

HP Unified Functional Testing

For the Windows® operating systems

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Run Results Viewer User Guide

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About the Run Results Viewer User Guide

The *HP Run Results Viewer User Guide* explains how to use the Run Results Viewer to interpret and use the test results from your GUI or API tests.

It is recommended to have some prior knowledge of UFT and its testing capabilities so you can fully evaluate the test results.

Topic Types

The content in the UFT guides is organized by topics. Three main topic types are in use: **Concepts**, **Tasks**, and **Reference**.

Topic Type	Description	Usage
Concepts	Background, descriptive, or conceptual information.	Learn general information about what a feature does.
Tasks	Instructional Tasks. Step-by-step guidance to help you work with the application and accomplish your goals. Task steps can be with or without numbering: <ul style="list-style-type: none">• Numbered steps. Tasks that are performed by following each step in consecutive order.• Non-numbered steps. A list of self-contained operations that you can perform in any order.	<ul style="list-style-type: none">• Learn about the overall workflow of a task.• Follow the steps listed in a numbered task to complete a task.• Perform independent operations by completing steps in a non-numbered task.
	Use-case Scenario Tasks. Examples of how to perform a task for a specific situation.	Learn how a task could be performed in a realistic scenario.
Reference	General Reference. Detailed lists and explanations of reference-oriented material.	Look up a specific piece of reference information relevant to a particular context.
	User Interface Reference. Specialized reference topics that describe a particular user interface in detail. Selecting Help on this page from the Help menu in the product generally open the user interface topics.	Look up specific information about what to enter or how to use one or more specific user interface elements, such as a window, dialog box, or wizard.
Troubleshooting and Limitations	Troubleshooting and Limitations. Specialized reference topics that describe commonly encountered problems and their solutions, and list limitations of a feature or product area.	Increase your awareness of important issues before working with a feature, or if you encounter usability problems in the software.

Additional Online Resources

The following additional online resources are available from the Unified Functional Testing Help menu:

Resource	Description
HP Software Support Site	<p>Opens the HP Software Support Web site. This site enables you to browse the HP Software Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. Choose Help > HP Software Support. The URL for this Web site www.hp.com/go/hpssoftwaresupport.</p> <ul style="list-style-type: none">• Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.• To find more information about access levels, go to: http://h20230.www2.hp.com/new_access_levels.jsp• To register for an HP Passport user ID, go to: http://h20229.www2.hp.com/passport-registration.html
Testing Forums	<p>Opens the testing forums for GUI Testing, API Testing, and BPT Testing forums. where you can interact with other users of UFT and discuss topics related to GUI Testing, API Testing, and BPT.</p> <p>The URLs for these sites are:</p> <ul style="list-style-type: none">• API Testing: http://h30499.www3.hp.com/t5/Service-Test-Support-and-News/bd-p/sws-Serv_TEST_SF• BPT: http://h30499.www3.hp.com/t5/Business-Process-Validation/bd-p/sws-BPT_SF
UFT Product Page	<p>Opens the HP Unified Functional Testing product page, with information and related links about UFT.</p>
Troubleshooting & Knowledge Base	<p>Opens the Troubleshooting page on the HP Software Support Web site where you can search the HP Software Self-solve knowledge base. Choose Help > Troubleshooting & Knowledge Base. The URL for this Web site is http://h20230.www2.hp.com/troubleshooting.jsp.</p>
HP Software Community Site	<p>Opens the HP IT Experts Community site, where you can interact with other HP software users, read articles and blogs on HP software and access downloads of other software products.</p>

Resource	Description
Manuals Site	Opens the HP Software Product Manuals Web site, where you can search for the most up-to-date documentation for a selected HP Software product. The URL for this Web site is http://support.openview.hp.com/selfsolve/manuals (requires an HP Passport).
What's New	Opens the UFT What's New Help, describing the new features and enhancements in this version of UFT.
Product Movies	Opens a page displaying a list of all product movies.
HP Software Web site	Opens the HP Software Web site. This site provides you with the most up-to-date information on HP Software products. This includes new software releases, seminars and trade shows, customer support, and more. Choose Help > HP Software Web site . The URL for this Web site is www.hp.com/go/software .

You can access the following sample applications from the **Start** menu. These applications are the basis for many examples in this guide:

Chapter 1: Using the Run Results Viewer

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Concepts

Run Results Viewer Overview

After running a test or component, you can view the run results in the HP Run Results Viewer. The Run Results Viewer contains multiple panes, each of which displays specific types of information. The ["Run Results Tree Pane and Search Box"](#) displays a hierarchical representation of the run results. The remaining panes provide details about a selected node or step, the data used for a particular step, optional screen captures or images (UFT GUI testing only), optional system information (UFT GUI testing only), and so on. For an overview of the various panes, see ["Run Results Viewer User Interface" on page 28](#).

By default, the Run Results Viewer opens automatically at the end of a run session. If you want to change this behavior, in UFT, clear the **View results when run session ends** check box in the Run Sessions pane of the Options dialog box (**Tools > Options > General tab > Run Sessions** node).

The Run Results Viewer contains a description of the steps performed during the run session.

- For a GUI component, or for a GUI test that does not contain Data Pane parameters, the Run Results Viewer shows a single test iteration.
- For tests, if the test contains Data Pane parameters, and the test settings are configured to run multiple iterations, the Run Results Viewer displays details for each iteration of the test run. The results are grouped by the actions in the test.
- For an API or Service Test test, the individual steps and checkpoints included in the test. If a test is set to run multiple iterations, each iteration is displayed.

You set the test to run for one or all iterations in the Run pane of the Settings dialog box. For details, see the section describing the Run pane in the *HP Unified Functional Testing User Guide*.

UFT/Service Test Integration

If you run a UFT GUI test that contains a call to a UFT API or Service Test test, or vice versa, you can view the results for all steps performed in the main test and in the called test.

(Not relevant for business components)

Viewing Partial Results (UFT GUI Testing Only)

In addition to viewing the results for a run session after a run is complete (including runs that crash prior to completion), you can view the results *during* a run session by opening the `results.xml` file for that run. This enables you to view partial results (up to the step for which the results are opened). For example, you may want to view the results for a specific iteration before the run continues to the next iteration. One way to do this is to insert a step that opens a message box, as this stops the run until you close the message box. For example:

```
MsgBox "Open the following file:" & Reporter.ReportPath
```

Note: To view the partial results in the Run Results Viewer, you need to open the results file from another computer.

Installing the Run Results Viewer

The Run Results Viewer is installed automatically with UFT and Service Test.

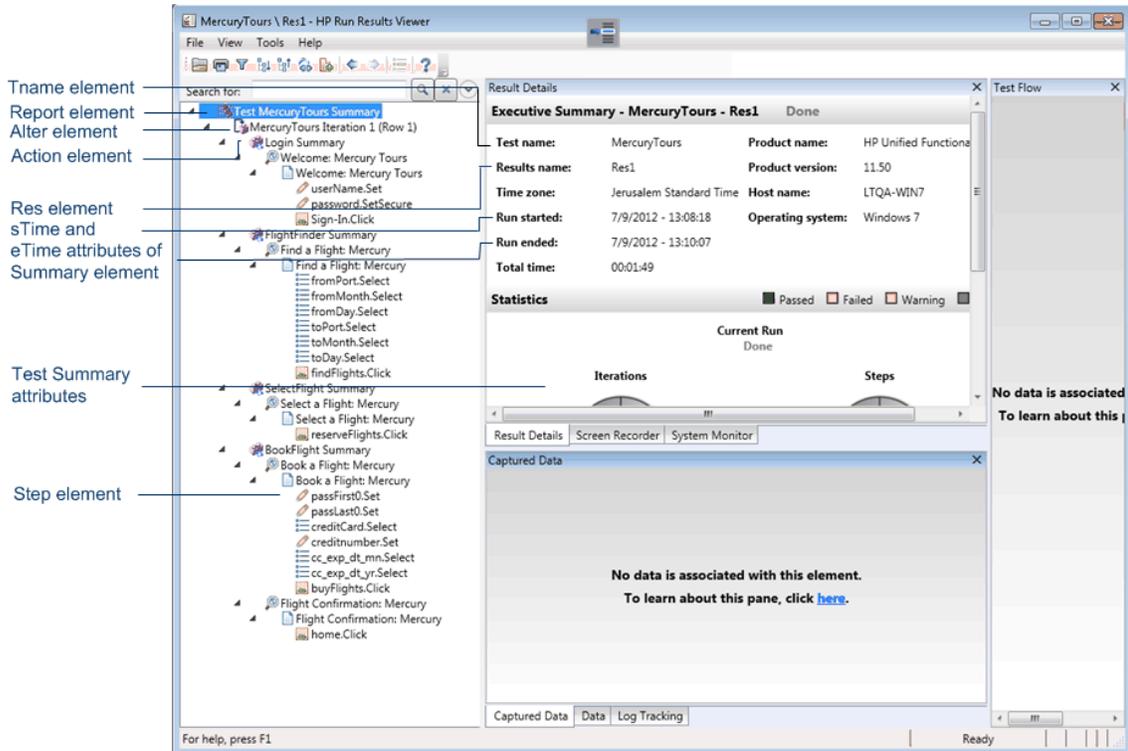
You can also install the Run Results Viewer as a standalone application. This enables you to share the results of your tests with business analysts and developers who do not have UFT or Service Test installed on their computers. For details, see "[How to Install the Run Results Viewer as a Standalone Application](#)".

Run Results XML File

The results of each run session are saved in a single `.xml` file (called `results.xml`). This `.xml` file stores information on each of the run result nodes in the display. The information in these nodes is used to dynamically create `.htm` files that are shown in the Result Details pane in the Run Results Viewer.

Each node in the run results tree is an element in the `results.xml` file. In addition, there are different elements that represent different types of information displayed in the run results. You can take run result information from the `.xml` file and use XSL to display the information you require in a customized format (either when printing from within the Run Results Viewer, when displaying run results in your own customized results viewer, or when exporting the run results to an `.html` file).

The diagram below for a GUI test, shows the correlation between some of the elements in the .xml file and the items they represent in the run results. These elements are similar for both tests and business components.



XSL provides you with the tools to describe exactly which run result information to display and exactly where and how to display, print or export it. You can also modify the .css file referenced by the .xsl file, to change the appearance of the report (for example, fonts, colors, and so forth).

For example, in the results.xml file, one element tag contains the name of an action or a component, and another element tag contains information on the time at which the run session is performed. Using XSL, you could tell your customized Run Results Viewer that the action or component name should be displayed in a specific place on the page and in a bold green font, and that the time information should not be displayed at all.

You may find it easier to modify the existing .xsl and .css files provided with the Run Results Viewer application, instead of creating your own customized files from scratch. The files are located in the HP\Run Results Viewer\dat folder, and are named as follows:

- PShort.xsl. Specifies the content of the run results report printed, or exported to an HTML file, when you select the **Short** option in the Print or Export to HTML File dialog boxes.
- PDetails.xsl. Specifies the content of the run results report printed, or exported to an HTML file, when you select the **Detailed** option in the Print or Export to HTML File dialog boxes.
- PStringTable.xsl. Specifies the string constants to be used in the exported document. For example, Iteration # may be used for the iteration number prefix. If you select the **User-defined XSL** option in the Print or Export to HTML File dialog boxes, the .xsl file you specify

must contain an "include" call to this file. You can localize the strings, if needed.

- `PResults.css`. Specifies the appearance of the run results print preview. This file is referenced by the above `.xsl` files.
- `Results.css`. Specifies the styles, fonts, and colors of the various elements displayed in the run results.

For more details on printing run results using a customized `.xsl` file, see ["Print Dialog Box \(Run Results Viewer\)" on page 71](#).

For more details on exporting the run results to a file using a customized `.xsl` file, see ["Export Run Results Dialog Box \(Run Results Viewer\)" on page 64](#).

UFT only: For details on the structure of the XML schema, and a description of the elements and attributes you can use to customize the run results reports, see the *HP Run Results Schema Reference (Help > HP UFT GUI Testing Advanced References Help > HP Run Results Schema Reference)*.

Run Results File Location

Depending on the type of test, run results can be stored in different locations.

GUI Tests

Tests saved in the file system. By default, the results of a GUI test saved in the file system are stored in the test folder. When you run your test, you can specify a different location to store the results, using the Results Location tab of the Run dialog box. Specifying your own location for the results file can make it easier for you to locate the results file in the file system.

Tests saved in ALM. Run results are stored in the test folder in ALM. You cannot change the location of the run session results.

For details, see the section describing the Run dialog box in the *HP Unified Functional Testing User Guide*.

GUI Components

By default, the results of a component run are stored in an ALM cache folder on your computer.

When you run your test, you can specify a different location to store the results, using the Results Location tab of the Run dialog box. Specifying your own location for the results file can make it easier for you to locate the results file in the file system.

For details, see section describing the Run dialog box in the *HP Unified Functional Testing User Guide*.

Service Test or API Tests

Tests saved in the file system. By default, the results of Service Test or API tests that are saved in the file system, are stored in the test folder. When you run your test, you can specify a different location to store the results, using the Results Location tab of the Run dialog box. Specifying your own location for the results file can make it easier for you to locate the results file in the file system.

Tests saved in ALM. Run results are stored in your ALM project. You cannot change the location of the run session results.

For details, see the *HP Service Test User Guide* or the *HP Unified Functional Testing User Guide*.

Custom Fields (Service Test/UFT API Testing Only)

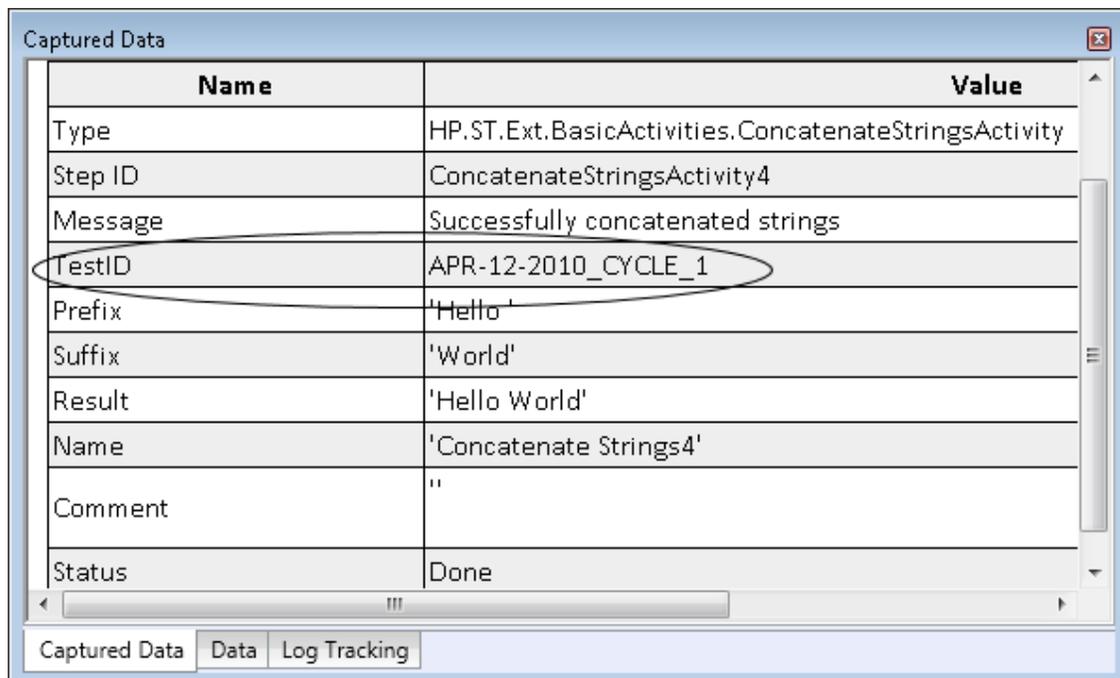
You can use the **Report** function to show custom information in the Run Results Viewer. You can specify strings or existing arguments and display them in the viewer.

You add the Report function to the step's events. For details, see the section on Custom Code and Events in the *HP Service Test User Guide* or the *HP Unified Functional Testing User Guide*.

The following example prints **APR-12-2010_CYCLE_1** in the **Value** column for **TestID**.

```
args.Activity.Report("TestID", "APR-12-2010_CYCLE_1");
```

The report displays the keyword and its value at the Activity level of the results. For details, see ["Captured Data Pane \(Run Results Viewer\)" on page 46](#).



Name	Value
Type	HP.ST.Ext.BasicActivities.ConcatenateStringsActivity
Step ID	ConcatenateStringsActivity4
Message	Successfully concatenated strings
TestID	APR-12-2010_CYCLE_1
Prefix	'Hello'
Suffix	'World'
Result	'Hello World'
Name	'Concatenate Strings4'
Comment	"
Status	Done

Accessing the UFT in Windows 8 Operating Systems

UFT applications and files that were accessible from the **Start** menu in previous versions of Windows are accessible in Windows 8 from the **Start** screen or the **Apps** screen.

- **Applications (.exe files).** You can access UFT applications in Windows 8 directly from the **Start** screen. For example:
 - The Run Results Viewer
 - All UFT tools, such as the Password Encoder and the License Validation Utility
 - The API testing sample Flight applications
- **Non-program files.** You can access documentation from the **Apps** screen.

Note: By default, the Start and Apps screens on Windows 8 are set to open Internet Explorer in Metro Mode. However, if User Account Control is turned off on your computer, Windows 8 will not open Internet Explorer in Metro mode. Therefore, if you try to open an HTML shortcut from the Start or Apps screen, such as the UFT Help or Readme file, an error will be displayed.

To solve this, you can change the default behavior of Internet Explorer so that it never opens in Metro mode. In the **Internet Properties** dialog box > **Programs** tab, select **Always in Internet Explorer on the desktop** for the in the **Choose how you open links** option. For more details, see <http://support.microsoft.com/kb/2736601> and <http://blogs.msdn.com/b/ie/archive/2012/03/26/launch-options-for-internet-explorer-10-on-windows-8.aspx>.

Tasks

How to Install the Run Results Viewer as a Standalone Application

The Run Results Viewer is installed by default together with UFT and Service Test. This task describes how to install the Run Results Viewer as a standalone application. For example, business analysts and developers that do not have UFT or Service Test installed on their computers can install the Run Results Viewer locally as a standalone application. You can then share the results of your tests with them.

1. **Install the prerequisite applications, if any.**

Insert the UFT or Service Test installation DVD into a DVD drive and browse to and double-click `RunResultsViewer\EN\setup.exe`. Setup checks your computer for the required prerequisites, and enables you to install them, if needed. Follow the on-screen instructions. After the prerequisites are installed, you may need to restart the computer.

2. **Install the HP Run Results Viewer.**

Insert the UFT or Service Test installation DVD into a DVD drive and browse to and double-click `RunResultsViewer\EN\setup.exe`. Follow the on-screen instructions.

The Run Results Viewer is installed and can be opened from **Start > All Programs > HP Software > HP Run Results Viewer > Run Results Viewer**.

Note: For details on accessing UFT and UFT tools and files in Windows 8, see ["Accessing the UFT in Windows 8 Operating Systems" on page 17](#).

How to Open Run Results

The following steps describe how to open specific run results in the Run Results Viewer.

Open the Run Results Viewer

Open the Run Results Viewer in one of the following ways:

- In UFT or Service Test, select **View > Last Run Results** or click the **Results** button .
- From the **Start** menu, select **Start > All Programs > HP Software > HP Run Results Viewer > Run Results Viewer**.
- Run a test or component. By default, the results are displayed in the Run Results Viewer at the end of the run session. (In UFT or Service Test, you can change the default setting in the **Run Sessions** pane of the Options dialog box. For details, see the *HP Unified Functional Testing User Guide* or the *HP Service Test User Guide*.)

Note: This section describes how to open tests and components run in UFT or Service Test. For other types of tests, see your testing product's documentation.

Connect to your ALM project - optional

If your run results are saved in ALM, connect to your ALM project before opening the results file. For details, see ["HP ALM Connection Dialog Box \(Run Results Viewer\)" on page 73](#).

View saved results

When you open the Run Results Viewer manually, the Open Run Results dialog box opens automatically, enabling you to select results to display.

If the Run Results Viewer opened automatically, click the **Open** button or select **File > Open** . Browse to the relevant results. For details, see ["Open Run Results Dialog Box" on page 70](#).

How to Navigate the Run Results Tree

This task describes how to collapse or expand a branch in the run results tree to select the level of detail that the tree displays.

When you open run results in the Run Results Viewer for the first time, the tree expands one level at a time. If the child branches under a parent branch were previously expanded, that state is maintained when you expand or collapse the parent branch.

To expand a specific branch:

- Double-click the branch.
- Select the branch and click the arrow to the left of the branch icon.
- Press the plus key (+) on your keyboard number pad.

The tree displays the details for the branch, and the expand sign changes to collapse.

To expand a branch and all branches below it:

- Select the branch and press the asterisk (*) key on your keyboard number pad.
- Right-click a branch and select **Expand All**.

To expand all of the branches in the run results tree:

- Right-click the top level branch and select **Expand All**.
- Select **View > Expand All**.
- Click the **Expand All** button .
- Select the top level of the tree and press the asterisk (*) key on your keyboard number pad.

To collapse a specific node:

- Double-click the node.
- Right-click a node and select **Collapse All**.
- Select it and click the arrow to the left of the node icon.
- Press the minus key (–) on your keyboard number pad.

The node's child nodes disappear from the tree.

To collapse all of the nodes in the tree:

- Right-click the top level branch and select **Collapse All**.
- Select **View > Collapse All**.
- Click the **Collapse All** button .

To move between previously selected nodes within the run results tree:

Click the **Go to Previous Node** or **Go to Next Node** buttons .

To find specific steps within the Run Results:

Use the **Search** box (located above the run results tree), for example:



You can search for text, status, and/or types of nodes. For details, see ["Run Results Tree Pane and Search Box" on page 36](#).

To filter the tree to display only nodes that match certain criteria:

Use the Filter dialog box (**View > Filters**). For details, see ["Filter Dialog Box \(Run Results Viewer\)" on page 67](#).

How to Customize the Run Results Viewer

The following steps describe how to customize the layout of the Run Results Viewer.

Move, float, and dock panes

You can move the panes to suit your personal preferences by dragging the title bar or tab of the pane you want to move and dropping it in the required location.

Docked panes are fixed in a set position relative to the rest of the application. For example, when you move a pane to a position indicated by a marker, the pane is docked in that position.

Floating panes are displayed on top of all other windows. They can be dragged to any position on your screen, even outside of the Run Results Viewer.

Show and hide panes

- **To close panes that are not needed:** Click the **X** in the top-right corner of a pane.
- **To show panes that are closed:** Select **View > <Name of pane>**.

Restore the default layout of the panes

Select **View > Restore Layout**.

How to Jump to a Step in a GUI Test (UFT GUI Tests Only)

You can view the step in UFT that corresponds to a node in the Run Results tree for any node that has a corresponding step in a GUI test.

Note: This feature is disabled for a variety of settings. For details, see "[Guidelines for using the Jump to Step in Test command](#)" below, below.

To view the step in the test that corresponds to a node:

1. Make sure that UFT is open to the test whose results are displayed in the Run Results Viewer.
2. Select a node in the run results tree.
3. Perform one of the following:
 - a. Click the **Jump to Step in Test** button  from the Run Results toolbar.
 - b. Right-click and select **Jump to Step in Test** from the context menu.
 - c. Select **View > Jump to Step in Test**.
4. The UFT window is activated and the step is highlighted.

Guidelines for using the Jump to Step in Test command

- The test must be saved before the run session.
- The run results must be from QuickTest Professional 10.00 or later.

This feature is disabled for:

- Any testing document other than a GUI test.
- The Action, Iteration, and Test Summary nodes.
- Any step that is part of an action that was run using the `LoadAndRunAction` statement. For more details, see the **Utility Objects** section of the *HP UFT Object Model Reference for GUI Testing*.

- Any step performed by a recovery scenario.
- Tests that were run in **Fast** mode. For details on this setting, see the section on the **Test Runs** pane in the *HP Unified Functional Testing User Guide*.
- Any step run from the Watch or Console debug panes in UFT.

How to Manually Submit Defects to ALM

This task describes how to manually add defects to an ALM project.

1. Prerequisites

Ensure that the ALM client is installed on your computer. (Enter the ALM Server URL in a browser and ensure that the Login screen is displayed.)

2. Connect to an ALM project

Select **Tools > ALM Connection** or click the **ALM Connection** button  and connect to an ALM project. For details, see "[HP ALM Connection Dialog Box \(Run Results Viewer\)](#)" on page 73.

Note: If you do not connect to an ALM project before proceeding to the next step, you are prompted to connect before continuing.

3. Open the New Defect dialog box

Select **Tools > Add Defect** or click the **Add Defect** button  to open the New Defect dialog box in the specified ALM project. The New Defect dialog box opens.

4. Modify the defect information if needed and submit it

Basic information on the test or component and any checkpoints (if applicable) is included in the description, but you can modify the defect if needed:

```
The CheckPoint 'Checkpoint "CheckLinks"' Failed
Operating system :      Windows 7
Test path :           C:\Users\LTQA\Desktop\Sample Tests\QTP_Tests\UFT_Tutorial_Tests\Tutorial\Checkpoint on LTQA-WIN7
```

```
Operating system :      Windows XP
Test path :           [QualityCenter] Components\YE\ComponentWithDefect
```

Tip: You can attach movies (.fbr files) to defects in ALM. If you have the Unified Functional Testing Add-in for ALM installed, you can view the movies from ALM.

5. Results

The defect is added to the ALM project's defect database.

How to Automatically Submit Defects to an ALM Project (UFT GUI Tests Only)

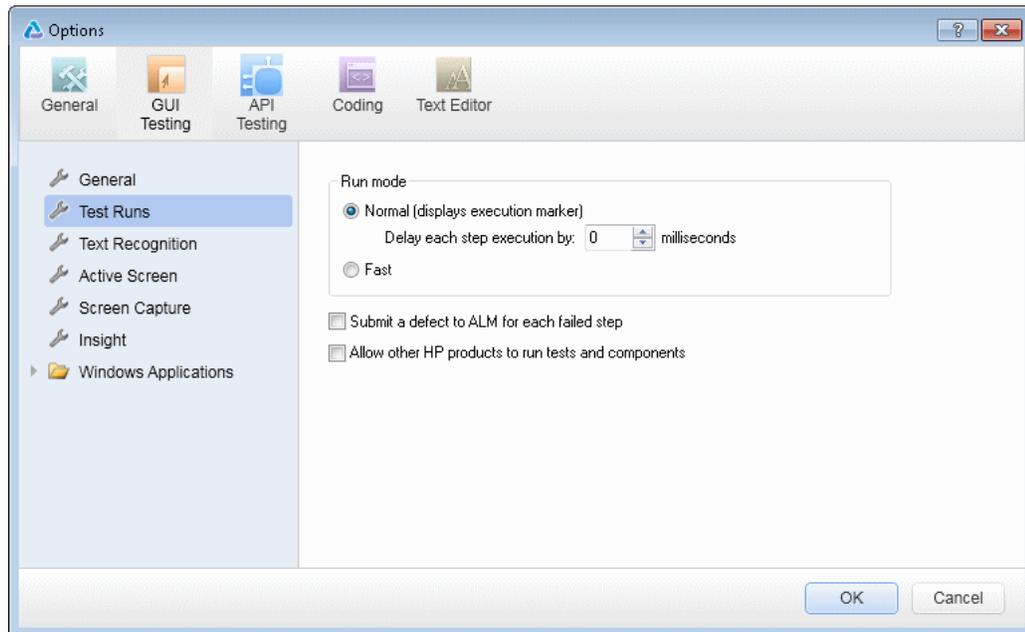
This task describes how to set the Run options in UFT to automatically submit defects to your ALM project for each failed step in your GUI test.

1. Prerequisites

- In UFT, make sure you are connected to the relevant ALM project prior to the run session (**ALM > ALM Connection**).
- The run results must be stored in this ALM project.

2. Modify the Run settings in the Options dialog box

- a. Select **Tools > Options**. The Options dialog box opens.
- b. In the **GUI Testing** tab, click the **Test Runs** node.



- c. Select the **Submit a defect to ALM for each failed step** check box.
- d. Click **OK** to close the Options dialog box.

3. Results

A sample of the information that is submitted to ALM for each defect is shown below:

```
This defect was added automatically by Unified Functional Testing.

The CheckPoint 'Checkpoint "CheckLinks"' Failed

Test name: Checkpoint
Test Location: C:\Users\LTQA\Desktop\Sample Tests\QTP_Tests\UFT_Tutorial_Tests\Tutorial\Checkpoint
Action name: Book a Flight

Operating system : Windows 7

Additional Information
Verification type: Page content verification
Settings: Load Time, 1
Results: Load Time, 36
Checkpoint Failed
```

How to Export Run Results

This task describes how to export run results to a file. For details on what is included when you export run results, see ["Export Run Results Dialog Box \(Run Results Viewer\)" on page 64](#).

1. Open the results in the Run Results Viewer

For details, see ["Open Run Results Dialog Box" on page 70](#).

2. Specify the export settings

Select **File > Export To File**. The Export Run Results dialog box opens. For details on the various settings, see ["Export Run Results Dialog Box \(Run Results Viewer\)" on page 64](#).

3. Save the file

Click **Export**. The Save As dialog box opens. Specify the file name and path, and select the required file type.

