



Open2Test Test Automation Framework for SilkTest – Quick Start Guide

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TABLE OF CONTENTS

1	PURPOSE OF THE DOCUMENT	4
2	ENABLING EXTENSION	4
2.1	Using Basic Workflowbar	5
2.2	Using the Options	8
2.3	Setting Recovery System	10
3	CREATING NEW TEST	12
3.1	Scripts File Creation in SilkTest	13
3.2	Creating New Data-Driven Test	14
4	TEST SETTINGS FOR KEYWORD-DRIVEN SCRIPTING	20
4.1	Data-Driven Assistance Section	21
4.2	DSN (Data Source Name)	22
4.3	Global Record for Each Testcase	22
4.4	Global Record for Each Table	22
4.5	Global Record Containing Sample Data for Each Table	23
4.6	Calling Keyword Script	23
5	MANAGING OBJECT REPOSITORY AND OTHER FILES	24
6	CALL TO FRAMEWORK	27
7	USAGE OF KEYWORDS	27
8	TEST RESULTS FOR A KEYWORD-DRIVEN SCRIPT	28
8.1	External Test Results for Keyword-Driven Test Scripts	29
9	REFERENCES	30

1 Purpose of the Document

This document drives the settings and describes how to get started with keyword-driven scripting in SilkTest.

2 Enabling Extension

Enabling Extensions is performed to identify/recognize the objects in Application Under Test (AUT) by SilkTest.

An extension is a file that serves to extend the capabilities of, or data available to, a more basic program. SilkTest provides

extensions for testing applications that use non-standard controls in specific development and browser environments.

Extensions can be enabled using any of the following methods:

2.1 Using Basic Workflowbar

1. To enable the extensions, launch the Application Under Test (AUT), then click on “Enable Extensions” in the “Basic Workflowbar” of SilkTest.

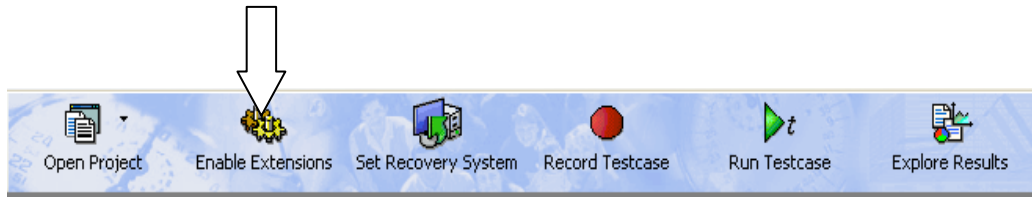


Figure 1Basic Workflowbar

2. Enable Extensions dialog is displayed with a list of all the opened applications in the “Application(s)” list.

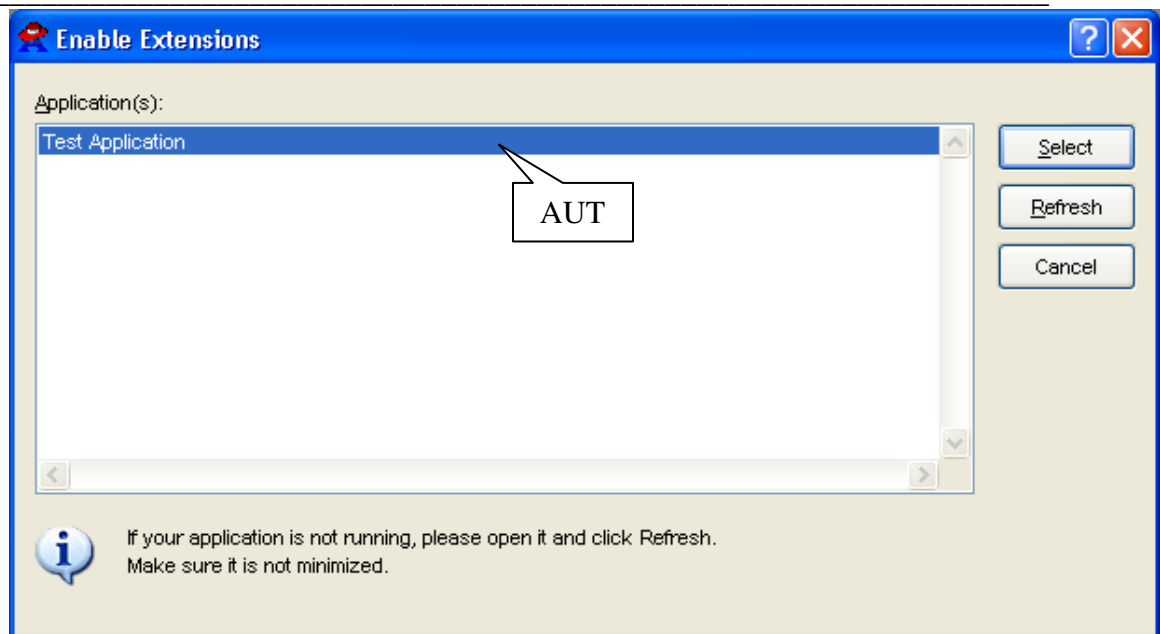


Figure 2Enable Extensions Dialog

Note: If the AUT is minimized or not visible in the application(s) section, maximize the AUT and click on the “Refresh” button in the Enable Extensions dialog.

3. Select the required application from the application(s) list, then click on the “Select” button.
4. Click on the “OK” button in the Extension Settings dialog.

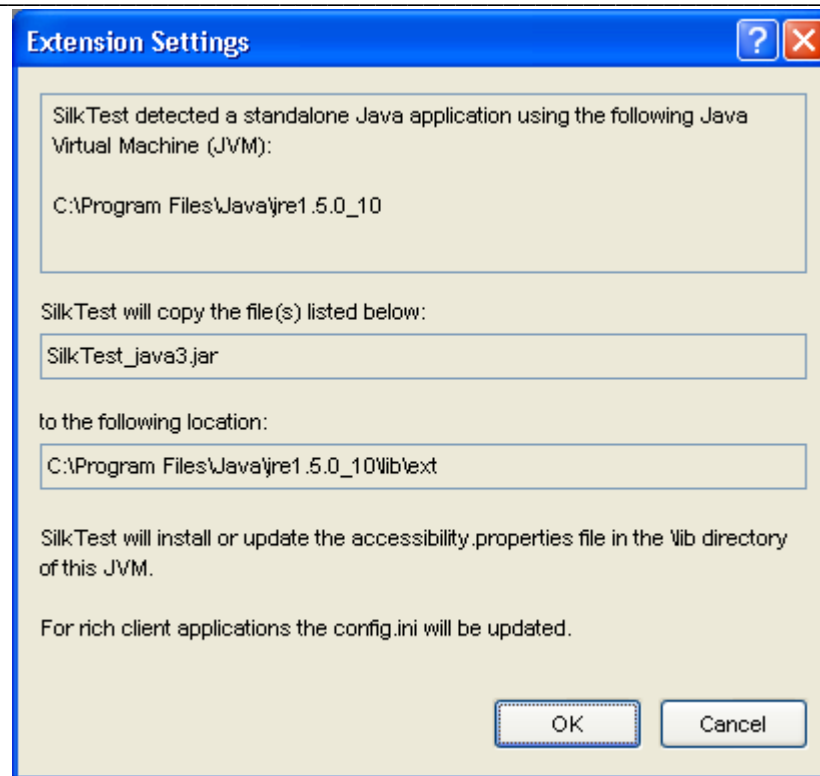
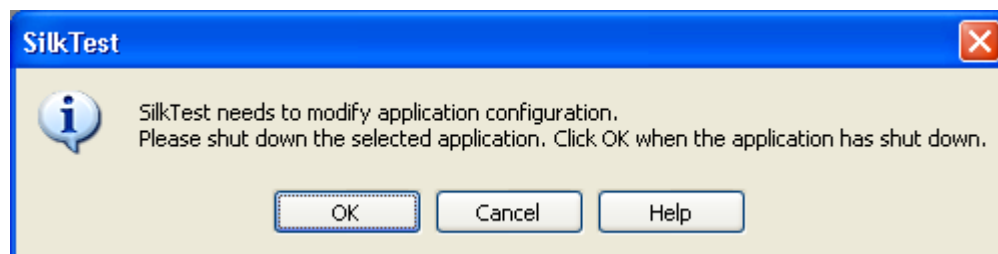
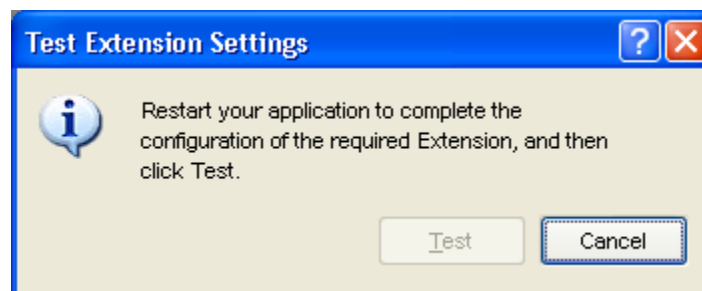


Figure 3Extension settings Dialog

5. Close the application, and then click on the “OK” button.



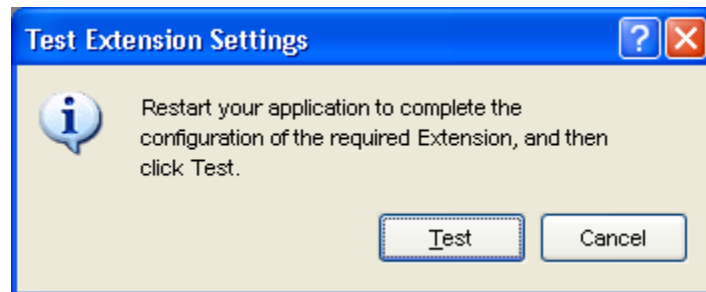
The Test Extension Settings dialog is displayed after closing the application.



