTML element defined by the path.
<code>functionLib.currencyCodeValue</code>	Gets the <code>Value</code> attribute of the target HTML element defined by the path.
<code>functionLib.currencyGetROProperty</code>	Gets the specified attribute ( <code>rn</code> , <code>un</code> , <code>classname</code> , <code>value</code> ) of the target HTML element defined by the path.
<code>functionLib.currencyIsEnabled</code>	Detects whether the currency object is enabled or disabled.
<code>functionLib.currencyIsOpen</code>	Detects whether the specified Currency popup is open or closed.
<code>functionLib.currencyRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the <code>xpath</code> .
<code>functionLib.currencyUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the <code>xpath</code> .
<code>functionLib.dialogGetROProperty</code>	Gets the specified attribute ( <code>property</code> ) of the target HTML element defined by the path.



**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<a href="#">functionLib.extractId</a>	Extracts and returns the ID attribute value of the given Xpath.
<a href="#">functionLib.focus</a>	Sets focus to the target HTML element defined by the path.
<a href="#">functionLib.formRecordNumber</a>	Gets the form record number.
<a href="#">functionLib.generateID</a>	Generate the ID from the given row.
<a href="#">functionLib.getCellData</a>	Gets the text for a specified cell when the cell has same repository name across multupal applets in same screen.
<a href="#">functionLib.getMonthNumber</a>	Gets the number of the specified month.
<a href="#">functionLib.getNumberMonth</a>	Gets the equivalent month for the corresponding number.
<a href="#">functionLib.getPageTabRepositoryName</a>	Gets the <i>rn</i> attribute of the target HTML element defined by the xpath.
<a href="#">functionLib.getPageTabRepositoryNameByIndex</a>	Gets the <i>rn</i> attribute of the target HTML element defined by the xpath using index.
<a href="#">functionLib.getUiName</a>	Gets the <i>un</i> attribute or name of the object as it appears in the user interface of the target HTML element defined by the path.
<a href="#">functionLib.iconColor</a>	Gets the color of the icon in the <b>List Applet</b> .
<a href="#">functionLib.imageGetRoProperty</a>	Gets the <i>property</i> attribute of the target HTML element defined by the path.
<a href="#">functionLib.isCalculatorPopup</a>	Detects whether pecified Calculator popup is opened or closed.
<a href="#">functionLib.isCalendarPopup</a>	Detects whether the Calendar is opened or closed.
<a href="#">functionLib.isCheckboxChecked</a>	Detects whether or not the specified checkbox object is checked for the <b>List Applet</b> .
<a href="#">functionLib.isCheckboxEnabled</a>	Detects whether the specified checkbox object is enabled or disabled for the <b>List Applet</b> .
<a href="#">functionLib.isColumnExist</a>	Detects wheather the specified column exist or not in the <b>List Applet</b> .
<a href="#">functionLib.isColumnwritable</a>	Detects the the state of table column, where state is the value of the column's disabled or read-only property.
<a href="#">functionLib.isExpanded</a>	Detects whether the object specified by String ID is expanded or not.
<a href="#">functionLib.isHierarchialListExpanded</a>	Detects if the specified row is expanded or not in the Hierarchial <b>List Applet</b> .
<a href="#">functionLib.isPopupApplet</a>	Detects whether or not the current Applet represents a popup Applet.
<a href="#">functionLib.isRequired</a>	Detects whether the specified object is required or not.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<a href="#">functionLib.l2Count</a>	Gets the specified number of views of the target HTML element defined by the path.
<a href="#">functionLib.linkGetRoProperty</a>	Gets the <code>propertyname</code> attribute of the target HTML element defined by the path.
<a href="#">functionLib.log</a>	Writes the specified message String to a results log file.
<a href="#">functionLib.make_uniq</a>	Creates unique record by appending the date and time to the record passed as argument.
<a href="#">functionLib.menuCount</a>	Gets the number of menu items from the Applet Level Menu object.
<a href="#">functionLib.menuItemClassName</a>	Gets the <code>classname</code> attribute the target HTML element defined by the path.
<a href="#">functionLib.menuItemClick</a>	Clicks and selects the item from the menu list.
<a href="#">functionLib.menuItemEnabled</a>	Detects whether or not the specified menu object or menu item is enabled.
<a href="#">functionLib.menuItemExist</a>	Detects whether or not the specified menu object or menu item exists.
<a href="#">functionLib.menuItemGetRepositoryName</a>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<a href="#">functionLib.menuItemGetUiName</a>	Gets the <code>un</code> attribute of the target HTML element defined by the path.
<a href="#">functionLib.menuItemRepositoryName</a>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<a href="#">functionLib.monthMapping</a>	Gets the equivalent month for the corresponding string value from the Document Object Model(DOM).
<a href="#">functionLib.notificationCount</a>	Gets the <code>notificationCount</code> attribute of the target HTML element defined by the path.
<a href="#">functionLib.openCellElement</a>	Clicks on the element inside the specified cell.
<a href="#">functionLib.openUiSync</a>	Waits until <code>classname siebui-busy</code> is active.
<a href="#">functionLib.openpopup</a>	Opens the pop up for the specified field in the <b>List Applet</b> .
<a href="#">functionLib.pageTabActiveScreen</a>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<a href="#">functionLib.pageTabIsExists</a>	Detects whether or not the specified <code>Pagetab</code> object exists.
<a href="#">functionLib.pagetabsGetROProperty</a>	Gets the specified attribute ( <code>pageTabActiveScreen</code> , <code>activeView</code> , <code>screenCount</code> , <code>viewCount</code> ) of the target HTML element defined by the path.
<a href="#">functionLib.pdqActive</a>	Gets a data value representing the visible query title of the target HTML element defined by the xpath.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.pdqClassName</code>	Gets the class name of the target HTML element defined by the path.
<code>functionLib.pdqGetROProperty</code>	Gets the specified attribute (Property) of the target HTML element defined by the path.
<code>functionLib.pdqItemCount</code>	Detects the number of objects of a given type that are present in the current context.
<code>functionLib.pdqRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.pdqUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.pdqisExist</code>	Detects whether or not the specified PDQ object exists.
<code>functionLib.pickListActiveItem</code>	Gets the value representing the currently selected item from the Picklist.
<code>functionLib.pickListClassName</code>	Gets the class attribute of the target HTML element defined by the xpath.
<code>functionLib.pickListCount</code>	Gets the number of items are present in the Picklist object for the <b>List Applet</b> .
<code>functionLib.pickListGetROProperty</code>	Gets the specified attribute ( <code>rn</code> , <code>un</code> , <code>classname</code> , <code>value</code> ) of the target HTML element defined by the path.
<code>functionLib.pickListIsEnabled</code>	Detects whether the PickList object is enabled or disabled.
<code>functionLib.pickListRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.pickListSetText</code>	Set text to target Picklist element.
<code>functionLib.pickListUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.picklistItemIsExist</code>	Detects the existence of the Picklist item in the given LOV list.
<code>functionLib.recordCount</code>	Specifies the number of rows (visible/invisible) in the <b>List Applet</b> .
<code>functionLib.rowCount</code>	Gets the number of currently visible rows (determined by show more/less).
<code>functionLib.screenClassName</code>	Gets the <code>classname</code> attribute of the screen.
<code>functionLib.screenCount</code>	Gets the screen count present in the current context.
<code>functionLib.screenGetRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.screenGetRoProperty</code>	Gets the <code>propertyname</code> attribute of the target HTML element defined by the path.
<code>functionLib.screenRepositoryName</code>	Gets the <code>rn</code> attribute of the screen.
<code>functionLib.screenUiName</code>	Gets the <code>un</code> attribute of the screen.
<code>functionLib.selectCell</code>	Clicks on the element inside the specified cell.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.selectTree</code>	Selects the tree object specified by String ID.
<code>functionLib.setTextArea</code>	Sets text to the specified cell (textarea) in the list.
<code>functionLib.siebScreenActiveView</code>	Gets the <code>rn</code> attribute of the target HTML element.
<code>functionLib.siebScreenViewsIsExists</code>	Detects whether the specified view exists or not.
<code>functionLib.sitemapFilterTextIsExists</code>	Detects whether or not the filtered count for the entered text is displayed on the sitemap screen on sitemap search operation.
<code>functionLib.sitemapIsExists</code>	Detects whether or not the sitemap screen is displayed on click of sitemap icon.
<code>functionLib.sitemapLinkclick</code>	Clicks on the link available on the Sitemap screen.
<code>functionLib.sitemapScreen2ndLevelViewCount</code>	Gets the number of 2nd level views present for a particular screen.
<code>functionLib.sitemapScreen3rdLevelViewCount</code>	Gets the number of 3rd level views present for a particular screen.
<code>functionLib.sitemapScreen4thLevelViewCount</code>	Gets the number of 4th level views present for a particular screen.
<code>functionLib.sitemapSearchBoxCount</code>	Gets the count of the number of occurrences of the specified text in the sitemap search box.
<code>functionLib.sitemapSearchBoxIsExists</code>	Detects whether or not the searchbox field exists in the sitemap screen.
<code>functionLib.sortDown</code>	Sorts the table in descending order based on the contents of the specified column.
<code>functionLib.sortUp</code>	Sorts the table in ascending order based on the contents of the specified column.
<code>functionLib.staticDialogGetROProperty</code>	Gets the specified attribute ( <code>Property</code> ) of the target HTML element defined by the path.
<code>functionLib.staticDialogGetVisibleText</code>	Gets the text attribute of the Confirm or Alert dialog box, if one exists.
<code>functionLib.textAreaClassName</code>	Gets the class attribute of the target HTML element defined by the xpath.
<code>functionLib.textAreaGetROProperty</code>	Gets the specified attribute ( <code>rn</code> , <code>un</code> , <code>classname</code> , <code>value</code> ) of the target HTML element defined by the path.
<code>functionLib.textAreaRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element defined by the xpath.
<code>functionLib.textAreaText</code>	Gets the text value of the target HTML element defined by the xpath.
<code>functionLib.textAreaUiName</code>	Gets the <code>un</code> attribute of the target HTML element defined by the xpath.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<a href="#">functionLib.textClassName</a>	Gets the class attribute of the target HTML element defined by the xpath.
<a href="#">functionLib.textGetROProperty</a>	Gets the specified attribute ( <i>text</i> , <i>un</i> , <i>rn</i> , <i>classname</i> , <i>isenabled</i> ) of the target HTML element defined by the path.
<a href="#">functionLib.textIsEnabled</a>	Detects whether the Text object is enabled or disabled from the target HTML element defined by the xpath.
<a href="#">functionLib.textPopupType</a>	Detects the type of popup associated with the textbox from the target HTML element defined by the xpath.
<a href="#">functionLib.textRepositoryName</a>	Gets the <i>rn</i> attribute of the Text object of the target HTML element defined by the xpath.
<a href="#">functionLib.textText</a>	Gets the text value of the target HTML element defined by the xpath.
<a href="#">functionLib.textUIName</a>	Gets the <i>un</i> attribute of the Text object of the target HTML element defined by the xpath.
<a href="#">functionLib.textareaIsEnabled</a>	Detects whether the Textarea object is enabled or disabled.
<a href="#">functionLib.threadBarItemCount</a>	Gets the number of objects of a given type that are present in the current context.
<a href="#">functionLib.threadItems</a>	Gets the <i>threaditems</i> attribute of the target HTML element defined by the path.
<a href="#">functionLib.toggleClick</a>	Clicks on any span with repository name in the <b>List</b> or <b>Form Applet</b> .
<a href="#">functionLib.toolbarCount</a>	Gets the <i>count</i> attribute of the target HTML element defined by the path.
<a href="#">functionLib.toolbarClassName</a>	Gets the specified attribute ( <i>classname</i> ) of the target HTML element defined by the path.
<a href="#">functionLib.toolbarItemIsEnabled</a>	Detects whether a particular toolbar item is enabled on the target HTML element defined by the path.
<a href="#">functionLib.viewAppletActiveApplet</a>	Gets the <i>activeapplet</i> attribute of the Applet view object.
<a href="#">functionLib.viewAppletCount</a>	Gets the <i>appletcount</i> attribute of the target HTML element defined by the path.
<a href="#">functionLib.viewAppletGetRepositoryName</a>	Gets the specified attribute ( <i>RepositoryName</i> ) of the target HTML element defined by the path.
<a href="#">functionLib.viewAppletGetUiName</a>	Gets the <i>uname</i> attribute of the target HTML element defined by the path.
<a href="#">functionLib.viewAppletIsExist</a>	Detects whether the specified viewApplet object exists or not.
<a href="#">functionLib.viewAppletSelect</a>	Gets the specified attribute ( <i>Applet repository name</i> ) of the target HTML element defined by the path.

**Table 21–2 (Cont.) List of Siebel OpenUI Function Library Methods**

<b>Method</b>	<b>Description</b>
<code>functionLib.viewCount</code>	Gets the number of view objects present in the current context for Second level view bar.
<code>functionLib.viewGetROProperty</code>	Gets the specified attribute ( <code>PropertyName</code> ) of the target HTML element defined by the path.
<code>functionLib.viewRepositoryName</code>	Gets the <code>rn</code> attribute of the target HTML element.
<code>functionLib.viewUiName</code>	Gets the specified attribute ( <code>UI Name</code> ) of the target HTML element defined by the path.
<code>functionLib.visibilityFilterActiveItem</code>	Gets the currently active visibility filter item name in the <b>List Applet</b> .
<code>functionLib.waitDomToLoad</code>	Waits until the Document Object Model (DOM) of the page gets loaded.
<code>functionLib.webListGetItemByIndex</code>	Gets the specified attribute ( <code>Item</code> ) of the target HTML element defined by the path.
<code>functionLib.webListItemCount</code>	Gets the <code>Itemcount</code> attribute of the target HTML element defined by the path.
<code>functionLib.webListSelectItemByIndex</code>	Selects the specified <code>Item</code> in a web list for the given <code>Xpath</code> and index of the target HTML element.
<code>functionLib.webListSelectItemByValue</code>	Selects the item in a web list for the specified <code>Xpath</code> and <code>Value</code> of the target HTML element.

The following sections provide detailed reference information for each method and enum in the Siebel Function Library Class of Siebel Function Library Application Programming Interface.

---

## functionLib.activateRow

Activates a row in the list.

### Format

The functionLib.activateRow method has the following command format(s):

```
functionLib.activateRow(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from **any column header from the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Activates the fifth row in the list.

```
functionLib.activateRow("/web:window" +  
"/web:document" +  
"/web:div[@rn='Name' and @ot='JText' " +  
"and @un='Name']", 5);
```

## functionLib.activeApplet

Gets the repository name of the current view.

### Format

The functionLib.activeApplet method has the following command format(s):

```
functionLib.activeApplet();
```

### Throws

#### **Exception**

on any error.

### Returns

a String repository name of the current context.

### Example

Gets the repository name of the current view and prints the custom message.

```
//Using Java variable.  
String value = functionLib.activeApplet();  
System.out.println("active Applet is "+ value);
```



## functionLib.activeRow

Gets the active row number in the specified Applet.

### Format

The functionLib.activeRow method has the following command format(s):

```
functionLib.activeRow(AppletRepname);
```

### Command Parameters

**AppletRepname**

a String specifying the Applet.

### Throws

**Exception**

on any error.

### Returns

an Integer row number.

### Example

Gets the active row number.

```
//Using Java variable.  
int activeRow = functionLib.activeRow("Applet Name");  
System.out.println("The active row is "+activeRow);
```

---

## functionLib.activeScreen

Gets the specified attribute (RepositoryName) of the activeScreen of the target HTML element defined by the path.

### Format

The functionLib.activeScreen method has the following command format(s):

```
functionLib.activeScreen( );
```

### Throws

#### Exception

on any error.

### Returns

the RepositoryName (un SiebelPageTab object attribute) of the activeScreen, as represented by the active Aggregate Category link.

### Example

Gets the RepositoryName (un SiebelPageTab object attribute) of the activeScreen, as represented by the active Aggregate Category link and prints the custom message.

```
//Using Java variable.  
String value = functionLib.activeScreen();  
System.out.println("activeScreen is "+value);
```

## functionLib.ActiveTreeItem

Gets the active tree item in the specified Applet.

### Format

The functionLib.ActiveTreeItem method has the following command format(s):

```
functionLib.ActiveTreeItem(AppletRepname);
```

### Command Parameters

**AppletRepname**

a String specifying the Applet.

### Throws

**Exception**

on any error.

### Returns

a String of the active item name.

### Example

Gets the active tree item.

```
//Using Java variable.  
String activeitem = functionLib.ActiveTreeItem("Applet Name");  
System.out.println("The active tree item is "+activeitem);
```

## functionLib.activeView

Gets the specified attribute (RepositoryName) of the active view of the target HTML element defined by the path.

### Format

The functionLib.activeView method has the following command format(s):

```
functionLib.activeView( );
```

### Throws

#### Exception

on any error.

### Returns

the RepositoryName (rn attribute) of the active view, as represented by the active Aggregate Category link.

### Example

Gets the RepositoryName (rn attribute) of the active view, as represented by the active Aggregate Category link and prints the custom message.

```
//Using Java variable.  
String value = functionLib.activeView();  
System.out.println("Active View is "+value);
```

---

## functionLib.advancededitGetRoProperty

Gets the property attribute of the target HTML element defined by the path.

### Format

The functionLib.advancededitGetRoProperty method has the following command format(s):

```
functionLib.advancededitGetRoProperty(propertyName, xpath);
```

### Command Parameters

**propertyName**

a String specifying the property (for example, `classname`, `rn`, `un`, `value`) to get.

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the value of the advancededit element with the attribute value and prints the custom message.

```
//Using Java variable.  
String value = functionLib.advancededitGetRoProperty("value", "/web:window[]" +  
  "/web:document[]" +  
  "/web:form[]" +  
  "/web:input_text[@rn='Revenue' and @ot='JCurrencyCalc' " +  
  "and @un='Revenue']");  
System.out.println("AdvancedEdit value is "+value);
```

## functionLib.appletClassName

Gets the `class` attribute of the target HTML element.

### Format

The `functionLib.appletClassName` method has the following command format(s):

```
functionLib.appletClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String specifying the `class` property of the Applet object.

### Example

Gets the class attribute and prints the custom message.

```
//Using Java variable.  
String value = functionLib.appletClassName("");  
System.out.println("Class Name is "+value);
```

## functionLib.appletCount

Gets the Applet count under the current screen.

### Format

The functionLib.appletCount method has the following command format(s):

```
functionLib.appletCount( );
```

### Throws

**Exception**  
on any error.

### Returns

the number of Applets in the current screen.

### Example

Gets the number of Applets under the current screen and prints the custom message.

```
//Using Java variable.  
int value = functionLib.appletCount();  
System.out.println("Applet count is "+value);
```

## functionLib.appletGetROProperty

Gets the specified attribute (*un*, *rn*, *exist*) of the target HTML element defined by the path.

### Format

The functionLib.appletGetROProperty method has the following command format(s):

```
functionLib.appletGetROProperty(propertyName);
```

### Command Parameters

**propertyName**

a String specifying the property (For example, *un*, *rn*, *exist*) to get.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the repository name (*rn*) of the Applet object and prints the custom message if matches the expected value.

```
//Using Java variable.  
String repName = functionLib.appletGetROProperty("rn");  
if(repName.equals("Visible Contact List View"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```



## functionLib.appletRepositoryName

Gets the Repository Name of the active Applet.

### Format

The functionLib.appletRepositoryName method has the following command format(s):

```
functionLib.appletRepositoryName();
```

### Throws

**Exception**  
on any error.

### Returns

a String Repository name of the active Applet.

### Example

Gets the Repository name of the active Applet and prints the custom message.

```
//Using Java variable.  
String getAttribute = functionLib.appletRepositoryName();  
if (getAttribute.equals("Visible Contact List View"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.appletUiName

Gets the UI name of the active Applet.

### Format

The functionLib.appletUiName method has the following command format(s):

```
functionLib.appletUiName();
```

### Throws

#### Exception

on any error.

### Returns

a String value of the rn property.

### Example

Gets the Applet UI name and prints the custom message.

```
// Using Java variable.
String appName = functionLib.appletUiName();
if(appName.equals("SIS Account List Applet"))
{
    System.out.println("Pass");
}
else
{
    System.out.println("Fail");
}
```

---

## functionLib.ApplicationMenuClick

Performs click action on the Application Menu Links.

### Format

The functionLib.ApplicationMenuClick method has the following command format(s):

```
functionLib.ApplicationMenuClick(unLIAppMenuItem, unLIAppSubmenuItem);
```

### Command Parameters

**unLIAppMenuItem**

a String specifying the UN attribute of the Main menu Link. For example, File, Edit, View, etc.

**unLIAppSubmenuItem**

a String specifying the UN attribute of the Link which is present inside the main menu item. For example, Logout, Action Pane, etc.

### Throws

**Exception**

on any error.

### Example

Performs click action on the Application Menu Links.

```
functionLib.ApplicationMenuClick("File", "File - Logout");
```

## functionLib.buttonClassName

Gets the class attribute of the target HTML element defined by the xpath.

### Format

The functionLib.buttonClassName method has the following command format(s):

```
functionLib.buttonClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

### Throws

**Exception**

on any error.

### Returns

a String class name of the object button.

### Example

Gets the attribute class for the element button and prints the custom message.

```
//Using Java variable.  
String classname = functionLib.buttonClassName("/web:window" +  
    "/web:document" +  
    "/web:form" +  
    "/web:button[@rn='NewRecord' and @ot='Button' and @un='New']");  
System.out.println(classname);
```

## functionLib.buttonclick

Clicks on any button with specified repository name in the **List** or **Form Applet**.

### Format

The functionLib.buttonclick method has the following command format(s):

```
functionLib.buttonclick(rn, ListORForm);
```

### Command Parameters

**rn**

Repository name of the button.

**ListORForm**

Specify List or Form.

### Throws

**Exception**

on any error.

### Example

Clicks on the button based on the specified Form Applet.

```
functionLib.buttonclick("NewQuery", "Form");
```

## functionLib.buttonGetRoProperty

Gets the specified attribute (*text, un, rn, classname, isenabled*) of the target HTML element defined by the path.

### Format

The functionLib.buttonGetRoProperty method has the following command format(s):

```
functionLib.buttonGetRoProperty(xpath, propertyName);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

**propertyName**

a String specifying the property (For example, *text, un, rn, classname, isenabled*) to get.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the value of the button element with the attribute *text* and prints the custom message.

```
//Using Java variable.
String getAttribute = functionLib.buttonGetRoProperty("/web:window" +
"/web:document" +
"/web:form" +
"/web:button[@rn='NewRecord' and @ot='Button' and @un='New']", "text");
//Using If condition comparing with expected.
if (getAttribute.equals("New"))
{
    System.out.println("Pass");
}
else
{
    System.out.println("Fail");
}
```

---

## functionLib.buttonIsEnabled

Gets the disabled attribute of the target HTML element defined by the xpath.

### Format

The functionLib.buttonIsEnabled method has the following command format(s):

```
functionLib.buttonIsEnabled(xpath);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detect whether or not the button is enabled and prints the custom message if enable/disabled.

```
//Using Java variable.
boolean enabled = functionLib.buttonIsEnabled("/web:window" +
"/web:document" +
"/web:form" +
"/web:button[@rn='NewRecord' and @ot='Button' and @un='New']");
if(enabled)
{
    System.out.println("button is enabled");
}
else
    System.out.println("button is not enabled");
```

## functionLib.buttonRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.buttonRepositoryName method has the following command format(s):

```
functionLib.buttonRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the object button.

### Example

Gets the rn attribute of the target xpath and prints the custom message.

```
//Using Java variable.  
String repoName = functionLib.buttonRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:form" +  
    "/web:button[@rn='NewRecord' and @ot='Button' and @un='New']");  
if(repoName.equals("New"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```



---

## functionLib.buttonUIName

Gets the un attribute of the target HTML element defined by the xpath.

### Format

The functionLib.buttonUIName method has the following command format(s):

```
functionLib.buttonUIName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

### Throws

**Exception**

on any error.

### Returns

a String UIName of the object button.

### Example

Gets the attribute un for the element button and prints the custom message.

```
//Using Java variable.
String UIName = functionLib.buttonUIName("/web:window" +
    "/web:document" +
    "/web:form" +
    "/web:button[@rn='NewRecord' and @ot='Button' and @un='New']");
if(UIName.equals("New"))
{
    System.out.println("Pass");
}
else
{
    System.out.println("Fail");
}
```

## functionLib.calculatorClassName

Gets the specified attribute (`ClassName`) of the target HTML element defined by the path.

This Function is common for both **List** and **Form Applets**.

### Format

The `functionLib.calculatorClassName` method has the following command format(s):

```
functionLib.calculatorClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the classname of the calculator object

### Example

Gets the classname of the calculator object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.calculatorClassName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0' ]" +  
    "/web:input_text[@rn='Current Volume' and @ot='JCurrencyCalc' " +  
    "and @un='Current Volume']");  
System.out.println("Calculator classname is"+value);
```

---

## functionLib.calculatorGetROProperty

Gets the specified attribute (*propertyname*) of the target HTML element defined by the path.

This function should be used only for **List Applet** objects.

### Format

The functionLib.calculatorGetROProperty method has the following command format(s):

```
functionLib.calculatorGetROProperty(xpath, propertyname);
```

```
functionLib.calculatorGetROProperty(xpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**propertyname**

the property name to get.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the calculator element with the attribute value and prints the custom message if matches the required value.

```
//Using Java variable.  
String getAttribute2 = functionLib.calculatorGetROProperty("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='NRC Total' and @ot='JCurrencyCalc' " +  
    "and @un='NRC Total']", "value", 2 );  
if(getAttribute2.equals(""))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.calculatorIsEnabled

Detects whether the calculator object is enabled or disabled.

This function should be used only for **Form Applets**.

### Format

The functionLib.calculatorIsEnabled method has the following command format(s):

```
functionLib.calculatorIsEnabled(xpath);
```

```
functionLib.calculatorIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the calculator object is enabled or disabled and prints a custom message based on whether calculator object is enabled or disabled.

```
//Using Java variable.  
boolean cal = functionLib.calculatorIsEnabled("/web:window" +  
  "/web:document" +  
  "/web:div[@rn='NRC Total' and @ot='JCurrencyCalc' " +  
  "and @un='NRC Total']",5);  
if(cal)  
{  
  System.out.println("Enabled");  
}  
else  
{  
  System.out.println("Disabled");  
}
```

---

## functionLib.calculatorIsOpen

Detects whether the specified calculator popup is open or closed.

### Format

The functionLib.calculatorIsOpen method has the following command format(s):

```
functionLib.calculatorIsOpen(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

String `true` if the calculator popup is opened, `false` if the calculator popup is closed.

### Example

Detect whether the calculator popup is open or closed and prints a custom message.

```
//Using Java variable.  
String value = functionLib.calculatorIsOpen("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_313_0']");  
if(value.equals("true"))  
{  
    System.out.println("calculator popup is Opened");  
}  
else  
{  
    System.out.println("calculator popup is Closed");  
}
```

## functionLib.calculatorRepositoryName

Gets the specified attribute (`RepositoryName`) of the target HTML element defined by the path.

This Function is common for both **List** and **Form Applets**.

### Format

The `functionLib.calculatorRepositoryName` method has the following command format(s):

```
functionLib.calculatorRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the repository name of the calculator object.

### Example

Gets the `RepositoryName` attribute of the calculator object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.calculatorRepositoryName("/web:window[]" +  
    "/web:document[]" +  
    "/web:form[@name='SWEForm1_0' ]" +  
    "/web:input_text[@rn='Current Volume' and @ot='JCurrencyCalc' " +  
    "and @un='Current Volume']");  
System.out.println("Calculator RepositoryName is "+value);
```

---

## functionLib.calculatorText

Gets the text value of the target HTML element defined by the xpath.

This Function should be used only for **List Applets**.

### Format

The functionLib.calculatorText method has the following command format(s):

```
functionLib.calculatorText(xpath);
```

```
functionLib.calculatorText(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer value specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value specifying the text of the object.

### Example

Gets the text value from the object for the second row of the List Applet and prints the custom message.

```
//Using Java variable.  
String value = functionLib.calculatorText("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='NRC Total' and @ot='JCurrencyCalc' " +  
    "and @un='NRC Total']", 2);  
if(value.equals("$1,222.00"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.calculatorUiName

Gets the specified attribute (UiName) of the target HTML element defined by the path.  
This Function will be common for both **List** and **Form Applets**.

### Format

The functionLib.calculatorUiName method has the following command format(s):  
functionLib.calculatorUiName(xpath);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

the UI of the calculator object.

### Example

Gets the UiName of the calculator object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.calculatorUiName("/web:window" +  
    "/web:form[@name='SWEForm1_0']" +  
    "/web:input_text[@rn='NetTotal' and @ot='JCalculator' " +  
    "and @un='Quote Total']");  
System.out.println("Calculator UiName is "+value);
```



---

## functionLib.calendarDay

Gets the day value of the calendar object in the **Form Applet**.

### Format

The functionLib.calendarDay method has the following command format(s):

```
functionLib.calendarDay(xpath);
```

```
functionLib.calendarDay(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header of the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

String value of specifying the day of the calendar object.

### Example

Gets the day of the calendar object for the List Applet and prints the custom message.

```
//Using Java variable.  
String day = functionLib.calendarDay("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Start Date' and @ot='JDatePick' " +  
    "and @un='Effective As Of']", 5);  
System.out.println("Day is "+day);
```

## functionLib.calendarDayClick

Clicks on the day link in the Calendar object/popup in **Form Applets**.

The Calendar popup should be open before clicking on any day.

### Format

The functionLib.calendarDayClick method has the following command format(s):

```
functionLib.calendarDayClick(xpath, day);
```

```
functionLib.calendarDayClick(xpath, row, day);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header of the List Applet**.

**row**

an integer specifying the row number from the List Applet (should always start from one).

**day**

String specifying a day to click on the calendar popup.

### Throws

**Exception**

on any error.

### Example

Clicks a day on the calendar popup in the List Applet.

```
//Using Java variable.  
String ispopup = functionLib.isCalendarPopup();  
if(ispopup.equals("true"))  
{  
    System.out.println("calendar is popup");  
    functionLib.calendarDayClick("/web:window" +  
        "/web:document" +  
        "/web:div[(@rn='Primary Revenue Close Date' " +  
            "and @ot='JDatePick') or @un='Close Date']", 1, "12");  
}  
else  
{  
    System.out.println("calendar is not popup");  
}
```

---

## functionLib.calendarDayListApplet

Gets the calendar day value in the **List Applet**.

### Format

The functionLib.calendarDayListApplet method has the following command format(s):

```
functionLib.calendarDayListApplet(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row of the record in the **List Applet** for which the calendar day value is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String day value.

### Example

Gets the calendar day value.

```
//Using Java variable.  
String dayvalue = functionLib.calendarDayListApplet(" /web:window[]" +  
  "/web:document[]" +  
  "/web:input_text[@id='s_0_1_313_0']", 2);  
System.out.println("Day value is "+dayvalue);
```

## functionLib.calendarIsOpen

Detects whether the specified calendar popup is open or closed.

### Format

The functionLib.calendarIsOpen method has the following command format(s):

```
functionLib.calendarIsOpen(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

String true if the calendar popup is open, false if the calendar popup is closed.

### Example

Detect whether calendar popup is open or closed and prints a custom message.

```
//Using Java variable.  
String value = functionLib.calendarIsOpen("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_313_0']");  
if(value.equals("true"))  
{  
    System.out.println("calendar popup is Opened");  
}  
else  
{  
    System.out.println("calendar popup is Closed");  
}
```

---

## functionLib.calendarMonth

Gets the month of the calendar object for the **Form Applet**.

### Format

The functionLib.calendarMonth method has the following command format(s):

```
functionLib.calendarMonth(xpath);
```

```
functionLib.calendarMonth(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value sepcifying the month of the calendar object (Output: Jan, Feb, etc.).

### Example

Gets the month of the calendar object for the List Applet and prints the custom message.

```
//Using Java variable.  
String month = functionLib.calendarMonth("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Start Date' and @ot='JDatePick' " +  
    "and @un='Effective As Of']", 5);  
System.out.println("Month is "+month);
```

## functionLib.calendarMonthListApplet

Gets the calendar month value in the **List Applet**.

### Format

The functionLib.calendarMonthListApplet method has the following command format(s):

```
functionLib.calendarMonthListApplet(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row of the record in the **List Applet** for which the calendar month value is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String month value.

### Example

Gets the calendar month value.

```
//Using Java variable.  
String monthvalue = functionLib.calendarMonthListApplet("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_313_0']", 2);  
System.out.println("Month value is "+monthvalue);
```

---

## functionLib.calendarYear

Gets the year value of the Calendar object in the **Form Applet**.

### Format

The functionLib.calendarYear method has the following command format(s):

```
functionLib.calendarYear(xpath);
```

```
functionLib.calendarYear(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header of the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

string year value of the calendar field in the **Form Applet**.

### Example

Gets the year of the calendar object for the fifth row in the List Applet and prints the custom message.

```
//Using Java variable.  
String year = functionLib.calendarYear(" /web:window" +  
    " /web:document" +  
    " /web:div[@rn='Start Date' and @ot='JDatePick' " +  
    "and @un='Effective As Of']", 5);  
System.out.println("year is "+year);
```

## functionLib.calendarYearListApplet

Gets the calendar year value in the **List Applet**.

### Format

The functionLib.calendarYearListApplet method has the following command format(s):

```
functionLib.calendarYearListApplet(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row of the record in the **List Applet** for which the calendar year value is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String year value.

### Example

Gets the calendar year value.

```
//Using Java variable.  
String yearvalue = functionLib.calendarYearListApplet("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_313_0']", 2);  
System.out.println("Year value is "+yearvalue);
```



## functionLib.calenderClassName

Gets the `classname` attribute of the target HTML element defined by the path.

### Format

The `functionLib.calenderClassName` method has the following command format(s):

```
functionLib.calenderClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String class specified calendar object.

### Example

Gets the `classname` attribute of the calendar object and prints the custom message.

```
//Using Java variable.  
String classname = functionLib.calenderClassName("/web:window" +  
    "/web:document" +  
    "/web:input_text[@rn='CloseDate2' and @ot='JDatePick' " +  
    "and @un='Close Date']");  
System.out.println("calendar classname is "+classname);
```

## functionLib.calenderGetROProperty

Gets the specified attribute (rn, un, classname, value) of the target HTML element defined by the path.

This function should be used only for **Form Applet** objects.

### Format

The functionLib.calenderGetROProperty method has the following command format(s):

```
functionLib.calenderGetROProperty(xpath, propertyname);
```

```
functionLib.calenderGetROProperty(xpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**propertyname**

a String specifying the property (for example, rn, un, classname, value) to get.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the calender element with the attribute value and prints the custom message if matches the required value.

