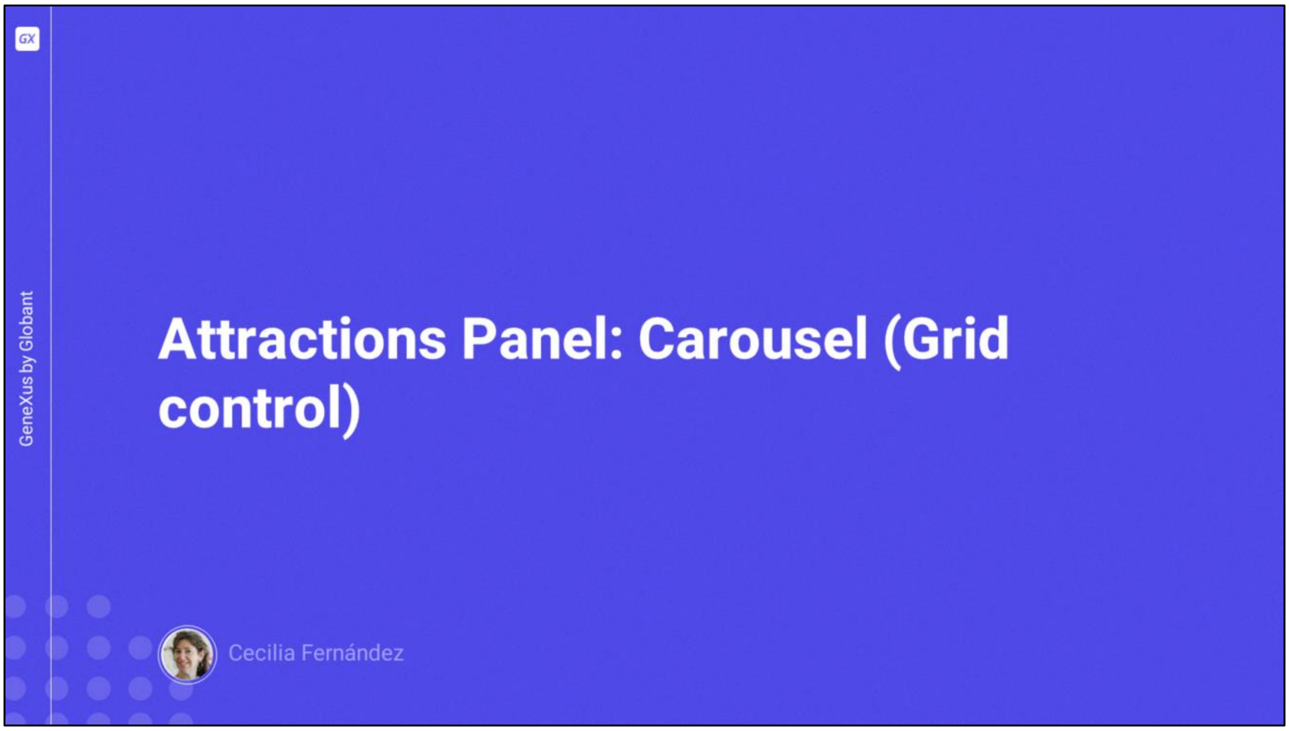
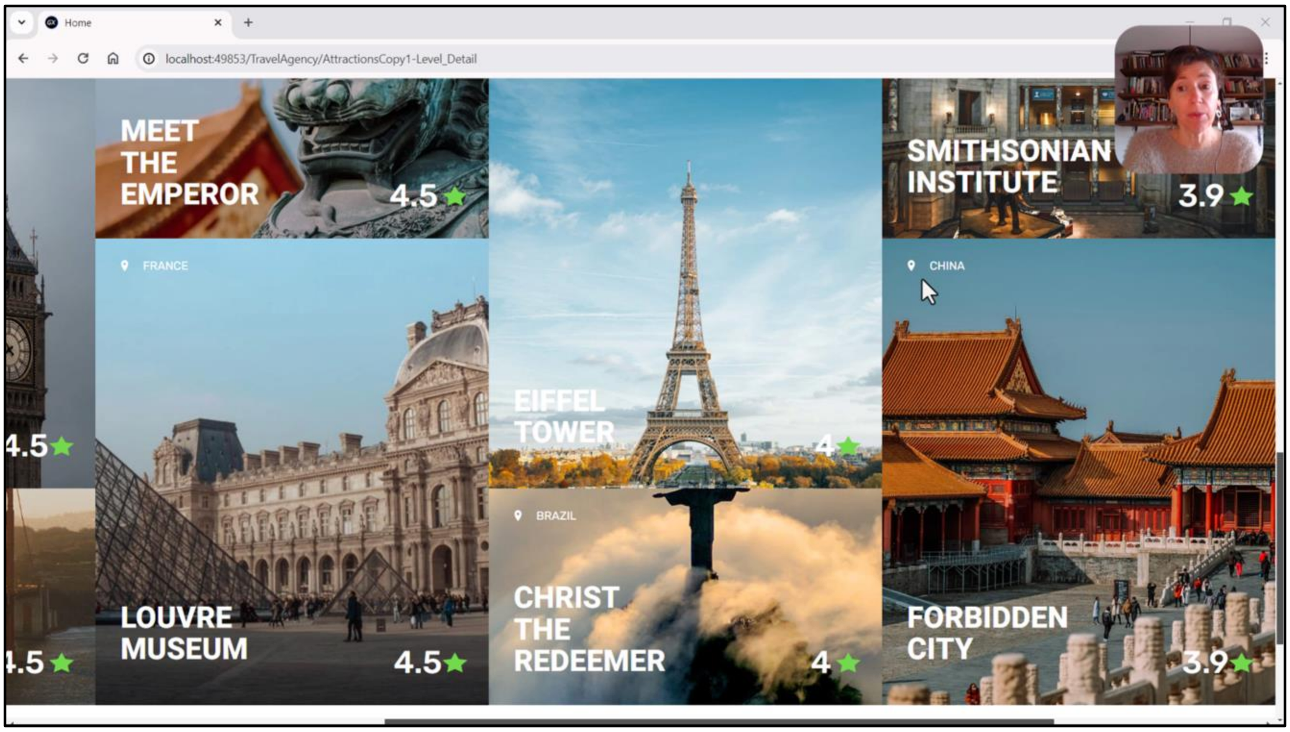


GeneXus by Globant

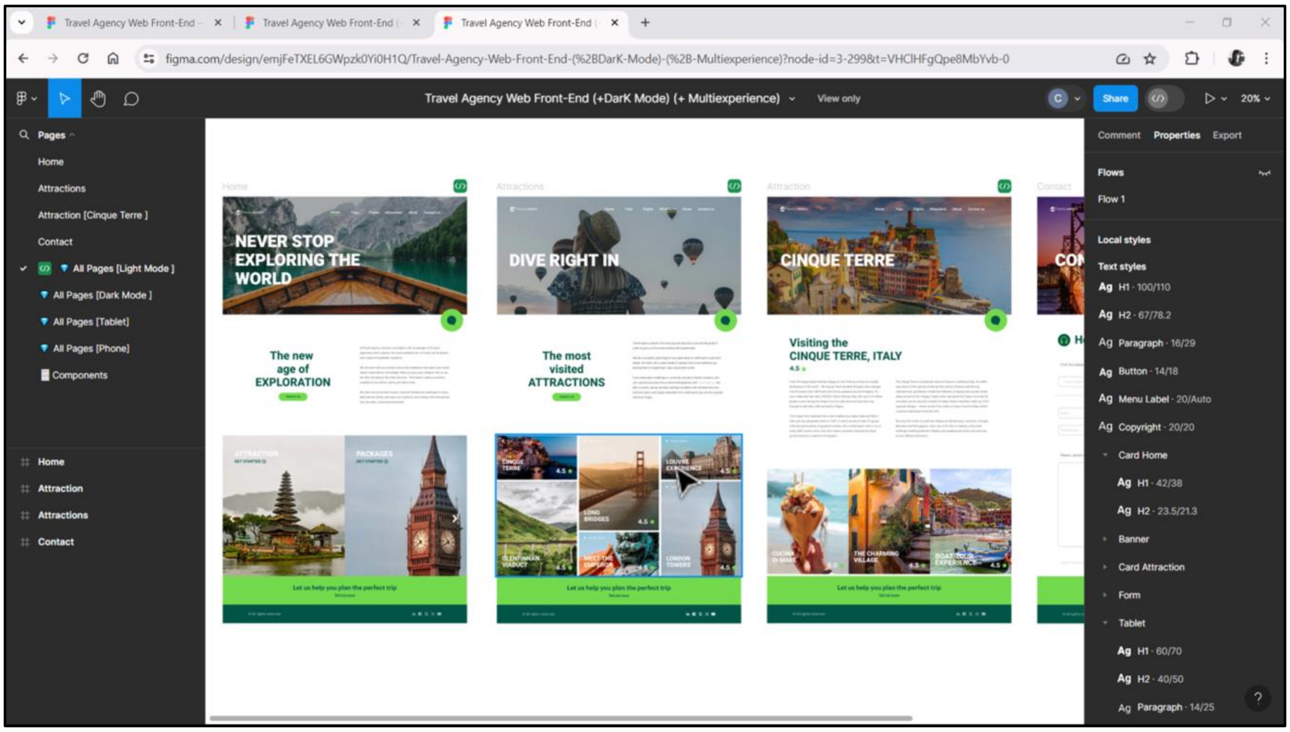
Attractions Panel: Carousel (Grid control)

Cecilia Fernández



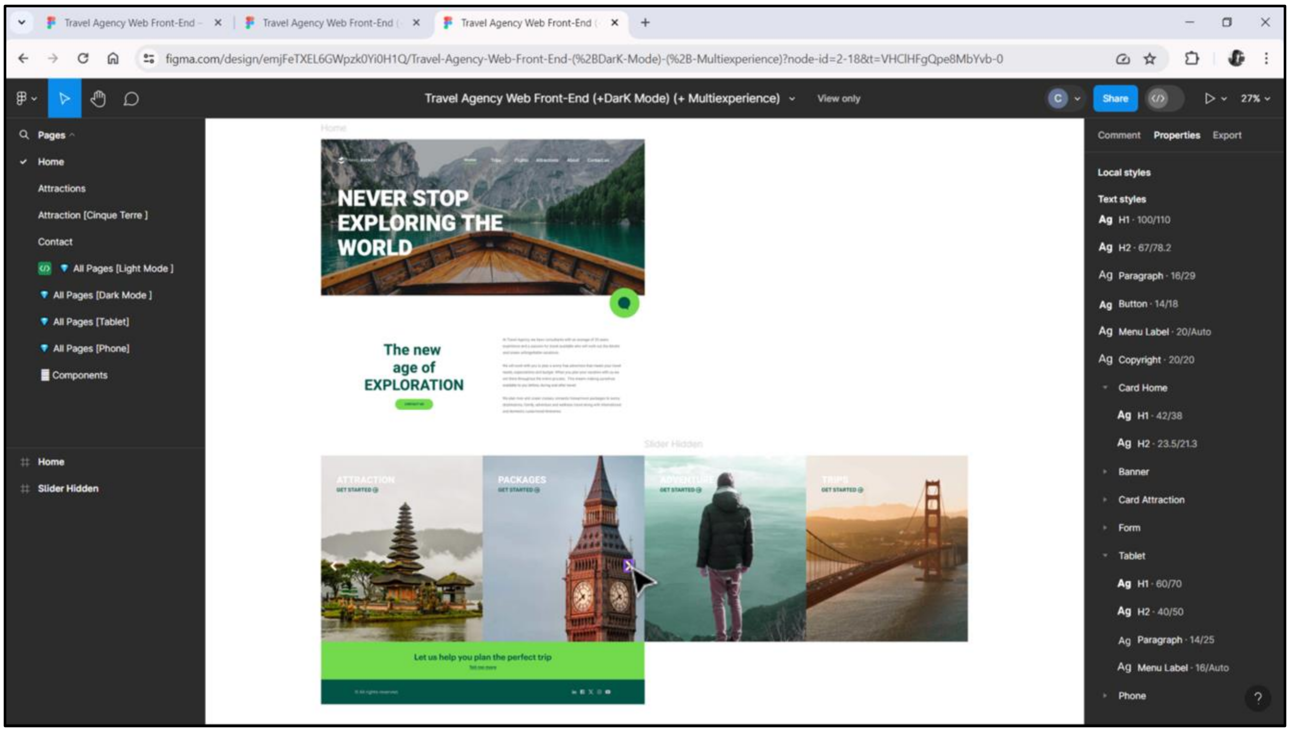
En el video anterior les presenté una posible implementación no terminada para el carrusel del panel Attractions.

Ahora la analizaremos en profundidad y pensaremos otras posibilidades.



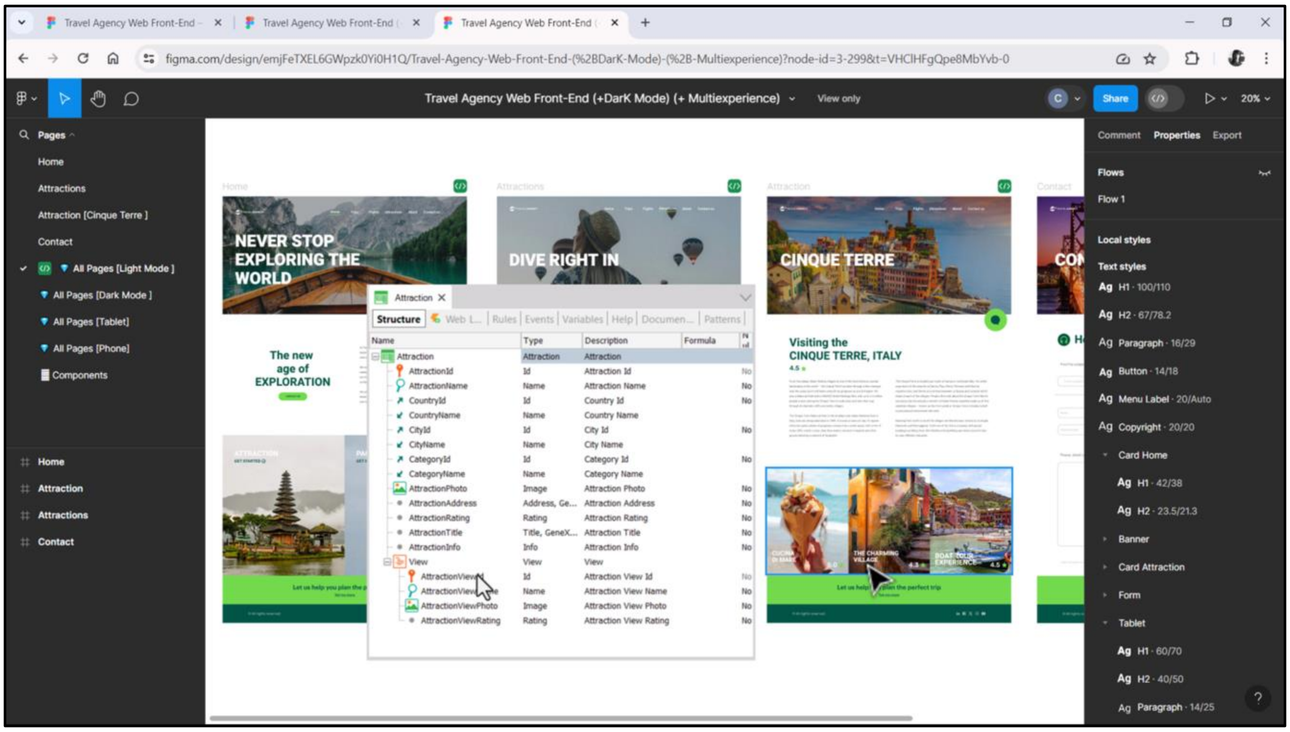
Se utiliza un control grid cuando necesitamos presentar información repetitiva, ya sea en cantidad fija o variable.

Cuando la información a presentar es variable en cantidad, es claro el uso del grid. Es el de nuestro caso, donde la información a mostrar es la de las atracciones de la base de datos, que es, claramente, variable.



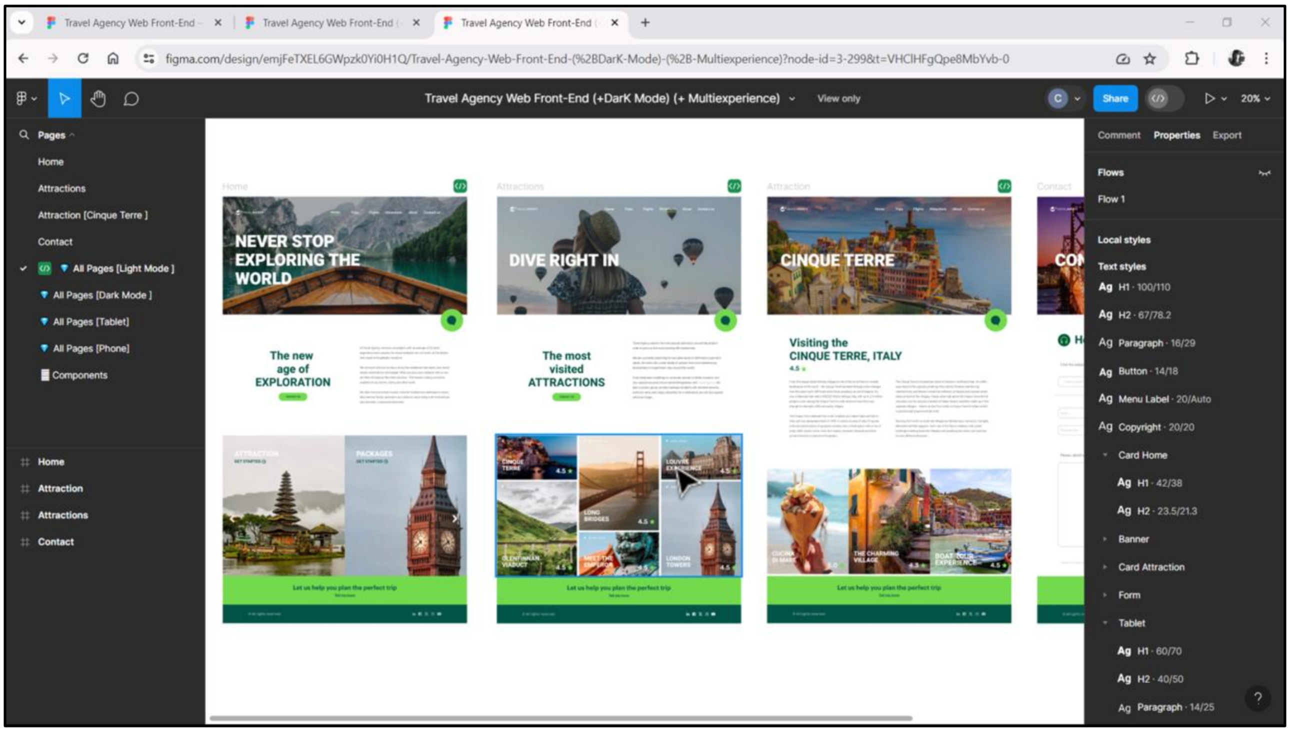
Pero también se lo utiliza cuando la cantidad es fija. Por ejemplo, para modelar estas cards del panel Home, también utilizaremos un grid, porque, recuerden, se compondrá de 4 cards, fijas, donde sólo hay 2 visibles en la pantalla por vez.