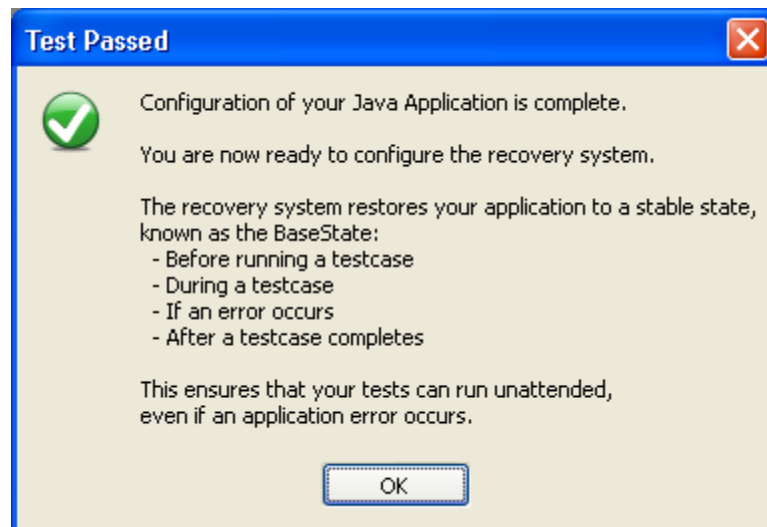
Note: The “Test” button in the Test Extension Settings dialog gets

enabled once the application (AUT) is relaunched.

6. Relaunch the application, and then click on the “Test” button.



7. Click on the “OK” button in the dialog below once the extensions process is complete.



2.2 Using the Options

1. Select Options → Extensions, as shown below.

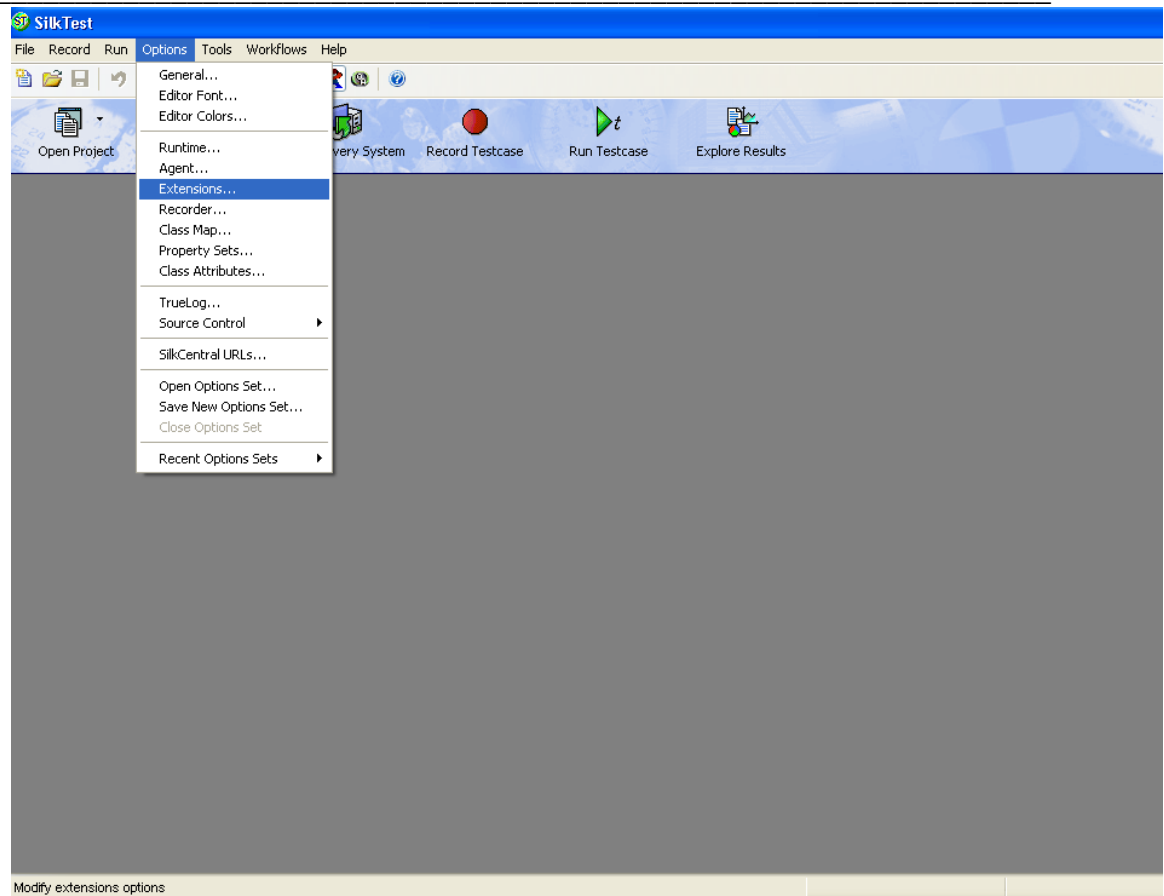


Figure 4SilkTest Host Options Dialog

2. Select the type of the AUT (e.g., Java, .Net, etc) from the "Extension Enabler" dialog, then click on the "OK" button.

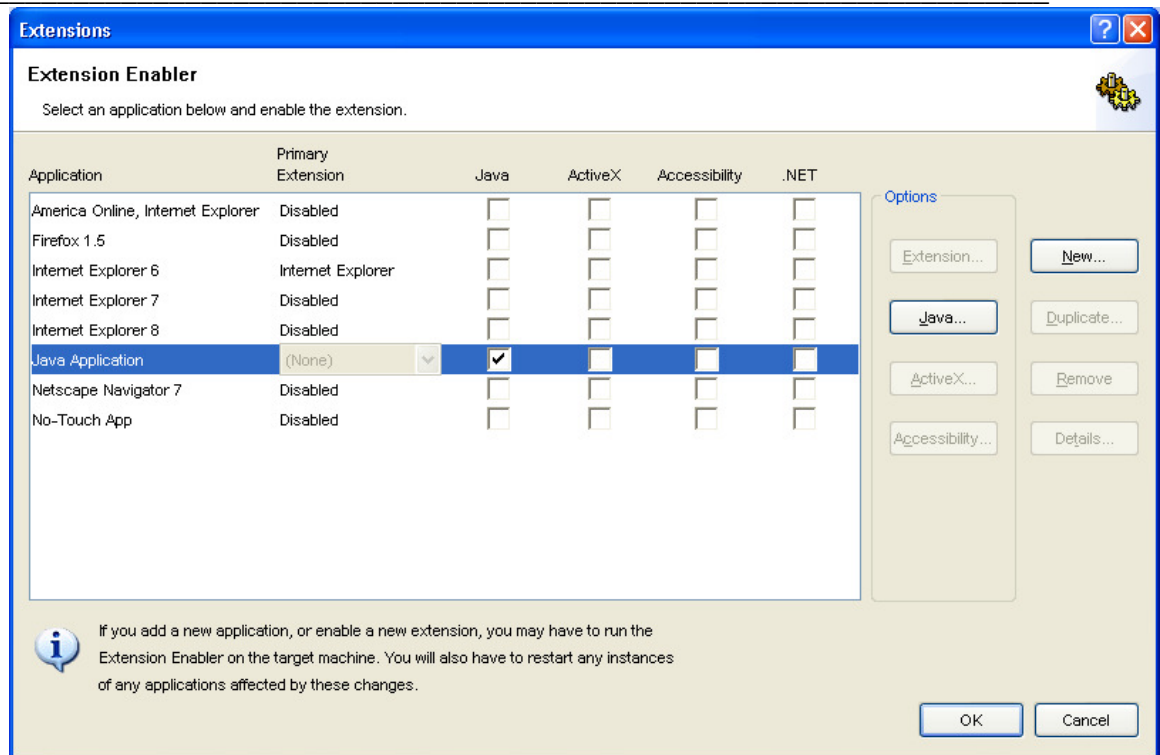


Figure 5Extensions Enabler Dialog

Once the enabling extension is completed, the recovery system may need to be set.

2.3 Setting Recovery System

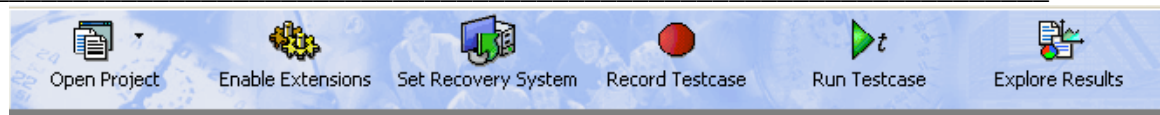
The recovery system is used to set the default base state for the application.

By default, the recovery system carries out four tasks for client-server applications:

- Ensures that the application or browser is running
- Restores the application if it is minimized
- Sets the application active
- Closes any application child windows or dialog boxes

1. To set the recovery system, launch AUT, then click the “Set Recovery System” icon on the “Basic Workflowbar” of the SilkTest Host.