```
//Using Java variable.  
String getAttribute = functionLib.calenderGetROProperty("/web:window" +  
"/web:document" +  
"/web:div[@rn='Primary Revenue Close Date' " +  
"and @ot='JDatePick' and @un='Close Date']", "value", 2 );  
if(getAttribute.equals("9/7/2013"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.calenderIsEnabled

Detects whether the calendar object is enabled or disabled.

This function should be used only for **List Applets**.

### Format

The functionLib.calenderIsEnabled method has the following command format(s):

```
functionLib.calenderIsEnabled(xpath);
```

```
functionLib.calenderIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the calendar object is enabled or disabled and prints a custom message.

```
//Using Java variable.  
boolean pklst2 = functionLib.calenderIsEnabled("/web:window" +  
  "/web:document" +  
  "/web:input_text[@rn='CloseDate2' and @ot='JDatePick' " +  
  "and @un='Close Date']", 5);  
if(pklst2)  
{  
  System.out.println("Enabled");  
}  
else  
{  
  System.out.println("Disabled");  
}
```

## functionLib.calenderUiName

Gets the `rn` attribute of the target HTML element defined by the `xpath`.

This Function should be used for both **List** and **Form Applets**.

### Format

The `functionLib.calenderUiName` method has the following command format(s):

```
functionLib.calenderUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the calendar object.

### Example

Gets the repository name of the calendar object and prints the custom message.

```
//Using Java variable.  
String value = functionLib.calenderUiName(" /web:window" +  
    " /web:document" +  
    " /web:input_text[@rn='CloseDate2' and @ot='JDatePick' " +  
    "and @un='Close Date']");  
System.out.println("calendar UI name is "+value);
```

---

## functionLib.checkBoxClassName

Gets the class attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.checkBoxClassName method has the following command format(s):  
functionLib.checkBoxClassName(xpath);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String of class name of the checkbox object.

### Example

Gets the class attribute of the currency object and prints the custom message.

```
//Using Java variable.  
String chkbox = functionLib.checkBoxClassName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0']" +  
    "/web:input_checkbox[@rn='Active' and @ot='JCheckBox' " +  
    "and @un='Active']");  
System.out.println("Check box class name "+ chkbox);
```

## functionLib.checkboxGetROProperty

Gets the specified attribute(*isChecked*, *isEnabled*, *un*, *rn*) of the target HTML element defined by the path.

This function should be used only for **List Applets**.

### Format

The functionLib.checkboxGetROProperty method has the following command format(s):

```
functionLib.checkboxGetROProperty(xpath, propertyName);
```

```
functionLib.checkboxGetROProperty(xpath, propertyName, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**propertyName****row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the UI Name of the checkbox element with the attribute *un* and prints the custom message if matches the required value.

```
//Using Java variable.  
String getAttribute = functionLib.checkboxGetROProperty("/web:window" +  
  "/web:document" +  
  "/web:input_checkbox[@rn='Secure2' and @ot='JCheckBox' " +  
  "and @un='Secure']", "un", 2);  
if(getAttribute.equals("Secure"))  
{  
  System.out.println("Pass");  
}  
else  
{  
  System.out.println("Fail");  
}
```

---

## functionLib.checkboxRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.checkboxRepositoryName method has the following command format(s):

```
functionLib.checkboxRepositoryName(xpath);
```

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String repository name of the pagetab object.

### Example

Gets the repository name of the checkbox object and prints the custom message.

```
//Using Java variable.  
String chkbox = functionLib.checkboxRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:input_checkbox[@rn='Active' and @ot='JCheckBox' " +  
  "and @un='Active']");  
System.out.println("Check box Repository name "+ chkbox);
```

## functionLib.checkBoxUIName

Gets the un attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.checkBoxUIName method has the following command format(s):  
functionLib.checkBoxUIName(*xpath*);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String of the specified UiMame of the checkbox object.

### Example

Gets the UiName of the currency object and prints the custom message.

```
//Using Java variable.  
String chkbox = functionLib.checkBoxUIName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0']" +  
    "/web:input_checkbox[@rn='Active' and @ot='JCheckBox' " +  
    "and @un='Active']");  
System.out.println("Check box UI Name"+ chkbox);
```



## functionLib.clickDone

Clicks the Done button in the Calendar popup in **List** or **Form Applets**.

The Calendar popup should be open before clicking the Done button.

### Format

The functionLib.clickDone method has the following command format(s):

```
functionLib.clickDone( );
```

### Throws

#### Exception

on any error.

### Example

Clicks the Done button in the calendar popup when the calendar is opened in List or Form Applets.

```
//Using Java variable.  
String isCalOpen = functionLib.isCalendarPopup();  
if(isCalOpen.equals("true"))  
{  
    System.out.println("calendar is popup");  
    functionLib.clickDone();  
}  
else  
{  
    System.out.println("calendar is not popup");  
}
```

## functionLib.clickNow

Clicks the Now button in the Calender popup in **List** or **Form Applets**.

The Calendar popup should be open before clicking the Now button.

### Format

The functionLib.clickNow method has the following command format(s):

```
functionLib.clickNow( );
```

### Throws

#### Exception

on any error.

### Example

Clicks the Now button in the calendar popup when the calendar is opened in List or Form Applets.

```
//Using Java variable.  
String isCalOpen = functionLib.isCalendarPopup();  
if(isCalOpen.equals("true"))  
{  
    System.out.println("calendar is popup");  
    functionLib.clickNow();  
}  
else  
{  
    System.out.println("calendar is not popup");  
}
```

## functionLib.Collapse

Collapses the object specified by String ID.

### Format

The functionLib.Collapse method has the following command format(s):

```
functionLib.Collapse(StrId);
```

### Command Parameters

**StrId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Example

Collapses the object specified by String ID.

```
functionLib.Collapse("stringid");
```

## functionLib.columnCount

Gets the number of currently visible columns in the list (determined by show more/less).

### Format

The functionLib.columnCount method has the following command format(s):

```
functionLib.columnCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **any column header from the List Applet**.

### Throws

**Exception**

on any error.

### Returns

an Integer number of currently visible rows.

### Example

Gets the columns count of the List Applet and prints the custom message.

```
//Using Java variable.
int col = functionLib.columnCount("/web:window" +
    "/web:document" +
    "/web:div[@rn='Account' and @ot='JText' " +
    "and @un='Account']");
for(int i = 1; i < col ; i++)
{
    System.out.println("column number "+ i );
}
```

---

## functionLib.commToolbarClassname

Gets the class attribute of the communication toolbar object from the target HTML element defined by the xpath.

### Format

The functionLib.commToolbarClassname method has the following command format(s):

```
functionLib.commToolbarClassname(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String class name of the communication toolbar object.

### Example

Gets the class attribute from the HTML DOM and prints the custom message.

```
//Using Java variable.  
String value = functionLib.commToolbarClassname("/web:window" +  
    "/web:document" +  
    "/web:img[@rn='Release Work' and @ot='button' " +  
    "and @un='Release_Work']");  
if(value.equals("Release Work"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.commToolbarGetRoProperty

Gets the property attribute of the target HTML element defined by the path.

### Format

The functionLib.commToolbarGetRoProperty method has the following command format(s):

```
functionLib.commToolbarGetRoProperty(xpath, value);
```

### Command Parameters

**xpath**

a String specifying the object path.

**value**

a String specifying the value to check in the CommunicationsToolbar list (rn, un, name and classname).

### Throws

**Exception**

### Returns

the current value of the test object property from the object in the application.

### Example

Gets the UI name of the CommunicationsToolbar with the attribute un and prints the custom message.

```
//Using Java variable.  
String value = functionLib.commToolbarGetRoProperty("/web:window[]" +  
    "/web:document[]" +  
    "/web:img[@rn='SignOn' and @ot='button' " +  
    "and @un='SignOn']", "SignOn");  
System.out.println("CommunicationsToolbar repository name is "+value);
```

---

## functionLib.commToolbarsEnabled

Detects whether or not the communication toolbar object is enabled from the target HTML element defined by the xpath.

### Format

The functionLib.commToolbarsEnabled method has the following command format(s):

```
functionLib.commToolbarsEnabled(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Gets the "aria-disabled" attribute from the HTML DOM and prints the custom message.

```
//Using Java variable.
boolean chkEnble = functionLib.commToolbarsEnabled("/web:window" +
"/web:document" +
"/web:img[@rn='Release Work' and @ot='button' " +
"and @un='Release_Work']");
if(chkEnble)
{
    System.out.println("Pass");
}
else
{
    System.out.println("Fail");
}
```

## functionLib.commToolbarRepositoryname

Gets the rn attribute of the communication toolbar object from the target HTML element defined by the xpath.

### Format

The functionLib.commToolbarRepositoryname method has the following command format(s):

```
functionLib.commToolbarRepositoryname(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the communication toolbar object.

### Example

Gets the rn attribute from the HTML DOM and prints the custom message.

```
//Using Java variable.  
String value = functionLib.commToolbarRepositoryname("/web:window" +  
    "/web:document" +  
    "/web:img[@rn='Release Work' and @ot='button' " +  
    "and @un='Release_Work']");  
if(value.equals("Release Work"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```



---

## functionLib.commToolBarShowButtonToolTip

Gets the `alt` attribute (ToolTip) of the target HTML element defined by the `xpath`.

### Format

The `functionLib.commToolBarShowButtonToolTip` method has the following command format(s):

```
functionLib.commToolBarShowButtonToolTip(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String value specifying the `alt` attribute of the object.

### Example

Gets the `alt` attribute of the toolbar object and prints the custom message.

```
//Using Java variable.  
String value = functionLib.getPageTabRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:img[@rn='Release Work' and @ot='button' " +  
    "and @un='Release_Work']");  
System.out.println("Alt tag value is "+value);
```

## functionLib.commToolBarText

Gets the text value attribute of the communication toolbar object from the target HTML element defined by the xpath.

### Format

The functionLib.commToolBarText method has the following command format(s):

```
functionLib.commToolBarText(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String text value of the communication toolbar object.

### Example

Gets the text value from the HTML DOM and prints the custom message.

```
//Using Java variable.  
String value = functionLib.commToolBarText("/web:window" +  
    "/web:document" +  
    "/web:img[@rn='Release Work' and @ot='button' " +  
    "and @un='Release_Work']");  
if(value.equals("Release Work"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.commToolBarUiName

Gets the un attribute of the communication toolbar object from the target HTML element defined by the xpath.

### Format

The functionLib.commToolBarUiName method has the following command format(s):

```
functionLib.commToolBarUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String UI name of the communication toolbar object.

### Example

Gets the un attribute from the HTML DOM and prints the custom message.

```
//Using Java variable.  
String value = functionLib.commToolBarUiName("/web:window" +  
    "/web:document" +  
    "/web:img[@rn='Release Work' and @ot='button' " +  
    "and @un='Release_Work']");  
if(value.equals("Release Work"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## CommunicationtoolbarGetROproprty

The CommunicationtoolbarGetROproprty enum has the following values:

**Table 21-3** *List of CommunicationtoolbarGetROproprty Values*

<b>Value</b>	<b>Description</b>
classname	The Communicationtoolbar classname attribute.
name	The Communicationtoolbar name attribute.
rn	The Communicationtoolbar rn (Repository Name) attribute.
un	The Communicationtoolbar un (UI Name) attribute.

---

## functionLib.currencyAmount

Gets the Amount attribute of the target HTML element defined by the path.

### Format

The functionLib.currencyAmount method has the following command format(s):

```
functionLib.currencyAmount(xpath);
```

```
functionLib.currencyAmount(xpath, rowid);
```

### Command Parameters

**xpath**

a String specifying the object path.

**rowid**

an integer specifying the row ID of the object (should always start from one).

### Throws

**Exception**

on any error.

### Returns

the amount value of the currency field in the **Form Applet**.

### Example

Gets the Amount of the currency object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.currencyAmount("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_312_1']", 5);  
System.out.println("Currency Amount is "+value);
```

## functionLib.currencyClassName

Gets the class attribute of the target HTML element defined by the xpath.  
Common for both Form and List Applet.

### Format

The functionLib.currencyClassName method has the following command format(s):  
functionLib.currencyClassName(xpath);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String repository name of the currency object.

### Example

Gets the repository name of the currency object and prints the custom message.

```
//Using Java variable.  
String classname = functionLib.currencyClassName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0']" +  
    "/web:input_text[@rn='NetTotal' and @ot='JCalculator' " +  
    "and @un='Quote Total']");  
System.out.println("Class name is "+classname);
```

---

## functionLib.currencyCode

Returns the Currency Code value of the currency field in the **List Applet**.

### Format

The functionLib.currencyCode method has the following command format(s):

```
functionLib.currencyCode(xpath);
```

```
functionLib.currencyCode(xpath, rowid);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**rowid**

an Integer specifying the row id of the record in the **List Applet** for which the Currency Code value is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String Currency Code value.

### Example

Returns the Currency Code value of the currency field.

```
//Using Java variable.  
String curvalue = functionLib.currencyCode("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0' or @index='2']" +  
    "/web:input_text[@rn='Sub-Status' and @ot='JComboBox' " +  
    "and @un='Sub Status']", 2);  
System.out.println("Currency code value is "+curvalue);
```

## functionLib.currencyCodeClassName

Gets the `classname` attribute of the target HTML element defined by the path.

### Format

The `functionLib.currencyCodeClassName` method has the following command format(s):

```
functionLib.currencyCodeClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the currency code object path.

### Throws

**Exception**

on any error.

### Returns

the classname of the currency code object.

### Example

Gets the classname of the currency code object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.currencyCodeClassName("/web:window" +  
    "/web:document" +  
    "/web:input_text[@id='s_0_1_313_1']");  
System.out.println("Currency code classname is "+value);
```



---

## functionLib.currencyCodeValue

Gets the Value attribute of the target HTML element defined by the path.

### Format

The functionLib.currencyCodeValue method has the following command format(s):

```
functionLib.currencyCodeValue(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the Currency Code value of the currency object.

### Example

Gets the Value of the currency object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.currencyCodeValue("/web:window[]" +  
    "/web:document[]" +  
    "/web:input_text[@id='s_0_1_313_0']");  
System.out.println("currency code Value is "+value);
```

## functionLib.currencyGetROProperty

Gets the specified attribute (*rn*, *un*, *classname*, *value*) of the target HTML element defined by the path.

This function should be used only for **List Applets**.

### Format

The functionLib.currencyGetROProperty method has the following command format(s):

```
functionLib.currencyGetROProperty(xpath, propertyname);
```

```
functionLib.currencyGetROProperty(xpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**propertyname**

a String specifying the property (for example, *rn*, *un*, *classname*, *value*) to get.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the currency element with the attribute *value* and prints the custom message if it matches the required value.

```
//Using Java variable.  
String getAttribute = functionLib.currencyGetROProperty("/web:window" +  
"/web:document" +  
"/web:input_text[@rn='Revenue2' and @ot='JCurrencyCalc' " +  
"and @un='Revenue']", "value", 2);  
if (getAttribute.equals("$100.00"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.currencyIsEnabled

Detects whether the currency object is enabled or disabled.

This function should be used only for **List Applets**.

### Format

The functionLib.currencyIsEnabled method has the following command format(s):

```
functionLib.currencyIsEnabled(xpath);
```

```
functionLib.currencyIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the currency object is enabled or disabled and prints a custom message based on whether currency object is enabled or disabled.

```
//Using Java variable.
boolean currency = functionLib.currencyIsEnabled("/web:window" +
"/web:document" +
"/web:form[@name='SWEForm1_0']" +
"/web:input_text[@rn='NetTotal' and @ot='JCalculator' " +
"and @un='Quote Total']", 5);
if(currency)
{
    System.out.println("Pass");
}
else
{
    System.out.println("Fail");
}
```

## functionLib.currencyIsOpen

Detects whether the specified Currency popup is open or closed.

### Format

The functionLib.currencyIsOpen method has the following command format(s):

```
functionLib.currencyIsOpen(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

true if the Currency popup is opened, false if the Currency popup is closed.

### Example

Detect whether Currency popup is open or closed and prints a custom message.

```
//Using Java variable.
boolean value33 = functionLib.currencyIsOpen(" /web:window[]" +
    " /web:document[]" +
    " /web:input_text[@id='s_0_1_313_0']");
if(value33)
{
    System.out.println("Currency popup is Opened");
}
else
{
    System.out.println("Currency popup is Closed");
}
```

---

## functionLib.currencyRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.currencyRepositoryName method has the following command format(s):

```
functionLib.currencyRepositoryName(xpath);
```

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String value specifying the repository of the currency object.

### Example

Gets the rn attribute of the currency object and prints the custom message.

```
//Using Java variable.  
String currencyRN = functionLib.currencyRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:input_text[@rn='NetTotal' and @ot='JCalculator' " +  
  "and @un='Quote Total']");  
System.out.println("currency Repository Name is "+currencyRN);
```

## functionLib.CurrencyText

Gets the text value of the target HTML element defined by the xpath.

This Function should be used only for **List Applets**.

### Format

The functionLib.CurrencyText method has the following command format(s):

```
functionLib.CurrencyText(xpath);
```

```
functionLib.CurrencyText(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer value specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value specifying the text of the object.

### Example

Gets the text value from the object for the second row of the List Applet and prints the custom message.

```
//Using Java variable.  
String value = functionLib.currencyText(" /web:window" +  
    " /web:document" +  
    " /web:div[@rn='Primary Revenue Amount' and @ot='JCurrencyCalc' " +  
    "and @un='Revenue']", 2);  
if(value.equals("$1,222.00"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.currencyUiName

Gets the un attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.currencyUiName method has the following command format(s):  
functionLib.currencyUiName(*xpath*);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String value of specifying the UIName of the Currency object.

### Example

Gets the un attribute of the currency object and prints the custom message.

```
//Using Java variable.  
String currencyUN = functionLib.currencyUiName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:input_text[@rn='NetTotal' and @ot='JCalculator' " +  
  "and @un='Quote Total']");  
System.out.println("currency UIName is "+currencyUN);
```

## functionLib.DataLevel

Gets the level at which the Current row exists in the Hierarchial **List Applet**.

DataLevel=0 indicates the Parent level. DataLevel=1 indicates the first child level.

### Format

The functionLib.DataLevel method has the following command format(s):

```
functionLib.DataLevel(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the specified column header from the List Applet.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value indicating the Level of the row in the Hierarchial List Applet.

### Example

Gets the level at which the Current row exists in the Hierarchial **List Applet** and prints a custom message.

```
//Using Java variable.  
String datalevel = functionLib.DataLevel("/web:window" +  
    "/web:document" +  
    "/web:div[(@rn='Name' and @ot='JText') " +  
    "or @un='Name']", 3);  
System.out.println("data level is " + datalevel);
```



---

## functionLib.DataParentId

Gets the parent ID of the Specified row in the Hierarchial **List Applet**.

The attribute `data-parentid=1` indicates the specified row's parent is one level above. `data-parentid=-1` indicates it is at the parent level.

### Format

The functionLib.DataParentId method has the following command format(s):

```
functionLib.DataParentId(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the specified column header from the List Applet.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value indicating the parent ID in the Hierarchial List Applet.

### Example

Gets the parent ID of the Specified row and prints a custom message.

```
//Using Java variable.  
String dataParentId = functionLib.DataParentId("/web:window" +  
    "/web:document" +  
    "/web:div[(@rn='Name' and @ot='JText') " +  
    "or @un='Name']", 3);  
System.out.println("data parent ID is " + dataParentId);
```

## functionLib.dialogGetROProperty

Gets the specified attribute (*property*) of the target HTML element defined by the path.

### Format

The functionLib.dialogGetROProperty method has the following command format(s):

```
functionLib.dialogGetROProperty(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the current value of the test object property from the object in the application.

### Example

Gets the current value of the test object property from the object in the application and prints the custom message.

```
//Using Java variable.  
String value = functionLib.dialogGetROProperty("/web:dialog_confirm[]" +  
    "/web:accDialog[@name='Message from webpage']");  
System.out.println("Dialog Property is "+value);
```

## functionLib.Drilldown

Drill down the specified object row of the **List Applet**.

### Format

The functionLib.Drilldown method has the following command format(s):

```
functionLib.Drilldown(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the **specified column header from the List Applet**.

**row**

an integer specifying the row number from the List applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Get the xpath of the column header in the List Applet and the row number pass as the two arguments.

```
functionLib.Drilldown("/web:window" +  
"/web:document" +  
"/web:div[@rn='Name' and @ot='JText' " +  
"and @un='Name']", 2);
```

## functionLib.Expand

Expands the object specified by String ID.

### Format

The functionLib.Expand method has the following command format(s):

```
functionLib.Expand(StrId);
```

### Command Parameters

**StrId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Example

Expands the object specified by String ID.

```
functionLib.Expand("stringid");
```

---

## functionLib.extractId

Extracts and returns the ID attribute value of the given Xpath.

### Format

The functionLib.extractId method has the following command format(s):

```
functionLib.extractId(xpath, x, y, rowid);
```

### Command Parameters

**xpath**

a String specifying the object path.

**x**

a char value for specifying the ID attribute value to be extracted.

**y**

a char value for specifying the ID attribute value to be extracted.

**rowid**

an Integer specifying the row id value.

### Returns

a String with unique value.

### Example

Extracts and returns the ID attribute value of the given Xpath.

```
//Using Java variable.  
char val[] = new char[]{'r','n'};  
String extractid = functionLib.extractId("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Name' and @ot='JText' " +  
    "and @un='Name']", val[0], val[1], 2);
```

## functionLib.focus

Sets focus to the target HTML element defined by the path.

### Format

The functionLib.focus method has the following command format(s):

```
functionLib.focus(attribute);
```

### Command Parameters

**attribute**

a String specifying the property name.

### Throws

**Exception**

on any error.

### Returns

a String of the specified attribute.

### Example

Sets focus to the target HTML element defined by the path, retrieves the specified attribute, and prints the attribute value.

```
//Using Java variable.  
String g = functionLib.focus("type");  
System.out.println(g);
```

## functionLib.formRecordNumber

Gets the form record number.

### Format

The functionLib.formRecordNumber method has the following command format(s):

```
functionLib.formRecordNumber( );
```

### Throws

**Exception**  
on any error.

### Returns

a String record number.

### Example

Gets the form record number.

```
//Using Java variable.  
String formrecnum = functionLib.formRecordNumber();  
System.out.println("Record number is "+formrecnum);
```

## functionLib.generateID

Generate the ID from the given row.

### Format

The functionLib.generateID method has the following command format(s):

```
functionLib.generateID(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row number.

### Throws

**Exception**

on any error.

### Returns

a String ID value.

### Example

Generate the ID from the given row.

```
//Using Java variable.  
String idvalue = functionLib.generateID("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0' or @index='2']" +  
    "/web:input_text[@rn='Sub-Status' and @ot='JComboBox' " +  
    "and @un='Sub Status']", 2);  
System.out.println("ID value is "+idvalue);
```



---

## functionLib.getCellData

Gets the text for a specified cell when the cell has same repository name across multiple applets in same screen..

### Format

The functionLib.getCellData method has the following command format(s):

```
functionLib.getCellData(xpath, row);
```

```
functionLib.getCellData(xpath, row, AppletRepName);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

**AppletRepName**

a string specifying the repository name of the Applet().

### Throws

**Exception**

on any error.

### Returns

a String specifying the text for a specified cell.

### Example

Gets the rows count of the List Applet, loops, and prints the custom message for all the rows.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
    "/web:document" +
    "/web:div[@rn='PenaltyAmount' " +
    "and @ot='JCurrencyCalc']");
for(int i = 1; i < rows ; i++)
{
    System.out.println(functionLib.getCellData("/web:window" +
        "/web:document" +
        "/web:div[@rn='PenaltyAmount' " +
        "and @ot='JCurrencyCalc']", i , "ISS Promotion Upgrade To List Applet"));
}
```

## functionLib.GetChildCount

Gets the child count of the object specified by String ID.

### Format

The functionLib.GetChildCount method has the following command format(s):

```
functionLib.GetChildCount(strId);
```

### Command Parameters

**strId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Returns

an Integer of the child count.

### Example

Gets the child count of the specified object.

```
//Using Java variable.  
int count = functionLib.GetChildCount("stringid");  
System.out.println("Child count is "+count);
```

## functionLib.getMonthNumber

Gets the number of the specified month.

### Format

The functionLib.getMonthNumber method has the following command format(s):

```
functionLib.getMonthNumber(month);
```

### Command Parameters

**month**

a String specifying the month in three-letter format.

### Returns

an Integer of the month number.

### Example

Gets the number of the month.

```
int curMonth = functionLib.getMonthNumber("Dec");  
System.out.println("Month is "+curMonth);
```

## functionLib.getNumberMonth

Gets the equivalent month for the corresponding number.

### Format

The functionLib.getNumberMonth method has the following command format(s):

```
functionLib.getNumberMonth(val);
```

### Command Parameters

**val**

an integer that specifies the number for that month (should always start from zero).  
For example. 0, 1 ,2.

### Throws

**Exception**

on any error.

### Returns

a String month for the corresponding number. For example, if val 0 is passed, the function returns "Jan". If val is 11, it returns "Dec".

### Example

Gets the equivalent month for the corresponding number.

```
//Using Java variable.  
String month = functionLib.getNumberMonth(3);  
System.out.println("Month is " +month);
```

---

## functionLib.getPageTabRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.  
Inspect element on the tab and input the same to the function.

### Format

The functionLib.getPageTabRepositoryName method has the following command format(s):

```
functionLib.getPageTabRepositoryName(xpath);
```

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String repository name of the pagetab object.

### Example

Gets the repository name of the pagetab object and prints the custom message.

```
//Using Java variable.  
String pagerp = functionLib.getPageTabRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:a[@text='Accounts']");  
if(pagerp.equals("Accounts"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.getPageTabRepositoryNameByIndex

Gets the rn attribute of the target HTML element defined by the xpath using index.  
Inspect path on the tab and input the same to the function.

### Format

The functionLib.getPageTabRepositoryNameByIndex method has the following command format(s):

```
functionLib.getPageTabRepositoryNameByIndex(xpath, index);
```

### Command Parameters

**xpath**

a String specifying the object path.

**index**

an Integer. use inspect path on the element to get index.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the pagetab object.

### Example

Gets the repository name of the pagetab object and prints the custom message.

```
//Using Java variable.  
String pagerp = functionLib.getPageTabRepositoryNameByIndex("/web:window" +  
    "/web:document" +  
    "/web:a[@text='Accounts']", 1);  
System.out.println("Repository name is "+pagerp);
```

---

## getROPropertyAdvancedEdit

The getROPropertyAdvancedEdit enum has the following values:

**Table 21–4** *List of getROPropertyAdvancedEdit Values*

<b>Value</b>	<b>Description</b>
classname	The ROPropertyAdvancedEdit classname attribute.
rn	The ROPropertyAdvancedEdit rn (Repository Name) attribute.
un	The ROPropertyAdvancedEdit un (UI Name) attribute.
value	The ROPropertyAdvancedEdit value attribute.

## GetROPropertyApplet

The GetROPropertyApplet enum has the following values:

**Table 21-5** *List of GetROPropertyApplet Values*

<b>Value</b>	<b>Description</b>
exist	The exist attribute of the Object.
rn	The rn (Repository Name) attribute of the Object.
un	The un (UI Name) attribute of the Object.



---

## GetROPropertyBtn

The GetROPropertyBtn enum has the following values:

**Table 21–6** *List of GetROPropertyBtn Values*

<b>Value</b>	<b>Description</b>
classname	The <code>classname</code> attribute of the Object.
isenabled	The <code>isenabled</code> attribute of the Object.
rn	The <code>rn</code> (Repository Name) attribute of the Object.
text	Retrieve the text of the Object.
un	The <code>un</code> (UIName) attribute of the Object.

## GetROPropertyCheckbox

The GetROPropertyCheckbox enum has the following values:

**Table 21-7** *List of GetROPropertyCheckbox Values*

<b>Value</b>	<b>Description</b>
isChecked	The ROPropertyCheckbox isChecked attribute.
isEnabled	The ROPropertyCheckbox isEnabled attribute.
rn	The ROPropertyCheckbox rn (Repository Name) attribute.
un	The ROPropertyCheckbox un (UI Name) attribute.

---

## GetROPropertyImage

The GetROPropertyImage enum has the following values:

**Table 21–8** *List of GetROPropertyImage Values*

<b>Value</b>	<b>Description</b>
classname	The ROPropertyImage classname attribute.
isenabled	The ROPropertyImage isenabled attribute.
repositoryname	The ROPropertyImage repositoryname attribute.
text	The ROPropertyImage text attribute.
uname	The ROPropertyImage uname attribute.

## GetROPropertyLink

---

The GetROPropertyLink enum has the following values:

**Table 21–9** *List of GetROPropertyLink Values*

<b>Value</b>	<b>Description</b>
classname	The ROPropertyLink classname attribute.
isenabled	The ROPropertyLink isenabled attribute.
repositoryname	The ROPropertyLink repositoryname attribute.
text	The ROPropertyLink text attribute.
uname	The ROPropertyLink uname attribute.

---

## GetROPropertyPDQ

The GetROPropertyPDQ enum has the following values:

**Table 21–10** *List of GetROPropertyPDQ Values*

<b>Value</b>	<b>Description</b>
rn	The ROPropertyPDQ rn (Repository Name) attribute.
text	The ROPropertyPDQ text attribute.
un	The ROPropertyPDQ un (UI Name) attribute.

## GetROPropertyScreen

The GetROPropertyScreen enum has the following values:

**Table 21–11** *List of GetROPropertyScreen Values*

<b>Value</b>	<b>Description</b>
classname	The ROPropertyScreen classname attribute.
rn	The ROPropertyScreen rn (Repository Name) attribute.
un	The ROPropertyScreen un (UI Name) attribute.
value	The ROPropertyScreen value attribute.

---

## GetROPropertyText

The GetROPropertyText enum has the following values:

**Table 21–12** *List of GetROPropertyText Values*

<b>Value</b>	<b>Description</b>
classname	The ROPropertyText classname attribute.
isenabled	The ROPropertyText isenabled attribute.
rn	ROPropertyText rn (Repository Name) attribute.
text	The ROPropertyText text attribute.
un	The ROPropertyText un (UI Name) attribute.

## functionLib.GetTreeItemName

Gets the name of the tree item specified by String ID.

### Format

The functionLib.GetTreeItemName method has the following command format(s):

```
functionLib.GetTreeItemName(StrId);
```

### Command Parameters

**StrId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Returns

a String of the active tree item name.

### Example

Gets the name of the tree item.

```
//Using Java variable.  
String treename = functionLib.GetTreeItemName("stringid");  
System.out.println("Tree name is "+treename);
```



## functionLib.getUiName

Gets the un attribute or name of the object as it appears in the user interface of the target HTML element defined by the path.

### Format

The functionLib.getUiName method has the following command format(s):

```
functionLib.getUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the property to get.

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the un attribute of the Link object and prints a custom message.

```
//Using Java variable.  
String chkbox = functionLib.getUiName("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Row Status' and @ot='JCheckBox' and @un='New']");  
System.out.println("UI name is "+chkbox);
```

## functionLib.Hcollapse

Collapses the specified row in the Hierarchial **List Applet**.

### Format

The functionLib.Hcollapse method has the following command format(s):

```
functionLib.Hcollapse(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the specified column header from the **List Applet**.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Collapses the specified row in the Hierarchial **List Applet**.

```
functionLib.Hcollapse("/web:window" +  
"/web:document" +  
"/web:div[(@rn='Name' and @ot='JText') " +  
"or @un='Name']", 2);
```

## functionLib.Hexpand

Expands the specified row in the Hierarchial **List Applet**.

### Format

The functionLib.Hexpand method has the following command format(s):

```
functionLib.Hexpand(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the specified column header from the **List Applet**.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Expands the specified row in the Hierarchial **List Applet**.

```
functionLib.Hexpand("/web:window" +  
"/web:document" +  
"/web:div[(@rn='Name' and @ot='JText') " +  
"or @un='Name']", 1);
```

## functionLib.iconColor

Gets the color of the icon in the **List Applet**.

### Format

The functionLib.iconColor method has the following command format(s):

```
functionLib.iconColor(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header of the List Applet**.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String specifying the color of the icon alt tag value from the DOM.

### Example

Gets the color of the icon in the List Applet.

```
//Using Java variable.  
String V_icon_color_green=functionLib.iconColor(" /web:window" +  
  "/web:document" +  
  "/web:div[(@rn='StateIcon' and @ot='JText') " +  
  "or @un='State']", 2);  
System.out.println(V_icon_color_green);
```

---

## functionLib.imageGetRoProperty

Gets the property attribute of the target HTML element defined by the path.

### Format

The functionLib.imageGetRoProperty method has the following command format(s):

```
functionLib.imageGetRoProperty(propertyName, xpath);
```

### Command Parameters

**propertyName**

a String specifying the property (for example, `classname`, `isenabled`, `repositoryname`, `text`, `uname`) to get.

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the text of the image object with the attribute `text` and prints the custom message.

```
//Using Java variable.  
String value = functionLib.imageGetRoProperty("text", "/web:window[]" +  
    "/web:document[]" +  
    "/web:img[]");  
System.out.println("Image text is "+value);
```

## functionLib.isCalculatorPopup

Detects whether pecified Calculator popup is opened or closed.

### Format

The functionLib.isCalculatorPopup method has the following command format(s):

```
functionLib.isCalculatorPopup( );
```

### Throws

#### **Exception**

on any error.

### Returns

boolean true if the calculator is opened, false if the calculator is closed.

### Example

Detects whether the calculator is opened or closed.

```
//Using Java variable.  
boolean ispopup = functionLib.isCalculatorPopup();  
if(ispopup)  
{  
    System.out.println("calculator is opened");  
}  
else  
{  
    System.out.println("calculator is closed");  
}
```

---

## functionLib.isCalendarPopup

Detects whether the Calendar is opened or closed.

### Format

The functionLib.isCalendarPopup method has the following command format(s):

```
functionLib.isCalendarPopup( );
```

### Throws

**Exception**  
on any error.

### Returns

a String true if the calendar is opened, false if the calendar is closed.

### Example

Detects whether the calendar is opened or closed and prints a custom message.

```
//Using Java variable.  
String ispopup = functionLib.isCalendarPopup();  
if(ispopup.equals("true"))  
{  
    System.out.println("calendar is opened");  
}  
else  
{  
    System.out.println("calendar is closed");  
}
```

## functionLib.isCheckboxChecked

Detects whether or not the specified checkbox object is checked for the **List Applet**.

### Format

The functionLib.isCheckboxChecked method has the following command format(s):

```
functionLib.isCheckboxChecked(xpath);
```

```
functionLib.isCheckboxChecked(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

**row**

an Integer specifying the row number for the List Applet (should always starts from **one**) .

### Throws

**Exception**

on any error.

### Returns

true if the object is checked, false if the object is unchecked.

### Example

Detects whether the checkbox object is checked or unchecked and prints a custom message based on whether the checkbox object is checked or unchecked.

