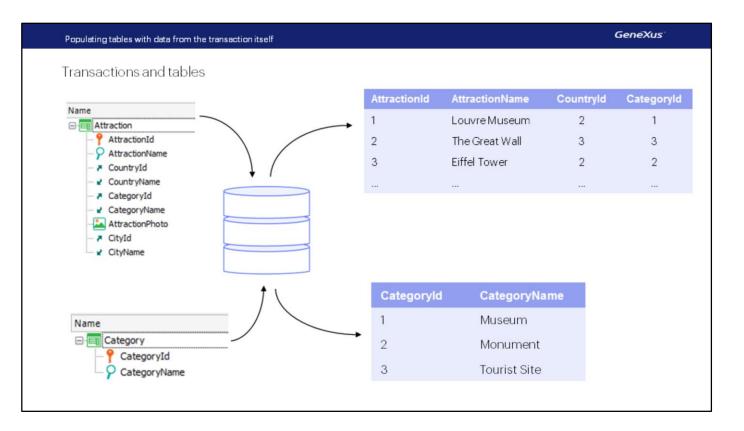
## Populating with data from the transaction itself

GeneXus<sup>-</sup> 16



When we create a transaction, by default GeneXus will create associated tables to store the data entered from its screen.

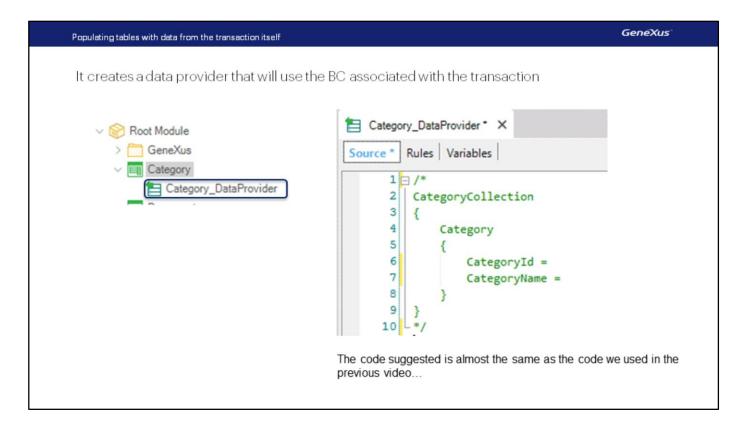
Populating tables with dat	opulating tables with data from the transaction itself				
GeneXus offers a	solution to initialize a trar	nsaction's data			
	Category X				
		Rules Events	Variables Patterns		
	Name	Type Description			
			Category		
		Id	Category Id		
		Name	Category Name		
∨ Data		~	Data		
Data Provider	False		Data Provider	True	
	11 1 1 1		Used to	Populate data	
Update Policy	Updatable		OSCO LO	ropulate data	

In the previous video, we saw that these tables could be initialized using the Business Component associated with the transaction, through a collection variable loaded using a Data Provider.

But GeneXus already offers a solution to initialize the data corresponding to a transaction, with no need for us to perform all the previous steps manually (obtain the Business Component, create the Data Provider and the collection variable, invoke the Data Provider, make the Insert).

To do so, the transaction has a property, located under the Data group, and called **Data Provider**. Let's see it with the Category transaction. By default, it will be set to False. We will change it to True.

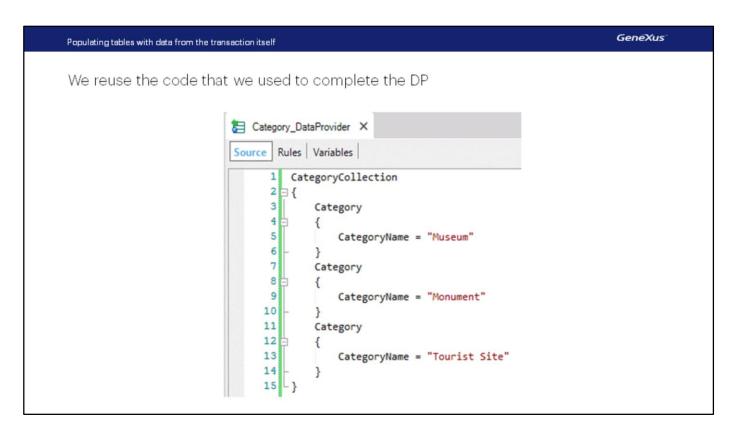
In this way, we're indicating that there will be an associated Data Provider. Also, in this new property, we indicate that we will use it to initialize the table data.



When we save, we see that an object of Data Provider type called Category\_DataProvider has been created.

In addition, if the Business Component property of the transaction hadn't been set to True, it would have been automatically set to True in order to create the Business Component associated with the transaction.

If we open the Data Provider, we can see that it offers the code for us to complete the categories data.