The Set Recovery System dialog is displayed with the list of the open applications in the “Application” section.

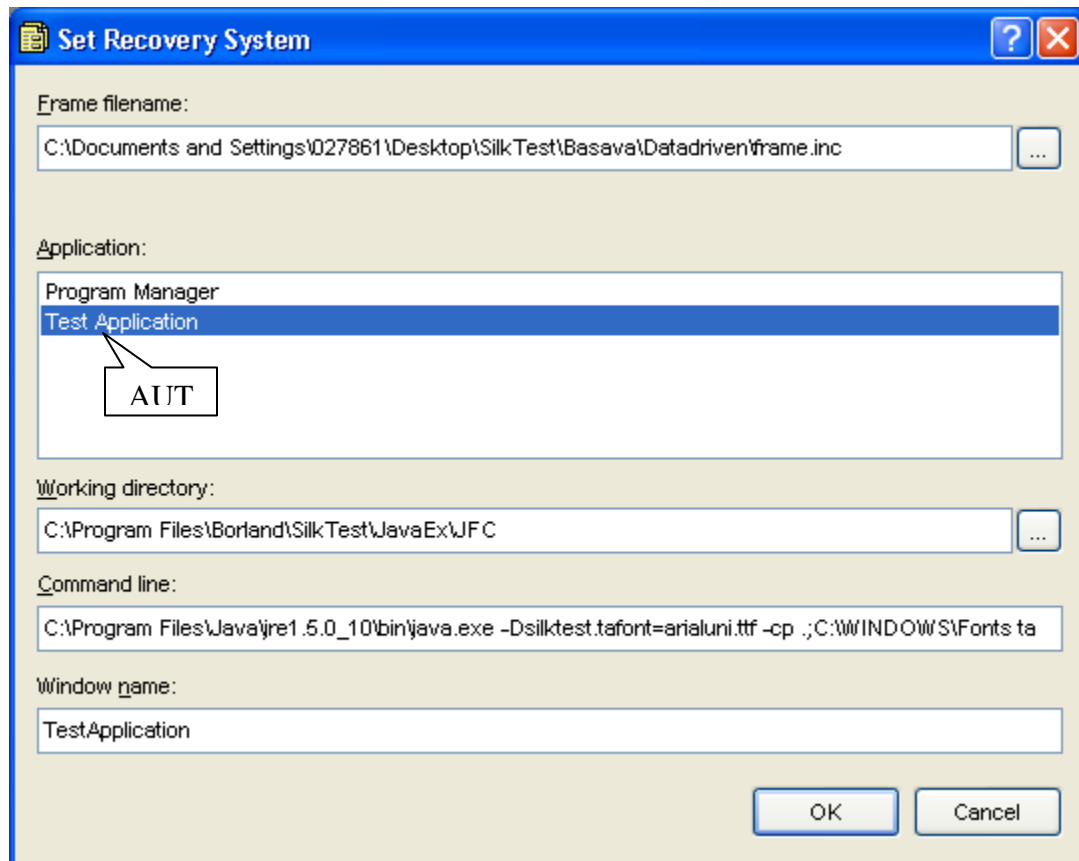
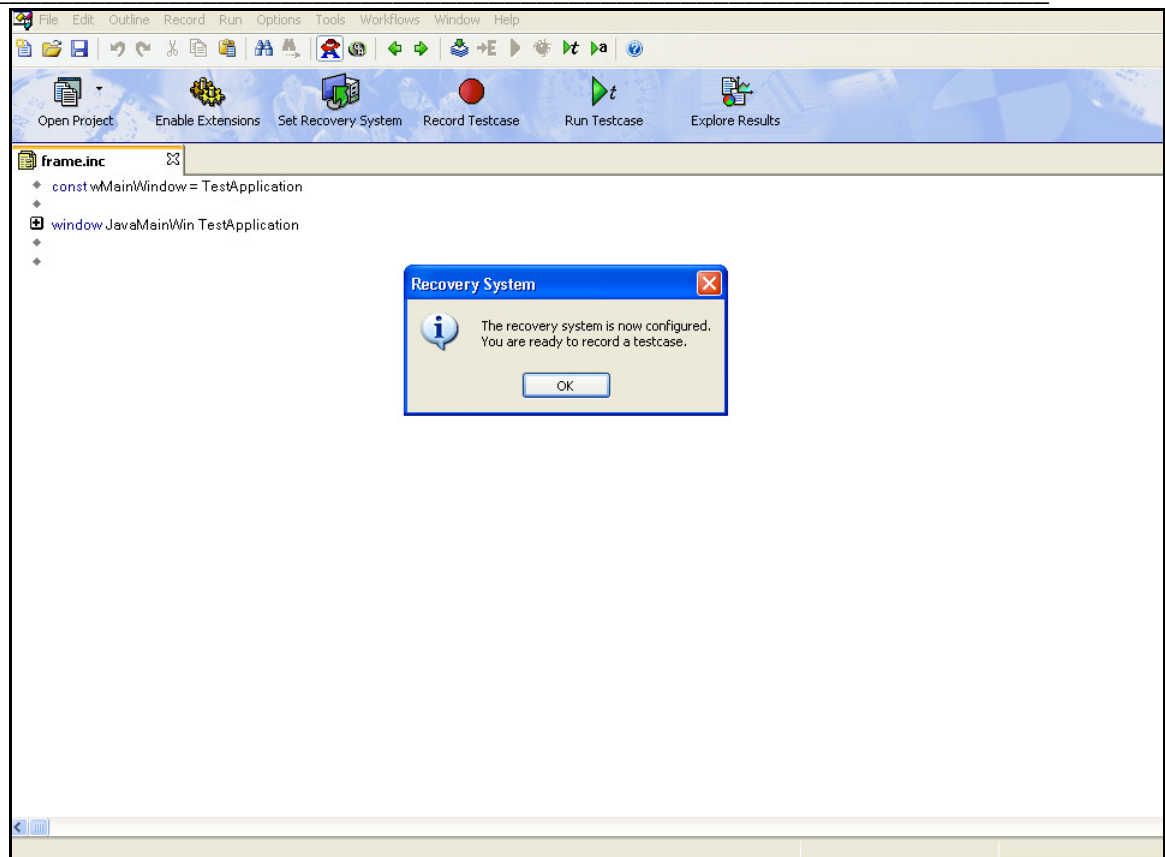


Figure 6Set Recovery System Dialog

2. Select the application from the application section, then click on the “OK” button.

3. Click on the “OK” button in the recovery system completion popup message dialog.

New “frame.inc” file is created.



3. Click on the “OK” button in the popup message window.

3 Creating New Test

A new test in SilkTest can be created from SilkTest Host.

There are two types of test files: Script files, and data-driven files.

3.1 Scripts File Creation in SilkTest

To create a new script file,

1. Select File → New

OR

Click on the  toolbar icon.