```
//Using Java variable.  
boolean chkbox = functionLib.isCheckboxChecked ("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Row Status' and @ot='JCheckBox' and @un='New']", 1);  
if(chkbox)  
{  
    System.out.println("Checked");  
}  
else  
{  
    System.out.println("Unchecked");  
}
```



---

## functionLib.isCheckboxEnabled

Detects whether the specified checkbox object is enabled or disabled for the **List Applet**.

### Format

The functionLib.isCheckboxEnabled method has the following command format(s):

```
functionLib.isCheckboxEnabled(xpath);
```

```
functionLib.isCheckboxEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object xpath.

**row**

an Integer specifying the row number for the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether checkbox object is enabled or disabled and prints a custom message based on whether the checkbox object is enabled or disabled.

```
//Using Java variable.
boolean chkbox = functionLib.isCheckboxEnabled("/web:window" +
"/web:document" +
"/web:div[@rn='Row Status' and @ot='JCheckBox' and @un='New'],1");
if(chkbox)
{
    System.out.println("enabled");
}
else
{
    System.out.println("disabled");
}
```

## functionLib.isColumnExist

Detects wheather the specified column exist or not in the **List Applet**.

### Format

The functionLib.isColumnExist method has the following command format(s):

```
functionLib.isColumnExist(AppletRepName, ColumnRepName);
```

### Command Parameters

#### **AppletRepName**

a String specifying the RepositoryName of the Applet in which Column is present.

#### **ColumnRepName**

a String specifying the RepositoryName of the column.

### Throws

#### **Exception**

on any error.

### Returns

true if the column exists, false if the column does not exist.

### Example

Detects the coulumn existence and prints the custom message.

```
if(functionLib.isColumnExist("SIS Account List Applet", "Name"))
{
    System.out.println("Exists");
}
else
{
    System.out.println("Does not exist");
}
```

---

## functionLib.isColumnwritable

Detects the the state of table column, where state is the value of the column's disabled or read-only property.

### Format

The functionLib.isColumnwritable method has the following command format(s):

```
functionLib.isColumnwritable(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

### Throws

**Exception**

on any error.

### Returns

true if the object is writable, false if the object is readonly.

### Example

Detects the the state of table column and prints the custom message.

```
//Using Java variable.
boolean writable = functionLib.isColumnwritable("/web:window" +
"/web:document" +
"/web:div[@rn='First Name' and @ot='JText' " +
"and @un='First Name']");
if(writable)
{
    System.out.println("Writable");
}
else
{
    System.out.println("Not writable");
}
```

## functionLib.isExpanded

Detects whether the object specified by String ID is expanded or not.

### Format

The functionLib.isExpanded method has the following command format(s):

```
functionLib.isExpanded(strId);
```

### Command Parameters

**strId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Returns

String true if the object is expanded, false if the object is not expanded.

### Example

Detect whether the object is expanded and prints a custom message.

```
//Using Java variable.  
String expanded = functionLib.isExpanded("stringid");  
if (expanded.equals("true"))  
{  
    System.out.println("Expanded");  
}  
else  
{  
    System.out.println("Not expanded");  
}
```

---

## functionLib.isHierarchicalListExpanded

Detects if the specified row is expanded or not in the Hierarchical **List Applet**.

### Format

The functionLib.isHierarchicalListExpanded method has the following command format(s):

```
functionLib.isHierarchicalListExpanded(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the specified column header from the List Applet.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String true if the row is expanded, false if the row is not expanded.

### Example

Detects if the specified row is expanded or not in the Hierarchical **List Applet** and prints a custom message.

```
//Using Java variable.  
String isExpanded = functionLib.isHierarchicalListExpanded("/web:window" +  
  "/web:document" +  
  "/web:div[(@rn='Name' and @ot='JText') " +  
  "or @un='Name']", 3);  
if(isExpanded.equals("true"))  
{  
  System.out.println("Row is expanded");  
}  
else  
{  
  System.out.println("Row is not expanded");  
}
```

## functionLib.isPopupApplet

Detects whether or not the current Applet represents a popup Applet.

### Format

The functionLib.isPopupApplet method has the following command format(s):

```
functionLib.isPopupApplet( );
```

### Throws

#### Exception

on any error.

### Returns

true if the popup exists, false if it does not exist.

### Example

Detects whether or not the popup exists and prints the custom message if it exists or does not exist.

```
//Using Java variable.  
Boolean exist = functionLib.isPopupApplet();  
//Using If condition to compare with expected.  
if (exist)  
{  
    System.out.println("popup exists");  
}  
else  
{  
    System.out.println("popup does not exist");  
}
```

---

## functionLib.isRequired

Detects whether the specified object is required or not.

(This function can be verified only on the **Form Applet** because asterisk mark is seen only on the form.)

### Format

The functionLib.isRequired method has the following command format(s):

```
functionLib.isRequired(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

true if the object is required.

### Example

Indicates whether the object is required and prints the custom message.

```
//Using Java variable.  
boolean value = functionLib.isRequired("/web:window[]" +  
  "/web:document[]" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:input_text[@rn='Type' and @ot='JComboBox' " +  
  "and @un='Account Type']");  
System.out.println("The object Required is "+value);
```

## functionLib.IsSelected

Detects whether the object specified by String ID is selected or not.

### Format

The functionLib.IsSelected method has the following command format(s):

```
functionLib.IsSelected(strId);
```

### Command Parameters

**strId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Returns

String true if the object is selected, false if the object is not selected.

### Example

Detect whether or not the object is selected and prints a custom message.

```
//Using Java variable.  
String selected = functionLib.IsSelected("stringid");  
if (selected.equals("true"))  
{  
    System.out.println("Selected");  
}  
else  
{  
    System.out.println("Not selected");  
}
```



## functionLib.l2Count

Gets the specified number of views of the target HTML element defined by the path.

### Format

The functionLib.l2Count method has the following command format(s):

```
functionLib.l2Count( );
```

### Throws

**Exception**  
on any error.

### Returns

the number of views present in the Second Level View Bar.

### Example

Gets the number of views present in the Second Level View Bar and prints the custom message.

```
//Using Java variable.  
int value = functionLib.l2Count( );  
System.out.println("Number of Views present in the second " +  
    "level view bar is "+value);
```

## functionLib.linkGetRoProperty

Gets the `propertyName` attribute of the target HTML element defined by the path.

### Format

The `functionLib.linkGetRoProperty` method has the following command format(s):

```
functionLib.linkGetRoProperty(propertyName, xpath);
```

### Command Parameters

**propertyName**

a String specifying the property (for example, `text`, `uname`, `classname`, `repositoryname`, `isenabled`) to get.

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the text of the link element with the attribute `text` and prints the custom message.

```
//Using Java variable.  
String value = functionLib.linkGetRoProperty("text", "/web:window[]" +  
    "/web:document[]" +  
    "/web:a[@text='Abu Nidal organization (ANO)']");  
System.out.println("link text is "+value);
```

## functionLib.log

Writes the specified message String to a results log file.

The log file is named "Results\_*randomFileName.txt*" and is stored in the current drive path specified in the Eclipse properties.

### Format

The functionLib.log method has the following command format(s):

```
functionLib.log(message);
```

### Command Parameters

**message**

an String that specifies the text to write to the log file.

### Throws

**IOException**

on any IO error.

### Example

Writes the specified message String to a results log file.

```
functionLib.log("Log this message");
```

---

## functionLib.Login

Launches the browser and logs into the Application.

### Format

The functionLib.Login method has the following command format(s):

```
functionLib.Login(UserType, BrowserName, EnvName);
```

### Command Parameters

**UserType**

a String indicates the user type. for example, SADMIN, DJROSEN, BFSCRANT ,etc.

**BrowserName**

a String indicates the name of the browser. (For example, callcenter, eCommunications etc

**EnvName**

a String Environment name created from the ATC portal.

### Throws

**Exception**

on any error.

### Example

Launches the browser and logs in.

```
functionLib.Login("SADMIN", "callcenter", "Environment name");
```

## functionLib.make\_uniq

Creates unique record by appending the date and time to the record passed as argument.

### Format

The functionLib.make\_uniq method has the following command format(s):

```
functionLib.make_uniq(recordName);
```

### Command Parameters

**recordName**

a String which needs to be made unique.

### Returns

a String with unique value.

### Example

Creates unique record by appending the date and time to "test".

```
//Using Java variable.  
String unique = functionLib.make_uniq("test");  
System.out.println("Unique value is "+unique);
```

## functionLib.menuCount

Gets the number of menu items from the Applet Level Menu object.

Inspects the path on the menu button and use the same path for the input to the function.

### Format

The functionLib.menuCount method has the following command format(s):

```
functionLib.menuCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

an Integer specifying the number of menu items.

### Example

Gets the number of items from the menu object and prints a custom message.

```
//Using Java variable.  
int items = functionLib.menuCount("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0' or @index='1']" +  
    "/web:button[@id='s_at_m_1' or @index='3']");  
System.out.println("Number of menu items "+items);
```

## functionLib.menuItemClassName

Gets the `classname` attribute the target HTML element defined by the path.

This Function is common for both **List** and **Form Applets**.

### Format

The `functionLib.menuItemClassName` method has the following command format(s):

```
functionLib.menuItemClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the classname of the menu object.

### Example

Gets the classname of the menu object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.menuItemClassName("/web:window[]" +  
    "/web:document[]" +  
    "/web:a['@text='Save List']");  
System.out.println("Menu Item classname is "+value);
```

## functionLib.menuItemClick

Clicks and selects the item from the menu list.

### Format

The functionLib.menuItemClick method has the following command format(s):

```
functionLib.menuItemClick(rn);
```

### Command Parameters

**rn**

a String specifying the rn value of the item to be selected.

### Throws

**Exception**

on any error.

### Example

Clicks and selects the item from the menu list.

```
functionLib.menuItemClick("*Browser Applet* *Import*SIS Account List Applet*  
*420*230*true");
```



---

## functionLib.menuItemEnabled

Detects whether or not the specified menu object or menu item is enabled.

### Format

The functionLib.menuItemEnabled method has the following command format(s):

```
functionLib.menuItemEnabled(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether checkbox object is enabled or disabled and prints a custom message.

```
//Using Java variable.  
boolean value = functionLib.menuItemEnabled("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm1_0' or @index='1']" +  
    "/web:button[@id='s_at_m_1' or @index='3']");  
if(value)  
{  
    System.out.println("Menu item is enabled");  
}  
else  
{  
    System.out.println("Menu item is disabled");  
}
```

## functionLib.menuItemExist

Detects whether or not the specified menu object or menu item exists.

### Format

The functionLib.menuItemExist method has the following command format(s):

```
functionLib.menuItemExist(rn);
```

### Command Parameters

**rn**

a String specifying the rn value of the menu object or item.

### Throws

**Exception**

on any error.

### Returns

true if the object exists, false if the object is disabled.

### Example

Detect whether or not the menu item object exists and prints a custom message.

```
//Using Java variable.
boolean menuExists = functionLib.menuItemExist("Browser Applet *ExecuteQuery*SIS
Account List Applet *");
if(menuExists)
{
    System.out.println("Menu item exists");
}
else
{
    System.out.println("Menu item does not exist");
}
```

---

## functionLib.menuItemGetRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.menuItemGetRepositoryName method has the following command format(s):

```
functionLib.menuItemGetRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the menu object.

### Example

Gets the repository name of the menu object and prints the custom message.

```
//Using Java variable.  
String menuRP = functionLib.menuItemGetRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0' or @index='1']" +  
  "/web:button[@id='s_at_m_1' or @index='3']");  
System.out.println("Repository name is"+menuRP);
```

## functionLib.menuItemGetUiName

Gets the un attribute of the target HTML element defined by the path.

This Function is common for both **List** and **Form Applets**.

### Format

The functionLib.menuItemGetUiName method has the following command format(s):

```
functionLib.menuItemGetUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the UI name (display name in the user interface) of the menu object.

### Example

Gets the UI name of the menu object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.menuItemGetUiName("/web:window[]" +  
    "/web:document[]" +  
    "/web:a['@text='Save List']");  
System.out.println("Menu item UI name is "+value);
```

---

## functionLib.menuItemRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.menuItemRepositoryName method has the following command format(s):

```
functionLib.menuItemRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the menu object.

### Example

Gets the repository name of the menu object and prints the custom message.

```
//Using Java variable.  
String menurp = functionLib.menuItemRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0' or @index='1']" +  
  "/web:button[@id='s_at_m_1' or @index='3']");  
System.out.println("Repository name is"+menurp);
```

## functionLib.monthMapping

Gets the equivalent month for the corresponding string value from the Document Object Model(DOM).

### Format

The functionLib.monthMapping method has the following command format(s):

```
functionLib.monthMapping(val/);
```

### Command Parameters

**val**

a String that specifies the number for that month (should always starts from zero). For example, 0, 1, 2.

### Throws

**Exception**

on any error.

### Returns

a String month for the corresponding number. For example, if val 0 is passed, the function returns "Jan". If val is 11, it returns "Dec".

### Example

Gets the equivalent month.

```
String month = functionLib.monthMapping("5");
```

---

## months

The months enum has the following values:

**Table 21–13** *List of months Values*

<b>Value</b>	<b>Description</b>
Jan	January
Feb	February
Mar	March
Apr	April
May	May
Jun	June
Jul	July
Aug	August
Sep	September
Oct	October
Nov	November
Dec	December

## functionLib.Navigate\_Screen

Navigates to the Screen/View from SiteMap.

### Format

The functionLib.Navigate\_Screen method has the following command format(s):

```
functionLib.Navigate_Screen(RepName, L1UIName, L2VName, L2UIName);
```

### Command Parameters

**RepName**

a String specifying the repository name.

**L1UIName**

a String specifying the level 1 SiteMap UI name.

**L2VName**

a String specifying the level 2 SiteMap View name.

**L2UIName**

a String specifying the level 2 SiteMap UI name.

### Throws

**Exception**

on any error.

### Example

Navigates to the Screen/View from SiteMap.

```
functionLib.Navigate_Screen("RepName", "Level 1 UIName",  
"Level 2 SiteMap View", "Level 2 UIName");
```



## functionLib.Nextmonth

Gets the number of the next month.

### Format

The functionLib.Nextmonth method has the following command format(s):

```
functionLib.Nextmonth(val);
```

### Command Parameters

**val**

an Integer specifying the current month number.

### Returns

an Integer of the month number.

### Example

Gets the number of the next month.

```
int curMonth = functionLib.getMonthNumber("Dec");
int nextmonth = functionLib.Nextmonth(curMonth);
System.out.println("Next month is "+nextmonth);
```

## functionLib.NextPage

Go to the next page of the specified Applet.

### Format

The functionLib.NextPage method has the following command format(s):

```
functionLib.NextPage(Rn_Applet);
```

### Command Parameters

**Rn\_Applet**

a String specifying the Applet.

### Throws

**Exception**

on any error.

### Example

Go to the next page of the specified Applet.

```
functionLib.NextPage ("Rn Applet");
```

## functionLib.notificationCount

Gets the `notificationCount` attribute of the target HTML element defined by the path.

### Format

The `functionLib.notificationCount` method has the following command format(s):

```
functionLib.notificationCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the notification pane size count.

### Example

Gets the `notificationCount` attribute of the target HTML element.

```
//Using Java variable.  
int value = functionLib.notificationCount("/web:window" +  
    "/web:document" +  
    "/web:span[]");  
System.out.println("Notification pane size count is "+value);
```

## functionLib.openCellElement

Clicks on the element inside the specified cell.

### Format

The functionLib.openCellElement method has the following command format(s):

```
functionLib.openCellElement(columnxpath, row);
```

### Command Parameters

**columnxpath**

a String specifying the object path should be taken from the **specified column header from the List Applet.**

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String specifying the text for a specified cell.

### Example

Gets the rows count of the List Applet. Then, loop and opens the cell for all the rows.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
    "/web:document" +
    "/web:div[@rn='Type' and @ot='JComboBox' " +
    "and @un='Account Type']");
for(int i = 1; i < rows ; i++)
{
    functionLib.openCellElement("/web:window" +
        "/web:document" +
        "/web:div[@rn='Type' and @ot='JComboBox' " +
        "and @un='Account Type']", i );
}
```

## functionLib.openpopup

Opens the pop up for the specified field in the **List Applet**.

### Format

The functionLib.openpopup method has the following command format(s):

```
functionLib.openpopup(xpath);
```

```
functionLib.openpopup(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Opens the pop up for the specified field.

```
functionLib.openpopup("/web:window" +  
"/web:document" +  
"/web:div[@rn='Start Date' and @ot='JDatePick' " +  
"and @un='Effective As Of'], 2");
```

## functionLib.openUiSync

Waits until classname siebui-busy is active.

This function waits until the siebel application is in busy state before performing any operation on the UI.

### Format

The functionLib.openUiSync method has the following command format(s):

```
functionLib.openUiSync( );
```

### Throws

#### Exception

on any error.

### Example

Waits until the siebel application is in a busy state.

```
//Using Java variable.  
web.link(11, "//web:a[@rn='Sitemap.Activities Screen' " +  
  "and @ot='SiebWebSitemapAnchor' or @un='Activities']")  
  .click();  
functionLib.openUiSync( );
```

## functionLib.pageTabActiveScreen

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.pageTabActiveScreen method has the following command format(s):

```
functionLib.pageTabActiveScreen(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String specifying the repository name of the pagetab active screen.

### Example

Gets the repository name of the pagetab object and prints the custom message.

```
//Using Java variable.  
String pageactive = functionLib.pageTabActiveScreen("/web:window" +  
  "/web:document" +  
  "/web:a[@text='Accounts']");  
System.out.println("Repository name is "+pageactive);
```

## functionLib.pageTabIsExists

Detects whether or not the specified Pagetab object exists.

### Format

The functionLib.pageTabIsExists method has the following command format(s):

```
functionLib.pageTabIsExists(Xpath, TabRepName);
```

### Command Parameters

**Xpath**

a String specifying the object path.

**TabRepName**

a String specifying the Repository Name of the object.

### Throws

**Exception**

on any error.

### Returns

true if the Pagetab object exists. Return false if the Pagetab object does not exist.

### Example

Detects whether or not the Pagetab object exists and print a custom message.

```
//Using Java variable.
boolean value = functionLib.pageTabIsExists("/web:window[]" +
    "/web:document[]" +
    "/web:a[]", "Account Screen Homepage View");
if(value)
{
    System.out.println("Pagetab object exists");
}
else
{
    System.out.println("Pagetab object does not exist");
}
```



---

## pagetabsGetROProperty

The pagetabsGetROProperty enum has the following values:

**Table 21–14** *List of pagetabsGetROProperty Values*

<b>Value</b>	<b>Description</b>
activeView	The pagetabs activeView attribute.
pageTabActiveScreen	The pagetabs pageTabActiveScreen attribute.
screenCount	The pagetabsscreenCount attribute.
viewCount	The pagetabs viewCount attribute.

## functionLib.pagetabsGetROProperty

Gets the specified attribute (`pageTabActiveScreen`, `activeView`, `screenCount`, `viewCount`) of the target HTML element defined by the path.

### Format

The `functionLib.pagetabsGetROProperty` method has the following command format(s):

```
functionLib.pagetabsGetROProperty(propertyName);
```

### Command Parameters

**propertyName**

a String specifying the property (Eg : `pageTabActiveScreen`, `activeView`, `screenCount`, `viewCount`) to get.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the active view of the pagetab element with the attribute `activeView` and prints the custom message.

```
//Using Java variable.  
String value = functionLib.pagetabsGetROProperty("activeView");  
System.out.println("Pagetab repository name is "+value);
```

## functionLib.pdqActive

Gets a data value representing the visible query title of the target HTML element defined by the xpath.

### Format

The functionLib.pdqActive method has the following command format(s):

```
functionLib.pdqActive(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the PDQ object.

### Example

Gets a data value representing the visible query title and prints a custom message.

```
//Using Java variable.  
String value = functionLib.pdqActive("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm0']" +  
    "/web:select[(@name='s_pdq')]");  
System.out.println("PDQ value is "+value);
```

## functionLib.pdqClassName

Gets the class name of the target HTML element defined by the path.

### Format

The functionLib.pdqClassName method has the following command format(s):

```
functionLib.pdqClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String class specified PDQ object.

### Example

Gets the class attribute of the PDQ object and prints the custom message.

```
//Using Java variable.  
String PDQclassname = functionLib.pdqClassName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm0']" +  
    "/web:select[(@name='s_pdq')]");  
System.out.println("PDQ classname is "+PDQclassname );
```

---

## functionLib.pdqGetROProperty

Gets the specified attribute (Property) of the target HTML element defined by the path.

### Format

The functionLib.pdqGetROProperty method has the following command format(s):

```
functionLib.pdqGetROProperty(xpath, propertyName);
```

### Command Parameters

**xpath**

a String specifying the object path.

**propertyName**

a String specifying the property (for example, rn, un, text) to get.

### Throws

**Exception**

on any error.

### Returns

the current value of the test object property from the object in the application.

### Example

Gets the text value of the PDQ element with the attribute text and prints the custom message.

```
//Using Java variable.  
String value = functionLib.pdqGetROProperty("/web:window[]" +  
    "/web:document[]" +  
    "/web:form[]" +  
    "/web:select[@name='s_pdq'] " +  
    "and multiple mod 'False'", "text");  
System.out.println("PDQ text is "+value);
```

## functionLib.pdqisExist

Detects whether or not the specified PDQ object exists.

### Format

The functionLib.pdqisExist method has the following command format(s):

```
functionLib.pdqisExist(xpath, value);
```

### Command Parameters

**xpath**

a String specifying the object path.

**value**

a String specifying the rn value.

### Throws

**Exception**

on any error.

### Returns

a boolean value indicating whether the specified object exists.

### Example

Detects whether or not the specified object exists and prints the custom message.

```
//Using Java variable.
Boolean pdqexists = functionLib.pdqisExist("/web:window" +
"/web:document" +
"/web:form[@name='SWEForm0']" +
"/web:select[(@name='s_pdq')]", "");
if (pdqexists)
{
    System.out.println("PDQ object exists");
}
else
{
    System.out.println("PDQ object does not exist");
}
```

---

## functionLib.pdqItemCount

Detects the number of objects of a given type that are present in the current context.

### Format

The functionLib.pdqItemCount method has the following command format(s):

```
functionLib.pdqItemCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

an Integer of the number of objects present in the current context.

### Example

Gets the number of objects in the current context of the PDQ object and prints the custom message.

```
//Using Java variable.  
int items = functionLib.pdqItemCount("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm0']" +  
    "/web:select[(@name='s_pdq')]");  
System.out.println("PDQ items count is "+items);
```

## functionLib.pdqRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.pdqRepositoryName method has the following command format(s):

```
functionLib.pdqRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the specified object.

### Example

Gets the rn attribute of the PDQ object and prints the custom message.

```
//Using Java variable.  
String pdqRP = functionLib.pdqRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm0']" +  
    "/web:select[(@name='s_pdq')]");  
if(pdqRP.equals("Health"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```



---

## functionLib.pdqUiName

Gets the un attribute of the target HTML element defined by the xpath.

### Format

The functionLib.pdqUiName method has the following command format(s):

```
functionLib.pdqUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String UI name of the PDQ object.

### Example

Gets the un attribute of the PDQ object and prints the custom message.

```
//Using Java variable.  
String pdqUI = functionLib.pdqUiName("/web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm0']" +  
    "/web:select[(@name='s_pdq')]");  
if(pdqUI.equals("Health"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## **picklist\_GetroProperty**

The picklist\_GetroProperty enum has the following values:

**Table 21–15** *List of picklist\_GetroProperty Values*

<b>Value</b>	<b>Description</b>
classname	The picklist classname attribute.
rn	The picklist rn (Repository Name) attribute.
un	The picklist un ( UI Name) attribute.
value	The picklist value attribute.

---

## functionLib.pickListActiveItem

Gets the value representing the currently selected item from the Picklist.

This Function should be used only for **Form Applets**.

### Format

The functionLib.pickListActiveItem method has the following command format(s):

```
functionLib.pickListActiveItem(xpath);
```

```
functionLib.pickListActiveItem(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer value specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value specifying the data of the currently selected item for the Picklist.

### Example

Gets the value with specified row (2) from the Picklist object and prints the custom message.

```
//Using Java variable.  
String value = functionLib.pickListActiveItem("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Priority' and @ot='JComboBox' " +  
    "and @un='Priority']", 2);  
if(value.equals("medium"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.pickListClassName

Gets the class attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.pickListClassName method has the following command format(s):  
functionLib.pickListClassName(xpath);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String class name of the picklist object.

### Example

Gets the UI name of the picklist object and prints the custom message.

```
//Using Java variable.  
String classname = functionLib.pickListClassName(" /web:window" +  
    "/web:document" +  
    "/web:form[@name='SWEForm2_0']" +  
    "/web:input_text[@rn='State' and @ot='JComboBox' " +  
    "and @un='State']");  
System.out.println("Class name is "+classname);
```

---

## functionLib.pickListCount

Gets the number of items are present in the Picklist object for the **List Applet**.

This functions should be used only for the **List Applet**.

### Format

The functionLib.pickListCount method has the following command format(s):

```
functionLib.pickListCount(xpath);
```

```
functionLib.pickListCount(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer specifying the row number from the List Applet (should always start from one) .

### Throws

**Exception**

on any error.

### Returns

an Integer value, sepcifying the number of items are present in the Picklist object.

### Example

Gets the number of items of the Picklist object for the Form Applet and prints the custom message.

```
//Using Java variable.  
int number = functionLib.pickListCount("/web:window" +  
    "/web:document" +  
    "/web:input_text[@rn='Status' and @ot='JComboBox' " +  
    "and @un='Status']", 2);  
System.out.println("Number of items is "+number );
```

## functionLib.pickListGetROProperty

Gets the specified attribute (*rn*, *un*, *classname*, *value*) of the target HTML element defined by the path.

This function should be used only for **List Applet** objects.

### Format

The functionLib.pickListGetROProperty method has the following command format(s):

```
functionLib.pickListGetROProperty(xpath, propertyname);
```

```
functionLib.pickListGetROProperty(columnxpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**propertyname**

a String specifying the property(for example, *rn*, *un*, *classname*, *value*) to get.

**columnxpath**

a String specifying the column path.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the picklist element with the attribute value and prints the custom message.

```
String getAttribute13 = functionLib.pickListGetROProperty(" /web:window" +  
    "/web:document" +  
    "/web:input_text[@rn='State' and @ot='JComboBox' " +  
    "and @un='State']", "value" , 2);  
if(getAttribute13.equals("CA"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.pickListIsEnabled

Detects whether the PickList object is enabled or disabled.

This function should be used only for **List Applets**.

### Format

The functionLib.pickListIsEnabled method has the following command format(s):

```
functionLib.pickListIsEnabled(xpath);
```

```
functionLib.pickListIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the PickList object is enabled or disabled and prints a custom message based on whether PickList object is enabled or disabled.

```
//Using Java variable.  
boolean pklst = functionLib.pickListIsEnabled("/web:window" +  
  "/web:document" +  
  "/web:div[@rn='Primary Revenue Class' and @ot='JComboBox' " +  
  "and @un='Revenue Class']", 5);  
if(pklst)  
{  
  System.out.println("Enabled");  
}  
else  
{  
  System.out.println("Disabled");  
}
```

## functionLib.picklistItemsExist

Detects the existence of the Picklist item in the given LOV list.

### Format

The functionLib.picklistItemIsExist method has the following command format(s):

```
functionLib.picklistItemsExist(xpath, ItemName);
```

```
functionLib.picklistItemsExist(xpath, ItemName, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**ItemName**

a String to be checked for the existence.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the item exists, false if the item does not exist.

### Example

Detects the existence of the Picklist item in the given LOV list.

```
//Using Java variable.  
boolean value = functionLib.picklistItemIsExist("/web:window" +  
  "/web:document" +  
  "/web:input_text[@rn='Status' and @ot='JComboBox' " +  
  "and @un='Status']", "Open", 5);  
if(value)  
{  
  System.out.println("Exists");  
}  
else  
{  
  System.out.println("Does Not exist");  
}
```



---

## functionLib.pickListRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.pickListRepositoryName method has the following command format(s):

```
functionLib.pickListRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the picklist object.

### Example

Gets the repository name of the picklist object and prints the custom message.

```
//Using Java variable.  
String pickRP = functionLib.pickListRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm2_0']" +  
  "/web:input_text[@rn='State' and @ot='JComboBox' " +  
  "and @un='State']");  
if(pickRP.equals("some repository name"))  
{  
  System.out.println("Pass");  
}  
else  
{  
  System.out.println("Fail");  
}
```

## functionLib.pickListSetText

Set text to target Picklist element.

This function should be used only for the **List Applet**.

### Format

The functionLib.pickListSetText method has the following command format(s):

```
functionLib.pickListSetText(xpath, value);
```

```
functionLib.pickListSetText(xpath, value, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**value**

a text to set in to the picklist object.

**row**

an Integer specifying the row.

### Throws

**Exception**

on any error.

### Example

Clicks and enters the text "medium" into picklist object.

```
functionLib.pickListSetText(" /web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm1_0' or @index='2']" +  
  "/web:input_text[@rn='Sub-Status' and @ot='JComboBox' " +  
  "and @un='Sub Status']", "medium", 2);
```

---

## functionLib.pickListUIName

Gets the un attribute of the target HTML element defined by the xpath.  
Common for both **Form** and **List Applet** objects.

### Format

The functionLib.pickListUIName method has the following command format(s):  
functionLib.pickListUIName(*xpath*);

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String UI name of the picklist object.

### Example

Gets the UI name of the picklist object and prints the custom message.

```
//Using Java variable.  
String pickUI = functionLib.pickListUIName(" /web:window" +  
  "/web:document" +  
  "/web:form[@name='SWEForm2_0']" +  
  "/web:input_text[@rn='State' and @ot='JComboBox' " +  
  "and @un='State']");  
if(pickUI.equals("State"))  
{  
  System.out.println("Pass");  
}  
else  
{  
  System.out.println("Fail");  
}
```

## functionLib.Previousmonth

Gets the number of the previous month.

### Format

The functionLib.Previousmonth method has the following command format(s):

```
functionLib.Previousmonth(val);
```

### Command Parameters

**val**

an Integer specifying the current month number.

### Returns

an Integer of the month number.

### Example

Gets the number of the previous month.

```
int curMonth = functionLib.getMonthNumber("Dec");  
int prevmonth = functionLib.Previousmonth(curMonth);  
System.out.println("Previous month is "+prevmonth );
```

## functionLib.PreviousPage

Go to the previous page of the specified Applet.

### Format

The functionLib.PreviousPage method has the following command format(s):

```
functionLib.PreviousPage(Rn_Applet);
```

### Command Parameters

**Rn\_Applet**

a String specifying the Applet.

### Throws

**Exception**

on any error.

### Example

Go to the previous page of the specified Applet.

```
functionLib.PreviousPage("Rn Applet");
```

## functionLib.recordCount

Specifies the number of rows (visible/invisible) in the **List Applet**.

### Format

The functionLib.recordCount method has the following command format(s):

```
functionLib.recordCount();
```

### Throws

#### **Exception**

on any error.

### Returns

a integer number of rows.

### Example

Gets the record count of the list applet and prints the custom message.

```
{  
//Using Java variable.  
int rows = functionLib.recordCount();  
    System.out.println(rows);  
}
```

---

## functionLib.rowCount

Gets the number of currently visible rows (determined by show more/less).

### Format

The functionLib.rowCount method has the following command format(s):

```
functionLib.rowCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **any column header from the List Applet**.

### Throws

**Exception**

on any error.

### Returns

an Integer number of currently visible rows.

### Example

Gets the row count of the List Applet and prints the custom message.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
"/web:document" +
"/web:div[@rn='Account' and @ot='JText' " +
"and @un='Account']");
for(int i = 1; i < rows ; i++)
{
System.out.println("Record number "+ i );
}
```

## functionLib.screenClassName

Gets the classname attribute of the screen.

### Format

The functionLib.screenClassName method has the following command format(s):

```
functionLib.screenClassName( );
```

### Throws

**Exception**  
on any error.

### Returns

a String classname of the screen object.

### Example

Gets the classname of the screen and prints the custom message.

```
//Using Java variable.  
String value = functionLib.screenClassName();  
System.out.println("classname of the screen is "+value);
```



## functionLib.screenCount

Gets the screen count present in the current context.

### Format

The functionLib.screenCount method has the following command format(s):

```
functionLib.screenCount();
```

### Throws

**Exception**  
on any error.

### Returns

an Integer value of the screen count.

### Example

Gets the number of screens present in the current context and prints the custom message.

```
//Using Java variable.  
int count = functionLib.screenCount();  
System.out.println("Count is "+count);
```

## functionLib.screenGetRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

### Format

The functionLib.screenGetRepositoryName method has the following command format(s):

```
functionLib.screenGetRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the String value of the specified property.

### Example

Gets the rn attribute of the screen.

```
//Using Java variable.  
String screenName = functionLib.screenGetRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:a[@text='Accounts']");  
System.out.println("Screen name is "+screenName);
```

## functionLib.screenGetRoProperty

Gets the `propertyname` attribute of the target HTML element defined by the path.

### Format

The `functionLib.screenGetRoProperty` method has the following command format(s):

```
functionLib.screenGetRoProperty(propertyName);
```

### Command Parameters

**propertyName**

a String specifying the property (for example, `un`, `classname`, `rn`) to get.

### Throws

**Exception**

on any error.

### Returns

the current value of the object property from the object in the application.

### Example

Gets the `classname` attribute of the screen element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.screenGetRoProperty("classname");  
System.out.println("classname of the screen is "+value);
```

## functionLib.screenRepositoryName

Gets the rn attribute of the screen.

### Format

The functionLib.screenRepositoryName method has the following command format(s):

```
functionLib.screenRepositoryName( );
```

### Throws

#### Exception

on any error.

### Returns

a String repository name of the screen object.

### Example

Gets the rn attribute of the screen and prints the custom message.

```
//Using Java variable.  
String sName = functionLib.screenRepositoryName();  
if(sName.equals("Accounts"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.screenUiName

Gets the un attribute of the screen.

### Format

The functionLib.screenUiName method has the following command format(s):

```
functionLib.screenUiName( );
```

### Throws

**Exception**  
on any error.

### Returns

a String UI name of the screen object.

### Example

Gets the un attribute of the screen and prints the custom message.

```
//Using Java variable.  
String sName = functionLib.screenUiName();  
if(sName.equals("Accounts"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.selectCell

Clicks on the element inside the specified cell.

### Format

The functionLib.selectCell method has the following command format(s):

```
functionLib.selectCell(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet.**

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Gets the rows count of the List Applet, loops, and selects the cell for all the rows.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
    "/web:document" +
    "/web:div[@rn='Type' and @ot='JComboBox' " +
    "and @un='Account Type']");
for(int i = 1; i < rows ; i++)
{
    functionLib.selectCell("/web:window" +
        "/web:document" +
        "/web:div[@rn='Type' and @ot='JComboBox' " +
        "and @un='Account Type']", i );
}
```

## functionLib.selectTree

Selects the tree object specified by String ID.

### Format

The functionLib.selectTree method has the following command format(s):

```
functionLib.selectTree(StrId);
```

### Command Parameters

**StrId**

a String specifying the String ID.

### Throws

**Exception**

on any error.

### Example

Selects the tree object specified by String ID.