En este caso el grid cargará 4 ítems de información, pero cada uno con valores fijos, no tomados de la base de datos.

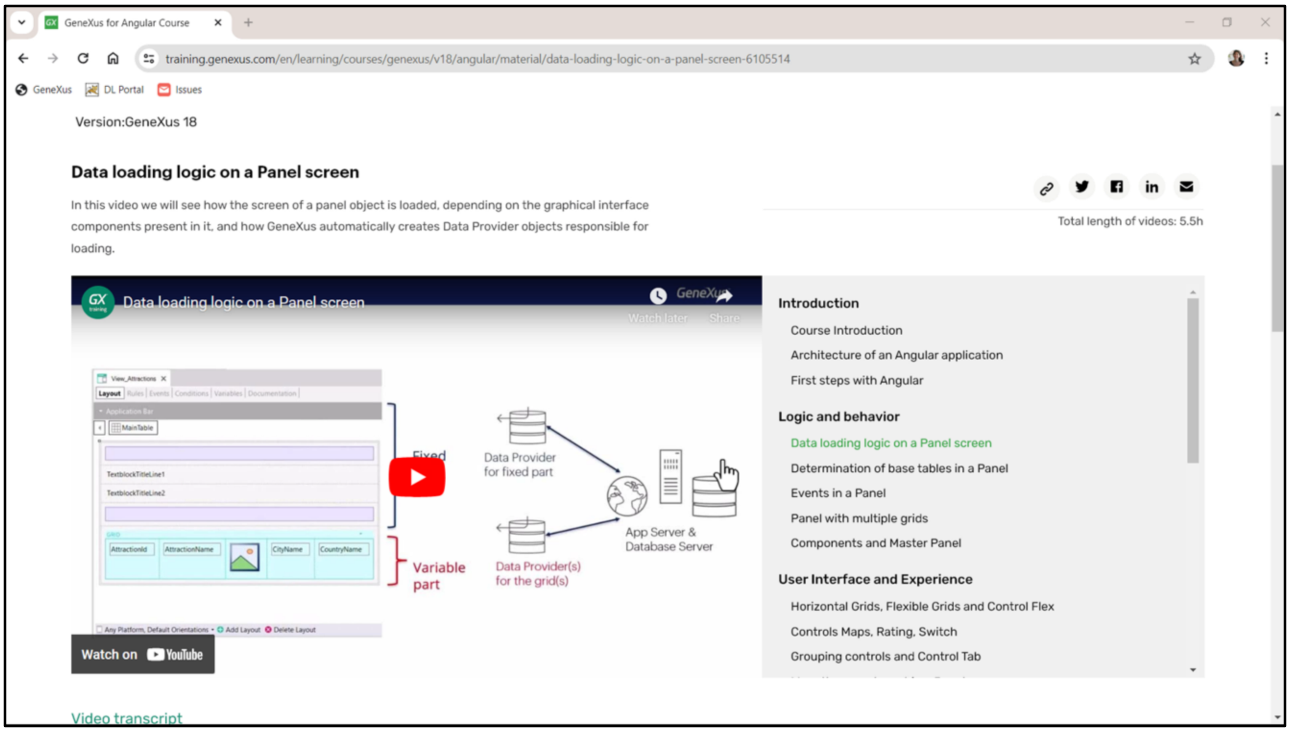


Name	Type	Description	Formula	N
Attraction	Attraction	Attraction		
AttractionId	Id	Attraction Id		No
AttractionName	Name	Attraction Name		No
CountryId	Id	Country Id		No
CountryName	Name	Country Name		
CityId	Id	City Id		No
CityName	Name	City Name		
CategoryId	Id	Category Id		No
CategoryName	Name	Category Name		
AttractionPhoto	Image	Attraction Photo		No
AttractionAddress	Address, Ge...	Attraction Address		No
AttractionRating	Rating	Attraction Rating		No
AttractionTitle	Title, GeneX...	Attraction Title		No
AttractionInfo	Info	Attraction Info		No
View	View	View		
AttractionViewId	Id	Attraction View Id		No
AttractionViewName	Name	Attraction View Name		No
AttractionViewPhoto	Image	Attraction View Photo		No
AttractionViewRating	Rating	Attraction View Rating		No

El caso de Attraction será más parecido al de Attractions, no sólo porque la información presentada es casi idéntica en estructura visual a la de las cards más largas de este otro grid, sino porque también se toma de la base de datos. En este caso, del segundo nivel de la transacción Attraction.



Si bien los 3 carruseles se implementarán mediante grids, tendrán sus particularidades. Dos de ellos pueden pensarse como grids de tipo **grid horizontal**, mientras que el que vamos a estudiar ahora será del tipo **flex**.



GeneXus for Angular Course

training.genexus.com/en/learning/courses/genexus/v18/angular/material/data-loading-logic-on-a-panel-screen-6105514

GeneXus | DL Portal | Issues

Version:GeneXus 18

Data loading logic on a Panel screen

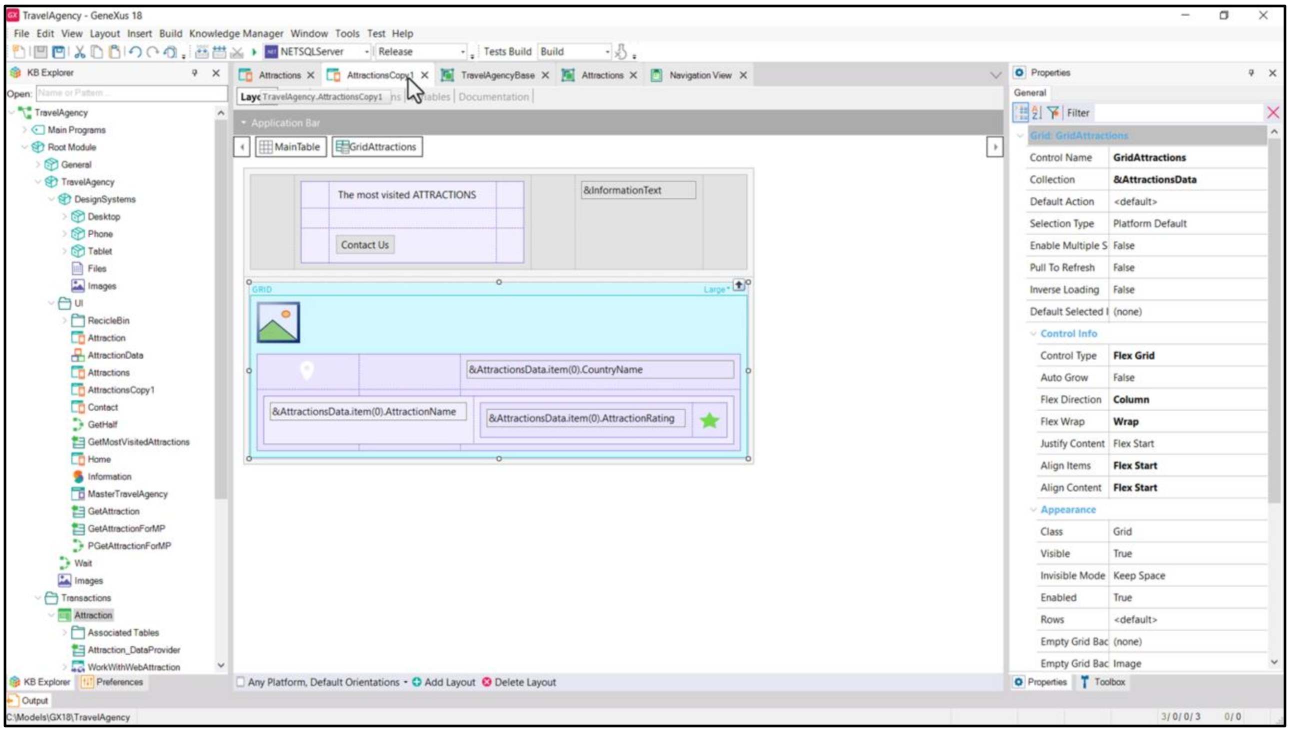
In this video we will see how the screen of a panel object is loaded, depending on the graphical interface components present in it, and how GeneXus automatically creates Data Provider objects responsible for loading.

Total length of videos: 5.5h

Data loading logic on a Panel screen
Watch later
Share
Fixed
Variable part
Data Provider for fixed part
Data Provider(s) for the grid(s)
App Server & Database Server
Watch on YouTube

Video transcript

En el curso de GeneXus para Angular tienen este primer video bien cortito que les cuenta la relación de un grid con atributos de la base de datos y la carga de este grid automática. A quien nunca haya visto nada de esto les recomiendo detenerse aquí y mirarlo.

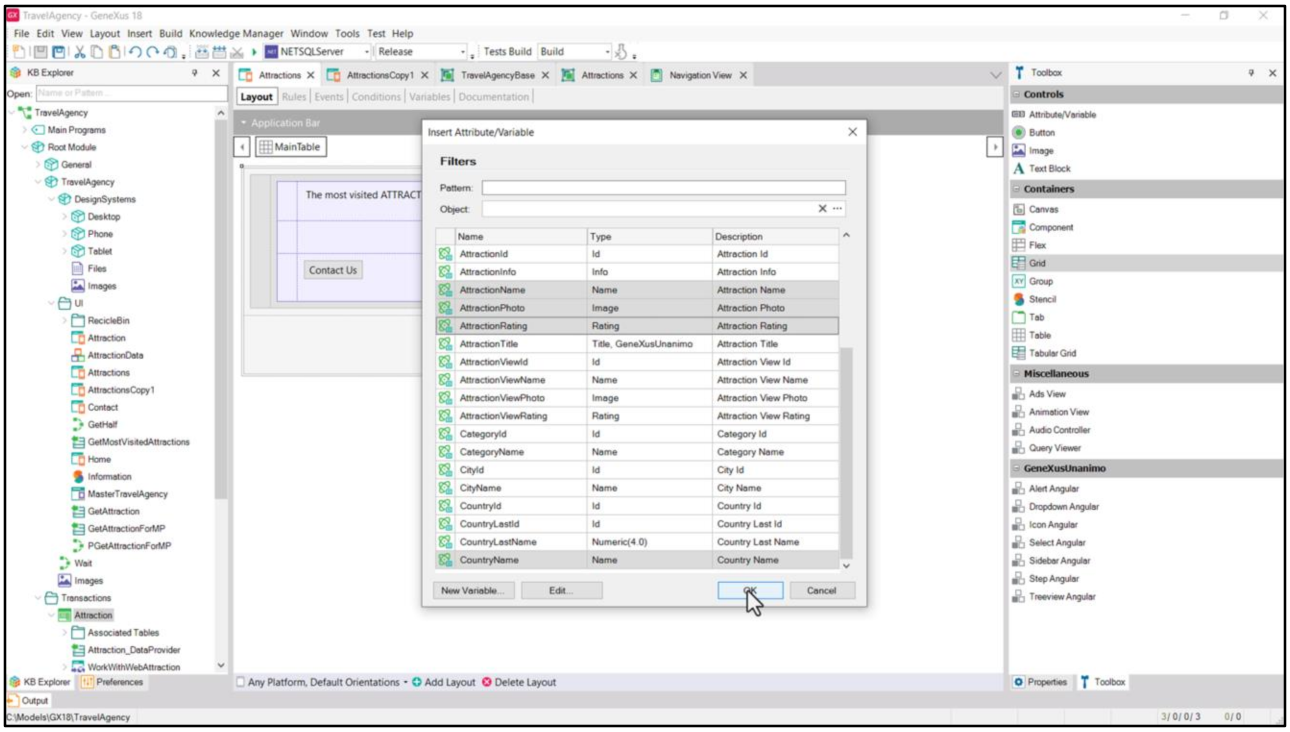


Grid: GridAttractions	
Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

En la KB yo ya había implementado una primera versión de este grid, en la copia del panel Attractions.

Voy a hacerlo ahora con ustedes detenidamente, para explicarles las cuestiones más relevantes desde el punto de vista del frontender.

Esta zona en la que entramos tiene de User Interface y también de codificación.



Insert Attribute/Variable

Filters

Pattern:

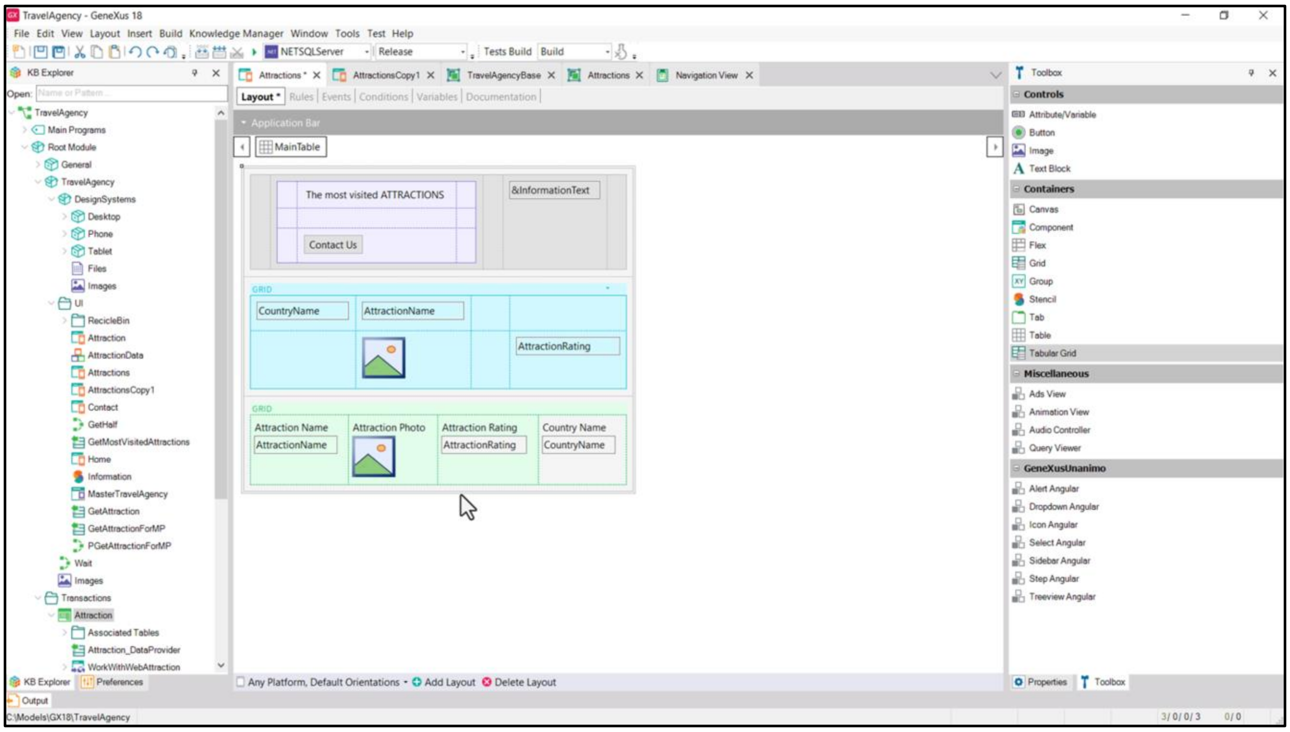
Object:

Name	Type	Description
AttractionId	Id	Attraction Id
AttractionInfo	Info	Attraction Info
AttractionName	Name	Attraction Name
AttractionPhoto	Image	Attraction Photo
AttractionRating	Rating	Attraction Rating
AttractionTitle	Title, GeneXusUnanimo	Attraction Title
AttractionViewId	Id	Attraction View Id
AttractionViewName	Name	Attraction View Name
AttractionViewPhoto	Image	Attraction View Photo
AttractionViewRating	Rating	Attraction View Rating
CategoryId	Id	Category Id
CategoryName	Name	Category Name
CityId	Id	City Id
CityName	Name	City Name
CountryId	Id	Country Id
CountryLastId	Id	Country Last Id
CountryLastName	Numeric(4.0)	Country Last Name
CountryName	Name	Country Name

New Variable... Edit... OK Cancel

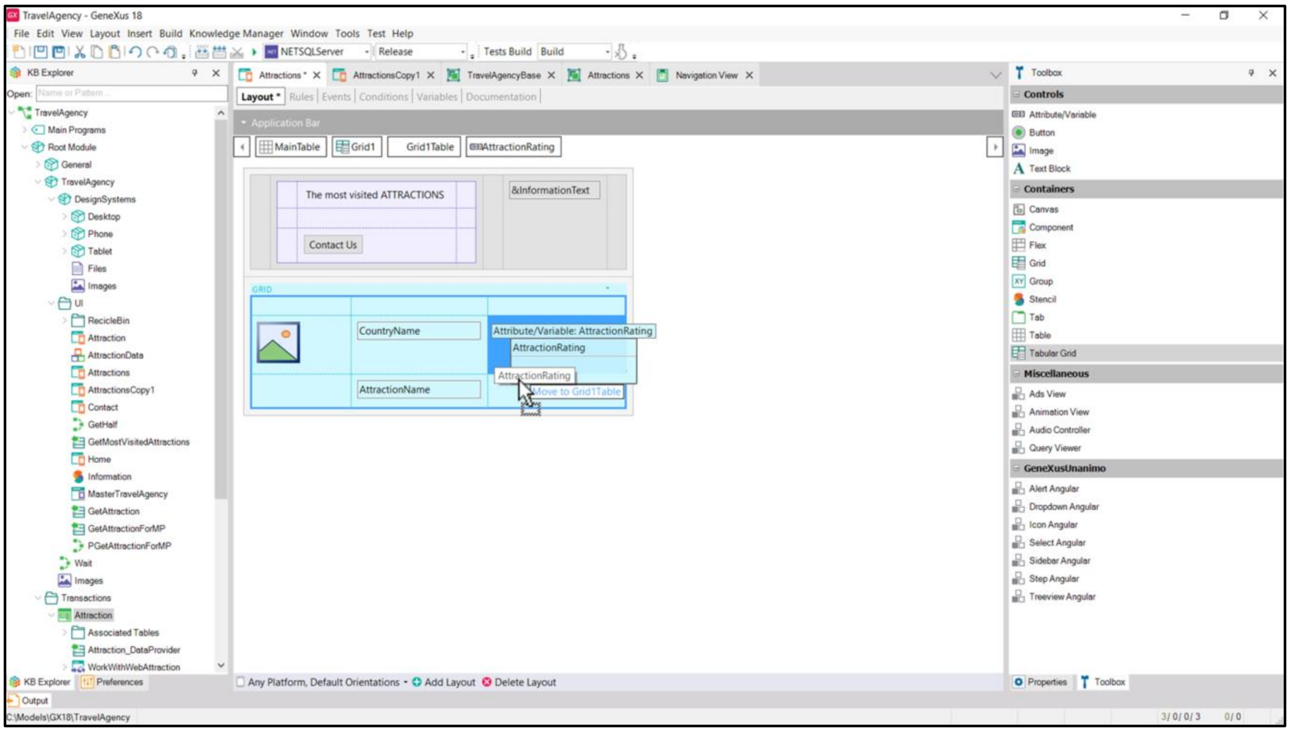
Voy a empezar por insertar un grid en la segunda fila de Attractions. Nos abre esta ventana para seleccionar atributos y/o variables que queremos que sean parte de cada ítem que el grid presentará.