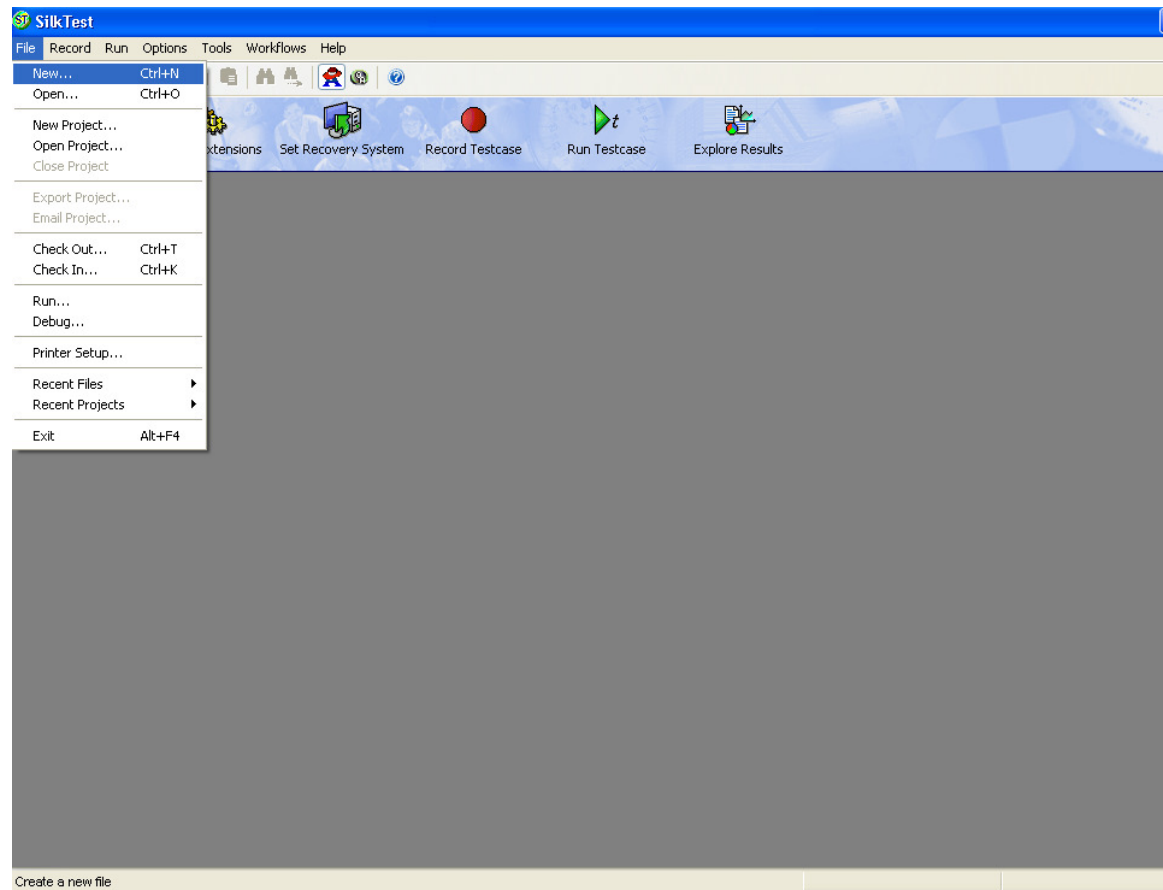


Figure 7New File Creation

2. Select the “4Test script” option and click on the “OK” button in the New File dialog.

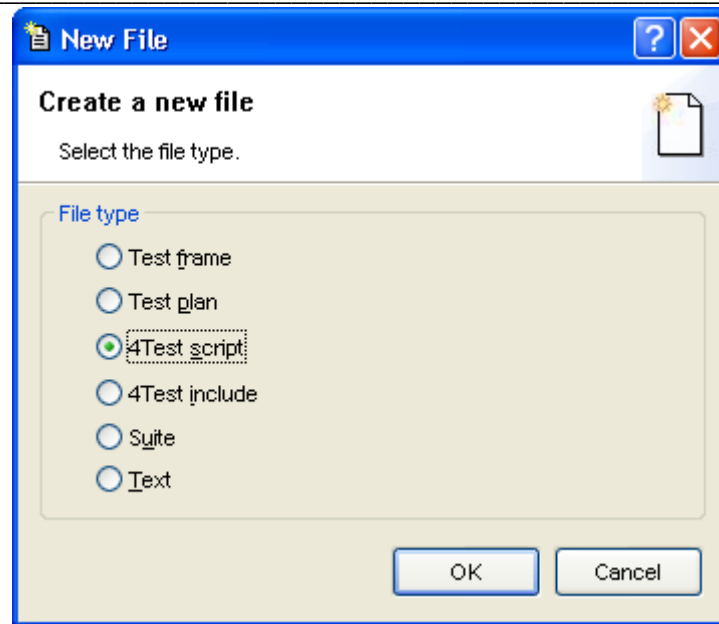


Figure 8 New File Selection Dialog

A blank script file will be created.

The file can then be saved in the preferred location.

3.2 Creating New Data-Driven Test

Note: Before creating a data-driven test file, a 4Test script file and a keyword script file or keyword script template should be prepared.

1. Select Workflows → Data Driven

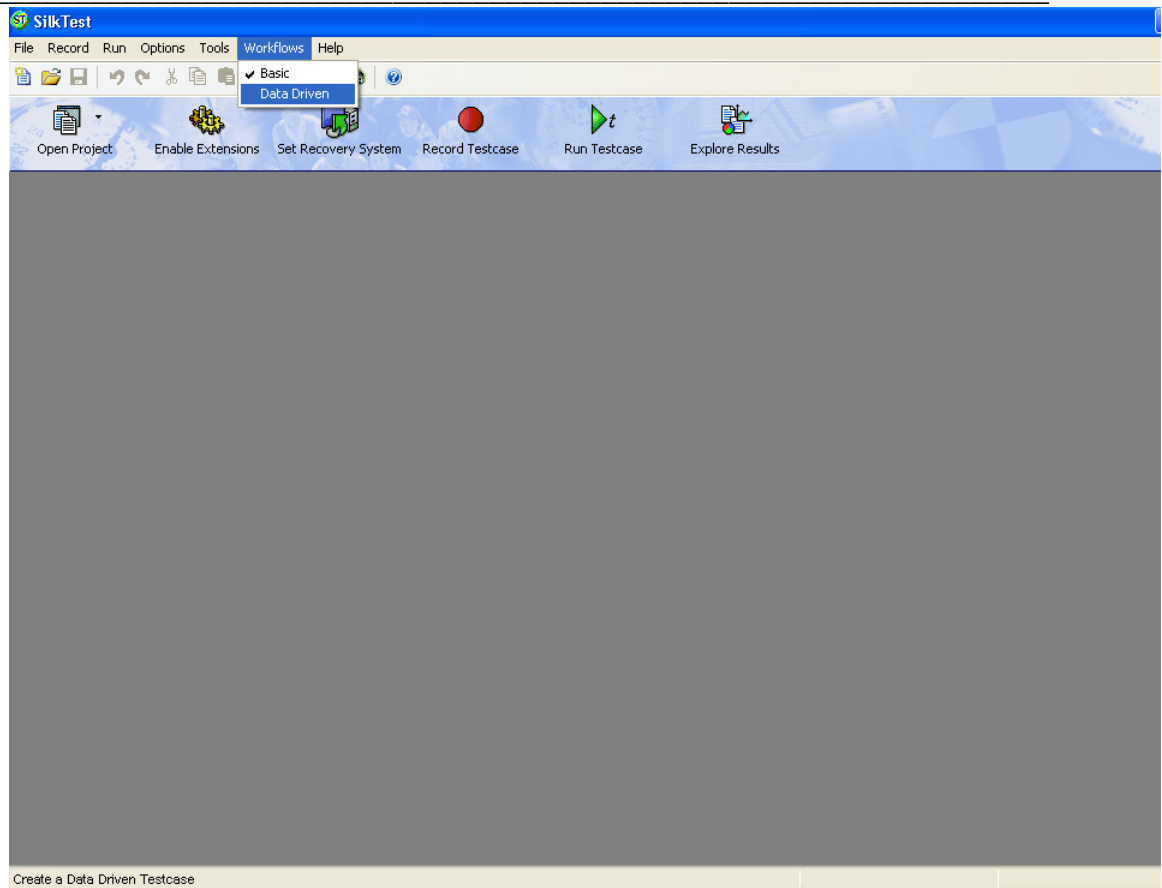



Figure 9SilkTest Workflows

2. Click on File → Open or click on  toolbar icon.

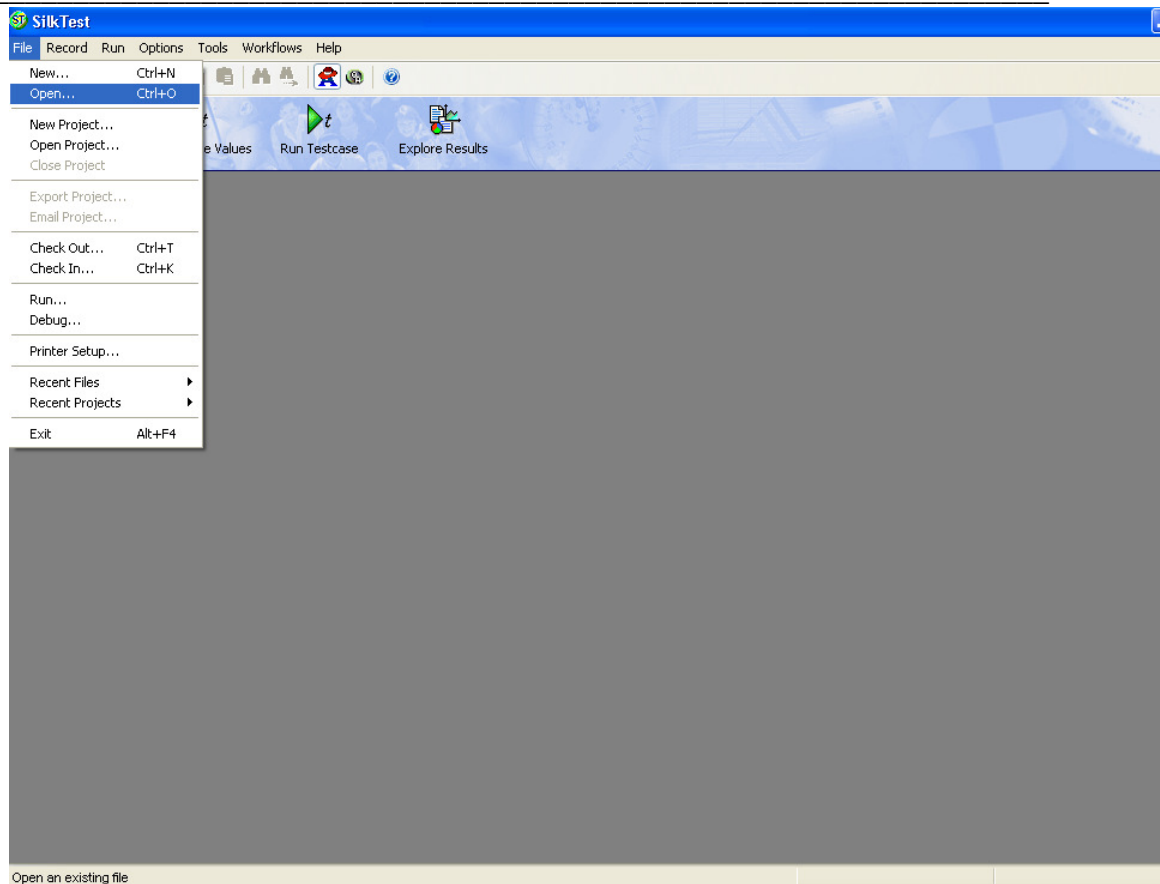


Figure 10 Opening an Existing File

3. Select an existing script (.t) file and then click on the "Open" button.

Note: If the script file is not created or doesn't exist, then create a new script file as explained in section 3.1