```
functionLib.selectTree("stringid");
```

## functionLib.SetCellData

Sets the value of the input in the specified cell.

### Format

The functionLib.SetCellData method has the following command format(s):

```
functionLib.SetCellData(xpath, row, value);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

**value**

a String to be set.

### Throws

**Exception**

on any error.

### Returns

a String specifying the text for a specified cell.

### Example

Sets the value of the input in the specified cell.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
"/web:document" +
"/web:div[@rn='Type' and @ot='JComboBox' " +
"and @un='Account Type']") ;
for(int i = 1; i < rows ; i++)
{
functionLib.SetCellData("/web:window" +
"/web:document" +
"/web:div[@rn='Type' and @ot='JComboBox' " +
"and @un='Account Type']", i, "Commercial");
}
```



---

## functionLib.SetText

the text when the field has same repository name across multiple applets in same screen and modifies or renames the text in the text

### Format

The functionLib.SetText method has the following command format(s):

```
functionLib.SetText(xpath, value);
```

```
functionLib.SetText(xpath, value, row);
```

```
functionLib.SetText(xpath, value, row, AppletRepName);
```

### Command Parameters

#### **xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

#### **value**

a String to be set.

#### **row**

an Integer specifying the row number from the List Applet (should always start from one).

#### **AppletRepName**

a String specifying the repository name of the Applet.

### Throws

#### **Exception**

on any error.

### Returns

a String specifying the text for a specified cell.

### Example

Gets the rows count of the List Applet, loops and sets the Text for all the rows with a specified columns.

```
//Using Java variable.
int rows = functionLib.rowCount("/web:window" +
"/web:document" +
"/web:div[@rn='Name' and @ot='JText']");
for(int i = 1; i < rows ; i++)
{
functionLib.SetText("/web:window" +
"/web:document" +
"/web:div[@rn='Description' and @ot='JText']",
"Commercial", i, "SM Social Media Admin Services Applet" );
}
```

## functionLib.setTextArea

Sets text to the specified cell (textarea) in the list.

### Format

The functionLib.setTextArea method has the following command format(s):

```
functionLib.setTextArea(xpath, value, row);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the **specified column header from the List Applet**.

**value**

a String to be set.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Example

Gets the rows count of the List applet, loops and sets the text for all the rows with the specified columns.

```
int rows = functionLib.rowCount("/web:window" +
    "/web:document" +
    "/web:div[@rn='Description' " +
    "and @ot='JTextArea']");
for(int i = 1; i < rows ; i++)
{
    functionLib.setTextArea("/web:window" +
        "/web:document" +
        "/web:div[@rn='Description' " +
        "and @ot='JTextArea']", "Commercial", i );
}
```

## functionLib.siebScreenActiveView

Gets the rn attribute of the target HTML element.

### Format

The functionLib.siebScreenActiveView method has the following command format(s):

```
functionLib.siebScreenActiveView( );
```

### Throws

**Exception**  
on any error.

### Returns

the view name of the screen in context.

### Example

Gets the rn attribute and prints the custom message.

```
//Using Java variable.  
String view = functionLib.siebScreenActiveView();  
System.out.println("Active view is "+view);
```

## functionLib.siebScreenViewsIsExists

Detects whether the specified view exists or not.

### Format

The functionLib.siebScreenViewsIsExists method has the following command format(s):

```
functionLib.siebScreenViewsIsExists(RepositoryName, siebScreenViewsLevel);
```

### Command Parameters

**RepositoryName**

a String specifying the object repository name.

**siebScreenViewsLevel**

a String specifying the level of the view for example, L2, L3 and L4.

### Throws

**Exception**

on any error.

### Returns

String true if the view exists else return false if the view does not exist.

### Example

Detects whether the view specified by RepositoryName and siebScreenViewsLevel with the attribute rn exists or not and prints the custom message.

```
//Using Java variable.  
String value = functionLib.siebScreenViewsIsExists("Account Detail - Activities  
View", "L3");  
System.out.println("The Required view exist is "+value);  
if(value.equals("true"))  
{  
    System.out.println("Required view exists");  
}  
else  
{  
    System.out.println("Required view does not exist");  
}
```

---

## siebScreenViewsValue

The siebScreenViewsValue enum has the following values:

**Table 21–16** *List of siebScreenViewsValue Values*

<b>Value</b>	<b>Description</b>
L2	Screen view L2 (level 2) value.
L3	Screen view L3 (level 3) value.
L4	Screen view L4 (level 4) value.

## functionLib.sitemapFilterTextIsExists

Detects whether or not the filtered count for the entered text is displayed on the sitemap screen on sitemap search operation.

### Format

The functionLib.sitemapFilterTextIsExists method has the following command format(s):

```
functionLib.sitemapFilterTextIsExists( );
```

### Throws

#### Exception

on any error.

### Returns

String true if the filtered text count is displayed on the sitemap on performing sitemap search else returns false if the text is not displayed.

### Example

Detects whether or not the filtered count for the entered text is displayed on the sitemap screen.

```
//Using Java variable.
web.textBox(17, "/web:window" +
    "/web:document" +
    "/web:input_text[@id='sitemapFilterInput']")
.click();
ft.typeCharacters("Activities");
String sitemapfiltertextIsExists = functionLib.sitemapFilterTextIsExists();
if (sitemapfiltertextIsExists.equals("true"))
{
    System.out.println("Exists");
}
else
{
    System.out.println("Does not exist");
}
```

---

## functionLib.sitemapIsExists

Detects whether or not the sitemap screen is displayed on click of sitemap icon.

### Format

The functionLib.sitemapIsExists method has the following command format(s):

```
functionLib.sitemapIsExists( );
```

### Throws

**Exception**  
on any error.

### Returns

String true if the search box field is present in the sitemap screen else returns false if the sitemap screen does not exist.

### Example

Detects whether or not the sitemap screen is displayed on click of sitemap icon.

```
//Using Java variable.  
web.image(15, "/web:window" +  
    "/web:document" +  
    "/web:img[@src='/images/icon_sitemap_1.gif']")  
    .click();  
String sitemapscreenisexists = functionLib.sitemapIsExists();  
if (sitemapscreenisexists.equals("true"))  
{  
    System.out.println("Exists");  
}  
else  
{  
    System.out.println("Does not exist");  
}
```

## functionLib.sitemapLinkclick

Clicks on the link available on the Sitemap screen.

### Format

The functionLib.sitemapLinkclick method has the following command format(s):

```
functionLib.sitemapLinkclick(rn);
```

### Command Parameters

**rn**

a String specifying the rn value of the screen.

### Throws

**Exception**

on any error.

### Example

Clicks on the particular link available on the sitemap screen.

```
functionLib.sitemapLinkclick("Sitemap.Accounts Screen");
```



---

## functionLib.sitemapScreen2ndLevelViewCount

Gets the number of 2nd level views present for a particular screen.

### Format

The functionLib.sitemapScreen2ndLevelViewCount method has the following command format(s):

```
functionLib.sitemapScreen2ndLevelViewCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the xpath of the screen in the sitemap for which the number of second level views is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String : count of the second level view links for a particular screen in the sitemap.

### Example

Gets the number of 2nd level views present for the Activities screen.

```
//Using Java variable.  
String Level2Views =  
functionLib.sitemapScreen2ndLevelViewCount("//web:a[@rn='Sitemap.Activities  
Screen' " +  
"and @ot='SiebWebSitemapScreen' or @un='Activities']");  
int secondLeveldviewcount = Integer.parseInt(Level2Views);  
System.out.println("View count is "+secondLeveldviewcount);
```

## functionLib.sitemapScreen3rdLevelViewCount

Gets the number of 3rd level views present for a particular screen.

### Format

The functionLib.sitemapScreen3rdLevelViewCount method has the following command format(s):

```
functionLib.sitemapScreen3rdLevelViewCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the xpath of the screen in the sitemap for which the number of third level views is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String : count of the third level view links for a particular screen in sitemap.

### Example

Gets the number of 3rd level views present for the Activities screen.

```
//Using Java variable.  
String Level3Views =  
functionLib.sitemapScreen3rdLevelViewCount("//web:a[@rn='Sitemap.Activities  
Screen' " +  
"and @ot='SiebWebSitemapScreen' or @un='Activities']");  
int thirdLeveldviewcount = Integer.parseInt(Level3Views);  
System.out.println("View count is "+thirdLeveldviewcount);
```

---

## functionLib.sitemapScreen4thLevelViewCount

Gets the number of 4th level views present for a particular screen.

### Format

The functionLib.sitemapScreen4thLevelViewCount method has the following command format(s):

```
functionLib.sitemapScreen4thLevelViewCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the xpath of the screen in the sitemap for which the number of fourth level views is to be retrieved.

### Throws

**Exception**

on any error.

### Returns

a String : count of the fourth level view links for a particular screen in sitemap.

### Example

Gets the number of 4th level views present for the Activities screen.

```
//Using Java variable.  
String Level4Views =  
functionLib.sitemapScreen4thLevelViewCount("//web:a[@rn='Sitemap.Accounts Screen'  
" +  
"and @ot='SiebWebSitemapScreen' or @un='Accounts']");  
int fourthLeveldviewcount = Integer.parseInt(Level4Views);  
System.out.println("View count is "+fourthLeveldviewcount);
```

## functionLib.sitemapSearchBoxCount

Gets the count of the number of occurrences of the specified text in the sitemap search box.

### Format

The functionLib.sitemapSearchBoxCount method has the following command format(s):

```
functionLib.sitemapSearchBoxCount( );
```

### Throws

**Exception**  
on any error.

### Returns

Count of the filtered text entered in the search box.

### Example

Gets the count of the number of occurrences of the specified text in the sitemap search box.

```
//Using Java variable.  
web.textBox(17, "/web:window" +  
    "/web:document" +  
    "/web:input_text[@id='sitemapFilterInput']")  
    .click();  
ft.typeCharacters("Activities");  
String sitemapsearchboxCount = functionLib.sitemapSearchBoxCount();  
System.out.println("Search box count is "+sitemapsearchboxCount);
```

---

## functionLib.sitemapSearchBoxIsExists

Detects whether or not the searchbox field exists in the sitemap screen.

### Format

The functionLib.sitemapSearchBoxIsExists method has the following command format(s):

```
functionLib.sitemapSearchBoxIsExists( );
```

### Throws

**Exception**  
on any error.

### Returns

String true if the search box field is present in the sitemap screen else returns false if the search box field is not present.

### Example

Detects whether or not the searchbox field exists in the sitemap screen.

```
//Using Java variable.  
web.image(15, "/web:window" +  
  "/web:document" +  
  "/web:img[@src='/images/icon_sitemap_1.gif']")  
  .click();  
String sitemapSearchBoxIsExists = functionLib.sitemapSearchBoxIsExists();  
if (sitemapSearchBoxIsExists.equals("true"))  
{  
  System.out.println("Exists");  
}  
else  
{  
  System.out.println("Does not exist");  
}
```

## functionLib.sortDown

Sorts the table in descending order based on the contents of the specified column.

### Format

The functionLib.sortDown method has the following command format(s):

```
functionLib.sortDown(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the **specified column header from the List Applet**.

### Throws

**Exception**

on any error.

### Example

Sorts the table in descending order.

```
functionLib.sortDown("/web:window" +  
"/web:document" +  
"/web:div[@rn='Type' and @ot='JComboBox' " +  
"and @un='Account Type']");
```

---

## functionLib.sortUp

Sorts the table in ascending order based on the contents of the specified column.

### Format

The functionLib.sortUp method has the following command format(s):

```
functionLib.sortUp(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path. Should be taken from the **specified column header from the List Applet**.

### Throws

**Exception**

on any error.

### Example

Sorts the table in ascending order.

```
functionLib.sortUp("/web:window" +  
"/web:document" +  
"/web:div[@rn='Type' and @ot='JComboBox' " +  
"and @un='Account Type']" );
```

## functionLib.Static

Gets the specified attribute (Property) of the target HTML element defined by the path.

### Format

The functionLib.Static method has the following command format(s):

```
functionLib.Static(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the text attribute value for the dialog pop-up.

### Example

Gets the text attribute value for the dialog pop-up object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.Static("/web:dialog_confirm[]" +  
    "/web:accStaticText[@name='Are you sure you want to delete the selected " +  
    "record in 'Opportunities?']");  
System.out.println("Text attribute value for the dialog pop-up is "+value);
```



---

## functionLib.staticDialogGetROProperty

Gets the specified attribute (Property) of the target HTML element defined by the path.

### Format

The functionLib.staticDialogGetROProperty method has the following command format(s):

```
functionLib.staticDialogGetROProperty(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the text attribute value for the dialog pop-up.

### Example

Gets the text attribute value for the dialog pop-up object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.staticDialogGetROProperty("/web:dialog_confirm[]" +  
    "/web:accStaticText[@name='Are you sure you want to delete the selected " +  
    "record in 'Opportunities'?']");  
System.out.println("Text attribute value for the dialog pop-up is "+value);
```

## functionLib.staticDialogGetVisibleText

Gets the text attribute of the Confirm or Alert dialog box, if one exists.

### Format

The functionLib.staticDialogGetVisibleText method has the following command format(s):

```
functionLib.staticDialogGetVisibleText( );  
functionLib.staticDialogGetVisibleText(xpath);
```

### Command Parameters

**xpath**  
a String specifying the object path.

### Throws

**Exception**  
on any error.

### Returns

a String of the dialog text.

### Example

Gets the text attribute value for the dialog pop-up and prints the custom message.

```
//Using Java variable.  
String value = functionLib.staticDialogGetVisibleText("/web:dialog_confirm[]" +  
    "/web:accDialog[@name='Message from webpage']");  
System.out.println("Dialog pop-up text is "+value);
```

## functionLib.textAreaClassName

Gets the class attribute of the target HTML element defined by the xpath.

This function should be used for both **List** and **Form Applets**.

### Format

The functionLib.textAreaClassName method has the following command format(s):

```
functionLib.textAreaClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String class name of the Textarea object.

### Example

Gets the class name of the Textarea object and prints the custom message.

```
//Using Java variable.  
String Textarea = functionLib.textAreaClassName("/web:window" +  
  "/web:document" +  
  "/web:div[@rn='Abstract' and @ot='JTextArea' " +  
  "and @un='Summary']");  
System.out.println("class name is "+Textarea);
```

## functionLib.textAreaGetROProperty

Gets the specified attribute (*rn*, *un*, *classname*, *value*) of the target HTML element defined by the path.

This function should be used only for **Form Applet** objects.

### Format

The functionLib.textAreaGetROProperty method has the following command format(s):

```
functionLib.textAreaGetROProperty(xpath, propertyname);
```

```
functionLib.textAreaGetROProperty(xpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**propertyname**

a String specifying the property (for example, *rn*, *un*, *classname*, *value*) to get.

**row**

integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the Text Area element with the attribute *value* and prints the custom message if it matches the required value.

```
//Using Java variable.  
String getAttribute = functionLib.textAreaGetROProperty("/web:window" +  
"/web:document" +  
"/web:div[@rn='Abstract' and @ot='JTextArea' " +  
"and @un='Summary']", "value");  
if(getAttribute.equals("some discription"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.textareaIsEnabled

Detects whether the Textarea object is enabled or disabled.

This function should be used only for **Form Applets**.

### Format

The functionLib.textareaIsEnabled method has the following command format(s):

```
functionLib.textareaIsEnabled(xpath);
```

```
functionLib.textareaIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an integer specifying the row number.

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the Textarea object is enabled or disabled and prints a custom message.

```
//Using Java variable.  
boolean Textarea = functionLib.textareaIsEnabled("/web:window" +  
  "/web:document" +  
  "/web:div[@rn='Abstract' and @ot='JTextArea' " +  
  "and @un='Summary']", 1);  
if(Textarea)  
{  
  System.out.println("Pass");  
}  
else  
{  
  System.out.println("Fail");  
}
```

## functionLib.textAreaRepositoryName

Gets the rn attribute of the target HTML element defined by the xpath.

This function should be used for both **List** and **Form Applet**.

### Format

The functionLib.textAreaRepositoryName method has the following command format(s):

```
functionLib.textAreaRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String repository name of the Textarea object.

### Example

Gets the repository name of the Textarea object and prints the custom message.

```
//Using Java variable.  
String Textarea = functionLib.textAreaRepositoryName("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Abstract' and @ot='JTextArea' " +  
    "and @un='Summary']");  
System.out.println("Repository name is "+Textarea);
```

---

## functionLib.textAreaText

Gets the text value of the target HTML element defined by the xpath.

This Function should be used only for **Form Applets**.

### Format

The functionLib.textAreaText method has the following command format(s):

```
functionLib.textAreaText(xpath);
```

```
functionLib.textAreaText(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**row**

an Integer value specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value specifying the text of the object.

### Example

Gets the text value from the object for the second row of the List Applet and prints the custom message.

```
//Using Java variable.  
String value = functionLib.textAreaText("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Abstract' and @ot='JTextArea' " +  
    "and @un='Summary']", 2);  
if(value.equals("some description"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

## functionLib.textAreaUiName

Gets the un attribute of the target HTML element defined by the xpath.

This function should be used for both **List** and **Form Applet**.

### Format

The functionLib.textAreaUiName method has the following command format(s):

```
functionLib.textAreaUiName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String UI name of the Textarea object.

### Example

Gets the UI name of the Textarea object and prints the custom message.

```
//Using Java variable.  
String Textarea = functionLib.textAreaUiName("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Abstract' and @ot='JTextArea' " +  
    "and @un='Summary']");  
System.out.println("Repository name is "+Textarea);
```



## functionLib.textClassName

Gets the class attribute of the target HTML element defined by the xpath.

### Format

The functionLib.textClassName method has the following command format(s):

```
functionLib.textClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String class name of the Text object.

### Example

Gets the class name of the text object and prints the custom message.

```
//Using Java variable.  
String name = functionLib.textClassName("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Name' and @ot='JText' " +  
    "and @un='Opportunity Name']");  
System.out.println("Class name is "+name);
```

## functionLib.textGetROProperty

Gets the specified attribute (*text, un, rn, classname, isenabled*) of the target HTML element defined by the path.

This function should be used only for **List Applet** objects.

### Format

The functionLib.textGetROProperty method has the following command format(s):

```
functionLib.textGetROProperty(xpath, propertyname);
```

```
functionLib.textGetROProperty(xpath, propertyname, row);
```

### Command Parameters

**xpath**

a String specifying the object path should be taken from the **specified column header from the List Applet**.

**propertyname**

a String specifying the property (for example, *text, un, rn, classname, isenabled*) to get.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value of the specified property.

### Example

Gets the value of the text element with the attribute *text* and prints the custom message if matches the required value.

```
//Using Java variable.  
String getAttribute = functionLib.textGetROProperty("/web:window" +  
"/web:document" +  
"/web:div[@rn='Name' and @ot='JText' " +  
"and @un='Name']", "text", 2 );  
if(getAttribute.equals("SAM"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.textIsEnabled

Detects whether the Text object is enabled or disabled from the target HTML element defined by the xpath.

This function should be used only for **List Applets**.

### Format

The functionLib.textIsEnabled method has the following command format(s):

```
functionLib.textIsEnabled(xpath);
```

```
functionLib.textIsEnabled(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

true if the object is enabled, false if the object is disabled.

### Example

Detects whether the Text object is enabled or disabled for the fifth row of the List Applet and prints a custom message based on whether Text object is enabled or disabled.

```
//Using Java variable.  
boolean text = functionLib.textIsEnabled("/web:window" +  
  "/web:document" +  
  "/web:div[@rn='Contact Last Name' and @ot='JText' " +  
  "and @un='Last Name']", 5);  
if(text)  
{  
  System.out.println("Enabled");  
}  
else  
{  
  System.out.println("Disabled");  
}
```

## functionLib.textPopupType

Detects the type of popup associated with the textbox from the target HTML element defined by the xpath.

This function should be used only for **List Applets**.

### Format

The functionLib.textPopupType method has the following command format(s):

```
functionLib.textPopupType(xpath);
```

```
functionLib.textPopupType(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an integer specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String 'MVPick' if the object is Popup type or 'Text' if the object is not a Popup type.

### Example

Gets the type of popup associated with textbox for the second row of the List Applet and prints the custom message.

```
//Using Java variable.  
String type1 = functionLib.textPopupType("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Contact Last Name' and @ot='JText' " +  
    "and @un='Last Name']", 2);  
if(type1.equals("MVPick"))  
{  
    System.out.println("MVPick");  
}  
else  
{  
    System.out.println("Text");  
}
```

---

## functionLib.textRepositoryName

Gets the `rn` attribute of the Text object of the target HTML element defined by the `xpath`.

This function should be used for both **List** and **Form Applet**.

### Format

The `functionLib.textRepositoryName` method has the following command format(s):

```
functionLib.textRepositoryName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String value of the `rn` attribute of the Text object.

### Example

Gets the `rn` attribute of the Text object and prints the custom message.

```
//Using Java variable.  
String textRN = functionLib.textRepositoryName("/web:window" +  
  "/web:document" +  
  "/web:input_text[@rn='Name' and @ot='JText' " +  
  "and @un='Account Name']");  
System.out.println("text repository name is "+textRN);
```

## functionLib.textText

Gets the text value of the target HTML element defined by the xpath.

This Function should be used only for **List Applets**.

### Format

The functionLib.textText method has the following command format(s):

```
functionLib.textText(xpath);
```

```
functionLib.textText(xpath, row);
```

### Command Parameters

**xpath**

a String specifying the object path.

**row**

an Integer value specifying the row number from the List Applet (should always start from one).

### Throws

**Exception**

on any error.

### Returns

a String value specifying the text of the object.

### Example

Gets the text value from the object for the second row of the List Applet and prints the custom message.

```
//Using Java variable.  
String value20 = functionLib.textText ("/web:window" +  
    "/web:document" +  
    "/web:div[@rn='Contact Last Name' and @ot='JText' " +  
    "and @un='Last Name']", 2);  
if(value20.equals("sam"))  
{  
    System.out.println("Pass");  
}  
else  
{  
    System.out.println("Fail");  
}
```

---

## functionLib.textUIName

Gets the un attribute of the Text object of the target HTML element defined by the xpath.

This function should be used for both **List and Form Applet**.

### Format

The functionLib.textUIName method has the following command format(s):

```
functionLib.textUIName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

a String un value specifying the Text object.

### Example

Gets the un attribute of the Text object and prints the custom message.

```
//Using Java variable.  
String textUN = functionLib.textUIName("/web:window" +  
    "/web:document" +  
    "/web:input_text[@rn='Name' and @ot='JText' " +  
    "and @un='Account Name']");  
System.out.println("text UI name is "+textUN);
```

## functionLib.threadBarItemCount

Gets the number of objects of a given type that are present in the current context.

### Format

The functionLib.threadBarItemCount method has the following command format(s):

```
functionLib.threadBarItemCount( );
```

### Throws

#### **Exception**

on any error.

### Returns

an Integer specifying the number of objects in the thread bar.

### Example

Gets the thread bar item count.

```
//Using Java variable.  
int count = functionLib.threadBarItemCount();  
System.out.println("Item count is "+count);
```



## functionLib.threadItems

Gets the threadItems attribute of the target HTML element defined by the path.

### Format

The functionLib.threadItems method has the following command format(s):

```
functionLib.threadItems( );
```

### Throws

**Exception**  
on any error.

### Returns

all the items present in the thread bar.

### Example

Gets all the items present in thread bar and prints the custom message.

```
//Using Java variable.  
String value = functionLib.threadItems();  
System.out.println("Total Items present in the thead bar is "+value);
```

## functionLib.toggleClick

Clicks on any span with repository name in the **List** or **Form Applet**.

### Format

The functionLib.toggleClick method has the following command format(s):

```
functionLib.toggleClick(rn);
```

### Command Parameters

**rn**

a String specifying the repository name.

### Throws

**Exception**

on any error.

### Example

Clicks the repository toggle of the span element.

```
functionLib.toggleClick("Accounts");
```

## functionLib.toolbarClassName

Gets the specified attribute (*classname*) of the target HTML element defined by the path.

### Format

The functionLib.toolbarClassName method has the following command format(s):

```
functionLib.toolbarClassName(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the classname of the toolbar object.

### Example

Gets the classname of the toolbar object and prints the custom message.

```
//Using Java variable.  
String value = functionLib.toolbarClassName("/web:window[]" +  
    "/web:document[]" +  
    "/web:img[]");  
System.out.println("Toolbar classname is "+value);
```

---

## functionLib.toolbarCount

Gets the count attribute of the target HTML element defined by the path.

### Format

The functionLib.toolbarCount method has the following command format(s):

```
functionLib.toolbarCount( );
```

### Throws

**Exception**  
on any error.

### Returns

the number of objects of a given type that are present in the current context. The number of toolbar objects in the screen.

### Example

Gets the number of toolbar objects in the screen and prints the custom message.

```
//Using Java variable.  
int value = functionLib.toolbarCount( );  
System.out.println("Number of toolbar objects in the screen is "+value);
```

---

## functionLib.toolbarItemsEnabled

Detects whether a particular toolbar item is enabled on the target HTML element defined by the path.

### Format

The functionLib.toolbarItemIsEnabled method has the following command format(s):

```
functionLib.toolbarItemsEnabled(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

String true if a toolbar item is enabled else returns false if not enabled.

### Example

Checks whether sitemap toolbar icon is enabled.

```
//Using Java variable.  
String toolbarIsEnabled = functionLib.toolbarItemIsEnabled("/web:window" +  
    "/web:document" +  
    "/web:img[@src='/images/icon_sitemap_1.gif']");  
if (toolbarIsEnabled.equals("true"))  
{  
    System.out.println("Enabled");  
}  
else  
{  
    System.out.println("Not enabled");  
}
```

## functionLib.viewAppletActiveApplet

Gets the activeapplet attribute of the Applet view object.

### Format

The functionLib.viewAppletActiveApplet method has the following command format(s):

```
functionLib.viewAppletActiveApplet( );
```

### Throws

**Exception**  
on any error.

### Returns

the RepositoryName of the active Applet view object.

### Example

Gets the RepositoryName of the active Applet view object and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewAppletActiveApplet();  
System.out.println("active Applet view is "+value);
```

## functionLib.viewAppletCount

Gets the appletcount attribute of the target HTML element defined by the path.

### Format

The functionLib.viewAppletCount method has the following command format(s):

```
functionLib.viewAppletCount( );
```

### Throws

**Exception**  
on any error.

### Returns

the number of Applets present in the current Screen.

### Example

Gets the number of objects of a given type that are present in the current context and prints the custom message.

```
//Using Java variable.  
int value = functionLib.viewAppletCount();  
System.out.println("Number of Applets present in the current Screen is "+value);
```

## functionLib.viewAppletGetRepositoryName

Gets the specified attribute (`RepositoryName`) of the target HTML element defined by the path.

### Format

The `functionLib.viewAppletGetRepositoryName` method has the following command format(s):

```
functionLib.viewAppletGetRepositoryName(UIName);
```

### Command Parameters

#### **UIName**

a String specifying the user interface name of the `viewApplet`.

### Throws

#### **Exception**

on any error.

### Returns

the `RepositoryName` of the `viewApplet` object.

### Example

Gets the `RepositoryName` of the `viewApplet` object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewAppletGetRepositoryName("Accounts");  
System.out.println("viewApplet RepositoryName is "+value);
```



## functionLib.viewAppletGetUiName

Gets the `uname` attribute of the target HTML element defined by the path.

### Format

The `functionLib.viewAppletGetUiName` method has the following command format(s):

```
functionLib.viewAppletGetUiName(AppRepName);
```

### Command Parameters

**AppRepName**

a String specifying the Applet Repository Name.

### Throws

**Exception**

on any error.

### Returns

the `UiName` (display name in the user interface, i.e. the `un` attribute) of the `viewApplet` object.

### Example

Gets the `UiName` of the `viewApplet` object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewAppletGetUiName("SIS Account List Applet");  
System.out.println("viewApplet UiName is "+value);
```

## functionLib.viewAppletIsExist

Detects whether the specified viewApplet object exists or not.

### Format

The functionLib.viewAppletIsExist method has the following command format(s):

```
functionLib.viewAppletIsExist(AppRepName);
```

### Command Parameters

**AppRepName**

a String specifying the Applet Repository Name of the object.

### Throws

**Exception**

on any error.

### Returns

true if the viewApplet exists else return false if the viewApplet does not exist.

### Example

Detects whether the viewApplet exists or not and prints a custom message.

```
//Using Java variable.  
boolean value = functionLib.viewAppletIsExist("SIS Account List Applet");  
if(value)  
{  
    System.out.println("viewApplet object exists");  
}  
else  
{  
    System.out.println("viewApplet object does not exist");  
}
```

## functionLib.viewAppletSelect

Gets the specified attribute (Applet repository name) of the target HTML element defined by the path.

### Format

The functionLib.viewAppletSelect method has the following command format(s):

```
functionLib.viewAppletSelect(AppRepName);
```

### Command Parameters

**AppRepName**

a String specifying the Applet repository name.

### Throws

**Exception**

on any error.

### Example

Selects an Applet. If you want to select List Applet to Form Applet you use this function.

```
//Using Java variable.  
functionLib.viewAppletSelect("SIS Account List Applet");
```

## functionLib.viewCount

Gets the number of view objects present in the current context for Second level view bar.

### Format

The functionLib.viewCount method has the following command format(s):

```
functionLib.viewCount( );
```

### Throws

#### Exception

on any error.

### Returns

an Integer value of the views count.

### Example

Gets the number of views present in the current context and prints the custom message.

```
//Using Java variable.  
int count = functionLib.viewCount();  
System.out.println("Count is "+count);
```

---

## ViewGetROProperties

The ViewGetROProperties enum has the following values:

**Table 21–17** *List of ViewGetROProperties Values*

<b>Value</b>	<b>Description</b>
ActiveApplet	The ViewGetROProperties ActiveApplet attribute.
AppletCount	The ViewGetROProperties AppletCount attribute.
rn	The ViewGetROProperties rn (Repository Name) attribute.
un	The ViewGetROProperties un (UI Name) attribute.

## functionLib.viewGetROProperty

Gets the specified attribute (*PropertyName*) of the target HTML element defined by the path.

### Format

The functionLib.viewGetROProperty method has the following command format(s):

```
functionLib.viewGetROProperty(PropertyName);
```

### Command Parameters

**PropertyName**

a String specifying the property name.

### Throws

**Exception**

on any error.

### Returns

the current value of the test object property from the object in the application.

### Example

Gets the AppletCount of the View element with the attribute AppletCount and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewGetROProperty("AppletCount");  
System.out.println("Total Applet Count in the view is "+value);
```

## functionLib.viewRepositoryName

Gets the rn attribute of the target HTML element.

### Format

The functionLib.viewRepositoryName method has the following command format(s):

```
functionLib.viewRepositoryName( );
```

### Throws

**Exception**  
on any error.

### Returns

a String specifying the rn property of the view object.

### Example

Gets the rn attribute and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewRepositoryName();  
System.out.println("Repository Name is "+value);
```

## functionLib.viewUiName

Gets the specified attribute (UI Name) of the target HTML element defined by the path.

### Format

The functionLib.viewUiName method has the following command format(s):

```
functionLib.viewUiName();
```

### Throws

#### Exception

on any error.

### Returns

The name of the object as it appears in the user interface, i.e. UI Name, (an attribute of the view object) of the current active view.

### Example

Gets the UI Name of the object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.viewUiName();  
System.out.println("ViewUiName is "+value);
```



---

## functionLib.visibilityFilterActiveItem

Gets the currently active visibility filter item name in the **List Applet**.

### Format

The functionLib.visibilityFilterActiveItem method has the following command format(s):

```
functionLib.visibilityFilterActiveItem( );
```

### Throws

**Exception**  
on any error.

### Returns

a String of the filter item name.

### Example

Gets the currently active visibility filter item name.

```
//Using Java variable.  
web.link(18,"//web:a[@rn='Sitemap.Activity List View' " +  
"and @ot='SiebWebSitemapView' or @un='Activity List']")  
.click();  
String activeVisibilityFilterName = functionLib.visibilityFilterActiveItem();  
System.out.println("Filter Name is "+activeVisibilityFilterName);
```

---

## functionLib.waitDomToLoad

Waits until the Document Object Model (DOM) of the page gets loaded.

### Format

The functionLib.waitDomToLoad method has the following command format(s):

```
functionLib.waitDomToLoad( );
```

### Throws

**Exception**  
on any error.

### Example

Waits until the DOM gets loaded.

```
functionLib.waitDomToLoad( );
```

---

## functionLib.webListGetItemByIndex

Gets the specified attribute (`Item`) of the target HTML element defined by the path.

### Format

The `functionLib.webListGetItemByIndex` method has the following command format(s):

```
functionLib.webListGetItemByIndex(xpath, index);
```

### Command Parameters

**xpath**

a String specifying the object path.

**index**

an integer specifying the object location.

### Throws

**Exception**

on any error.

### Returns

the item in a web list for the specified Xpath and index.

### Example

Gets the Item of the Weblist object element and prints the custom message.

```
//Using Java variable.  
String value = functionLib.webListGetItemByIndex("/web:window[]" +  
  "/web:document[]" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:select[(@id='s_1_l_searchField') " +  
  "and multiple mod 'False']", 4);  
System.out.println("web list item selected is "+value);
```

## functionLib.webListItemCount

Gets the `Itemcount` attribute of the target HTML element defined by the path.

### Format

The `functionLib.webListItemCount` method has the following command format(s):

```
functionLib.webListItemCount(xpath);
```

### Command Parameters

**xpath**

a String specifying the object path.

### Throws

**Exception**

on any error.

### Returns

the total number of items for the given Xpath.

### Example

Gets the total number of list items for the given Xpath and prints the custom message.

```
//Using Java variable.  
int value = functionLib.webListItemCount("/web:window[]" +  
    "/web:document[]" +  
    "/web:form[@name='SWEForm1_0']" +  
    "/web:select[(@id='s_1_l_searchField') " +  
    "and multiple mod 'False']");  
System.out.println("Total number of list items is "+value);
```

---

## functionLib.webListSelectItemByIndex

Selects the specified Item in a web list for the given Xpath and index of the target HTML element.

### Format

The functionLib.webListSelectItemByIndex method has the following command format(s):

```
functionLib.webListSelectItemByIndex(xpath, index);
```

### Command Parameters

**xpath**

a String specifying the object path.

**index**

an integer specifying the object location.

### Throws

**Exception**

on any error.

### Example

Selects the item in a web list for the given Xpath and index.