Report type	Save as type
Step details	<ul style="list-style-type: none">■ HTML (*.htm, *.html) (default)■ PDF (*.pdf)■ DOC (*.doc) (Available if Microsoft Word is installed)
Data Table	Excel (*.xls)

Report type	Save as type
Log Tracking (UFT GUI Testing only)	XML (*.xml)
Screen Recorder (UFT GUI Testing only)	FlashBack (*.fbr)
System Monitor (UFT GUI Testing only)	<ul style="list-style-type: none">■ Text (*.csv, *.txt) (default)■ Excel (*.xls)■ XML (*.xml)■ HTML (*.htm, *.html) <div style="border: 1px solid gray; background-color: #f0f0f0; padding: 5px; margin-top: 10px;">Note: Only the system monitor data is exported, not the graph.</div>

4. Results

When you click **Save**, the file is exported in the specified format to the designated location.

Note: You can view .fbr files in the HP Micro Recorder (as described in "[Viewing Screen Recorder Movie Files in the HP Micro Player](#)" on page 60). You can also attach .fbr files to defects in ALM. If you have the Unified Functional Testing Add-in for ALM installed, you can view the movies from ALM.

How to Play a Screen Recorder Movie in the HP Micro Player (UFT GUI Testing Only)

Note: UFT must be installed on the computer on which you want to use the HP Micro Player.

1. Perform one of the following:
 - Double-click any .fbr file in Windows Explorer.
 - Select **Start > All Programs > HP Software > HP Unified Functional Testing > Tools > HP Micro Player** and then select **File > Open** in the Micro Player to select any .fbr file.

The movie opens in the HP Micro Player and begins playing.

Note: For details on accessing UFT and UFT tools and files in Windows 8, see

["Accessing the UFT in Windows 8 Operating Systems" on page 17.](#)

2. Use the controls at the top of the window to access a particular location in the movie or to modify the volume settings.

How to Delete Run Results

This task describes how to use the ["Run Results Deletion Tool \(UFT Only\)" on page 78](#) (described on page 78) to remove unwanted or obsolete run results from the file system, according to specific criteria that you define. For example, you may want to always delete run results older than a certain date or over a minimum file size. This enables you to free up valuable disk space.

You can use this tool with a Windows-style user interface, or you can use the ["Command Line Options for the Run Results Deletion Tool"](#) to run the tool in the background (silently) to directly delete results that meet criteria that you specify.

Prerequisites

To delete run results from an ALM project, you must first:

- Make sure that you have **Delete Run** permissions for this ALM project.
- Connect to the ALM project. For details see, ["HP ALM Connection Dialog Box \(Run Results Viewer\)" on page 73.](#)

For details, see ["Run Results Deletion Tool \(UFT Only\)" on page 78.](#)

Delete run results using the Run Results Deletion Tool

For details, see ["Run Results Deletion Tool \(UFT Only\)" on page 78.](#)

Delete run results using the Windows command line

Open a Windows command prompt and enter `<UFT/Service Test installation path>\bin\TestResultsDeletionTool.exe`. Then enter a space and enter the command line options you want to use. This enables you to specify the criteria for the run results that you want to delete.

For a list of command line options, see ["Command Line Options for the Run Results Deletion Tool" on page 80.](#)

Results

The selected run results are deleted from the file system and/or the ALM project.

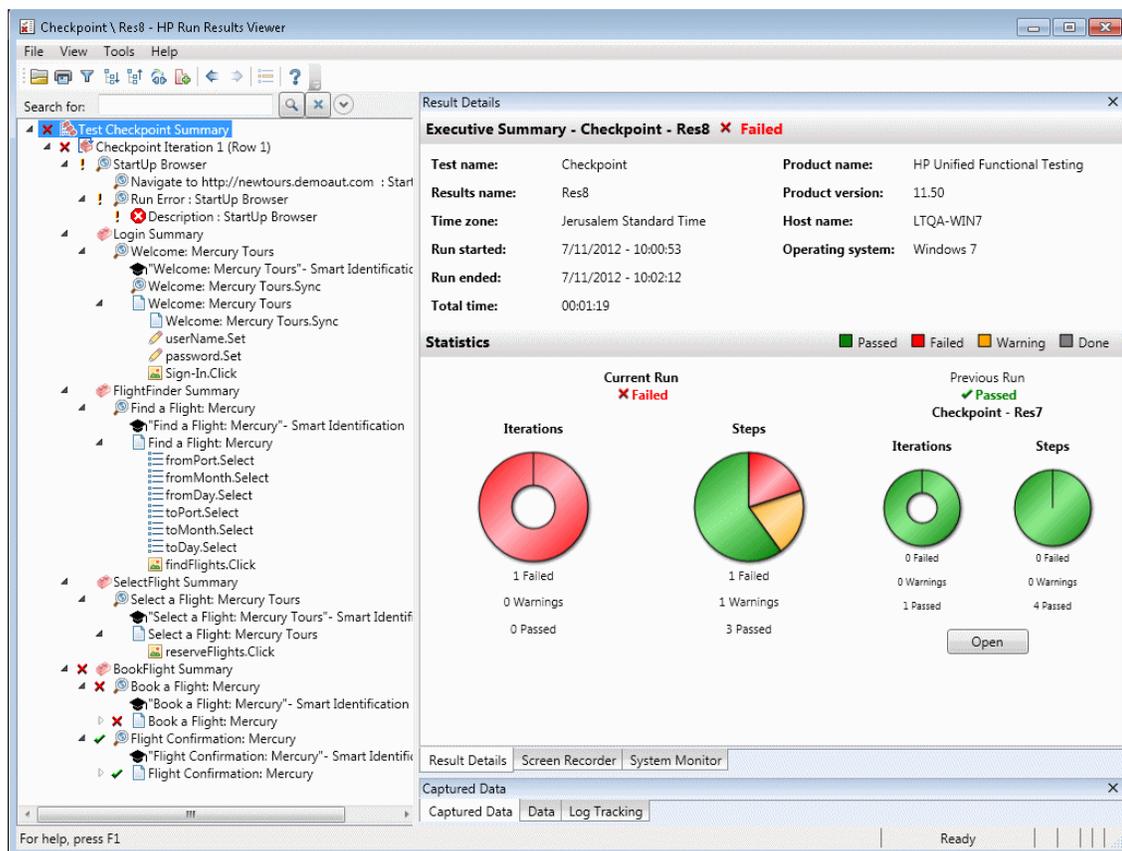
Reference

Run Results Viewer User Interface

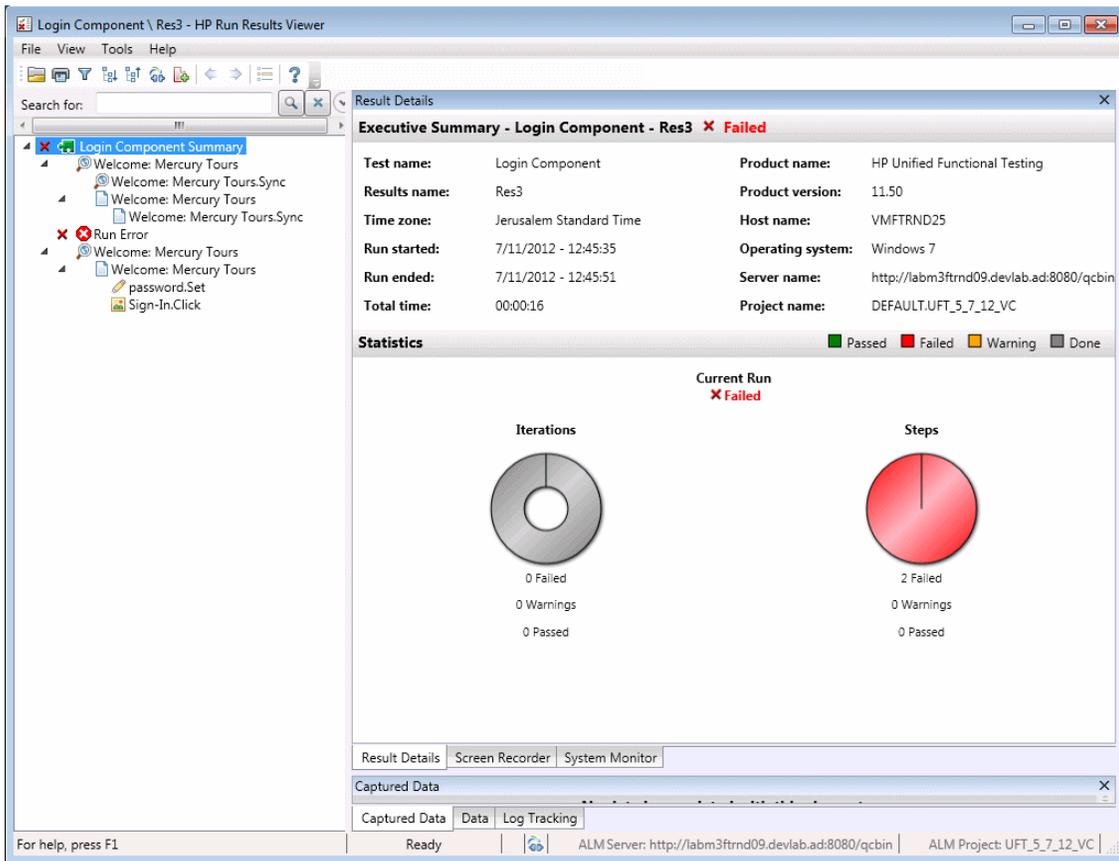
This window enables you to view the results of a run session.

GUI Test. The following example shows the Executive Summary results of a test. Notice that the results for a test are organized by the test's actions.

In the **Statistics** area, you can see how many iterations passed, contained warnings, or failed, and, when previous runs exist, you can compare the current results with the previous results. You can also access the previous run results by clicking the **Open** button.

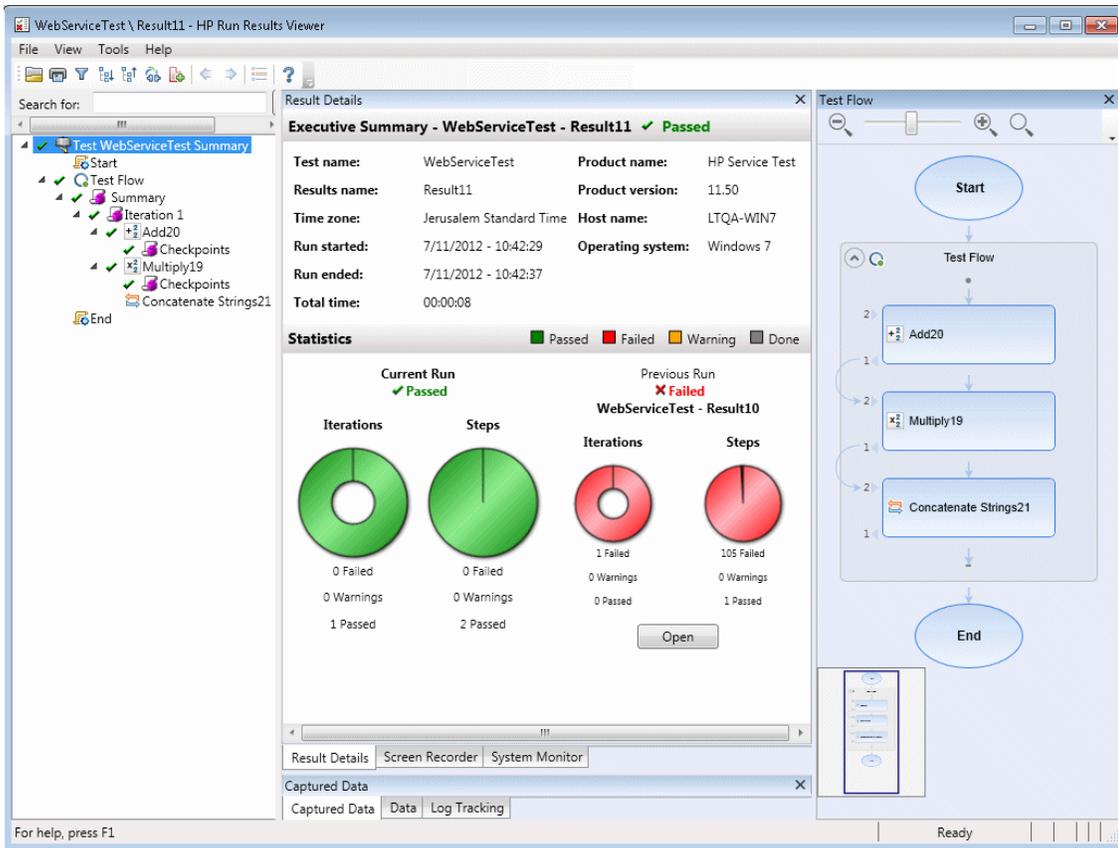


GUI Component. Below is an example of the run results for a component:



Note: In this example, the component failed due to a run error in a test object. If the run error had not occurred, the **Result** would indicate **Done**.

UFT API Test/Service Test Test. The following example shows an Executive Summary for a Service Test run:



To access	<p>Do one of the following:</p> <ul style="list-style-type: none"> • Select View > View Last Run Results from UFT or Service Test. • Select HP Software > HP Run Results Viewer > Run Results Viewer from the Start Menu. <p>For details, see "How to Open Run Results" on page 19.</p>
------------------	---

By default, the left pane (dockable) contains the run results tree. The right side of the window contains two rows of additional dockable panes. These user interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<Run Results Viewer menu bar and toolbar>	See " Run Results Viewer Commands " on page 32.

UI Elements	Description
Executive Summary Page	<ul style="list-style-type: none"> • A high-level results overview report (general information, pass/fail status, statistics, link to previous run results (if any), notes, and so on) displayed in the Result Details pane when the topmost node is selected. For details, see "Executive Summary Page" on page 44. • ALM information for your test (if the test or component was run from ALM, or if a test that is stored in ALM is run from UFT and you choose to store the results in ALM).
"Run Results Tree Pane and Search Box" on page 36	<ul style="list-style-type: none"> • A graphical representation of the results in an expandable tree • A search box • Displays the test or component steps, specifying exactly where application failures occurred
"Result Details Pane (Run Results Viewer) " on page 42	<p>Detailed explanations of each step and checkpoint pass or failure, at each stage of the test or component.</p>
"Captured Data Pane (Run Results Viewer) " on page 46	<ul style="list-style-type: none"> • A still image of the state of your application at a particular step • For UFT, additional information, such as a bitmap checkpoint image. <p>For details, see "Captured Data Pane (Run Results Viewer) " on page 46.</p>
"Data Pane (Run Results Viewer) " on page 54	<p>The data used in all iterations</p>
"Screen Recorder Pane (Run Results Viewer) (UFT GUI Testing Only)" on page 58	<p>A movie clip of the state of your application at a particular step or of the entire test or component</p>
"System Monitor Pane (Run Results Viewer) (UFT GUI Testing Only)" on page 61	<p>Any system counters that were monitored for your test or component</p>
"Log Tracking Pane (Run Results Viewer) (UFT GUI Tests Only)" on page 56	<p>Any log messages that were received for your test or component</p>

UI Elements	Description
<status bar>	<p>Displays:</p> <ul style="list-style-type: none"> • A description of any highlighted menu command (Available only if the menu command is enabled) • The status of the currently selected command • Connection information (when connected to an ALM project) • A filter indication icon (when the results are filtered)

Run Results Viewer Commands

The Run Results Viewer menu bar and toolbar contain commands to help you view run session results.

Button	Command	Shortcut Key	Description
	File > Open	CTRL+O	Opens the Open Run Results dialog box, enabling you to open saved run results from the file system or from ALM. For details, see "How to Open Run Results" on page 19 .
	File > Print	CTRL+P	Opens the Print dialog box, enabling you to print the results of the run session. For details, see "Print Dialog Box (Run Results Viewer)" on page 71 .
--	File > Print Preview	CTRL +F2	Opens the Print Preview dialog box, enabling you to preview the results of the run session prior to printing. For details, see "Print Preview Dialog Box (Run Results Viewer)" on page 72 .
--	File > Export To File	--	Opens the Export Run Results dialog box, enabling you to save various parts of the results as external files. For details, see "Export Run Results Dialog Box (Run Results Viewer)" on page 64 .
--	File > Remove Movie from Results	--	(UFT GUI testing only) Enables you to remove a stored movie from the results of a test or component. This reduces the size of the run results file.

Button	Command	Shortcut Key	Description
--	File > Recent Files	--	Lists the recently viewed files.
--	File > Exit	--	Closes the Run Results Viewer session.
--	View > Run Results Viewer Toolbar	--	Shows or hides the Run Results Viewer toolbar.
--	View > Status Bar	--	Shows or hides the status bar, which indicates: <ul style="list-style-type: none"> • A hint about the currently selected command • The status of the Run Results Viewer • The ALM server name and project to which the Run Results Viewer is connected • Whether the results are currently filtered (displays a Filter icon when a filter is applied)
--	View > Result Details	--	Opens the Results Details pane if it is closed or brings it into focus. For details, see " Result Details Pane (Run Results Viewer) " on page 42.
--	View > Screen Recorder	--	(UFT GUI testing only) Opens the Screen Recorder pane if it is closed or brings it into focus. For details, see " Screen Recorder Pane (Run Results Viewer) (UFT GUI Testing Only) " on page 58.
--	View > System Monitor	--	(UFT GUI testing only) Opens the System Monitor pane if it is closed or brings it into focus. For details, see " System Monitor Pane (Run Results Viewer) (UFT GUI Testing Only) " on page 61.
--	View > Captured Data	--	Opens the Captured Data pane if it is closed or brings it into focus. For details, see " Captured Data Pane (Run Results Viewer) " on page 46.
--	View > Data	--	Opens the Data pane if it is closed or brings it into focus. For details, see " Data Pane (Run Results Viewer) " on page 54.
--	View > Log Tracking	--	(UFT GUI testing only) Opens the Log Tracking pane if it is closed or brings it into focus. For details, see " Log Tracking Pane (Run Results Viewer) (UFT GUI Tests Only) " on page 56.

Button	Command	Shortcut Key	Description
--	View > Restore Layout	--	Restores the default layout of the Run Results Viewer.
	View > Filters	CTRL+T	Opens the Filters dialog box, enabling you to filter the information displayed. For more details, see " Filter Dialog Box (Run Results Viewer) " on page 67.
	View > Collapse All	--	Collapses all of the branches in the run results tree. Also available as a context menu option to collapse all of the nodes under the selected node.
	View > Collapse All	--	Collapses all of the branches in the run results tree. Also available as a context menu option to collapse all of the nodes under the selected node.
	View > Go to Previous Node	--	Moves the cursor to the previously selected node in the tree.
	View > Go to Next Node	--	Moves the cursor to the node you selected in the tree prior to clicking the Go to Previous Node button.
	View > Jump to Step in Test	CTRL+J	(UFT GUI tests only) Activates the UFT window and highlights the step in the test corresponding to the selected node in the Run Results tree. For details, see " How to Jump to a Step in a GUI Test (UFT GUI Tests Only) " on page 22. Note: Disabled for the Action , Iteration , and Summary nodes.
	Tools > Add Defect	--	Enables you to add a defect to your ALM project. If you are not currently connected to ALM, opens the ALM Connection dialog box. For more details, see " How to Manually Submit Defects to ALM " on page 23.
	Tools > ALM Connection	--	Opens the HP ALM Connection dialog box, enabling you to connect to an ALM project. For more details, see " HP ALM Connection Dialog Box (Run Results Viewer) " on page 73.
	Help > Help Topics	--	Opens the <i>HP Run Results Viewer Help</i> .

Button	Command	Shortcut Key	Description
--	Help > About Run Results Viewer	--	Displays version information about the HP Run Results Viewer.

Run Results Viewer Panes

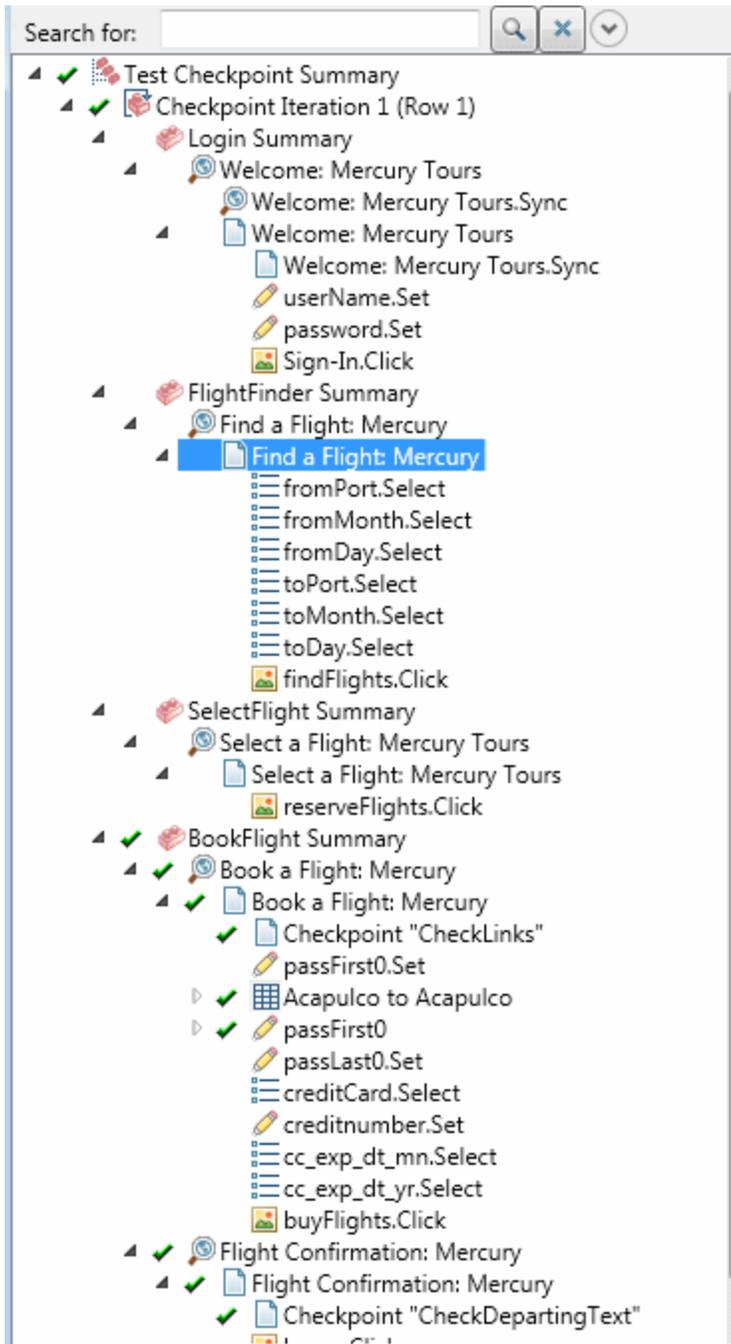
This section includes:

- ["Run Results Tree Pane and Search Box" on the next page](#)
- ["Result Details Pane \(Run Results Viewer\)" on page 42](#)
- ["Captured Data Pane \(Run Results Viewer\)" on page 46](#)
- ["Test Flow Pane \(Run Results Viewer\) \(UFT API/Service Test Tests Only\)" on page 52](#)
- ["Data Pane \(Run Results Viewer\)" on page 54](#)
- ["Log Tracking Pane \(Run Results Viewer\) \(UFT GUI Tests Only\)" on page 56](#)
- ["Screen Recorder Pane \(Run Results Viewer\) \(UFT GUI Testing Only\)" on page 58](#)
- ["System Monitor Pane \(Run Results Viewer\) \(UFT GUI Testing Only\)" on page 61](#)

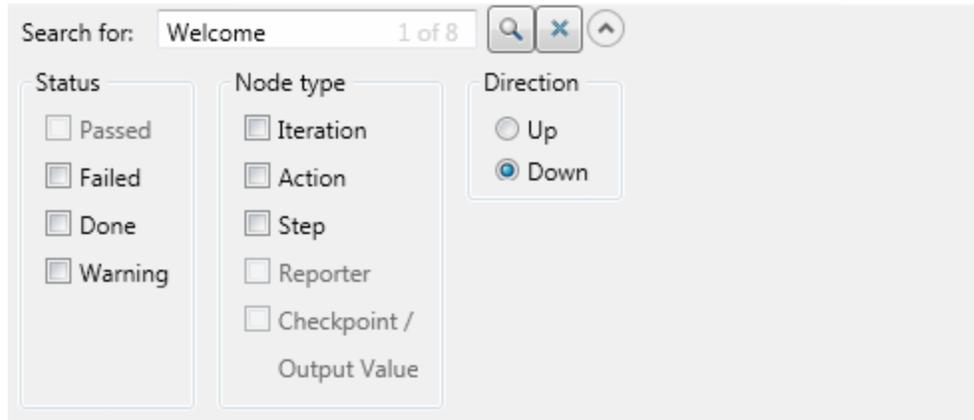
Run Results Tree Pane and Search Box

This pane displays the **run results tree**—a hierarchical or graphical representation of the run session results. The **Search** box is located above the tree.

The following example shows the run results tree for a GUI test. Similar results would be displayed for a GUI component. For UFT API or Service Test tests, the tree shows each of the individual test steps and checkpoints.



In the following example, eight instances of the searched for text, Welcome, were found.



To access	<p>Open the Run Results Viewer, as described in "How to Open Run Results" on page 19.</p> <p>The Run Results Tree pane is displayed by default on the left side of the Run Results Viewer. It cannot be hidden.</p> <p>The Search box is located directly above the tree and can be expanded by clicking the Expand  button.</p>
Important information	<ul style="list-style-type: none">• Click a node in the tree to view its details in the Result Details pane. Other panes also display information for the test or component or highlighted step, if available.• You can collapse or expand a node in the run results tree to change the level of detail that the tree displays.• You can also use the "Filter Dialog Box (Run Results Viewer)" on page 67 commands to control what is displayed in the run results tree.

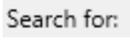
Run Results Tree

Some of the Run Results Tree icons are described below:

UI Elements	Description
	<p>Indicates a step that succeeded.</p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p>Note: If a test does not contain checkpoints, no icon is displayed. For components, this icon is displayed only if the component step contains one of the following:</p> <ul style="list-style-type: none"> • Verify operations (functions), such as <code>VerifyProperty</code> • <code>AddToRunResults</code> (or its equivalent) with a <code>micPass</code> status </div>
	<p>Indicates a step that failed. Failed steps cause all parent steps (up to the root action, test, or component) to fail as well.</p>
	<p>(UFT GUI tests only) Indicates an information step. This does not affect the pass/fail status of the step. (Relevant only for UFT GUI tests)</p>
	<p>Indicates a warning, meaning that the step did not succeed, but it did not cause the action, test, or component to fail.</p>
	<p>Indicates a step that failed unexpectedly, such as when an object is not found for a checkpoint.</p>
	<p>(UFT GUI tests and components only) Indicates that the Smart Identification mechanism successfully found the object.</p>
	<p>(UFT GUI tests and components only) Indicates that a recovery scenario was activated.</p>
	<p>Indicates that the run session was stopped before it ended.</p>
	<p>(UFT GUI tests and components only) Square brackets around a test object name indicate that the test object was created dynamically during the run session. A dynamic test object is created either using programmatic descriptions or by using an object returned by a <code>ChildObjects</code> method, and is not saved in the object repository.</p>
	<p>(UFT GUI tests and components only) Displays the Maintenance Mode Update Result, which is a table that describes the Action taken by Maintenance Run Wizard on a failed step and its Details. Displayed only for tests or components run in Maintenance Run Mode. For more details, see the section describing Maintenance Run Mode in the <i>HP Unified Functional Testing User Guide</i>.</p>

Search Box

The Search box user interface elements are described below:

UI Elements	Description
	<p>Text box in which you can optionally enter text for which to search.</p> <p>If the specified text is found in one or more tree nodes, the text area indicates this, as shown below:</p>  <p>In this example, 1 of 6 indicates that there are six nodes displaying the text, WeLcome, and the first matching node is highlighted in the tree.</p>
	<p>Search. Finds the next instance that matches the criteria you specified in the Search box. Click this button to jump to each node that matches your search criteria.</p>
	<p>Cancel. Clears the Search for text box.</p>
	<p>Expand or Collapse. Shows or hides the lower part of the Search box.</p>
<p>Status</p>	<p>The status to search for. (Optional)</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Passed. Searches for steps that passed and match your other selection criteria. • Failed. Searches for steps that failed and match your other selection criteria. • Done. Searches for steps with the status Done (steps that were performed successfully but did not receive a pass, fail, or warning status) that match your other selection criteria. • Warning. Searches for steps with the status Warning (steps that did not pass, but did not cause the test to fail) that match your other selection criteria. <p>Note: If the tree does not contain any steps that match a particular status, that option is grayed out in the Search box.</p>

UI Elements	Description
Node type	<p>The type of node to search for (together with your other search criteria). (Optional)</p> <p>Possible values:</p> <ul style="list-style-type: none">• Iteration. Searches for Iteration nodes that match your other selection criteria.• Action. Searches for action nodes that match your other selection criteria.• Step. Searches for steps that match your other selection criteria.• Reporter. Searches for Reporter steps that match your other selection criteria. <p>Note: This is not relevant for Reporter.ReportNote steps, which are displayed in the Executive Summary page and not in the run results tree.</p> <ul style="list-style-type: none">• Checkpoint/Output Value. Searches for checkpoint and output value steps that match your other selection criteria. <p>Note: If the tree does not contain a particular node type, that option is grayed out in the Search box.</p>
Direction	<p>The direction to search in the tree. Possible values:</p> <ul style="list-style-type: none">• Up• Down

Result Details Pane (Run Results Viewer)

This pane displays the details for an individual iteration, action, or step that is currently selected in the run results tree.

The Executive Summary is displayed when the topmost node in the run results tree is selected.