4. Now click on the "Data Drive Testcase" icon in the "Data Driven Workflowbar" of SilkTest.



Figure 11 Data-Driven Workflowbar

5. Select the testcase name from the Testcase section in the "Select Testcase" dialog, then click on the "OK" button.

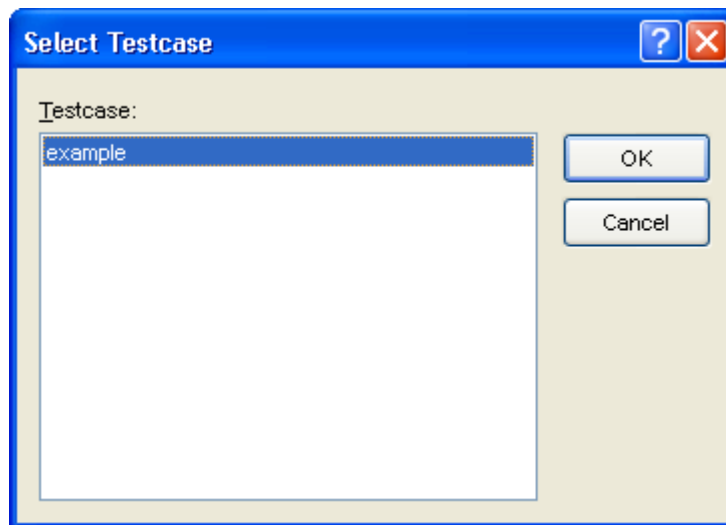


Figure 12 Select Testcase Dialog

6. Specify data-driven script file in the Specify Data Driven Script File dialog, then click on the "OK" button.

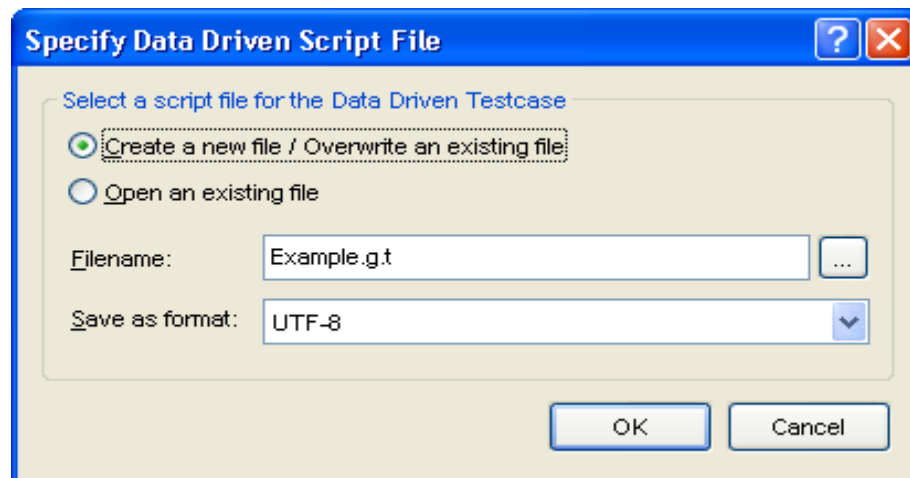


Figure 13 Specify Data-Driven Script File Dialog

Note: The Filename will be displayed by default (i.e., the same name as the ".t" file with an extension ".g.t").

7. Select a data source file and then click on the "Browse" button in the select data source dialog.

8. Browse for the keyword scripts Excel sheet path, click on "Open", and then click on the "OK" button in the select data

source dialog.

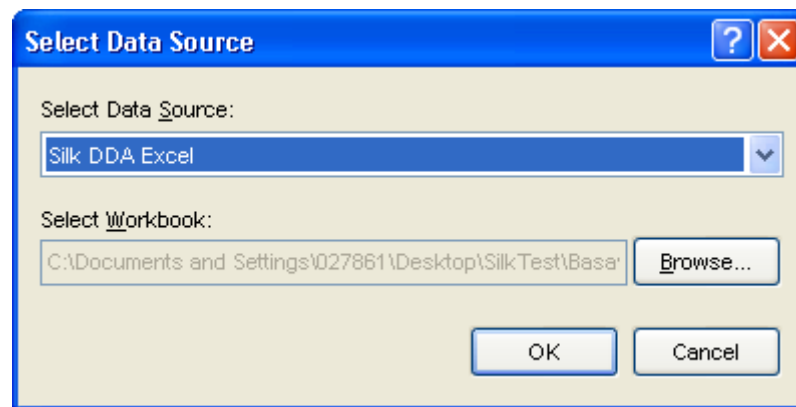


Figure 14 Select Data Source Dialog

Note: Silk DDA Excel data source file is used for keyword scripting.

9. Click on the "OK" button in the Specify Data Driven Testcase dialog.

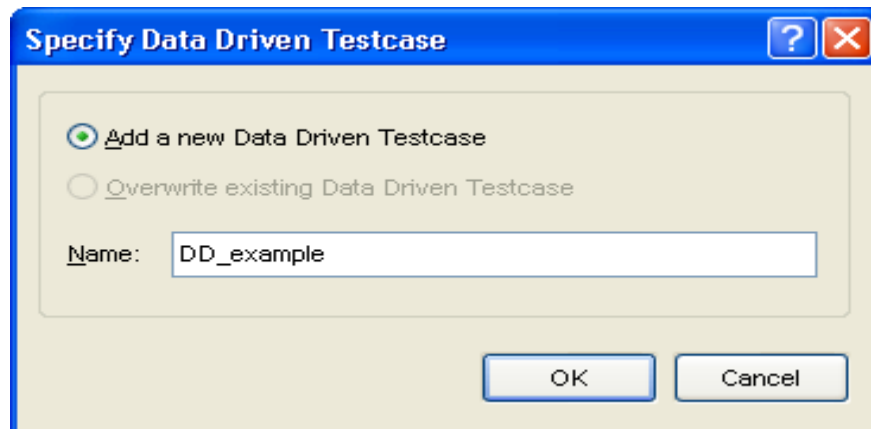


Figure 15 Select Data Driven Testcase Dialog

Note: The name of the data-driven testcase is displayed by default (i.e., it will be same as the script (.t) file prefixed with "DD_").

10. Click on the "Cancel" button in the "Find/Replace Value" dialog.

A new data-driven test is generated after clicking on the "Cancel" button in the "Find/Replace Value" dialog.

Note: The sheet names and column names of the keyword script Excel file will be displayed in the table and column droplists. This is a validation of the set-up.