Podría seleccionar, por ejemplo, para nuestro caso, CountryName, AttractionName, AttractionPhoto, AttractionRating.

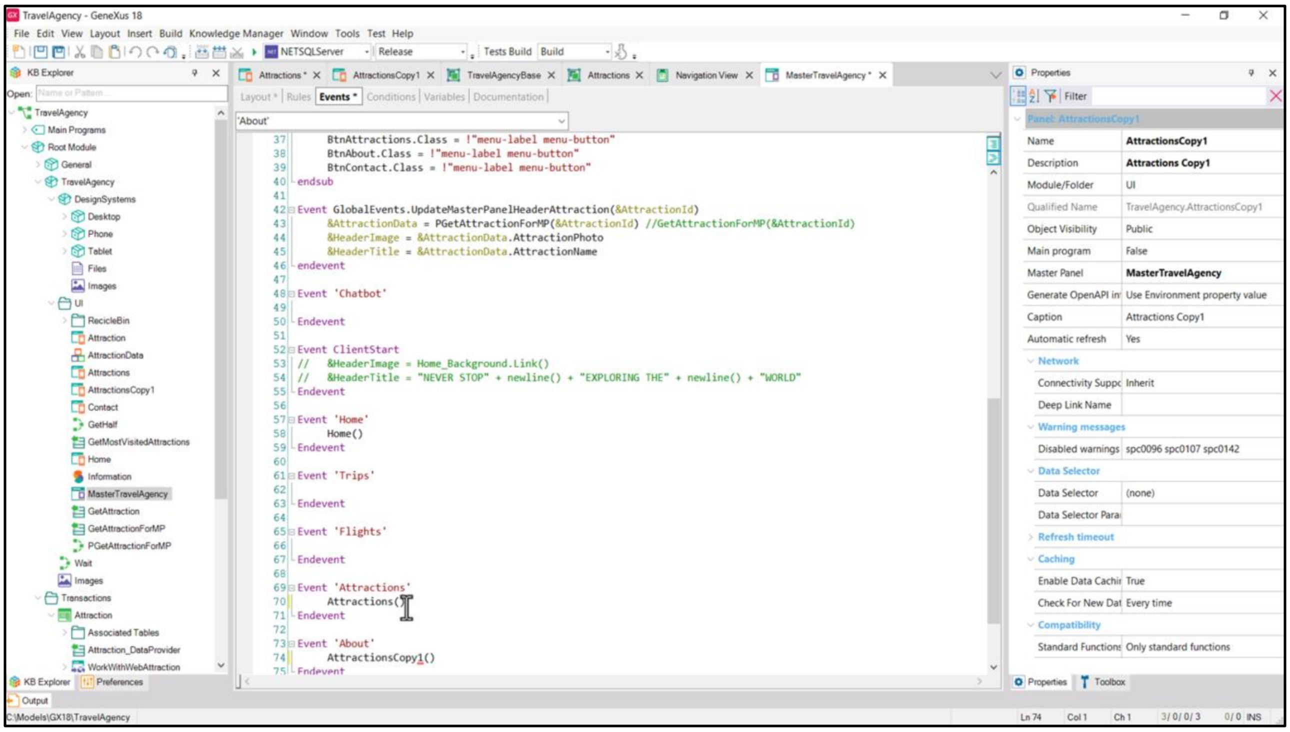

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
Attractions* AttractionsCopy1 TravelAgencyBase Attractions Navigation View
Layout* Rules Events Conditions Variables Documentation
Application Bar
MainTable
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
CountryName
AttractionName
AttractionRating
Attraction Name
Attraction Photo
Attraction Rating
Country Name
Toolbox
Controls
Containers
Tabular Grid
Miscellaneous
GeneXusUnanimo
Any Platform, Default Orientations
Add Layout
Delete Layout

Veamos que nos colocó los 4 atributos uno al lado del otro, en 4 columnas, pero podemos reacomodar los elementos como queramos. A diferencia de lo que sucede con los grids tabulares, en los que solamente hay columnas y no se puede hacer esto otro.

Nosotros vamos a elegir el primer caso, claramente.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
Attractions * | AttractionsCopy1 | TravelAgencyBase | Attractions | Navigation View
Layout * | Rules | Events | Conditions | Variables | Documentation
MainTable | Grid1 | Grid1Table | AttractionRating
The most visited ATTRACTIONS
Contact Us
&InformationText
CountryName
Attribute/Variable: AttractionRating
AttractionRating
AttractionName
Move to Grid1Table
Toolbox

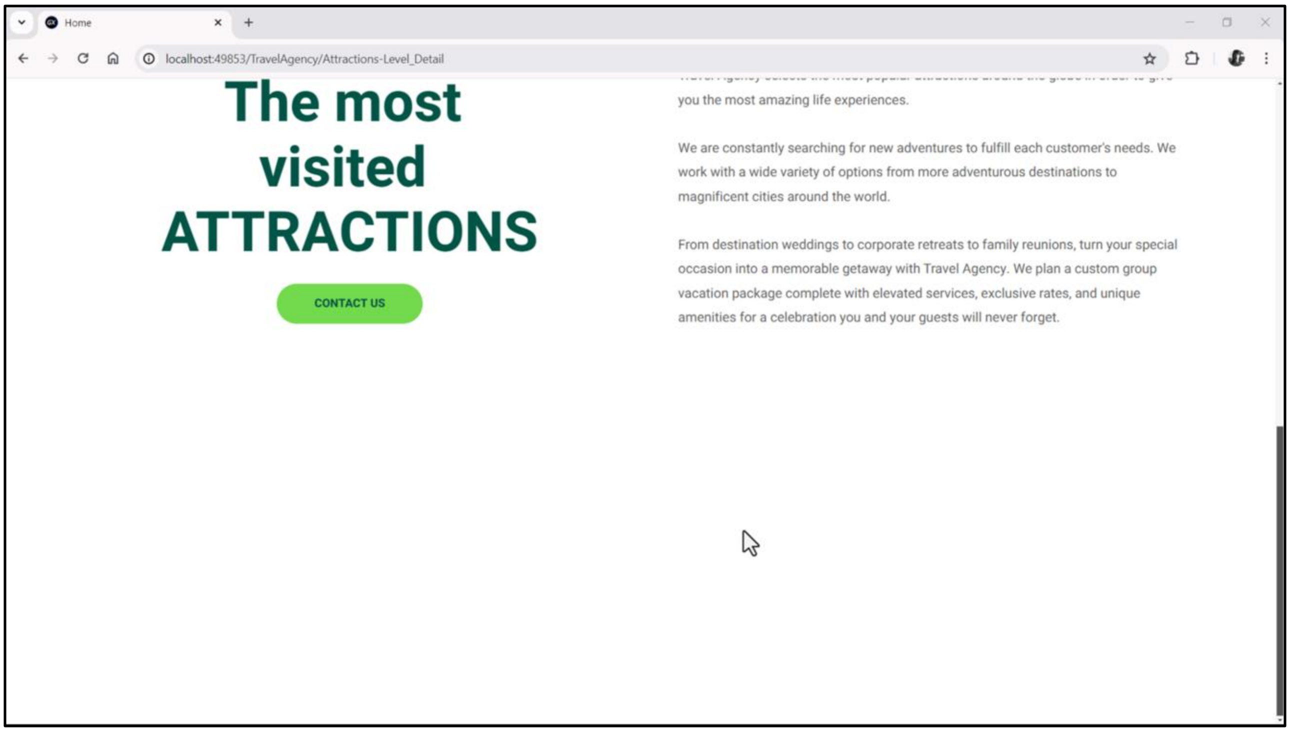
Reacomodo los elementos como quiero que salgan.



```
    BtnAttractions.Class = !"menu-label menu-button"
    BtnAbout.Class = !"menu-label menu-button"
    BtnContact.Class = !"menu-label menu-button"
endsub

Event GlobalEvents.UpdateMasterPanelHeaderAttraction(&AttractionId)
    &AttractionData = PGetAttractionForMP(&AttractionId) //GetAttractionForMP(&AttractionId)
    &HeaderImage = &AttractionData.AttractionPhoto
    &HeaderTitle = &AttractionData.AttractionName
endevent

Event 'Chatbot'

Endevent

Event ClientStart
//  &HeaderImage = Home_Background.Link()
//  &HeaderTitle = "NEVER STOP" + newline() + "EXPLORING THE" + newline() + "WORLD"
Endevent

Event 'Home'
    Home()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
    Attractions()
Endevent

Event 'About'
    AttractionsCopy1()
Endevent
```

Y ahora quiero ejecutar.

Así que en el Master Panel… en el evento asociado al botón Attractions… descomento la invocación al panel que estamos construyendo… y la invocación a la copia que tiene ya el grid avanzado la coloco para el botón About, provisoriamente.



localhost:49853/TravelAgency/Attractions-Level_Detail

The most visited ATTRACTIONS

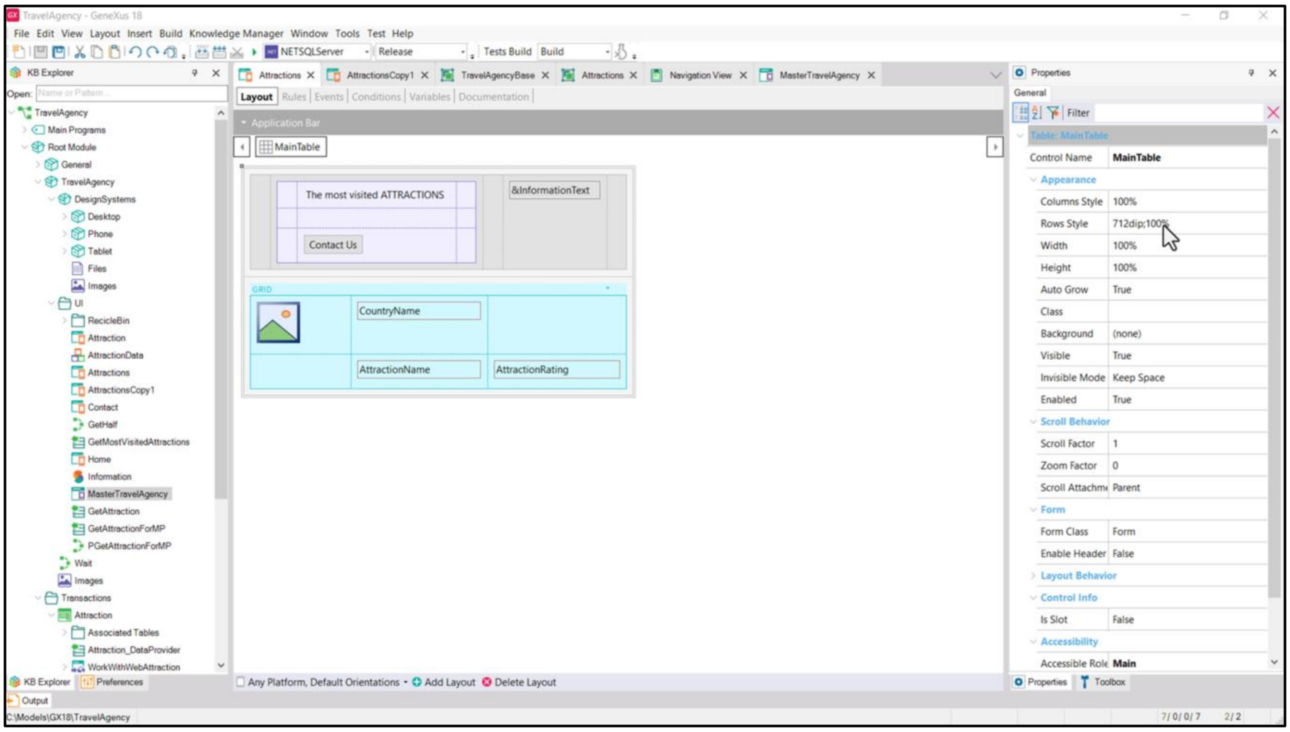
CONTACT US

you the most amazing life experiences.

We are constantly searching for new adventures to fulfill each customer's needs. We work with a wide variety of options from more adventurous destinations to magnificent cities around the world.

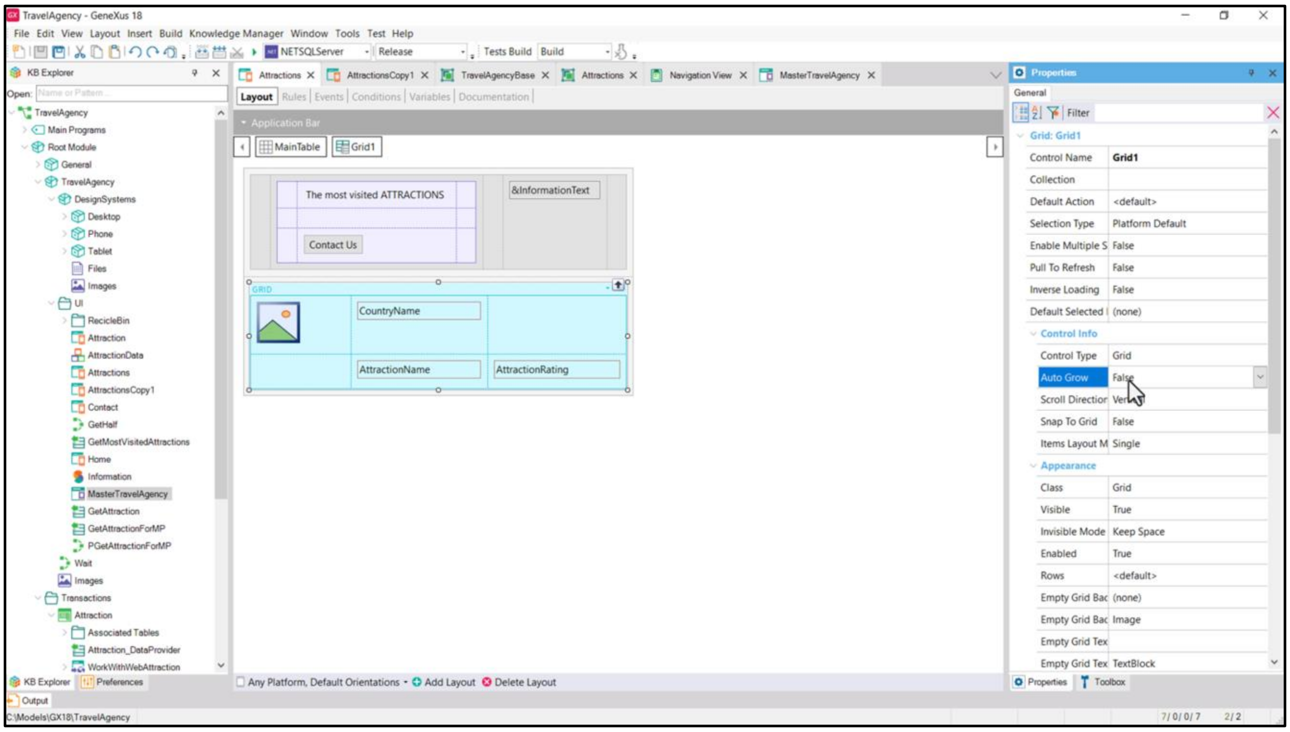
From destination weddings to corporate retreats to family reunions, turn your special occasion into a memorable getaway with Travel Agency. We plan a custom group vacation package complete with elevated services, exclusive rates, and unique amenities for a celebration you and your guests will never forget.

No se está viendo nada en ejecución. ¿Por qué?



Control Name	MainTable
Columns Style	100%
Rows Style	712dip;100%
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form Class	Form
Enable Header	False
Is Slot	False
Accessible Role	Main

Primero que nada veamos el tamaño de la fila en la que se encuentra el grid. 100% del alto restante de quitar 712 dips. Aquí evidentemente no está el problema.



Grid: Grid1

Control Name	Grid1
Collection	
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Ver
Snap To Grid	False
Items Layout M	Single
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock

Entre las propiedades del Grid vemos que tiene la Auto Grow en False, así que no va a crecer conforme su contenido crezca.

