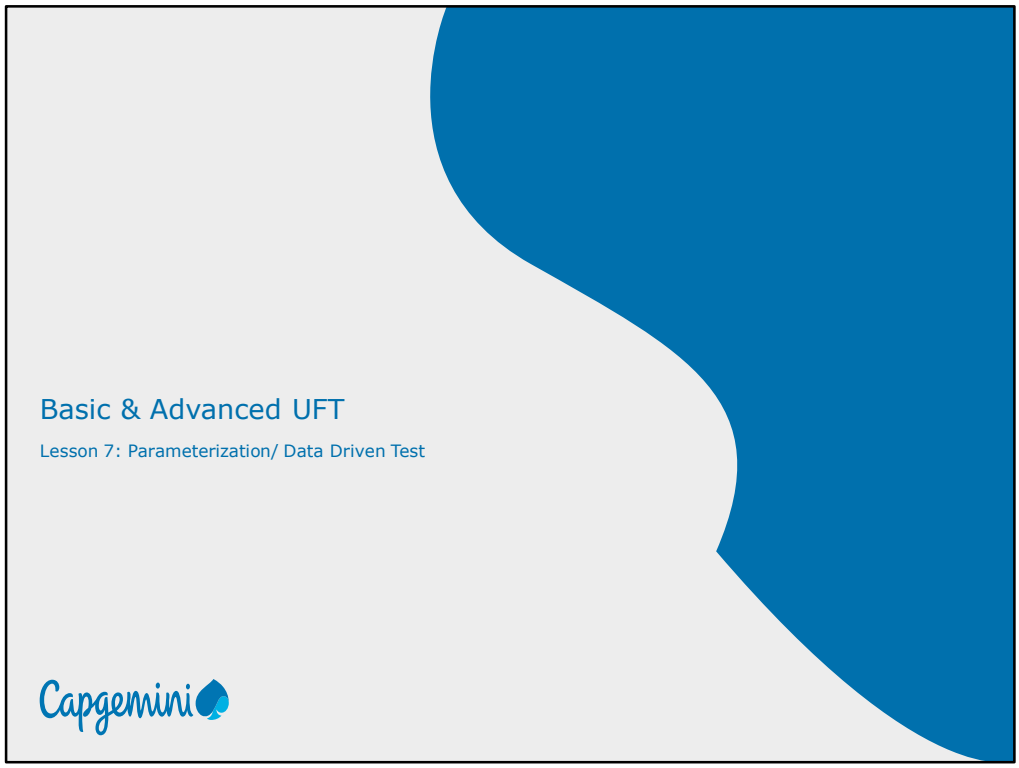

Basic & Advanced UFT
Lesson 7: Parameterization/ Data Driven Test
Capgemini

Lesson Objectives

- Introduction to Parametrization
- Why Parametrization
- Types of Parametrization
- Data Table Parametrization
- Environment Variables
- Random Number
- Test Parameter
- Action Parameter
- Test Setting
- Data Driven Testing

7.1: Introduction to Parameterization

What is Test Parameterization?

- The process by which the scope of a basic test is expanded by replacing fixed values with parameters is known as Parameterization. It greatly increases the power and flexibility of tests
- Parameterization allows creating maintainable scripts which can run with different set of data
- The data is not hard-coded in the script and are replaced with parameters in order to execute the script with different data

7.2: Types of Parameterization

Different Types of Parameterization in UFT

- ***Data Table Parameters*** : It helps to create a data-driven test (or action) that runs several times using the data in the data sheet. UFT substitutes the constant value with a different value from the Data Table for each iteration.
- ***Environment Variables*** : It helps in using data from other sources like environment variables.
- ***Random Number Variables*** : The random number input generates random numbers and uses them as input value for a parameter. By default, the random number ranges between 0 and 100. A different random number is generated every time the parameter is called for every iteration or for every Test run.

