# Tables, Tags, and Images

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In this video, we will see how to use tables to organize the information in the form, the options we have for using labels to help us understand the data, and how we can use images and change the way they are shown in the form.

Tags

Let's start by customizing the appearance of the labels associated with the controls in our application.

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< View_Attractions_N								
	AVEL SENCY							
Country	(Nor	ne)						~
Name From	Nam	ne From						
Name To	Nam	ne To						
1	Eiffel Tower	1	Paris	France	3			
2	Glenfinnan Viaduct		Glenfinnan	Scotland	1			
3	Meet the Emperor	-	Beijing	China	2			
4	Christ the Redeemer	T.	Rio de Janeiro	Brazil	2			
5	Rifugio Nuvolau	and the	Belluno	Italy	1			
5	London Towers		London	England	1			
7	Louvre	at the	Paris	France	1			
Total Trips	20		<b>P</b> '''	<u>.</u>	^			

If we run the View\_Attractions\_MoreInfo panel, we see that the filter labels are displayed by default to the left of the field.

## Possible label positions

Layout Rules Events Conditions Variables Documentation		General Class	
* Application Bar		📜 🛃 🌾 Filter	
		Attribute/Variable	: &Countryld
	~	Control Name	&CountryId
o o o o o o o o o o o o o o o o o o o		Attribute	&CountryId
		Label Caption	Country
oo		Readonly	False
Name From &AttractionNameFrom		✓ Appearance	
		Label Position	Platform Default
		Class	Platform Default
Name To &AttractionNameTo		Visible	None
		Invisible Mode	Left
		Enabled	Тор
AttractionId AttractionName Countrold Countrollame & Trins		Format	Right
		Invite Message	Bottom
		<ul> <li>✓ Link</li> </ul>	Float
		Autolink	True
		Virtual Keyboard	d
		Enter Event	<platform default=""></platform>
	~	$\sim$ Control Info	-

The position of the label relative to the field can be changed through the Label Position property.

For example, if we select the &Countryld variable, the values of this property can be as follows:

- <u>Platform Default</u>: For Angular, it is the Left value; that is to say, the label will be on the left as we saw. For Android, it is the Top value (that is, above the content) and for iOS it is also to the left.
- <u>None</u>: If we select this value, the tag is not shown. We've already used this when we added the &Trips variable to the grid.
- <u>Left</u>: The tag will be displayed to the left of the content.
- <u>Top</u>: The tag will be displayed above the content.
- <u>Right</u>: The tag will be displayed to the right of the content.
- <u>Bottom</u>: The tag will be displayed below the content.
- <u>Float</u>: This value is only available for native mobile platforms and in this case the label is initially displayed in the position of the attribute or variable content. When the user starts typing, the label moves upwards as if it floated. This only works in editable fields and in numeric or character type fields; in the rest of the types, the value Top is adopted.

	~ Attribute/Variable:	&CountryId				
	Control Name	&Countryld				
	Attribute	&CountryId				
	Label Caption	Country				
	Readonly	False				
Country RCountrald	~ Appearance					
country accountry a	Label Position	Platform Default	~			
				Attribute/Variable	: &Attractic	onNameFrom
				Control Name	&Attracti	ionNameFrom
Attraction Name From				Attribute	&Attrac	tionNameFrom
				Label Caption	Attractio	n Name From
&AttractionNameFrom				Readonly	False	
				~ Appearance		
				Label Position	Тор	
		Attribute/Variabl     Control Name     Attribute	e: &Attract &Attrac &Attrac	ionNameTo :tionNameTo ctionNameTo		
GRID		Label Caption	Attracti	on Name To		· ·
AttractionId AttractionName Catego	ryName CityN	Readonly	False		е	&Trips
	·	~ Appearance				
		Label Position	Right		~	
	<ul> <li>Attribute/Variable: 8</li> </ul>	&TotalTrips				
	Control Name	& Total Trips				<b>1</b>
& lotal lrips	Attribute	&TotalTrips				
Jotal Trips	Label Caption	Total Trips				ę
iotal mps	Readonly	False				
	~ Appearance					ċ
	Label Position	Bottom	~			

We are going to change the label values of the variables we have on screen. We leave the Country label of the filter by country with the value PlatformDefault, so it will appear on the left as usual.

To the AttractionNameFrom tag we set the value Top, to the AttractionNameTo tag we set the value Right, and to the total number of trips we set the value Bottom.

Already at design time we can see the changes in the form of the panel.

We run it...