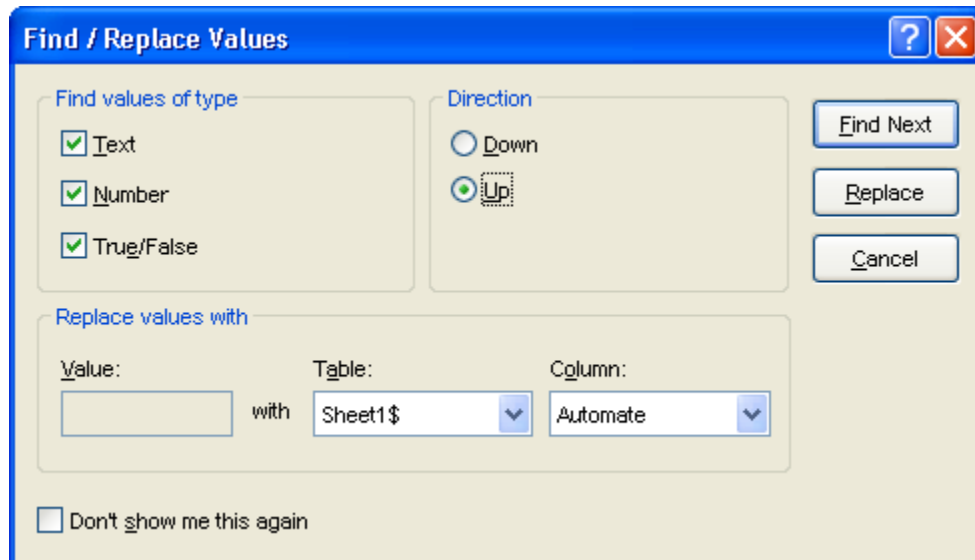


Figure 16 Find/Replace Values Dialog

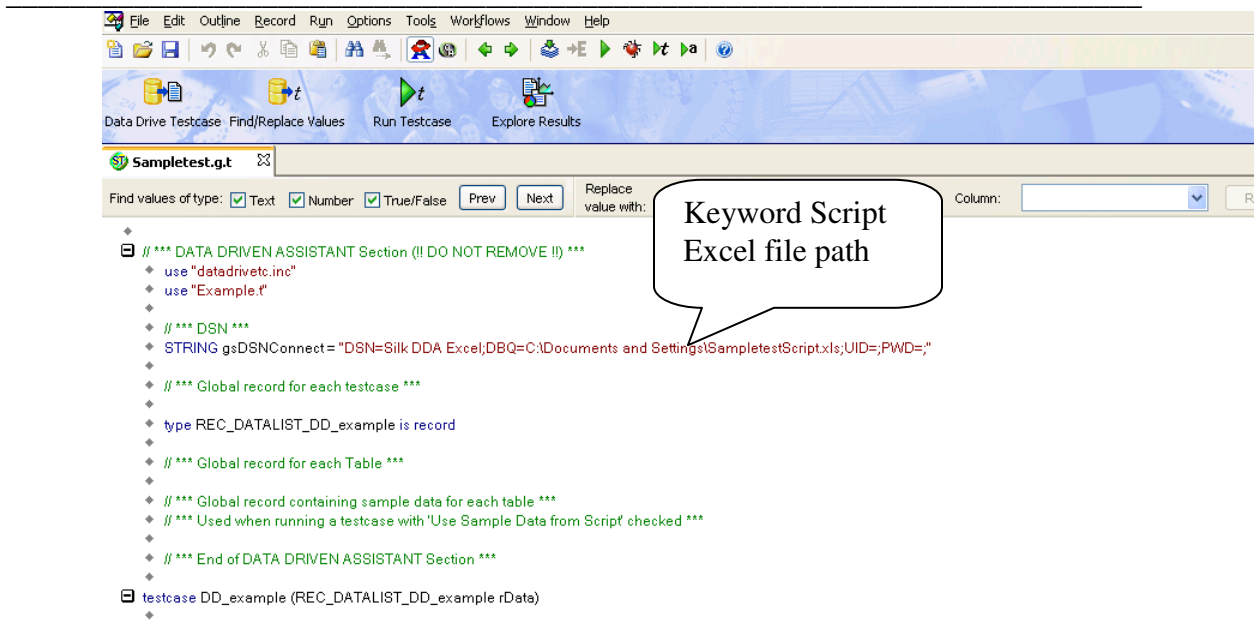


Figure 17 New Data-Driven Test file

4 Test Settings for Keyword-Driven Scripting

The data-driven testing approach available in SilkTest is used for achieving the keyword-driven approach.

With the keyword-driven approach, the entire script is developed with keywords. The script is developed in a spreadsheet that is interpreted by the main driver script, which then uses the

function library to execute the complete script.

The following test setting needs to be done before proceeding with the keyword-driven scripting.

```
[ ] [-] // *** DATA DRIVEN ASSISTANT Section (!! DO NOT REMOVE !!) ***
[ ] use "<Folder/File Path>\datadrivetc.inc" // Datadriver file Path
[ ] use "<Folder/File Path>\Framework.inc" // Framework file Path
[ ] use "<Folder/File Path>\window.inc" // Object Repository File Path
[ ] use "<Folder/File Path>\CommoFunctions.inc" // Common Functions file Path
[ ] use "<Folder/File Path>\UserdefinedFunctions.inc" // Userdefined Functions file Path
[ ] // *** DSN ***
[ ] keyword script "xls" file Path
[ ] STRING gsDSNConnect = "DSN=Silk DDA Excel;DBQ=<Folder/File Path>\KeywordScript.xls;UID=;PWD=;"

[ ] // *** Global record for each testcase ***
[-] type REC_DATALIST_DD_Framework is record
[ ] REC_SheetName_ recSheetName_ //Sheet Name containing the keyword script

[ ] // *** Global record for each Table ***
[-] type REC_SheetName_ is record
[ ] // Used to hold the First to Fifth Column contents of the keyword script
[ ] STRING Automate
[ ] STRING Action
[ ] STRING Object
[ ] STRING Action Value1
[ ] STRING Action Value2

[ ] // *** Global record containing sample data for each table ***
[ ] // *** Used when running a testcase with 'Use Sample Data from Script' checked ***
[-] REC_SheetName_ grTest_SheetName_ = {...} // Initialization of REC_SheetName_
[ ] "Automate"
[ ] "Action"
[ ] "Object"
[ ] "Action Value1"
[ ] "Action Value2"

[ ] // *** End of DATA DRIVEN ASSISTANT Section ***
[-] testcase DD_Framework (REC_DATALIST_DD_Framework rData) appstate none
[ ] recording
[ ] // keyword-script row count
[ ] int j=1 |
[ ] //Declaration of arrays of anytype.
[ ] ARRAY[50] OF Anytype aCellData
[ ] ARRAY[50] OF Anytype bCellData
[ ] ARRAY[50] OF Anytype cCellData
[ ] ARRAY[50] OF Anytype dCellData
[ ] ARRAY[50] OF Anytype eCellData
[ ] //Assigning the keyword script column values to the arrays
[ ] l={rData.recSheetName_.Automate}
[ ] m={rData.recSheetName_.Action}
[ ] n={rData.recSheetName_.Object}
[ ] p={rData.recSheetName_.ActionValue1}
[ ] q={rData.recSheetName_.ActionValue2}

[ ] // Calling a Driver Function
[ ] Keyword_Driver(aCellData,bCellData,cCellData,dCellData,eCellData)
```

Figure 18 Sample Keyword-Driven Test

4.1 Data-Driven Assistance Section

The following file paths need to be mentioned in the Data-Driven Assistance Section:

1. Datadriver File – Specify the path of the file where the datadriver script is stored.
2. Framework File – Specify the path of the file where the framework script is placed.
3. Window Declaration File – Specify the path of the file where

the object repository is placed.

4. Common Function and User-Defined Functions – Specify the path of the common functions and user-defined functions associated with the framework script.

4.2 DSN (Data Source Name)

Mention the path where the keyword script excel file is placed. Also mention the username and password, if applicable in the DBQ path.

Note: DSN file name will be displayed by default, which will be the data source file name that you selected while creating a data-driven script.

4.3 Global Record for Each Testcase

Mention the sheet name used for driving the keyword script in the keyword script excel file (i.e., after creating a new data-driven script file, the following script will be generated by default in the Global Record for each testcase section).

```
type REC_DATALIST_DD_example is record
```

Below this line, mention the following as shown in figure 4.1 above.

```
REC_<SheetName>_ rec<SheetName>_
```

Note: SheetName will be the name of the tab containing the script in the keyword script Excel file.

4.4 Global Record for Each Table

The columns of the keyword script Excel file need to be declared in this section (i.e., all the columns which are used for keyword scripting).

A sample script is given below:

```
[-] type REC_SheetName_ is record
```

```
[ ] STRING <Column A name>  
[ ] STRING <Column B name>  
[ ] STRING <Column C name>  
[ ] STRING <Column D name>  
[ ] STRING <Column E name>
```

4.5 Global Record Containing Sample Data for Each Table

The column names used in the keyword script Excel file need to be declared in this section:

A sample script is given below:

```
[+] REC_<SheetName>_ grTest_<SheetName>_ = {...}
[ ] "Automate"                // First Column name of the keyword
script excel
[ ] "Action"                  //Second Column name of the keyword
script excel
[ ] "Object"                  //Third Column name of the keyword script
excel
[ ] "Action Value1"           // Fourth Column name of the keyword
script excel
[ ] "Action Value2"           // Fifth Column name of the keyword script
excel
```

4.6 Calling Keyword Script

The following line will be generated after creating a new data-driven test (.g.t) file.

```
[-] testcase DD_example (REC_DATALIST_DD_example rData) appstate  
none
```

Note: "DD_example" is the name of the data-driven testcase.

A sample script is given below:

```
[-] testcase DD_example (REC_DATALIST_DD_example rData) appstate none
[ ] recording
//Specifies the first line of the keyword script, and it's the
counter of the keyword script.
[ ] Int j=1
//Declaration of arrays of anytype
[ ] ARRAY[50] OF Anytype aCellData
[ ] ARRAY[50] OF Anytype bCellData
[ ] ARRAY[50] OF Anytype cCellData
[ ] ARRAY[50] OF Anytype dCellData
[ ] ARRAY[50] OF Anytype eCellData

// Assigning of each column values to carry for particular row
[ ] l={rData.rec<SheetName>_.<Column A Name>}
```

```
[ ] m={rData.rec<SheetName>_.<Column B Name>}
[ ] n={rData.rec<SheetName>_.<Column C Name>}
[ ] p={rData.rec<SheetName>_.<Column D Name>}
[ ] q={rData.rec<SheetName>_.<Column E Name>}

//Keyword driver function is called here
[ ] Keyword_Driver(aCellData,bCellData,cCellData,dCellData,
eCellData) // Call to Framework.
```

5 Managing Object Repository and Other Files

SilkTest learns the interface of an application to be able to work with it. It does this by interpreting the objects and recognizing them based on the class, properties, and methods that uniquely identify them. During testing, Silk Test interacts with the objects to submit operations to the application automatically, simulating the actions of a user, and then verifies the results of each operation. The simulated user, SilkTest, is said to be driving the application.

The repository includes descriptions of the GUI objects that comprise the application. Based on the properties and methods SilkTest associates with these objects, SilkTest can recognize the actions performed on them and intelligently record those actions into test script using the 4Test language.

The objects from the window declaration repository will be uploaded and made available for the tests either by using them in the "DATA DRIVEN ASSISTANT Section" of the data-driven test (.g.t) file or will be uploaded and made available for the tests.

Follow the steps below to upload the object repository and other files (Common functions, Userdefined functions or any ".inc" files).