7.2: Types of Parameterization

Different Types of Parameterization in UFT (Cont.)

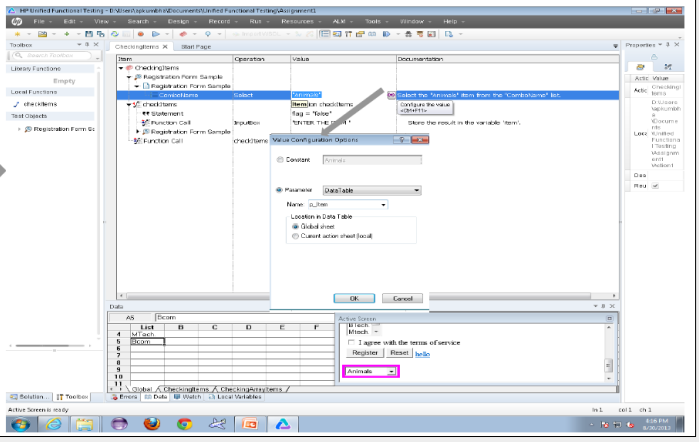
- ***Test/Action Parameter*** : Action parameters enable you to transfer input values from your test to a top-level action, from a parent action to a nested action, or from an action to a sibling action that occurs later in the test . For e.g. Msgbox Parameter("Name").
- ***Test Parameter*** : is same as action parameter only the difference is that it will be available to all the actions in the test in which it is defined.
- For e.g. TestArgs("Name") = Value.

7.3: Introduction to Data Table Parameterization

Data Table Parameterization - Global Data Sheet

Code generated in Expert View:
Browser("Welcome: Mercury Tours").Page("Welcome: Mercury Tours").WebEdit("userName").Set DataTable("UserName", dtGlobalSheet)

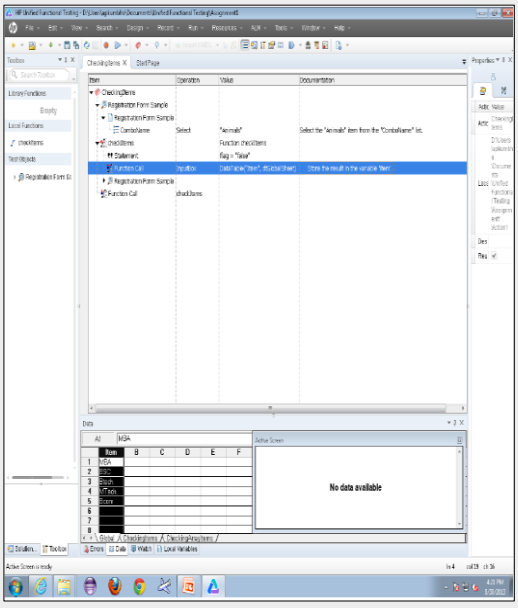
Key Word View



7.3: Introduction to Data Table Parameterization

Parameterizing in Global and Local sheet of DataTable

- Parameterized both the hard coded values in scripts
- For e.g. Item data is parameterized and derived from Global sheet.
- Similarly it can be derived from Local sheet too.



7.3: Introduction to Data Table Parameterization

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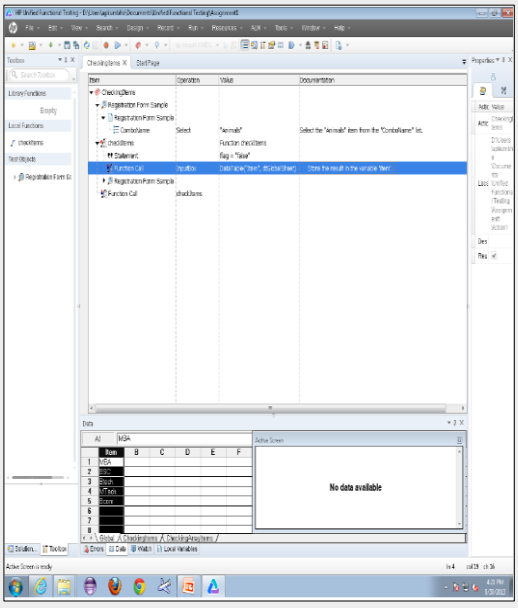