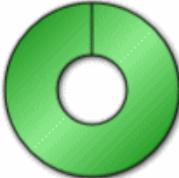
Executive Summary - Checkpoint - Res7 ✓ Passed

Test name:	Checkpoint	Product name:	HP Unified Functional Testing
Results name:	Res7	Product version:	11.50
Time zone:	Jerusalem Standard Time	Host name:	LTQA-WIN7
Run started:	7/10/2012 - 10:31:53	Operating system:	Windows 7
Run ended:	7/10/2012 - 10:33:04		
Total time:	00:01:11		

Statistics ■ Passed ■ Failed ■ Warning ■ Done

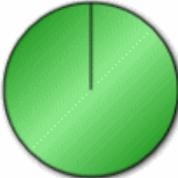
Current Run
✓ Passed

Iterations



0 Failed
0 Warnings
1 Passed

Steps



0 Failed
0 Warnings
4 Passed

Previous Run
✗ Failed
Checkpoint - Res6

Iterations



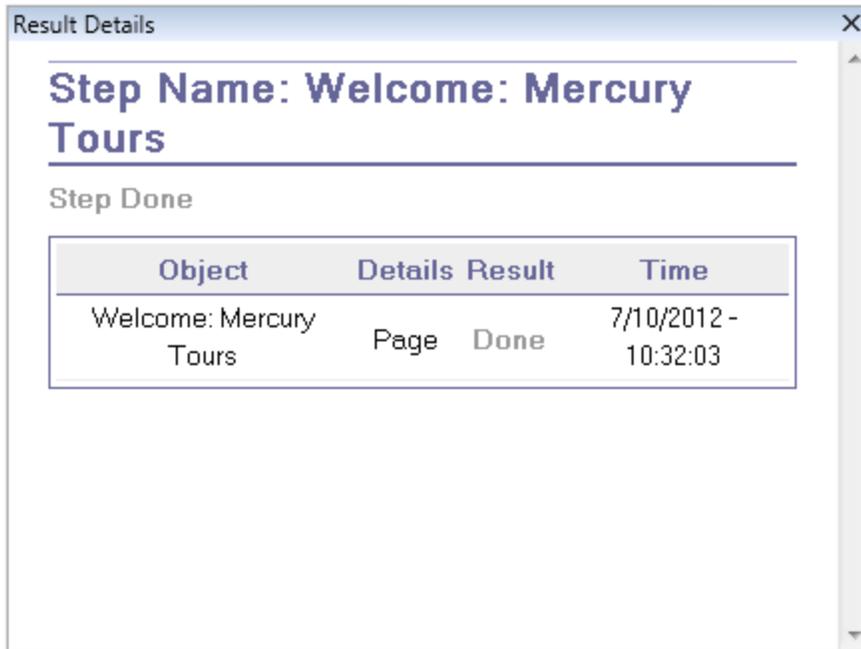
1 Failed
0 Warnings
0 Passed

Steps



2 Failed
1 Warnings
0 Passed

Result details are displayed when any node (other than the topmost node) is selected in the run results tree.



>

<p>To access</p>	<p>Do the following:</p> <ol style="list-style-type: none"> 1. Select a node in the run results tree: <ul style="list-style-type: none"> ■ To open the Executive Summary page, select the topmost node in the tree. ■ To open the Result Details for a step, select the relevant node in the tree. 2. Select the Result Details tab. (This assumes that the default layout is displayed.) <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p>Tip: If the Result Details pane is hidden, select View > Result Details to show it.</p> </div>
<p>Important information</p>	<p>By default, when the Run Results Viewer opens after a run session, an Executive Summary is displayed in the Result Details pane. This summary displays run session information about the test or component. It also includes run Statistics and Notes (if any were included).</p> <p>For any other node, the details in the Result Details pane are specific for the step selected in the run results tree. For example, the details may include input or output parameters, or may indicate that the session ran in Update Run Mode.</p>

User interface elements are described below (unlabeled elements are shown in angle brackets):

Executive Summary Page

UI Elements	Description
Executive Summary	<p>Includes:</p> <ul style="list-style-type: none"> the test or component name and result details, and configuration details, if any time-related information for the run the product from which the test or component was run ALM server and project, if UFT was connected to an ALM project during the run <div style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p>Note: If a test or component that is stored in ALM is run from UFT, but you choose to store the results in a temporary location, the Test set and Test instance fields are not displayed in the results.</p> </div> <ul style="list-style-type: none"> input and output parameters, if any additional information (for example, if the test ran in update mode)
Statistics	Provides graphical, status-related statistics for the current run and the previous run (if any). If the test or component was run previously, you can click Open to open the previous run results in a new Run Results Viewer window.
Notes	Displays notes related to the run session, if any were added to the results using the Reporter.ReportNote Utility statement. For details, see the Utility Objects section of the <i>HP UFT Object Model Reference for GUI Testing</i> .
Parameters	Displays any test or component input and/or output parameters. For details, see "Parameterized Values in the Run Results " on page 104 .

Result Details for Step

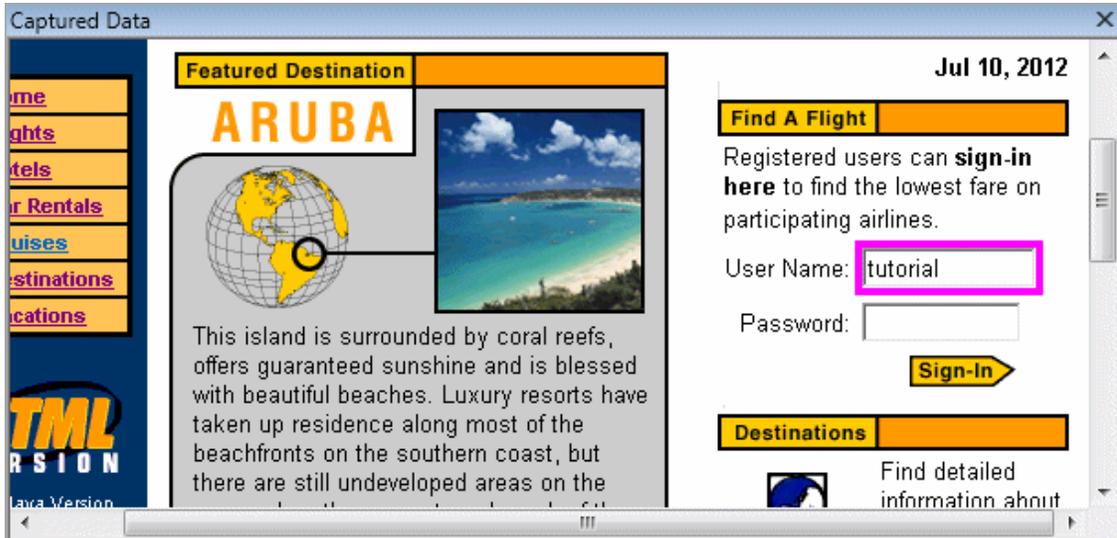
UI Elements	Description
<step name>	The name of the step.

UI Elements	Description																																
<step status>	<p>The status of the step. Possible values:</p> <ul style="list-style-type: none"> • Done. Relevant for iterations, actions, and steps that ran successfully, but do not contain checkpoints. • Failed. Relevant for iterations, actions, and steps that contain checkpoints. • Passed. Relevant for iterations, actions, and steps that contain checkpoints. • Warning. Relevant for steps that were not successful, but did not cause the test or component to stop running. <p>Note: A test, component, iteration, or action containing a step marked Warning may still be labeled Passed or Done.</p>																																
<step details>	<p>Details about the step, such as the object on which the step was performed, the timestamp, the step results, and so on. The information in this area changes according to the type of step.</p> <p>Example 1: Step performed on a Page test object</p> <table border="1" data-bbox="446 1060 1193 1207"> <thead> <tr> <th>Object</th> <th>Details</th> <th>Result</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>Sign-on: Mercury Tours</td> <td>Page</td> <td>Done</td> <td>1/21/2010 - 17:55:41</td> </tr> </tbody> </table> <p>Example 2: Output value step</p> <table border="1" data-bbox="446 1339 1205 1831"> <thead> <tr> <th colspan="4">userName Results</th> </tr> <tr> <th>Property Name</th> <th>Captured Value</th> <th>Type</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>html tag</td> <td>INPUT</td> <td>Repository Parameter</td> <td>userName_html_tag_out</td> </tr> <tr> <td>name</td> <td>userName</td> <td>Repository Parameter</td> <td>userName_name_out</td> </tr> <tr> <td>type</td> <td>text</td> <td>Repository Parameter</td> <td>userName_type_out</td> </tr> <tr> <td>value</td> <td>user</td> <td>Repository Parameter</td> <td>userName_value_out</td> </tr> </tbody> </table>	Object	Details	Result	Time	Sign-on: Mercury Tours	Page	Done	1/21/2010 - 17:55:41	userName Results				Property Name	Captured Value	Type	Name	html tag	INPUT	Repository Parameter	userName_html_tag_out	name	userName	Repository Parameter	userName_name_out	type	text	Repository Parameter	userName_type_out	value	user	Repository Parameter	userName_value_out
Object	Details	Result	Time																														
Sign-on: Mercury Tours	Page	Done	1/21/2010 - 17:55:41																														
userName Results																																	
Property Name	Captured Value	Type	Name																														
html tag	INPUT	Repository Parameter	userName_html_tag_out																														
name	userName	Repository Parameter	userName_name_out																														
type	text	Repository Parameter	userName_type_out																														
value	user	Repository Parameter	userName_value_out																														

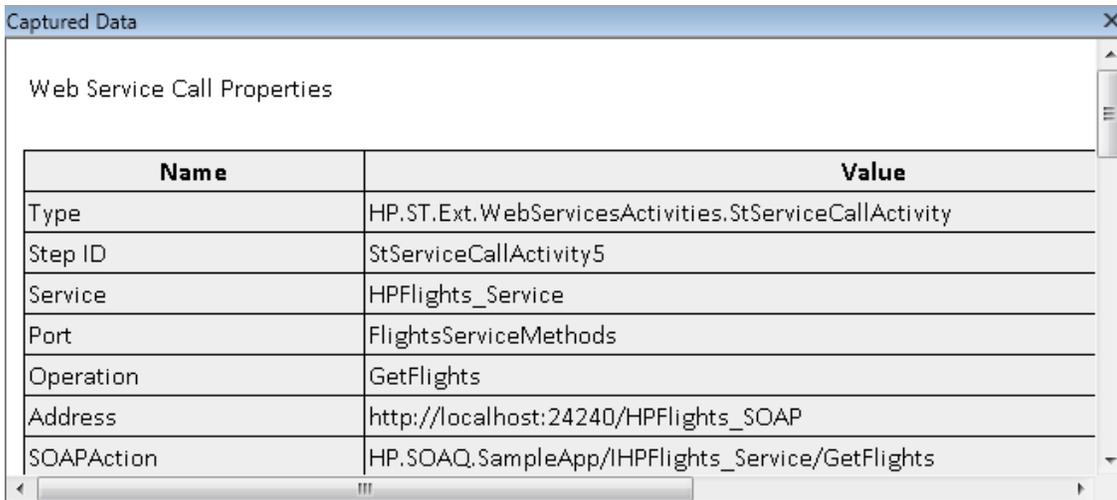
Captured Data Pane (Run Results Viewer)

This pane may display a still image of your application for the highlighted step, a bitmap checkpoint image, a file content checkpoint comparison, or other data, for example, if the step was performed for a Service Test or UFT API Test step.

The following image shows an example of the Captured Data pane with a still image of an application taken during a GUI testing run session.



The following image shows the Captured Data pane with the Web Service Call properties for a test step.



To access	Select View > Captured Data or click the Captured Data tab.
------------------	--

Important information	<ul style="list-style-type: none">• Screen captures for UFT GUI steps. By default, UFT saves a still image of your application for failed steps. When you select a failed step in the run results tree and select the Captured Data pane, the pane displays a screen capture of your application corresponding to the highlighted step in the run results tree. If the highlighted step does not contain an error, no screen capture is displayed. In UFT, you instruct UFT to include still images of your application in the run results by setting the Save still image captures to results option in the Screen Capture pane (Tools > Options > GUI Testing tab of the Options dialog box. For details, see the section describing the Screen Capture pane in the <i>HP Unified Functional Testing User Guide</i>.• Captured Data pane for UFT API/Service Test steps. The Captured Data pane contains most of the information that is relevant for UFT API and Service Test steps. For details on the content that can be displayed in this pane, see "Captured Data Pane Contents for UFT API/Service Test Steps" below.• Programmatically adding information to the results:<ul style="list-style-type: none">▪ In UFT GUI Testing. You can also programmatically add an image to the Captured Data pane using the <code>ReportEvent</code> method of the Reporter utility object. For details, see the Utility Objects section of the <i>HP UFT Object Model Reference for GUI Testing</i>.▪ In UFT API Testing or Service Test. You can programmatically add items to the report. For details, see "Custom Fields (Service Test/UFT API Testing Only)" on page 17.• Captured Data pane for file content checkpoint steps. The captured data pane displays a side-by-side comparison of the expected and actual lines from the file. For details, see "File Content Checkpoint Results (UFT GUI Tests Only)" on page 94.
Relevant tasks	"How to Navigate the Run Results Tree" on page 20

Captured Data Pane Contents for UFT API/Service Test Steps

The contents of the Captured Data pane differ depending on the level you select in the Run Results tree in the left pane.

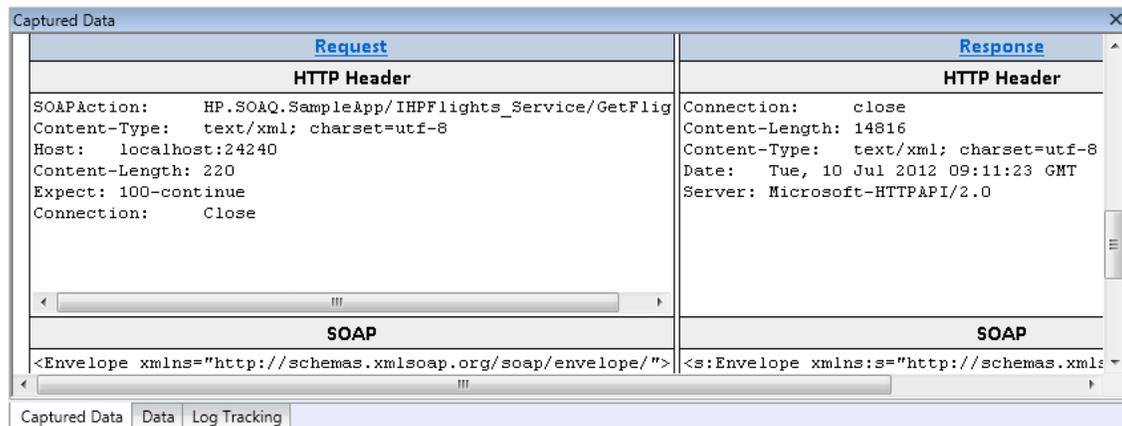
- **Start, End.** General information about the Start and End activities.
- **Test Flow/Loop.** Information about the loop to which the test steps belong, such as **Test Flow**.

- **<Step Name>**. Captured data from the selected step.
 - For service type activities, this level shows the Request and Response data for the operation or method.
 - For the Report Message activity, this level displays the custom message defined in the activity's properties.
- **Checkpoints**. Data about the checkpoints such as the Expected and Actual values, the method of evaluation (Equals, Does Not Equal, and so on) and status.

Request and Response

The **<Step Name>** level contains a table showing the request and response messages. The table shows both the HTTP header and message body. Clicking on the **Request** or **Response** link in the table header, opens the SOAP in a separate browser window.

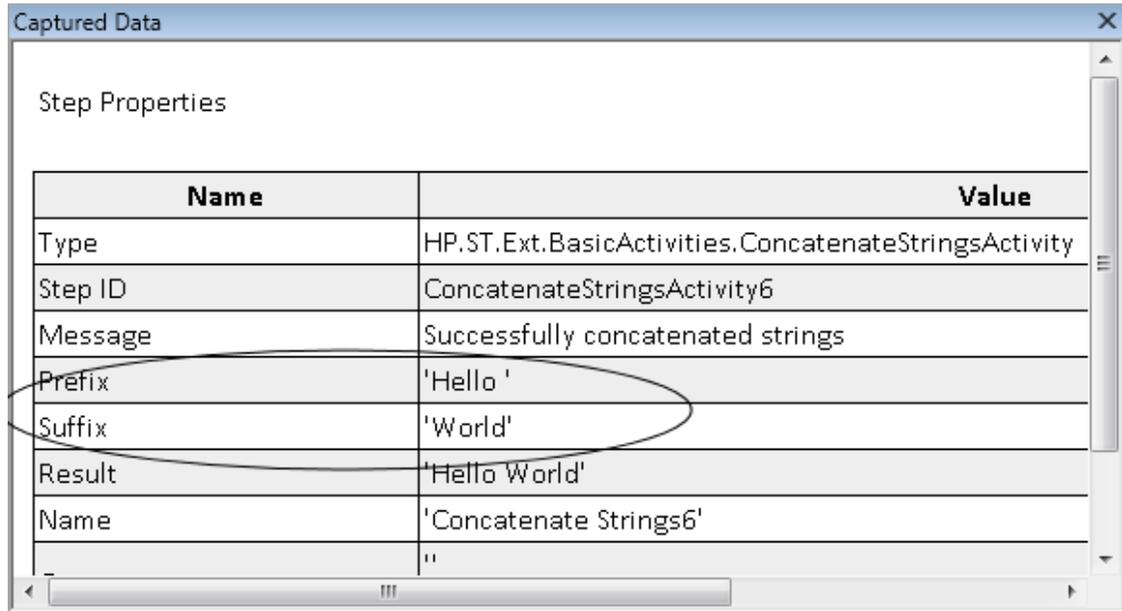
The following example shows the Request and Response captured data for the GetFlights operation from the sample Web Service.



Data Driven and Parameterized Properties

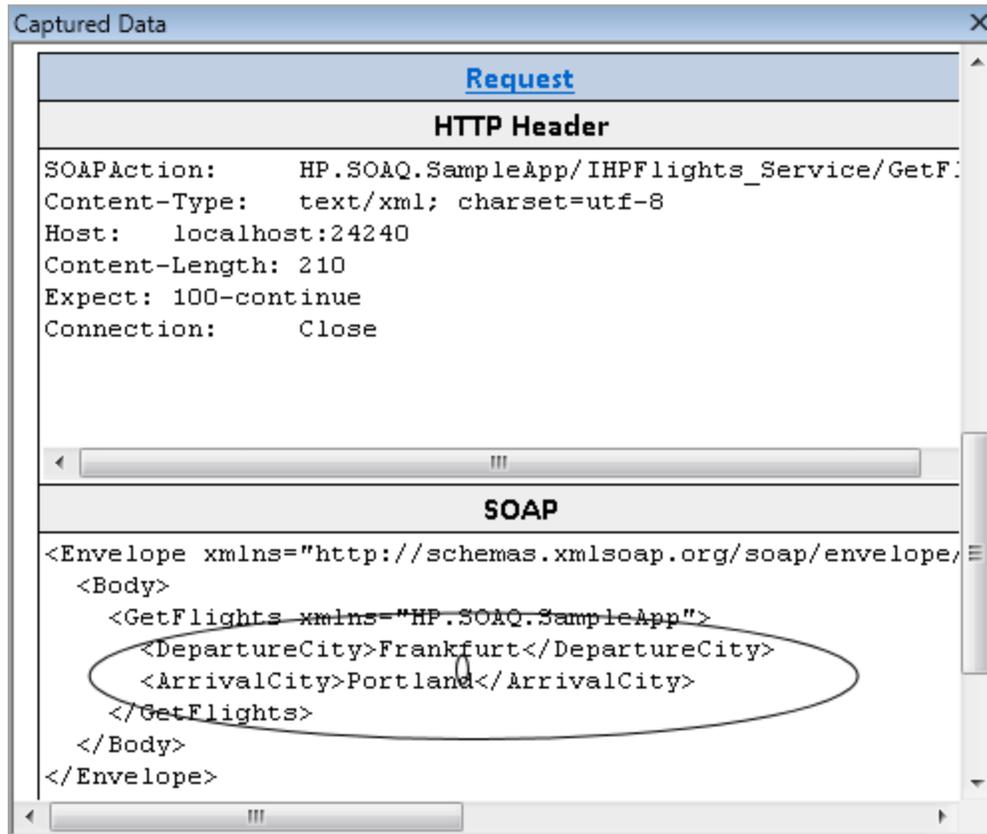
If you parameterized or applied data driving to an activity's properties, the viewer lists the actual values used during the test run, per iteration.

For built-in activities, the **Step Properties** table shows the values used during the test run.



Name	Value
Type	HP.ST.Ext.BasicActivities.ConcatenateStringsActivity
Step ID	ConcatenateStringsActivity6
Message	Successfully concatenated strings
Prefix	'Hello '
Suffix	'World'
Result	'Hello World'
Name	'Concatenate Strings6'
	"

For service requests, you can observe the actual values in the **Request/Response** table.

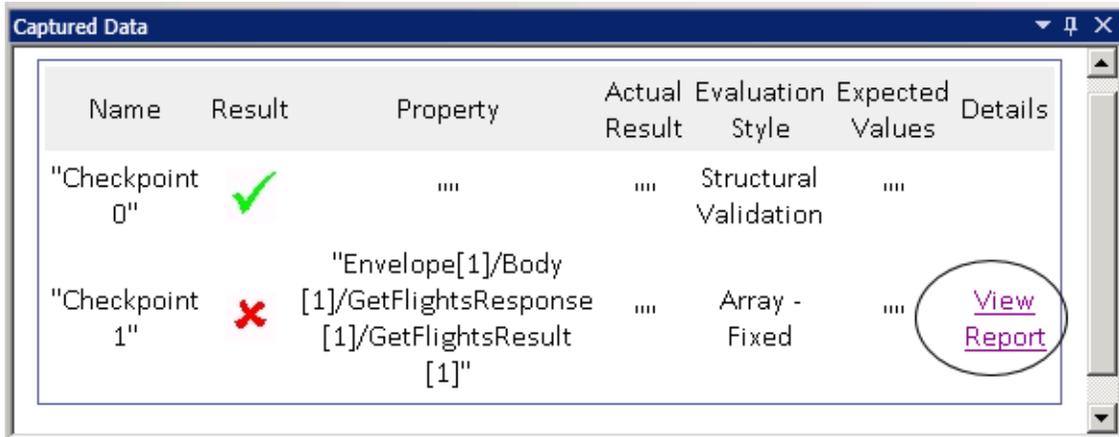


```
Request
HTTP Header
SOAPAction: HP.SOAQ.SampleApp/IHPFlights_Service/GetF...
Content-Type: text/xml; charset=utf-8
Host: localhost:24240
Content-Length: 210
Expect: 100-continue
Connection: Close

SOAP
<Envelope xmlns="http://schemas.xmlsoap.org/soap/envelope/"
  <Body>
    <GetFlights xmlns="HP.SOAQ.SampleApp">
      <DepartureCity>Frankfurt</DepartureCity>
      <ArrivalCity>Portland</ArrivalCity>
    </GetFlights>
  </Body>
</Envelope>
```

Array Checkpoints

When you select the **Checkpoints** node in the left pane, the Captured Data pane provides a list of the checkpoints, their expected values, and actual results. In the case of a checkpoint in the form of an array, the Captured Data pane provides a link to a checkpoint report.



The checkpoint report opens in a separate browser window and provides details about the checkpoints in each of the array elements. You can expand each checkpoint to see what its expected and actual values were.

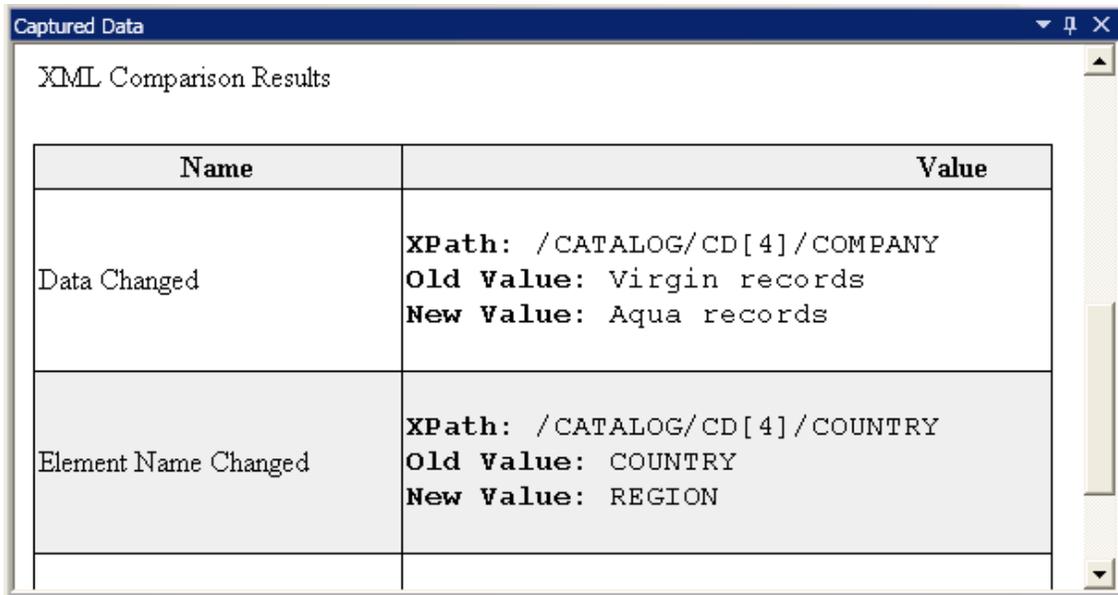
Name	Result	Property	Actual Result	Evaluation Style	Expected Values	Details
[-]"Flight[1]"	✓	""	""	Array - Element	""	
[-]"Flight[2]"	✓	""	""	Array - Element	""	
[-]"Flight[3]"	✗	""	""	Array - Element	""	
[-]"Flight[4]"	✓	""	""	Array - Element	""	

To view this table properly, you should enable active content in your browser in the following way:

1. In Internet Explorer, select **Tools > Options**.
2. Select the **Advanced** tab.
3. Enable the option **Allow active content to run in files on My Computer** in the **Security** section.
4. Click **OK** and close the browser.

XML Comparison Report

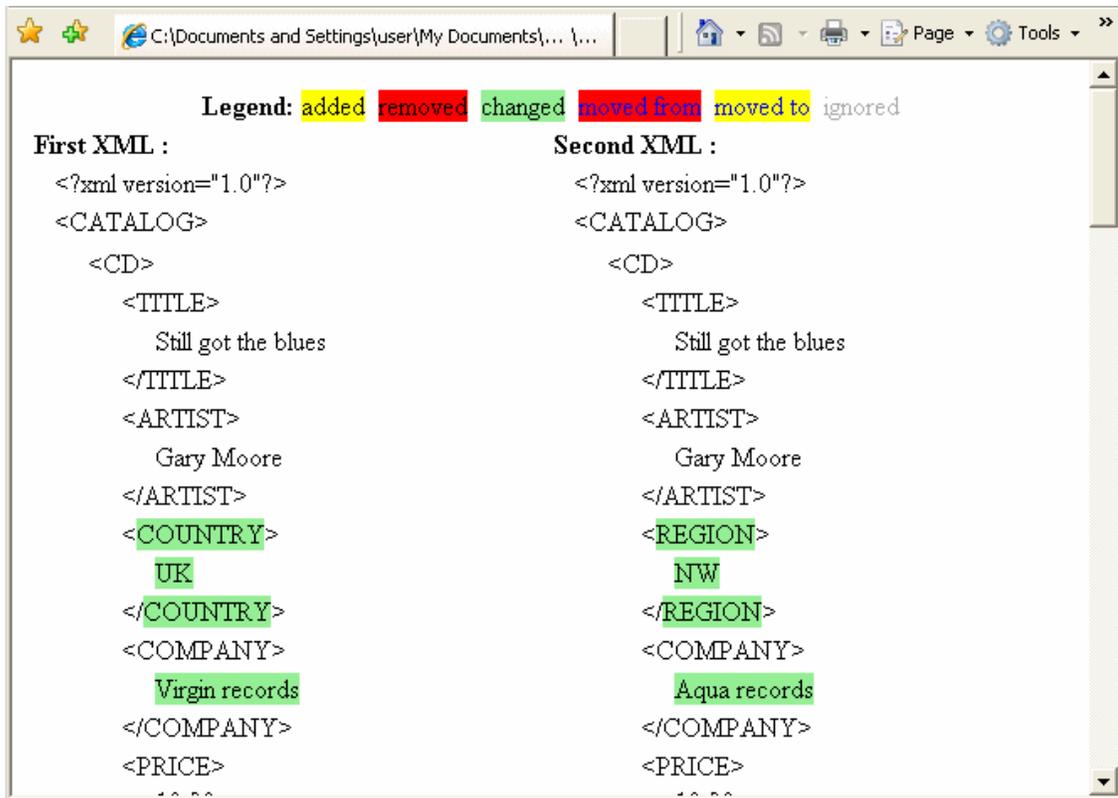
The **Compare XML** activity provides its results in the Captured Data pane. It indicates the changes in the XML, such as data changed, which element names changed and so forth.



The screenshot shows a window titled "Captured Data" with a sub-header "XML Comparison Results". Below this is a table with two columns: "Name" and "Value".

Name	Value
Data Changed	XPath: /CATALOG/CD[4]/COMPANY Old Value: Virgin records New Value: Aqua records
Element Name Changed	XPath: /CATALOG/CD[4]/COUNTRY Old Value: COUNTRY New Value: REGION

In the upper part of the Captured Data pane, click the link **Report File** link to open the complete comparison report in an external browser.



The screenshot shows a browser window displaying a side-by-side XML comparison report. A legend at the top indicates: added (yellow), removed (red), changed (green), moved from (red), moved to (yellow), and ignored (grey). The report compares two XML documents, "First XML" and "Second XML".