# Testing label positions

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< View_Attraction	15_More Info						
<b>1</b>	ravel Gency						
Country		(None)					~
Attraction Name From							
Attraction Name From	n						Attraction Name Tc
4	Christ the Redeemer	T	Monument	Rio de Janeiro	Brazil	2	1
1	Eiffel Tower		Monument	Paris	France	3	
6	London Towers	A	Monument	London	England	1	
3	Meet the Emperor	2	Monument	Beijing	China	2	
7	Louvre	and the	Museum	Paris	France	1	
11	Matisse Museum	5	Museum	Nice	France	2	
10	Smithsonian Institute	100	Museum	Washington	United States	1	

20 Total Trips

We see how the word Country is displayed on the left, because it is the platform default value; the label Attraction Name From is above the field Attraction Name From because we set it to Top; Attraction Name To is to the right of the field Attraction Name To because we set it to Right. As it had the entire screen width available, it is well aligned to the right, and the label of the total trips value is below the total, because we set the value Bottom.

Depending on the application and the information we want to display, we will choose one value or another for this property.

This property can also be set if we want to add titles to the values shown in the grid, but in this case each grid cell will have its own label.

Tables

We have already used tables to improve the appearance of a panel in our application. Let's go back to this topic to understand the use of this control a little better.

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< View_Attraction											
	RAVEL GENCY										
Country		(None)									
Attraction Name From											
Attraction Name From	m										
Attraction Name To									Attract	tion Na	ime 1
4	Christ the Redeemer	T.	Monument	Rio de Janeiro	Brazil	2					
1	Eiffel Tower	4	Monument	Paris	France	3					
6	London Towers		Monument	London	England	1					
3	Meet the Emperor		Monument	Beijing	China	2					
7	Louvre	an all	Museum	Paris	France	1					
11	Matisse Museum	1	Museum	Nice	France	2					
10	Smithsonian Institute	in Bar	Museum	Washington	United States	1					

20 Total Trips

When running the View\_Attractions\_MoreInfo panel, we can see that the country filter selector is on the far right of the screen. If we press it, the Dynamic combo box takes the entire width of the screen.

We can also see that the label we set with right alignment was positioned on the right side of the screen, far away from the AttractionNameFrom field where we entered the filter values.

### Columns Style and Rows Style properties of a table

1	HTMAinTable FR Countrald	~	able: Main lable	
		C	ontrol Name	MainTable
	Country &CountryId ~	~	Appearance	
			Columns Style	100%
	Attention Name From		Rows Style	pd;pd;pd;100%;pd
	Attraction Name From		Width	100%
			Height	100%
			Auto Grow	True
	&AttractionNameTo Attraction Name To		Class	TableDetail
			Background	(none)
			Visible	True
	Attraction Id Attraction Name Attraction Photo CategoryName CityName CountryId CountryName & Trips		Invisible Mode	Keep Space
			Enabled	True
		~	Scroll Behavior	
			Scroll Factor	1
	&TotalTrips		Zoom Factor	0
	Total Trips		Scroll Attachment	Parent
	·····	~	Form	

If we click on any control in the panel form, we see that they all belong to a table called MainTable.

If we go to its properties, we see that the Column Style property has a single value of 100%, which implies that the table has a single column.

The Row Style property has 5 values, corresponding to the 5 rows of the table, all with platform default values except for the fourth row that corresponds to the grid.

## Adjusting the columns of a table



Let's improve this by adding a column to the Main Table.

We select the MainTable, right-click, and select Insert Column After. Note that the new column has been placed on the right.

In the Main Table properties, we confirm that it now has 2 columns, and that each one takes up 50% of the available space.

We can also see that the grid is in the left column but we want it to take up both columns, because the table we added should only affect the controls in the fixed part.

To make the grid take both columns, we go to its properties and in the Cell information group, in the Col span property, we set the value 2; the grid now takes the entire width of the form.

We go back to the table properties and adjust the value of the columns to 30% and 70%.

This is the opportunity to leave the default position values in the labels, adjust their descriptions, and execute.

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< View							
X	TRAVEL AGENCY						
Country	(None)	~					
Name From	Name From						
Name To	Name To						
1	Eiffel Tower		Monument	Paris	F	France	3
2	Glenfinnan Viaduct		Tourist site	Glenfinnan	5	Scotland	1
3	Meet the Emperor		Monument	Beijing	C	China	2
4	Christ the Redeemer	J.	Monument	Rio de Janeiro	E	Brazil	2
5	Rifugio Nuvolau	es.	Tourist site	Belluno	ľ	taly	1
6	London Towers		Monument	London	E	Ingland	1

Total Trips 20

It looks much better and if we click on the Country combo box, we can see that now it has a reasonable width.