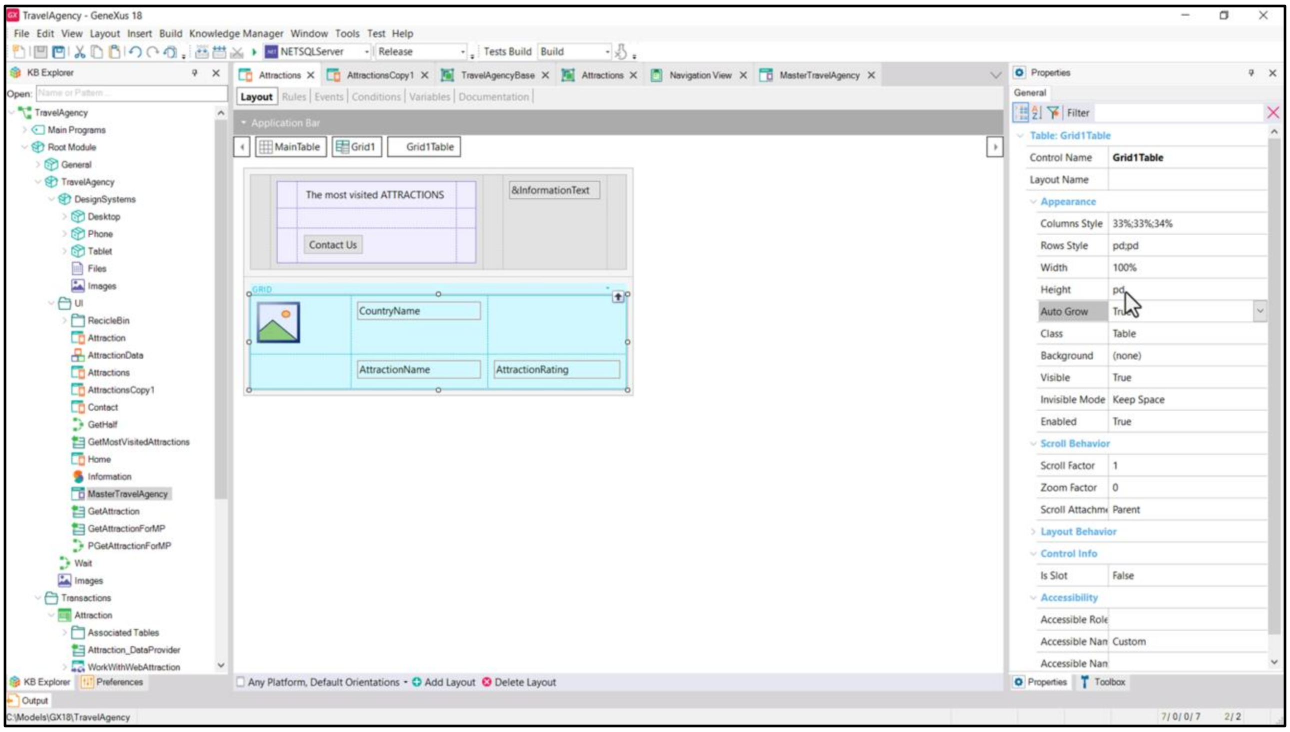
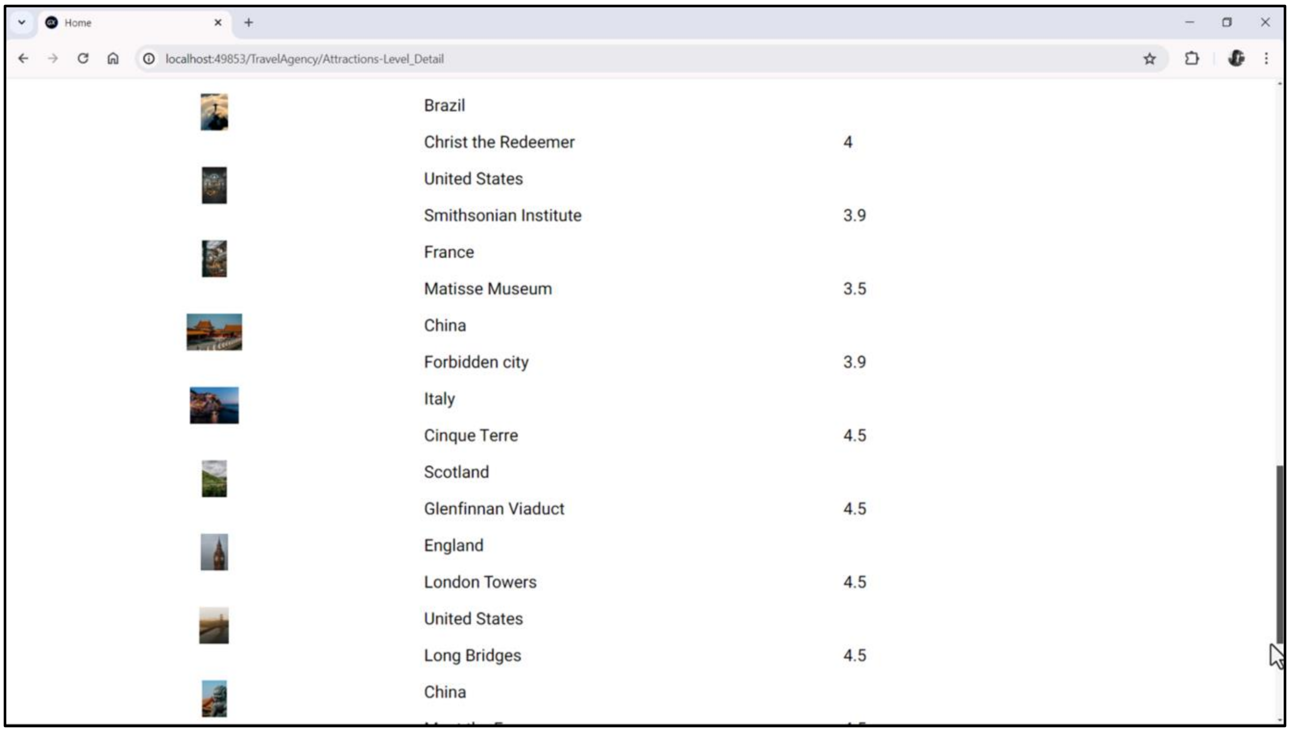


Table: Grid1Table

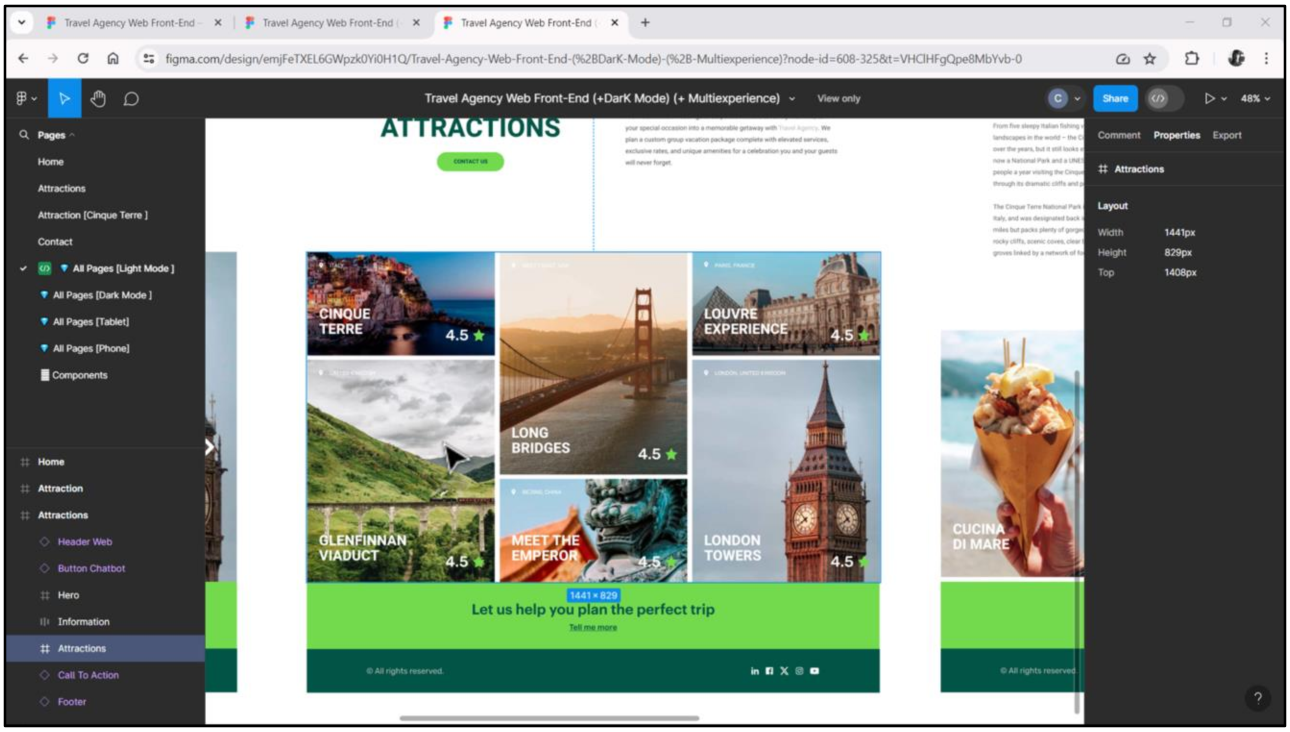
Control Name	Grid1Table
Layout Name	
Appearance	
Columns Style	33%;33%;34%
Rows Style	pd;pd
Width	100%
Height	pd
Auto Grow	Tru
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	
Accessible Nan	Custom
Accessible Nan	

Y si analizamos cada ítem de su contenido, vemos que se modelará como esta tabla, que tiene 3 columnas y dos filas, y que tiene configurado como alto “platform default”. Y por más que tiene Auto Grow en true, como el grid no lo tiene, no aplicará.



Brazil		
Christ the Redeemer	4	
United States		
Smithsonian Institute	3.9	
France		
Matisse Museum	3.5	
China		
Forbidden city	3.9	
Italy		
Cinque Terre	4.5	
Scotland		
Glenfinnan Viaduct	4.5	
England		
London Towers	4.5	
United States		
Long Bridges	4.5	
China		

Observemos qué pasa si cambiamos a True el Auto Grow del grid…



Nosotros no vamos a querer un grid con Auto Grow, porque en realidad vamos a querer un carrusel que tenga un scroll horizontal. El alto va a tener que ser fijo.

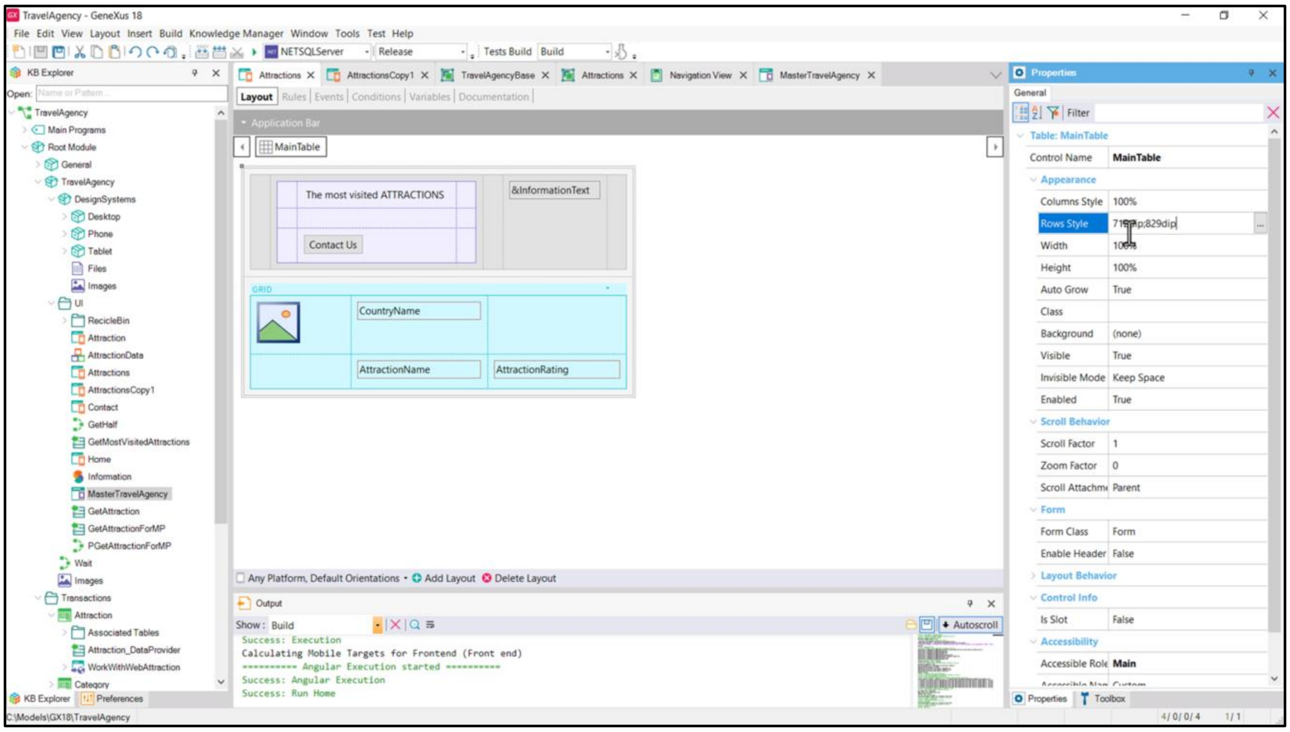
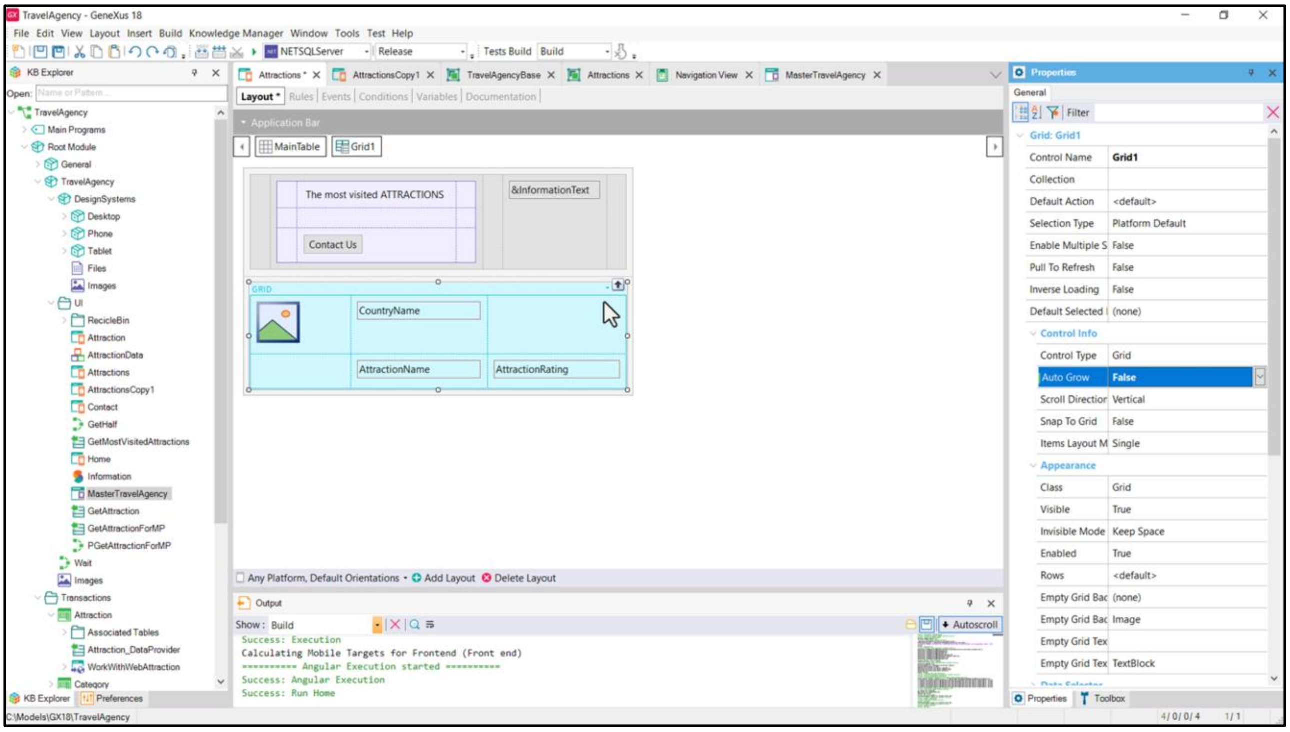


Table: MainTable	
Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	71[illegible]p;829dip
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Form	
Form Class	Form
Enable Header	False
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	Main

```
Show: Build
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

Entonces defino este alto para la fila en la que se encuentra el grid…



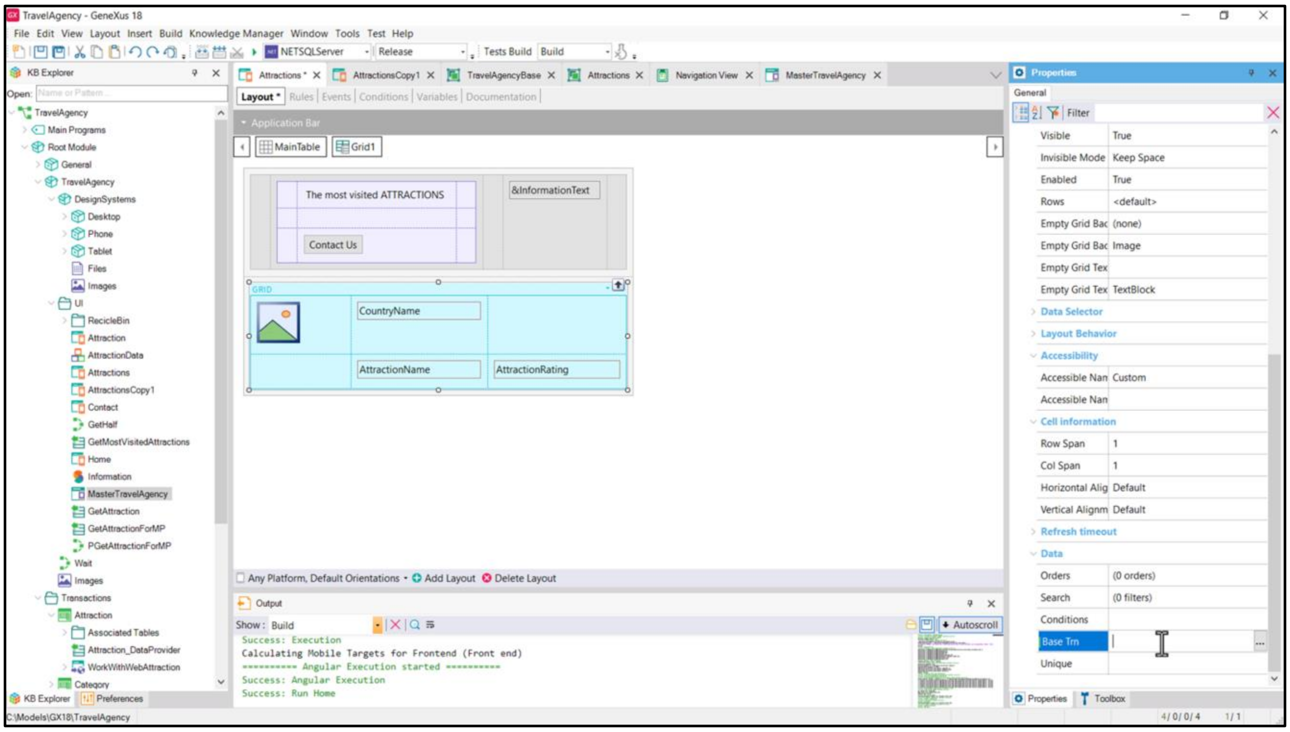
Grid: Grid1

Control Name	Grid1
Collection	
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Vertical
Snap To Grid	False
Items Layout M	Single
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock

```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

…y dejo el Auto Grow en False.