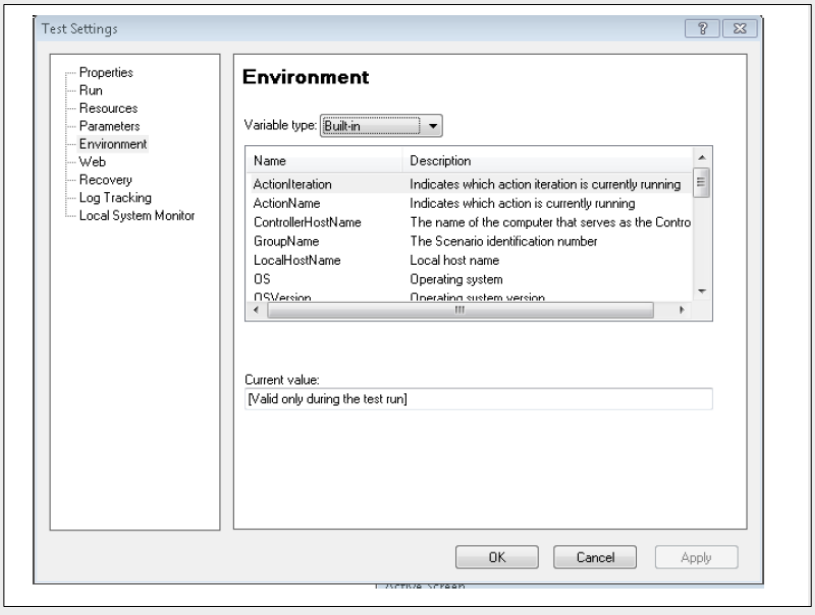
7.4: Introduction to Environment Variables

Environment Variables

- Types of Environment Variables
- Built-in – These are provided by UFT. Built-in variable list can be accessed from File->Settings->Environment option.
  - E.g. sOS = Environment("OS")
- User Defined – Tester can define own environment variables. There are two types of User defined variables
  - Internal: These are the variables that are defined in the test.
    - E.g. Environment.Value("Path") = "C:\Test"
  - External : These are the variables that predefined in the external environment file (xml) and can be used in the test