```
//Using Java variable.  
functionLib.webListSelectItemByIndex("/web:window[]" +  
  "/web:document[]" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:select[(@id='s_1_1_searchField') " +  
  "and multiple mod 'False']", 4);
```

## functionLib.webListSelectItemByValue

Selects the item in a web list for the specified Xpath and Value of the target HTML element.

### Format

The functionLib.webListSelectItemByValue method has the following command format(s):

```
functionLib.webListSelectItemByValue(xpath, Name);
```

### Command Parameters

**xpath**

a String specifying the object path.

**Name**

a String specifying the object name.

### Throws

**Exception**

on any error.

### Example

Selects the item in a web list for the specified Xpath and name.

```
//Using Java variable.  
functionLib.webListSelectItemByValue("/web:window[]" +  
  "/web:document[]" +  
  "/web:form[@name='SWEForm1_0']" +  
  "/web:select[(@id='s_1_l_searchField') " +  
  "and multiple mod 'False']", "Name");
```

---



---

## Webdom Module

This chapter provides a complete listing and reference for the methods in the OpenScript WebDomService Class of Web Functional Module Application Programming Interface (API).

### 22.1 WebDomService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript WebDomService API.

#### 22.1.1 Alphabetical Command Listing

The following table lists the WebDomService API methods in alphabetical order.

**Table 22–1** List of WebDomService Methods

Method	Description
<a href="#">web.accButton</a>	Identifies an accessibility button by its path.
<a href="#">web.accCheckBox</a>	Identifies an accessibility checkbox by its path.
<a href="#">web.accComboBox</a>	Identifies an accessibility combobox by its path.
<a href="#">web.accElement</a>	Identifies an accessibility element by its recorded ID and path.
<a href="#">web.accListBox</a>	Identifies an accessibility listbox by its path.
<a href="#">web.accMenu</a>	Identifies an accessibility menu by its path.
<a href="#">web.accRadioButton</a>	Identifies an accessibility radio button by its path.
<a href="#">web.accTextBox</a>	Identifies an accessibility text box by its path.
<a href="#">web.addAutoInjectionScripts</a>	Automatically inject Javascript into the current page.
<a href="#">web.addGlobalAssertText</a>	Registers a text matching (assertion) test to run every time a page is requested.
<a href="#">web.addGlobalVerifyText</a>	Registers a text matching (verification) test to run every time a page is requested.
<a href="#">web.alertDialog</a>	Identifies an alert dialog box by its recorded ID and path.
<a href="#">web.assertErrors</a>	Checks for exceptions.
<a href="#">web.assertText</a>	Searches the HTML contents of all documents in all browser windows for the specified text pattern, reporting a failure if the test fails.
<a href="#">web.attribute</a>	Constructs the property data of a single object attribute.

**Table 22–1 (Cont.) List of WebDomService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">web.attributes</a>	Constructs the object attributes.
<a href="#">web.button</a>	Identifies a button by its recorded ID and path.
<a href="#">web.cell</a>	Constructs the test data of a table cell.
<a href="#">web.cells</a>	Constructs the list of table cell tests.
<a href="#">web.checkBox</a>	Identifies a checkbox by its recorded ID and path.
<a href="#">web.clearAllCache</a>	Clears all cache files.
<a href="#">web.clearAllPersistentCookies</a>	Clears all persistent Cookies.
<a href="#">web.clearCache</a>	Clears cache files by defined domain name.
<a href="#">web.clearPersistentCookies</a>	Clears persistent Cookies by defined domain name.
<a href="#">web.clearSessionCookies</a>	Clears session cookies in the current opened browser window.
<a href="#">web.confirmDialog</a>	Identifies a confirmation dialog box by its recorded ID and path.
<a href="#">web.customElement</a>	Identifies a custom DOM element by its recorded ID and path.
<a href="#">web.dialog</a>	Identifies a dialog box by its path.
<a href="#">web.document</a>	Identifies a window by its recorded ID and path.
<a href="#">web.element</a>	Identifies an element by its recorded ID and path.
<a href="#">web.endCaptureHARs</a>	Stop capturing HAR files (HTTP Archive format) for http requests.
<a href="#">web.exists</a>	Checks if an object exists or not with a specified timeout value.
<a href="#">web.findElementByClassName</a>	Finds an element by class name in all windows and documents.
<a href="#">web.findElementsByClassName</a>	Finds a list of elements by class name in all windows and documents.
<a href="#">web.findElementByCssSelector</a>	Finds an element by CSS selector in all windows and documents.
<a href="#">web.findElementsByCssSelector</a>	Finds a list of elements by CSS selector in all windows and documents.
<a href="#">web.findElementById</a>	Finds an element by id in all windows and documents.
<a href="#">web.findElementByName</a>	Finds an element by name in all windows and documents.
<a href="#">web.findElementsByName</a>	Finds a list of elements by name in all windows and documents.
<a href="#">web.findElementByTagName</a>	Finds an element by tag name in all windows and documents..
<a href="#">web.findElementsByTagName</a>	Finds a list of elements by tag name in all windows and documents.
<a href="#">web.findElementByXPath</a>	Finds an element by W3C XPath in all windows and documents.
<a href="#">web.findElementsByXPath</a>	Find a list of elements by W3C XPath in all windows and documents.
<a href="#">web.getFocusedWindow</a>	Gets the window with the focus.



**Table 22–1 (Cont.) List of WebDomService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">web.getWebDomEventService</a>	Gets the WebDomEventService so that the user can add or remove event listeners.
<a href="#">web.image</a>	Identifies an image by its recorded ID and path.
<a href="#">web.link</a>	Identifies a link by its recorded ID and path.
<a href="#">web.loginDialog</a>	Identifies a login dialog box by its recorded ID and path.
<a href="#">web.notificationBar</a>	Identifies a notification bar by its path.
<a href="#">web.object</a>	Identifies an object by its recorded ID and path.
<a href="#">web.promptDialog</a>	Identifies a prompt dialog box by its recorded ID and path.
<a href="#">web.radioButton</a>	Identifies a radio button by its recorded ID and path.
<a href="#">web.removeGlobalTextValidator</a>	Removes a global text matching test (either assertion or verification).
<a href="#">web.selectBox</a>	Identifies a select list box by its recorded ID and path.
<a href="#">web.solve</a>	Searches the HTML contents of all documents in all browsers for the specified regular expression pattern.
<a href="#">web.startCaptureHARs</a>	Start to capture HAR files (HTTP Archive format) for http requests.
<a href="#">web.table</a>	Identifies a table by its recorded ID and path.
<a href="#">web.textArea</a>	Identifies a text area by its recorded ID and path.
<a href="#">web.textBox</a>	Identifies a text box by its recorded ID and path.
<a href="#">web.validateAccessibility</a>	Perform the web accessibility testing to the active window and generate the report to results folder.
<a href="#">web.verifyText</a>	Searches the HTML contents of all documents in all browser windows for the specified text pattern, reporting a warning if the test fails.
<a href="#">web.waitForObject</a>	Waits for an object to exist before timing out.
<a href="#">web.window</a>	Identifies a window by its recorded ID and path.
<a href="#">web.xmlDocument</a>	Identifies an xml document by its recorded ID and path.

The following sections provide detailed reference information for each method and enum in the WebDomService Class of Web Functional Module Application Programming Interface.

## web.accButton

Identifies an accessibility button by its path.

### Format

The web.accButton method has the following command format(s):

```
web.accButton(path);
```

```
web.accButton(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccButton object using the specified path.

### Example

Examples of actions on a button specified by its path.

```
//using script variable
getVariables().set("btnPath", "/web:window[@index='0']" +
  "/web:document[@index='0']" +
  "/web:object[@index='0']" +
  "/web:accPushButton[@index='1']");
web.accButton(1, "{btnPath}").click();
//using Java variable
String btnPath = "/web:window[@index='0']" +
  "/web:document[@index='0']" +
  "/web:object[@index='0']" +
  "/web:accPushButton[@index='1']";
web.accButton(10, btnPath).click();
```

---

## web.accCheckBox

Identifies an accessibility checkbox by its path.

### Format

The web.accCheckBox method has the following command format(s):

```
web.accCheckBox(path);
```

```
web.accCheckBox(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccCheckBox object using the specified path.

### Example

Examples of actions on a checkbox specified by its recorded ID and path.

```
//using script variable
getVariables().set("cbpath", "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accCheckButton[@index='0']");
web.accCheckBox(1, "{{cbpath}}").check(true);
//using Java variable
String cbpath = "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accCheckButton[@index='0']";
web.accCheckBox(2, cbpath).check(false);
```

## web.accComboBox

Identifies an accessibility combobox by its path.

### Format

The web.accComboBox method has the following command format(s):

```
web.accComboBox(path);
```

```
web.accComboBox(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccComboBox object using the path.

### Example

Examples of actions on the combobox specified by its recorded ID and path.

```
//using script variable
getVariables().set("combobox", "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accComboBox[@index='0']");
web.accComboBox(101, "{(combobox)}").selectOptionByText("Bikes");
//using Java variable
String combobox = "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accComboBox[@index='0']";
web.accComboBox((101, combobox).selectOptionByIndex(0);
```

---

## web.accElement

Identifies an accessibility element by its recorded ID and path.

### Format

The web.accElement method has the following command format(s):

```
web.accElement(path);
```

```
web.accElement(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccElement object using the specified recorded ID and path.

### Example

Performs an action on an accessibility element specified by its recorded ID and path.

```
//using script variable
getVariables().set("elmPath", "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='3']" +
"/web:accClient[@index='0']");
web.accElement(56, "{{elmPath}}").mouseClick(260, 265);
//using Java variable
String elmPath = "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='3']" +
"/web:accClient[@index='0']";
web.accElement(56, elmPath).mouseClick(260, 265);
```

## web.accListBox

Identifies an accessibility listbox by its path.

### Format

The web.accListBox method has the following command format(s):

```
web.accListBox(path);
```

```
web.accListBox(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccListBox object using the specified path.

### Example

Examples of actions on the list box specified by its recorded ID and path.

```
//using script variable
getVariables().set("listbox", "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accList[@index='0']");
web.accListBox(101, "{{listbox}}").selectOptionByText("Bikes");
//using Java variable
String listbox = "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accList[@index='0']";
web.accListBox(101, listbox).selectOptionByIndex(0);
```

---

## web.accMenu

Identifies an accessibility menu by its path.

### Format

The web.accMenu method has the following command format(s):

```
web.accMenu(path);
```

```
web.accMenu(reclId, path);
```

### Command Parameters

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccMenu object using the specified path.

### Example

Examples of actions on an accessibility menu specified by its recorded ID and path.

```
//using script variable
getVariables().set("menu", "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accMenu[@index='0']");
web.accMenu(101, "{menu}").selectNode("File->Open");
//using Java variable
String menu = "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accMenu[@index='0']";
web.accMenu(101, menu).selectNode("File->Open");
```

## web.accRadioButton

Identifies an accessibility radio button by its path.

### Format

The web.accRadioButton method has the following command format(s):

```
web.accRadioButton(path);
```

```
web.accRadioButton(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccRadioButton object using the specified path.

### Example

Performs an action on a radio button specified by its recorded ID and path.

```
//using script variable
getVariables().set("radioBtn", "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accRadioButton[@index='0' " +
    "or @name='Search Any']");
web.accRadioButton(96, "{{radioBtn}}").select();
//using Java variable
String radioBtn = "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:object[@index='0']" +
    "/web:accRadioButton[@index='0' " +
    "or @name='Search Any']";
web.accRadioButton(96, radioBtn).select();
```



---

## web.accTextBox

Identifies an accessibility text box by its path.

### Format

The web.accTextBox method has the following command format(s):

```
web.accTextBox(path);
```

```
web.accTextBox(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

an AccTextBox object using the specified recorded ID and path.

### Example

Clicks on a text box specified by its recorded ID and path and sets the text in the text box.

```
//using script variable
getVariables().set("tbPath", "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accText[@index='0']");
web.accTextBox(10, "{{tbPath}}").setText("text box text");
//using Java variable
String tbPath = "/web:window[@index='0']" +
"/web:document[@index='0']" +
"/web:object[@index='0']" +
"/web:accText[@index='1']";
web.accTextBox(10, tbPath).setText("text box text");
```

## web.addAutoInjectionScripts

Automatically inject Javascript into the current page.

This method must be called before the browser launch.

### Format

The web.addAutoInjectionScripts method has the following command format(s):

```
web.addAutoInjectionScripts(scriptFiles);
```

### Command Parameters

#### **scriptFiles**

a file List of javascript files to be injected.

### Example

Set Javascript files that need to be auto-injected, then execute the injected javascript function..

```
List<File> lists = new ArrayList<File>();
lists.add(new File("C:\\myScripts\\script1.js"));
lists.add(new File("C:\\myScripts\\script2.js"));
lists.add(new File("C:\\myScripts\\script3.js"));
web.addAutoInjectionScripts(lists);
browser.launch();
[...]
web.window(2, "/web:window[@index='0' or @title='about:blank']")
    .navigate("http://example.com/default.htm");

web.window(4, "/web:window[@index='0' or @title='Web Events']")
    .waitForPage(null);
{
    think(5.543);
}
info(web.document("/web:window[@index='0']/web:document[@index='0']")
    .executeJsFunction("injectedFunc1")[0]);
```

---

## web.addGlobalAssertText

Registers a text matching (assertion) test to run every time a page is requested.

The text matching (assertion) test searches the HTML contents of all documents in all browser windows for the specified text pattern. If the test fails, the script will always fail and stop running, unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

The assertion is performed for all requests made by this virtual user.

This method supports result code verification methods including `getLastResult()` and `getLastError()`.

To unregister a global text assertion, use [web.removeGlobalTextValidator](#).

### Format

The `web.addGlobalAssertText` method has the following command format(s):

```
web.addGlobalAssertText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

A string specifying a descriptive name of the test being applied. This name may be used by a subsequent call to [web.removeGlobalTextValidator](#). Must not be null.

**textToAssert**

a String specifying the text to match on the page, or not match on the page if TextPresence is TextPresence.PassIfPresent. Must not be null.

**sourceType**

a Source enum specifying the location to match the text either in the HTML contents or HTTP response headers. Must not be null.

**textPresence**

TextPresence enum specifying Either PassIfPresent or FailIfPresent, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying either Exact, RegEx, or Wildcard, depending on match type.

### Example

Adds a Global Text Matching test for Display Content, Response Header, and Source HTML respectively.

`globalTextMatchingTest1` passes if the text to match string is present in the Display Content and matches exactly.

`globalTextMatchingTest2` passes if the text to match string is present in the Response header and matches the Regular Expression.

`globalTextMatchingTest3` fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
web.addGlobalAssertText("globalTextMatchingTest1",
```

```
"match this text string", Source.DisplayContent,  
TextPresence.PassIfPresent, MatchOption.Exact);  
web.addGlobalAssertText("globalTextMatchingTest2",  
"jsessionId=(.+?)(?:\\\"|&)", Source.ResponseHeader,  
TextPresence.PassIfPresent, MatchOption.RegEx);  
web.addGlobalAssertText("globalTextMatchingTest3",  
"match this *", Source.Html, TextPresence.FailIfPresent,  
MatchOption.Wildcard);
```

---

## web.addGlobalVerifyText

Registers a text matching (verification) test to run every time a page is requested.

The text matching (verification) test searches the HTML contents of all documents in all browser windows for the specified text pattern. If the test fails, a warning is always reported, irrespective of current Error Recovery settings.

The verification is performed for all requests made by this virtual user.

This method supports result code verification methods including `getLastResult()` and `getLastError()`.

To unregister a global text verification, use [web.removeGlobalTextValidator](#).

### Format

The `web.addGlobalVerifyText` method has the following command format(s):

```
web.addGlobalVerifyText(testName, textToAssert, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the descriptive name of the test being applied. This name may be used by a subsequent call to [web.removeGlobalTextValidator](#). Must not be null.

**textToAssert**

a String specifying the text to match on the page, or not match on the page if TextPresence says TextPresence.PassIfPresent. Must not be null.

**sourceType**

a Source enum specifying where to match the text either in the HTML contents or HTTP response headers. Must not be null.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying either Exact, RegEx, or Wildcard, depending on match type.

### Example

Adds a Global Text Matching test for Display Content, Response Header, and Source HTML respectively.

`globalTextMatchingTest1` passes if the text to match string is present in the Display Content and matches exactly.

`globalTextMatchingTest2` passes if the text to match string is present in the Response header and matches the Regular Expression.

`globalTextMatchingTest3` fails if the text to match string is present in the Source HTML and matches the Wildcard.

```
web.addGlobalVerifyText("globalTextMatchingTest1",  
"match this text string", Source.DisplayContent,
```

```
TextPresence.PassIfPresent, MatchOption.Exact);
web.addGlobalVerifyText("globalTextMatchingTest2",
    "jsessionId=(.+?) (?:\\\"|&)", Source.ResponseHeader,
    TextPresence.PassIfPresent, MatchOption.RegEx);
web.addGlobalVerifyText("globalTextMatchingTest3",
    "match this *", Source.Html, TextPresence.FailIfPresent,
    MatchOption.Wildcard);
```

## web.alertDialog

Identifies an alert dialog box by its recorded ID and path.

### Format

The web.alertDialog method has the following command format(s):

```
web.alertDialog(path);
```

```
web.alertDialog(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMAlertDialog object using the specified recorded ID and path.

### Example

Performs an action on an alert dialog box specified by its recorded ID and path.

```
//using script variable
getVariables().set("dlgPath",
  "/web:dialog_alert[@text='ALERT!' and @index='0']");
web.alertDialog(1, "{{dlgPath}}").clickOk();
//using Java variable
String dlgPath = "/web:dialog_alert[@text='ALERT!' and @index='0']";
web.alertDialog(42, dlgPath).clickOk();
```

## web.assertErrors

Checks for exceptions. Manually enter this method into a script to check if an exception occurred.

If there are exception in previous stepResult, just break the script.

### Format

The web.assertErrors method has the following command format(s):

```
web.assertErrors( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Checks for exceptions. If there is an exception in the previous stepResult, cause a break in the script execution.

```
web.assertErrors( );
```



---

## web.assertText

Searches the HTML contents of all documents in all browser windows for the specified text pattern, reporting a failure if the test fails.

If the test fails, always fail the script unless the text matching test error recovery setting specifies a different action such as Warn or Ignore.

### Format

The web.assertText method has the following command format(s):

```
web.assertText(testName, pattern, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**pattern**

a String specifying the pattern of the test.

**sourceType**

a Source enum specifying the location to match, either the source HTML or the HTML excluding markup tags.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying either Exact, RegEx, or Wildcard, depending on match type.

### Throws

**MatchException**

if the assertion fails. AbstractScriptException on any other failure when attempting to assert the text.

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Adds Text Matching tests for Display Content and Raw HTML.

myTextMatchingTest1 passes if the text to match string is present in the Display Content and matches exactly.

myTextMatchingTest2 passes if the text to match string is present in the source HTML and matches the Regular Expression.

myTextMatchingTest3 fails if the text to match string is present in the source HTML and matches the Wildcard.

```
web.assertText("myTextMatchingTest1", "match this text string",
    Source.DisplayContent, TextPresence.PassIfPresent,
    MatchOption.Exact);
web.assertText("myTextMatchingTest2", "match(.+?)(?:\"|&)",
    Source.Html, TextPresence.PassIfPresent,
    MatchOption.RegEx);
web.assertText("myTextMatchingTest3", "match this *",
    Source.Html, TextPresence.FailIfPresent,
    MatchOption.Wildcard);
```

---

## web.attribute

Constructs the property data of a single object attribute.

### Format

The web.attribute method has the following command format(s):

```
web.attribute(property, expectedValue, operator);
```

### Command Parameters

**property**

a String specifying the name of the property.

**expectedValue**

a String specifying the expected value of the property.

**operator**

TestOperator that defines the type and the match approach of the data.

### Returns

a PropertyTest object with the specified property, expectedValue, operator

### Example

Specifies each individual attribute of an Object Test.

```
getVariables().set("elmPath", "/web:window[@index='0' or @title='Mockups']" +  
  "/web:document[@index='0']" +  
  "/web:table[@id='toc' or @index='0']");  
web.element(122, "{elmPath}").assertAttributes("MyObjectTest",  
  web.attributes(web.attribute("tag", "TABLE", TestOperator.StringExact),  
    web.attribute("id", "toc", TestOperator.StringExact),  
    web.attribute("className", "toc", TestOperator.StringExact),  
    web.attribute("class", "toc", TestOperator.StringExact),  
    web.attribute("summary", "Conts", TestOperator.StringExact),  
    web.attribute("index", "0", TestOperator.StringExact)));
```

## web.attributes

Constructs the object attributes.

### Format

The web.attributes method has the following command format(s):

```
web.attributes(tests);
```

### Command Parameters

**tests**

a list of attributes.

### Returns

a PropertyTest[] with the specified attributes.

### Example

Specifies the attributes of an Object Test.

```
getVariables().set("elmPath", "/web:window[@index='0' or @title='Mockups']" +  
  "/web:document[@index='0']" +  
  "/web:table[@id='toc' or @index='0']");  
web.element(122, "{elmPath}").assertAttributes("MyObjectTest",  
  web.attributes(web.attribute("tag", "TABLE", TestOperator.StringExact),  
    web.attribute("id", "toc", TestOperator.StringExact),  
    web.attribute("className", "toc", TestOperator.StringExact),  
    web.attribute("class", "toc", TestOperator.StringExact),  
    web.attribute("summary", "Contents", TestOperator.StringExact),  
    web.attribute("index", "0", TestOperator.StringExact)));
```

---

## web.button

Identifies a button by its recorded ID and path.

### Format

The web.button method has the following command format(s):

```
web.button(path);
web.button(recId, path);
```

### Command Parameters

#### path

a String specifying the object path.

#### recId

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### AbstractScriptException

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMButton object using the specified recorded ID and path.

### Example

Examples of actions on a button specified by its recorded ID and path.

```
//using script variable
getVariables().set("btnPath", "/web:window[@index='0' " +
    "or @title='Stocks']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform' or @name='loginform' " +
    "or @index='0']" +
    "/web:input_submit[@name='LoginButton' or @value='Login' " +
    "or @index='0']");
web.button(1, "{{btnPath}}").click();
web.button(2, "{{btnPath}}").mouseClick("<CTRL>", 1, false);
//using Java variable
String btnPath = "/web:window[@index='0' or @title='Stocks']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform' or @name='loginform' " +
    "or @index='0']" +
    "/web:input_submit[@name='LoginButton' or @value='Login' " +
    "or @index='0']";
web.button(1, btnPath).click();
web.button(2, btnPath).mouseClick("<CTRL>", 1, false);
```

## web.cell

Constructs the test data of a table cell.

### Format

The web.cell method has the following command format(s):

```
web.cell(row, column, expectedValue, operator);
```

### Command Parameters

**row**

a 1-based index value specifying the row number.

**column**

a 1-based index value specifying the column number.

**expectedValue**

a String specifying the expected value of the property.

**operator**

a TestOperator enum that defines the type and the match approach of the data.

### Returns

a CellTest object with the specified row, column, expectedValue, and operator.

### Example

Adds a table test for specifying exact match or wildcard match for individual cells.

```
web.table(14, "/web:window[@title='Ticker List']" +
  "/web:document[@index='0']" +
  "/web:table[@index='6']")
.assertCells("MyTableTest",
  web.cells(web.cell(1, 1, "Ticker ", TestOperator.StringExact),
    web.cell(1, 2, "Company ", TestOperator.StringExact),
    web.cell(2, 1, "ORCL*", TestOperator.StringWildcard),
    web.cell(2, 2, "Oracle", TestOperator.StringExact)));
```

---

## web.cells

Constructs the list of table cell tests.

### Format

The web.cells method has the following command format(s):

```
web.cells(tests);
```

### Command Parameters

**tests**

a list of table cells.

### Returns

a CellTest[] with the specified cells.

### Example

Adds a table test for specifying exact match or wildcard match for each cell.

```
web.table(14, "/web:window[@title='Ticker List']" +  
  "/web:document[@index='0']" +  
  "/web:table[@index='6']")  
  .assertCells("MyTableTest",  
    web.cells(web.cell(1, 1, "Ticker ", TestOperator.StringExact),  
      web.cell(1, 2, "Company ", TestOperator.StringExact),  
      web.cell(2, 1, "ORCL*", TestOperator.StringWildcard),  
      web.cell(2, 2, "Oracle", TestOperator.StringExact)));
```

## web.checkBox

Identifies a checkbox by its recorded ID and path.

### Format

The web.checkBox method has the following command format(s):

```
web.checkBox(path);
```

```
web.checkBox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMCheckbox object using the specified recorded ID and path.

### Example

Examples of actions on a checkbox specified by its recorded ID and path.

```
//using script variable
getVariables().set("cbpath", "/web:window[@index='0' " +
    "or @title='Chart Portfolio']" +
    "/web:document[@index='0']" +
    "/web:input_checkbox[@id='chkTrack' or @name='chkTrack' " +
    "or @index='0']");
web.checkBox(1, "{{cbpath}}").click();
web.checkBox(2, "{{cbpath}}").check(true);
web.checkBox(3, "{{cbpath}}").dblClick();
web.checkBox(4, "{{cbpath}}").mouseClick(1, 1, "<ALT>", 1,
    false, ClickPosition.Center);
web.checkBox(5, "{{cbpath}}").clickContextMenu("contextMenuItem", 0);
web.checkBox(6, "{{cbpath}}").keyPress("<SPACE>");
//using Java variable
String cbpath = "/web:window[@index='0' " +
    "or @title='Chart Portfolio']" +
    "/web:document[@index='0']" +
    "/web:input_checkbox[@id='chkTrack' or @name='chkTrack' " +
    "or @index='0']";
web.checkBox(1, cbpath).click();
web.checkBox(2, cbpath).check(true);
web.checkBox(3, cbpath).dblClick();
web.checkBox(4, cbpath).mouseClick(1, 1, "<ALT>", 1,
```



```
    false, ClickPosition.Center);  
web.checkBox(5, cbpath).clickContextMenu("contextMenuItem", 0);  
web.checkBox(6, cbpath).keyPress("<SPACE>");
```

## web.clearAllCache

Clears all cache files.

### Format

The web.clearAllCache method has the following command format(s):

```
web.clearAllCache( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears all Cache.

```
web.clearAllCache( );
```

## web.clearAllPersistentCookies

Clears all persistent Cookies.

### Format

The web.clearAllPersistentCookies method has the following command format(s):

```
web.clearAllPersistentCookies( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears all Persistent Cookies.

```
web.clearAllPersistentCookies( );
```

## web.clearCache

Clears cache files by defined domain name.

### Format

The web.clearCache method has the following command format(s):

```
web.clearCache(domainName);
```

### Command Parameters

**domainName**

a String specifying the Domain name of the Web server.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears cache files by the specified domain name.

```
web.clearCache("domainName");
```

## web.clearPersistentCookies

Clears persistent Cookies by defined domain name.

### Format

The web.clearPersistentCookies method has the following command format(s):

```
web.clearPersistentCookies(domainName);
```

### Command Parameters

**domainName**

a String specifying the Domain name of the Web server.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears Persistent Cookies by the specified domain name.

```
web.clearPersistentCookies ("domainName");
```

---

## web.clearSessionCookies

Clears session cookies in the current opened browser window.

### Format

The web.clearSessionCookies method has the following command format(s):

```
web.clearSessionCookies( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears session cookies in the currently opened browser window.

```
web.clearSessionCookies( );
```

---

## web.confirmDialog

Identifies a confirmation dialog box by its recorded ID and path.

### Format

The web.confirmDialog method has the following command format(s):

```
web.confirmDialog(path);  
web.confirmDialog(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMConfirmDialog object using the specified recorded ID and path.

### Example

Performs an action on a open JavaScript dialog box specified by its recorded ID and path.

```
//using script variable  
getVariables().set("cfmDialog",  
  "/web:dialog_confirm[@text='Continue? OK/Cancel' " +  
    "and @index='0']");  
web.confirmDialog(46, "{{cfmDialog}}").clickOk();  
//using Java variable  
String cfmDialog = "/web:dialog_confirm[@text='Continue? OK/Cancel' " +  
  "and @index='0']";  
web.confirmDialog(46, cfmDialog).clickCancel();
```

## web.customElement

Identifies a custom DOM element by its recorded ID and path.

### Format

The web.customElement method has the following command format(s):

```
web.customElement(path);
```

```
web.customElement(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a ICustomDOMElement object using the specified path.

### Example

Performs an action on the custom element specified by its path.

```
getVariables().set("custElmPath", "/web:window[@index='0' " +  
    "or @title='Mail Order']" +  
    "/web:document[@index='0']" +  
    "/web:web:element[@id='btnBikes' or @name='btnBikes' " +  
    "or @index='0']");  
web.customElement(12, "{{custElmPath}}").assertAttribute("myTest", "id",  
    "btnBikes", TestOperator.StringExact);
```



---

## web.dialog

Identifies a dialog box by its path.

### Format

The web.dialog method has the following command format(s):

```
web.dialog(path);
```

```
web.dialog(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMDialog object using the specified path.

### Example

Performs an action on an open dialog box specified by its recorded ID and path.

```
//using script variable
getVariables().set("dlgPath",
  "/web:dialog_unknown[@text='an input box' and @index='0']");
web.dialog(1, "{{dlgPath}}").setText(0, "text input");
web.dialog(2, "{{dlgPath}}").clickButton(0);
//using Java variable
String dlgPath = "/web:dialog_unknown[@text='an input box' and @index='0']";
web.dialog(1, dlgPath).setText(0, "text input");
web.dialog(2, dlgPath).clickButton(0);
```

## web.document

Identifies a window by its recorded ID and path.

### Format

The web.document method has the following command format(s):

```
web.document(path);
```

```
web.document(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMDocument object using the specified recorded ID and path.

### Example

Performs an action on an open web document specified by its recorded ID and path.

```
getVariables().set("recHtml", web.document(1,  
    "/web:document[@index='0']").getHTML());  
info("The HTML string is: {{recHtml}}");  
getVariables().set("recUrl", web.document(2,  
    "/web:document[@index='0']").getRecordedURL());  
info("The URL is: {{recUrl}}");
```

---

## web.element

Identifies an element by its recorded ID and path.

### Format

The web.element method has the following command format(s):

```
web.element(path);
```

```
web.element(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMElement object using the specified recorded ID and path.

### Example

Performs an action on an open VB Script dialog box specified by its recorded ID and path.

```
//using script variable
getVariables().set("elmPath", "/web:window[@index='1' " +
    "or @title='VBScript Form']" +
    "/web:document[@index='0']" +
    "/web:table[@index='0']");
web.element(56, "{elmPath}").click();
//using Java variable
String elmPath1 = "/web:window[@index='1' " +
    "or @title='VBScript Form']" +
    "/web:document[@index='0']" +
    "/web:table[@index='0']";
web.element(56, elmPath).click();
```

## web.endCaptureHARs

Stop capturing HAR files (HTTP Archive format) for http requests.

This API currently only works on Chrome. Use `web.startCaptureHARs(harPath)` to start the capture. This API must be used before the browser closes.

### Format

The `web.endCaptureHARs` method has the following command format(s):

```
web.endCaptureHARs();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Stop capturing HAR files (HTTP Archive format) for http requests.

```
public void initialize() throws Exception {
    browser.launch();
    web.startCaptureHARs("C:\\OracleATS\\logs\\HAR", example_jet_cookbook);
}
public void run() throws Exception {
    [...]
    web.window(2, "/web:window[@index='0' or @title='www.example.com/Cookbook.html']")
        .navigate("http://www.example.com/Cookbook.html");
    [...]
}
public void finish() throws Exception {
    web.endCaptureHARs();
    browser.close();
}
```

## web.exists

Checks if an object exists or not with a specified timeout value.

### Format

The web.exists method has the following command format(s):

```
web.exists(path);
```

```
web.exists(path, timeout);
```

### Command Parameters

**path**

a String specifying the object path.

**timeout**

a timeout value to find an object, in seconds.

### Returns

return true if the object exists, otherwise return false.

### Example

Checks if the specified object exists or not. Timeout after 10 seconds.

```
Boolean doesExist = web.exists("web:document[@index='0']", 10);  
if (doesExist = true) {  
    info("document exists");  
}
```

## web.findElementByClassName

Finds an element by class name in all windows and documents. If multiple elements are found, return the first one.

### Format

The web.findElementByClassName method has the following command format(s):

```
web.findElementByClassName(className);
```

### Command Parameters

**className**

a String specifying the element class name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by class name in all windows and documents.

```
DOMText text = (DOMText) web.findElementByClassName(".oj-inputtext-input");  
text.setText("hello");
```

## web.findElementsByClassName

Finds a list of elements by class name in all windows and documents.

### Format

The web.findElementsByClassName method has the following command format(s):

```
web.findElementsByClassName(className);
```

### Command Parameters

**className**

a String specifying the element class name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

List<DOMElement>, all found elements.

### Example

Finds an element by class name in all windows and documents.

```
List<DOMElement> list = web.findElementsByClassName(".oj-inputtext-input");  
DOMText text = (DOMText) list.get(0);  
text.setText("hello");
```

## web.findElementByCssSelector

Finds an element by CSS selector in all windows and documents. If multiple elements are found, return the first one.

### Format

The web.findElementByCssSelector method has the following command format(s):

```
web.findElementByCssSelector(cssSelector);
```

### Command Parameters

**cssSelector**

a String specifying the element CSS selector.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by CSS selector in all windows and documents.

```
DOMText text = (DOMText) web.findElementByCssSelector(".oj-inputtext-input");  
text.setText("hello");
```



## web.findElementsByCssSelector

Finds a list of elements by CSS selector in all windows and documents.

### Format

The web.findElementsByCssSelector method has the following command format(s):

```
web.findElementsByCssSelector(cssSelector);
```

### Command Parameters

**cssSelector**

a String specifying the element CSS selector.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

List<DOMElement>, all found elements.

### Example

Finds a list of elements by CSS selector in all windows and documents.

```
List<DOMElement> list = web.findElementsByCssSelector(".oj-inputtext-input");  
DOMText text = (DOMText) list.get(0);  
text.setText("hello");
```

## web.findElementById

Finds an element by id in all windows and documents.

### Format

The web.findElementById method has the following command format(s):

```
web.findElementById(id);
```

### Command Parameters

**id**

a String specifying the element id.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by id in all windows and documents.

```
DOMText text = (DOMText) web.findElementById("text-input");  
text.setText("hello");
```

## web.findElementByName

Finds an element by name in all windows and documents. If multiple elements are found, return the first one.

### Format

The web.findElementByName method has the following command format(s):

```
web.findElementByName(name);
```

### Command Parameters

**name**

a String specifying the name of an element.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by name in all windows and documents.

```
DOMText text = (DOMText) web.findElementByName("form-field-text");  
text.setText("hello");
```

## web.findElementByName

Finds a list of elements by name in all windows and documents.