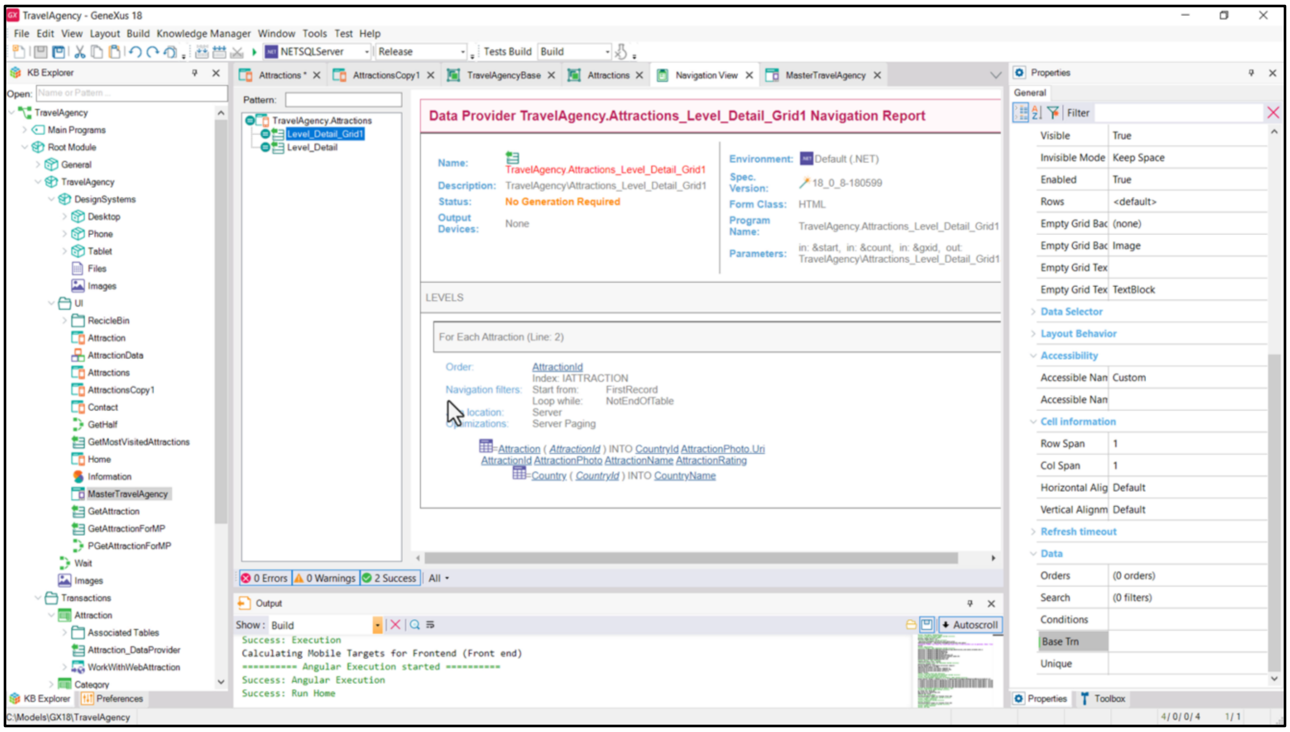
Tendré que trabajar con cuidado los tamaños de esta tabla.



Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock
Data Selector	
Layout Behavior	
Accessibility	
Accessible Nan	Custom
Accessible Nan	
Cell information	
Row Span	1
Col Span	1
Horizontal Alig	Default
Vertical Alignm	Default
Refresh timeout	
Data	
Orders	(0 orders)
Search	(0 filters)
Conditions	
Base Trn	
Unique	

```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

Lo que podemos ver hasta aquí es que utilizando atributos ya la carga del grid es automática. Es un grid con tabla base Attraction. No tuve ni que explicitarlo en esta propiedad. Lo infirió solo.



Data Provider TravelAgency.Attractions_Level_Detail_Grid1 Navigation Report

Name:	TravelAgency.Attractions_Level_Detail_Grid1	Environment:	Default (.NET)
Description:	TravelAgency\Attractions_Level_Detail_Grid1	Spec. Version:	18_0_8-180599
Status:	No Generation Required	Form Class:	HTML
Output Devices:	None	Program Name:	TravelAgency.Attractions_Level_Detail_Grid1
		Parameters:	in: &start, in: &count, in: &gxid, out: TravelAgency\Attractions_Level_Detail_Grid1

LEVELS

For Each Attraction (Line: 2)

```
Order:               AttractionId
                     Index: IATTRACTION
Navigation filters:  Start from:    FirstRecord
                     Loop while:    NotEndOfTable
   location:         Server
   imizations:       Server Paging

      =Attraction ( AttractionId ) INTO CountryId AttractionPhoto.Uri
      AttractionId AttractionPhoto AttractionName AttractionRating
          =Country ( CountryId ) INTO CountryName
```

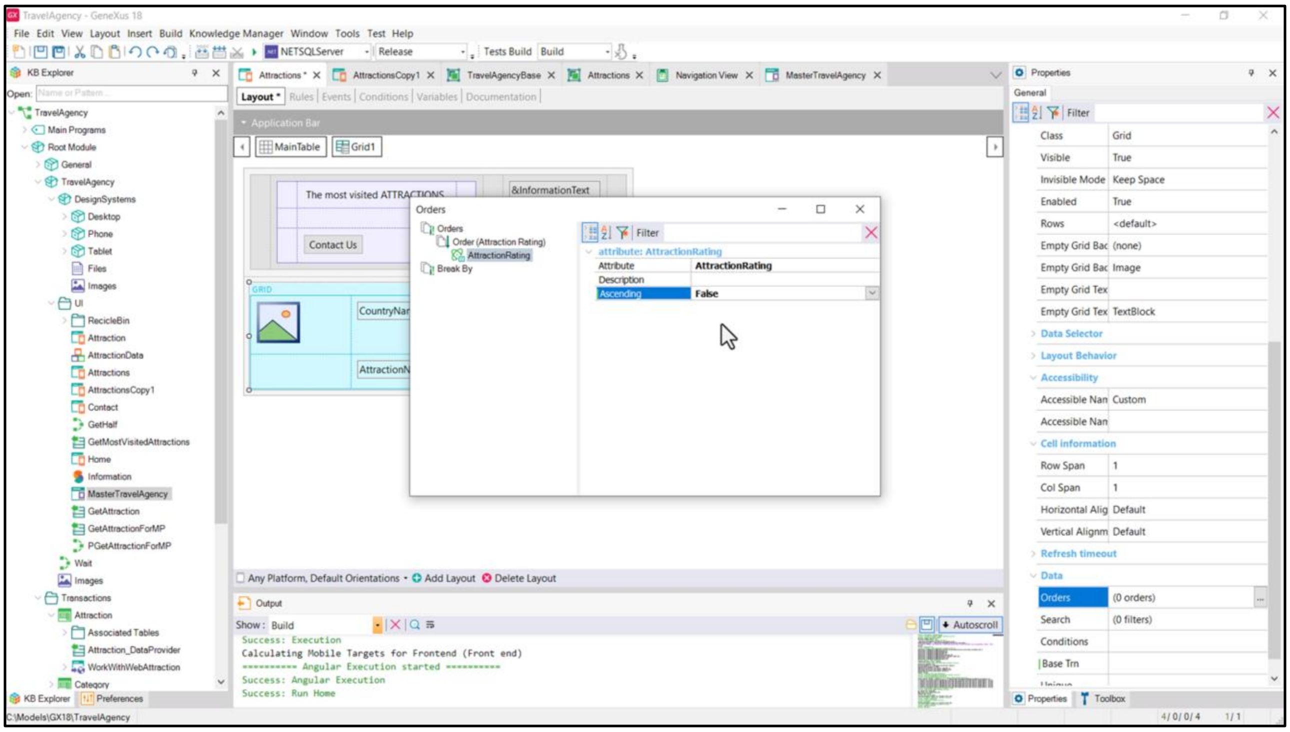
0 Errors | 0 Warnings | 2 Success | All

Output — Show: Build

```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock
Accessible Nan	Custom
Accessible Nan	
Row Span	1
Col Span	1
Horizontal Alig	Default
Vertical Alignm	Default
Orders	(0 orders)
Search	(0 filters)
Conditions	
Base Trn	
Unique	

Por detrás GeneXus construye un Data Provider que es el que devuelve un SDT colección con todos los ítems necesarios para cargar el grid. Y vean la navegación de ese Data Provider. Está yendo a navegar la tabla Attraction, accediendo a Country para traer el CountryName.

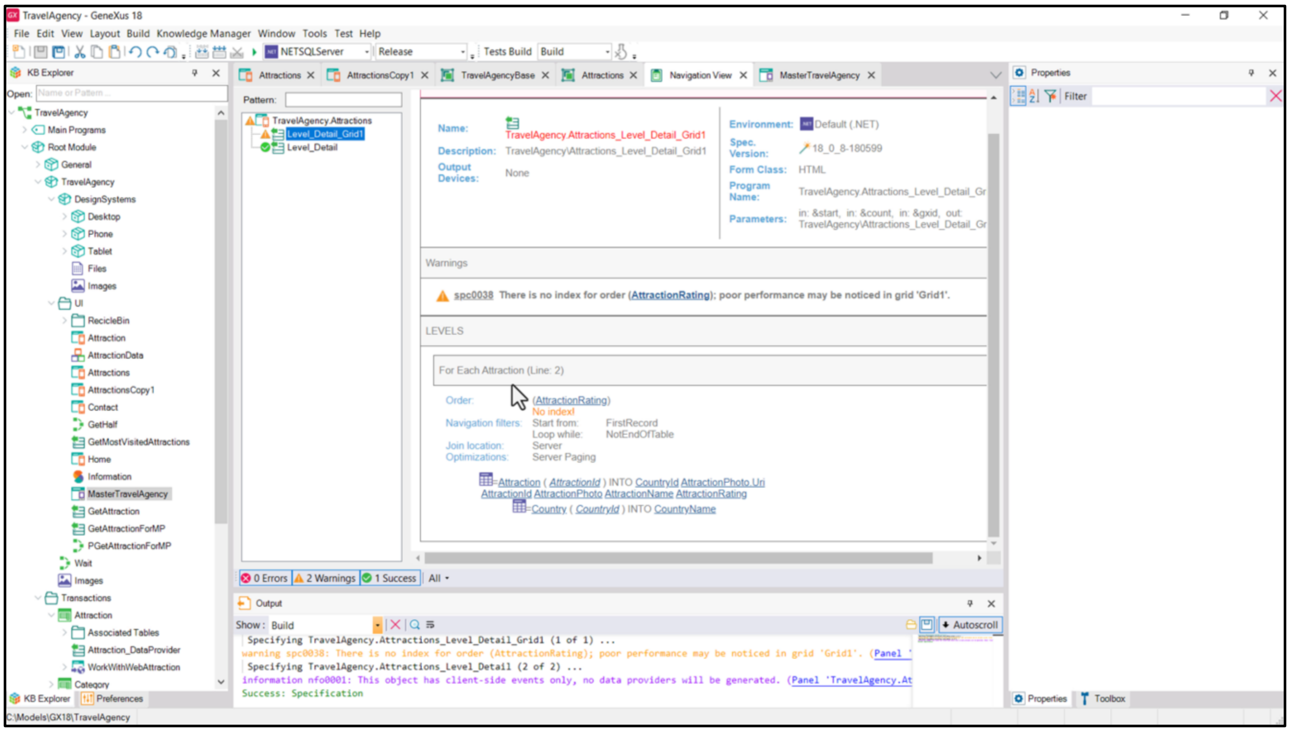


attribute: AttractionRating

Attribute	AttractionRating
Description	
Ascending	False

```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

Si quisiéramos ordenar en forma descendente por AttractionRating vean que alcanzará con hacer esto… definir un order… de acuerdo a este atributo NO ascendente.



Name: TravelAgency.Attractions_Level_Detail_Grid1
Description: TravelAgency\Attractions_Level_Detail_Grid1
Output Devices: None

Environment: Default (.NET)
Spec. Version: 18_0_8-180599
Form Class: HTML
Program Name: TravelAgency.Attractions_Level_Detail_Gr
Parameters: in: &start, in: &count, in: &gxid, out: TravelAgency\Attractions_Level_Detail_Gr

Warnings

spc0038 There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'.

LEVELS

For Each Attraction (Line: 2)

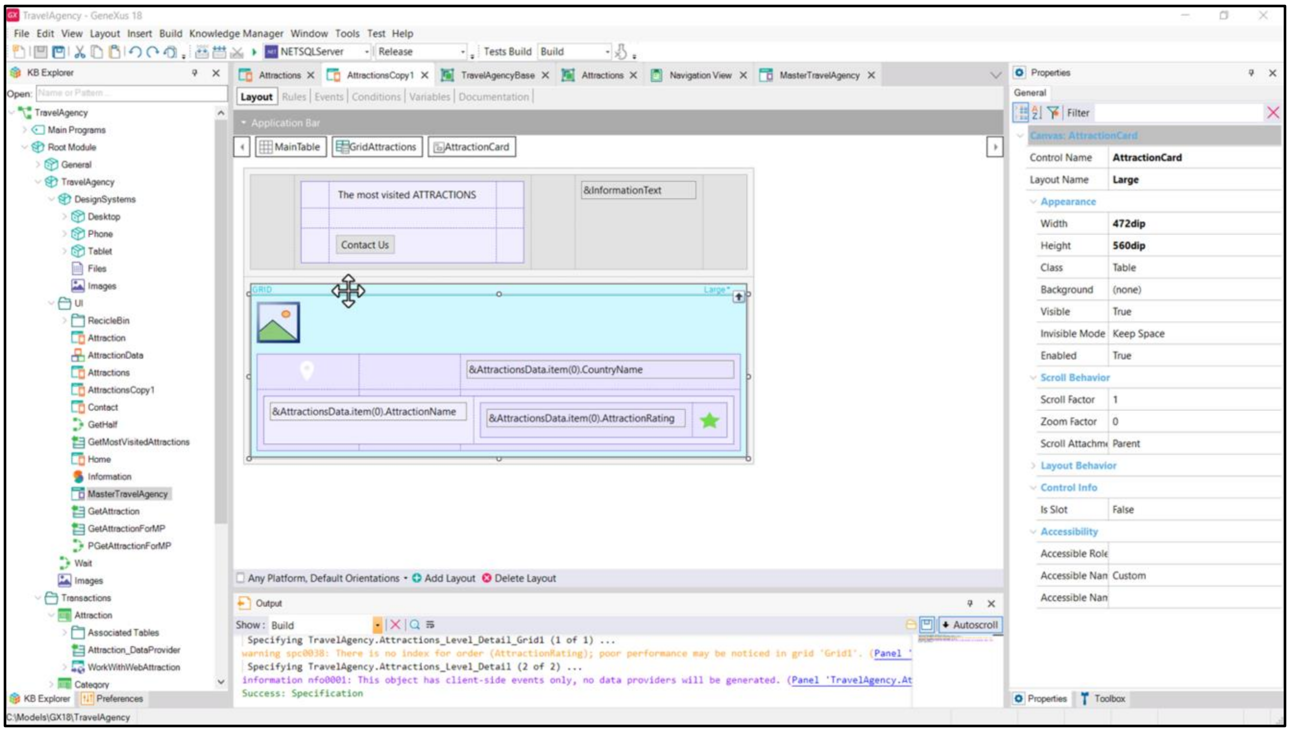
Order:	(AttractionRating) No index!	
Navigation filters:	Start from:	FirstRecord
	Loop while:	NotEndOfTable
Join location:	Server	
Optimizations:	Server Paging	

=Attraction (AttractionId) INTO CountryId AttractionPhoto.Uri AttractionId AttractionPhoto AttractionName AttractionRating
=Country (CountryId) INTO CountryName

0 Errors | 2 Warnings | 1 Success | All

```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

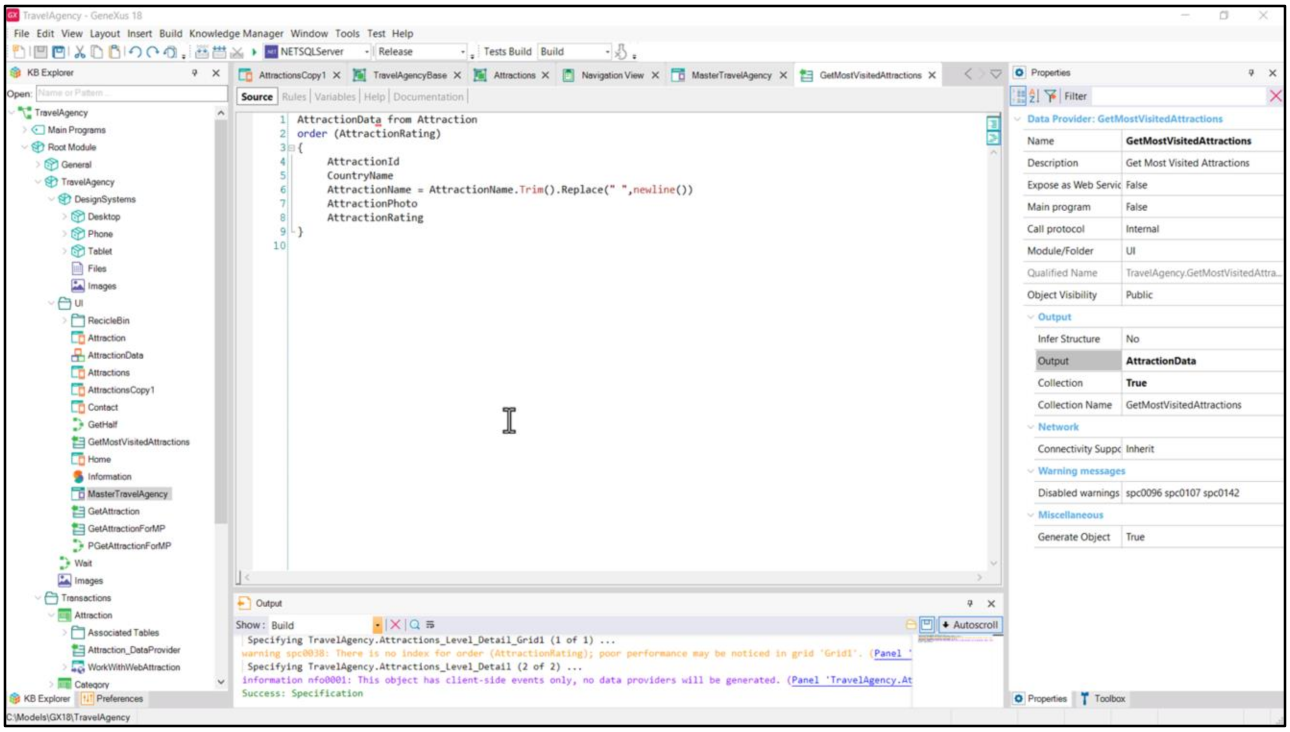
Y si ahora pedimos para ver el listado de navegación… aquí lo vemos reflejado.