7.4: Introduction to Environment Variables

Environment variables on Test Settings dialog

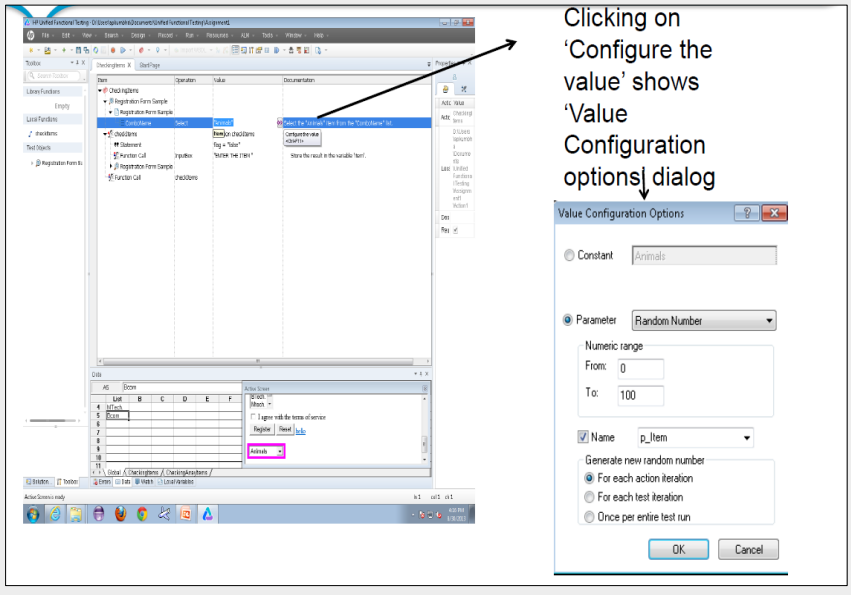


Test Settings – Resources tab

On Resources pane of the Test Settings dialog box we can associate specific files with your test, such as VBScript function libraries and Data Table files. We can also set currently associated function library settings as the default settings for all new tests. We can check the syntax of the associated libraries.

7.4: Introduction to Random Numbers

Random Numbers



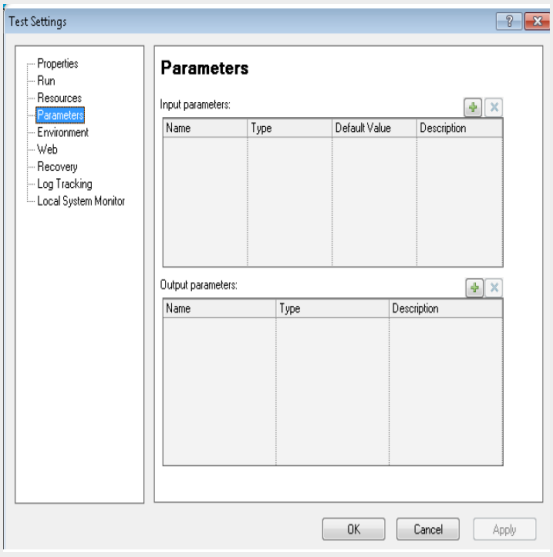
Tool Options – Folder tab:

The Folders pane enables to enter the folders (search paths) in which UFT searches for tests, components, actions, or resource files that are specified as relative paths in dialog boxes and steps. If the same file name exists in more than one folder, UFT uses the first instance it finds.

7.5: Test Settings dialog

Test Parameters on Test Settings dialog

- Code to display the value in 'Username' Test Parameter: Msgbox TestArgs("Username")
- Code to change the Test Parameter: TestArgs("Username") = "newname"



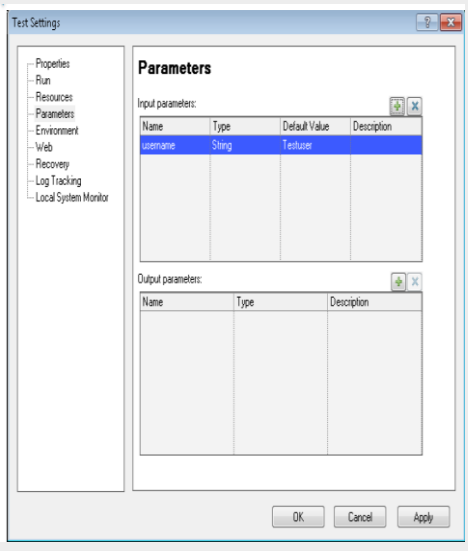
Tool Options – General tab :

The General pane options affect the general appearance of UFT and other general testing options.

