

Lesson Objectives

- What is Descriptive Programming
- Descriptive programming – when and why?
- How to use DP?
- Different ways to work with objects
- TO, RO and .Object
- OR Pros and Cons
- DP Pros and Cons



Descriptive Programming



What is Descriptive Programming?

- Programmatic description to instruct UFT to perform methods on objects without referring to the object repository.
- To do this, you provide UFT with a list of properties and values that UFT can use to identify the object or objects on which you want to perform a method.

Descriptive programming – when and why?



Consider using DP in following cases:

- Dynamic object properties
Example: Link Logout <User Name>
- Same objects on every page
Example: Buttons – Next, Back, Cancel, OK
- Lots of similar objects on one page
Example: table with many First & Last name text boxes



How to use DP?

There are two ways to use DP:

I. Throw the properties and values straight into a command

II. Throw the properties & values into a description object, and use it into the syntax.



Descriptive Programming...

You can use DP with OR as shown below

```
VBWindow("OR").VButton("text:=OK").Click  
Or (when oDesc is a description object):  
VBWindow("OR").VButton(oDesc).Click
```

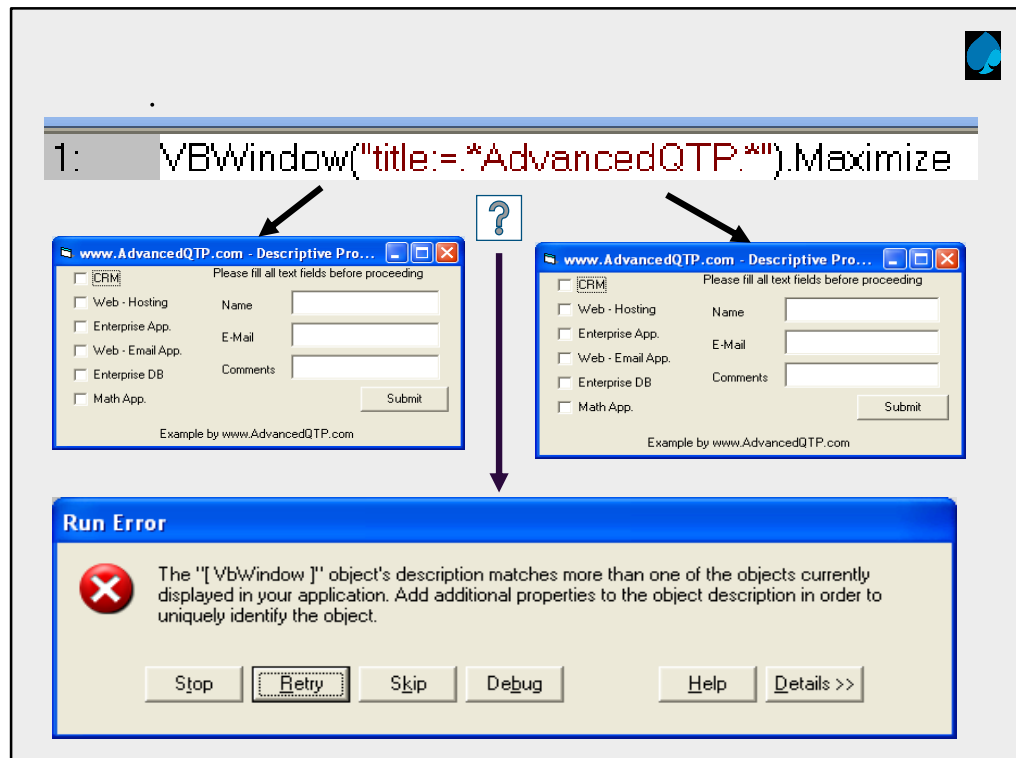
But, you can only start from OR, and move to DP
So this will not work:

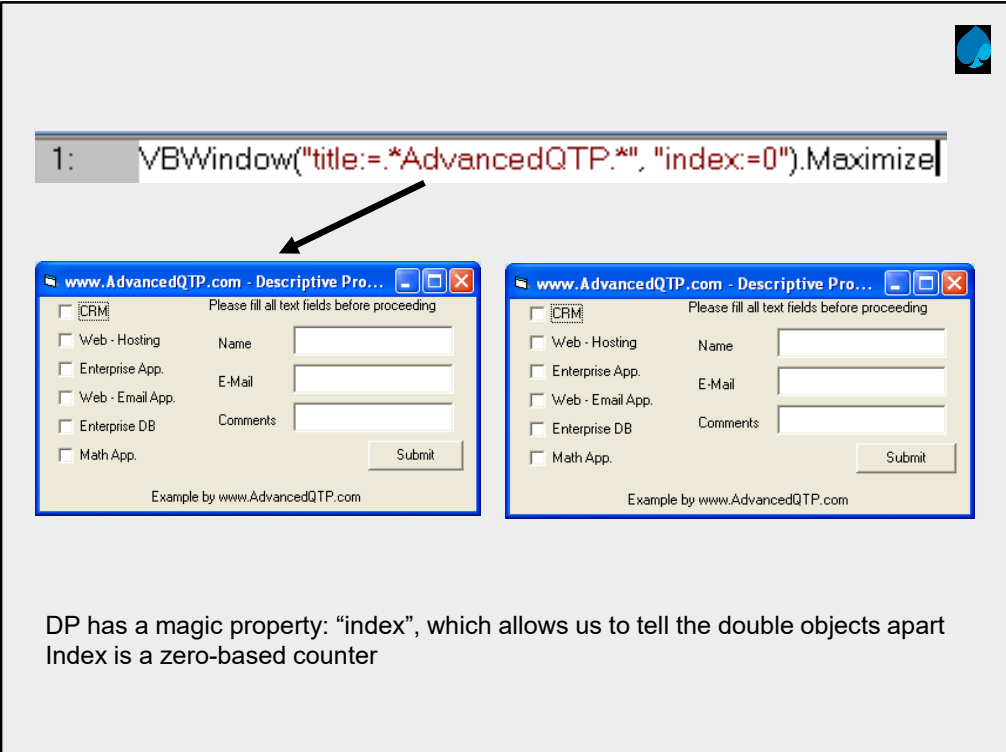
```
VBWindow("title:=notgood").VButton("clickme").Click
```



Descriptive Programming...

- You can store the objects in collections.
- When UFT finds two object which match the same description, it freezes
⊖