### Format

The web.findElementByName method has the following command format(s):

```
web.findElementByName(name);
```

### Command Parameters

**name**

a String specifying the element name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

List<DOMElement>, all found elements.

### Example

Finds a list of elements by name in all windows and documents.

```
List<DOMElement> list = web.findElementByName("form-field-text");
DOMText text = (DOMText) list.get(0);
text.setText("hello");
```

## web.findElementByTagName

Finds an element by tag name in all windows and documents.

### Format

The web.findElementByTagName method has the following command format(s):

```
web.findElementByTagName(tagName);
```

### Command Parameters

**tagName**

a String specifying the name of an element tag.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by tag name in all windows and documents.

```
DOMText text = (DOMText) web.findElementByTagName("input");  
text.setText("hello");
```

## web.findElementsByTagName

Finds a list of elements by tag name in all windows and documents.

### Format

The web.findElementsByTagName method has the following command format(s):

```
web.findElementsByTagName(tagName);
```

### Command Parameters

**tagName**

a String specifying the name of an element tag..

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

List<DOMElement>, all found elements.

### Example

Finds a list of elements by tag name in all windows and documents.

```
List<DOMElement> list = web.findElementsByTagName("input");  
DOMText text = (DOMText) list.get(0);  
text.setText("hello");
```

## web.findElementByXPath

Finds an element by W3C XPath in all windows and documents. This API currently only works on Firefox, Chrome and Edge.

### Format

The web.findElementByXPath method has the following command format(s):

```
web.findElementByXPath(W3CXPath);
```

### Command Parameters

#### **W3CXPath**

a String specifying the element W3C XPath.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

DOMElement. null if not found.

### Example

Finds an element by W3C XPath in all windows and documents.

```
DOMText text = (DOMText) web.findElementByXPath("//*[@id='inputcontrol']");  
text.setText("hello");
```

## web.findElementsByXPath

Finds a list of elements by W3C XPath in all windows and documents. This API currently only works on Firefox, Chrome and Edge.

### Format

The web.findElementsByXPath method has the following command format(s):

```
web.findElementsByXPath(W3CXPath);
```

### Command Parameters

**W3CXPath**

a String specifying the element W3C XPath.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

List<DOMElement>, all found elements.

### Example

Finds a list of elements by W3C XPath in all windows and documents.

```
List<DOMElement> list = web.findElementsByXPath("//*[@id='inputcontrol']");  
DOMText text = (DOMText) list.get(0);  
text.setText("hello");
```



## web.getFocusedWindow

Gets the window with the focus.

### Format

The web.getFocusedWindow method has the following command format(s):

```
web.getFocusedWindow();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMBrowser object.

### Example

Gets the title of the window that has the focus.

```
//using script variable
getVariables().set("winTitle", web.getFocusedWindow().getTitle());
info("Script: Title is {{winTitle}}");
//using Java variable
String winTitle = web.getFocusedWindow().getTitle();
info("Java: Title is " + winTitle);
```

## web.getWebDomEventService

Gets the WebDomEventService so that the user can add or remove event listeners.

### Format

The web.getWebDomEventService method has the following command format(s):

```
web.getWebDomEventService( );
```

### Returns

The WebDomEventService.

### Example

The following examples the listener would be called twice. First, it would be called before finding the web.textBox(9,"/web:window[@index='0']/web:document[@index='0']/web:form[@id='loginform']/web:input\_text[@id='login']") element. Second, it would be called before finding element by css selector, namely web.findElementByCssSelector("input").

```
web.getWebDomEventService().addBeforeFindElementListener
    (new IWebDomEventListener(){
        {@literal @Override}
        public void onEvent() {
            System.out.println("BeforeFindElementListener enter");
            [...]
            System.out.println("BeforeFindElementListener exit");
        }
    });
web.window(6, "/web:window[@index='0']").navigate("example.com/default.htm");
web.window(8, "/web:window[@index='0']").waitForPage(null);
web.textBox(9, "/web:window[@index='0']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform']" +
    "/web:input_text[@id='login']")
    .click();
DOMElement input = web.findElementByCssSelector("input");
input.click();
```

---

## web.image

Identifies an image by its recorded ID and path.

### Format

The web.image method has the following command format(s):

```
web.image(path);
```

```
web.image(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMImage object using the specified recorded ID and path.

### Example

Examples of actions on an image specified by its recorded ID and path.

```
//using script variable
getVariables().set("imgPath", "/web:window[@index='0' " +
    "or @title='Mail Order']" +
    "/web:document[@index='0']" +
    "/web:input_image[@id='btnBikes' or @name='btnBikes' " +
    "or @src='http://testserver2/images/bikes.jpg' " +
    "or @index='0']");
web.image(82, "{{imgPath}}").click();
//using Java variable
String imgPath = "/web:window[@index='0' or @title='Mail Order']" +
    "/web:document[@index='0']" +
    "/web:input_image[@id='btnBikes' or @name='btnBikes' " +
    "or @src='http://testserver2/images/bikes.jpg' " +
    "or @index='0']";
web.image(82, imgPath).click();
```

## web.link

Identifies a link by its recorded ID and path.

### Format

The web.link method has the following command format(s):

```
web.link(path);
```

```
web.link(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMLink object using the specified recorded ID and path.

### Example

Examples of actions on the link specified by its recorded ID and path.

```
//using script variable
getVariables().set("lnkPath", "/web:window[@index='0' " +
    "or @title=' Bikes']" +
    "/web:document[@index='0']" +
    "/web:a[@text='Mail Order Bikes' " +
    "or @href='http://testserver2/bikes/Main.aspx' " +
    "or @index='5']");
web.link(60, "{{lnkPath}}").click();
//using Java variable
String lnkPath = "/web:window[@index='0' or @title=' Bikes']" +
    "/web:document[@index='0']" +
    "/web:a[@text='Mail Order Bikes' " +
    "or @href='http://testserver2/bikes/Main.aspx' " +
    "or @index='5']";
web.link(60, lnkPath).click();
```

---

## web.loginDialog

Identifies a login dialog box by its recorded ID and path.

### Format

The web.loginDialog method has the following command format(s):

```
web.loginDialog(path);
```

```
web.loginDialog(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMLoginDialog object using the specified recorded ID and path.

### Example

Performs an action on the login dialog box specified by its recorded ID and path.

```
getVariables().set("dlgPath", "/web:dialog_unknown[@text='Login!' " +  
    "and @index='0']");  
//Click OK with username and password. Remember password true.  
web.loginDialog(10, "{{dlgPath}}").clickOk("username",  
    decrypt("vGXUWvDW/F7E6OSYUjRmsQ=="), true);  
//Click Cancel  
web.loginDialog(15, "{{dlgPath}}").clickCancel();
```

## web.notificationBar

Identifies a notification bar by its path.

### Format

The web.notificationBar method has the following command format(s):

```
web.notificationBar(path);
```

```
web.notificationBar(recId, path);
```

### Command Parameters

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

**path**

a String specifying the object path.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMNotificationBar object using the specified path.

### Example

Performs an action on a notification bar specified by its recorded ID and path.

```
//using script variable
getVariables().set("notiBarPath",
    "/web:window[@index='0' or @title='Download Portfolio']");
web.notificationBar("${notiBarPath}").selectOptionBy(3, 1);
web.notificationBar("${notiBarPath}").clickButton(2);
//using Java variable
String notiBarPath = "/web:window[@index='0' or @title='Download Portfolio']";
web.notificationBar(notiBarPath).selectOptionBy(3, 1);
web.notificationBar(notiBarPath).clickButton(2);
```

## web.object

ifies an object by its recorded ID an

### Format

The web.object method has the following command format(s):

```
web.object(path);
```

```
web.object(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMObject object using the specified recorded ID and path.

### Example

Performs an action on the object specified by its recorded ID and path.

```
getVariables().set("objPath", "/web:window[@index='0']" +  
  "/web:document[@index='0']" +  
  "/web:object[@index='3']");  
web.object(14, "{{objPath}}").click();
```

## web.promptDialog

Identifies a prompt dialog box by its recorded ID and path.

### Format

The web.promptDialog method has the following command format(s):

```
web.promptDialog(path);
```

```
web.promptDialog(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMPromptDialog object using the specified recorded ID and path.

### Example

Performs an action on the prompt dialog box specified by its recorded ID and path.

```
//using script variable
getVariables().set("dlgPropmt", "/web:dialog_prompt[@text='Script Prompt:' " +
    "and @index='0']");
web.promptDialog(90, "{{dlgPropmt}}").clickOk("input text");
//using Java variable
String dlgPropmt = "/web:dialog_prompt[@text='Script Prompt:' and @index='0']";
web.promptDialog(90, dlgPropmt).clickOk("input text");
```



## web.radioButton

Identifies a radio button by its recorded ID and path.

### Format

The web.radioButton method has the following command format(s):

```
web.radioButton(path);
```

```
web.radioButton(recId, path);
```

### Command Parameters

#### **path**

a String specifying the object path.

#### **recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMRadioButton object using the specified recorded ID and path.

### Example

Performs an action on a radio button specified by its recorded ID and path.

```
//using script variable
getVariables().set("radioBtn", "/web:window[@index='0' or @title='Sell']" +
"/web:document[@index='0']" +
"/web:form[@index='0']" +
"/web:input_radio[@id='symbol3' " +
"or (@name='symbol' and @value='ORCL') or @index='2']");
Boolean isSelected = web.radioButton(96, "{{radioBtn}}")
.isSelected();
if (isSelected = false) {
info("radio button not selected");
web.radioButton(96, "{{radioBtn}}").select();
}
//using Java variable
String radioBtn = "/web:window[@index='0' or @title='Sell']" +
"/web:document[@index='0']/web:form[@index='0']" +
"/web:input_radio[@id='symbol3' " +
"or (@name='symbol' and @value='ORCL') or @index='2']");
Boolean isSelected = web.radioButton(96, "{{radioBtn}}")
.isSelected();
if (isSelected = false) {
info("radio button not selected");
web.radioButton(96, radioBtn).select();
}
```

## web.removeGlobalTextValidator

Removes a global text matching test (either assertion or verification).

This method removes text matching tests that were previously added using [web.addGlobalAssertText](#) or [web.addGlobalVerifyText](#).

If the specified test was not previously added, this method does nothing. No error is thrown.

### Format

The `web.removeGlobalTextValidator` method has the following command format(s):

```
web.removeGlobalTextValidator(testName);
```

### Command Parameters

**testName**

a String specifying the name of the test previously added using [web.addGlobalAssertText](#) or [web.addGlobalVerifyText](#).

### Returns

true if the test was removed, false if no test removed.

### Example

Removes the Global Text Matching test added as "globalTextMatchingTest1".

```
web.removeGlobalTextValidator("globalTextMatchingTest1");
```

## web.selectBox

Identifies a select list box by its recorded ID and path.

### Format

The web.selectBox method has the following command format(s):

```
web.selectBox(path);
web.selectBox(recId, path);
```

### Command Parameters

#### path

a String specifying the object path.

#### recId

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

#### AbstractScriptException

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMSelect object using the specified recorded ID and path.

### Example

Examples of actions on the select list box specified by its recorded ID and path.

```
//using script variable
getVariables().set("selectList", "/web:window[@index='0' " +
    "or @title='downhill bikes home']" +
    "/web:document[@index='0']" +
    "/web:form[@id='Default' or @name='Default' or @index='0']" +
    "/web:select[(@id='lstCatalogCategory' or @name='lstCatalogCategory'" +
    "or @index='0') and multiple mod 'False']");
web.selectBox(1, "{{selectList}}").selectOptionByText("Bikes");
//using Java variable
String selectList = "/web:window[@index='0'r @title='downhill bikes home']" +
    "/web:document[@index='0']" +
    "/web:form[@id='Default' or @name='Default' or @index='0']" +
    "/web:select[(@id='lstCatalogCategory' or @name='lstCatalogCategory'" +
    "or @index='0') and multiple mod 'False']";
web.selectBox(1, selectList).selectOptionByText("Bikes");
//multiple list select using script variable
getVariables().set("selectList", "/web:window[@index='0' " +
    "or @title='downhill bikes home']" +
    "/web:document[@index='0']" +
    "/web:form[@id='Default' or @name='Default' or @index='0']" +
    "/web:select[(@id='lstCatalogCategory' or @name='lstCatalogCategory'" +
    "or @index='0') and multiple mod 'True']");
web.selectBox(1, "{{selectList}}").multiSelectOptionByText("Bikes", "Parts");
```

## web.solve

Searches the HTML contents of all documents in all browsers for the specified regular expression pattern.

Found results are stored in the variable named `varName`. If no results are found, and error recovery settings specify that `WEBDOM_SOLVE_ERROR` should fail, then this method throws a `SolveException`.

### Format

The `web.solve` method has the following command format(s):

```
web.solve(varName, pattern, sourceType, resultIndex);
```

### Command Parameters

**varName**

a String specifying the name of the variable to create.

**pattern**

a String specifying the Regular Expression pattern specifying what to extract from each document's HTML contents.

**sourceType**

a Source enum specifying the location to match, either the raw HTML or the HTML excluding markup tags.

**resultIndex**

a value specifying which value to match if the pattern matches more than 1 value. Specify the 0-based index of the specific result to retrieve. If `null` is specified, all results will be added into the variables collection. For example, the first result found is stored in `varName`, the second is stored in `varName [1]`, the third in `varName [2]`, [...]

### Throws

**AbstractScriptException**

If no results are found, and error recovery settings specify that `WEBDOM_SOLVE_ERROR` should fail, then this method throws a `SolveException`.

### Example

Parse a value from the most recent navigation's specified source using a Regular Expression and store it in a variable. Includes a result index value of 0 to specify it should retrieve the first match result.

```
web.solve("varTitle", "<TITLE>(.)</TITLE>", Source.Html, 0);  
info("Page Title = {{varTitle}}");
```

---

## web.startCaptureHARs

Start to capture HAR files (HTTP Archive format) for http requests.

This API currently only works on Chrome. Use `web.endCaptureHARs()` to stop the capture. This API must be used after the browser launches.

### Format

The `web.startCaptureHARs` method has the following command format(s):

```
web.startCaptureHARs(harPath);
```

```
web.startCaptureHARs(harPath, fileName);
```

### Command Parameters

**harPath**

a String specifying the name of the variable to create.

**fileName**

a String specifying the name of the HAR file. The HAR file will be named with *fileName\_time.har*.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Capture HAR files for http requests.

```
public void initialize() throws Exception {
    browser.launch();
    web.startCaptureHARs("C:\\OracleATS\\logs\\HAR", example_jet_cookbook);
}
public void run() throws Exception {
    [...]
    web.window(2, "/web:window[@index='0' or @title='www.example.com/Cookbook.html']")
        .navigate("http://www.example.com/Cookbook.html");
    [...]
}
public void finish() throws Exception {
    web.endCaptureHARs();
    browser.close();
}
```

## web.table

Identifies a table by its recorded ID and path.

### Format

The web.table method has the following command format(s):

```
web.table(path);
```

```
web.table(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMTable object using the specified recorded ID and path.

### Example

Performs an action on the table specified by its recorded ID and path.

```
getVariables().set("tblPath", "/web:window[@index='0' " +  
    "or @title='Ticker List']" +  
    "/web:document[@index='0']" +  
    "/web:table[@index='6']");  
web.table(14, "${tblPath}").assertCells("MyTableTest",  
    web.cells(web.cell(1, 1, "Ticker ", TestOperator.StringExact),  
    web.cell(1, 2, "Company ", TestOperator.StringExact),  
    web.cell(2, 1, "ORCL*", TestOperator.StringWildcard),  
    web.cell(2, 2, "Oracle", TestOperator.StringExact)));
```

---

## web.textArea

Identifies a text area by its recorded ID and path.

### Format

The web.textArea method has the following command format(s):

```
web.textArea(path);
```

```
web.textArea(reclId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**reclId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMTextArea object using the specified recorded ID and path.

### Example

Clicks on a text area specified by its recorded ID and path and sets the text in the text area.

```
getVariables().set("taPath", "/web:window[@index='0' " +  
    "or @title='Input Samples']" +  
    "/web:document[@index='0']" +  
    "/web:textarea[@name='myTextArea' or @index='0']");  
web.textArea(84, "{{taPath}}").click()  
web.textArea(85, "{{taPath}}").setText("text area text");
```

## web.textBox

Identifies a text box by its recorded ID and path.

### Format

The web.textBox method has the following command format(s):

```
web.textBox(path);
```

```
web.textBox(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMText object using the specified recorded ID and path.

### Example

Clicks on a text box specified by its recorded ID and path and sets the text in the text box.

```
//plain text box
getVariables().set("tbPath", "/web:window[@index='0' " +
    "or @title='Stocks']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform' or @name='loginform' " +
    "or @index='0']" +
    "/web:input_text[@id='login' or @name='login' " +
    "or @index='0']");
web.textBox(9, "{{tbPath}}").click();
web.textBox(10, "{{tbPath}}").setText("text box text");
//password box
getVariables().set("tbPath", "/web:window[@index='0' " +
    "or @title='Stocks']" +
    "/web:document[@index='0']" +
    "/web:form[@id='loginform' or @name='loginform' " +
    "or @index='0']" +
    "/web:input_password[@name='password' or @index='0']");
web.textBox(11, "{{tbPath}}").click();
web.textBox(12,
    "{{tbPath}}").setPassword(deobfuscate("wKAUCoeFpUbXlwTYN9lp7A=="));
```



---

## web.validateAccessibility

Perform the web accessibility testing to the active window and generate the report to results folder. This API will validate accessibility of the current active page.

Report data will be stored in: results\ \SessionN\ \AccessibilityReport.

### Format

The web.validateAccessibility method has the following command format(s):

```
web.validateAccessibility();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Perform the web accessibility testing to the active window and generate the report to results folder.

```
web.window(1, "/web:window[@index='0' or @title='www.example.com']")
    .navigate("http://www.example.com");
web.window(4, "/web:window[@index='0' or @title='Stocks']")
    .waitForPage(null);
web.button(5, "//web:input_submit[@id='Login']")
    .click();
web.validateAccessibility();
```

## web.verifyText

Searches the HTML contents of all documents in all browser windows for the specified text pattern, reporting a warning if the test fails.

This method will never cause a script to fail, regardless of the text matching test error recovery settings. Use [web.assertText](#) to make the script fail when the test fails.

### Format

The web.verifyText method has the following command format(s):

```
web.verifyText(testName, pattern, sourceType, textPresence, matchOption);
```

### Command Parameters

**testName**

a String specifying the test name.

**pattern**

a String specifying the pattern of test.

**sourceType**

a Source enum specifying the location to match, either the source HTML or the HTML excluding markup tags.

**textPresence**

a TextPresence enum specifying either PassIfPresent or FailIfPresent, depending on if you want the text to be present or not.

**matchOption**

a MatchOption enum specifying either Exact, RegEx, or Wildcard, depending on match type.

### Throws

**AbstractScriptException**

on any failure when attempting to verify the text.

### Example

Adds a Verify only, never fail Text Matching tests for Display Content and Raw HTML respectively.

myTextMatchingTest1 passes if the text to match string is present in the Display Content and matches exactly.

myTextMatchingTest2 fails if the text to match string is present in the source HTML and matches the Wildcard.

```
web.verifyText("myTextMatchingTest1", "FMStocks Customer Login",  
    Source.DisplayContent, TextPresence.PassIfPresent,  
    MatchOption.Exact);  
web.verifyText("myTextMatchingTest2", "FMStocks Customer Log*",  
    Source.Html, TextPresence.FailIfPresent,  
    MatchOption.Wildcard);
```

---

## web.waitForObject

Waits for an object to exist before timing out.

### Format

The web.waitForObject method has the following command format(s):

```
web.waitForObject(path, timeout);
```

### Command Parameters

**path**

a String specifying the object path.

**timeout**

a timeout value to find an object, in milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Waits for the object specified by its path. Timeout after 5 seconds.

```
getVariables().set("obPath", "/web:window[@index='1']" +  
  "/web:document[@index='1']" +  
  "/web:form[@id='loginform' or @name='loginform' or @index='0']" +  
  "/web:input_submit[@name='LoginButtonADD']");  
web.waitForObject("${obPath}", 5000);
```

## web.window

Identifies a window by its recorded ID and path.

### Format

The web.window method has the following command format(s):

```
web.window(path);
```

```
web.window(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMBrowser object using the specified recorded ID and path.

### Example

Navigates to and waits for the window specified by its recorded ID and path.

```
web.window(2, "/web:window[@index='0' or @title='about:blank']")  
    .navigate("http://example.com/fmstocks");  
web.window(4, "/web:window[@index='0' or @title='Stocks']")  
    .waitForPage(null);
```

---

## web.xmlDocument

Identifies an xml document by its recorded ID and path.

### Format

The web.xmlDocument method has the following command format(s):

```
web.xmlDocument(path);
```

```
web.xmlDocument(recId, path);
```

### Command Parameters

**path**

a String specifying the object path.

**recId**

the ID of a previously recorded navigation, used for comparison purposes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

a DOMDocument object using the specified recorded ID and path.

### Example

Performs an action on an open xml document specified by its recorded ID and path.

```
getVariables().set("recHtml", web.xmlDocument(1,
    "/web:document[@index='0']").getHTML());
info("The HTML string is: {{recHtml}}");
getVariables().set("recUrl", web.xmlDocument(2,
    "/web:document[@index='0']").getRecordedURL());
info("The URL is: {{recUrl}}");
```



# Part IV

---

## Utility Modules API Reference

This Part of the OpenScript Programmer's Reference provides a complete listing and reference for the methods in the OpenScript Functional Testing Modules Application Programming Interface (API).

Each chapter in this part contains alphabetical listings and detailed command references for the methods in each class.

This Part contains the following chapters:

- [Chapter 23, "Block Scenario Module"](#)
- [Chapter 24, "Browser Module"](#)
- [Chapter 25, "DataTable Utility Module"](#)
- [Chapter 26, "SharedData Module"](#)
- [Chapter 27, "Utilities Module"](#)
- [Chapter 28, "Web Services Module"](#)





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## Block Scenario Module

This chapter provides a complete listing and reference for the methods in the OpenScript BlockScenariosService Class of BlockScenarios Module Application Programming Interface (API).

### 23.1 BlockScenariosService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript BlockScenariosService API.

#### 23.1.1 Alphabetical Command Listing

The following table lists the BlockScenariosService API methods in alphabetical order.

**Table 23–1** List of BlockScenariosService Methods

Method	Description
<a href="#">blockScenarios.run</a>	Run the current VU according to a scenario definition described in a script resource XML file that follows the scenario XML schema.

The following sections provide detailed reference information for each method and enum in the BlockScenariosService Class of BlockScenarios Module Application Programming Interface.

## blockScenarios.run

Run the current VU according to a scenario definition described in a script resource XML file that follows the scenario XML schema.

Pre-requisites for using this script:

1. Add all child scripts you want in your scenario using the **Assets** tab of the script view.
2. Select the Run Scenario node in the tree and edit the scenario file in the details view.
3. In OLT, add 1 instance of this script to your scenario and specify the total number of VUs to run.
4. You can set the simulate flag in Playback Settings if you want the scenario to run in simulation mode.

### Format

The blockScenarios.run method has the following command format(s):

```
blockScenarios.run(scenarioFileRelativeToResources);
```

### Command Parameters

**scenarioFileRelativeToResources**

a String specifying the relative path to the scenario definition file in XML format.

### Throws

**Exception**

if scenario XML file not found.

### Example

Runs the Block Scenario defined in the scenario.xml file.

```
blockScenarios.run("resources/scenario.xml");
```

---



---

## Browser Module

This chapter provides a complete listing and reference for the methods in the OpenScript BrowserService Class of Browser Utility Module Application Programming Interface (API).

### 24.1 BrowserService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript BrowserService API.

#### 24.1.1 Alphabetical Command Listing

The following table lists the BrowserService API methods in alphabetical order.

**Table 24–1** List of BrowserService Methods

Method	Description
<a href="#">browser.clearBrowser</a>	Clear the browser.
<a href="#">browser.close</a>	Closes the Browser.
<a href="#">browser.closeAllBrowsers</a>	Closes all instances of the browser created by the current user including browser instances created outside of OpenScript.
<a href="#">browser.getBrowser</a>	Gets the current browser.
<a href="#">browser.getBrowserProcessID</a>	Gets the browser launch process id.
<a href="#">browser.getChromeUtility</a>	Get the Chrome Utility to set credentials of the login dialog for the Chrome browser.
<a href="#">browser.getFirefoxUtility</a>	Get the Firefox Utility to retrieve information about the Firefox browser.
<a href="#">browser.getMicrosoftEdgeUtility</a>	Get the MicrosoftEdge Utility to set auto-dismiss js dialog for the MicrosoftEdge browser.
<a href="#">browser.getSettings</a>	Gets the browser settings.
<a href="#">browser.launch</a>	Launch the browser specified in BrowserSettings.getBrowserType().
<a href="#">browser.setBrowserType</a>	Sets the browser type.

The following sections provide detailed reference information for each method and enum in the BrowserService Class of Browser Utility Module Application Programming Interface.

---

## browser.clearBrowser

Clear the browser. Sets Browser to null when the user makes the BHO to close the browser.

### Format

The browser.clearBrowser method has the following command format(s):

```
browser.clearBrowser( );
```

### Example

Clear the browser.

```
browser.clearBrowser( );
```

## browser.close

Closes the Browser.

### Format

The browser.close method has the following command format(s):

```
browser.close();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Close the browser.

```
browser.close();
```

---

## browser.closeAllBrowsers

Closes all instances of the browser created by the current user including browser instances created outside of OpenScript.

This API will always try to terminate the browser process directly, so if you only need to close the browser launched by OpenScript, use `browser.close()` instead.

### Format

The `browser.closeAllBrowsers` method has the following command format(s):

```
browser.closeAllBrowsers();
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Close all browser instances created by the current user.

```
browser.closeAllBrowsers();
```

## browser.getBrowser

Gets the current browser.

### Format

The browser.getBrowser method has the following command format(s):

```
browser.getBrowser( );
```

### Returns

Current browser. Returns null if no browser has been launched yet.

### Example

Get the current browser and print its path.

```
IBrowser browser1 = browser.getBrowser();  
info(browser1.getBrowserPath());
```

---

## browser.getBrowserProcessID

Gets the browser launch process id.

### Format

The browser.getBrowserProcessID method has the following command format(s):

```
browser.getBrowserProcessID( );
```

### Returns

the browser launch process id.

### Example

Gets the current browser process id and print it.

```
long pid = browser.getBrowserProcessID();  
info("Browser PID:"+pid);
```



## browser.getChromeUtility

Get the Chrome Utility to set the credentials of a login dialog for the Chrome browser.

### Format

The browser.getChromeUtility method has the following command format(s):

```
browser.getChromeUtility( );
```

### Returns

ChromeUtility an instance of the ChromeUtility.

### Example

Get the Chrome Utility and then set the credentials of the login dialog.

```
ChromeUtility chromeUtility = browser.getChromeUtility();  
chromeUtility.setCredential("username", "password");
```

## browser.getFirefoxUtility

Get the Firefox Utility to retrieve information about the Firefox browser.

This utility is used to retrieve information, set Firefox preferences during playback, (for example, get a list of all installed extensions), or to disable popup windows during playback.

### Format

The browser.getFirefoxUtility method has the following command format(s):

```
browser.getFirefoxUtility( );
```

### Returns

FirefoxUtility an instance of the FirefoxUtility.

### Example

Get the Firefox Utility and then get all installed extensions.

```
FirefoxUtility firefoxUtility = browser.getFirefoxUtility();  
List<String> extensions = firefoxUtility.getAllInstalledExtensions();
```

## browser.getMicrosoftEdgeUtility

Get the MicrosoftEdge Utility to set auto-dismiss js dialog for the MicrosoftEdge browser.

### Format

The browser.getMicrosoftEdgeUtility method has the following command format(s):

```
browser.getMicrosoftEdgeUtility( );
```

### Returns

MicrosoftEdgeUtility an instance of the MicrosoftEdgeUtility.

### Example

Get the MicrosoftEdge Utility to set auto-dismiss js dialog for the MicrosoftEdge browser.

```
MicrosoftEdgeUtility edgeUtility = browser.getMicrosoftEdgeUtility();  
edgeUtility.autoDismissAlert();
```

## browser.getSettings

Gets the browser settings.

### Format

The browser.getSettings method has the following command format(s):

```
browser.getSettings( );
```

### Returns

All settings pertaining to the Browser Service.

### Example

Get the browser settings and then get the browser type.

```
BrowserSettings settings = browser.getSettings();  
info(settings.getBrowserType().toString());
```

## browser.launch

Launch the browser specified in `BrowserSettings.getBrowserType()`.

The Browser will use any additional parameters specified in the `BrowserSettings.getExtraParams()` setting. `BrowserService` will automatically determine the appropriate path for the specified browser type. If specified, `BrowserSettings.getBrowserPathOverride()` will be used for the browser path instead of the automatically determined path. If the `BrowserService`'s browser is already running, `launch()` will do nothing.

### Format

The `browser.launch` method has the following command format(s):

```
browser.launch( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Launch the browser.

```
browser.launch( );
```

## browser.setBrowserType

Sets the browser type.

### Format

The browser.setBrowserType method has the following command format(s):

```
browser.setBrowserType(browserType);
```

### Command Parameters

**browserType**

BrowserType enum specifying the supported browser types. For example, BrowserType.InternetExplorer.

### Throws

**BrowserException**

if browser type cannot be changed.

### Example

Sets the browser type.

```
//Specify Browser as Mozilla Firefox.  
browser.setBrowserType(BrowserType.Firefox);  
//Specify Browser as Internet Explorer.  
browser.setBrowserType(BrowserType.InternetExplorer);  
//Specify Browser as Chrome.  
browser.setBrowserType(BrowserType.Chrome);  
//Specify Browser as Microsoft Edge.  
browser.setBrowserType(BrowserType.MicrosoftEdge);
```

---



---

## DataTable Utility Module

This chapter provides a complete listing and reference for the methods in the OpenScript DataTableService Class of Data Table Module Application Programming Interface (API).

### 25.1 DataTableService ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript DataTableService API.

#### 25.1.1 Alphabetical Enum Listing

The following table lists the DataTableService Enums in alphabetical order.

**Table 25-1** List of DataTableService Enums

Enum	Description
<a href="#">ExportMode</a>	Sets the export mode for saving datatables to Excel files.

### 25.2 DataTableService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript DataTableService API.

#### 25.2.1 Alphabetical Command Listing

The following table lists the DataTableService API methods in alphabetical order.

**Table 25-2** List of DataTableService Methods

Method	Description
<a href="#">datatable.addColumn</a>	Adds a column before the column whose index is columnAdded in the specific sheet.
<a href="#">datatable.addSheet</a>	Adds a sheet in the current datatable before given sheet name without using first row as column header.
<a href="#">datatable.changeSheet</a>	Changes the input sheet name to the new sheet name.
<a href="#">datatable.debugDump</a>	Prints the content of current datatable into the Console.

**Table 25–2 (Cont.) List of DataTableService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">datatable.deleteColumn</a>	Deletes the column whose name is specified by columnName in the sheet whose name is specified by sheetName.
<a href="#">datatable.deleteRow</a>	Deletes a new row before the current row.
<a href="#">datatable.deleteSheet</a>	Deletes a sheet in the current datatable.
<a href="#">datatable.exportAndOverwriteSheet</a>	Exports a sheet in the current excel document into an excel document.
<a href="#">datatable.exportAndOverwriteSheets</a>	Exports a sheet in the current excel document into an excel document.
<a href="#">datatable.exportSheet</a>	Exports a sheet in the current datatable into a new excel document.
<a href="#">datatable.exportSheets</a>	Exports a sheet in the current excel document into excel document.
<a href="#">datatable.exportToExcel</a>	Exports the current excel document into an excel document whose name is specified by path.
<a href="#">datatable.getColumn</a>	Gets the column name in the specified sheet.
<a href="#">datatable.getColumnCount</a>	Gets column count in the specified sheet.
<a href="#">datatable.getColumnIndex</a>	Gets the column index by column name in the specified sheet.
<a href="#">datatable.getCurrentRow</a>	Gets the current active row number which is 0 based in the current sheet.
<a href="#">datatable.getCurrentSheet</a>	Gets the name of the current sheet.
<a href="#">datatable.getDefaultColumnName</a>	Gets the default column name based upon the column index.
<a href="#">datatable.getGlobalDatatable</a>	Creates an instance of datatable in top-level script in the chain of parent scripts.
<a href="#">datatable.getNamedColumnCount</a>	Gets the number of named columns.
<a href="#">datatable.getParentDatatable</a>	Creates an instance of datatable in parent script, if one exists and declared its own datatable service.
<a href="#">datatable.getRowCount</a>	Gets the total count of the rows in the specific sheet.
<a href="#">datatable.getSheet</a>	Gets the sheet name.
<a href="#">datatable.getSheetCount</a>	Gets the total count of the sheets.
<a href="#">datatable.getValue</a>	Gets the value of the specific cell in the specified sheet.
<a href="#">datatable.importAllSheets</a>	Imports all sheets into the current data table.
<a href="#">datatable.importExcel</a>	Imports a new excel document by path specifying if first row is used as header row.
<a href="#">datatable.importSheet</a>	Imports a sheet into the current data table.
<a href="#">datatable.importSheets</a>	Import sheet list into the current data table.
<a href="#">datatable.insertRow</a>	Inserts a new row before the current row.
<a href="#">datatable.isFirstRowAsColumnHeader</a>	Check to find if a sheet uses the first row as headers for columns.



**Table 25–2 (Cont.) List of DataTableService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">datatable.setCurrentRow</a>	Sets the specified row number to the active row in the specified sheet.
<a href="#">datatable.setCurrentSheet</a>	Sets the current sheet as indicated by sheet name.
<a href="#">datatable.setNextRow</a>	Sets the next row to the active row in the current sheet.
<a href="#">datatable.setPreviousRow</a>	Sets the previous row to the active row in the current sheet.
<a href="#">datatable.setValue</a>	Sets the value to the specific cell in the specified sheet.
<a href="#">datatable.updateColumn</a>	Updates the name of the column whose name is specified by columnName in the sheet whose name is sheetName.
<a href="#">datatable.useFirstRowAsColumnHeader</a>	Sets the first row of data as columns header.

The following sections provide detailed reference information for each method and enum in the DataTableService Class of Data Table Module Application Programming Interface.

## datatable.addColumn

Adds a column before the column whose index is `columnAdded` in the specific sheet.

### Format

The `datatable.addColumn` method has the following command format(s):

```
datatable.addColumn(columnName);
```

```
datatable.addColumn(columnName, columnAdded);
```

```
datatable.addColumn(sheetName, columnName);
```

```
datatable.addColumn(sheetName, columnName, columnAdded);
```

### Command Parameters

**columnName**

a String specifying the new added column name.

**columnAdded**

is 0 based column index, the new column will be added before this column.