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# Adding a detail panel of an attraction



As we continue developing the application, we create a panel to see the details of an attraction and name it View\_Attraction\_Details. In the rules, we add a Parm rule with the AttractionId attribute as input.

Then in the form, we drag the AttractionPhoto attribute and set its Label position property to None.

Below the photo we add a table; inside it we add a textblock, and in its Caption property we type the text "Visiting the."

Below it in the table we add the attribute AttractionName.

We select both controls and in the Horizontal Alignment property we choose Left.

We right-click on the textblock and select Insert Column After twice to create 2 columns.

Now we drag a table and insert it well to the right in the AttractionName row. Inside this table we include the attributes CategoryName, CountryName, and CountryCity.

We are going to adjust the properties of the tables' columns and rows to display the contents properly.

We select the table below the photo and in its Column Styles property we choose 30%, 10 DIPs (Device Independent Pixel) and 70%.

# Adding a detail panel of an attraction (continued)



The Device Independent Pixel unit corresponds to the abstraction of 1 pixel; later on, an application converts it to physical pixels, which allow scaling to different screen sizes. Each platform has a different number of pixels; for example, in a web application generated in Angular, 1 DIP is 1 pixel, and in native mobile applications it depends on the device.

The maximum width of the columns of a grid is always 384 DIPs. Percentages are relative to the value resulting from subtracting the fixed values from the total width (in DIPs).

In this example, there are three columns: the first with 30%, the second with a fixed value of 10 DIPs and the third with 70%. The values that the first and third columns will take are obtained by applying those percentages to the value resulting from subtracting the sum of the fixed values (here only one, 10 DIPs) from the width of the table. The second column with 10 DIPs is used as a blank space between the first and the third column.

For this reason, the space available for the first and third columns is: 384 - 10 = 374 DIPs; therefore, the first column will have 30% of 374 which equals 112 DIPs and the third the remaining 70%, which are 262 DIPs.

#### Adjusting the rows of a table

Layout Rules Events Conditions Variables Documentation					
▼ Application Bar	PD: Usin	g the best value	depending on t	he platform and	context
MainTable     MainTable	PD in pixels	Label Pos	sition=Top	Label Pos	sition=Left
		Mode=View	Mode=Edit	Mode=View	Mode=Edit
	Angular	64	64	44	44
	 Android	64	64	44	50
Visiting the	iOS	53	53	44	53
AttractionName CategoryName CategoryName CityName CityName CountryName Country	 	Rows Style	Unit Perr Dev Pinde Pixe Pixe Value	centage ice pependent d form Default 0 DK Cancel	×

For the rows, we leave the PD (Platform Default) values which correspond to: "Using the best value depending on the platform and context."

This value varies with the platform and, for the same platform, it also depends on the cell's content. For example, if the field has a label or not, and if it does, if the label will be displayed on top or to the left, depending on the value of the Label Position property, or if we are in a layout in Edit mode or in View mode (we will see this later).

For example, for Angular or Android, with Label Position = Top, it corresponds to 64 DIPs, while on iOS to 53 DIPs.

Remember that in Angular 1 DIP is 1 pixel, but in Android or iOS the number of pixels per DIP depends on the device and the orientation.

In order to invoke the panel we built, we go to the View\_Attractions\_MoreInfo panel and program the Tap event of the AttractionName attribute to invoke the View\_Attraction\_Detail panel, sending the AttractionId by parameter.

Images

Now let's see how we can change the way an image is displayed.

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View_Attraction_Det								
Visiting the								
Louvre	Category Name	Museum						
	City Name	Paris						
	Country Name	France						

Visit the palace of French kings to admire some of the world's finest art. The Louvre holds many of Western Civilization's most famous masterpieces, including the Mona Lisa by Leonardo da Vinci, and is one of the top things to do in Paris. A large number of the museum's paintings were owned by the various kings who lived in the Louvre when it was a royal residence, other pieces were acquired through Fance's.

Before we continue, let's run it to see what we have done so far. We run the panel View\_Attractions\_MoreInfo...

We click on the Louvre and the panel we have just built opens... It doesn't look so bad, but the image is too small.

First of all, let's check the values of the Rows Style property of the Main Table.