First XML :	Second XML :
<pre><?xml version="1.0"?> <CATALOG> <CD> <TITLE> Still got the blues </TITLE> <ARTIST> Gary Moore </ARTIST> <COUNTRY> UK </COUNTRY> <COMPANY> Virgin records </COMPANY> <PRICE></pre>	<pre><?xml version="1.0"?> <CATALOG> <CD> <TITLE> Still got the blues </TITLE> <ARTIST> Gary Moore </ARTIST> <REGION> NW </REGION> <COMPANY> Aqua records </COMPANY> <PRICE></pre>

Converted Strings

The **XML to String** and **JSON to String** steps provide their results in the **Captured Data** pane. The Step Properties table shows the resulting strings for the `OutputString` entry.

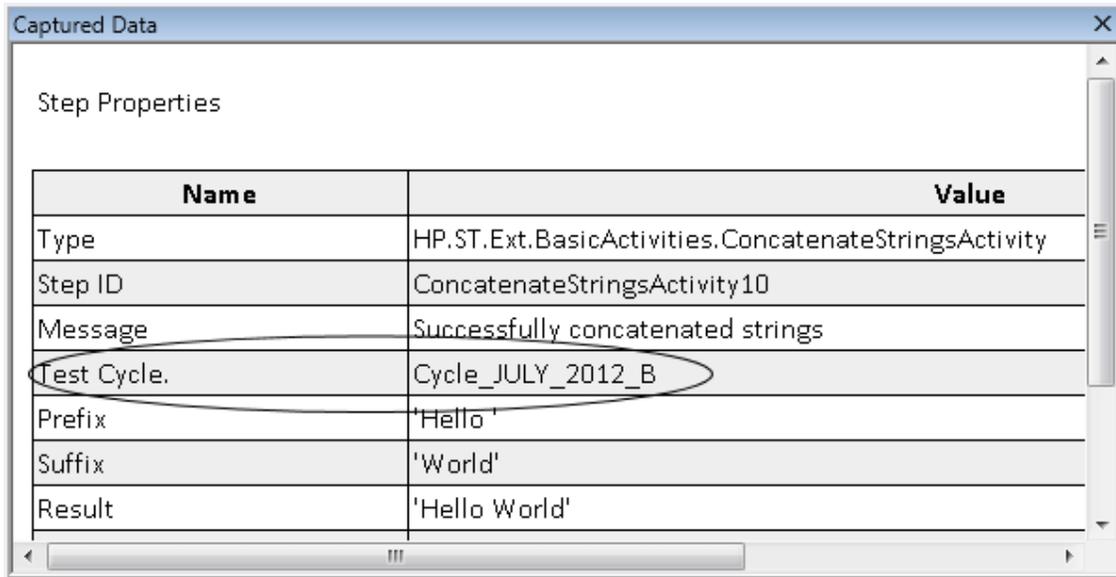
Custom Messages

The Captured Data pane also shows custom messages that you sent to the output using the `Report` function in an event handler.

For details, see the Coding Events section in the *HP Service Test User Guide* or the *HP Unified Functional Testing User Guide*.

The following example prints **CYCLE_JULY_2012_B** as a value for **TestCycle**.

```
this.ConcatenateStringsActivity5.Report("Test Cycle", "CYCLE_JULY_2012_B");
```



The screenshot shows a window titled "Captured Data" with a table of step properties. The table has two columns: "Name" and "Value". The "Test Cycle." row is circled, showing the value "Cycle_JULY_2012_B".

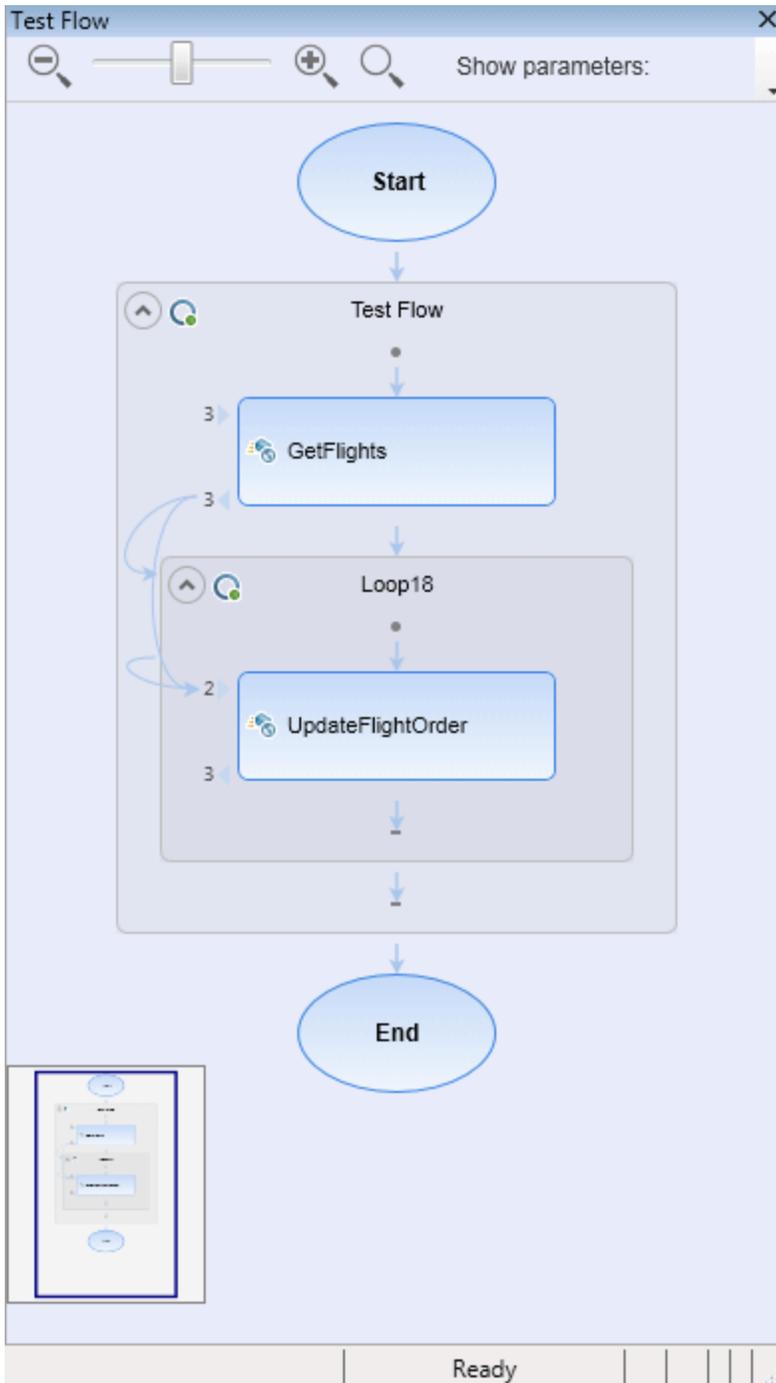
Name	Value
Type	HP.ST.Ext.BasicActivities.ConcatenateStringsActivity
Step ID	ConcatenateStringsActivity10
Message	Successfully concatenated strings
Test Cycle.	Cycle_JULY_2012_B
Prefix	'Hello '
Suffix	'World'
Result	'Hello World'

Test Flow Pane (Run Results Viewer) (UFT API/Service Test Tests Only)

This pane contains a snapshot of the canvas containing the test's steps. The snapshot shows the order of the steps and the connections between them. You can scroll down, zoom in, and set the displayed details level, as you would in the test's canvas.

If you select a node in the Run Results tree that represents a step in the Test Flow, it is highlighted in this pane.

In the following example, the Test Flow pane contains shows how two steps are connected, and the test's internal loops.



To access	Open the Run Results Viewer, as described in " How to Open Run Results " on page 19. Select View > Test Flow .
------------------	---

Important information	The Test Flow pane is not shown by default when the Run Results Viewer opens.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Zoom Level scroller	Enables you to control the magnification of the steps in the canvas.
	<ul style="list-style-type: none"> • Zoom Out (Ctrl -) • Zoom In (Ctrl +)
	Restore Default Zoom. Restores the canvas display to the default view.
Details Level	Enables you to select the detail level of the display: <ul style="list-style-type: none"> • None • Links only • Links and linked parameters • Links and all parameters
<display area>	The test steps as displayed on the test's canvas.

Data Pane (Run Results Viewer)

This pane contains the runtime version of the data table associated with your test or with your ALM configuration (relevant only for business process tests). It displays the values used to run a test or configuration that contains Data Table parameters, as well as any output values retrieved from a test or an ALM configuration during a run session.

If you select a node in the run results tree that represents a step using data table values, the relevant row is highlighted in this pane.

In the following example, the data table contains parameterized flight departure and arrival values.

	CustomerName	FlightNumber	NumberOfTickets	Class
1	John Freeman	1042	1	Business
2	Jack Dowson	1161	2	First
3	Ann Frank	1089	3	Economy
4	Kate Sterling	17079	4	First
5	Michael Erwin	19111	3	Business
6	Louis Devega	18081	5	Economy
7	Ingrid Jackson	17900	2	First

SampleAppData!Input

To access	Open the Run Results Viewer, as described in " How to Open Run Results " on page 19. Select View > Data or click the Data tab.
Important information	<ul style="list-style-type: none"> This pane may display one data sheet or several data sheets divided by tabs. For example, a UFT GUI test may use data table parameters from the global sheet and individual action sheets. Use the context menu items to copy or export the data in the run results.
See also	For details on the run-time data table, see the section describing the Data pane in the <i>HP Unified Functional Testing User Guide</i> or the <i>HP Service Test User Guide</i> .

User interface elements are described below (unlabeled elements are shown in angle brackets):

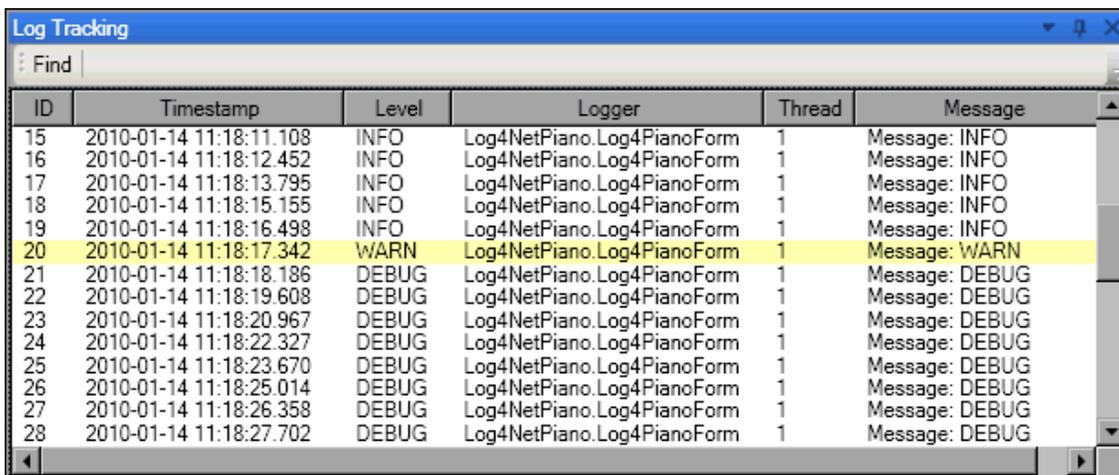
UI Elements	Description
<Row>	Represents the set of values that UFT submitted for the parameterized arguments during a single iteration of the action (UFT GUI tests only), test, or configuration.
<Column>	Represents the list of values for a single parameterized argument. The column header is the parameter name.
<context menu>	<ul style="list-style-type: none"> Copy. Copies the selected data to the clipboard. Export Sheet. Opens a dialog to select a location in which to store an exported data sheet.

Log Tracking Pane (Run Results Viewer) (UFT GUI Tests Only)

This pane displays a complete list of log messages that UFT received from your application during the run session.

In addition to viewing the log messages, when you select a message, you can see its details in the "Result Details Pane (Run Results Viewer)" on page 42 pane.

Tip: You can "Print Dialog Box (Run Results Viewer)" on page 71 or "Export Run Results Dialog Box (Run Results Viewer)" on page 64 the log tracking details to a file to show to a developer, or you can provide the developer with the standalone Run Results Viewer installation so that the developer can view and analyze the results directly on his or her own computer. For details, see "How to Install the Run Results Viewer as a Standalone Application" on page 19.



ID	Timestamp	Level	Logger	Thread	Message
15	2010-01-14 11:18:11.108	INFO	Log4NetPiano.Log4PianoForm	1	Message: INFO
16	2010-01-14 11:18:12.452	INFO	Log4NetPiano.Log4PianoForm	1	Message: INFO
17	2010-01-14 11:18:13.795	INFO	Log4NetPiano.Log4PianoForm	1	Message: INFO
18	2010-01-14 11:18:15.155	INFO	Log4NetPiano.Log4PianoForm	1	Message: INFO
19	2010-01-14 11:18:16.498	INFO	Log4NetPiano.Log4PianoForm	1	Message: INFO
20	2010-01-14 11:18:17.342	WARN	Log4NetPiano.Log4PianoForm	1	Message: WARN
21	2010-01-14 11:18:18.186	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
22	2010-01-14 11:18:19.608	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
23	2010-01-14 11:18:20.967	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
24	2010-01-14 11:18:22.327	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
25	2010-01-14 11:18:23.670	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
26	2010-01-14 11:18:25.014	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
27	2010-01-14 11:18:26.358	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG
28	2010-01-14 11:18:27.702	DEBUG	Log4NetPiano.Log4PianoForm	1	Message: DEBUG

To access Open the Run Results Viewer, as described in "How to Open Run Results" on page 19.
Select **View > Log Tracking**.

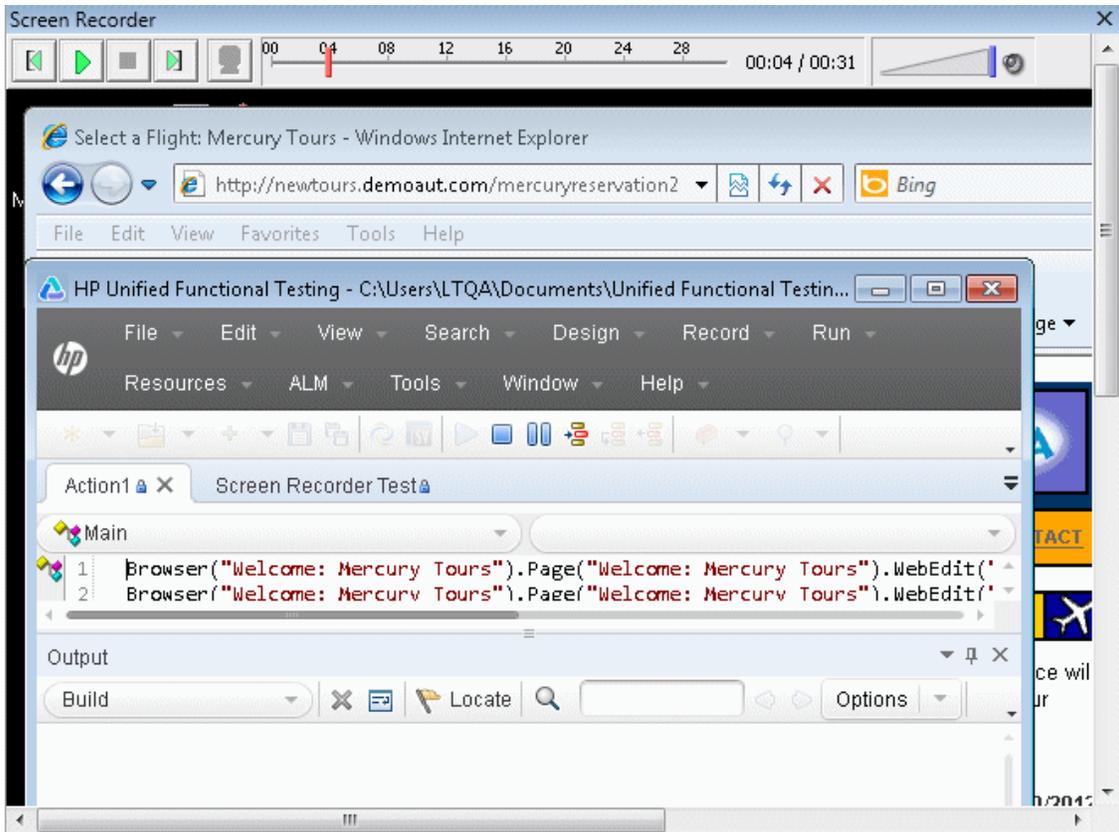
Important information	<ul style="list-style-type: none"> • Japanese characters - known Log4Net issue. If a log message contains Japanese characters, these characters are displayed as question marks (?) in the Message column of the Run Results Viewer's Log Tracking pane. This is due to a known bug in log4net.Layout.XmlLayoutSchemaLog4j - version 1.2.10. For details, see https://issues.apache.org/jira/browse/LOG4NET-229. • Showing and hiding columns. You can show or hide columns in the Log Tracking pane by right-clicking any column header and selecting or clearing a menu option. • Reordering columns. You can reorder the columns in the pane by dragging and dropping a column header to a different location.
See also	<ul style="list-style-type: none"> • "Find Dialog Box (Log Tracking Pane - Run Results Viewer) (UFT GUI Testing Only)" on page 66 • The Log Tracking section in the <i>HP Unified Functional Testing User Guide</i>

User interface elements are described below:

UI Elements	Description
Find	Opens the "Find Dialog Box (Log Tracking Pane - Run Results Viewer) (UFT GUI Testing Only)" on page 66 dialog box, enabling you to search the log messages by message, level, and character case.
ID	The message number.
Timestamp	The date and time (in milliseconds).
Level	The severity level for the log message. Possible level values: <ul style="list-style-type: none"> • TRACE • DEBUG • INFO • WARN • ERROR • FATAL
Logger	The name of the logger.
Thread	The thread that initiated the log request.
Message	The text of the log message.

Screen Recorder Pane (Run Results Viewer) (UFT GUI Testing Only)

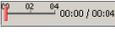
This pane enables you to view a movie of a run session. You can view the entire movie, or you can view a frame for particular segment (by selecting a node in the run results tree or by clicking on a specific point in the slider).



To access	Open the Run Results Viewer, as described in "How to Open Run Results" on page 19 . Select View > Screen Recorder or click the Screen Recorder tab.
------------------	---

Important information	<ul style="list-style-type: none"> • Use of multiple monitors: The Screen Recorder records a movie of the operations performed on your primary monitor. Therefore, if you are working with multiple monitors, make sure that your application is fully visible on your primary monitor when recording or running a test or component. • Prevent UFT from obscuring your application. The Screen Recorder saves a movie of your entire desktop. You can prevent the UFT window from partially obscuring your application while capturing the movie by minimizing UFT during the run session. For details, see the section describing the screen recorder in the <i>HP Unified Functional Testing User Guide</i>. • View full screen. You can double-click the Screen Recorder pane to display the Screen Recorder in full-screen mode and hide the run results tree. Double-clicking again restores the Screen Recorder to its previous size and displays the run results tree. When the Screen Recorder is expanded, the playback controls at the top of the Screen Recorder automatically hide after approximately three seconds with no mouse activity, or when you click anywhere on the Screen Recorder. They reappear when you move the mouse again.
------------------------------	---

User interface elements are described below:

UI Elements	Description
	First Frame. Click to view the first frame in the movie.
	Play/Pause. Click to play or pause the movie. When you click Pause , the relevant tree node is highlighted.
	Stop. Click to stop the movie.
	Last Frame. Click to view the last frame in the movie.
	Slider. Drag the bar to view a particular frame in the movie. When you click the bar, the relevant node is highlighted in the tree. When you play the movie, the slider automatically moves to the position of the currently displayed frame.
	Volume Control. Drag the bar to the right or left to control the movie sound.
	Mute. Click to turn off the movie sound, if any.

Setting Movie Recording Options

You can customize whether UFT captures movies and the criteria used to save them, using the **Save movies to results** option in the **Screen Capture** pane (**Tools > Options > GUI Testing** tab > **Screen Capture** node) of the Options dialog box. For details, see the section describing the Screen Capture pane in the *HP Unified Functional Testing User Guide*.

Exporting Movies of Your Run Session

You can export a captured Screen Recorder movie as an .fbr file. You can view .fbr files in the HP Micro Recorder (as described in "[Viewing Screen Recorder Movie Files in the HP Micro Player](#)" below).

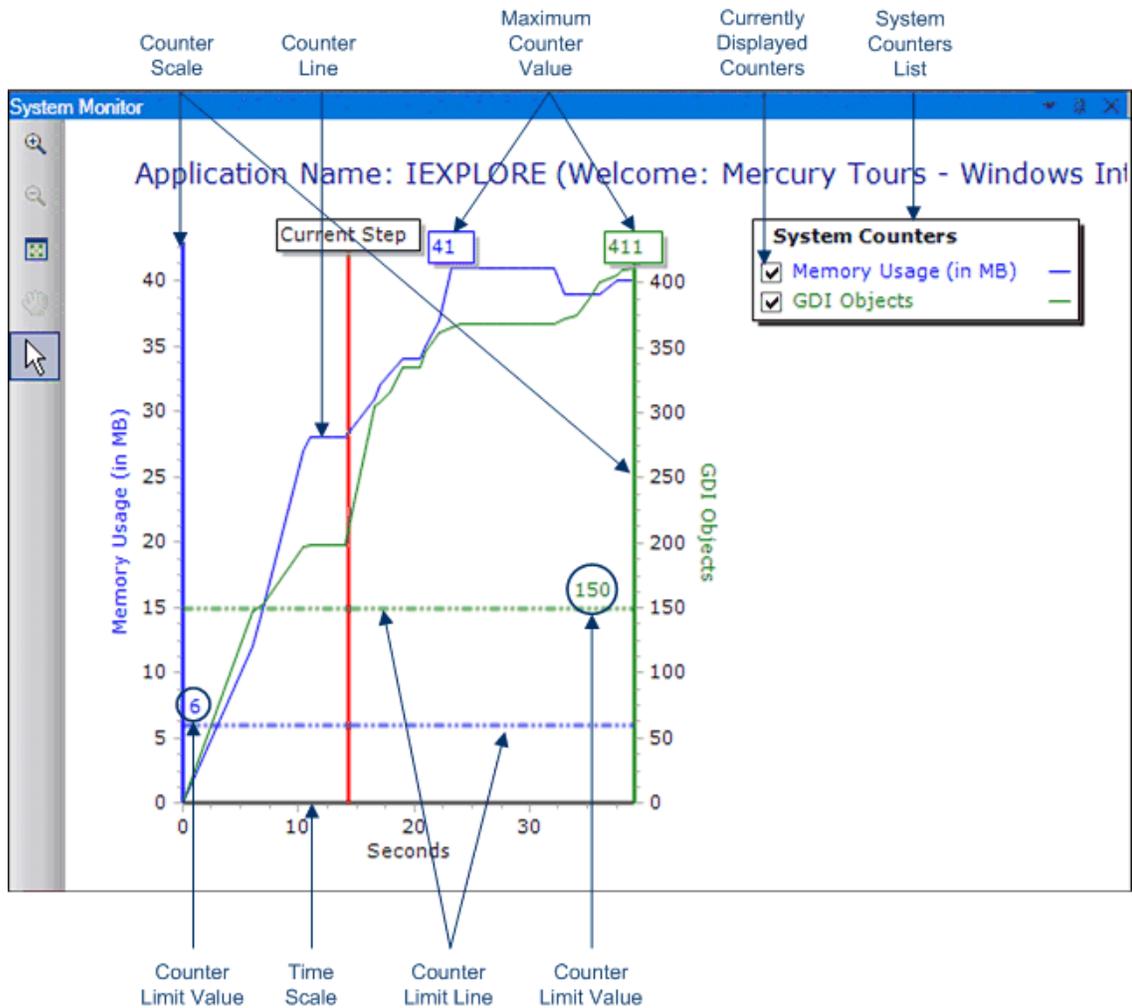
You can also attach .fbr files to defects in ALM. If you have the Unified Functional Testing Add-in for ALM installed, you can view the movies from ALM.

Viewing Screen Recorder Movie Files in the HP Micro Player

When you capture a movie of your run session using the Screen Recorder, the movie is saved as an .fbr file in your run results folder. You can also view these .fbr files without opening the Run Results Viewer, using the HP Micro Player. For details, see "[How to Play a Screen Recorder Movie in the HP Micro Player \(UFT GUI Testing Only\)](#)" on page 26.

System Monitor Pane (Run Results Viewer) (UFT GUI Testing Only)

This pane enables you to view the system counters that you monitored for a run session in a line graph.



To access	<p>Open the Run Results Viewer, as described in "How to Open Run Results" on page 19.</p> <p>Select View > System Monitor or click the System Monitor tab.</p>
Important information	<p>You can export the data from the System Monitor tab to the following file types: text (.csv or .txt), Excel (.xls), .xml, or .html. (Graphs are not exported.)</p> <p>For details, see "Export Run Results Dialog Box (Run Results Viewer)" on page 64.</p>

See also	<ul style="list-style-type: none"> • For details on enabling local system monitoring, the <i>HP Unified Functional Testing User Guide</i>. • "Troubleshooting and Limitations - Viewing Run Results" on page 84
-----------------	---

User interface elements are described below:

UI Elements	Description
	Zoom In. Click this button and click anywhere on the graph to zoom in. You can also click and drag over an area of the graph to zoom in on that area.
	Zoom Out. Click this button and click anywhere on the graph to zoom out.
	View Full Graph. Click this button to zoom out and view the entire graph. This button is disabled when the graph is not zoomed in.
	Move. Click this button and then click and drag on the graph to scroll right and left. This button is disabled when the graph is not zoomed in.
	Arrow. Click this button and double-click anywhere on the graph to select that point as the current step. The Current Step indicator moves to the new location and the step is highlighted in the Run Results tree. You can also hover over any point on a Counter Line in the graph to see the value for the Counter Line at that point.
Application Name	The name of the application for which system counters were monitored.
System Counters List	The list of system counters monitored for the application.
Currently Displayed Counters	The list of counters currently displayed in the line graph. The System Monitor tab displays a maximum of two counters at one time. To change the counters being displayed, clear the check box for one or both of the currently selected counters, and select the check box for the desired counters.
Counter Scale	The scale of measurement for the performance of that counter.
Maximum Counter Value	The maximum value the counter achieved during the run session.
Current Step	The point in the graph representing the step that is currently highlighted in the Run Results tree.

UI Elements	Description
Counter Limit Line	<p>A visual representation of the limit for that counter, if set, as defined in the Local System Monitor pane of the Test Settings dialog box or the Additional Settings pane in the Application Area (in UFT).</p> <p>If set, a counter that exceeds this limit causes the step to fail. Only the first step that exceeds the counter limit fails. Subsequent steps that exceed the counter limit are not affected.</p>
Counter Limit Value	<p>The numeric value of the limit for that counter, if set, as defined in the Local System Monitor pane of the Test Settings dialog box or the Additional Settings pane in the Application Area (in UFT).</p> <p>If set, a counter that exceeds this limit causes the step to fail. Only the first step that exceeds the counter limit fails. Subsequent steps that exceed the counter limit are not affected.</p>
Time Scale	<p>The scale of time in seconds, for the run session.</p>

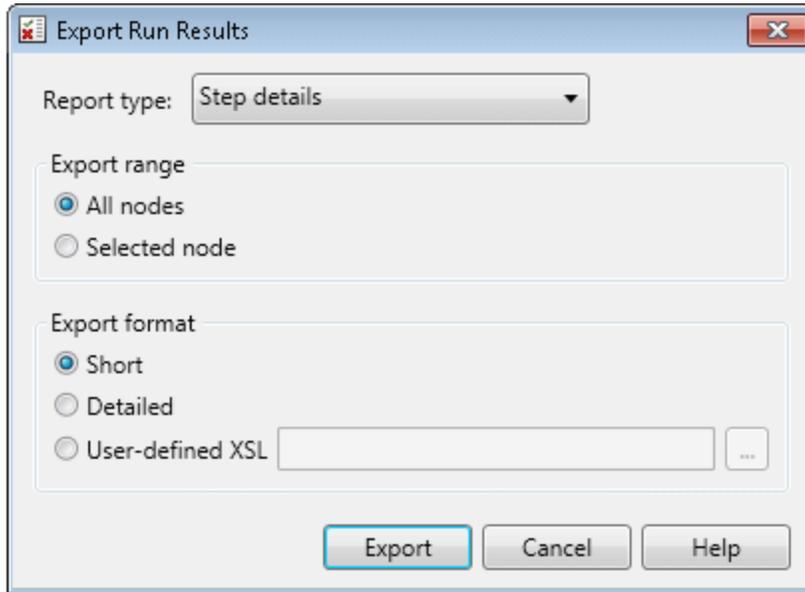
Run Results Viewer Dialog Boxes

This section includes (in alphabetical order):

- ["Export Run Results Dialog Box \(Run Results Viewer\)" on the next page](#)
- ["Find Dialog Box \(Log Tracking Pane - Run Results Viewer\) \(UFT GUI Testing Only\)" on page 66](#)
- ["Filter Dialog Box \(Run Results Viewer\)" on page 67](#)
- ["Open Run Results Dialog Box" on page 70](#)
- ["Print Dialog Box \(Run Results Viewer\)" on page 71](#)
- ["Print Preview Dialog Box \(Run Results Viewer\)" on page 72](#)
- ["HP ALM Connection Dialog Box \(Run Results Viewer\)" on page 73](#)

Export Run Results Dialog Box (Run Results Viewer)

This dialog box enables you to export run results to a file so that you can view them even if the Run Results Viewer is unavailable. For example, you can send the file containing the run results in an e-mail to a third-party who does not have the Run Results Viewer installed.