Control Name	AttractionCard
Layout Name	Large
Appearance	
Width	472dip
Height	560dip
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	
Accessible Nan	Custom
Accessible Nan	

```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

En la implementación que les mostré en el video anterior, en la que no utilicé atributos…

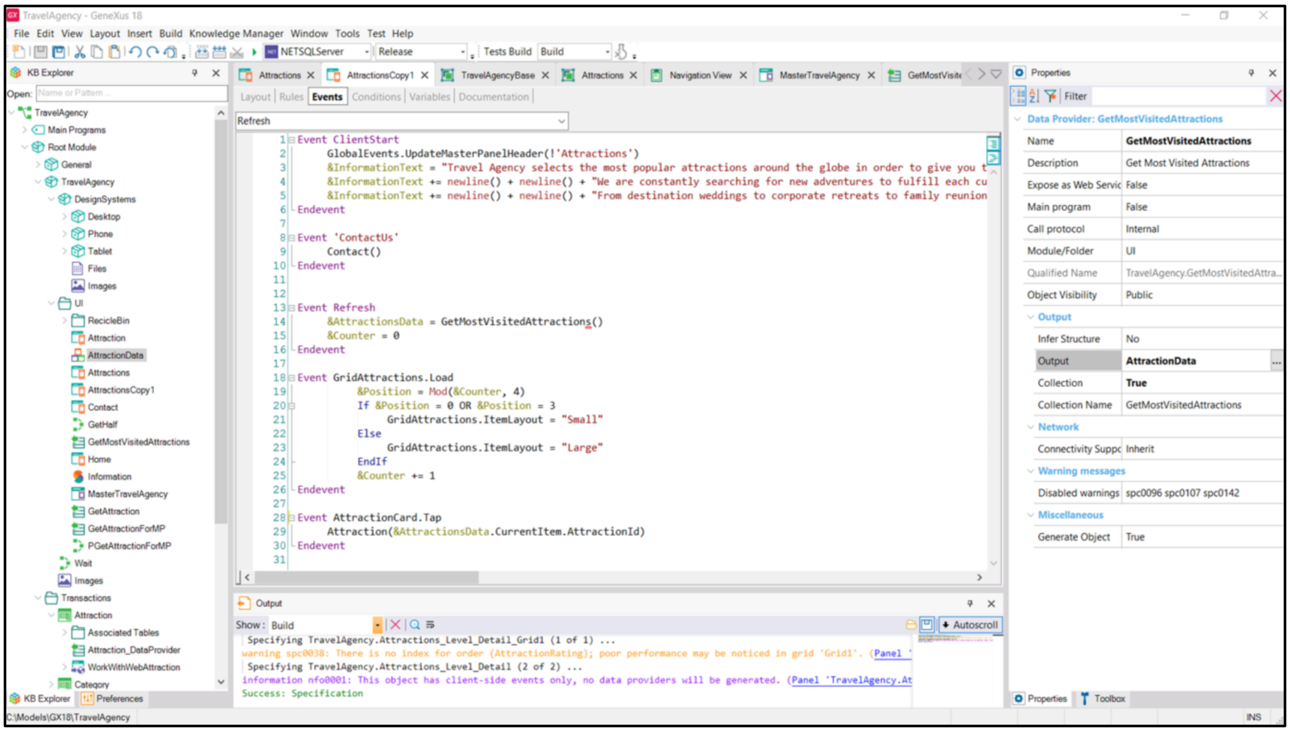


```
AttractionData from Attraction
order (AttractionRating)
{
    AttractionId
    CountryName
    AttractionName = AttractionName.Trim().Replace(" ",newline())
    AttractionPhoto
    AttractionRating
}
```

Data Provider: GetMostVisitedAttractions	
Name	GetMostVisitedAttractions
Description	Get Most Visited Attractions
Expose as Web Servic	False
Main program	False
Call protocol	Internal
Module/Folder	UI
Qualified Name	TravelAgency.GetMostVisitedAttra...
Object Visibility	Public
Output	
Infer Structure	No
Output	AttractionData
Collection	True
Collection Name	GetMostVisitedAttractions
Network	
Connectivity Suppc	Inherit
Warning messages	
Disabled warnings	spc0096 spc0107 spc0142
Miscellaneous	
Generate Object	True

```
Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

…yo construí explícitamente un Data Provider, así como también el SDT que utilizo como colección, y lo invoco también explícitamente, para que sea cargado en el grid una vez tenga sus datos.



```
Event ClientStart
    GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
    &InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
    &InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill each cu
    &InformationText += newline() + newline() + "From destination weddings to corporate retreats to family reunion
Endevent

Event 'ContactUs'
    Contact()
Endevent


Event Refresh
    &AttractionsData = GetMostVisitedAttractions()
    &Counter = 0
Endevent

Event GridAttractions.Load
        &Position = Mod(&Counter, 4)
        If &Position = 0 OR &Position = 3
            GridAttractions.ItemLayout = "Small"
        Else
            GridAttractions.ItemLayout = "Large"
        EndIf
        &Counter += 1
Endevent

Event AttractionCard.Tap
    Attraction(&AttractionsData.CurrentItem.AttractionId)
Endevent
```

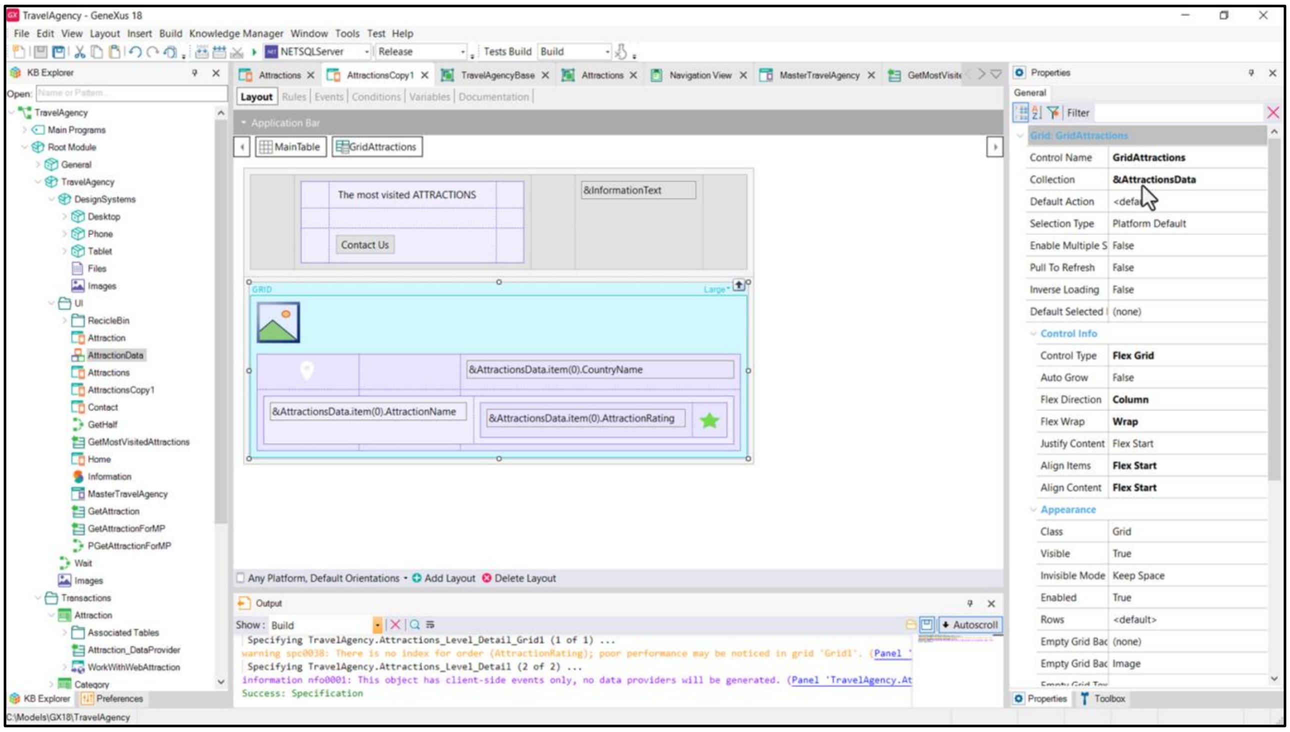
Data Provider: GetMostVisitedAttractions

Name	GetMostVisitedAttractions
Description	Get Most Visited Attractions
Expose as Web Servic	False
Main program	False
Call protocol	Internal
Module/Folder	UI
Qualified Name	TravelAgency.GetMostVisitedAttra...
Object Visibility	Public
Output	
Infer Structure	No
Output	AttractionData
Collection	True
Collection Name	GetMostVisitedAttractions
Network	
Connectivity Suppc	Inherit
Warning messages	
Disabled warnings	spc0096 spc0107 spc0142
Miscellaneous	
Generate Object	True

```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

El evento Refresh, recordemos, se va a disparar antes de la carga del grid.

Entonces, llamo al Data Provider, me devuelve la colección de datos, de ítems, cargados…

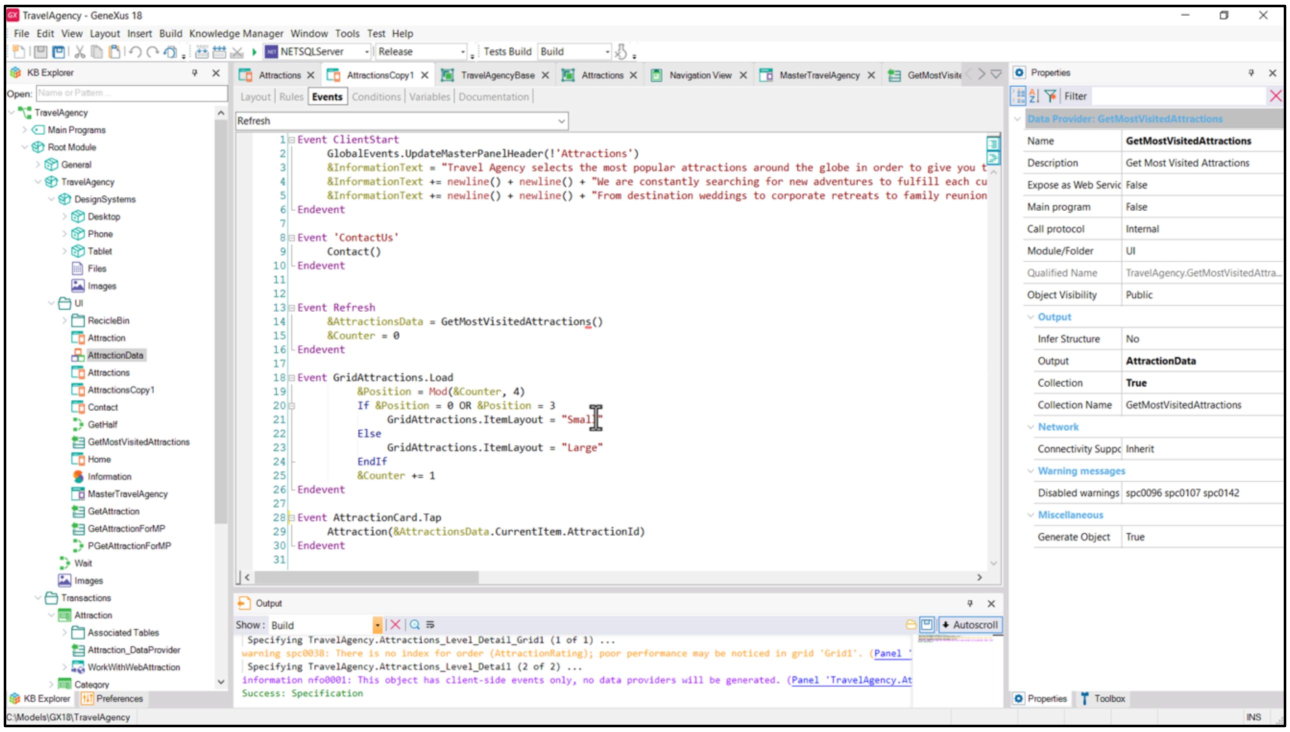


Grid: GridAttractions

Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<defa
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

…y como al grid le asocio esta colección, va a hacer un Load por ítem…

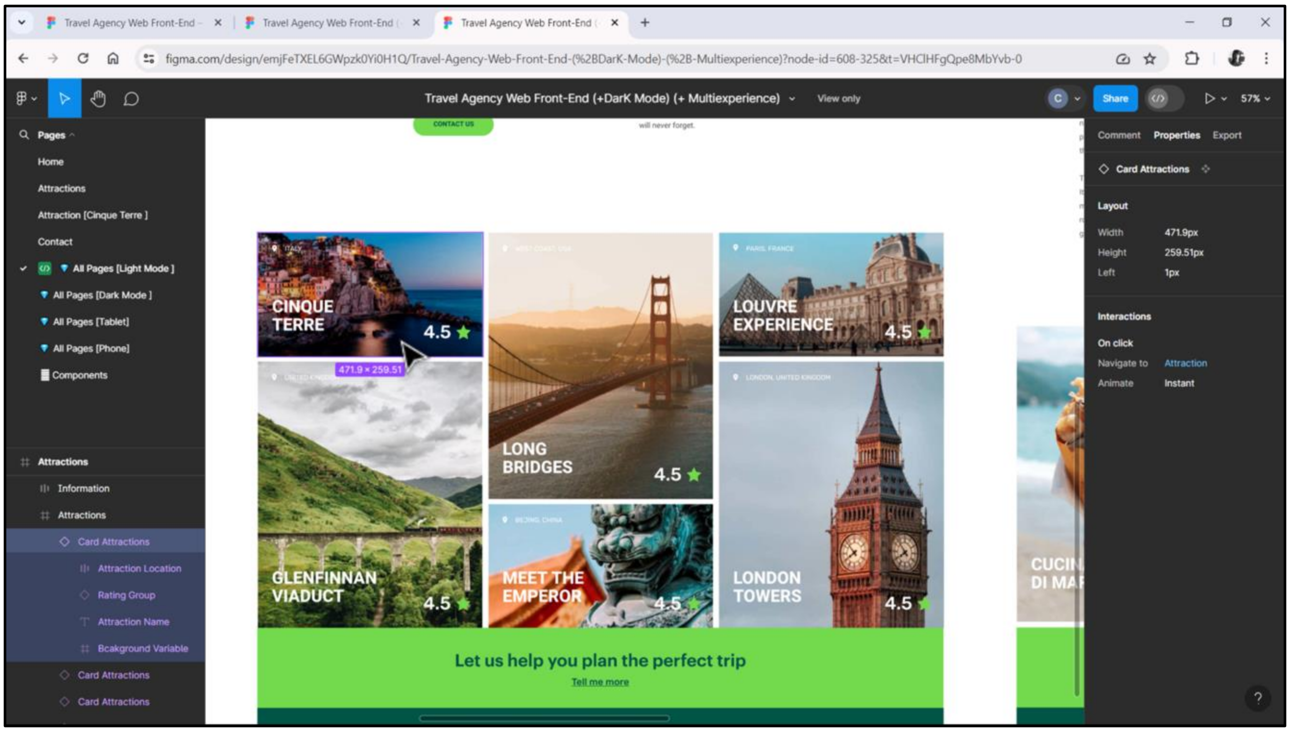


```
Event ClientStart
	GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
	&InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
	&InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill each cu
	&InformationText += newline() + newline() + "From destination weddings to corporate retreats to family reunion
Endevent

Event 'ContactUs'
	Contact()
Endevent


Event Refresh
	&AttractionsData = GetMostVisitedAttractions()
	&Counter = 0
Endevent

Event GridAttractions.Load
		&Position = Mod(&Counter, 4)
		If &Position = 0 OR &Position = 3
			GridAttractions.ItemLayout = "Small"
		Else
			GridAttractions.ItemLayout = "Large"
		EndIf
		&Counter += 1
Endevent

Event AttractionCard.Tap
	Attraction(&AttractionsData.CurrentItem.AttractionId)
Endevent
```

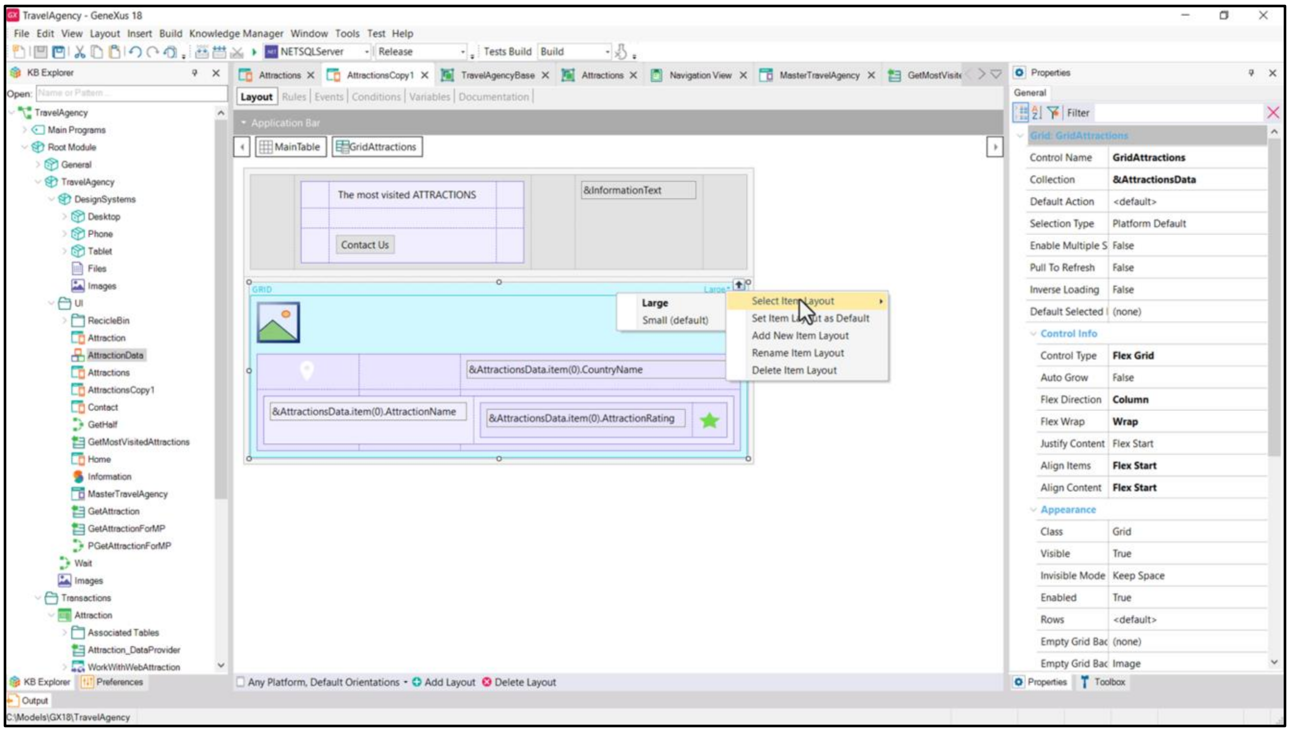
Data Provider: GetMostVisitedAttractions	
Name	GetMostVisitedAttractions
Description	Get Most Visited Attractions
Expose as Web Servic	False
Main program	False
Call protocol	Internal
Module/Folder	UI
Qualified Name	TravelAgency.GetMostVisitedAttra...
Object Visibility	Public
Output	
Infer Structure	No
Output	AttractionData
Collection	True
Collection Name	GetMostVisitedAttractions
Network	
Connectivity Suppc	Inherit
Warning messages	
Disabled warnings	spc0096 spc0107 spc0142
Miscellaneous	
Generate Object	True