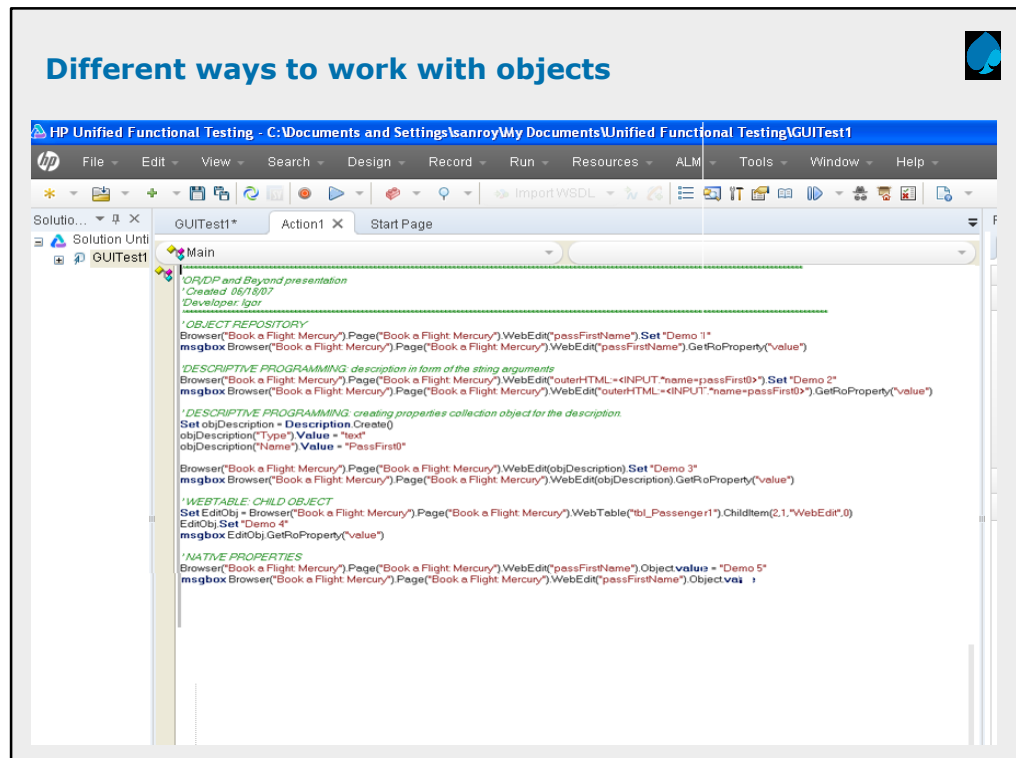




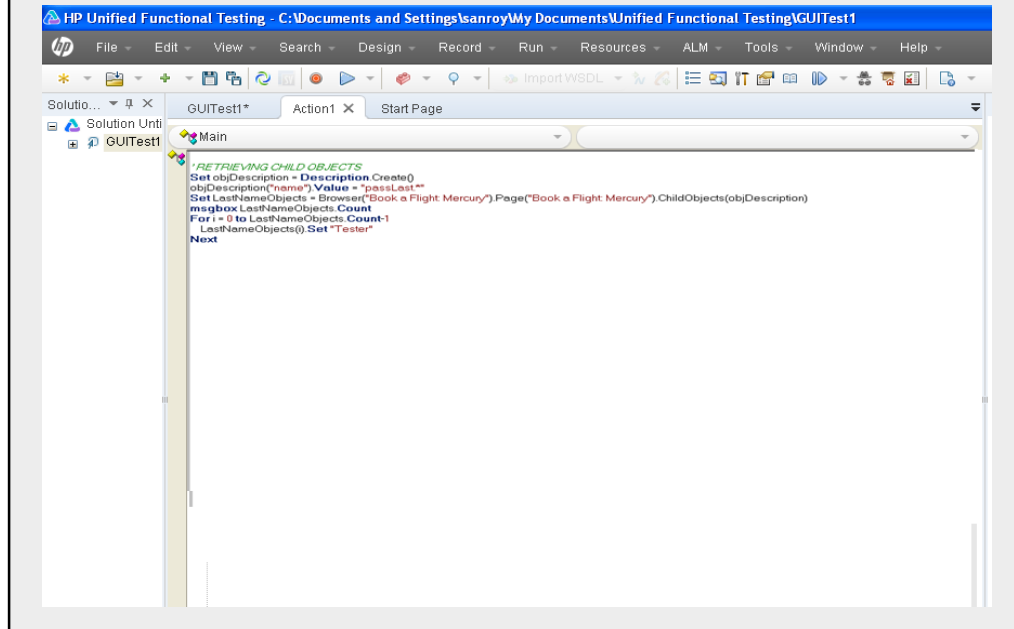
The screenshot shows the UFT interface. At the top, a command bar contains the text: `1: VBWindow("title:=.*AdvancedQTP.*", "index:=0").Maximize`. An arrow points from this command to two application windows below. Both windows are titled "www.AdvancedQTP.com - Descriptive Pro..." and contain a form with the following elements:

- Checkboxes: CRM, Web - Hosting, Enterprise App., Web - Email App., Enterprise DB, Math App.
- Text fields: Name, E-Mail, Comments.
- Submit button.
- Footer text: Example by www.AdvancedQTP.com.

Below the windows, the text reads: "DP has a magic property: 'index', which allows us to tell the double objects apart. Index is a zero-based counter."



ChildObjects method – using Collection Object



ChildObjects method – using Collection Object

Last Name fields
are populated

The screenshot shows a web browser window titled "Book a Flight: Mercury Tours - Microsoft Internet Explorer". The address bar shows "http://newtours.demoaut.com/mercurypurchase.php". The page content includes a sidebar with "Destinations", "Vacations", "HTML VERSION", and "SAVINGS! Rent a Car". The main content area displays flight information for "Blue Skies Airlines" and a booking form. The flight information table is as follows:

FLIGHT	CLASS	PRICE
Blue Skies Airlines 360	Coach	270
Acapulco to Acapulco		
Blue Skies Airlines 630	Coach	270

Below the flight information, the booking form includes fields for "Passengers", "Credit Card", and "Billing Address". The "Passengers" section has two rows of input fields for "First Name", "Last Name", and "Meal". The "Credit Card" section has fields for "Card Type", "Number", "Expiration", "First Name", "Middle", and "Last". The "Billing Address" section has fields for "Address" and "City". The "Last Name" fields in the "Passengers" section are highlighted in yellow, and an annotation points to them with the text "Last Name fields are populated".

Passengers:

First Name	Last Name	Meal
Demo 5	Tester	No preference
	Tester	No preference

Credit Card:

Card Type	Number	Expiration
American Express		None None

Billing Address:

Address	City
1325 Borregas Ave.	Sunnyvale



TO, RO and .Object

- .GetTOproperty/SetToProperty refers to the properties stored in OR
- .GetROProperty property refers to the AUT Object property (Run-time)
- .Object.<property/method> refers to the AUT Object NATIVE properties/methods

Object Repository vs. Descriptive Programming –what to use?



- There really is no “best way”
- Use the method that gives your company the best ROI, whether that be Object Repository (OR), Descriptive Programming (DP) or a mixture of both

**OR Pros and Cons**

PROS	CONS
GUI Front end to examine all the objects in the repository	Additional layer to maintain
Highlight in Application feature is great tool to walk the object tree	Unnecessary objects can be created
No need to modify the script when object properties changes	Multiple users cannot concurrently save/write to the shared OR
Easy to identify objects in AUT by Object Logical names	It won't eliminate the need for Descriptive Programming in most of cases
Can be created independently from scripts	

DP Pros and Cons

PROS	CONS
It's a white box	Lower Code Readability and requires more comments, like "what object is accessed"
Compatible with different QTP versions and UFT	Potentially slower to create
Code portability is high	To highlight an object in the application requires utilizing the "Highlight" method
Easy to mass update	

Demo



- Demo on Descriptive programming – Static DP
- Demo on Descriptive programming – Dynamic DP
- Demo on Descriptive programming – GetTOproperty/SetToProperty
- GetROproperty



Summary



In this lesson, you have learnt

- What is Descriptive Programming
Programmatic description to instruct UFT to perform methods on objects without referring to the object repository
- Types of Descriptive Programming
Static Descriptive Programming
Dynamic Descriptive Programming
- Disadvantage of Object Repository.
- When and Why Descriptive Programming



Add the notes here.