To access	Open the Run Results Viewer, as described in "How to Open Run Results" on page 19 . Select File > Export to File .
------------------	---

Important information	<ul style="list-style-type: none"> • The export time varies according to the size of the results file and the file type you select. When selecting the file type, consider the length of time it will take to generate different document types, especially for a report with many images. .html files generate the fastest, followed by .pdf and .doc When exporting a report with 100 or more images to a .doc file, a dialog box is displayed reminding you that it may take a long time to generate the file. The dialog box gives you the option to continue exporting with images, continue exporting without images, or to export to .pdf. • Screen capture images are not exported for steps on Web-based applications. When you export run results containing steps on a Web application, any screen capture images for those steps are not exported to the file. This is because for Web-based applications, the Run Results Viewer displays the .html corresponding to the relevant Web page (with downloaded images) rather than a captured image and thus no image is saved with the report. • Exporting to a .doc file. Requires that a supported version of Microsoft Word be installed on the Run Results Viewer computer. For details, see the Product Availability Matrix, available from the product Help or the root folder of the product DVD.
Relevant tasks	"How to Export Run Results" on page 25
See also	"Troubleshooting and Limitations - Viewing Run Results" on page 84

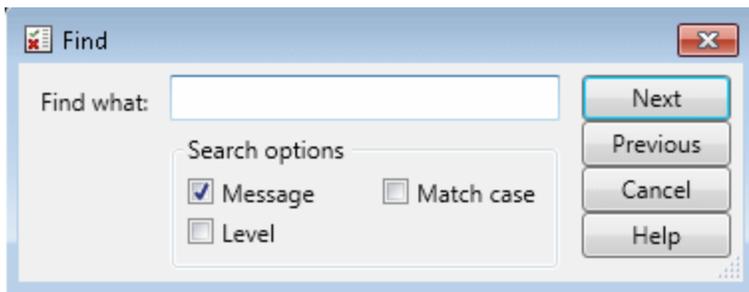
User interface elements are described below:

UI Elements	Description
Report type	The type of report you want to export, for example, Step Details or System Monitor .
Export range	Relevant only for Step Details report type. <ul style="list-style-type: none"> • All nodes. Exports the results for the entire test or component. • Selected node. Exports run result information for the selected branch in the run results tree.

UI Elements	Description
Export format	<p>Relevant only for Step Details report type.</p> <ul style="list-style-type: none">• Short. Exports a summary line (when available) for each item in the run results tree. The short report does not include still images associated with the steps in your run results. This option is only available if you selected All nodes in Export range.• Detailed. Exports all available information for each item in the run results tree, or for the selected branch, according to your Export range selection. The detailed report includes still images associated with the steps in your run results. (In the Run Results Viewer, these images are displayed in the Captured Data pane.) If a bitmap checkpoint step displays expected, actual, and difference bitmaps, these are also included in the printed report.• User-defined XSL. Enables you to browse to and select a customized .xsl file. You can create a customized .xsl file that specifies the information to be included in the exported report, and the way it should appear. <p>If you decide to modify one of the existing .xsl files provided with the Run Results Viewer, and you copy that file to a different folder, make sure to copy over all of the .xsl files that are listed in that .xsl file's "include" calls, as well as the .css files. For details, see "Run Results XML File" on page 14.</p>

Find Dialog Box (Log Tracking Pane - Run Results Viewer) (UFT GUI Testing Only)

This dialog box enables you to search for a log message by message text, level, and case (upper-case/lower-case characters).



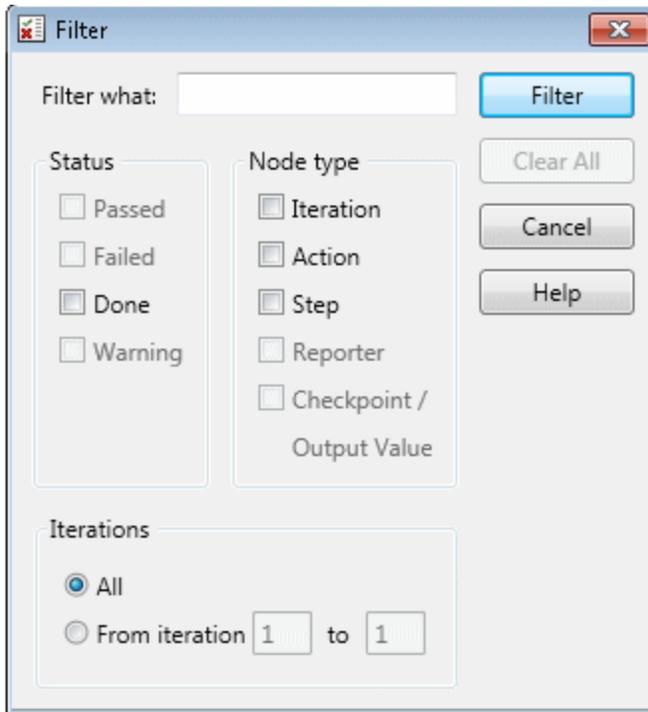
To access	<ol style="list-style-type: none"> 1. Open the Run Results Viewer, as described in "How to Open Run Results" on page 19. 2. Display the Log Tracking pane, as described in "Log Tracking Pane (Run Results Viewer) (UFT GUI Tests Only)" on page 56. 3. In the Log Tracking pane title bar, click Find.
Important information	<ul style="list-style-type: none"> • This dialog box is relevant only for the Log Tracking pane. To perform a search in the run results tree, use the "Search Box" on page 40. • To stop a search, press the Esc key on your keyboard.

User interface elements are described below:

UI Elements	Description
Find	Enter the text to find. This can be message text or a severity level.
Message	Searches the Message column for the text specified in the Find box.
Level	Searches the Level column for the text specified in the Find box. Possible level values: <ul style="list-style-type: none"> • TRACE • DEBUG • INFO • WARN • ERROR • FATAL
Match case	Displays only those occurrences that match the capitalization (upper-case and lower-case characters) you specified for the text in the Find box.
Next	Jumps to the next instance that matches the selected criteria.
Previous	Jumps to the previous instance that matches the selected criteria.

Filter Dialog Box (Run Results Viewer)

This dialog box enables you to filter the results tree to display only those nodes that match the conditions that you specify.



To access	<ol style="list-style-type: none"> 1. Open the Run Results Viewer, as described in "How to Open Run Results" on page 19. 2. Select View > Filters or click the Filter button .
Important information	<ul style="list-style-type: none"> • When you apply a filter, a filter icon is displayed on the status bar, and (Filtered) is appended to the Search box title bar. These visual changes indicate that the run results tree is currently displaying only those nodes that match your filter criteria. • (UFT GUI tests only) You can use <code>Reporter.Filter</code> statements in the Editor to disable or enable the saving of selected steps, or to save only steps with Failed or Warning status. For more details on saving run session information, see the <i>HP Unified Functional Testing User Guide</i> or the <i>HP UFT Object Model Reference for GUI Testing</i>. The <code>Reporter.Filter</code> statement differs from the Filters dialog box described above. The <code>Reporter.Filter</code> statement determines which steps are saved in the Run Results, while the Filter dialog box determines which steps are displayed at any time.

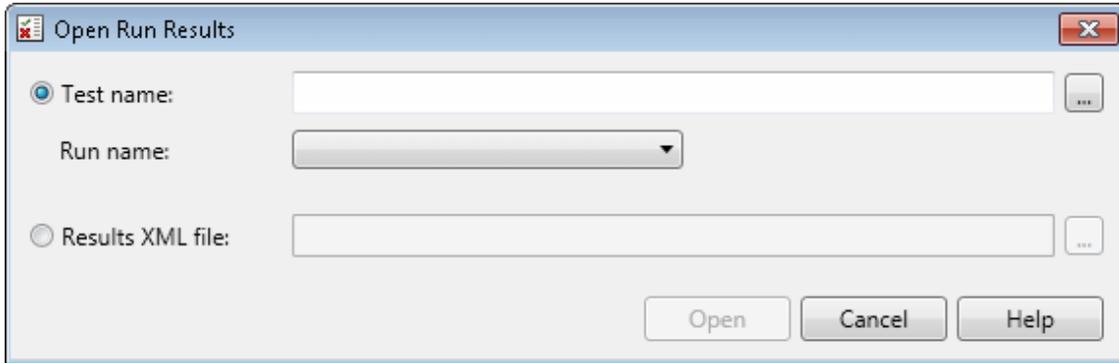
User interface elements are described below:

UI Elements	Description
Filter what	A text box in which you enter the text by which you want to filter. (Optional)

UI Elements	Description
Status	<p>The status of the node by which to filter. (Optional)</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Passed. Displays the run results for the steps that passed and match your filter criteria. • Failed. Displays the run results for the steps that failed and match your filter criteria. • Done. Displays the run results for the steps with the status Done (steps that were performed successfully but did not receive a pass, fail, or warning status) that match your filter criteria. • Warning. Displays the run results for the steps with the status Warning (steps that did not pass, but did not cause the test to fail) that match your filter criteria.
Node type	<p>Displays all results that match your selection criteria based on: (Optional)</p> <ul style="list-style-type: none"> • Iteration. Displays the run results in the run results tree for the iterations specified in the Iterations area. • Action. Displays the run results for all actions in the run results tree that match your other selection criteria. (Not relevant for components.) • Step. Displays the run results for all steps in the run results tree that match your other selection criteria. • Reporter. Displays the run results for all Reporter steps in the run results tree that match your other selection criteria. <div data-bbox="495 1346 1369 1493" style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p>Note: This is not relevant for Reporter.ReportNote steps, which are displayed in the Notes area of the Executive Summary page and not in the run results tree.</p> </div> <ul style="list-style-type: none"> • Checkpoint/Output Value. Displays the run results for all checkpoint and output value steps in the run results tree that match your other selection criteria.
Iterations	<p>(This option is available only for tests.)</p> <ul style="list-style-type: none"> • All. Displays run results from all iterations. • From iteration X to Y. Displays the run results from the specified range of test iterations.

Open Run Results Dialog Box

This dialog box enables you to open run results in the Run Results Viewer.



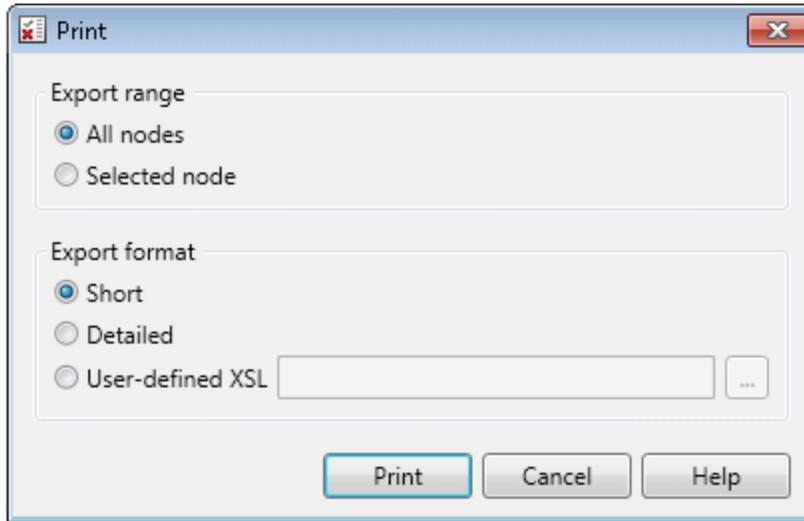
To access	<ol style="list-style-type: none"> 1. Open the Run Results Viewer, as described in "How to Open Run Results" on page 19. 2. Select File > Open or click the Open button .
Important information for UFT tests	<ul style="list-style-type: none"> • To view results stored in ALM, you must first connect to your ALM project. For details, see "HP ALM Connection Dialog Box (Run Results Viewer)" on page 73. • By default, results files for UFT or Service Test tests are stored together with the test, for example: <code>C:\%HOMEPATH%\My Documents\Unified Functional Testing or Service Test\<Test name>\<ResultName></code> • To view result files for QuickTest Professional version 6.5 and earlier, use the Test/Run Results Viewer in an earlier version of QuickTest.
Relevant tasks	"How to Open Run Results" on page 19

User interface elements are described below:

UI Elements	Description
Test name	The name of the test for which you want to view results. The test can be located in the file system or in an ALM project. If you select this option, you must also specify the Run name .
Run name	The results for a particular run. The results are listed in the order of execution, with the most recent results at the top of the drop-down list.
Results XML file	The actual .xml results file. The file must be located in the file system.

Print Dialog Box (Run Results Viewer)

This dialog box enables you to print run results from the Run Results Viewer. You can select the type of report you want to print, and you can also create and print a customized report.



To access	<ol style="list-style-type: none">1. Open the Run Results Viewer, as described in "How to Open Run Results" on page 19.2. Use one of the following<ul style="list-style-type: none">◦ Select File > Print.◦ Click the Print button .
------------------	--

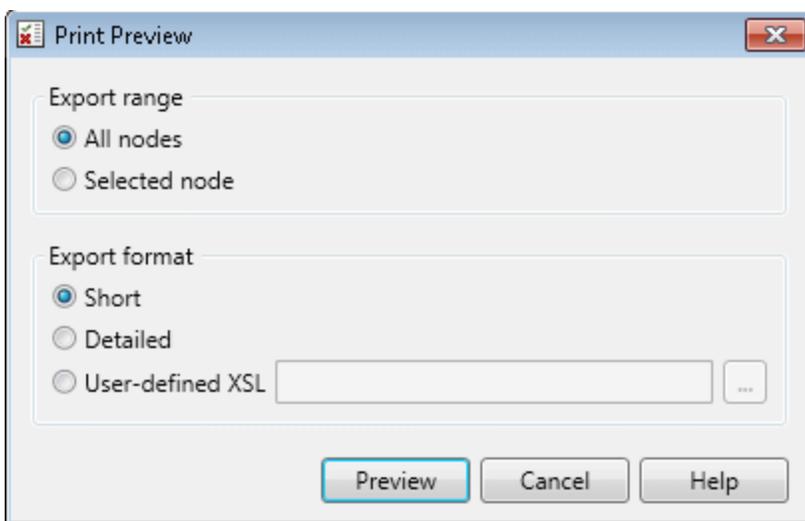
User interface elements are described below:

UI Elements	Description
Print range	<ul style="list-style-type: none">• All. Prints the run results for the entire test or component.• Selection. Prints the run results information for the selected branch in the run results tree.

UI Elements	Description
Print format	<ul style="list-style-type: none">• Short. Prints a summary line (when available) for each item in the run results tree. This option is only available if you selected All in Print range.• Detailed. Prints all available information for each item in the run results tree, or for the selected branch, according to your selection in Print range. The printed report includes still images associated with the steps in your run results. If a bitmap checkpoint step displays bitmaps, these are also included.• User-defined XSL. Enables you to browse to and select a customized .xsl file. You can create a customized .xsl file that specifies the information to be included in the printed report, and the way it should appear. For more details, see "Run Results XML File" on page 14. <p>Note: The Print format options are available only for run results last modified with QuickTest version 8.0 and later.</p>
Print	Opens the standard Windows Print dialog box, enabling you to send the selected run results any installed printer.

Print Preview Dialog Box (Run Results Viewer)

This dialog box enables you to preview run results on screen before you print them. You can select the type and quantity of information you want to view, and you can also display the information in a customized format.



To access	<ol style="list-style-type: none"> 1. Open the Run Results Viewer, as described in "How to Open Run Results" on page 19. 2. Select File > Print Preview.
Important information	The Print Preview option is available only for run results last modified with QuickTest version 8.0 and later.

User interface elements are described below:

UI Elements	Description
Print range	<ul style="list-style-type: none"> • All. Previews the run results for the entire test or component. • Selection. Previews run results information for the selected branch in the run results tree.
Print format	<ul style="list-style-type: none"> • Short. Previews a summary line (when available) for each item in the run results tree. This option is only available if you selected All in Print range. • Detailed. Previews all available information for each item in the run results tree, or for the selected branch, according to your selection in Print range. The preview includes still images associated with the steps in your run results. If a bitmap checkpoint step displays bitmaps, these are also included. • User-defined XSL. Enables you to browse to and select a customized .xsl file. You can create a customized .xsl file that specifies the information to be included in the preview, and the way it should appear. For more details, see "Run Results XML File" on page 14.
Preview	<p>Displays the run results on screen as they are displayed when printed.</p> <div style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p>Tip: If some of the information is cut off in the preview, for example, if checkpoint names are too long to fit in the display, click the Page Setup button  in the Print Preview window and change the page orientation from Portrait to Landscape.</p> </div>

HP ALM Connection Dialog Box (Run Results Viewer)

This dialog box enables you to connect to or disconnect from a project in any supported version of ALM.

HP ALM Connection

Step 1: Connect to server

Server URL: Example: http://server:8080/qcbin

User name:

Password:

Connect

Step 2: Login to project

Restore connection on startup

Close

To access	Use one of the following: <ul style="list-style-type: none">• Select Tools > ALM Connection.• Click the ALM toolbar button  .
------------------	--

Important information	<ul style="list-style-type: none">● 1st time connection. The first time you connect to an ALM server, you must connect as a user with administrator privileges on the computer on which you are connecting.● Connecting to different ALM servers. You can simultaneously connect your Web browser to multiple ALM clients and one Quality Center 10.00 client simultaneously. While these clients are open, you can connect to the Quality Center 10.00 client that is currently open on your computer. However, if you want to connect to an ALM client, you must first close the Quality Center 10.00 client.● Connecting to different versions of Quality Center or ALM. You cannot connect to multiple versions of Quality Center or ALM in the same UFT session. Close and reopen UFT to connect to a different version of Quality Center or ALM.● Windows Vista, Windows 7, Windows Server 2008, Windows Server 2008 R2 Users, Windows 8, and Windows Server 2012 Users. See "Guidelines for Windows Vista, Windows 7, Server 2008, Server 2008 R2, Windows 8, and Windows Server 2012 Users" on page 77.● Connect. The connection process has two steps. First, you connect to a local or remote ALM server. This server handles the connections between UFT and the ALM project. You must provide a user name and a password. Next, you choose the project you want to access. The project stores tests and run session information for the application you are testing.● Disconnect. You can disconnect from an ALM project or from an ALM server.<ul style="list-style-type: none">■ If you disconnect from an ALM server without first disconnecting from a project, the UFT connection to that project database is automatically disconnected.■ After you open a Business Process test in UFT or Service Test, you cannot log out of a project and log in to another project on the same server. You must first disconnect from the server and reconnect before logging in to another project.● SSL Certificates. If you are attempting to connect to an ALM project with a <code>https://</code> prefix, but your computer does not have a valid SSL certificate, the connection will fail.
Relevant tasks	<p>To view the current connection:</p> <ul style="list-style-type: none">● The icon on the status bar is labeled with the server name and project to which the Run Results Viewer is connected.

User interface elements are described below:

UI Elements (A-Z)	Description
Close	<p>Closes the ALM Connection dialog box.</p> <p>Note: The dialog box does not close automatically. You must click this button to close the dialog box.</p>
Connect / Disconnect	<p>Connects to or disconnects from the selected ALM server.</p> <p>Note: After you successfully connect to a server, the button changes to Disconnect, and at the top of the dialog box, the Disconnected icon  changes to a Connected icon .</p>
Domain	<p>The domain that contains the ALM project.</p>
Login / Logout	<ul style="list-style-type: none"> • Login. Logs into the selected domain and project using the current user information. After you successfully log into a project, the button changes to Logout, and the Logged out icon  changes to a Logged in icon . • Logout. Logs out of the selected domain and project. <p>Note: You must click Close to close the dialog box after logging into or out of a project.</p>
Password	<p>Your ALM password.</p> <p>Note: To enter a password in any CJK (Chinese, Japanese, Korean) language, copy/paste the password into the edit box. (Windows does not support typed CJK characters in password fields.)</p>
Project	<p>The ALM project with which you want to work.</p> <p>Note: Only those projects for which you are a defined user are displayed.</p>
Restore connection on startup	<p>Instructs UFT to automatically reconnect to the ALM server every time you open UFT.</p>

UI Elements (A-Z)	Description
Server URL	The URL address of the Web server where ALM is installed. You can choose a server that is accessible via a Local Area Network (LAN) or a Wide Area Network (WAN). You can connect to any currently supported version of ALM. For a list of supported versions, see the <i>HP Unified Functional Testing Product Availability Matrix</i> or <i>HP Service Test Product Availability Matrix</i> , available from the root folder of the UFTor Service Test DVD.
User Name	Your ALM user name.

Guidelines for Windows Vista, Windows 7, Server 2008, Server 2008 R2, Windows 8, and Windows Server 2012 Users

The security settings in the following operating systems may prevent you from connecting to an ALM project:

- Windows Vista
- Windows 7
- Windows Server 2008
- Windows Server 2008 R2
- Windows 8
- Windows Server 2012

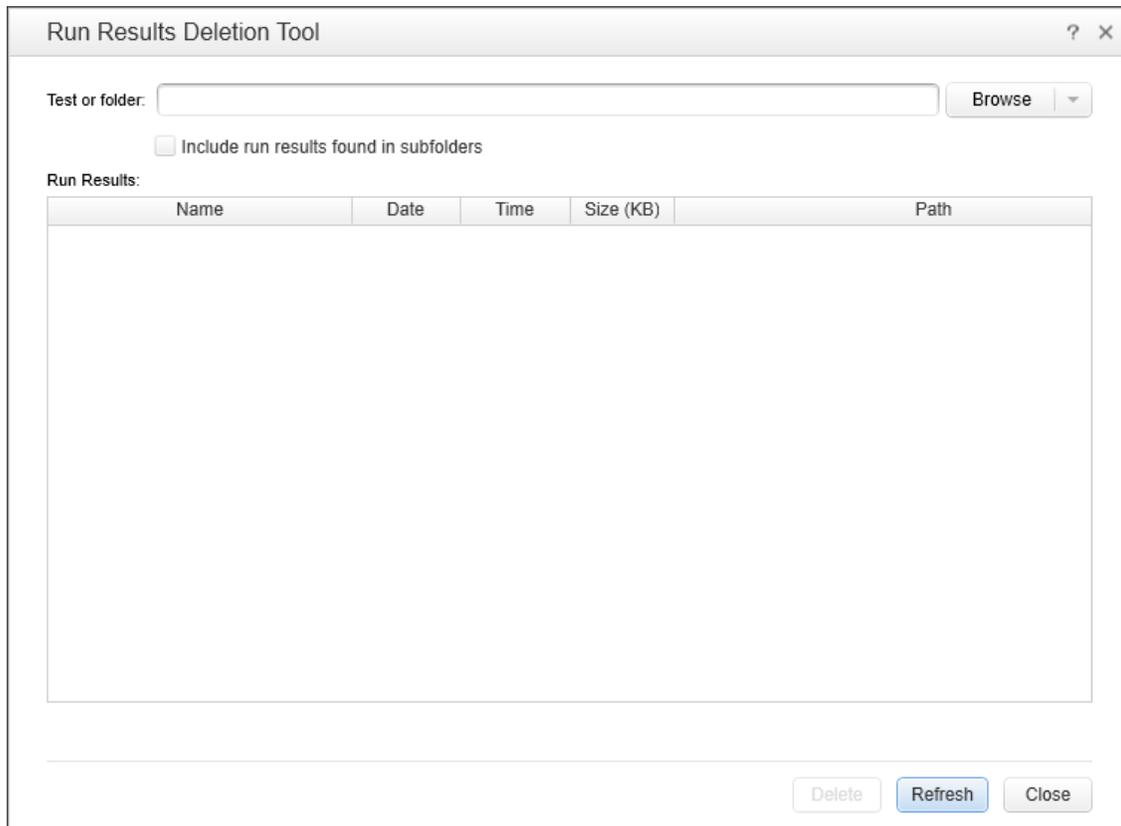
This can occur when the UAC (User Account Control) option is set to ON, and you have never connected to an ALM project.

To connect to ALM for the first time, you must disable the UAC option. After you successfully connect to ALM, you can turn the UAC option on again. Thereafter, you should be able to connect to ALM, as needed.

Run Results Deletion Tool (UFT Only)

This window enables you to view a list of all the run results in a specific location in your file system or in an ALM project. You can then delete any run results that you no longer require.

You can sort the run results by name, date, size, and so on, so that you can more easily identify the results you want to delete.



To access

In the Run Results Viewer, select **Tools > Run Results Deletion Tool** or select the **Run Results Deletion Tool** button  in the toolbar.

Select **Start > Programs > HP Software > HP Unified Functional Testing > Tools > Run Results Deletion Tool**.

Note: For details on accessing UFT and UFT tools and files in Windows 8, see ["Accessing the UFT in Windows 8 Operating Systems" on page 17](#).

<p>Important information for HP ALM users</p>	<ul style="list-style-type: none"> To delete run results from an ALM project, connect the Run Results Viewer to an ALM project before browsing or entering the path. Specify the ALM test path in the standard ALM format. <div style="background-color: #f0f0f0; padding: 5px; margin: 10px 0;"> <p>Example: [QC-TEST];;Subject\<<folder name>\<test name>;;</p> </div> <p>For details on connecting to ALM, see "HP ALM Connection Dialog Box (Run Results Viewer)" on page 73.</p> <ul style="list-style-type: none"> You can delete results from only one test at a time. Make sure that you have Delete Run permission for this ALM project. For details on ALM project permissions, contact your ALM administrator or see the section on permission settings in the ALM administrator guide.
<p>Relevant tasks</p>	<p>"How to Delete Run Results" on page 27</p>
<p>See also</p>	<p>"Command Line Options for the Run Results Deletion Tool" on the next page to learn how to use this tool from a command line interface.</p>

User interface elements are described below:

<p>UI Elements</p>	<p>Description</p>
<p>Test or folder</p>	<p>The path from which you want to delete run results. When working with the file system, you can specify a test or a folder. When working with ALM, you cannot specify folders.</p>
<p>Browse</p>	<p>Enables you to browse to and select the folder or specific run results that you want to delete. By default, clicking the Browse button opens the Open Test dialog box. If you want to browse to a folder, click the down arrow and select Folders to open the Open Folder dialog box.</p>
<p>Include run results found in subfolders</p>	<p>Adds all run results contained in subfolders of the specified folder to the Run Results area of this dialog box.</p> <p>(Relevant only for folders in the file system. This option is not supported when working with tests in ALM.)</p>
<p>Run Results</p>	<p>Lists the run results that are stored in the specified test or folder, together with descriptive information for each. You can click a column's title to sort run results based on the entries in that column.</p>
<p>Delete</p>	<p>Deletes the selected run results from the file system and/or the ALM project. You can select multiple run results for deletion using standard Windows selection techniques.</p>

UI Elements	Description
<status bar>	Displays information regarding the displayed run results, including the number of results selected, the total number of results in the specified location and the size of the files.
Refresh	Updates the list of tests in the Run Results area.

This section also includes:

- ["Command Line Options for the Run Results Deletion Tool" below](#)

Command Line Options for the Run Results Deletion Tool

You can use command line options to specify the criteria for the run results that you want to delete using the Run Results Deletion Tool. (For details on this tool, see ["Run Results Deletion Tool \(UFT Only\)" on page 78.](#))

If you add command line options that contain spaces, you must specify the option within quotes, for example:

```
TestResultsDeletionTool.exe -Test "F:\Tests\Keep\web objects"
```

Following is a description of each command line option:

Caution: If you use the ["-Silent" on page 82](#) command line option to run the Run Results Deletion Tool, all run results that meet the specified criteria are deleted. Otherwise, the Delete Run Results Viewer opens.

-Domain < ALM_domain_name >

Specifies the name of the ALM domain to which you want to connect. This option should be used in conjunction with the -Server, -Project, -User, and -Password options.

-FromDate <results_creation_date >

Deletes run results created after the specified date. Results created on or before this date are not deleted. The format of the date is MM/DD/YYYY.

The following example deletes all results created after November 1, 2011:

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test1" -FromDate  
"11/1/2011"
```

-Log <log_file_path >

Creates a log file containing an entry for each run results file in the folder or test you specified. The log file indicates which results were deleted and the reasons why other results were not. For example, results may not be deleted if they are smaller than the minimum file size you specified.

-MinSize <minimum_file_size>

Deletes run results larger than or equal to the specified minimum file size. Specify the size in bytes.

Note: The **-MinSize** option is available only for run results in the file system. It is not supported when working with tests in ALM.

The following example deletes all results larger than or equal to 10000 bytes. Results that are smaller than 10000 bytes are not deleted:

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test1" -MinSize "10000"
```

-Name <result_file_name>

Specifies the names of the result files to be deleted. Only results with the specified names are deleted.

You can use regular expressions to specify criteria for the result files you want to delete. For more details on regular expressions and regular expression syntax, see the *HP Unified Functional Testing User Guide* or the *HP Service Test User Guide*.

The following example deletes results with the name **Res1**:

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test1" -Name "Res1"
```

The following example deletes all results whose name starts with **Res** plus one additional character: (For example, **Res1** and **ResD** would be deleted. **ResDD** would not be deleted.)

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test1" -Name "Res."
```

-Password <ALM_password>

Specifies the password for the ALM user name. This option should be used in conjunction with the **-Domain**, **-Server**, **-Project**, and **-User** options.

The following example connects to the **Default** ALM domain, using the server located at **http://QCServer/qcbin**, with the project named **Quality Center_Demo**, using the user name **Admin** and the password **PassAdmin**:

```
TestResultsDeletionTool.exe -Domain "Default" -Server "http://QCServer/qcbin"  
-Project "Quality Center_Demo" -User "Admin" -Password "PassAdmin"
```

-Project <ALM_project_name>

Specifies the name of the ALM project to which you want to connect. This option should be used in conjunction with the **-Domain**, **-Server**, **-User**, and **-Password** options.