1. Click on Options > Runtime

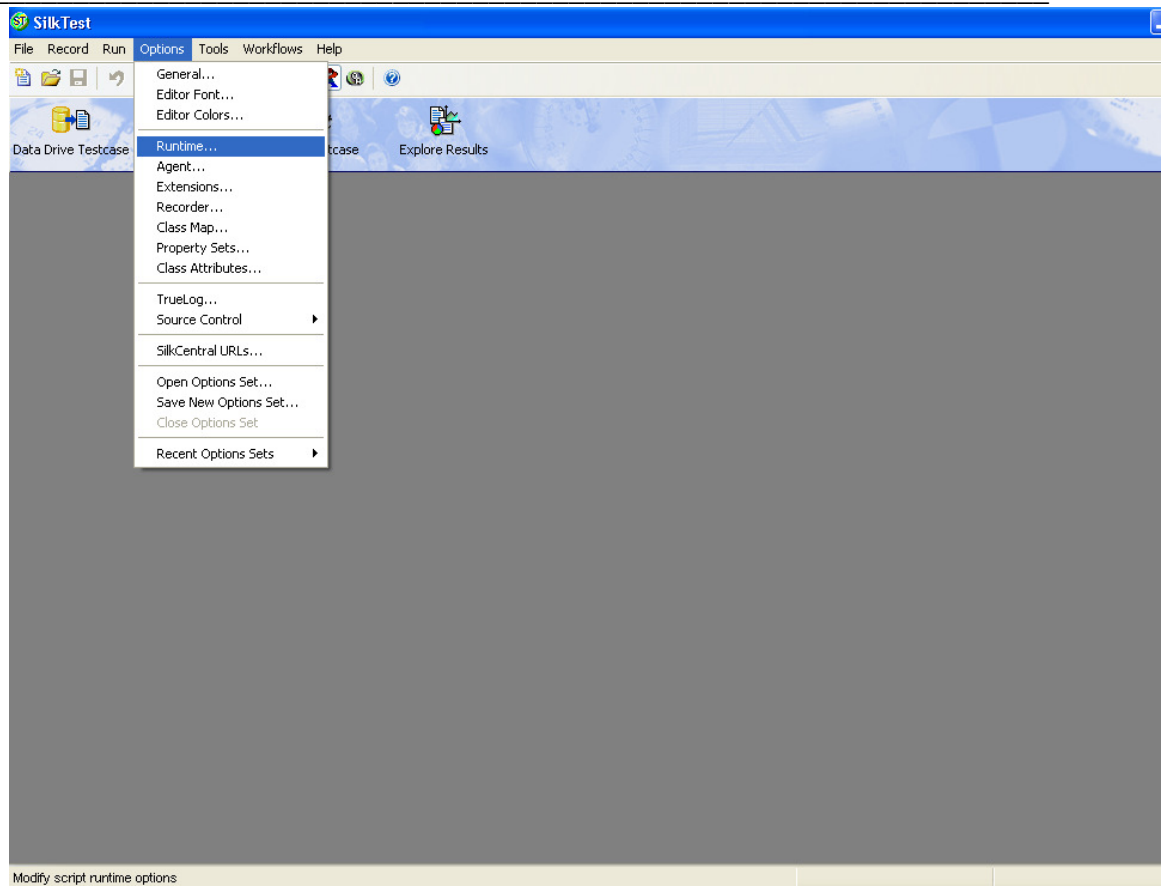


Figure 19 Associate repository files Dialog

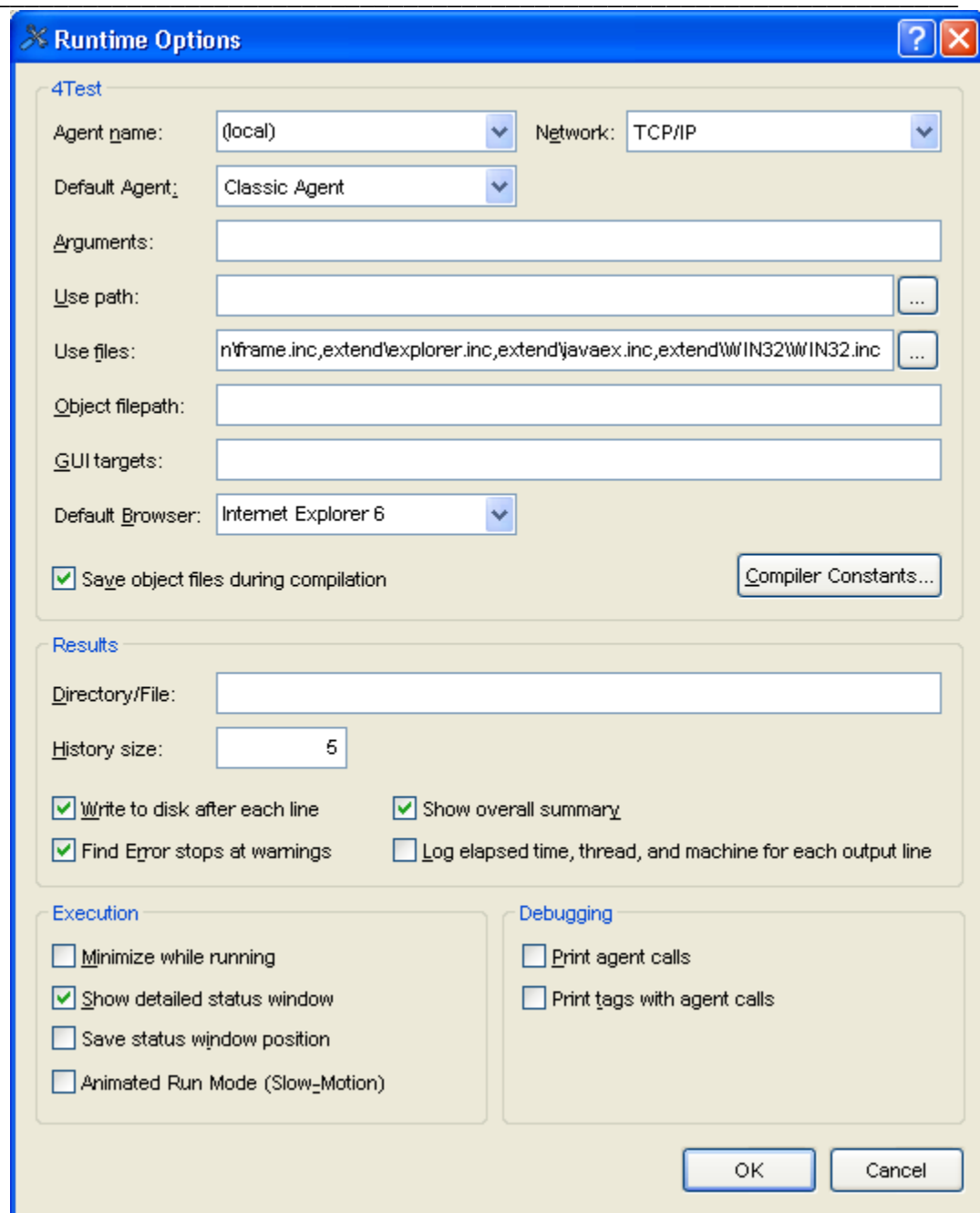



Figure 20 Runtime Options Dialog

2. Browse for the object repository files by clicking on  the icon next to "Use path" filed in Runtime Options dialog, then click on the "OK" button.

Note: Can also associate Framework file, Common functions file, etc. by using the above method, instead of defining in the .g.t file.

6 Call to Framework

The call to `Keyword_Driver ()` needs to be specified in the test script as shown below. This will call the framework file associated with the test and perform the actions by interpreting the keywords specified in the keyword script file. The parameters that are required to be passed to `Keyword_Driver ()` are the names of the active data columns where the script is present.

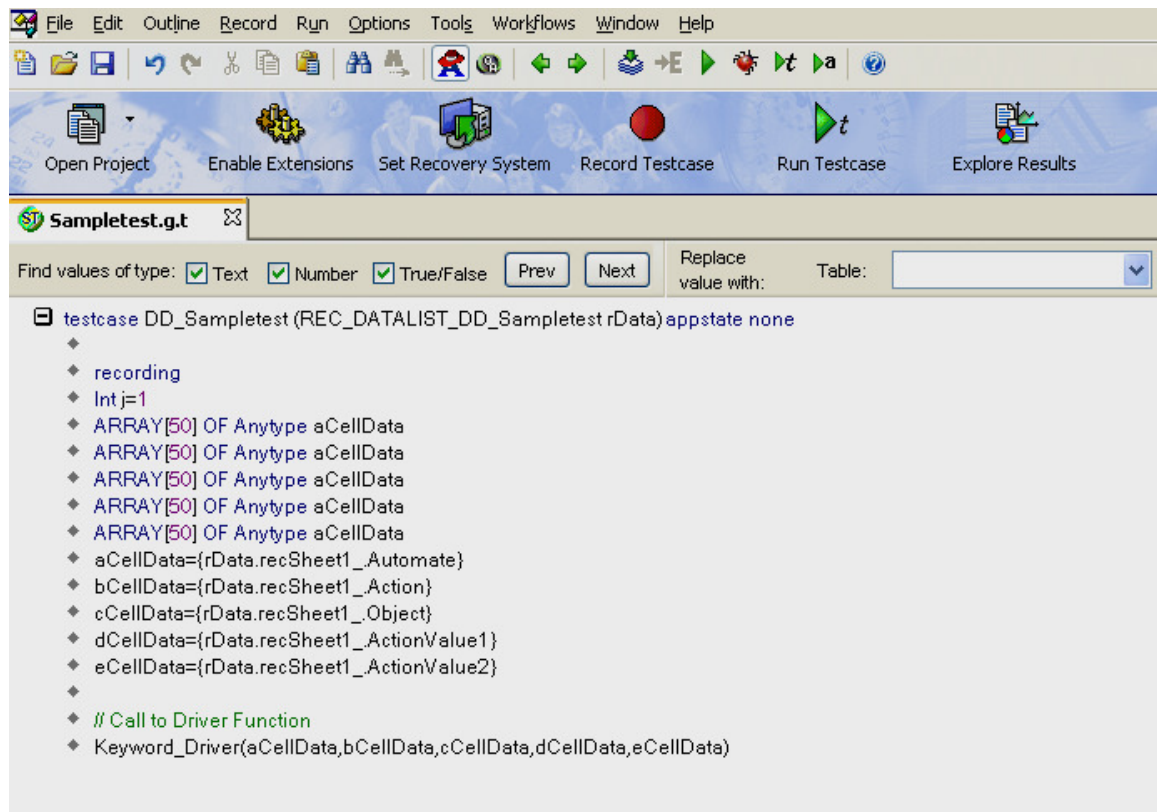



Figure 21 Call to Framework

The script can be run by clicking on the  icon on the toolbar or by pressing the F9 button.