```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side events only, no data providers will be generated. (Panel 'TravelAgency.At
Success: Specification
```

…disparando para cada uno el evento Load (que está programado aquí para producir una alternancia entre las cards: las de altura Small y las de altura Large…

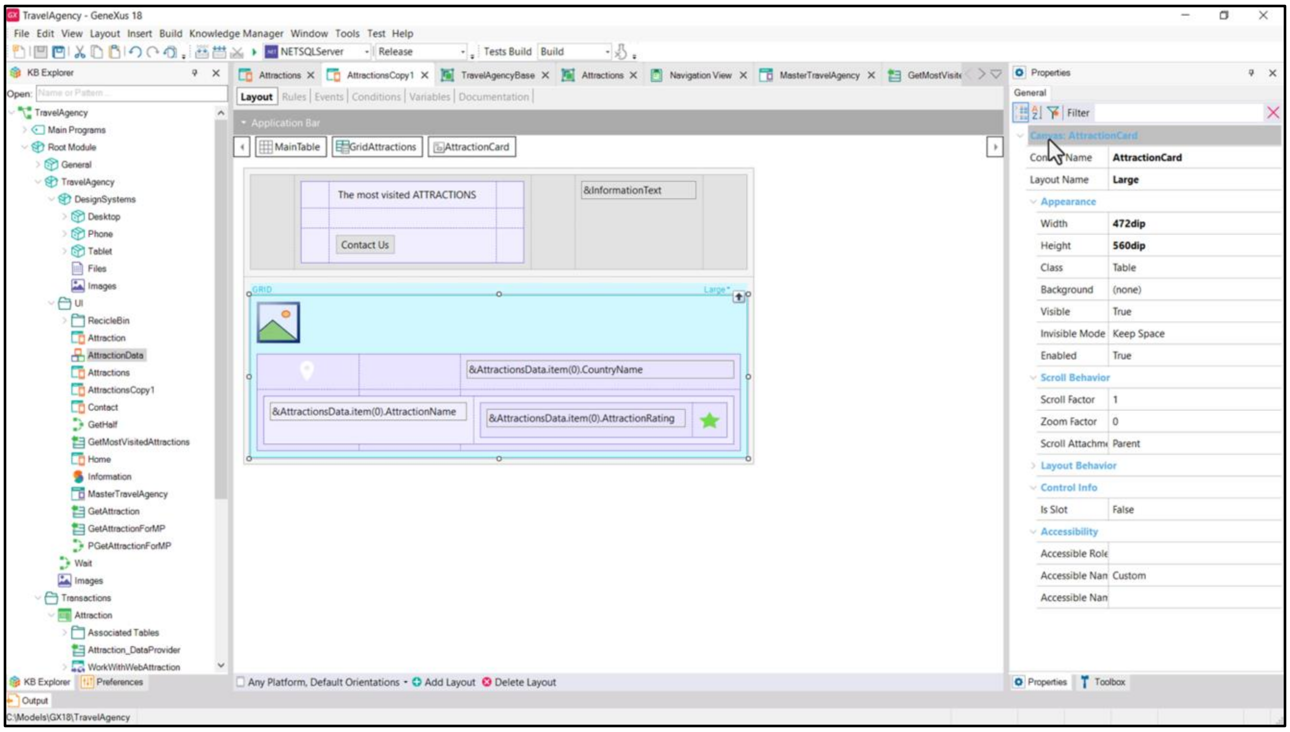


Es decir, entre estas, de altura 260 y estas otras de altura 560.



Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

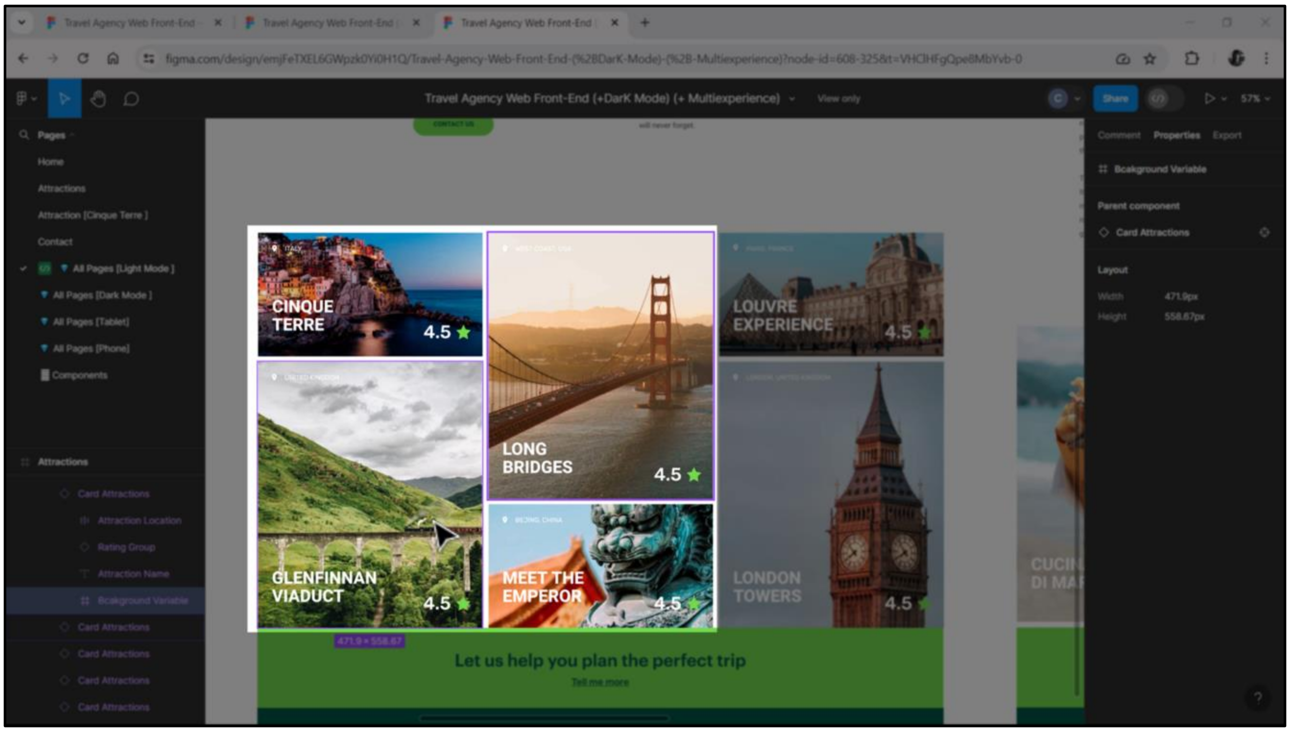
En los grids podemos definir **múltiples layouts** para sus ítems, no tienen por qué ser para todos el mismo. Y esto es lo que hice en mi grid. Definí dos layouts distintos: este al que le llamé Large, y este, que es el default, al que le llamé Small.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
KB Explorer
Attractions
AttractionsCopy1
TravelAgencyBase
Navigation View
MasterTravelAgency
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
GridAttractions
AttractionCard
The most visited ATTRACTIONS
Contact Us
&InformationText
GRID
Large
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating
Any Platform, Default Orientations
Add Layout
Delete Layout
Properties
Toolbox
C:\Models\GX18\TravelAgency

Canvas: AttractionCard

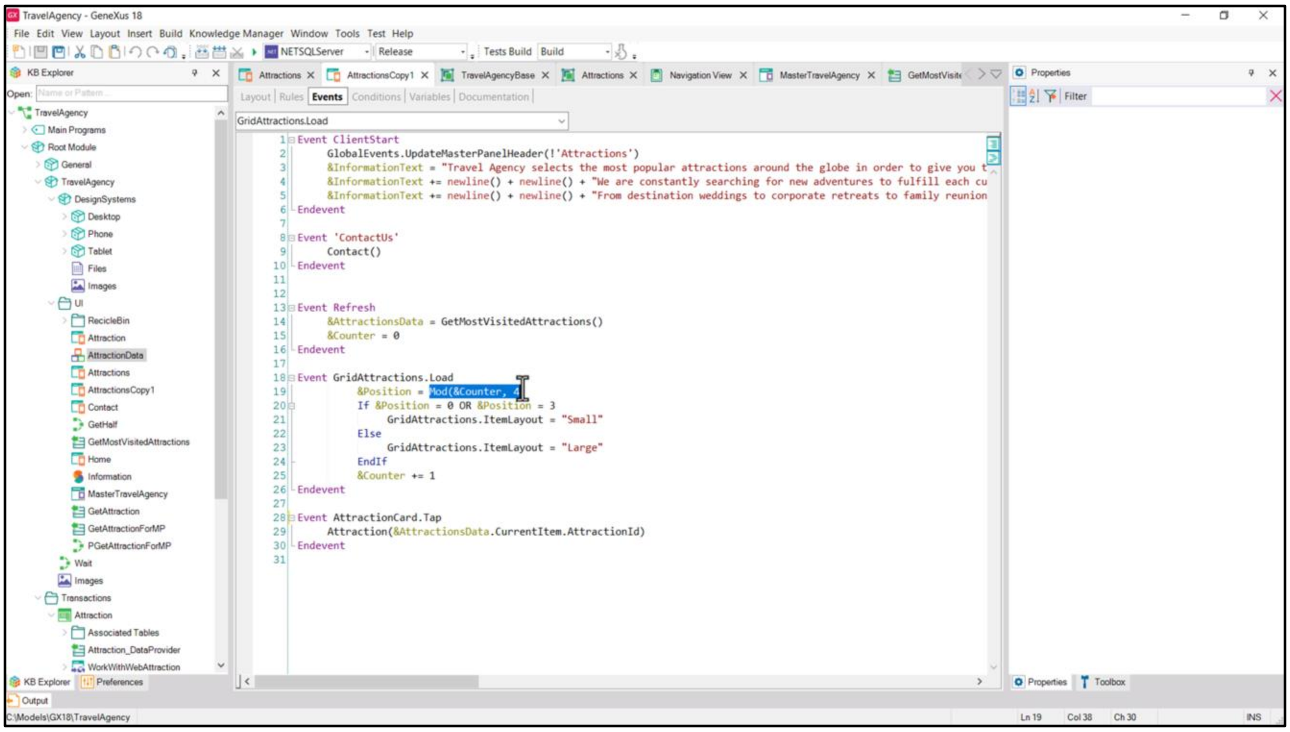
Control Name	AttractionCard
Layout Name	Large
Appearance	
Width	472dip
Height	560dip
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	
Accessible Nan	Custom
Accessible Nan	

Si bien se ven idénticos, en verdad difieren en una cosa: en la altura de esta tabla (que ya vemos que es un canvas). La del layout de nombre Large es de 560 dips, mientras que la del layout de nombre Small es de 260.



Ya podemos pensar en este grid al modo de un contenedor flex, de este alto, y que ubica sus ítems en dirección columna, con la propiedad Wrap prendida, de modo que las primeras dos atracciones turísticas devueltas serán estas dos, que si las empezamos a contar con 0, entonces nos quedará así: la 0 y 1 entran en la primera columna pero la 2 y 3 no, así que pasan a una segunda columna, y la 4 y 5 en una tercera, y así sucesivamente.

Noten que podemos formalizar la alternancia de las cards mirando estas cuatro, porque después el esquema se va a repetir. La 0 y la 3 corresponderán a altura Small; y la 1 y la 2 a altura Large.
Para sus múltiplos vale el mismo esquema. Por eso lo resolví así.

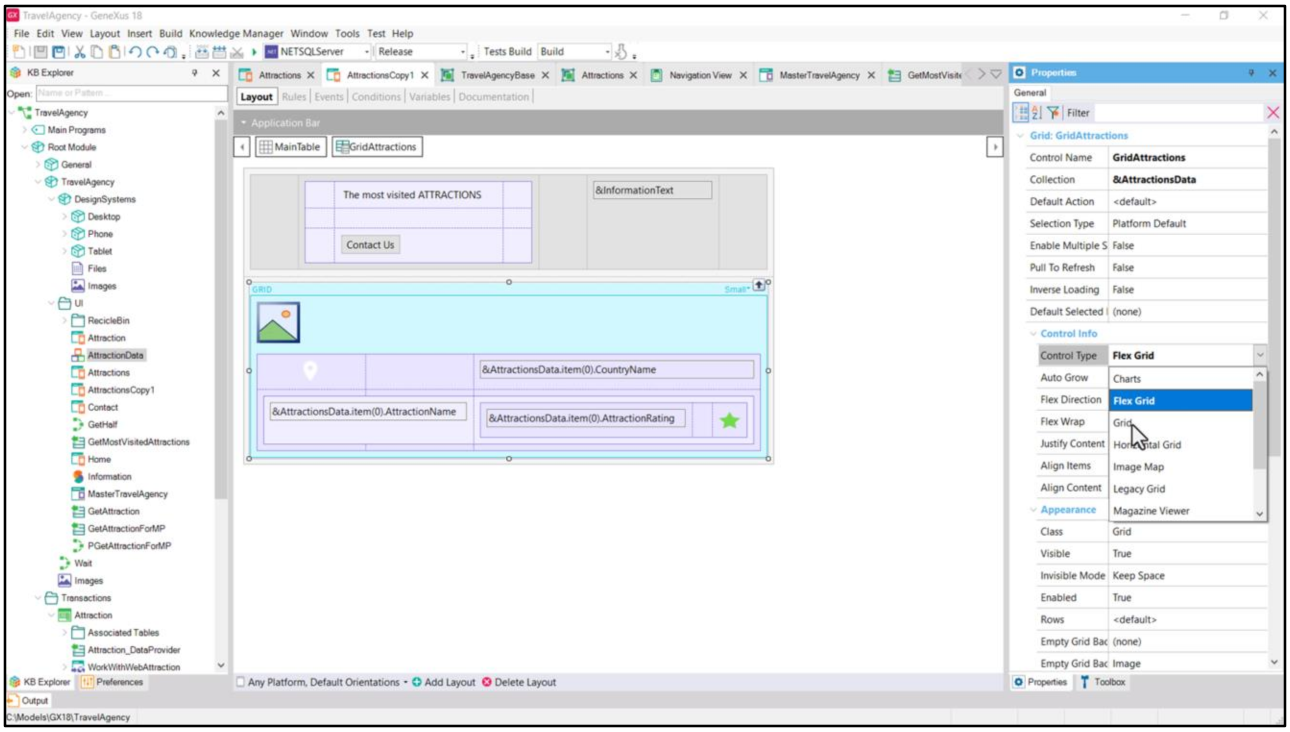


```
Event ClientStart
    GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
    &InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
    &InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill each cu
    &InformationText += newline() + newline() + "From destination weddings to corporate retreats to family reunion
Endevent

Event 'ContactUs'
    Contact()
Endevent


Event Refresh
    &AttractionsData = GetMostVisitedAttractions()
    &Counter = 0
Endevent

Event GridAttractions.Load
        &Position = Mod(&Counter, 4)
        If &Position = 0 OR &Position = 3
            GridAttractions.ItemLayout = "Small"
        Else
            GridAttractions.ItemLayout = "Large"
        EndIf
        &Counter += 1
Endevent