-Recursive

Deletes run results from all tests in a specified file system folder and its subfolders. When using the **-Recursive** option, the **-Test** option should contain the path of the folder that contains the tests

results you want to delete (and not the path of a specific test).

The following example deletes all results in the F:\Tests folder and all of its subfolders:

```
TestResultsDeletionTool.exe -Test "F:\Tests" -Recursive
```

Note: The `-Recursive` option is available only for folders in the file system. It is not supported when working with tests stored in ALM.

-Server <ALM_server_path>

Specifies the full path of the ALM server to which you want to connect. This option should be used in conjunction with the `-Domain`, `-Project`, `-User`, and `-Password` options.

-Silent

Instructs the Run Results Deletion Tool to run in the background (silently), without the user interface.

The following example instructs the Run Results Deletion Tool to run silently and delete all results located in C:\tests\test

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test"
```

-Test <test_or_folder_path>

Sets the test or test path from which the Run Results Deletion Tool deletes run results. You can specify a test name and path, file system path, or full ALM path.

This option is available only when used in conjunction with the `-Silent` option.

Note: You must use the `-Domain`, `-Server`, `-Project`, `-User`, and `-Password` options to connect to ALM.

The following example opens the Run Results Deletion Tool with a list of the results in the F:\Tests\Keep\webobjects folder:

```
TestResultsDeletionTool.exe -Test "F:\Tests\Keep\webobjects"
```

The following example deletes all results in the ALM Tests\webobjects test:

```
TestResultsDeletionTool.exe -Domain "Default" -Server  
"http://QCServer/qcbin"-Project "Quality Center_Demo592" -User "Admin" -  
Password "PassAdmin"-Test "Subject\Tests\webobjects"
```

Tip: The `-Test` option can be combined with the `-Recursive` option to delete all run results in the specified file system folder and all its subfolders.

-UntilDate <results_creation_date>

Deletes run results created before the specified date. Results created on or after this date are not deleted. The format of the date is MM/DD/YYYY.

This option is available only when used in conjunction with the `-Silent` option.

The following example deletes all results created before November 1, 2005:

```
TestResultsDeletionTool.exe -Silent -Test "C:\tests\test1" -UntilDate  
"11/1/2005"
```

-User <ALM_user_name>

Specifies the user name for the ALM project to which you want to connect. This option should be used in conjunction with the `-Domain`, `-Server`, `-Project`, and `-Password` options.

This option is available only when used in conjunction with the `-Silent` option.

Troubleshooting and Limitations - Viewing Run Results

This section describes troubleshooting and limitations for viewing run results.

- **Local system monitor.** After you run a test or component with the local system monitoring option activated when the test or component is either very short, or the number of seconds entered for the **Enable local system monitoring every: __ seconds** option is high (a high percentage relative to the length of your entire test run), then when you select one of the last steps in the Run Results tree, the **Current Step** indicator in the System Monitor pane may jump to a position outside (to the right) of the graph.

Workaround: Add a **Wait** statement to the end of the test or reduce the number of seconds entered in the **Enable local system monitoring every: __ seconds** option.

- **Run session errors.** Errors during the run session produce more than one error node in the run results.
- **Exporting run results.** When UAC is set to ON and you select to export the Run Results to a system folder, the exported file is stored under Virtual Storage rather than under the specified folder. (Relevant for Microsoft Windows Vista, Windows 7, Windows Server 2008, Windows Server 2008 R2, Windows 8, and Windows Server 2012)

Chapter 2: Run Results - Understanding Step Results

This chapter includes:

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Concepts

Smart Identification in the Run Results (UFT GUI Testing Only)

If the learned description does not enable UFT to identify the specified object in a step, and a Smart Identification definition is defined (and enabled) for the object, then UFT tries to identify the object using the Smart Identification mechanism. The following examples illustrate two possible scenarios.

- ["Smart Identification - No Object Matches the Learned Description \(UFT GUI Testing Only\)" below](#)
- ["Smart Identification - Multiple Objects Match the Learned Description \(UFT GUI Testing Only\)" on the next page](#)

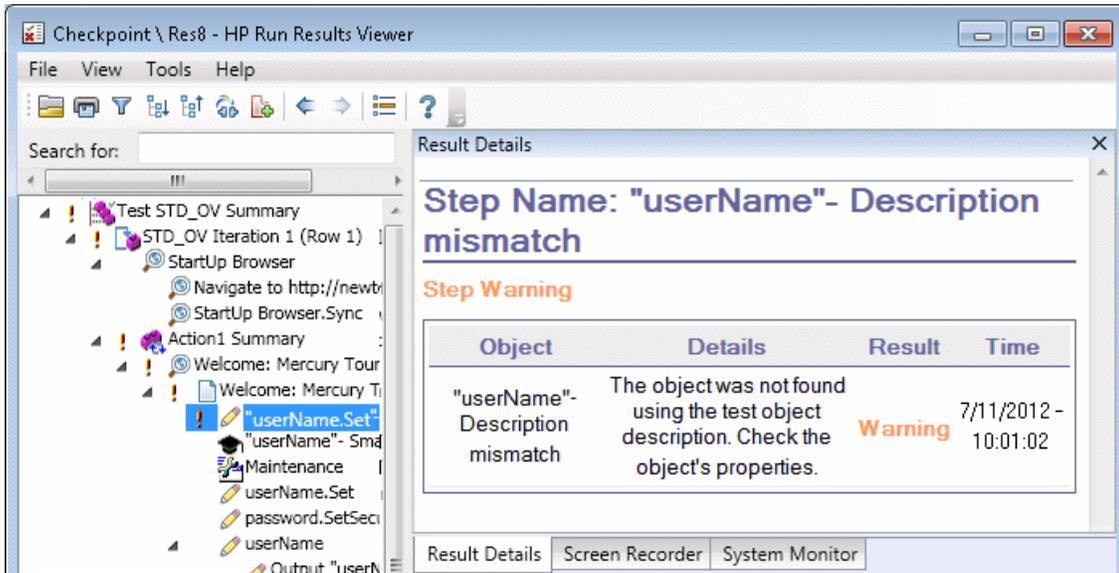
Smart Identification - No Object Matches the Learned Description (UFT GUI Testing Only)

If UFT successfully uses Smart Identification to find an object after no object matches the learned description, the run results display a warning status and include the following information:

In the results tree	In the Result Details pane
A description mismatch icon for the missing object. For example:  "userName" - Description mismatch	An indication that the object (for example, the userName WebEdit object) was not found.
A Smart Identification icon for the missing object. For example:  "userName" - Smart Identification	An indication that the Smart Identification mechanism successfully found the object, and information on the properties used to find the object. You can use this information to modify the learned test object description, so that UFT can find the object using the description in future run sessions.
The actual step performed. For example:  userName.Set	Normal result details for the performed step.

For details on the Smart Identification mechanism, see the section describing Smart Identification in the *HP Unified Functional Testing User Guide*.

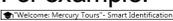
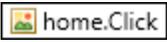
The image below shows the results for a test or component in which Smart Identification was used to identify the userName **WebEdit** object after one of the learned description property values changed.



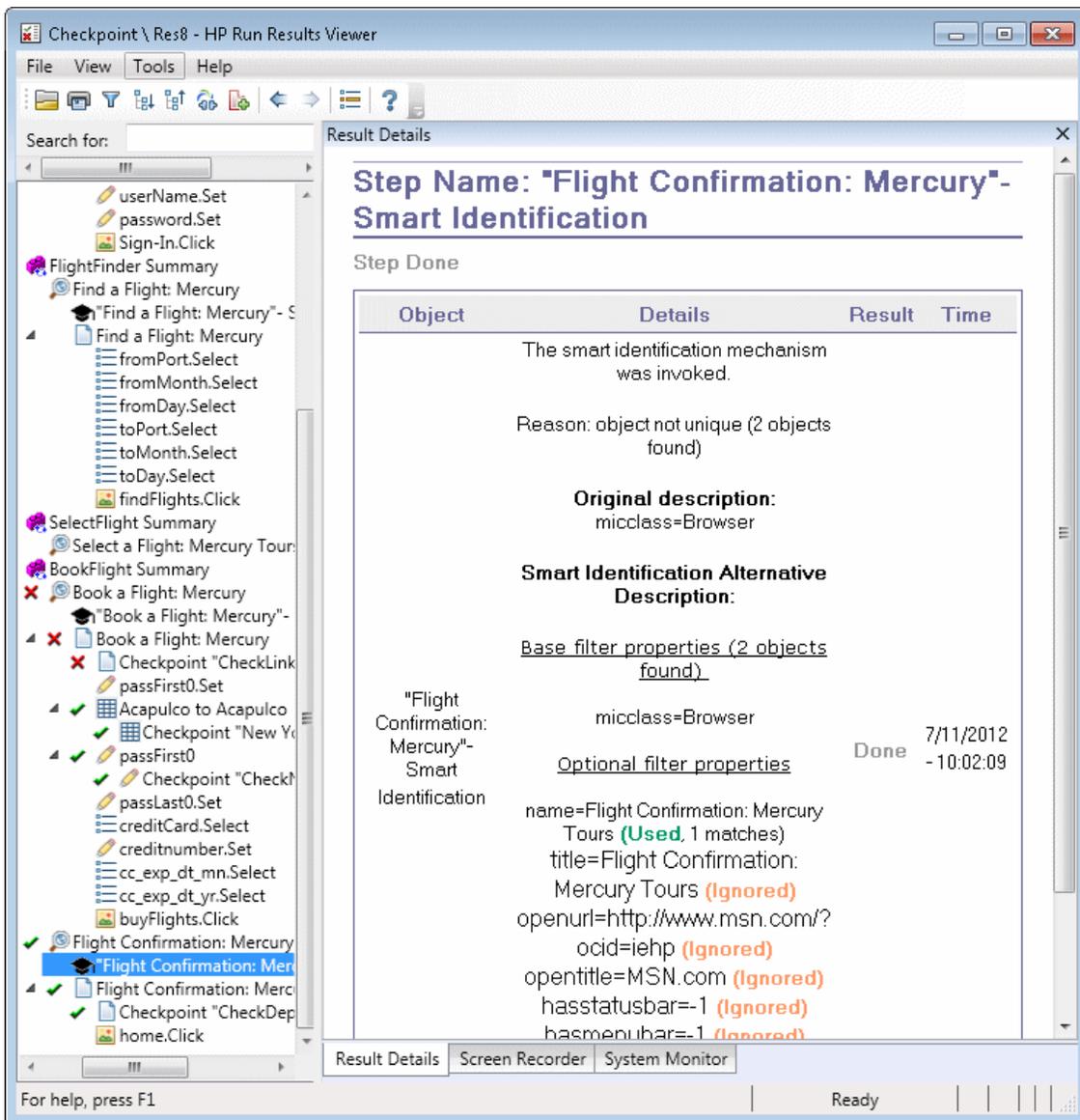
Smart Identification - Multiple Objects Match the Learned Description (UFT GUI Testing Only)

If UFT successfully uses Smart Identification to find an object after multiple objects are found that match the learned description, UFT shows the Smart Identification information in the Run Results Viewer. The step still receives a passed status, because in most cases, if Smart Identification was not used, the test object description plus the ordinal identifier could have potentially identified the object.

In such a situation, the run results show the following information:

In the results tree	In the Result Details pane
A Smart Identification icon for the missing object. For example: 	An indication that the Smart Identification mechanism successfully found the object, and information on the properties used to find the object. You can use this information to create a unique object description for the object, so that UFT can find the object using the description in future run sessions.
The actual step performed. For example: 	Normal result details for the performed step.

The image below shows the results for a test or component in which Smart Identification was used to uniquely identify the Flight Confirmation: Mercury object after the learned description resulted in multiple matches.



If the Smart Identification mechanism cannot successfully identify the object, the test or component fails and a normal failed step is displayed in the run results.

Checkpoint and Output Value Results (UFT GUI Testing Only)

The information displayed in the Run Results Viewer and the available options are determined by the type of checkpoint or output value step you select.

This section includes:

- "Accessibility Checkpoint Results (UFT GUI Tests Only) " below
- "Bitmap Checkpoint Results (UFT GUI Tests Only) " on page 93
- "File Content Checkpoint Results (UFT GUI Tests Only) " on page 94
- "Standard Checkpoint Results (UFT GUI Tests Only) " on page 96
- "Table and Database Checkpoint Results (UFT GUI Tests Only) " on page 97
- "Text and Text Area Checkpoint Results (UFT GUI Tests Only) " on page 98
- "XML Checkpoint Results (UFT GUI Tests Only) " on page 99
- "Output Value Results (UFT GUI Tests Only) " on page 101
- "XML Output Value Results (UFT GUI Tests Only) " on page 102

Accessibility Checkpoint Results (UFT GUI Tests Only)

When you include accessibility checkpoints in your test, the Run Results Viewer displays the results of each accessibility option that you checked.

The run results tree displays a separate step for each accessibility option that was checked in each checkpoint. For example, if you selected all accessibility options, the run results tree for an accessibility checkpoint may look something like this:



The run result details provide information that can help you pinpoint parts of your Web site that may not conform to the W3C Web Content Accessibility Guidelines. The information provided for each check is based on the W3C requirements.

Note: Some of the W3C Web Content Accessibility Guidelines that are relevant to accessibility checkpoints are cited or summarized in the following sections. This information is not comprehensive. When checking whether your Web site satisfies the W3C Web Content Accessibility Guidelines, you should see the complete document at: <http://www.w3.org/TR/WAI-WEBCONTENT/>.

For details on accessibility checkpoints, see the *HP Unified Functional Testing User Guide*.

ActiveX Check

Guideline 6 of the W3C Web Content Accessibility Guidelines requires you to ensure that pages are accessible even when newer technologies are not supported or are turned off. When you select the ActiveX check, UFT checks whether the selected page or frame contains any ActiveX objects. If it does not contain any ActiveX objects, the checkpoint passes. If the page or frame does contain ActiveX objects then the results display a warning and a list of the ActiveX objects so that you can check the accessibility of these pages on browsers without ActiveX support. For example:

ActiveX objects check	
Object Tag	Object Name
OBJECT	ControlX

Alt Property Check

Guideline 1.1 of the W3C Web Content Accessibility Guidelines requires you to provide a text equivalent for every non-text element. The Alt property check checks whether objects that require the Alt property under this guideline, do in fact have this attribute. If the selected frame or page does not contain any such objects, or if all such objects have the required attribute, the checkpoint passes. If one or more objects that require the property do not have it, the test fails and the run result details display a list that shows which objects are lacking the attribute. For example:

Alt property check		
Object Tag	Object Name	Alt Value
IMG	logo	[NONE]
IMG	Dog	Dog

The Captured Data pane displays the captured page or frame, so that you can see the objects listed in the Alt property check list.

Applet Check

The Applet Check also helps you ensure that pages are accessible, even when newer technologies are not supported or are turned off (Guideline 6 of the W3C Web Content Accessibility Guidelines), by finding any Java applets or applications in the checked page or frame. The checkpoint passes if the page or frame does not contain any Java applets or applications. Otherwise, the results display a warning and a list of the Java applets and applications. For example:

Applet objects check	
Object Tag	Object Name
APPLET	JavaClock.class

Frame Titles Check

Guideline 12.1 of the W3C Web Content Accessibility Guidelines requires you to title each frame to facilitate frame identification and navigation. When you select the Frame Titles check, UFT checks whether Frame and Page objects have the TITLE tag. If the selected page or frame and all frames within it have titles, the checkpoint passes. If the page, or one or more frames, do not have the tag, the test fails and the run result details display a list that shows which objects are lacking the tag. For example:

Frame titles check			
Object Class	Object Tag	Object Name	Title Value
Frame	IFRAME	takeOver	Takeover Ad
Frame	IFRAME	adSpotFrame5	Click here to find out more!
Frame	IFRAME	theFrame	[NONE]
Page		Page.com	Page.com

The Captured Data pane displays the captured page or frame, so that you can see the frames listed in the Frame Titles check list.

Multimedia Links Check

Guidelines 1.3 and 1.4 of the W3C Web Content Accessibility Guidelines require you to provide an auditory, synchronized description of the visual track of a multimedia presentation. Guideline 6 requires you to ensure that pages are accessible, even when newer technologies are not supported or are turned off. The Multimedia Links Check identifies links to multimedia objects so that you can confirm that alternate links are available where necessary. The checkpoint passes if the page or frame does not contain any multimedia links. Otherwise, the results display a warning and a list of the multimedia links.

Server-Side Image Check

Guideline 1.2 of the W3C Web Content Accessibility Guidelines requires you to provide redundant text links for each active region of a server-side image map. Guideline 9.1 recommends that you provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape. When you select the Server-side Image check, UFT checks whether the selected page or frame contains any server-side images. If it does not, the checkpoint passes. If the page or frame does contain server-side images, then the results display a warning and a list of the server-side images so that you can confirm that each one answers the guideline requirements. For example:

Server-side Image check	
Object Class	Object Name
Image	[Historical Congressional Documents]

Tables Check

Guideline 5 of the W3C Web Content Accessibility Guidelines requires you to ensure that tables have the necessary markup to be transformed by accessible browsers and other user agents. It

emphasizes that you should use tables primarily to display truly tabular data and to avoid using tables for layout purposes unless the table still makes sense when linearized. The TH, TD, THEAD, TFOOT, TBODY, COL, and COLGROUP tags are recommended so that user agents can help users to navigate among table cells and access header and other table cell information through auditory means, speech output, or a Braille display.

The Tables Check checks whether the selected page or frame contains any tables. If it does not, the checkpoint passes. If the page or frame does contain tables, the results display a warning and a visual representation of the tag structure of the table. For example:

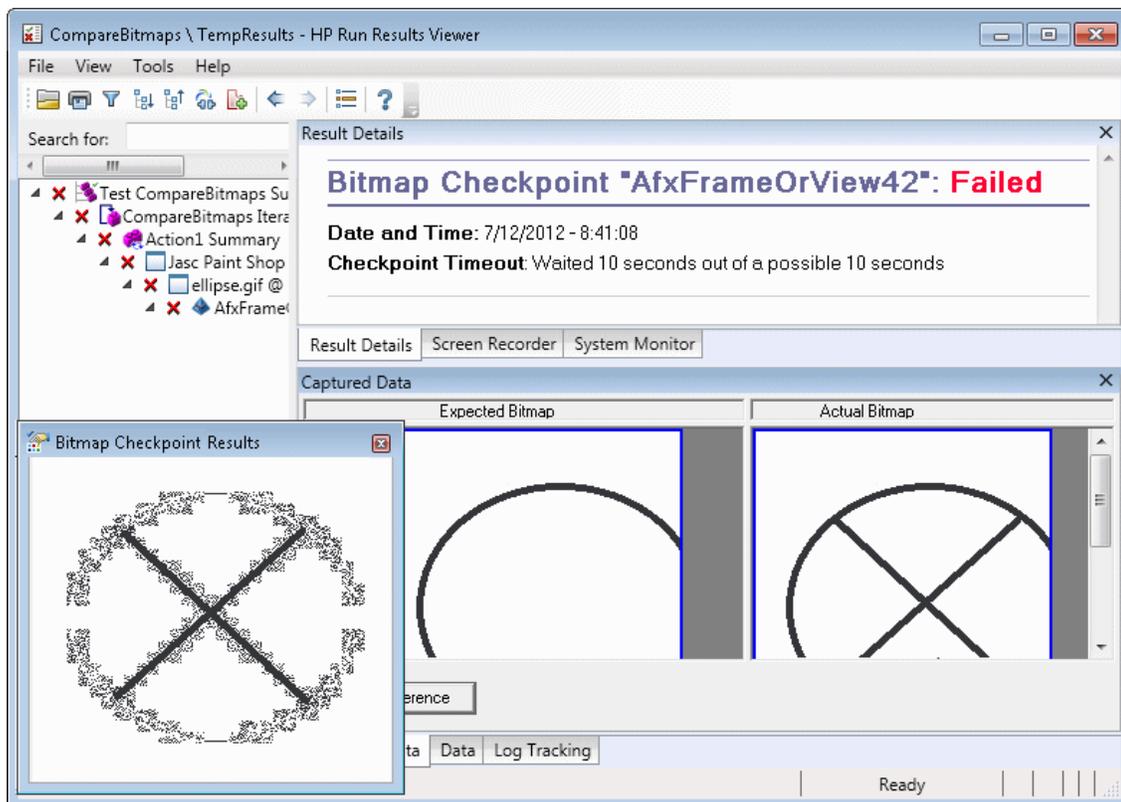
Table objects check				
Object Class	Object Name	Table Structure		
WebTable	Table 1	<table border="1"><tr><td>TD</td><td>TD</td></tr></table>	TD	TD
TD	TD			

Bitmap Checkpoint Results (UFT GUI Tests Only)

The Result Details pane displays the checkpoint step results, including its status (**Passed** or **Failed**), the date and time the checkpoint was run and the portion of the checkpoint timeout interval that was used (if any).

When Comparing Expected Bitmaps with Actual Bitmaps

The Captured Data pane shows the expected and actual bitmaps that were compared during the run session, and a **View Difference** button. When you click the **View Difference** button, UFT opens the Bitmap Checkpoint Results window, displaying an image that represents the difference between the expected and actual bitmaps. This image is a black-and-white bitmap that contains a black pixel for every pixel that is different in the two images. Similar results would be displayed for a component.



When Locating Specified Bitmaps in Actual Bitmaps

The Captured Data pane shows the actual bitmap of the runtime object in the application and the source bitmap that UFT attempted to locate within the object. It may also show the coordinates of a possible candidate that was found, and the image similarity percentage used to find the candidate.

Note: By default, the information in the Captured Data pane is available only if the bitmap checkpoint fails. You can change the conditions for when bitmaps are saved in the run results, using the **Save still image captures to results** option in the **Screen Capture** pane (**Tools >**

Options > GUI Testing tab > **Screen Capture** node) of the Options dialog box. For details, see the section describing the **Screen Capture** pane in the *HP Unified Functional Testing User Guide*.

Considerations for Reviewing Bitmap Checkpoint Results

- When comparing bitmaps, if the checkpoint is defined to compare only specific areas of the bitmap, the run results display the actual and expected bitmaps with the selected area highlighted.
- When comparing bitmaps, if the dimensions of the actual and expected bitmaps are different, UFT fails the checkpoint without comparing the bitmaps. In this case the **View Difference** functionality is not available in the results.
- The **View Difference** functionality is not available when viewing results generated in a version of QuickTest earlier than 10.00.
- If the bitmap checkpoint is performed by a custom comparer:
 - UFT passes the bitmaps to the custom comparer for comparison even if their dimensions are different.
 - The Result Details pane also displays the name of the custom comparer (as it appears in the **Comparer** box in the Bitmap Checkpoint Properties dialog box), and any additional information provided by the custom comparer.
 - The difference bitmap is provided by the custom comparer.

For details on bitmap checkpoints and custom comparers, see the section describing bitmap checkpoints in the *HP Unified Functional Testing User Guide*.

File Content Checkpoint Results (UFT GUI Tests Only)

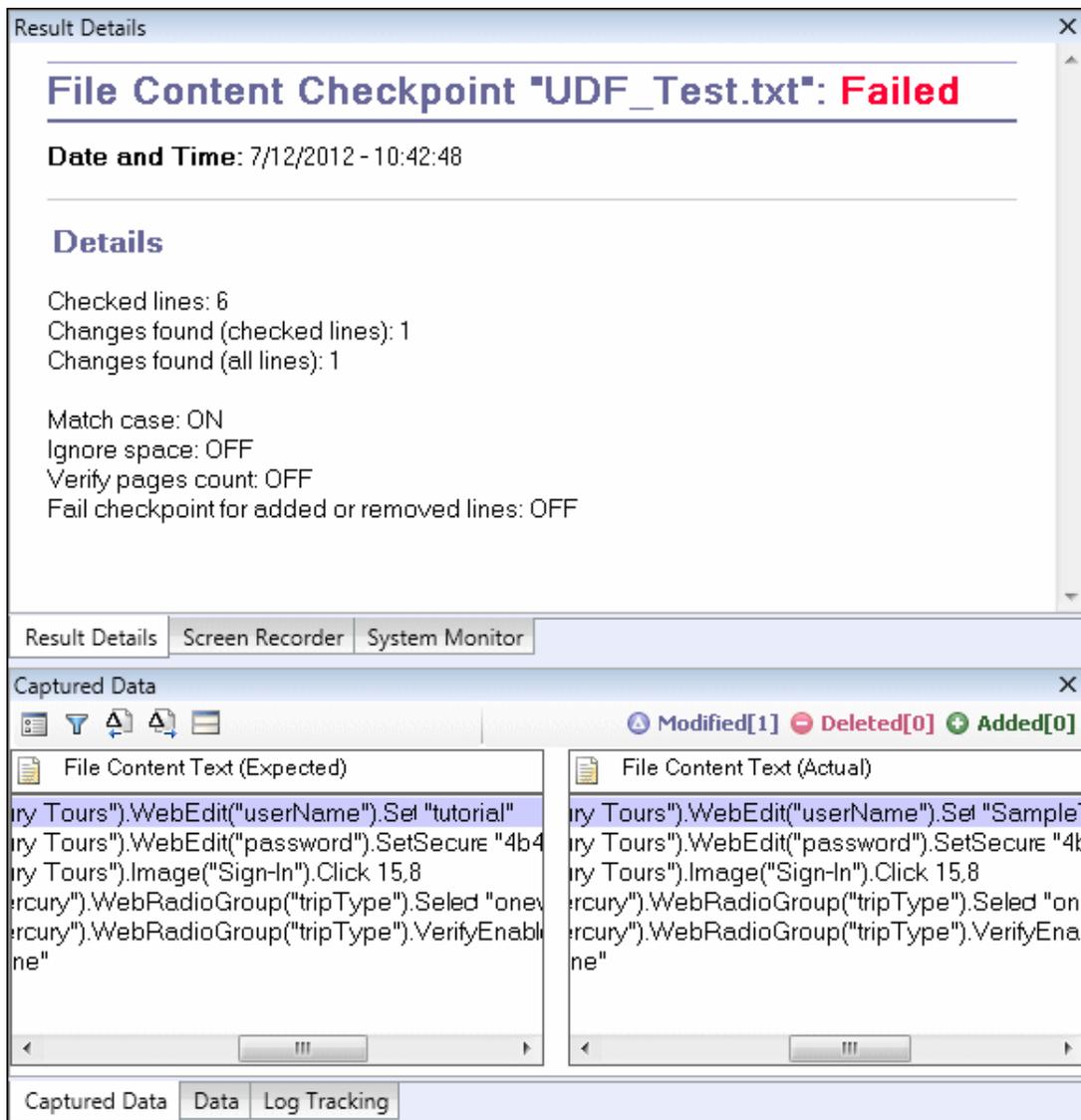
The Result Details pane displays detailed results of the selected checkpoint, including its status (**Passed** or **Failed**), and the date and time the checkpoint was run. It also displays the number of lines that were checked, the number of changes found in the checked lines, and the total number of changed lines found in the file (including both the lines that were selected in the checkpoint and the lines that were not).

The details area also specifies whether the checkpoint includes the following options: **Match case**, **Ignore spaces**, **Verify page count**, and **Fail checkpoint for added or removed lines**

For failed steps, the Captured Data pane displays any differences found for all lines in the actual file, regardless of whether they were selected for comparison in the checkpoint. An asterisk (*) adjacent to the line number indicates that a regular expression was selected for comparison against the actual file.

In the following example, the details of the failed checkpoint indicate that the expected results and the current results do not match.

- The expected value in line 1 is not identical to the actual value.
- The asterisk (*) in line 1 indicates that a regular expression was selected for comparison against the actual file *and* the lines in the expected and actual files are different.
- Lines that were selected for comparison are displayed in black.
Lines that were not selected for comparison are displayed in light grey.
- The last line exists in the source (expected) file but is missing from the actual file. This line was not selected for comparison, so its textual content is displayed in grey instead of black.
- No lines were added to the actual file.



Captured Data Pane — Buttons

UI Elements		Description
	Color Settings	Opens the "Color Settings Dialog Box (Captured Data Pane - Run Results Viewer) (UFT GUI Tests Only)" on page 107 dialog box, enabling you to define the text and background color for each filter type. For details, see the <i>HP Unified Functional Testing User Guide</i> .
	Next Difference	Finds the next difference between the lines in the compared versions.
	Previous Difference	Finds the previous difference between the lines in the compared versions.
	Filter	<p>Opens the "Filter Dialog Box (Captured Data Pane - Run Results Viewer) (UFT GUI Tests Only)" on page 108 dialog box, enabling you to show or hide the following types of filter elements in the comparison window:</p> <ul style="list-style-type: none"> • Modified  • Deleted  • Added  • Identical <p>Tip: The legend in the top-right corner of the comparison window indicates how many lines match each filter type. The legend adjacent to a collapsed node indicates how many sub-nodes match each filter type. For details, see the <i>HP Unified Functional Testing User Guide</i>.</p>
	View Horizontal or View Vertical	<p>View Horizontal. Displays the open documents one above the other.</p> <p>View Vertical. Displays the open documents side-by-side.</p>

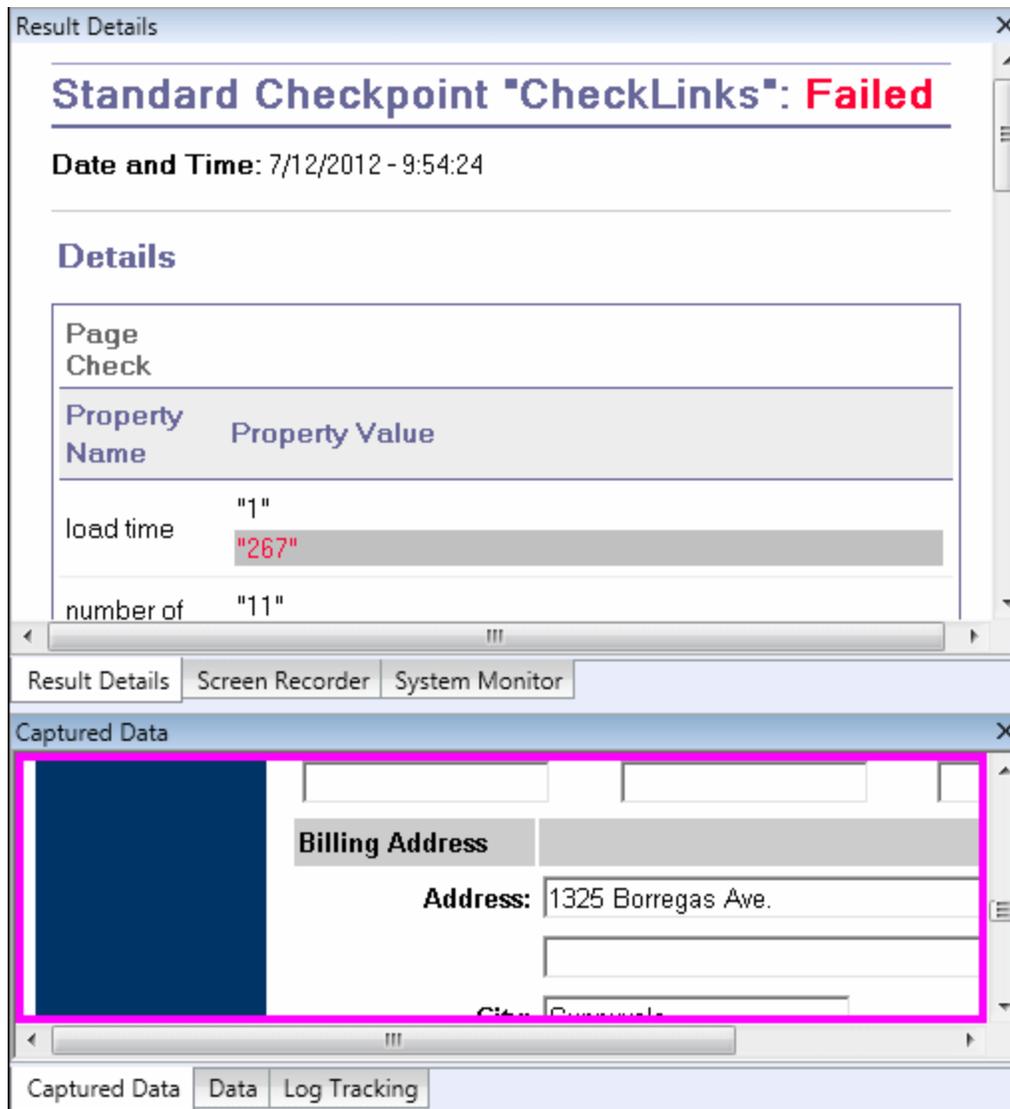
For details, see the section describing file content checkpoints in the *HP Unified Functional Testing User Guide*.

Standard Checkpoint Results (UFT GUI Tests Only)

The Result Details pane displays detailed results of the selected checkpoint, including its status (**Passed** or **Failed**), the date and time the checkpoint was run, and the portion of the checkpoint timeout interval that was used (if any). It also displays the values of the object properties that are checked, and any differences between the expected and actual property values.

The Captured Data pane displays the image capture for the checkpoint step (if available).

In the following example, the details of the failed checkpoint indicate that the expected results and the current results do not match. The expected value of the flight departure is **Paris**, but the actual value is **Frankfurt**.



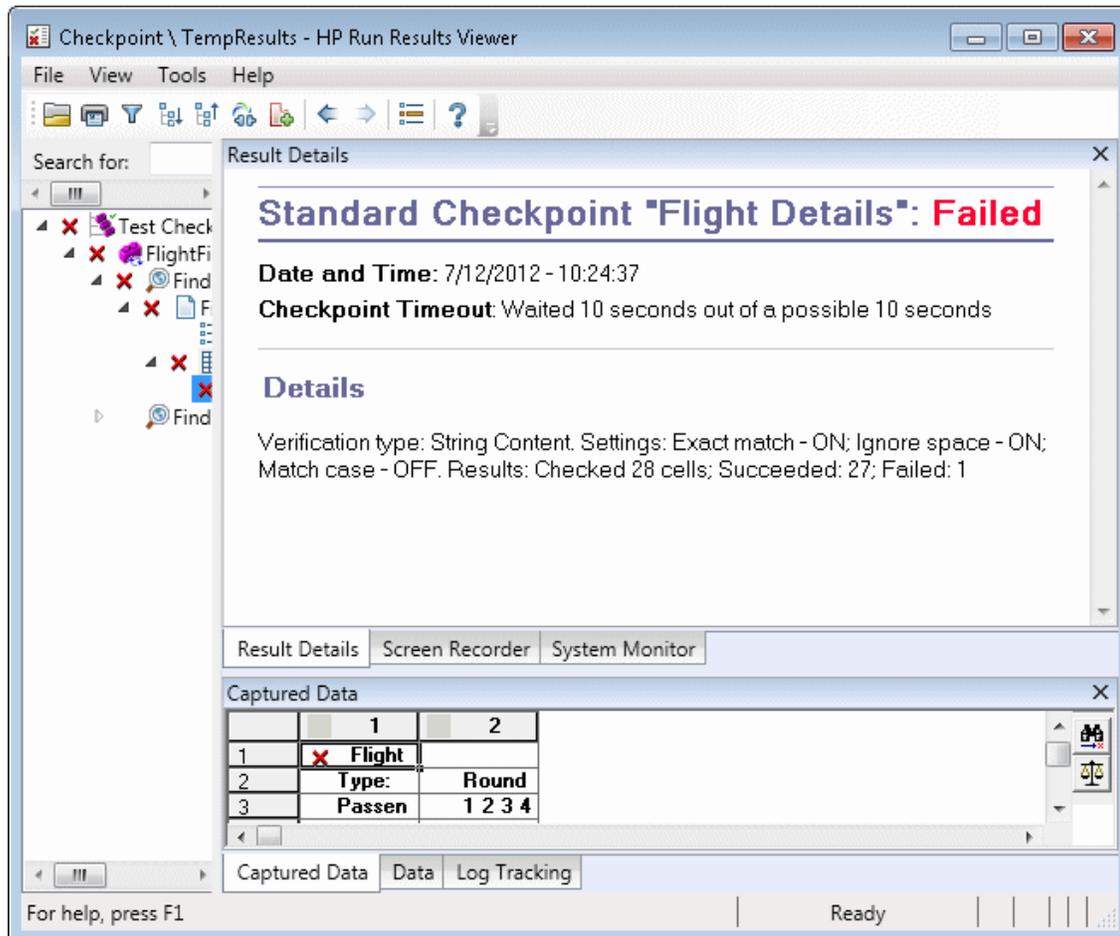
For details, see the section describing standard checkpoints in the *HP Unified Functional Testing User Guide*.

Table and Database Checkpoint Results (UFT GUI Tests Only)

The results displayed for table and database checkpoints are similar. The Result Details pane displays the checkpoint step results, including its status (**Passed** or **Failed**), the date and time the checkpoint was run, the verification settings you specified for the checkpoint, and the number of individual table cells or database records that passed and failed the checkpoint.

If the checkpoint failed, the Captured Data pane shows the table cells or database records that were checked by the checkpoint. Cell values or records that were checked are displayed in black; cell values or records that were not checked are displayed in gray. Cells or records that failed the checkpoint are marked with a failed  icon.

The following is an example of the results for a table checkpoint:



You can click the **Next Mismatch** button  in the Captured Data pane to highlight the next table cell or database record that failed the checkpoint.

You can click the **Compare Values** button  in the Captured Data pane to display the expected and actual values of the selected table cell or database record.

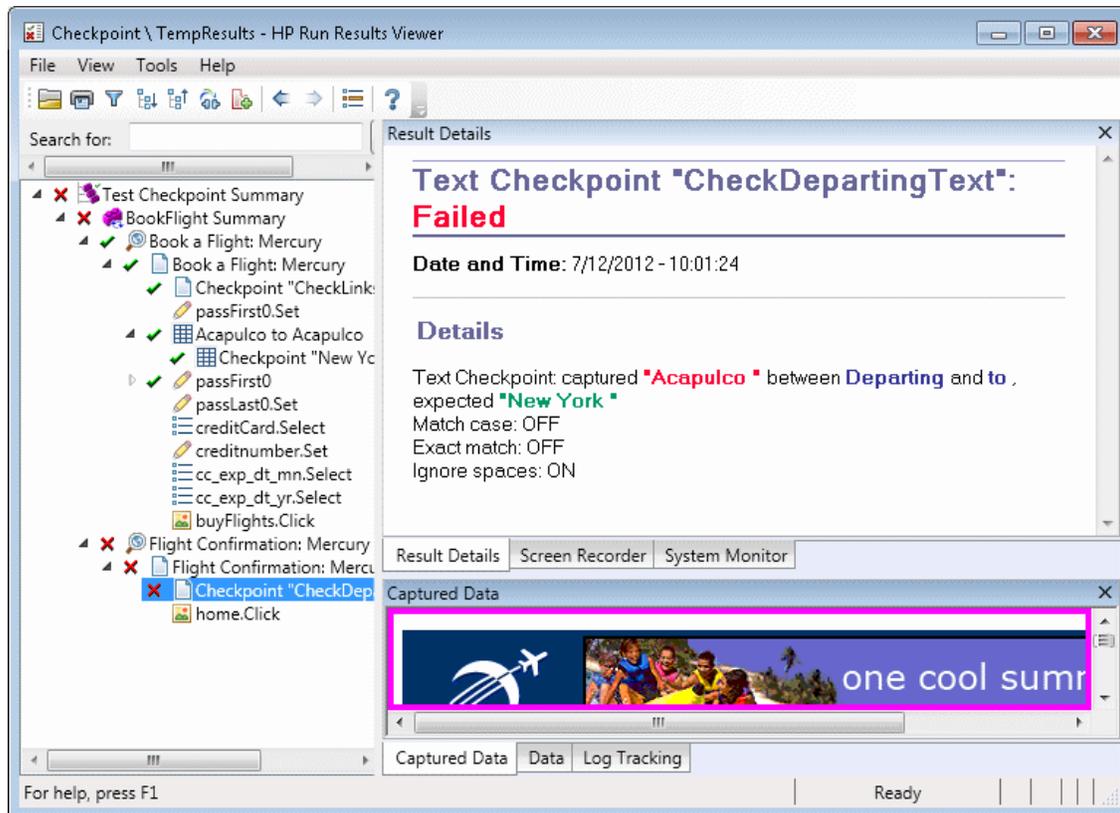
For details, see the sections describing table checkpoints and database checkpoints in the *HP Unified Functional Testing User Guide*.

Text and Text Area Checkpoint Results (UFT GUI Tests Only)

The Result Details pane displays the checkpoint step results, including its status (**Passed** or **Failed**), the date and time the checkpoint was run and the portion of the checkpoint timeout interval

that was used (if any). It also shows the expected text and actual text that was checked, and the verification settings you specified for the checkpoint.

The following is an example of the results for a text checkpoint:



For details, see the section describing text and text area checkpoints in the *HP Unified Functional Testing User Guide*.

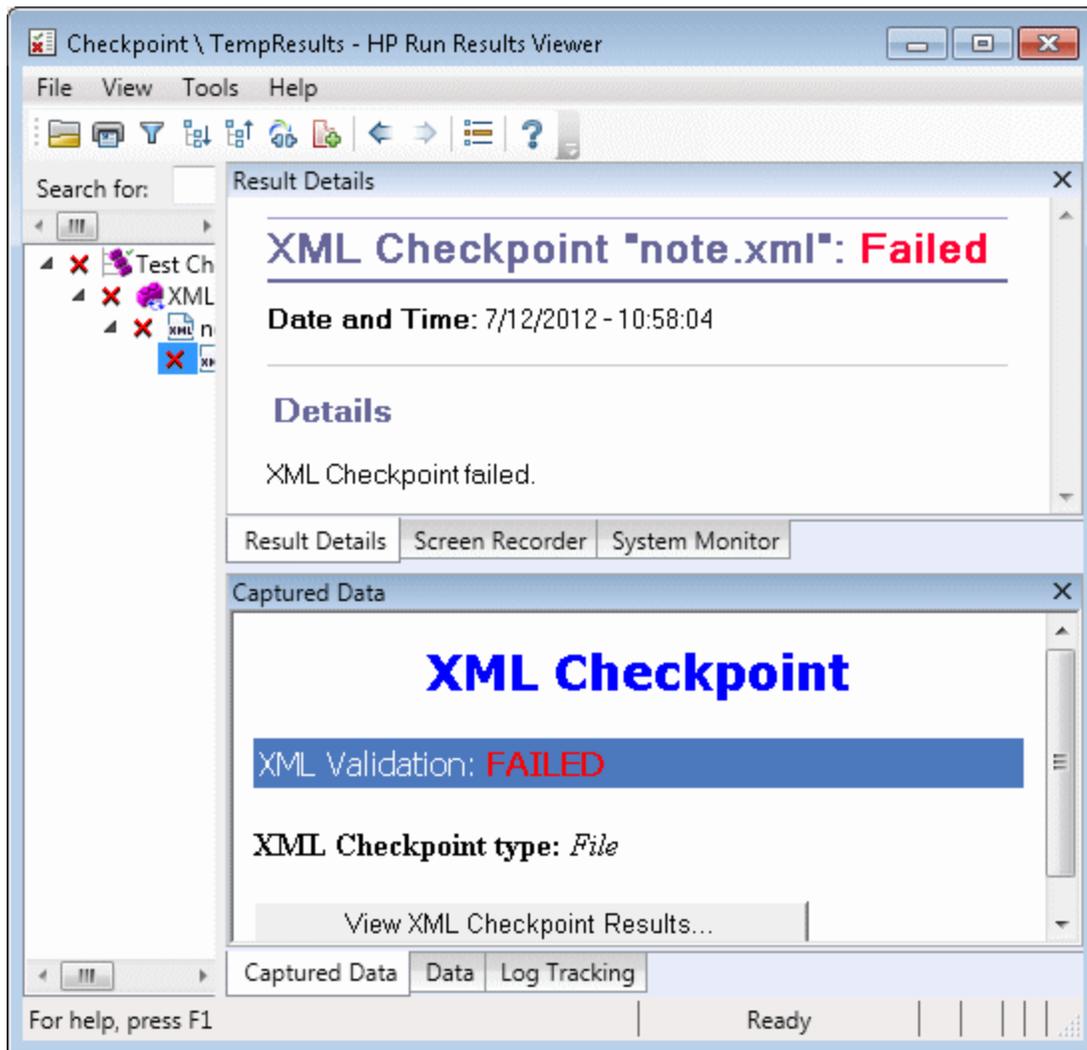
XML Checkpoint Results (UFT GUI Tests Only)

The Result Details pane displays the checkpoint step results.

The Captured Data pane shows the details of the schema validation (if applicable) and a summary of the checkpoint results. If the schema validation failed, the reasons for the failure are also shown.

If the checkpoint failed, you can view details of each check performed in the checkpoint by clicking **View XML Checkpoint Results** in the Captured Data pane. The XML Checkpoint Results window opens, displaying details of the checkpoint's failure. For details, see ["XML Checkpoint Results Window \(UFT GUI Tests Only\)" on page 109](#).

The following is an example of the results for an XML checkpoint:



Note: By default, if the checkpoint passes, the **View XML Checkpoint Results** button is not available. The availability of these detailed results is dependent on the **Save still image captures to results** setting in the **Screen Capture** pane (**Tools > Options > GUI Testing** tab > **Screen Capture** node) of the Options dialog box. For details, see the section describing the Screen Capture pane in the *HP Unified Functional Testing User Guide*.

Output Value Results (UFT GUI Tests Only)

The Result Details pane displays detailed results of the selected output value step, including its status, and the date and time the output value step was run. It also displays the details of the output value, including the value that was captured during the run session, its type, and its name, as shown in the following example. Similar results would be displayed for a component.

The screenshot shows the HP Run Results Viewer interface. The 'Result Details' pane displays the following information:

- Standard Output Value "Price: \$270 (based on round trip)": Done**
- Date and Time:** 7/15/2012 - 13:07:23
- Details:**
 - Price: \$270 (based on round trip) Results
 - Property Name: innertext
 - Captured Value: Price: \$270 (based on round trip)
 - Type: DataTable
 - Name: Price__270_based_on_innertext_out

The 'Captured Data' pane shows a table with the following data:

SELECT	FLIGHT	DEPART	STOPS
<input type="radio"/>	Blue Skies Airlines 360	5:03	non-stop
<input type="radio"/>	Blue Skies Airlines 361	7:10	non-stop
<input type="radio"/>	Price: \$271 (based on round trip)		

For details, see the section describing output values in the *HP Unified Functional Testing User Guide*.

For details on XML output value steps, see ["XML Output Value Results \(UFT GUI Tests Only\)"](#) on the next page.

File Content Output Value Results (UFT GUI Tests Only)

The Result Details pane displays the results of the file content output value step, including its status, the date and time the step was run, and details for the parameterized file content output value. This pane also shows the configuration settings (whether **match case** and **ignore spaces** were set), as shown in the following example.

The screenshot shows a window titled "Result Details" with a close button (X) in the top right corner. The main content area displays the following information:

File Content Output Value "UDF_Test.txt":
Done

Date and Time: 7/15/2012 - 13:14:55

Details

#	Parameter		Match		
	Command	Line	Found	Text	Lines
1	DataTable("FileContent_Acapulco_out", dtGlobalSheet)	1	✓	Acapulco	1-1
2	DataTable("FileContent_London_out", dtGlobalSheet)	2	✓	London	2-2
3	DataTable("FileContent_Frankfurt_out", dtGlobalSheet)	3	✓	Frankfurt	3-3
4	DataTable("FileContent_New_out", dtGlobalSheet)	4	✓	New York	4-4

Checked lines: 4

Match case: ON
 Ignore space: OFF

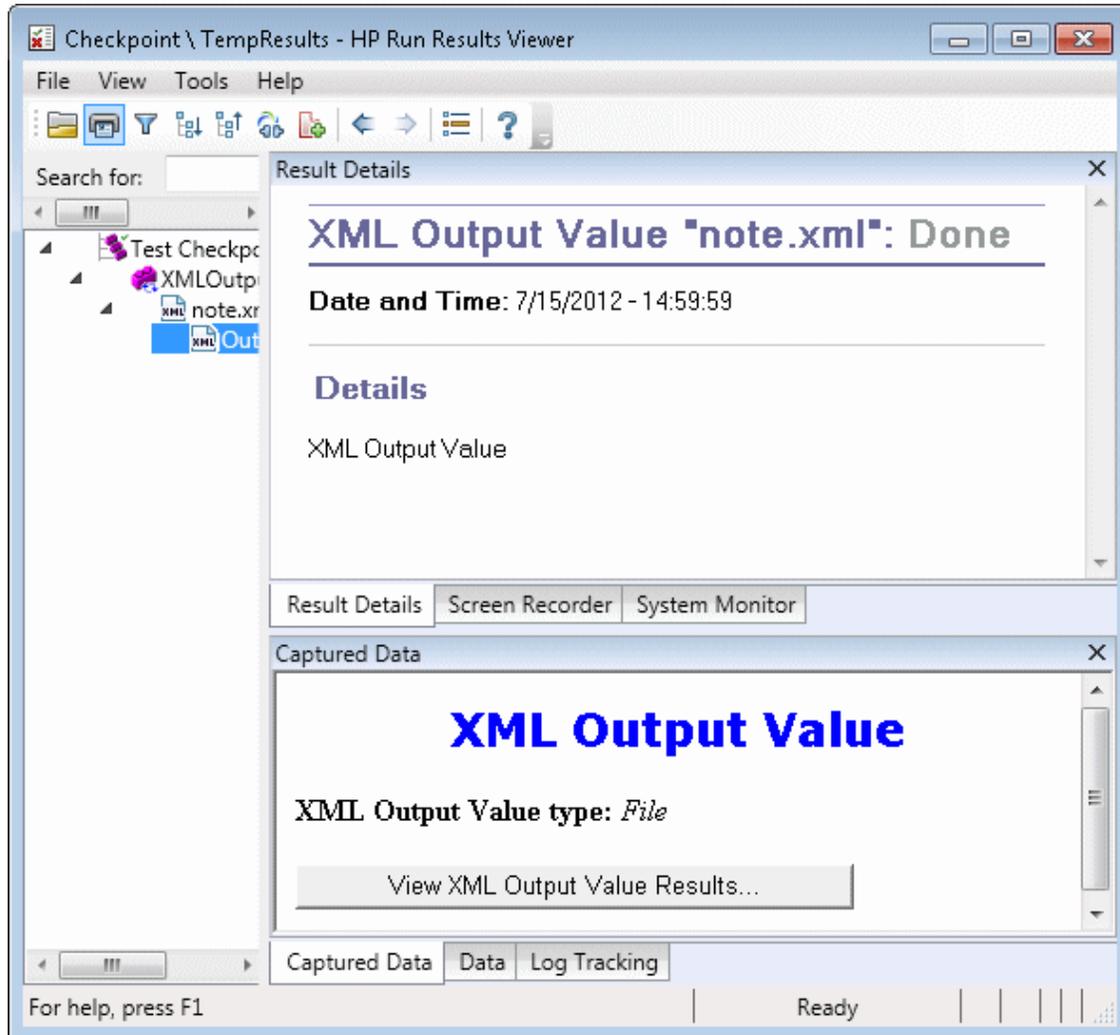
For details, see the section describing file content output values in the *HP Unified Functional Testing User Guide*.

XML Output Value Results (UFT GUI Tests Only)

The Result Details pane displays a summary of the output value results.

From the Captured Data pane, you can view detailed results by clicking **View XML Output Value Results** to open the XML Output Value Results window. For details, see "[XML Output Value Results Window \(UFT GUI Tests Only\)](#)" on page 115.

The following is an example of the results for an XML output value:



Note: By default, the **View XML Output Value Results** button is available only when an error occurs. The availability of these detailed results is dependent on the **Save still image captures to results** setting in the **Screen Capture** pane (**Tools > Options > GUI Testing** tab > **Screen Capture** node) of the Options dialog box. For details, see the section describing the Screen Capture pane in the *HP Unified Functional Testing User Guide*.

For details, see the section describing XML output values in the *HP Unified Functional Testing User Guide*.

Parameterized Values in the Run Results

A **parameter** is a variable that is assigned a value from an external data source or generator for a test, or from within a component. You can view the values for the parameters defined in your test or component in the Run Results Viewer.

To view parameterized values, expand the nodes in the run results tree and click the root node to view test or component input and output parameters, or click an action node that contains parameterized values (tests only).

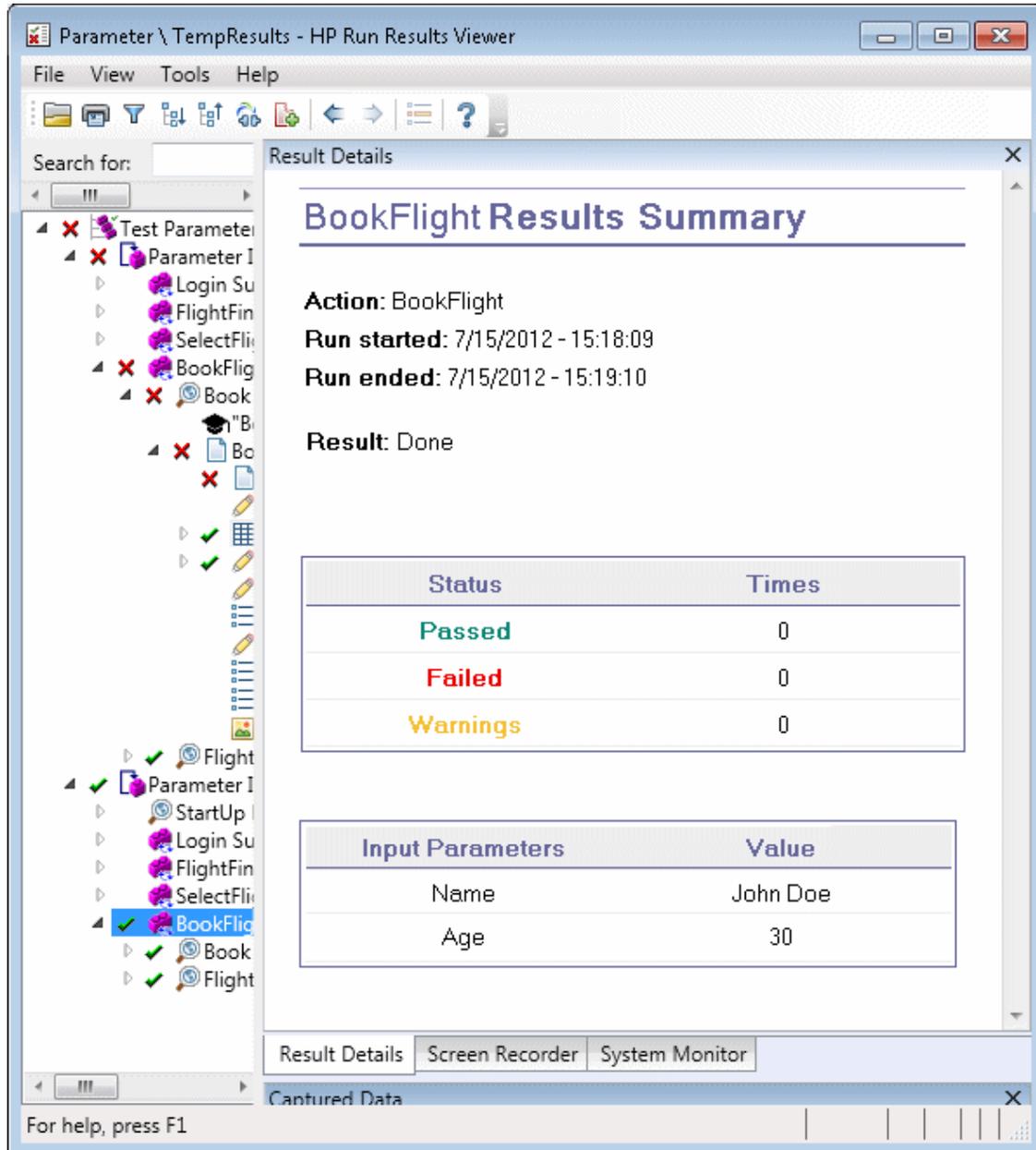
Test and component parameters are displayed in the **Parameters** section of the Executive Summary area of the Results Details pane, which you display by clicking the root node of the run results tree. The example below shows input test parameters. The **Parameters** section would be identical for input component parameters.

The screenshot shows the HP Run Results Viewer interface. The main window title is "Parameter \ TempResults - HP Run Results Viewer". The interface includes a menu bar (File, View, Tools, Help), a search bar, and a tree view on the left. The tree view shows a "Test Parameter" node expanded to show two "Parameter Item" nodes. The main pane displays "Result Details" for "Executive Summary - Parameter - TempResults" with a "Passed" status. The summary includes fields for Test name, Results name, Time zone, Run started/ended, Total time, Product name, Product version, Host name, and Operating system. Below the summary is a "Statistics" section with a legend for Passed (green), Failed (red), Warning (orange), and Done (grey). Two donut charts show "Current Run" results: "Iterations" (2 Passed, 0 Failed, 0 Warnings) and "Steps" (8 Passed, 0 Failed, 0 Warnings). The "Parameters" section at the bottom contains a table with two columns: "Input parameter" and "Value".

Input parameter	Value
Name	Tutorial
CreditCard	Visa

If output test or component parameters were defined, they would be displayed in this pane beneath the input parameters.

For action parameters, the name and value of the input and output parameters are displayed in the Result Details pane. Similar results would be displayed for a component.



The example above shows input parameters that were defined at the action level. If output parameters were defined at this level, they would also be displayed in this pane.

For details on defining and using parameters in your tests and components, see the *HP Unified Functional Testing User Guide*.

GUI Tests Containing Calls to UFT API /Service Test Tests (UFT GUI Tests Only)

If your test contains a call to a UFT API or Service Test test, you can view the results of that test in the run results. The run results tree displays all of the GUI test-specific nodes that preceded the call to the UFT API or Service Test test, all of the UFT API or Service Test test-specific nodes from that test call, and all of the GUI test-specific nodes that followed that call.

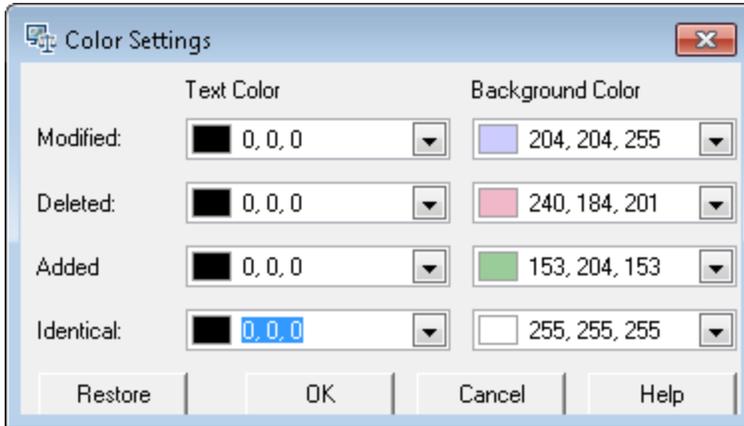
For details on what is displayed for UFT API or Service Test test steps, see the following sections:

- ["Custom Fields \(Service Test/UFT API Testing Only\)" on page 17](#)
- ["Captured Data Pane \(Run Results Viewer\) " on page 46](#)
- ["Captured Data Pane Contents for UFT API/Service Test Steps" on page 47](#)

Reference

Color Settings Dialog Box (Captured Data Pane - Run Results Viewer) (UFT GUI Tests Only)

This dialog box enables you to modify the text and background colors for the various filter elements in the Captured Data pane in the Run Results Viewer.



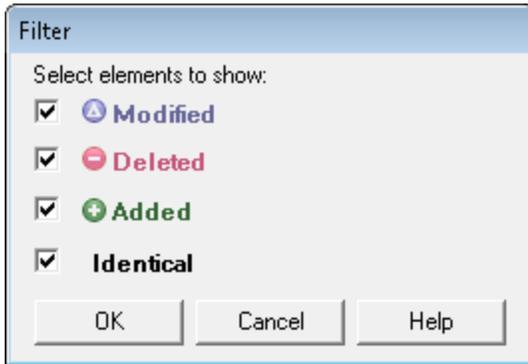
To access	In the Captured Data pane, click the Color Settings toolbar button  .
Important information	Availability: File content checkpoints only If you change the background color for a filter type, the legend in the top-right corner of the pane changes accordingly. These changes remain in effect unless you change them again or restore the default settings.

User interface elements are described below:

UI Elements	Description
Modified Deleted Added Identical	Text color and background color for the relevant filter elements. You can: <ul style="list-style-type: none">Click a down arrow  to select a color from the list of colors in the Custom, Web, or System tabs.Enter an RGB value directly in the edit box.
Restore	Restores the default color values for each of the filter elements.

Filter Dialog Box (Captured Data Pane - Run Results Viewer) (UFT GUI Tests Only)

This dialog box enables you to show or hide lines in the pane according to filter criteria.



To access	In the Captured Data pane, click the Filter toolbar button  .
Important information	Availability: File content checkpoints

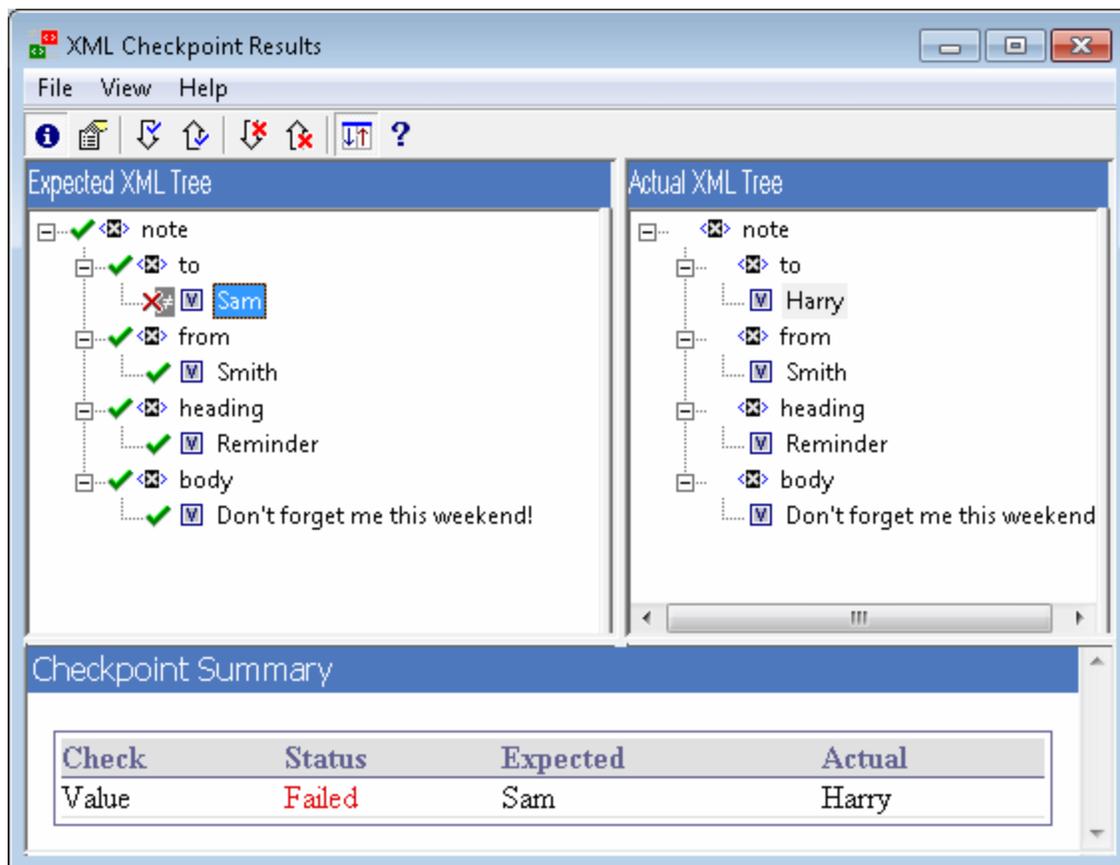
User interface elements are described below:

UI Elements	Description
Select elements to show	Select or clear a check box. The pane displays only those lines that match the defined filter. You can show or hide the following types of lines: <ul style="list-style-type: none">•  Modified•  Deleted•  Added• Identical

XML Checkpoint Results Window (UFT GUI Tests Only)

This window displays the XML file hierarchy.

- **Expected XML Tree pane.** Displays the expected results—the elements, attributes, and values, as stored in your XML checkpoint.
- **Actual XML Tree pane.** Displays the actual results—what the XML document actually looked like during the run session.
- **Checkpoint Summary pane.** Displays results information for the check performed on the selected item in the expected results pane.



To access	In the Captured Data pane of the Run Results Viewer, click the View XML Checkpoint Results button.
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Important information	When you open the XML Checkpoint Results window, the Checkpoint Summary pane displays the summary results for the first checked item in the expected results pane. <div style="background-color: #f0f0f0; padding: 5px;"> <p>Tip: You can double-click any element value in this window to open the Element Value dialog box, which displays the value in a multi-line edit control. For details, see "Element Value Dialog Box (Run Results Viewer) (UFT GUI Tests Only)" on page 114.</p> </div>
See also	"XML Checkpoint Results (UFT GUI Tests Only)" on page 99

User interface elements are described below:

UI Elements	Description
	<p>View Checkpoint Summary. Displays the Checkpoint Summary pane, which provides a detailed description of which parts of an element passed or failed.</p> <p>Menu option: View > Checkpoint Summary.</p>
	<p>View Attribute Details. Displays the Expected Attributes and Actual Attributes panes, for an element whose attributes were checked.</p> <p>Menu option: View > Attribute Details.</p>
	<p>Find Next Check. Jumps directly to the next checked item in the XML Tree.</p> <p>Menu option: View > Find Next Check</p>
	<p>Find Previous Check. Jumps directly to the previous checked item in the XML Tree.</p> <p>Menu option: View > Find Previous Check</p>
	<p>Find Next Error. Jumps directly to the next error in the XML Tree.</p> <p>Menu option: View > Find Next Error</p>
	<p>Find Previous Error. Jumps directly to the previous error in the XML Tree.</p> <p>Menu option: View > Find Previous Error</p>
	<p>Scroll Trees Simultaneously. Synchronizes the scrolling of the Expected and Actual XML Trees. If this option is selected, the Expected and Actual XML Trees scroll simultaneously as you navigate through either of the tree structures. If this option is not selected, you can scroll only one tree at a time.</p> <p>Menu option: View > Scroll Trees Simultaneously</p>
	<p>Help Topics. Opens the help for the XML Checkpoint Results window.</p> <p>Menu option: View > Help Topics</p>

Sample XML Checkpoint Result Scenarios

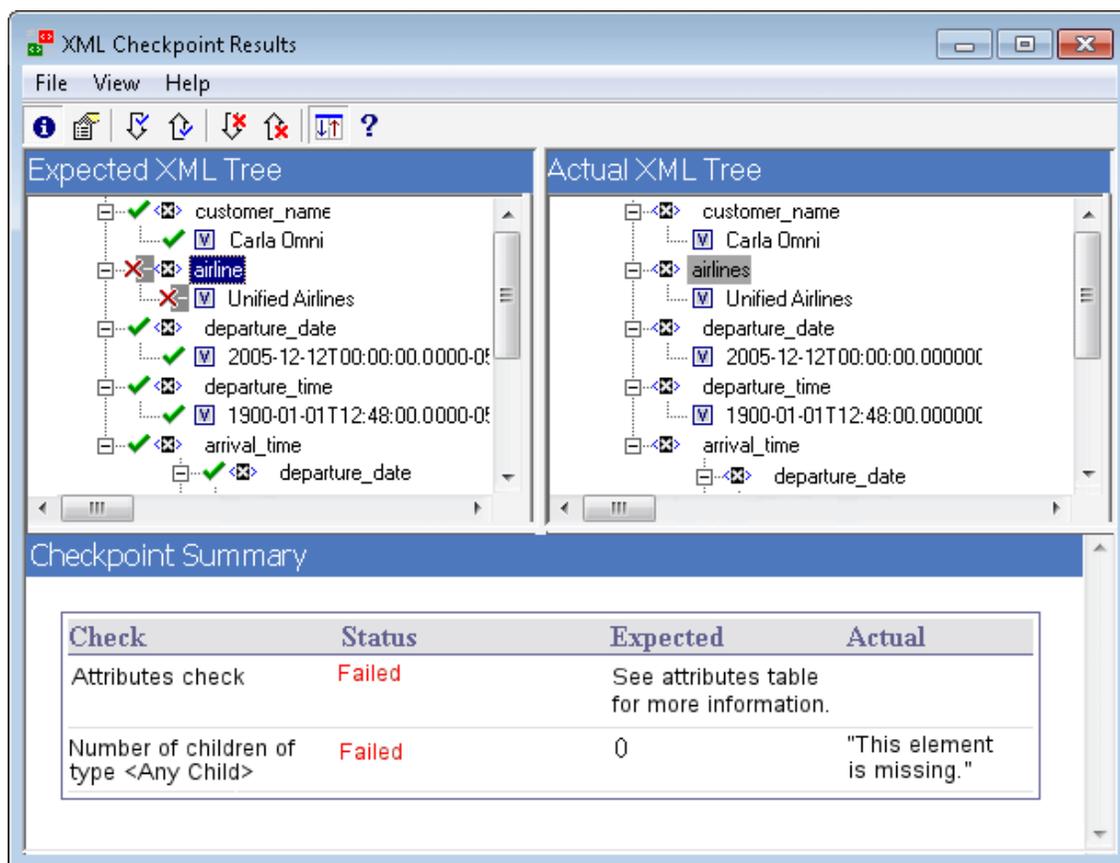
Below are four sample XML checkpoint scenarios. Each example describes the changes that occurred in the actual XML document, explains how you locate the cause of the problem in the XML checkpoint results, and displays the corresponding XML Checkpoint Results window.

Scenario 1

In the following example, the `airline` element tag was changed to `airlines` and the XML checkpoint identified the change in the tag structure. The `airline` element's child element check also failed because of the mismatch at the parent element level.

To view details of the failed element, select the `airline` tag from the Expected XML Tree and select **View > Checkpoint Summary** to view the Checkpoint Summary in the bottom pane in the XML Checkpoint Results window.

The text "This element is missing" indicates that the `airline` element tag changed in your XML document.

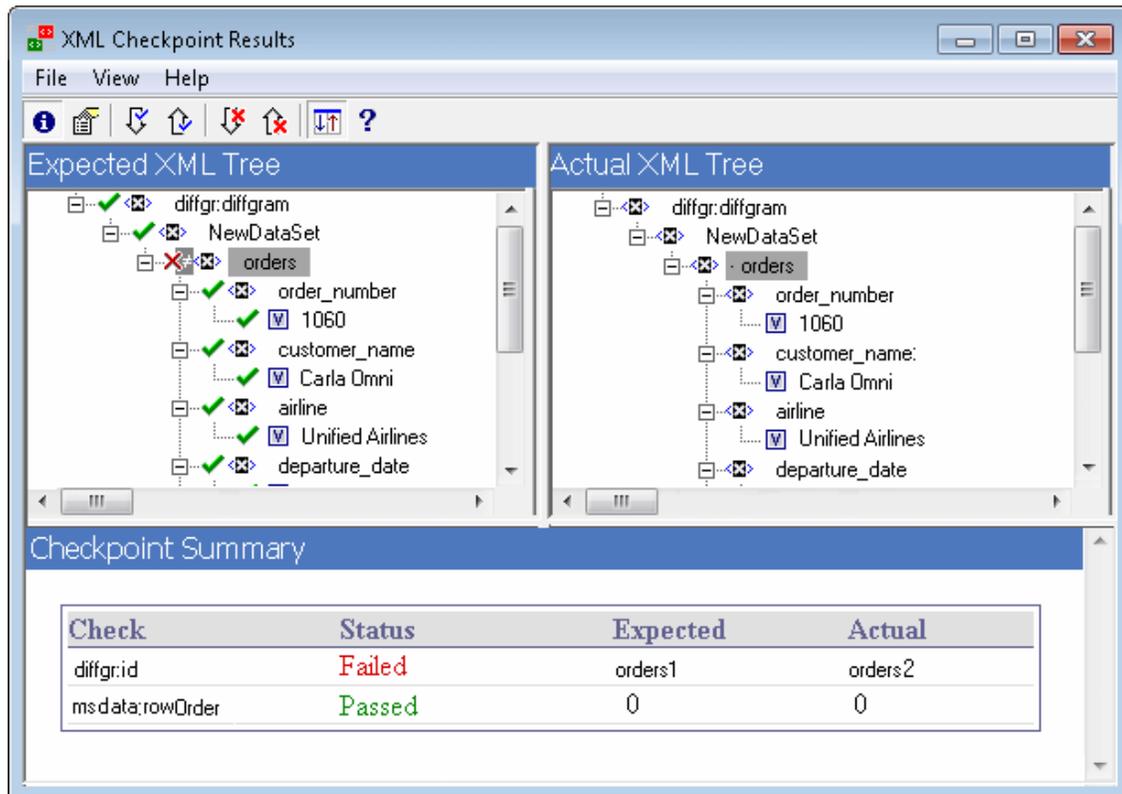


Scenario 2

In the following example, an attribute that is associated with the `orders` element tag was changed from the original, expected value of `orders1`, to a new value of `orders2`.

To view details of the failed attribute, select the failed element from the Expected XML Tree and select **View > Attribute Details**. The Expected Attributes and Actual Attributes panes are displayed at the bottom of the XML Checkpoint Results window.

Using the Expected Attributes and Actual Attributes panes, you can identify which attribute caused the error and which values were mismatched.

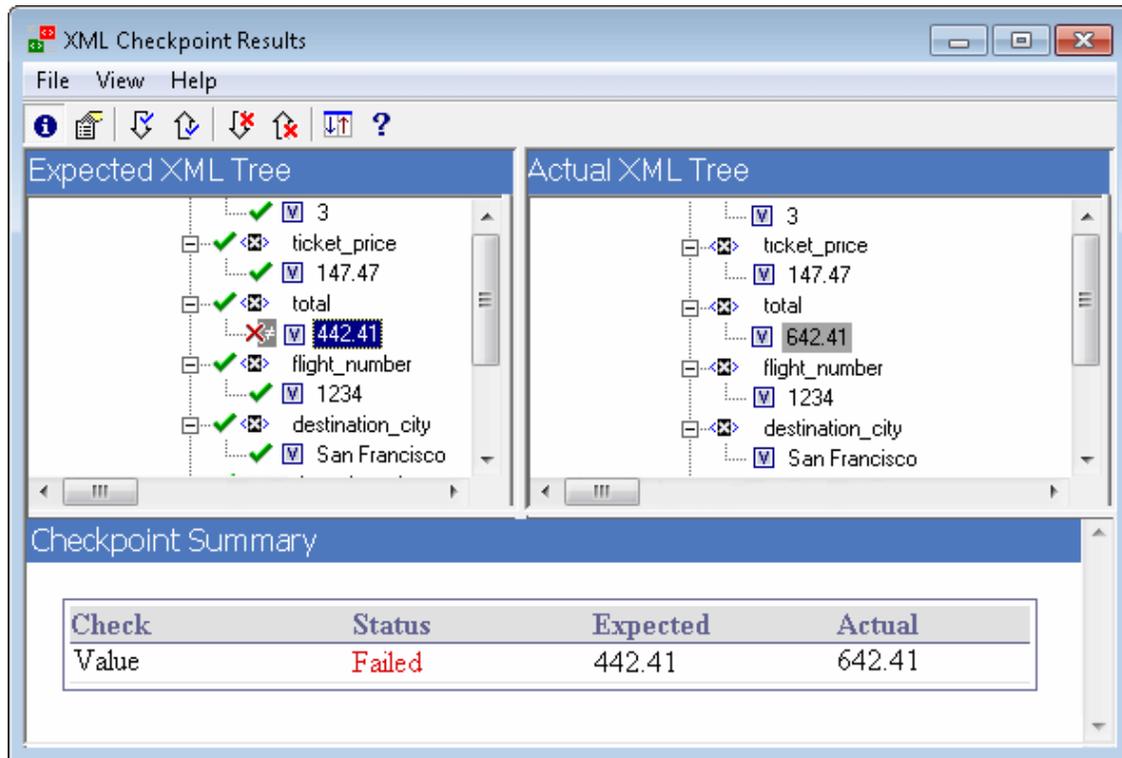


Scenario 3

In the following example, the actual value of the total element was changed between execution runs, causing the checkpoint to fail.

To view details of the failed value, select the failed element from the Expected XML Tree and select **View > Checkpoint Summary** to view the Checkpoint Summary in the bottom pane in the XML Checkpoint Results window.

Using the Checkpoint Summary pane, you can compare the expected and actual values of the total element.



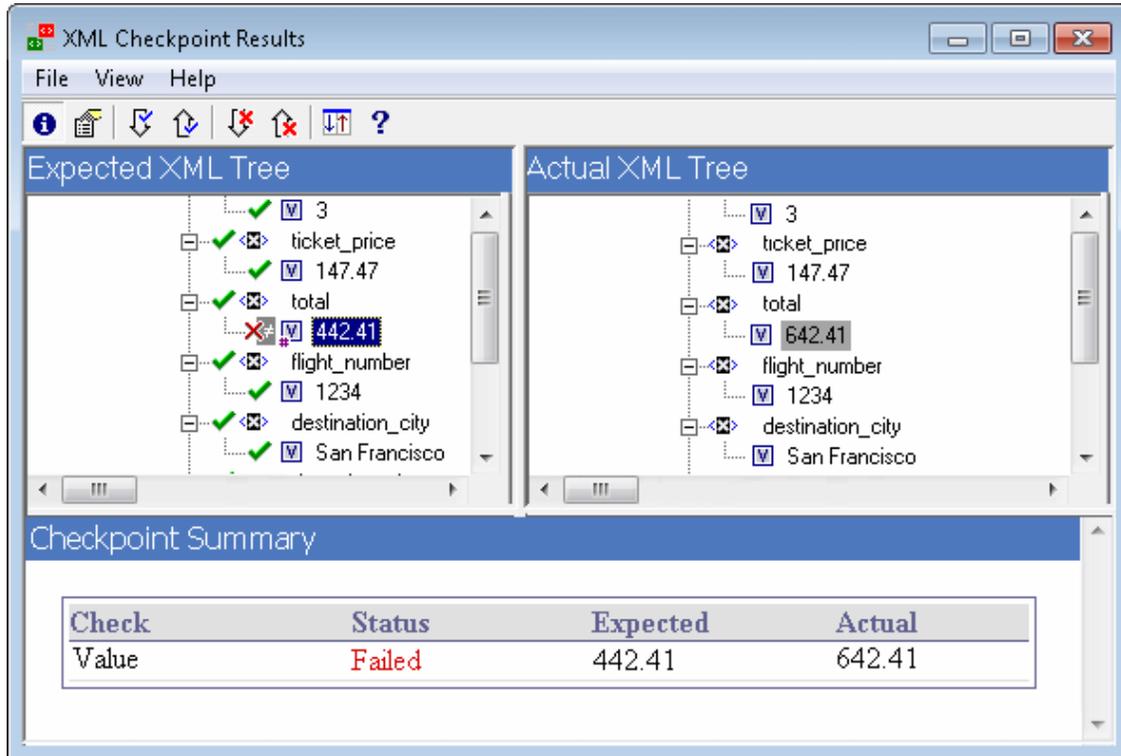
Scenario 4

In the following example, the value of the total element was parameterized and the value's content caused the checkpoint to fail in this iteration.

The value icon is displayed with a pound symbol to indicate that the value was parameterized.

To view details of the failed value, select the failed element from the Expected XML Tree and select **View > Checkpoint Summary** to view the Checkpoint Summary in the bottom pane in the XML Checkpoint Results window. The procedure for analyzing the checkpoint results does not change even though the value was parameterized.

Using the Checkpoint Summary pane, you can compare the expected and actual values of the total element.



Element Value Dialog Box (Run Results Viewer) (UFT GUI Tests Only)

This dialog box enables you to view element values from the XML Checkpoint Results window in a multi-line edit window. It also enables you to navigate between the values in the **Expected XML Tree** or **Actual XML Tree**.



To access	Double-click a value in the XML Checkpoint Results window.
See also	"XML Checkpoint Results (UFT GUI Tests Only)" on page 99

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Value x of y	Indicates the ordinal position of the selected value within the Expected XML Tree or Actual XML Tree .
<edit window>	Displays the full value of the element or attribute in a multi-line window.
<< Previous Value	Enables you to navigate backward through the element values in the XML Checkpoint Results window. Clicking this button displays the next value in the Expected XML Tree or Actual XML Tree .
Next Value >>	Enables you to navigate forward through the element values in the XML Checkpoint Results window. Clicking this button displays the next value in the Expected XML Tree or Actual XML Tree .

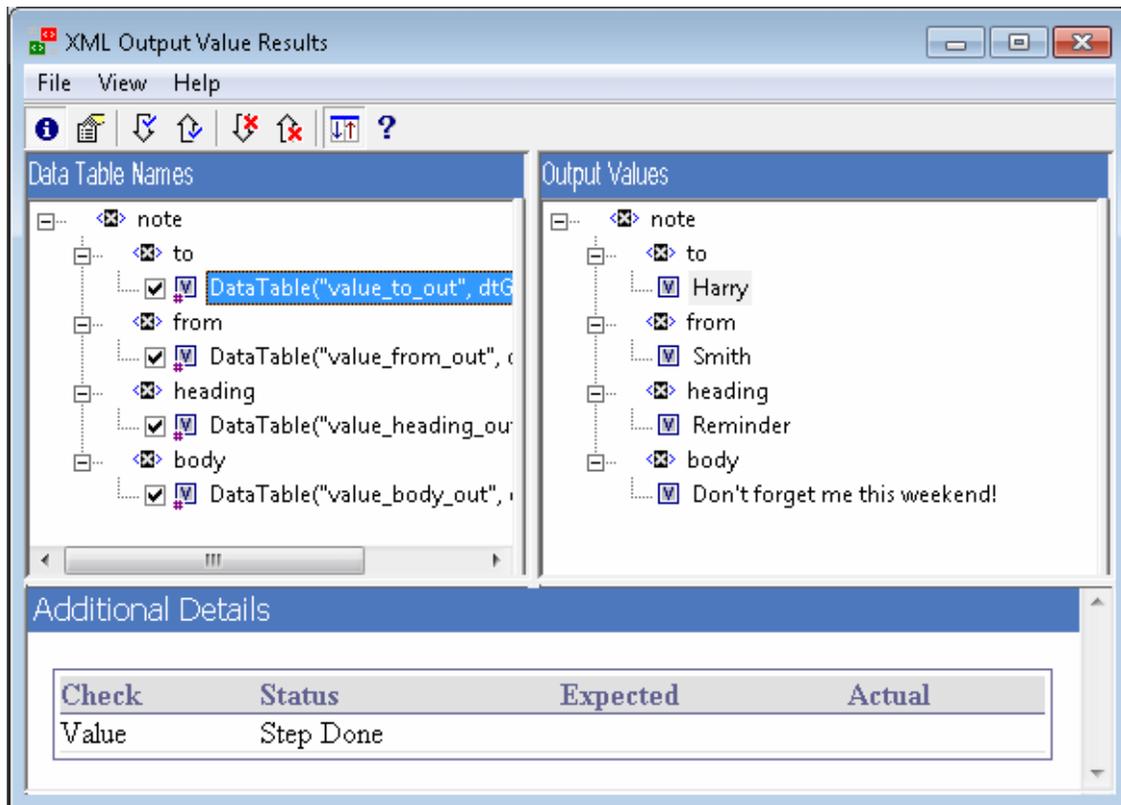
XML Output Value Results Window (UFT GUI Tests Only)

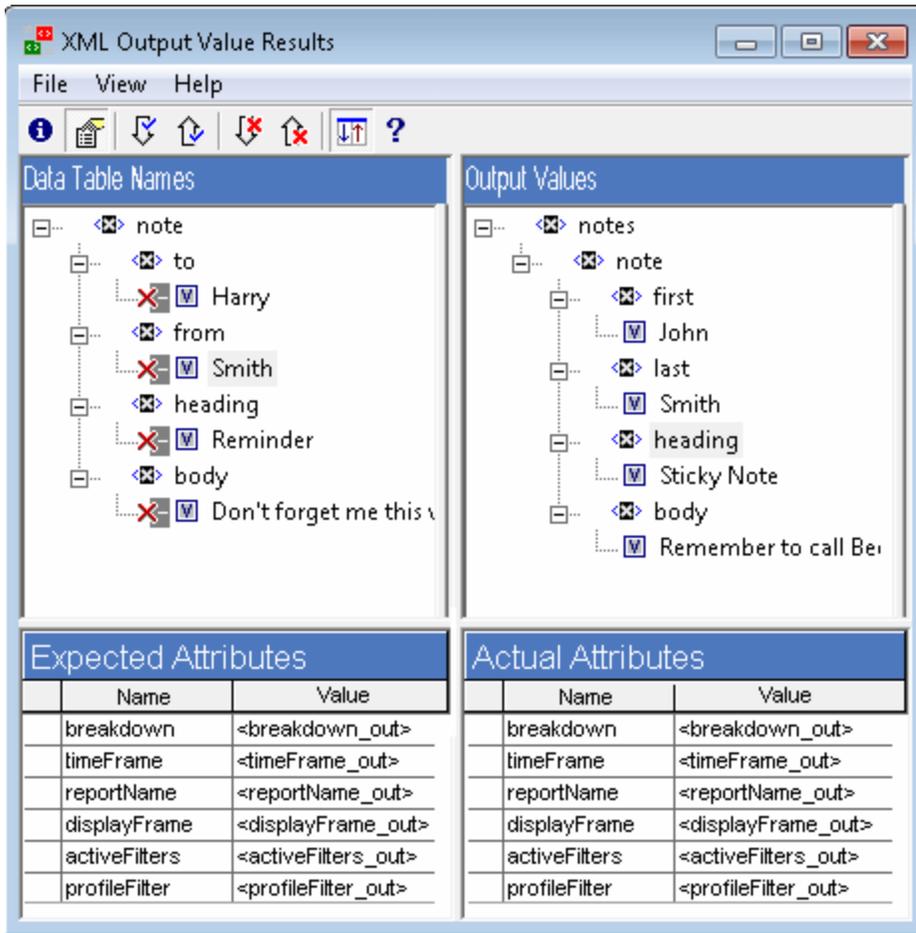
This window displays the XML file hierarchy in the following panes.

- **Data Table Names pane.** Displays the XML output value settings—the structure of the XML and the Data Table parameters (column names) you selected to output for Data Table output values.
- **Output Values pane.** Displays the actual XML tree—what the XML document or file actually looked like and the actual values that were output during the run.

This window also displays:

- **Additional Details pane.** Displays results information for the selected item. (Available only if the **Output Value Summary** option is selected.)
- **Expected Attributes pane.** Displays each attribute name and its expected value or output value name. (Available only if the **Attribute Details** option is selected.)
- **Actual Attributes pane.** Displays the attribute name and the actual value of each attribute during the run session. (Available only if the **Attribute Details** option is selected.)





To access	In the Captured Data pane of the Run Results Viewer, click the View XML Output Value Results button.
See also	"XML Output Value Results (UFT GUI Tests Only)"

User interface elements are described below:

UI Elements	Description
	<p>View Output Value Summary. Displays the Output Value Summary pane, which provides information regarding the output value for the element, attribute, or value currently selected in the XML tree.</p> <p>Menu option: View > Output Value Summary.</p>

UI Elements	Description
	<p>View Attribute Details. Displays the Expected Attributes and Actual Attributes panes containing the details of the attribute's output value for the selected element in the XML tree.</p> <p>Menu option: View > Attribute Details.</p>
	<p>Find Next Output Value. Jumps directly to the next output value in the XML Tree.</p> <p>Menu option: View > Find Next Output Value</p>
	<p>Find Previous Output Value. Jumps directly to the previous output value in the XML Tree.</p> <p>Menu option: View > Find Previous Output Value</p>
	<p>Find Next Error. Jumps directly to the next error in the XML Tree.</p> <p>Menu option: View > Find Next Error</p>
	<p>Find Previous Error. Jumps directly to the previous error in the XML Tree.</p> <p>Menu option: View > Find Previous Error</p>
	<p>Scroll Trees Simultaneously. Synchronizes the scrolling of the Data Table Names and Output Values trees. If this option is selected, the Data Table Names and Output Values trees scroll simultaneously as you navigate through either of the tree structures. If this option is not selected, you can scroll only one tree at a time.</p> <p>Menu option: View > Scroll Trees Simultaneously</p>
	<p>Help Topics. Opens the help for the XML Output Value Results window.</p> <p>Menu option: View > Help Topics</p>

We appreciate your feedback!

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Feedback on Unified Functional Testing, 11.53 Run Results Viewer User Guide

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