**sheetName**

a String specifying the sheet name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Adds a new column after the last column in the specified sheet.

```
datatable.addColumn("Sheet1", "columnName", 1);
```

## datatable.addSheet

Adds a sheet in the current datatable before given sheet name without using first row as column header.

First row of new sheet will not be used as column header.

### Format

The datatable.addSheet method has the following command format(s):

```
datatable.addSheet(sheetName);
```

```
datatable.addSheet(sheetName, firstRowAsColHeader);
```

```
datatable.addSheet(sheetName, aheadSheetName);
```

```
datatable.addSheet(sheetName, aheadSheetName, firstRowAsColHeader);
```

### Command Parameters

**sheetName**

a String specifying the name of the sheet to be added.

**firstRowAsColHeader**

a Boolean specifying whether to use the first row as the column name.

**aheadSheetName**

a String specifying the name of the sheet to add the new sheet before.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Adds a sheet in the current datatable.

```
datatable.addSheet("Sheet1", "Sheet2");
```

## datatable.changeSheet

Changes the input sheet name to the new sheet name.

### Format

The `datatable.changeSheet` method has the following command format(s):

```
datatable.changeSheet(oldSheetName, newSheetName);
```

### Command Parameters

**oldSheetName**

a String specifying the sheet name that will be changed.

**newSheetName**

a String specifying new sheet name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Changes the input sheet name to the new sheet name.

```
datatable.changeSheet("Sheet1", "mySheet1");
```

---

## datatable.debugDump

Prints the content of current datatable into the Console.

Use this method during script debugging to dump the content of current datatable into Console. Do not use on normal playback, as it slows down execution and increases the size of the Console. After debugging just change value of dumpDT to false.

### Format

The datatable.debugDump method has the following command format(s):

```
datatable.debugDump(notes);
```

### Command Parameters

**notes**

a String to identify the current datatable dump in the console.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Prints the content of current datatable into the Console.

```
run(){  
  boolean dumpDT = true;  
  ...  
  if(dumpDT)//later in run section  
    datatable.debugDump("Test dump");  
  ...  
}
```

## datatable.deleteColumn

Deletes the column whose name is specified by `columnName` in the sheet whose name is specified by `sheetName`.

### Format

The `datatable.deleteColumn` method has the following command format(s):

```
datatable.deleteColumn(columnName);
```

```
datatable.deleteColumn(sheetName, columnName);
```

### Command Parameters

**columnName**

a String specifying the deleted column name.

**sheetName**

a String specifying the sheet name in which the column will be deleted.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Deletes the column specified by `columnName` in the specified sheet.

```
datatable.deleteColumn("Sheet1", "columnName");
```

---

## datatable.deleteRow

Deletes a new row before the current row.

### Format

The datatable.deleteRow method has the following command format(s):

```
datatable.deleteRow(sheetName, rowIndex);
```

### Command Parameters

**sheetName**

a String specifying sheet name.

**rowIndex**

0 based row index.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Deletes a new row before the current row.

```
datatable.deleteRow("Sheet1", 2);
```

## datatable.deleteSheet

Deletes a sheet in the current datatable.

### Format

The `datatable.deleteSheet` method has the following command format(s):

```
datatable.deleteSheet(sheetName);
```

### Command Parameters

**sheetName**

a String specifying the name of the sheet to be deleted.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Deletes a sheet in the current datatable.

```
datatable.deleteSheet ("Sheet2");
```



---

## ExportMode

The ExportMode has the following values:

**Table 25-3** *List of ExportMode Values*

<b>Value</b>	<b>Description</b>
CREATE	Create a new Excel file comprised of exported sheets only.
MERGE	Add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten.

## datatable.exportAndOverwriteSheet

Exports a sheet in the current datatable into a new excel document.

### Format

The `datatable.exportAndOverwriteSheet` method has the following command format(s):

```
datatable.exportAndOverwriteSheet(path, sourceSheetName, destSheetName);
```

### Command Parameters

**path**

a String specifying the absolute path of the excel document.

**sourceSheetName**

a String specifying the name of the sheet to be exported.

**destSheetName**

a String specifying the new name of the sheet to be exported.

This method assumes that MERGE export mode is used.

MERGE means add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten..

This Method differs from `exportSheet(path, sourceSheetName, destSheetName, ExportMode.MERGE)` in how it handles merging similarly named sheets. This method put the new sheet into position of the old sheet in the Excel file, while `exportSheet` method just adds it to the end of all sheets..

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Exports the current datatable into an excel document.

```
datatable.exportAndOverwriteSheet("C:\\OracleATS\\Book1.xls", "Sheet1", "Sheet1");
```

---

## datatable.exportAndOverwriteSheets

Exports a sheet in the current datatable into a new excel document.

### Format

The `datatable.exportAndOverwriteSheets` method has the following command format(s):

```
datatable.exportAndOverwriteSheets(destPath, sheetlist);
```

### Command Parameters

**destPath**

a String specifying the absolute path of the excel document.

**sheetlist**

a List specifying the name of the sheet to be exported.

Method uses for export MERGE mode.

It differs from `exportSheets(destPath, sheetlist, ExportMode.MERGE)` in how it adds the matching sheet. This method in case of an exported sheet that matches an old sheet in the file, it deletes the old matching sheet and puts a new matching sheet in the same position.

The `exportSheets` method does not insert the new sheet in the old sheet position. It just adds the new sheet to the end of the workbook.

MERGE means add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Exports sheets in the current datatable document into an excel document.

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.exportAndOverwriteSheets("C:\\OracleATS\\Book1.xls", sheetList);
```

## datatable.exportSheet

Exports a sheet in the current datatable into a new excel document.

### Format

The `datatable.exportSheet` method has the following command format(s):

```
datatable.exportSheet(path, sourceSheetName, destSheetName);
```

```
datatable.exportSheet(path, sourceSheetName, destSheetName, exportMode);
```

### Command Parameters

**path**

a String specifying the absolute path of the new excel document.

**sourceSheetName**

a String specifying the name of the sheet to be exported.

**destSheetName**

a String specifying the new name of the sheet to be exported.

**exportMode**

an `ExportMode` enum of `ExportMode.CREATE` or `ExportMode.MERGE`. `CREATE` means create new excel file comprised of exported sheet only. `MERGE` means add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Exports the current datatable into an excel document.

```
datatable.exportSheet("C:\\OracleATS\\Book1.xls", "Sheet1", "Sheet1",  
ExportMode.CREATE);
```

---

## datatable.exportSheets

Exports a sheet in the current excel document into excel document.

### Format

The `datatable.exportSheets` method has the following command format(s):

```
datatable.exportSheets(destPath, sheetlist);
```

```
datatable.exportSheets(destPath, sheetlist, expMode);
```

### Command Parameters

**destPath**

a String specifying the absolute path of the new excel document.

**sheetlist**

a List specifying the name of the sheet to be exported.

**expMode**

an `ExportMode` enum of `ExportMode.CREATE` or `ExportMode.MERGE`. `CREATE` means create a new excel file comprised of exported sheets only. `MERGE` means add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Exports sheets in the current datatable document into a new excel document.

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.exportSheets("C:\\OracleATS\\Book1.xls", sheetList,
    ExportMode.CREATE);
```

## datatable.exportToExcel

Exports the current excel document into an excel document whose name is specified by path.

The method does the same job as `{@code exportSheets()}` for all sheets in the current datatable.

### Format

The `datatable.exportToExcel` method has the following command format(s):

```
datatable.exportToExcel(path);
```

```
datatable.exportToExcel(path, expMode);
```

### Command Parameters

**path**

a String specifying the absolute path of the new excel document.

**expMode**

an `ExportMode` enum of `ExportMode.CREATE` or `ExportMode.MERGE`. `CREATE` means create a new excel file comprised of exported sheets only. `MERGE` means add exported sheets to existing sheets. If the existing spreadsheet has the same name as the exported sheet, then the existing sheet will be overwritten.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Exports the current datatable into an excel document.

```
datatable.exportToExcel("C:\\OracleATS\\Book1.xls", ExportMode.CREATE);
```

---

## datatable.getColumn

Gets the column name in the specified sheet.

### Format

The `datatable.getColumn` method has the following command format(s):

```
datatable.getColumn(sheetIndex, columnIndex);  
datatable.getColumn(sheetName, columnIndex);
```

### Command Parameters

**sheetIndex**

specifies 0 based sheet index.

**columnIndex**

specifies 0 based column index.

**sheetName**

a String specifying sheet name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the column name.

### Example

Gets the column name of column index 0 within the sheet named Sheet1.

```
String getCol = datatable.getColumn("Sheet1", 0);  
info("Sheet1, column index 0 = " + getCol);
```

## datatable.getColumnCount

Gets column count in the specified sheet.

### Format

The `datatable.getColumnCount` method has the following command format(s):

```
datatable.getColumnCount(sheetIndex);
```

```
datatable.getColumnCount(sheetName);
```

### Command Parameters

**sheetIndex**

specifies 0 based sheet index.

**sheetName**

a String specifying the name of sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the column count.

### Example

Gets column count in the sheet with the name "Sheet1".

```
int getColCount = datatable.getColumnCount("Sheet1");  
info("Sheet1 column count = " + getColCount);
```



## datatable.getColumnIndex

Gets the column index by column name in the specified sheet.

### Format

The `datatable.getColumnIndex` method has the following command format(s):

```
datatable.getColumnIndex(colName);  
datatable.getColumnIndex(sheetName, colName);
```

### Command Parameters

**colName**

a String specifying the name of column.

**sheetName**

a String specifying the name of sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

zero-based index of column or -1, if there is no such column

### Example

Gets column index of the column with the name "Data4" in Sheet1.

```
int getColIndex = datatable.getColumnIndex("Sheet1", "Data4");  
info("Sheet1, Data4 column index = " + getColIndex);
```

## datatable.getCurrentRow

Gets the current active row number which is 0 based in the current sheet.

### Format

The `datatable.getCurrentRow` method has the following command format(s):

```
datatable.getCurrentRow( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

row index of current sheet.

### Example

Gets the current active row number.

```
int curRow = datatable.getCurrentRow();  
info("Current row is: " + curRow);
```

## datatable.getCurrentSheet

Gets the name of the current sheet.

### Format

The `datatable.getCurrentSheet` method has the following command format(s):

```
datatable.getCurrentSheet( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the name of current sheet.

### Example

Gets the name of the current sheet.

```
String curSheet = datatable.getCurrentSheet();  
info("Current sheet is: " + curSheet);
```

## datatable.getDefaultColumnName

Gets the default column name based upon the column index.  
For example, "A" for index 0, "Z" for index 26.

### Format

The `datatable.getDefaultColumnName` method has the following command format(s):  
`datatable.getDefaultColumnName(columnIndex);`

### Command Parameters

**columnIndex**  
an index value of a column, zero based.

### Returns

the default column name.

### Example

Gets the default column name based upon the column index..  
`String getColName = datatable.getDefaultColumnName(0);`

## **datatable.getGlobalDatatable**

Creates an instance of datatable in top-level script in the chain of parent scripts.

Each script declares its own datatable service. Can be used to manipulate top-level datatable from the child script.

### **Format**

The datatable.getGlobalDatatable method has the following command format(s):

```
datatable.getGlobalDatatable( );
```

### **Returns**

instance of global datatable, if any, or this datatable if this script runs alone.

### **Example**

Gets the global datatable.

```
DataTableService globalDatatable = datatable.getGlobalDatatable();  
globalDatatable.setValue(0, "A", 15);  
globalDatatable.save();
```

## datatable.getNamedColumnCount

Gets the number of named columns.

If the user names some columns with default names or omits names for some columns, those columns will not be counted. If the user names some columns with default names or omits names for some columns, those columns will not be counted.

For example, if user enters index "0, 1, 2, 3, 4" as the sheetName, a sheet with the names col1, col2, C, , col3 will only count col1, col2 and col3. The column with index 2 is not counted as it has default name, and the column with index 3 is not named at all, which means the default name is used.

### Format

The datatable.getNamedColumnCount method has the following command format(s):

```
datatable.getNamedColumnCount(sheetName);
```

### Command Parameters

**sheetName**

a String name of the spreadsheet.

### Returns

the number of named columns, may be null.

### Example

Gets the default column name based upon the column index..

```
int getNumCols = datatable.getNamedColumnCount("0, 1, 2, 3, 4");  
info("Number of Columns = " + getNumCols);
```

## datatable.getParentDatatable

Creates an instance of datatable in parent script, if one exists and declared its own datatable service.

Can be used to manipulate parent datatable from the child script.

### Format

The datatable.getParentDatatable method has the following command format(s):

```
datatable.getParentDatatable();
```

### Returns

instance of parent datatable, if any, or null, if this script runs alone or parent script doesn't declared datatable service.

### Example

Gets the parent datatable.

```
DataTableService parDatatable = datatable.getParentDatatable();  
if(parDatatable != null){  
    parDatatable.setValue(0, "A", 15);  
    parDatatable.save();  
}
```

## datatable.getRowCount

Gets the total count of the rows in the specific sheet.

### Format

The `datatable.getRowCount` method has the following command format(s):

```
datatable.getRowCount( );  
datatable.getRowCount(sheetName);
```

### Command Parameters

**sheetName**

a String specifying the name of the sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the total count of the rows.

### Example

Gets the total count of the rows in the specific sheet.

```
int rowCount = datatable.getRowCount("Sheet1");  
info("Row count is: " + rowCount);
```



## datatable.getSheet

Gets the sheet name.

### Format

The datatable.getSheet method has the following command format(s):

```
datatable.getSheet(index);
```

### Command Parameters

**index**

specifies the 0 based sheet index.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the name of the sheet.

### Example

Gets the name of the sheet with index value 0.

```
String getSheet= datatable.getSheet(0);  
info("Sheet1 name = " + getSheet);
```

## datatable.getSheetCount

Gets the total count of the sheets.

### Format

The `datatable.getSheetCount` method has the following command format(s):

```
datatable.getSheetCount( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the total count of sheets.

### Example

Gets the name of the current sheet.

```
int sheetCount = datatable.getSheetCount( );  
info("Sheet count: " + sheetCount);
```

---

## datatable.getValue

Gets the value of the specific cell in the specified sheet.

### Format

The datatable.getValue method has the following command format(s):

```
datatable.getValue(row, column);
```

```
datatable.getValue(sheetName, row, column);
```

### Command Parameters

**row**

specifies the 0 based row index.

**column**

a String specifying the column name.

**sheetName**

a String specifying the sheet name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

Object as a cell value.

### Example

Gets the value of row 1, column A in the current sheet.

```
Object cellValue1 = datatable.getValue("Sheet1", 0, "A");  
info("cell value = " + cellValue1.toString());
```

## datatable.importAllSheets

Imports all sheets into the current data table.

If a sheet with the same name as the imported sheet exists in the data table, then behavior depends on `overwrite` parameter. If `overwrite` is `true`, then existing sheet will be overwritten. If `overwrite` is `false`, then the existing sheet will be preserved, but the imported sheet name will be appended with a numerical value from 1 to 50000.

### Format

The `datatable.importAllSheets` method has the following command format(s):

```
datatable.importAllSheets(path, overwrite, firstRowAsColHeader);
```

### Command Parameters

**path**

a String specifying the absolute path of the excel document that contains the imported sheets.

**overwrite**

a Boolean indicating whether to overwrite if same sheet name exists.

**firstRowAsColHeader**

a Boolean specifying how to treat the first row of imported sheets.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Imports all sheets into the current data table.

```
datatable.importAllSheets("C:\\OracleATS\\Book1.xls", true, false);
```

---

## datatable.importExcel

Imports a new excel document by path specifying if first row is used as header row.  
Differs from `{@code importAllSheets}` in that existing sheets won't be preserved.

### Format

The `datatable.importExcel` method has the following command format(s):

```
datatable.importExcel(path);
```

```
datatable.importExcel(path, firstRowAsColHeader);
```

### Command Parameters

**path**

a String specifying the absolute file path of the new document.

**firstRowAsColHeader**

a Boolean specifying how to treat first row of imported sheets.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Imports a new excel document by path specifying if first row is used as header row.

```
datatable.importExcel("C:\\OracleATS\\Book1.xls", true);
```

## datatable.importSheet

Imports a sheet into the current data table.

Existing sheets will be preserved. If the name of the existing sheet matches the name of the imported destination sheet, then name of destination sheet will be appended by a numbered suffix.

Example:

Destination sheet name is Sheet1, but data table already has sheet named Sheet1. After importing existing sheet, Sheet1 will be preserved, and imported sheet will get name Sheet11, unless Sheet11 already exists in data table. After import, the first row of the imported sheet will not be considered as a column header.

### Format

The `datatable.importSheet` method has the following command format(s):

```
datatable.importSheet(path, sourceSheet, destSheet);
```

```
datatable.importSheet(path, sourceSheet, destSheet, firstRowAsColHeader);
```

### Command Parameters

**path**

a String that specifies the absolute path of the Excel document that contains the imported sheet.

**sourceSheet**

a String specifying the imported sheet name in excel document.

**destSheet**

a String specifying the new sheet name in the current data table.

**firstRowAsColHeader**

a boolean specifying how to use first row of the imported sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Import a sheet into the current data table specifying if first row is used as header row.

```
datatable.importSheet("C:\\OracleATS\\Book1.xls", "Sheet1", "Sheet1", true);
```

---

## datatable.importSheets

Import sheet list into the current data table.

If a sheet with the same name as imported sheet exists in the data table, then behavior depends on the `overwrite` parameter. If `overwrite` is `true`, then existing sheet will be overwritten. If `overwrite` is `false`, then existing sheet will be preserved, but the imported sheet name will be appended with a numerical value from 1 to 50000.

### Format

The `datatable.importSheets` method has the following command format(s):

```
datatable.importSheets(sourcePath, sheetList, overwirte);
```

```
datatable.importSheets(sourcePath, sheetList, bOverwirte, bUsingFirstRow);
```

### Command Parameters

**sourcePath**

a String specifying the absolute path of the excel file that contains the imported sheets.

**sheetList**

a List specifying the sheet(s) that will be imported.

**overwirte**

a Boolean specifying whether to overwrite if the same sheet name exists.

**bOverwirte**

a Boolean specifying whether to overwrite if the same sheet name exists.

**bUsingFirstRow**

a Boolean specifying whether to use the first row as the column name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Import sheet list into the current data table.

```
import java.util.List;
import java.util.ArrayList;
//[...]
List<String> sheetList = new ArrayList<String>();
sheetList.add("Sheet1");
sheetList.add("Sheet2");
datatable.importSheets("C:\\OracleATS\\Book1.xls", sheetList, true, false);
```

## datatable.insertRow

Inserts a new row before the current row.

### Format

The `datatable.insertRow` method has the following command format(s):

```
datatable.insertRow(rowIndex);
```

```
datatable.insertRow(sheetName, rowIndex);
```

### Command Parameters

**sheetName**

a String specifying sheet name.

**rowIndex**

0 based row index.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Inserts a new row before row index 0 in Sheet1.

```
datatable.insertRow("Sheet1", 0);
```



---

## datatable.isFirstRowAsColumnHeader

Check to find if a sheet uses the first row as headers for columns.

### Format

The `datatable.isFirstRowAsColumnHeader` method has the following command format(s):

```
datatable.isFirstRowAsColumnHeader(sheetName);
```

### Command Parameters

**sheetName**

a String specifying the name of a sheet in the data table.

### Throws

**AbstractScriptException**

if Sheet with `sheetName` does not exist.

### Returns

`true`, if the sheet set to use the first row as headers for columns, otherwise `false`.

### Example

Checks if the first row of data is used as headers for columns.

```
Boolean isFirstHeader = datatable.isFirstRowAsColumnHeader("Sheet1");  
info("First Row is Header = " + isFirstHeader);
```

## datatable.setCurrentRow

Sets the specified row number to the active row in the specified sheet.

### Format

The `datatable.setCurrentRow` method has the following command format(s):

```
datatable.setCurrentRow(row);  
datatable.setCurrentRow(sheetName, row);
```

### Command Parameters

**row**

0 based row index.

**sheetName**

a String specifying the name of the sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the a row to active in the current sheet.

```
datatable.setCurrentRow("Sheet1", 1);
```

## datatable.setCurrentSheet

Sets the current sheet as indicated by sheet name.

Many data table methods are used against the current sheet in the table.

### Format

The `datatable.setCurrentSheet` method has the following command format(s):

```
datatable.setCurrentSheet(sheetName);
```

### Command Parameters

**sheetName**

a String specifying the name of sheet to set as the current sheet.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the current sheet as indicated by sheet name.

```
datatable.setCurrentSheet("Sheet1");
```

## datatable.setNextRow

Sets the next row to the active row in the current sheet.

If the current active row is at the end, set it to the beginning row.

### Format

The `datatable.setNextRow` method has the following command format(s):

```
datatable.setNextRow( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the next row to the active in the current sheet.

```
datatable.setNextRow( );
```

## datatable.setPreviousRow

Sets the previous row to the active row in the current sheet.

If the current active row is at the beginning, set it to the end row.

### Format

The `datatable.setPreviousRow` method has the following command format(s):

```
datatable.setPreviousRow( );
```

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the previous row to the active row in the current sheet.

```
datatable.setPreviousRow( );
```

## datatable.setValue

Sets the value to the specific cell in the specified sheet.

If the value begins with an equals sign (=), it will be considered a formula. For example "=sum(a1,a2)".

### Format

The `datatable.setValue` method has the following command format(s):

```
datatable.setValue(row, column, value);
```

```
datatable.setValue(row, column, value);
```

```
datatable.setValue(row, column, value);
```

```
datatable.setValue(sheetName, row, column, value);
```

```
datatable.setValue(sheetName, row, column, value);
```

```
datatable.setValue(sheetName, row, column, value);
```

### Command Parameters

**row**

specifies the 0 based row index.

**column**

a String specifying the column name.

**value**

the value to set. There are `setValue` methods for String value, Boolean value, and Double value.

**sheetName**

a String specifying the sheet name.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the value of row 1, column A in Sheet1 to "=sum(a1,a2)".

```
datatable.setValue("Sheet1", 0, "A", "=sum(a1,a2)");
```

---

## datatable.updateColumn

Updates the name of the column whose name is specified by `columnName` in the sheet whose name is `sheetName`.

### Format

The `datatable.updateColumn` method has the following command format(s):

```
datatable.updateColumn(col, value);  
datatable.updateColumn(columnName, value);  
datatable.updateColumn(sheetName, col, value);  
datatable.updateColumn(sheetIndex, col, value);  
datatable.updateColumn(sheetName, columnName, value);
```

### Command Parameters

**col**

0 based column index.

**value**

a String specifying the new column name.

**columnName**

a String specifying the column name to be updated..

**sheetName**

a String specifying sheet name.

**sheetIndex**

0 based sheet index.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

>Updates the name of the column "A" in Sheet1.

```
datatable.updateColumn("Sheet1", "A", "Data1");
```

## datatable.useFirstRowAsColumnHeader

Sets the first row of data as columns header.

This setting can completely change the sheet behavior, if it was not previously set by one of import methods or by the import action in the datatable view.

When the first row is set as column headers, the first row of data in the in datatable sheet is used as a header for columns. The number of rows in the sheet is decremented, as all rows starting from the second row will be moved up. If the first row has any cell values that are not assigned yet, then a default Excel column name will be used for the column [A,B,...,Z,AA,AB,...,ZZ]. For example, before the first column policy is set to use first row as headers, the sheet with 2 rows:

```
col1, col2, col3
```

```
a21, a22, a23
```

was shown in Excel as:

```
headers: A, B, C
```

```
row1: col1, col2, col3
```

```
row2: a21, a22, a23
```

it will be shown the same way in the datatable sheet.

After the first column policy is set to use first row as headers, you will see datatable data in Excel the same as before, but in the datatatable view it shows as:

```
headers: col1, col2, col3
```

```
row1: a21, a22, a23
```

### Format

The `datatable.useFirstRowAsColumnHeader` method has the following command format(s):

```
datatable.useFirstRowAsColumnHeader(sheetName);
```

### Command Parameters

**sheetName**

is a name for sheet to set the desired behavior

### Throws

**AbstractScriptException**

if the sheet with `sheetName` doesn't exist.

### Example

Checks if the first row of data is used as headers for columns.

```
datatable.useFirstRowAsColumnHeader("Sheet1");
```



---



---

## SharedData Module

This chapter provides a complete listing and reference for the methods in the OpenScript SharedDataService Class of SharedData Module Application Programming Interface (API).

### 26.1 SharedDataService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript SharedDataService API.

#### 26.1.1 Alphabetical Command Listing

The following table lists the SharedDataService API methods in alphabetical order.

**Table 26–1** List of SharedDataService Methods

Method	Description
<a href="#">sharedData.clearMap</a>	Removes all mappings from a hash map.
<a href="#">sharedData.clearQueue</a>	Removes all of the elements from a queue.
<a href="#">sharedData.createMap</a>	Creates a hash map with the name and the life time.
<a href="#">sharedData.createQueue</a>	Creates a queue with the specified name and life time.
<a href="#">sharedData.destroyMap</a>	Removes all mappings and their data listeners from a hash map.
<a href="#">sharedData.destroyQueue</a>	Removes all of the elements and their data listeners from a queue.
<a href="#">sharedData.getFromMap</a>	Returns the value to which the specified key is mapped in a hash map, or blocked until the default timeout if the map contains no mapping for this key.
<a href="#">sharedData.getKeysOfMap</a>	Returns all of the keys contained in a hash map.
<a href="#">sharedData.getLengthOfQueue</a>	Get the length of the queue.
<a href="#">sharedData.offerFirst</a>	Inserts the specified element at the front of the specified queue.
<a href="#">sharedData.offerLast</a>	Inserts the specified element at the end of the specified queue.
<a href="#">sharedData.peekFirst</a>	Retrieves but does not remove the first element of the specified queue, or blocked until the default timeout if the queue is empty.
<a href="#">sharedData.peekLast</a>	Retrieves but does not remove last element of the specified queue, or blocked until the default timeout if the queue is empty.
<a href="#">sharedData.pollFirst</a>	Retrieves and removes the first element of the specified queue, or blocked until the default timeout if the queue is empty.

**Table 26–1 (Cont.) List of SharedDataService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">sharedData.pollLast</a>	Retrieves and removes the last element of the specific queue, or blocked until the default timeout if the queue is empty.
<a href="#">sharedData.putToMap</a>	Associates the specified value with the specified key in a session hash map.
<a href="#">sharedData.removeFromMap</a>	Removes the mapping for this key from a map if present.
<a href="#">sharedData.setConnectionParameters</a>	Sets the connection parameters for the shared data service.
<a href="#">sharedData.waitFor</a>	Waits for the specific value to be added to the queue until the default timeout.

The following sections provide detailed reference information for each method and enum in the SharedDataService Class of SharedData Module Application Programming Interface.

## sharedData.clearMap

Removes all mappings from a hash map.

### Format

The sharedData.clearMap method has the following command format(s):

```
sharedData.clearMap(name);
```

### Command Parameters

**name**

a String specifying the name of the map.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears the hash map named "mapA".

```
sharedData.clearMap("mapA");
```

## sharedData.clearQueue

Removes all of the elements from a queue.

### Format

The sharedData.clearQueue method has the following command format(s):

```
sharedData.clearQueue(name);
```

### Command Parameters

**name**

a String specifying the name of the queue.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Clears the Queue named "queueA".

```
sharedData.clearQueue("queueA");
```

## sharedData.createMap

Creates a hash map with the name and the life time.

If the hash map already exists, update its life time with the new life time value.

### Format

The sharedData.createMap method has the following command format(s):

```
sharedData.createMap(name, lifeTime);
```

### Command Parameters

**name**

a String specifying the name of the hash map to be created.

**lifeTime**

the life time the hash map will live. Its unit is minutes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Creates the hash map named "mapA" with a life time of 10 minutes.

```
sharedData.createMap("mapA", 10);
```

## sharedData.createQueue

Creates a queue with the specified name and life time.

If the queue already exists, update its life time with the new life time value.

### Format

The sharedData.createQueue method has the following command format(s):

```
sharedData.createQueue(name, lifeTime);
```

### Command Parameters

**name**

a String specifying the name of the queue to be created.

**lifeTime**

the life time the queue will live. Its unit is minutes.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Creates the Queue named "queueA" with a life time of 10 minutes.

```
sharedData.createQueue("queueA", 10);
```

## sharedData.destroyMap

Removes all mappings and their data listeners from a hash map.

### Format

The sharedData.destroyMap method has the following command format(s):

```
sharedData.destroyMap(name);
```

### Command Parameters

**name**

a String specifying the name of the map.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Destroys the hash map named "mapA".

```
sharedData.destroyMap("mapA");
```

## sharedData.destroyQueue

Removes all of the elements and their data listeners from a queue.

### Format

The sharedData.destroyQueue method has the following command format(s):

```
sharedData.destroyQueue(name);
```

### Command Parameters

**name**

a String specifying the name of the queue.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Destroys the Queue named "queueA".

```
sharedData.destroyQueue ("queueA" );
```



---

## sharedData.getFromMap

Returns the value to which the specified key is mapped in a hash map, or blocked until the default timeout if the map contains no mapping for this key.

The default "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.getFromMap method has the following command format(s):

```
sharedData.getFromMap(name, key);
```

```
sharedData.getFromMap(name, key, timeout);
```

### Command Parameters

**name**

a String specifying the name of the hash map

**key**

a String specifying the key with which the specified value is to be associated.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

the value to which the specified key is mapped, or null if the map contains no mapping for this key.

### Example

Returns the value of "key1" in the hash map named "mapA". Timeout after 5 seconds.

```
String actualValue = (String) sharedData.getFromMap("mapA", "key1", 5000);
```

## sharedData.getKeysOfMap

Returns all of the keys contained in a hash map.

### Format

The sharedData.getKeysOfMap method has the following command format(s):

```
sharedData.getKeysOfMap(name);
```

### Command Parameters

**name**

a String specifying the name of the hash map.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

all of the keys contained in a hash map.

### Example

Returns the values of the keys in the hash map named "mapA".

```
String [] lsKey = sharedData.getKeysOfMap("mapA");  
for (int i=0; i<lsKey.length; i++) {  
    String key = "key" + i;  
    String value = lsKey[i];  
    info(key + " is " + value);  
}
```

## sharedData.getLengthOfQueue

Get the length of the queue.

The "timeout" is set in the playback settings whose default value is 20 seconds.

### Format

The sharedData.getLengthOfQueue method has the following command format(s):

```
sharedData.getLengthOfQueue(name);
```

```
sharedData.getLengthOfQueue(name, timeout);
```

### Command Parameters

**name**

a String specifying the name of the queue.

**timeout**

a long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

The length of the queue.

### Example

Returns the length of the queue named "queueA". Timeout after 5 seconds.

```
int queueLength = sharedData.getLengthOfQueue("queueA", 5000);  
info("Length of queueA is " + queueLength);
```

## sharedData.offerFirst

Inserts the specified element at the front of the specified queue.

If the queue does not exist, a new one with the name will be created with a default life time of 20 minutes.

### Format

The sharedData.offerFirst method has the following command format(s):

```
sharedData.offerFirst(name, value);
```

### Command Parameters

**name**

a String specifying the name of the queue that the value will be put into.

**value**

a Serializable value to be put into a queue.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Inserts the different data type elements at the front of "queueA".

```
info("parameter type - String");
sharedData.offerFirst("queueA", "value");
info("parameter type - list of Strings");
ArrayList<String> listOfStr = new ArrayList<String>();
listOfStr.add(0, "val1");
listOfStr.add(1, "val2");
sharedData.offerFirst("queueA", listOfStr);
info("parameter type - boolean");
sharedData.offerFirst("queueA", true);
info("parameter type - int");
sharedData.offerFirst("queueA", 10);
info("parameter type - double");
sharedData.offerFirst("queueA", 10.5);
info("parameter type - long");
sharedData.offerFirst("queueA", 100);
```

---

## sharedData.offerLast

Inserts the specified element at the end of the specified queue.

If the queue does not exist, a new one with the name will be created with a default life time of 20 minutes.

### Format

The sharedData.offerLast method has the following command format(s):

```
sharedData.offerLast(name, value);
```

### Command Parameters

**name**

a String specifying the name of the queue that the value will be put into.

**value**

a Serializable value to be put into the queue.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Inserts the different data type elements at the end of "queueA".

```
info("parameter type - String");
sharedData.offerLast("queueA", "value");
info("parameter type - list of Strings");
ArrayList<String> listOfStr = new ArrayList<String>();
listOfStr.add(0, "val1");
listOfStr.add(1, "val2");
sharedData.offerLast("queueA", listOfStr);
info("parameter type - boolean");
sharedData.offerLast("queueA", true);
info("parameter type - int");
sharedData.offerLast("queueA", 10);
info("parameter type - double");
sharedData.offerLast("queueA", 10.5);
info("parameter type - long");
sharedData.offerLast("queueA", 100);
```

## sharedData.peekFirst

Retrieves but does not remove the first element of the specified queue, or blocked until the default timeout if the queue is empty.

The "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.peekFirst method has the following command format(s):

```
sharedData.peekFirst(name);
```

```
sharedData.peekFirst(name, timeout);
```

### Command Parameters

**name**

a String specifying the name of the queue.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

null if the queue is empty or the queue does not exist.

### Example

Retrieves but does not remove the first element of "queueA". Timeout after 5 seconds.

```
String queueValue = (String) sharedData.peekFirst("queueA", 5000);
```

---

## sharedData.peekLast

Retrieves but does not remove last element of the specified queue, or blocked until the default timeout if the queue is empty.

The "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.peekLast method has the following command format(s):

```
sharedData.peekLast(name);
```

```
sharedData.peekLast(name, timeout);
```

### Command Parameters

**name**

a String specifying the name of the queue.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

null if the queue is empty or the queue does not exist.

### Example

Retrieves but does not remove the last element of "queueA". Timeout after 5 seconds.

```
String queueValue = (String) sharedData.peekLast("queueA", 5000);
```

## sharedData.pollFirst

Retrieves and removes the first element of the specified queue, or blocked until the default timeout if the queue is empty.

The "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.pollFirst method has the following command format(s):

```
sharedData.pollFirst(name);
```

```
sharedData.pollFirst(name, timeout);
```

### Command Parameters

**name**

a String specifying the name of the queue.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

null if the queue is empty or the queue does not exist.

### Example

Retrieves and removes the first element of "queueA". Timeout after 5 seconds.

```
String pollValue = (String) sharedData.pollFirst("queueA", 5000);
```



## sharedData.pollLast

Retrieves and removes the last element of the specific queue, or blocked until the default timeout if the queue is empty.

The "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.pollLast method has the following command format(s):

```
sharedData.pollLast(name);
```

```
sharedData.pollLast(name, timeout);
```

### Command Parameters

**name**

a String specifying the name of the queue.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

null if the queue is empty or the queue does not exist.

### Example

Retrieves and removes the last element of "queueA". Timeout after 5 seconds.

```
String pollValue = (String) sharedData.pollLast("queueA", 5000);
```

## sharedData.putToMap

Associates the specified value with the specified key in a session hash map.