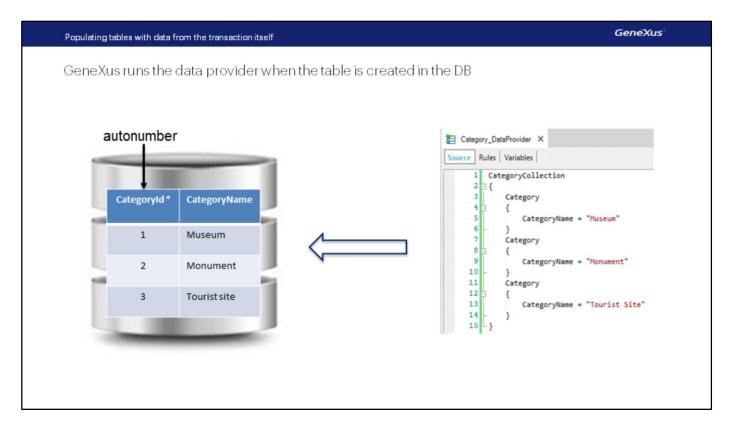


This code is almost a copy of what we did manually before.

So, we copy the code that we had written in the new Data Provider.

In this way, we have defined how the Data Provider will assign values to the new categories that will be created. What we haven't figure out yet is the moment when this Data Provider will be invoked to perform the task. The right moment will be when the table is created in the database.

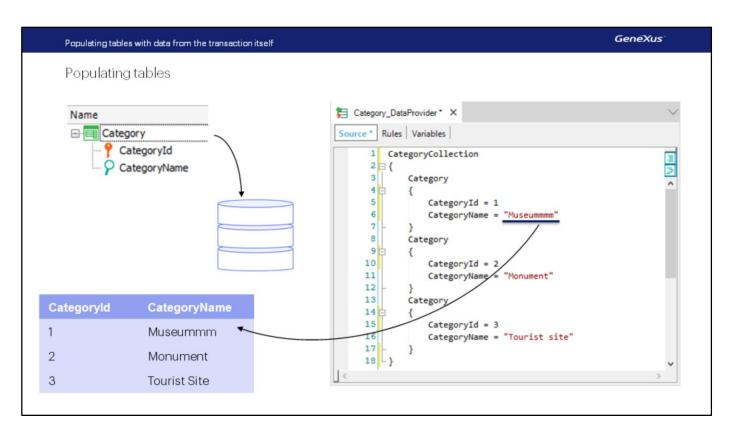
However, in order not to overload the process of creating tables, GeneXus will delay running the Data Provider until the moment the application is executed, which will be when we really need the data to be in the table.



In this case, the table has already been created and will not have data because we will delete it. We click on Remove Data to delete the data in Category and Attraction.

However, since we have just enabled the initialization of data in the transaction, the next time it is run GeneXus will run the Data Provider.

Note that if the table already had data in that moment, because the identifier had been set as autonumber, it would add new records. In other words, it doesn't matter if there was already a Museum category, it will insert another one. It isn't our case because we had the precaution to empty the table first. However, if the identifier wasn't autonumbered, we would have to indicate its value for each new group of the Data Provider, and if there are already records in the table with the values we are adding, they will be updated.



When trying to perform the insertion using a Business Component, it will find a duplicate key and there what it does is to perform an update. Therefore, in this example, it would change the name value of the "Museum" category for this one with many "m" letters.

Well, to populate the Attraction transaction with data we'll do the same thing we did before with Category.

Populating tables with data	tables with data from the transaction itself					GeneXus		
DEMO								
TravelAgency - GeneXus 16 Trial File Edit View Layout Build Knowledge Mana	oer Window Tools Test Help							- 0 ×
N I III III X III III C O O . K IIII X → Net Environment → Release								
The second secon	Category_DP X T Category	X T Category_DataProvider X	👔 Attraction_DataProvider 🗙 🛅 In	gact Analysis 🗶 🛅 Nevigatio	e Vew X	<>=	Properties	* >
Open: Name or Patters	Patient						🗄 2. 🌾 Filter	2
<ul> <li>Travel/gency</li> </ul>	A	Data Provider Ca	tegory_DataProvider Navigation	on Report			Data Provider: Cate	anne DataPresider
Ploot Module	Attraction_DataProvider		1			_	Name	Category_DataProvider
> CeneXus		Name:	Category DataProvider	Environment:	Default (C#)		Description	Category_Data Provider
> Airport		Description:	Category_Data Provider	Spec. Version:	×16_0_0-127818		Expose as Web Servi	
Attracion_DP		Status:	No Generation Required	Form Class:	HTML		Main program	True
Atraction		Output Devices: Main:	Yes	Program Name:	Calegory_DataProvider		Call protocol	Internal
Associated Tables		Marri	765	Parameters:	out Category			
> Work/vithAtraction							Qualified Name	Category_DataProvider Public
AttractionList							Object Visibility	Public
AttractionsByName							> Network	
AttractionsPerCategory								
AttractionsReport     Attraction/withoutParameters							Generate Object	True
Categories.Indittractions								
Categories.AndTheir/dtractionsList								
Category								
Associated Tables								
Category_DataProvider Category_DP								
CountriesRanking								
Countries/viithMoreThan2Attractions								
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Associated Tables								
> 📷 Wark/vilthCountry > 📷 Customer								
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J Diagram1								
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Diagram5								
ConterAtractionalFilter	E Output							• )
> 🛐 Flight	Show: Build	Findt						Autoscro
FlightlerivalArport FlightDeparture/arport	Neb config upda	te started						
Gx0040	Updating web config							
Gx0081	Web config update Success Building file gx_last_tran	sfer.zip						
Gx00C1	Uploading 40 Kbytes							
Gx00D0 Gx00E1								
Gw00E1	v   _ <							
								2/0/0/2 0/0