#### Image scaling

Layout Rules Events Conditions Variables Documentation	Rows Style	×
Application Bar     MainTable     Table1      Visiting the	Row Height pd 2 pd 3 pd 4 pd	Unit Percentage Device Independent Pixel Platform Default Value OK Cancel
AttractionName       Category Name       CategoryName         City Name       CityName       CityName         Country Name       CountryName       CountryName         AttractionDescription       CountryName       CountryName	Rows Style Row Height 400drp 2 pd 3 10dip 4 pd	Vuit Percentage Device Device Platform Default Value OK Cancel

Note that for all the rows we leave the PD value. This means that if we generate in Angular, according to the table we saw, the image is only 64 pixels high, that's why it looks so small.

We give it the value 400 DIPs (which in Angular would correspond to 400 pixels) and to the third row we give the value 10 DIPs, so that it is a separator between the main data and the description of the attraction.

Let's try it.

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← → C O localhost:54863/app/View\_Attraction\_Det-Level\_Detail;attractionid=7

View\_Attraction\_Det



#### Visiting the

Louvre

Category Name	Museum
City Name	Paris
Country Name	France

Visit the palace of French kings to admire some of the world's finest art. The Louvre holds many of Western Civilization's most famous masterpieces, including the Mona Lisa by Leonardo da Vinci, and is one of the top things to do in Paris. A large number of the museum's paintings were owned by the various kings who lived in the Louvre when it was a royal residence, other pieces were acquired through Fance's.

# It looks much better now! The image was enlarged to fit the available space without losing proportions.

# GeneXus

Grid

> 🚟 GridRow

~	°
	O
visiting the	
AttractionName	Category Name CategoryName
	City Name CityName
	Country Name CountryName
tractionDescription	

$\sim$	Attribute/V	/ariable: AttractionPhoto	
--------	-------------	---------------------------	--

AttractionPhoto	
True	
None	
Image	



🏅 Customization

🔁 Localization

The way in which the image takes the available space depends on the value of the Image Scale Type property, which is at the Image class level.

In Customization, Themes, CarmineSD, we click on CarmineWeb and select the Image class. In its properties we see that the Scale Type property can take different values.

Now we change this at the class level, but later on when we deal with Design we will do it using a Design System Object.

Possible values of the Image Scale Type property

No Scale	Keeps the original size of the image, regardless of the size of the control area.
Tile	The image is not scaled. It is repeated horizontally and vertically to fill the control size.
Fill	The image is scaled in width and height to fill the whole size of the control area.
Fill Keeping Aspect Ratio	The image's width and height are increased or decreased to fill the entire size of the control area, but keeping the aspect of the image. For example, if the image size is 100x200, and the control size is 50x50, then the image size is converted to 50x100.
Fit	The image scales in width and height to see it at all, keeping the aspect of the image. For example, if the image is 100x200, and the control is 50x50, then the image is converted to 25x50. This is the default value.

The values that define image scaling are as follows:

<u>No Scale</u>: The original size of the image will be kept regardless of the size of the area where the control is located.

<u>Tile</u>: In this case, the images are not scaled and the image will be repeated to fill the control area.

<u>Fill</u>: The image height and length will be scaled to take the area where the control is located.

<u>Fill Keeping Aspect Ratio</u>: It is similar to Fill but the image will always keep the same width and height proportions; in this way, the image will not be skewed. For example, if the image size is 100x200 px and the control area size is 50x50, the image will be converted to 50x100 px.

<u>Fit</u>: The image height and width will be scaled so that it can be fully displayed, keeping its proportions and aspect ratio. For example, if the image size is 100x200 px and the control area size is 50x50, the image will be converted to 25x50.

The default value is Fill Keeping Aspect Ratio, so in this example, without changing the property in the class, the image took the 400 DIPs (400 pixels) we assigned to it and was proportionally enlarged until it looked right.

Label Position	Tables	Image Scaling
<ul> <li>Platform Default</li> <li>None</li> <li>Right</li> <li>Left</li> <li>Top</li> <li>Bottom</li> <li>Float</li> </ul>	<ul> <li>Columns Styles</li> <li>Row Styles</li> <li>Measure Units</li> </ul>	<ul> <li>No Scale</li> <li>Tile</li> <li>Fill</li> <li>Fill Keeping Aspect Ratio</li> <li>Fit</li> </ul>

To sum up what we have seen in this video:

- We saw the various options for Label Position: Platform Default, None, Right, Left, Top, Bottom, and Float. The last one is only valid for mobile devices.
- Regarding Tables, we saw how to specify the styles of the columns and rows. We talked about measurement units DIPs, Percentages, and the PD—Platform Default—value for Rows.
- Finally, we talked about image scaling and its different values: No Scale, Tile, Fill, Fill Keeping Aspect Ratio, and Fit.

This helped us to improve the look and feel of the travel agency application.

In future videos, we will continue to develop other features to complete the application.



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