7 Usage of Keywords

The keywords should be entered in the Excel sheet, and this Excel

sheet will be associated to the test in the DSN section of the data-driven test as explained in section 4.2

Note: Refer to the keyword naming convention document for more details about keyword syntax.

8 Test Results for a Keyword-Driven Script

Test execution results can be viewed and analyzed as soon as the run session ends. Click on the “Explore Results” icon on the Data-Driven Workflowbar and choose the file.

The results window will be displayed.

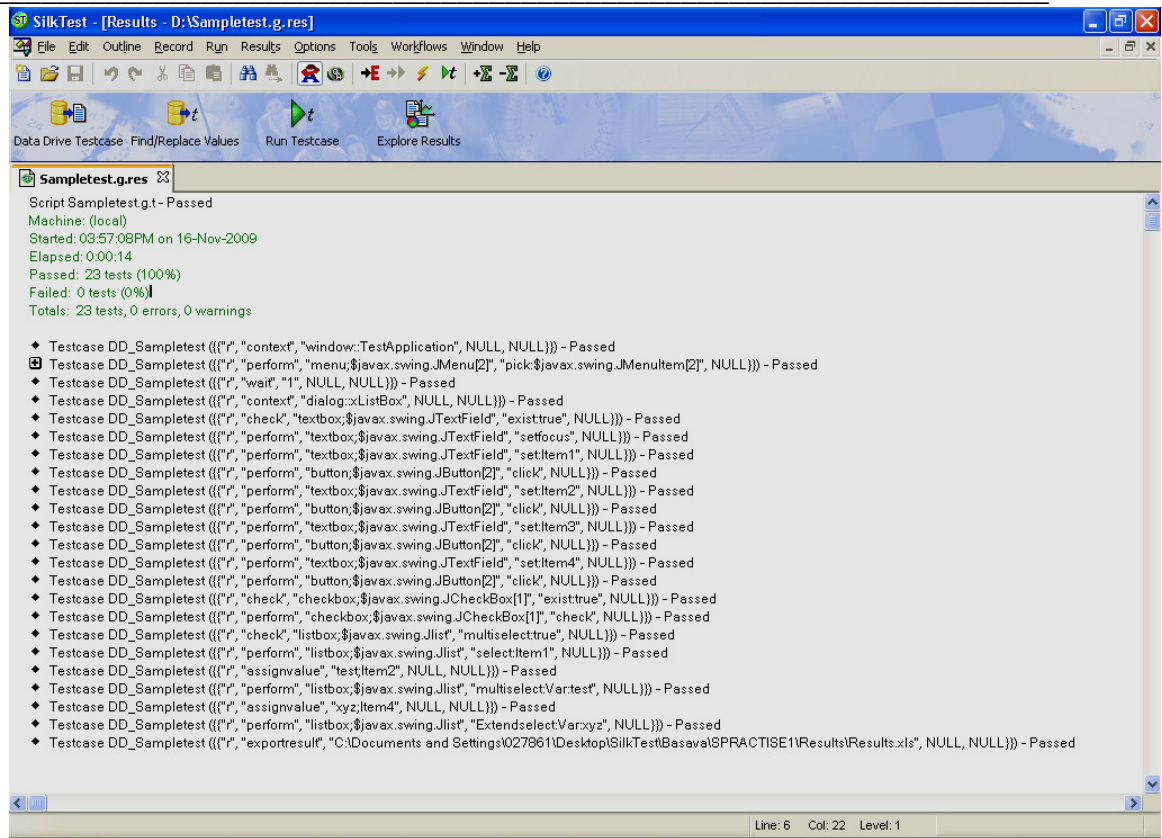


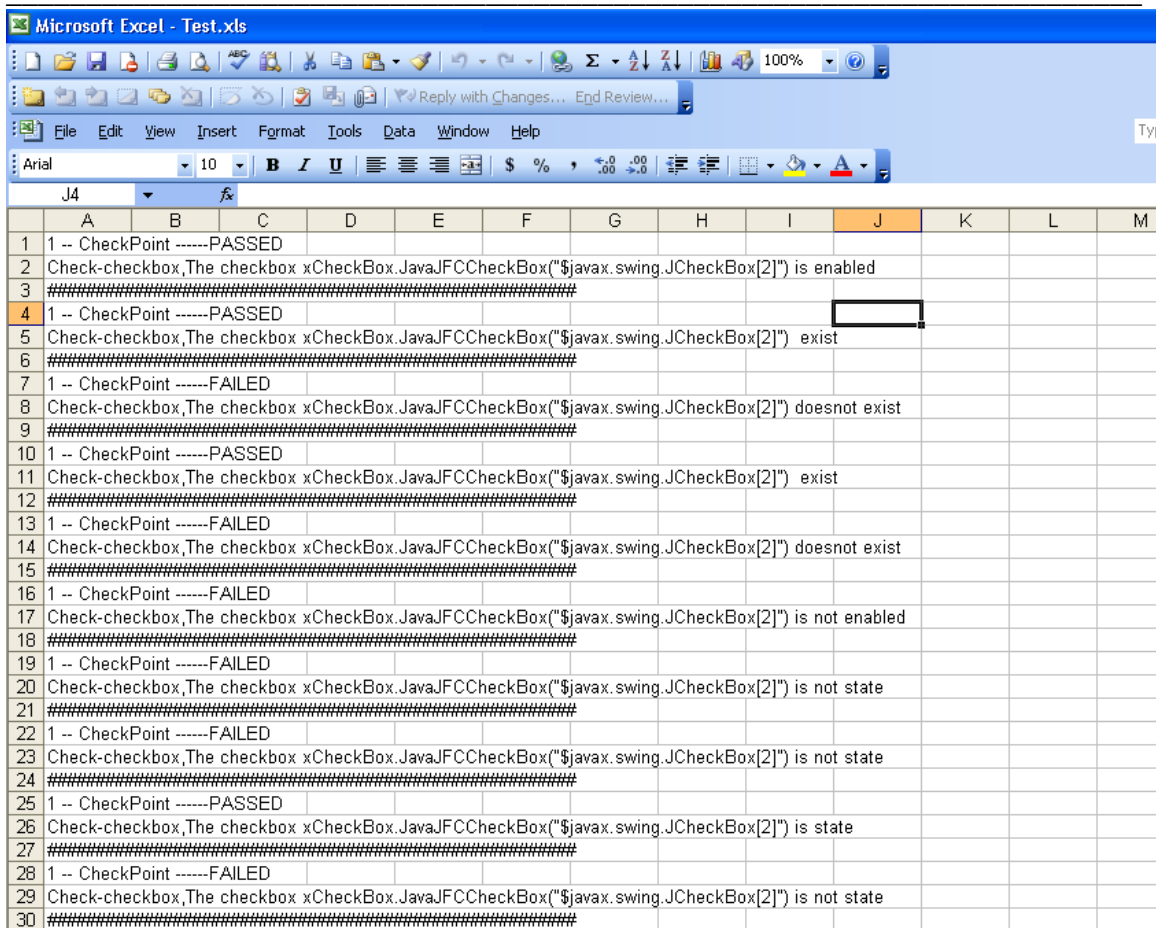
Figure 22 Test Results in SilkTest

8.1 External Test Results for Keyword-Driven Test Scripts

The check point test execution results can be viewed and analyzed as soon as the run session ends.

Open the Results.xls file present in the results folder. The result file will be displayed.

Note: The checkpoint results file would be stored in the results folder in the script file path.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	1 -- CheckPoint -----	PASSED											
2	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is enabled												
3	#####												
4	1 -- CheckPoint -----	PASSED											
5	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") exist												
6	#####												
7	1 -- CheckPoint -----	FAILED											
8	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") doesnot exist												
9	#####												
10	1 -- CheckPoint -----	PASSED											
11	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") exist												
12	#####												
13	1 -- CheckPoint -----	FAILED											
14	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") doesnot exist												
15	#####												
16	1 -- CheckPoint -----	FAILED											
17	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is not enabled												
18	#####												
19	1 -- CheckPoint -----	FAILED											
20	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is not state												
21	#####												
22	1 -- CheckPoint -----	FAILED											
23	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is not state												
24	#####												
25	1 -- CheckPoint -----	PASSED											
26	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is state												
27	#####												
28	1 -- CheckPoint -----	FAILED											
29	Check-checkbox, The checkbox xCheckBox.JavaJFCCheckBox("\$javax.swing.JCheckBox[2]") is not state												
30	#####												

Figure 23 External Test Results in SilkTest

9 References

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