## [ DEMO: <u>https://youtu.be/MhzFWrA7UIw</u> ]

We run what we have done so far. F5.

Note that the navigation list informs that the initialization program of the Category table will have to be run. And that of the Attraction table as well.

And when it is executed we see that it did run those programs and we have data in the tables again (look at the identifiers! Remember they are autonumbered).

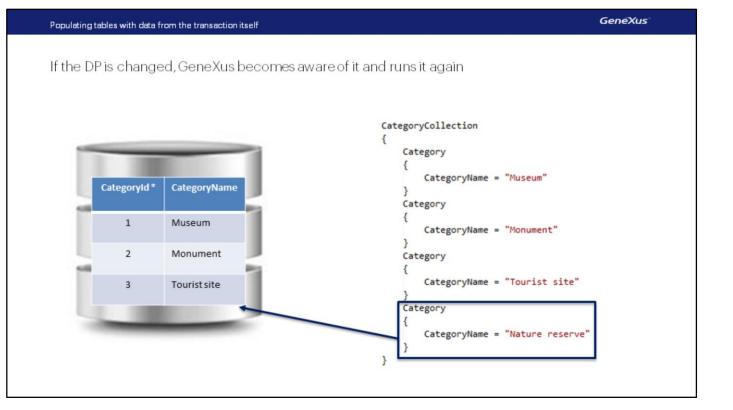
If now or later we need to change the initialization Data Provider, by adding, for example, a category that we hadn't thought of at first, after pressing F5 GeneXus will realize that the Data Provider has changed and will run it again.

But in doing so, as the categories Museum, Monument and Tourist site already existed in the table, with autonumbered IDs, then it will reinsert them with new IDs, in addition to inserting the new one. We have a way to avoid it, by creating a Unique index for the category name, so that it is checked before inserting the record that this value is not repeated. We will not do it here.

We run and manually delete the new duplicate records.

Note that in all other aspects, the transaction keeps working as usual. That is to say, we will continue inserting and deleting its data from the screen as usual.

Also, its rules will be executed, and we will be able to use the associated Business Component as before. What we've seen only affects the initialization of its data.



Populating tables with	data from the transaction itself		GeneXus	
			United States	
			Brazil	
It is possible to have the initialization data remain unchanged			Mexico	
			Colombia	
			Argentina	
To do so, we use the Update Policy property set to Read Only:			Canada	
			Peru	
	Venezuela			
	✓ Data	Cuba		
	Data Provider	True	Bolivia	
	Used to	Populate data	Dominican Republic	
	0520 10	Populate data	Honduras	
	Update Policy	Read Only	Paraguay Nicaragua	
			El Salvador	
			Costa Rica	
			Panama	
			Puerto Rico	
			Uruguay	
			Jamaica	
			Trinidad and Tobag	

But if the transaction contains information that doesn't change over time, such as, for example, countries, states or provinces of a country, a system's parameters and so on, it is not necessary that the transaction or Business Component allow us to update their data. To make sure that the data is not changed, we set the "Update Policy" property to Read Only.

Populating tables with data from the transaction itself		GeneXus			
Dynamic Transaction					
If the transaction data is obtained from other sour	ces, there won't be an associate	ed table.			
Transaction 💌					
	Transaction uses:				
•	1.Insert, Update, I	Delete data			
	2.Navigate (retrieve) data				
Other Tables					
	Data Provider	True			
	Used to	Retrieve data			
	Update Policy	Read Only			

So far, we have used the transaction as usual, where the transaction has its associated "table".

On the other hand, we have other cases where the transaction data is obtained form other sources, which may be complex queries to the database that include looking for information in several tables, or querying other databases, and so on.

In this case, the transaction will not have this associated table because the Data Provider is responsible for obtaining this data. To use it in this way, we set the Used to property to "Retrieve data".

These transactions are called "dynamic transactions", and will not be included in this course.

In sum, to populate a table with data we wouldn't do it manually as we did in the previous video; instead, we would use the Data Provider property of the transaction.

Lastly, we Commit the changes in GeneXus Server.



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