If the map previously contained a mapping for this key, the old value is replaced. If the hash map does not exist, a new one with the name will be created with a default life time of 20 minutes.

### Format

The sharedData.putToMap method has the following command format(s):

```
sharedData.putToMap(name, key, value);
```

### Command Parameters

**name**

a String specifying the name of the map

**key**

a String specifying the key with which the specified value is to be associated.

**value**

a Serializable value to be associated with the specified key.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Associates the value with the key in a session hash map.

```
info("parameter type - String");
sharedData.putToMap("mapA", "key", "value");
info("parameter type - list of Strings");
ArrayList<String> listOfStr = new ArrayList<String>();
listOfStr.add(0, "val1");
listOfStr.add(1, "val2");
sharedData.putToMap("mapA", "key", listOfStr);
info("parameter type - boolean");
sharedData.putToMap("mapA", "key", true);
info("parameter type - int");
sharedData.putToMap("mapA", "key", 10);
info("parameter type - double");
sharedData.putToMap("mapA", "key", 10.5);
info("parameter type - long");
sharedData.putToMap("mapA", "key", 100);
```

## sharedData.removeFromMap

Removes the mapping for this key from a map if present.

### Format

The sharedData.removeFromMap method has the following command format(s):

```
sharedData.removeFromMap(name, key);
```

```
sharedData.removeFromMap(name, key, timeout);
```

### Command Parameters

**name**

a String specifying the name of the hash map.

**key**

a String specifying the key with which the specified value is to be associated.

**timeout**

a Long specifying the maximum time of getting blocked. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

previous value associated with the specified key.

### Example

Returns the value of "key1" in the hash map named "mapA". Timeout after 5 seconds.

```
String removeValue1 = (String) sharedData.removeFromMap("mapA", "key1", 5000);
```

## sharedData.setConnectionParameters

Sets the connection parameters for the shared data service.

The connection parameters can be specified using the Add option on the Script menu.

### Format

The sharedData.setConnectionParameters method has the following command format(s):

```
sharedData.setConnectionParameters(address, userName, password);
```

### Command Parameters

**address**

a String specifying the address of the Oracle Load Testing server to use for the Shared Data Service.

**userName**

a String specifying the username to use for authentication.

**password**

a String specifying the password to use for authentication.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Sets the connection parameters.

```
sharedData.setConnectionParameters("http://testserver2", "username",  
    decrypt("vGXUWvDW/F7E6OSYUjRmsQ=="));
```

---

## sharedData.waitFor

Waits for the specific value to be added to the queue until the default timeout.  
The "timeout" is set in the playback settings which has a default value of 20 seconds.

### Format

The sharedData.waitFor method has the following command format(s):

```
sharedData.waitFor(queueName, desiredValue);  
sharedData.waitFor(queueName, desiredValue, timeout);
```

### Command Parameters

**queueName**

a String specifying the name of the queue.

**desiredValue**

a Serializable value that is expected to be added to the queue.

**timeout**

a Long specifying the maximum time of waiting. The unit is milliseconds.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Returns

true if the value is in the queue, otherwise false.

### Example

Waits for the specific value to be added to the queue. Timeout after 5 seconds.

```
info("parameter type - String");  
Boolean isFound1 = sharedData.waitFor("queueA", "key1", 5000);  
if (!isFound1)  
    warn("Can not find item 'Key1' in queueA");  
else  
    info("Found item 'key1' in queueA");  
info("parameter type - list of Strings");  
ArrayList<String> listOfStr = new ArrayList<String>();  
listOfStr.add(0, "val1");  
listOfStr.add(1, "val2");  
Boolean isFound2 = sharedData.waitFor("queueA", listOfStr, 5000);  
if (!isFound2)  
    warn("Can not find item 'listOfStr' in queueA");  
else  
    info("Found item of queue item 'listOfStr' in queueA");  
info("parameter type - boolean");  
Boolean isFound3 = sharedData.waitFor("queueA", true, 5000);  
if (!isFound3)
```

```
    warn("Can not find item 'true' in queueA");
else
    info("Found item 'true' in queueA");
info("parameter type - int");
Boolean isFound4 = sharedData.waitFor("queueA", 10, 5000);
if (!isFound4)
    warn("Can not find item '10' in queueA");
else
    info("Found item '10' in queueA");
info("parameter type - double");
Boolean isFound5 = sharedData.waitFor("queueA", 10.5, 5000);
if (!isFound5)
    warn("Can not find item '10.5' in queueA");
else
    info("Found item '10.5' in queueA");
info("parameter type - long");
Boolean isFound6 = sharedData.waitFor("queueA", 100, 5000);
if (!isFound6)
    warn("Can not find item '100' in queueA");
else
    info("Found item '100' in queueA");
```

---



---

## Utilities Module

This chapter provides a complete listing and reference for the methods in the OpenScript UtilitiesService Class of Utilitis Module Application Programming Interface (API).

### 27.1 UtilitiesService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript UtilitiesService API.

#### 27.1.1 Alphabetical Command Listing

The following table lists the UtilitiesService API methods in alphabetical order.

**Table 27-1** List of UtilitiesService Methods

Method	Description
<a href="#">utilities.getFileService</a>	Gets a file service instance for this Utilities service.
<a href="#">utilities.getSQLService</a>	Gets a SQL service instance for this Utilities service.
<a href="#">utilities.loadCSV</a>	Load the given comma-separated-value file as InputStream into a Table object.
<a href="#">utilities.loadXML</a>	Load a specified XML file as InputStream into an XML tree.
<a href="#">utilities.loadXMLContent</a>	Load a specified XML contents into an XML tree.
<a href="#">utilities.parameters</a>	Convenience method to create a list of parameters for SQL a query.
<a href="#">utilities.parseJSON</a>	Parses the given JSON input using the default Configuration and returns a DocumentContext for path evaluation.
<a href="#">utilities.readJSONValue</a>	Reads the given LSON path or creates a new JsonPath and applies it to the provided JSON string or JSON file.
<a href="#">utilities.saveCSV</a>	Saves a table to a CSV file format.

The following sections provide detailed reference information for each method and enum in the UtilitiesService Class of Utilitis Module Application Programming Interface.

## utilities.getFileService

Gets a file service instance for this Utilities service. The FileService provides methods for working with the file system in general.

### Format

The utilities.getFileService method has the following command format(s):

```
utilities.getFileService( );
```

### Returns

the File service instance.

### Example

Creates a new file and appends the text strings to the file.

```
utilities.getFileService().createDestinationFile("myFile.txt", false);  
String line1 = "This is a new line 1";  
String line2 = "This is a another new line 2";  
String contents = "\n" + line1 + "\n" + line2;  
utilities.getFileService().appendStringToFile("myFile.txt", contents);
```



---

## utilities.getSQLService

Gets a SQL service instance for this Utilities service. `SQLService` provides methods for working with SQL databases.

### Format

The `utilities.getSQLService` method has the following command format(s):

```
utilities.getSQLService();
```

### Returns

the SQL service instance.

### Example

Create a database connection, execute SQL statements and query database, then disconnect the database connecton.

```
//define database
utilities.getSQLService().define("myOracleDB",
    "oracle.jdbc.driver.OracleDriver",
    "jdbc:oracle:thin:@mySystem:1521:mySystem", "username",
    decrypt("ZSL2IzF3WpLh8ydBZYDV3Q=="));
//connect to database
utilities.getSQLService().connect("myOracleDB");
//execute SQL statement
String query = "Create table Employee (ID number(4) not null unique, " +
    "FirstName varchar2(40) not null, LastName varchar2(40) not null, " +
    "Country varchar2(40), HireDate date)";
info("Query: " + query);
utilities.getSQLService().execute("myOracleDB", query);
//execute update SQL statement
query = "Insert into Employee (ID, FirstName, LastName, Country, HireDate) " +
    "Values (101, 'Tom', 'Smith', 'USA', '01-JAN-95')";
utilities.getSQLService().executeUpdate("myOracleDB", query);
//query SQL statement
query = "Select * from Employee";
Table table = utilities.getSQLService().query("myOracleDB", query);
//print table
for (int i=0; i<table.getRowCount(); i++) {
    Row row = table.getRow(i);
    String [] rowValue = row.getAll();
    String rowContent = "";
    for (int col=0; col<rowValue.length; col++)
        rowContent += rowValue[col] + " ";
    info(rowContent);
}
//disconnect from database
utilities.getSQLService().disconnect("myOracleDB");
```

## utilities.loadCSV

Load the given comma-separated-value file as `InputStream` into a `Table` object.

### Format

The `utilities.loadCSV` method has the following command format(s):

```
utilities.loadCSV(filePath);
utilities.loadCSV(filePath);
utilities.loadCSV(url);
utilities.loadCSV(fileInput);
utilities.loadCSV(repository, pathRelToRepository);
```

### Command Parameters

**filePath**

a `File` object specifying the file containing CSV-formatted data.

**repository**

a `String` specifying the name of repository containing CSV-formatted data file. May contain `{{}}` syntax for transforming.

**pathRelToRepository**

`String` specifying the path to the CSV-formatted data file within the named repository. May contain `{{}}` syntax for transforming. Must not be `null`. Any leading file separator on the path, such as `/` or `\`, is ignored.

**url**

a `URL` object specifying the path to the CSV file.

**fileInput**

a `FileInputStream`.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**CSVException**

on any exception while loading and reading the CSV file.

### Example

Loads a CSV file into a `Table` object and prints the contents to the Results view.

```
String filePath = "c:\\fmstocks_data.csv";
InputStream in = null;
in = new FileInputStream(new File(filePath));
Table table = utilities.loadCSV(in);
//Print the CSV file
String columns = "";
int columnNumber = table.getColumns().getColumnCount();
```

---

```
String [] columnNames = table.getColumns().getColumnNames();
for (int index=0; index<columnNumber; index++)
    columns += columnNames[index] + " ";
info(columns);
List <Row> rows = table.getRows();
for (int index=0; index<rows.size(); index++) {
    String [] rowValue = rows.get(index).getAll();
    String rowContent = "";
    for (int columnIndex=0; columnIndex<rowValue.length; columnIndex++)
        rowContent += rowValue[columnIndex] + " ";
    info(rowContent);
}
```

## utilities.loadXML

Load a specified XML file as InputStream into an XML tree.

### Format

The utilities.loadXML method has the following command format(s):

```
utilities.loadXML(filePath);  
utilities.loadXML(filePath);  
utilities.loadXML(url);  
utilities.loadXML(fileInput);  
utilities.loadXML(repository, pathRelToRepository);
```

### Command Parameters

**filePath**

a String specifying the file path to be loaded. May contain {{ }} syntax for transforming.

**repository**

a String specifying the name of repository containing XML file to load. May contain {{ }} syntax for transforming.

**pathRelToRepository**

String specifying the path to the XML file within the named repository. May contain {{ }} syntax for transforming. Must not be null. Any leading file separator on the path, such as / or \, is ignored.

**url**

a URL object specifying the URL.

**fileInput**

a FileInputStream.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**FileNotFoundException**

if the file is not found.

**XMLServiceException**

if an error occurs loading the XML.

### Returns

the root XML element for the given XML or null if XML file doesn't exist.

### Example

Loads an XML file into a XML object and prints the contents to the Results view.

```

import java.io.File;
import java.io.FileInputStream;
import java.io.InputStream;
//[...]
//load XML file by InputStream
String filePath = "c:\\myxmlfile.xml";
InputStream in = null;
in = new FileInputStream(new File(filePath));
XML xml = utilities.loadXML(in);
info(xml.toString());
info("*** getChildren() ***");
XML [] children = xml.getChildren();
String lsChild = "";
for (int i=0; i<children.length; i++) {
    if (i != 0)
        lsChild += ", ";
    lsChild += children[i].getTagName() + " ";
}
if (lsChild.equals(""))
    info("No child present of xml element " + xml.getTagName());
else
    info("List of all child elements of xml element " +
        xml.getTagName() + ": " + lsChild);
for (int i=0; i<children.length; i++) {
    XML child = children[i];
    // print tag name
    String tagName = child.getTagName();
    info("Tag Name: " + tagName);
    //print attributes
    String [] allAttr = child.getAttributeNames();
    if (allAttr != null) {
        for (int j=0; j<allAttr.length; j++) {
            info("Attribute Name: " + allAttr[j]);
            info("Attribute Value: " + child.getAttribute(allAttr[j]));
        }
    }
    else
        info("No attribute");
    // print values
    if (child.getValue() != null) {
        info("Value: " + child.getValue());
    }
    // print parent
    info("Parent: \n" + child.getParent());
}

```

## See Also

oracle.oats.scripting.modules.utilities.api.xml.XML

## utilities.loadXMLContent

Load a specified XML contents into an XML tree.

### Format

The utilities.loadXMLContent method has the following command format(s):

```
utilities.loadXMLContent(contents);
```

### Command Parameters

**contents**

The XML contents to be loaded. May contain {{ }} syntax for transforming.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**XMLServiceException**

if an error occurs loading the XML.

### Example

Loads an XML string into an XML object and prints the contents to the Results view.

```
//load XML file by file name string.  
String contents = "<GroceryStore><StoreName>Fourth Coffee</StoreName>" +  
  "<Departments><Department Name=\"Breads\">" +  
  "<Item ID=\"B2\" Type=\"Muffin\"><Name>Blueberry Muffin</Name>" +  
  "<Price>3.99</Price><New/></Item>" +  
  "</Department></Departments></GroceryStore>";  
XML xml = utilities.loadXMLContent(contents);  
info(xml.toString());
```

### See Also

oracle.oats.scripting.modules.utilities.api.xml.XML

---

## utilities.parameters

Convenience method to create a list of parameters for SQL a query.

### Format

The utilities.parameters method has the following command format(s):

```
utilities.parameters(obj, param);
```

### Command Parameters

#### obj

a List<Object> of parameters for SQL a query.

#### param

Optional list of parameters for the SQL query List<Object>.

### Returns

a new List<String>

### Example

Creates a database connection, execute SQL statements and query database with parameters object, then disconnect the database connecton.

```
//define database
utilities.getSQLService().define("myOracleDB",
    "oracle.jdbc.driver.OracleDriver",
    "jdbc:oracle:thin:@mySystem:1521:mySystem", "username",
    decrypt("ZSL2IzF3WpLh8ydBZYDV3Q=="));
//connect to database
utilities.getSQLService().connect("myOracleDB");
//execute SQL statement
String query = "Create table Employee (ID number(4) not null unique, " +
    "FirstName varchar2(40) not null, LastName varchar2(40) not null, " +
    "Country varchar2(40), HireDate date)";
info("Query: " + query);
utilities.getSQLService().execute("myOracleDB", query);
//execute update SQL statement
query = "Update Employee SET LastName = 'Davis'
    WHERE ID = ? and LastName = ?";
info("Query: " + query);
utilities.getSQLService().executeUpdate("myOracleDB", query,
    utilities.parameters(101, "Smith"));
//query SQL statement
query = "Select * from Employee";
Table table = utilities.getSQLService().query("myOracleDB", query);
//print table
for (int i=0; i<table.getRowCount(); i++) {
    Row row = table.getRow(i);
    String [] rowValue = row.getAll();
    String rowContent = "";
    for (int col=0; col<rowValue.length; col++)
        rowContent += rowValue[col] + " ";
    info(rowContent);
}
```

```
//disconnect from database  
utilities.getSQLService().disconnect("myOracleDB");
```



---

## utilities.parseJSON

Parses the given JSON input using the default Configuration and returns a DocumentContext for path evaluation.

### Format

The utilities.parseJSON method has the following command format(s):

```
utilities.parseJSON(json);
```

### Command Parameters

**json**

a JSON string or file to parse.

### Throws

**IOException**

file input/output exception.

### Returns

a read context.

### Example

Parses the given JSON input using the default Configuration and returns a DocumentContext for path evaluation.

```
//File input
DocumentContext doc = utilities.parseJSON(new File (filePath));
List<Double> priceList = doc.read("$.store.book[?(@.price >10)].price");
System.out.println(priceList.toString());

//String Input
List<Double> priceList2 = utilities.parseJSON(new File
(filePath)).read("$.store.book[?(@.price >10)].price");
System.out.println(priceList2.toString());
```

## utilities.readJSONValue

Reads the given JsonPath or creates a new JsonPath and applies it to the provided JSON string or JSON file.

### Format

The utilities.readJSONValue method has the following command format(s):

```
<T> T utilities.readJSONValue(json, path, <T> type);
```

```
<T> Utilities.readJSONValue(json, jsonPath);
```

```
<T> T utilities.readJSONValue(jsonFile, jsonPath);
```

### Command Parameters

**<T>**  
the expected return type.

**json**  
a JSON string.

**path**  
the path to apply.

**type**  
the expected return type.

### Throws

**IOException**  
file input/output exception.

### Returns

the result or list of objects matched by the given path. If it can not find the value according to given path, it will return null.

### Example

Reads the given JSON path or creates a new JsonPath and applies it to the provided JSON string or JSON file.

```
//File input
String filePath = "path of json file";
List<String> authors =utilities.readJSONValue(new File (filePath),
    "$.store.book[*].author");
System.out.println(authors.toString());

//String Input
List<Double> booksName= utilities.readJSONValue(jsonString,
    "$.store.book[?(@.price >10)].price");
System.out.println(booksName.toString());
```

---

## utilities.saveCSV

Saves a table to a CSV file format.

### Format

The utilities.saveCSV method has the following command format(s):

```
utilities.saveCSV(table, csvFilename, overwrite);
```

```
utilities.saveCSV(table, repository, pathRelToRepository, overwrite);
```

### Command Parameters

**table**

a Table object.

**csvFilename**

a String specifying the full path and name of a file where the Table is saved. May contain {{ }} syntax for transforming.

**overwrite**

a Boolean that specifies whether or not to overwrite an existing file.

**repository**

a String specifying the name of repository where the Table is to be saved. May contain {{ }} syntax for transforming. Must not be null.

**pathRelToRepository**

String specifying the path to the file within the named repository. May contain {{ }} syntax for transforming. Must not be null. Any leading file separator on the path, such as / or \, is ignored.

### Throws

**AbstractScriptException**

on any error when saving.

**IOException**

file input/output exception.

### Example

Saves a CSV Table object to a new file in overwrite mode

```
String repository = "Default";  
String pathRelToRepository = "Data/fmstocks_data.csv";  
String newCSVFile = "new_fmstocks_data.csv";  
boolean overwrite = true;  
Table table = utilities.loadCSV(repository, pathRelToRepository);  
utilities.saveCSV(table, repository, pathRelToRepository, overwrite);
```



---



---

## Web Services Module

This chapter provides a complete listing and reference for the methods in the OpenScript WSService Class of WebService Module Application Programming Interface (API).

### 28.1 WSService ENUM Reference

The following section provides an alphabetical listing of the enums in the OpenScript WSService API.

#### 28.1.1 Alphabetical Enum Listing

The following table lists the WSService Enums in alphabetical order.

**Table 28–1** List of WSService Enums

Enum	Description
<a href="#">AttachmentMechanism</a>	Specifies the attachment Transfer type.

### 28.2 WSService API Reference

The following section provides an alphabetical listing of the methods in the OpenScript WSService API.

#### 28.2.1 Alphabetical Command Listing

The following table lists the WSService API methods in alphabetical order.

**Table 28–2** List of WSService Methods

Method	Description
<a href="#">ws.addSecurityAttachments</a>	Add Security Attachment property settings to current URL.
<a href="#">ws.attachment</a>	Convenience method to create a new Attachment.
<a href="#">ws.attachments</a>	Convenience method to create a new Attachment[.].
<a href="#">ws.getLastBrowserResponse</a>	Gets the last browser response.
<a href="#">ws.getLastResponseCode</a>	Gets the last response code.
<a href="#">ws.getLastResponseContents</a>	Gets the last response contents.
<a href="#">ws.post</a>	Request a web service using an HTTP POST method with requestSoap string, headers, URL encoding, and character sets.
<a href="#">ws.restDelete</a>	Performs a RESTful DELETE operation.

**Table 28–2 (Cont.) List of WSService Methods**

<b>Method</b>	<b>Description</b>
<a href="#">ws.restGet</a>	Performs a RESTful GET operation.
<a href="#">ws.restHead</a>	Performs a RESTful HEAD operation.
<a href="#">ws.restOptions</a>	Performs a RESTful OPTIONS operation.
<a href="#">ws.restPatch</a>	Performs a RESTful PATCH operation.
<a href="#">ws.restPost</a>	Performs a RESTful POST operation.
<a href="#">ws.restPut</a>	Performs a RESTful PUT operation.
<a href="#">ws.security</a>	Convenience method to create a new WSSecurity object with a specified timeout value.
<a href="#">ws.solveXPath</a>	Extract values from the browser's last retrieved contents using XPath notation.

The following sections provide detailed reference information for each method and enum in the WSService Class of WebService Module Application Programming Interface.

## ws.addSecurityAttachments

Add Security Attachment property settings to current URL.

### Format

The ws.addSecurityAttachments method has the following command format(s):

```
ws.addSecurityAttachments(url, security, attachments);
```

### Command Parameters

#### **url**

a String specifying the URL to request.

#### **security**

a WSSecurity object specifying the security settings for the specified URL.

#### **attachments**

a WSAttachments object specifying the attachment settings for the specified URL.

### Throws

#### **AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

### Example

Add Security Attachments with indicated property settings.

```
//No username token
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    null, null);
//Username, Password Text
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, false, false), null);
//Username, Password digest
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        false, false, false), null);
//Username, Password text, Add Created Header
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, true, false), null);
//Username, Password text, Add Timestamp, valid for 10 seconds
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, false, false, 10), null);
//Username, Password text, Add Nonce
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, false, true), null);
//Username, Password text, Add Created Header,
//Add Timestamp, valid for 10 seconds, Add Nonce
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
```

```
ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),
    true, true, true, 10), null);
//Username, Password text, Add Created Header,
//Add Timestamp, valid for 10 seconds, Add Nonce
//With attachments
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),
        true, true, true, 10),
    ws.attachments(AttachmentMechanism.DEFAULT,
        ws.attachment("C:\\MTOMService.xml", "attachmentPart"),
        ws.attachment("C:\\SecureService.xml", "attachmentPart")));
```



## ws.attachment

Convenience method to create a new Attachment.

### Format

The ws.attachment method has the following command format(s):

```
ws.attachment(filename, attachmentPart);
```

### Command Parameters

**filename**

a String specifying the attachment file name.

**attachmentPart**

a String specifying the Attachment part.

### Returns

a new Attachment

### Example

Add Security with indicated attachments.

```
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",  
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),  
        true, true, true, 10),  
    ws.attachments(AttachmentMechanism.DEFAULT,  
        ws.attachment("C:\\MTOMService.xml", "attachmentPart"),  
        ws.attachment("C:\\SecureService.xml", "attachmentPart")));
```

## AttachmentMechanism

The AttachmentMechanism has the following values:

**Table 28–3 List of AttachmentMechanism Values**

<b>Value</b>	<b>Description</b>
DEFAULT	Specifies the default transfer type specified by the Content-Type header.
SWA	Specifies Security SOAP Messages with Attachments.
MTOM	Specifies SOAP Message Transmission Optimization Mechanism.
DIME	Specifies Direct Internet Message Encapsulation.

## ws.attachments

Convenience method to create a new Attachment[].

### Format

The ws.attachments method has the following command format(s):

```
ws.attachments(am, attachments);
```

### Command Parameters

**am**

an AttachmentMechanism enum specifying the attachment transfer type.

**attachments**

the Attachment objects.

### Returns

a new WSAttachments

### Example

Add Security with indicated attachments.

```
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",  
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),  
        true, true, true, 10),  
    ws.attachments(AttachmentMechanism.DEFAULT,  
        ws.attachment("C:\\MTOMService.xml", "attachmentPart"),  
        ws.attachment("C:\\SecureService.xml", "attachmentPart")));
```

## ws.getLastBrowserResponse

Gets the last browser response.

### Format

The `ws.getLastBrowserResponse` method has the following command format(s):

```
ws.getLastBrowserResponse();
```

### Returns

the last browser response object.

### Example

Gets the last browser response object.

```
Response response_1 = ws.getLastBrowserResponse();
int retryTimes = response_1.getRetryTimes();
if(retryTimes==0){
    info("getRetryTimes passed!");
}
warn("getRetryTimes failed!");
}
```

## ws.getLastResponseCode

Gets the last response code.

### Format

The ws.getLastResponseCode method has the following command format(s):

```
ws.getLastResponseCode();
```

### Returns

the last response code.

### Example

Gets the last response code.

```
int lastResp = ws.getLastResponseCode();  
info("Last Response Code = " + lastResp);
```

## ws.getLastResponseContents

Gets the last response contents.

### Format

The `ws.getLastResponseContents` method has the following command format(s):

```
ws.getLastResponseContents();  
ws.getLastResponseContents(sourceType);
```

### Command Parameters

**sourceType**

a Source enum specifying the source type: `Html`, `ResponseHeader`, `DisplayContent`, or `RequestHeader`.

### Returns

the last response contents.

### Example

Gets the last response contents.

```
String lastHtml = ws.getLastResponseContents(Source.Html);  
info("Last HTML Contents = " + lastHtml);
```

---

## ws.post

Request a web service using an HTTP POST method with requestSoap string, headers, URL encoding, and character sets.

### Format

The ws.post method has the following command format(s):

```
ws.post(recid, url, requestSoap, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes. May be null.

**url**

URL to request

**requestSoap**

A string representation of SOAP contents

**headers**

a Header array specifying the Additional headers to add/remove from the request before submitting it to the server.

**bEncode**

a boolean specifying the parameter encoding. Set to true to URL-encode the parameters before submitting them to the sever.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

if an error occurs Posting to the server.

### Example

Specifies a POST navigation with requestSoap string, headers, URL encoding, and character sets.

```
//Example UI added Post
ws.post(7, "http://myserver/EmployeeLookup.asmx",
    "requestSoap string",
    http.headers(http.header("name1", "value1", Header.HeaderAction.Add),
        http.header("name2", "value2", Header.HeaderAction.SetIfNotSet),
        http.header("name3", "value3", Header.HeaderAction.GlobalAdd),
        http.header("name4", "value4", Header.HeaderAction.GlobalSetIfNotSet)),
    true, "ASCII", "ASCII");
//Example WSDL Manager added Post with requestSoap string
```

```

ws.post(8, "http://myserver/EmployeeLookup.asmx",
"<soapenv:Envelope " +
"xmlns:xsi=\"http://www.w3.org/2001/XMLSchema-instance\" " +
"xmlns:xsd=\"http://www.w3.org/2001/XMLSchema\" " +
"xmlns:soapenv=\"http://schemas.xmlsoap.org/soap/envelope/\" " +
"xmlns:web=\"http://example.com/webservices/\">\r\n " +
"<soapenv:Header/>\r\n " +
"<soapenv:Body>\r\n " +
"<web:addEmployee " +
"soapenv:encodingStyle=\"http://schemas.xmlsoap.org/soap/encoding/\">\r\n " +
"<data xsi:type=\"enc:Employee\" " +
"xmlns:enc=\"http://example.com/webservices/encodedTypes/\">\r\n " +
"<FirstName xsi:type=\"xsd:string\">string</FirstName>\r\n " +
"<LastName xsi:type=\"xsd:string\">string</LastName>\r\n " +
"<EmployeeID xsi:type=\"xsd:int\">0</EmployeeID>\r\n " +
"<Address xsi:type=\"xsd:string\">string</Address>\r\n " +
"<City xsi:type=\"xsd:string\">string</City>\r\n " +
"<State xsi:type=\"xsd:string\">string</State>\r\n " +
"<Zip xsi:type=\"xsd:string\">string</Zip>\r\n " +
"<Phone xsi:type=\"xsd:int\">0</Phone>\r\n " +
"</data>\r\n " +
"</web:addEmployee>\r\n " +
"</soapenv:Body>\r\n " +
"</soapenv:Envelope>",
http.headers(http.header("Content-Type", "text/xml; charset=UTF-8",
Header.HeaderAction.Modify),
http.header("SOAPAction", "\"http://example.com/webservices/addEmployee\"",
Header.HeaderAction.Modify)),
true, null, null);

```



---

## ws.restDelete

Performs a RESTful DELETE operation.

### Format

The `ws.restDelete` method has the following command format(s):

```
ws.restDelete(recid, url, deleteData, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**deleteData**

a String specifying the data to DELETE.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful DELETE operation.

```
ws.restDelete(4, "http://example.com:8151/ouaf/mobility/rest/ouaf/M1-ShfLogon/"  
    "", http.headers(http.header("x-authorization", "authPassword",  
    Header.HeaderAction.Modify)),  
    true, "ASCII", "ASCII");
```

## ws.restGet

Performs a RESTful GET operation.

### Format

The `ws.restGet` method has the following command format(s):

```
ws.restGet(recid, url, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful GET operation.

```
ws.restGet(4, "http://example.com:7002/IMCMCSREST/rest/v1/describeUsername",  
  "{\"testdata\":\"test\""},  
  http.headers(http.header("Authorization", "Basic authPassword",  
    Header.HeaderAction.Modify)),  
  true, "ASCII", "ASCII");
```

---

## ws.restHead

Performs a RESTful HEAD operation.

### Format

The `ws.restHead` method has the following command format(s):

```
ws.restHead(recid, url, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful Head operation.

```
ws.restHead(4, "http://example.com:7002/IMCMCSREST/rest/v1/describeUsername",  
    "{\"testdata\":\"test\"}",  
    http.headers(http.header("Authorization", "Basic authPassword",  
        Header.HeaderAction.Modify)),  
    true, "ASCII", "ASCII");
```

## ws.restOptions

Performs a RESTful OPTIONS operation.

### Format

The `ws.restOptions` method has the following command format(s):

```
ws.restOptions(recid, url, optionsData, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**optionsData**

a String specifying the OPTIONS data.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful Options operation.

```
ws.restOptions(4, "http://example.com:7002/IMCMCSREST/rest/v1/describeUsername",  
  "{\"testdata\":\"test\"}", "options",  
  http.headers(http.header("Authorization", "Basic authPassword",  
    Header.HeaderAction.Modify)),  
  true, "ASCII", "ASCII");
```

---

## ws.restPatch

Performs a RESTful PATCH operation.

### Format

The `ws.restPatch` method has the following command format(s):

```
ws.restPatch(recid, url, patchData, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**patchData**

a String specifying the data to PATCH to the URL's host.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful PUT operation.

```
ws.restPatch(4, "http://example.com:8151/ouaf/mobility/rest/ouaf/M1-ShfLogon/",  
            "", http.headers(http.header("x-authorization", "password",  
            Header.HeaderAction.Modify)),  
            true, "ASCII", "ASCII");
```

## ws.restPost

Performs a RESTful POST operation.

### Format

The `ws.restPost` method has the following command format(s):

```
ws.restPost(recid, url, postData, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**postData**

a String specifying the data to POST to the URL's host.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful POST operation.

```
ws.restPost(4, "http://example.com:7002/IMCMCSREST/rest/v1/describeUsername",  
    "{\"testdata\":\"test\"}",  
    http.headers(http.header("Authorization", "Basic authPassword",  
        Header.HeaderAction.Modify)),  
    true, "ASCII", "ASCII");
```

---

## ws.restPut

Performs a RESTful PUT operation.

### Format

The `ws.restPut` method has the following command format(s):

```
ws.restPut(recid, url, putData, headers, bEncode, reqCharset, respCharset);
```

### Command Parameters

**recid**

ID of a previously recorded navigation, used for comparison purposes.

**url**

a String specifying the URL for the request to the server.

**putData**

a String specifying the data to PUT to the URL's host.

**headers**

a `Header[]` object specifying the header data.

**bEncode**

a boolean specifying if the data is encoded.

**reqCharset**

a String specifying the character set to use if URL-encoding any of the request parameters.

**respCharset**

a String specifying the character set to use when reading the response contents.

### Throws

**Exception**

on any error.

### Example

Performs a RESTful PUT operation.

```
ws.restPut(4, "http://example.com:8151/ouaf/mobility/rest/ouaf/M1-ShfLogon/"  
    "", http.headers(http.header("x-authorization", "password",  
    Header.HeaderAction.Modify)),  
    true, "ASCII", "ASCII");
```

## ws.security

Convenience method to create a new WSSecurity object with a specified timeout value.

### Format

The ws.security method has the following command format(s):

```
ws.security(username, securcode, plaintextSecurCode, addCreatedHeader, addNonce);
```

```
ws.security(username, securcode, plaintextSecurCode, addCreatedHeader, addNonce, timeToLive);
```

### Command Parameters

**username**

a String specifying the username.

**securcode**

a String specifying the password.

**plaintextSecurCode**

a boolean specifying the password type. true for Password Text, false for Password Digest.

**addCreatedHeader**

a boolean specifying if a created header is added.

**addNonce**

a boolean specifying if Nonce is added.

**timeToLive**

a value specifying the timeout.

### Returns

a new WSSecurity object.

### Example

Add Security with indicated property settings.

```
//Username, Password Text
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, false, false), null);
//Username, Password digest
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        false, false, false), null);
//Username, Password text, Add Created Header
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, true, false), null);
//Username, Password text, Add Timestamp, valid for 10 seconds
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw="),
        true, false, false, 10), null);
//Username, Password text, Add Nonce
```



```
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),
        true, false, true), null);
//Username, Password text, Add Created Header,
//Add Timestamp, valid for 10 seconds, Add Nonce
ws.addSecurityAttachments("http://myserver/EmployeeLookup.asmx",
    ws.security("username", decrypt("s07ijipCONXoxAURd+8BQw=="),
        true, true, true, 10), null);
```

## ws.solveXPath

Extract values from the browser's last retrieved contents using XPath notation.  
The value will be stored to the given variable.

### Format

The ws.solveXPath method has the following command format(s):  
ws.solveXPath(*varName*, *xpath*, *resultIndex*);

### Command Parameters

**varName**

a String specifying the variable name where the value will be stored. Must not be null.

**xpath**

a String specifying the XPath describing which value to parse from the last retrieved contents. Must not be null.

**resultIndex**

an index value specifying the 0-based index of the specific result to retrieve if the XPath returns multiple results. A null value specifies that all results should be returned.

### Throws

**AbstractScriptException**

represents an exception that may be thrown during the execution of a script where the exception should be reported to an end user through the controller.

**SolveException**

if the XPath cannot be solved.

**XMLServiceException**

if happens error when parsing the xpath.

### Example

Verifies the XPath set to the script variable "solvedXPath" can vbe solved.

```
http.get(13, "http://example.com/stocks/", null,
  null, true, "ASCII", "ASCII");
ws.solveXPath("solvedXPath", ".//FORM[@name='loginform']/@action", 0);
if (getVariables().get("solvedXPath").equals("default.asp"))
  info ("method \"solveXPath()\" is passed.");
else
  warn ("method \"solveXPath()\" is failed.");
```

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