7.6: Action Properties dialog

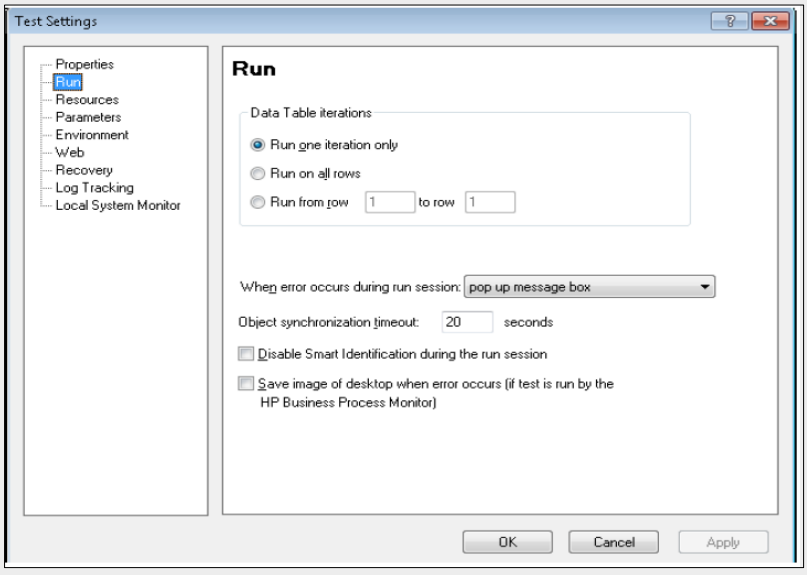
Action Parameters on Action Properties dialog

- Code to display the value in 'Username' Action Parameter: Msgbox Parameter("Username")
- Code to change the Action Parameter: Parameter("Username") = "newname"



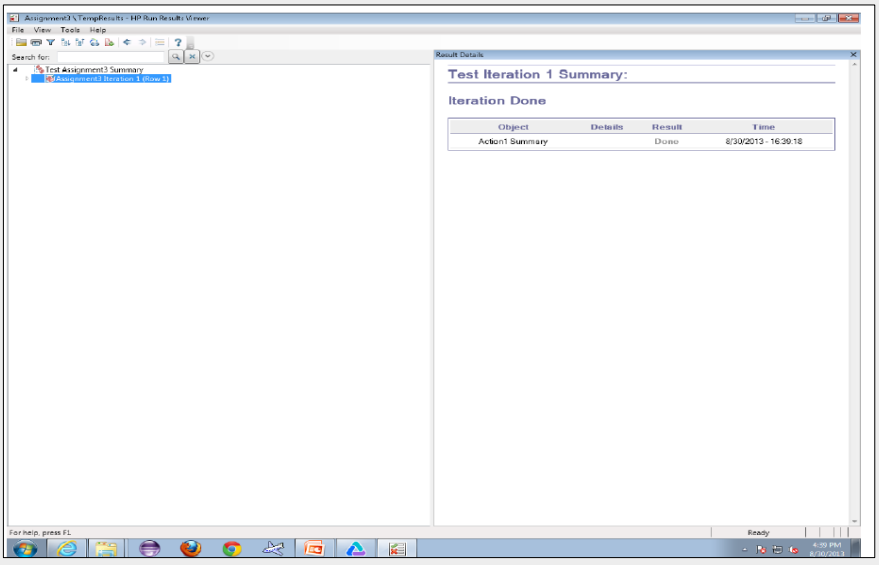
7.7: Executing all the iterations

Test Settings for executing all the iterations



7.8: Multiple Iterations Test Result

Result File with multiple iterations



7.9: Introduction to Data Driven Testing

Data Driven Testing

- What is Data Driven Testing?
  - A test that runs one set of use actions with multiple values for one or more inputs.
- Why Data Drive a test?
  - Data driving allows one script to test AUT functionality with multiple sets of data. It saves time.
- How to Data Drive a test?
  - We can insert Data Table parameters and output values into the test so that it will run several times on different sets of data.
  - Each test run on a different set of data is called an iteration.

Demo

- Demo Parametrization – Data Table
- Demo Parametrization – External Excel Sheet
- Demo Parametrization - *Environment Variables*
- Demo Parametrization – Random Number

Summary

In this lesson, you have learnt

- What is Parametrization?

The process by which the scope of a basic test is expanded by replacing fixed values with parameters is known as Parameterization. It greatly increases the power and flexibility of tests.

- Different types of Parametrization
  1. *Data Table Parameters*
  2. *Environment Variables*
  3. *Random Number Variables*
  4. *Test/Action Parameter*
- How to achieve Parametrization using Data Table

Add the notes here.