Event AttractionCard.Tap
    Attraction(&AttractionsData.CurrentItem.AttractionId)
Endevent
```

En el Refresh pongo en 0 el contador de la atracción y luego calculo para cada ítem a ser cargado en el grid su posición, que será el resto de ese contador dividido 4, es decir, que será: 0, 1, 2 o 3.

Si es 0 o 3, le pido que cargue el ítem con el layout Small; y si en cambio es 1 o 2, con el layout Large.

Vean que este es el nombre del grid, y esta es la propiedad que indica cuál es el layout del ítem.

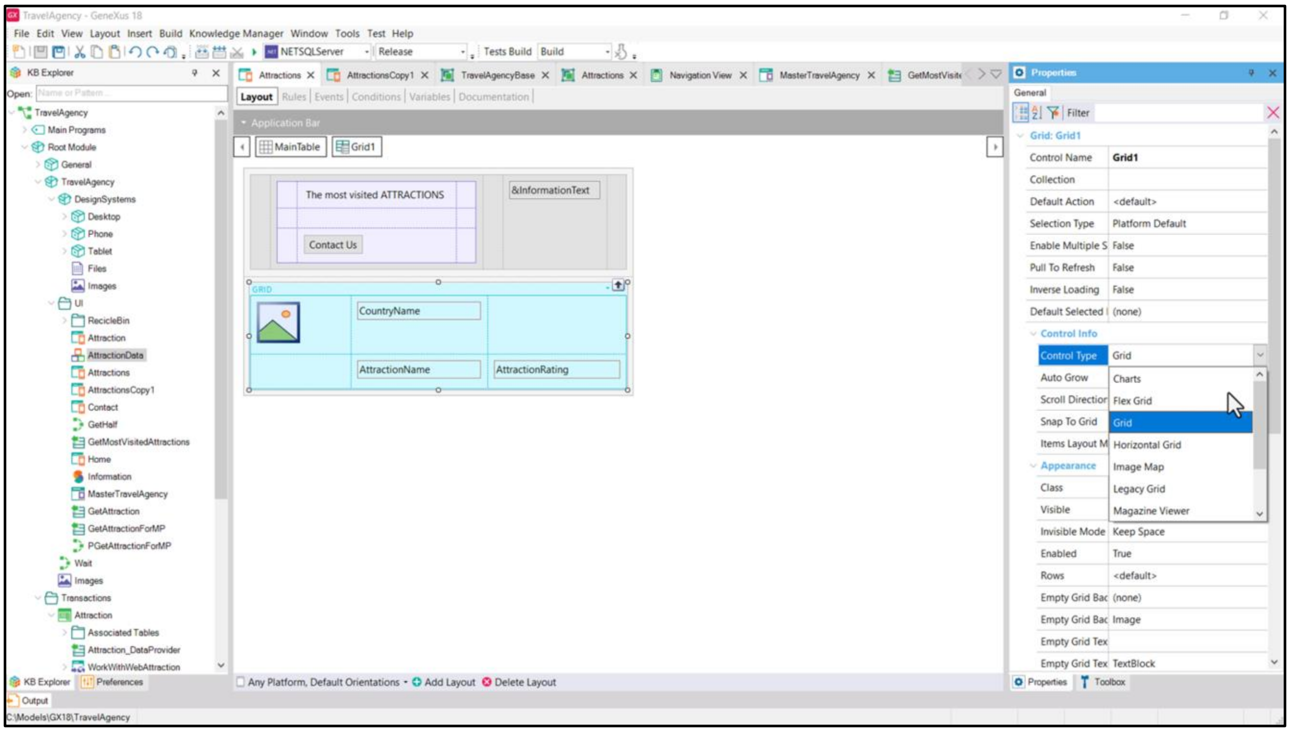


Grid: GridAttractions

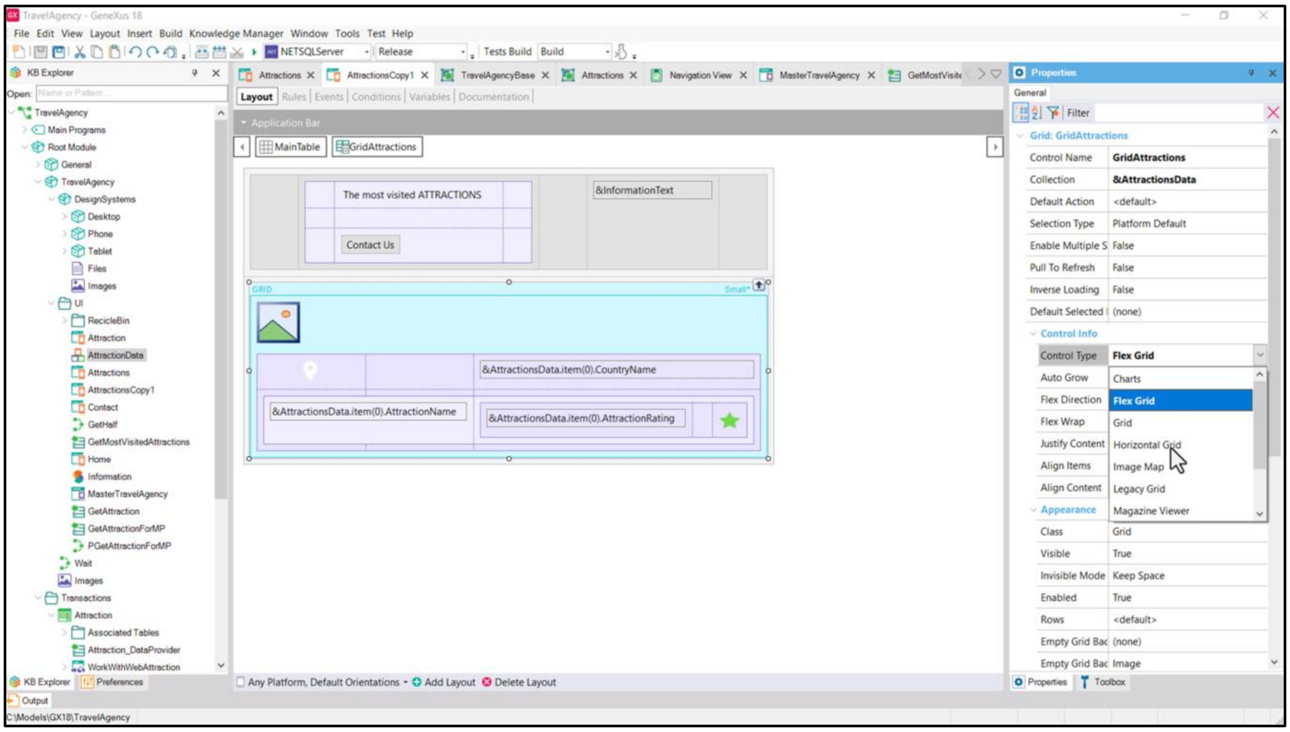
Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	
Flex Direction	
Flex Wrap	
Justify Content	
Align Items	
Align Content	
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

Si observamos ahora la sección **Control Info** del grid, vemos que aquí especifiqué que se trata no de un grid común, sino de uno **Flex**. Miren todas las opciones que tenemos.

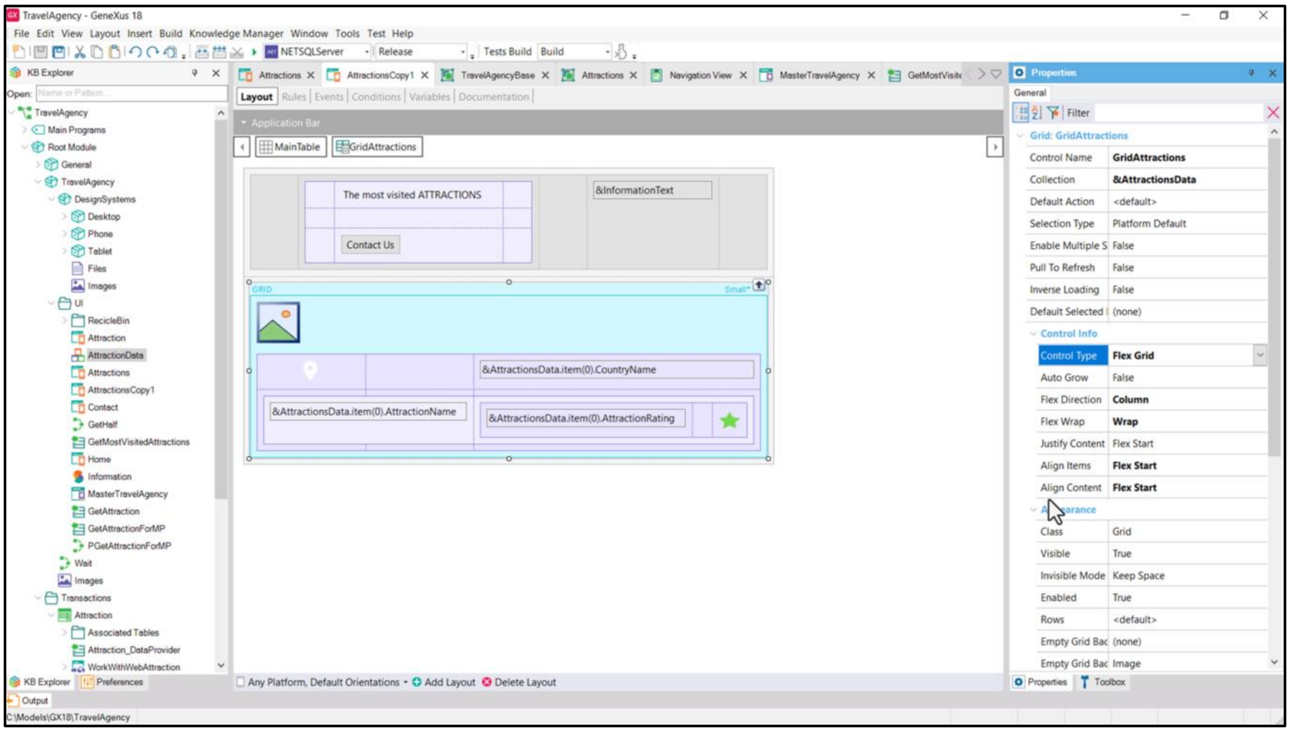
Esta corresponde al default.



Veamos la del grid que insertamos en Attractions.



Aquí claramente lo cambié a **Flex**. Pero además observen que aparece el **Horizontal**, que ya nos puede tentar para cuando queramos implementar los otros carruseles.


TravelAgency - GeneXus 18
Layout
MainTable
GridAttractions
The most visited ATTRACTIONS
Contact Us
&InformationText
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating

Grid: GridAttractions

Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start
Appearance	
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

Vean también que al haber elegido el tipo de grid **Flex**, aparecen las propiedades típicas de un contenedor flex: Flex Direction, Flex Wrap, justificación, alineación.

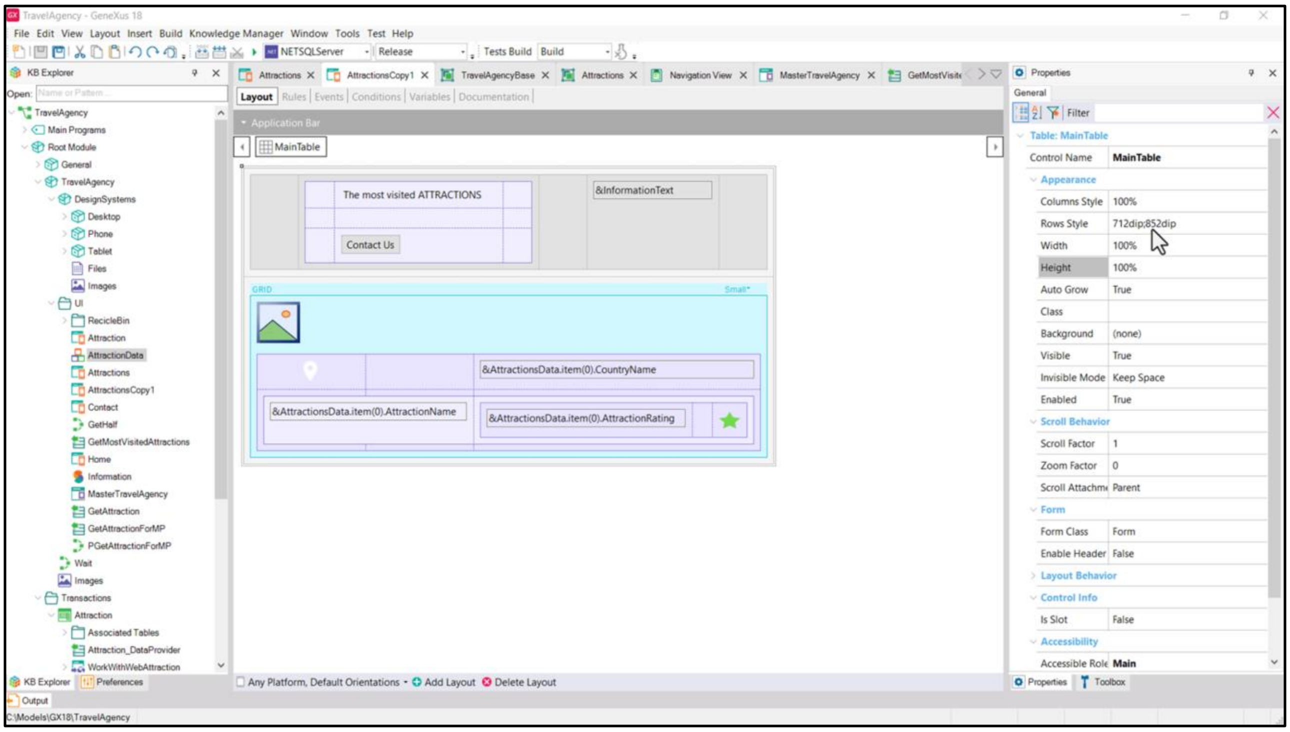
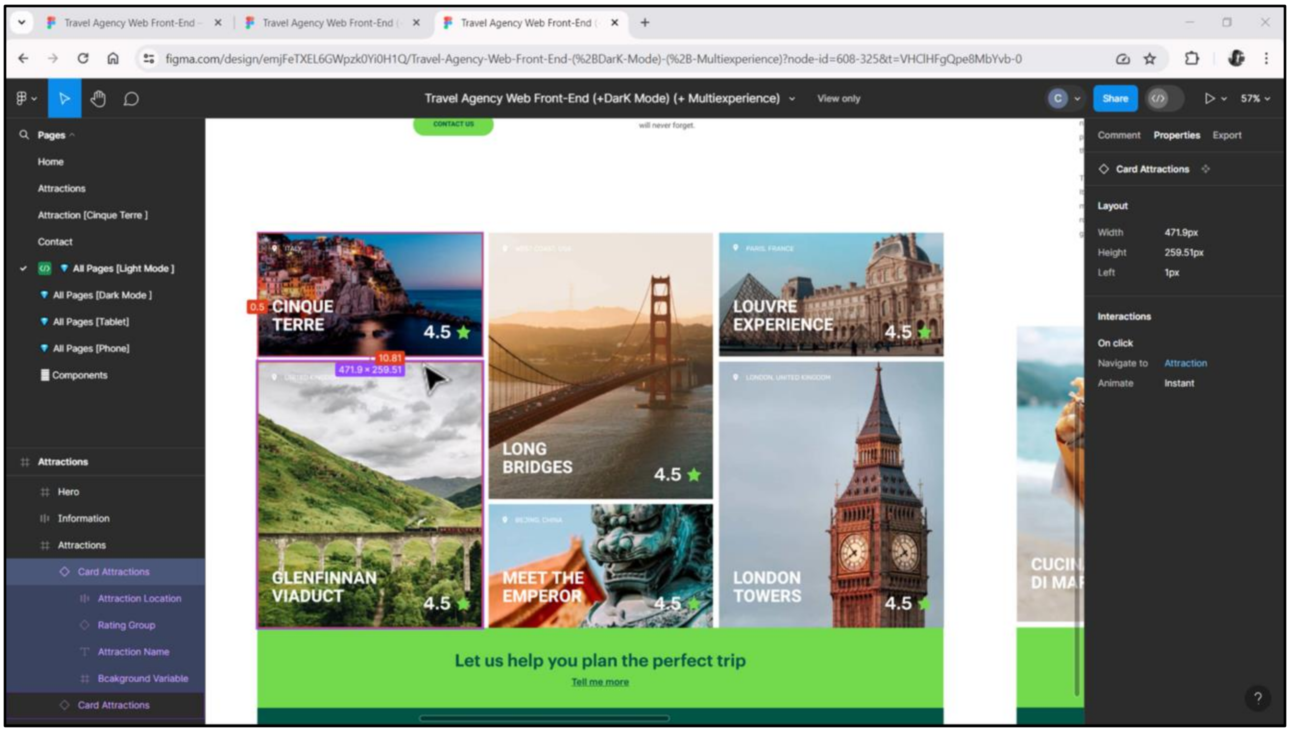


Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	712dip;852dip
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachme	Parent
Form	
Form Class	Form
Enable Header	False
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	Main

Como la suma del alto de una card Small y una Large son de 260 + 560, es decir 820, y el grid tiene Auto Grow en false, y la fila en la que se encuentra es de 852 dips…



Layout
Width 471.9px
Height 259.51px
Left 1px

Interactions
On click
Navigate to Attraction
Animate Instant

…(no sé por qué puse ese valor, cuando el espacio que me está faltando a los 820 dips es el de separación de las cards, algo que aún no implementé, pero que ya vemos que es de 11 píxeles, y también tengo que agregar, como veremos en el siguiente video, el espacio de la barra de scroll)…

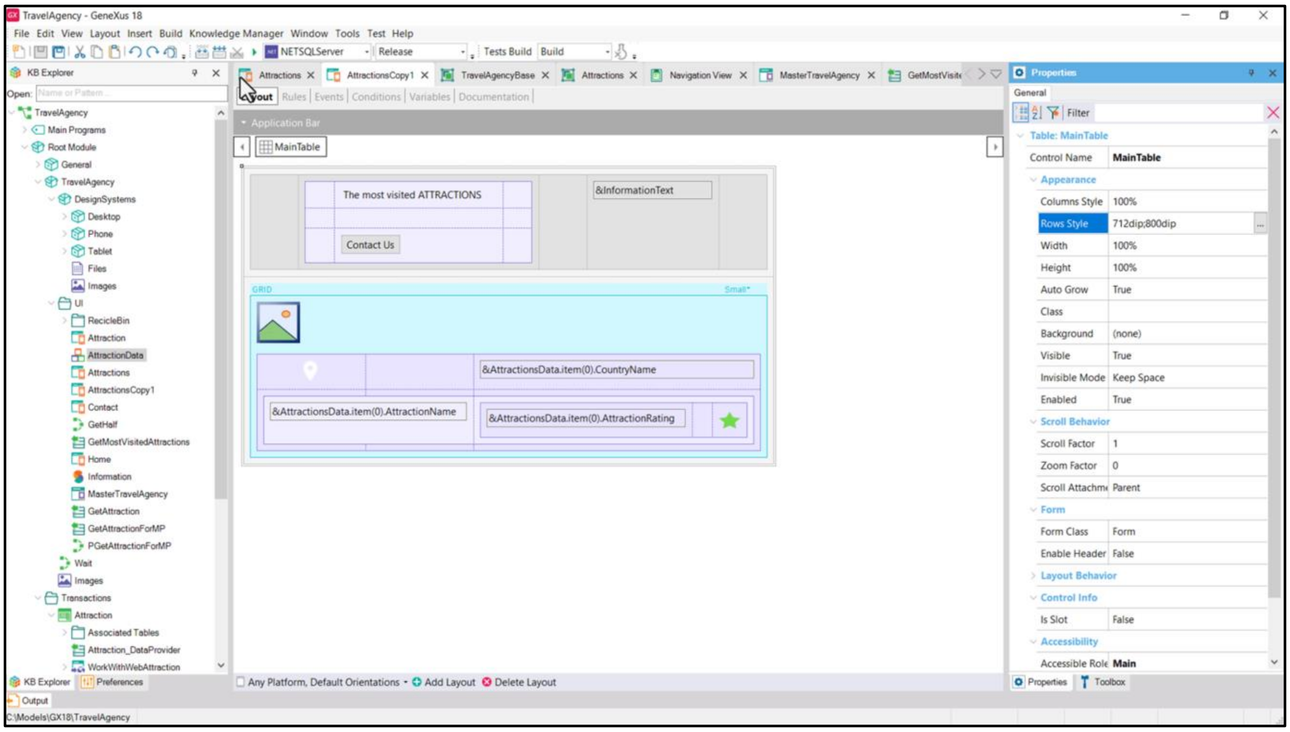
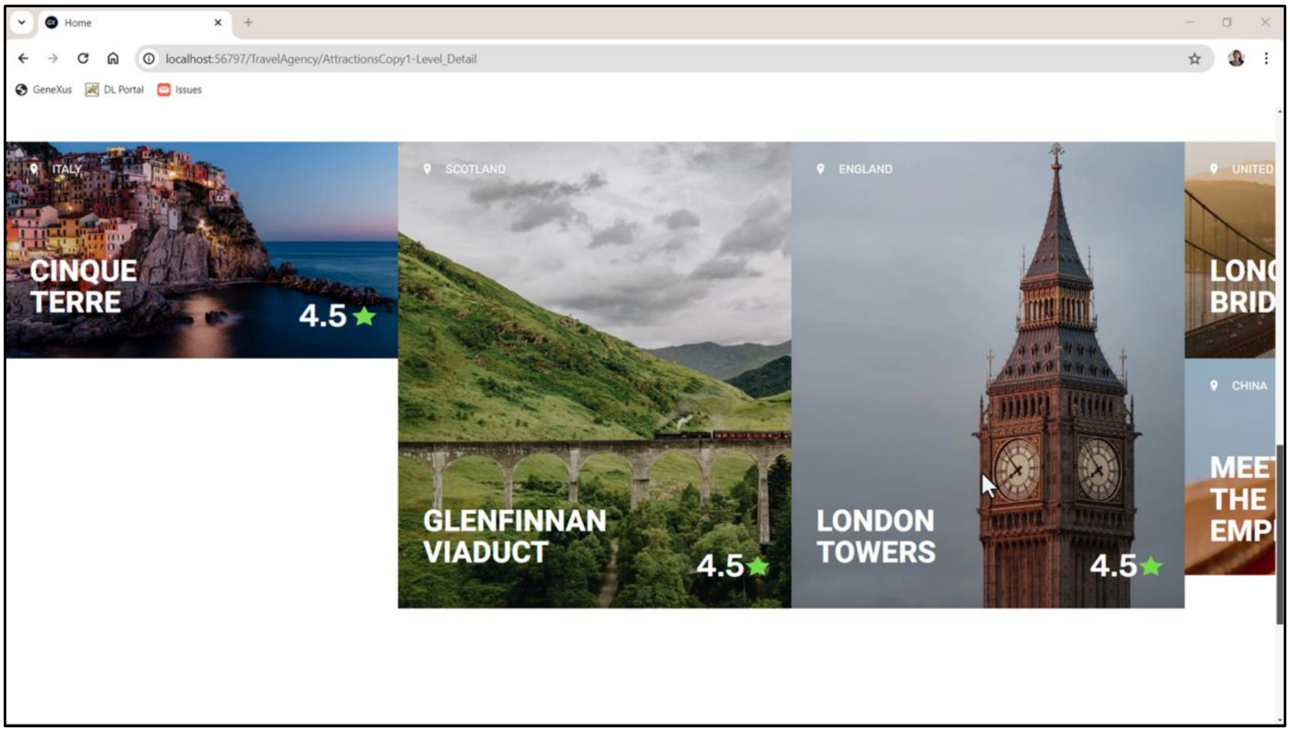

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
KB Explorer
Attractions
AttractionsCopy1
TravelAgencyBase
Navigation View
MasterTravelAgency
GetMostVisite
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
The most visited ATTRACTIONS
Contact Us
&InformationText
GRID
Small
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating
Any Platform, Default Orientations
Add Layout
Delete Layout
Properties
Toolbox
Output
C:\Models\GX18\TravelAgency

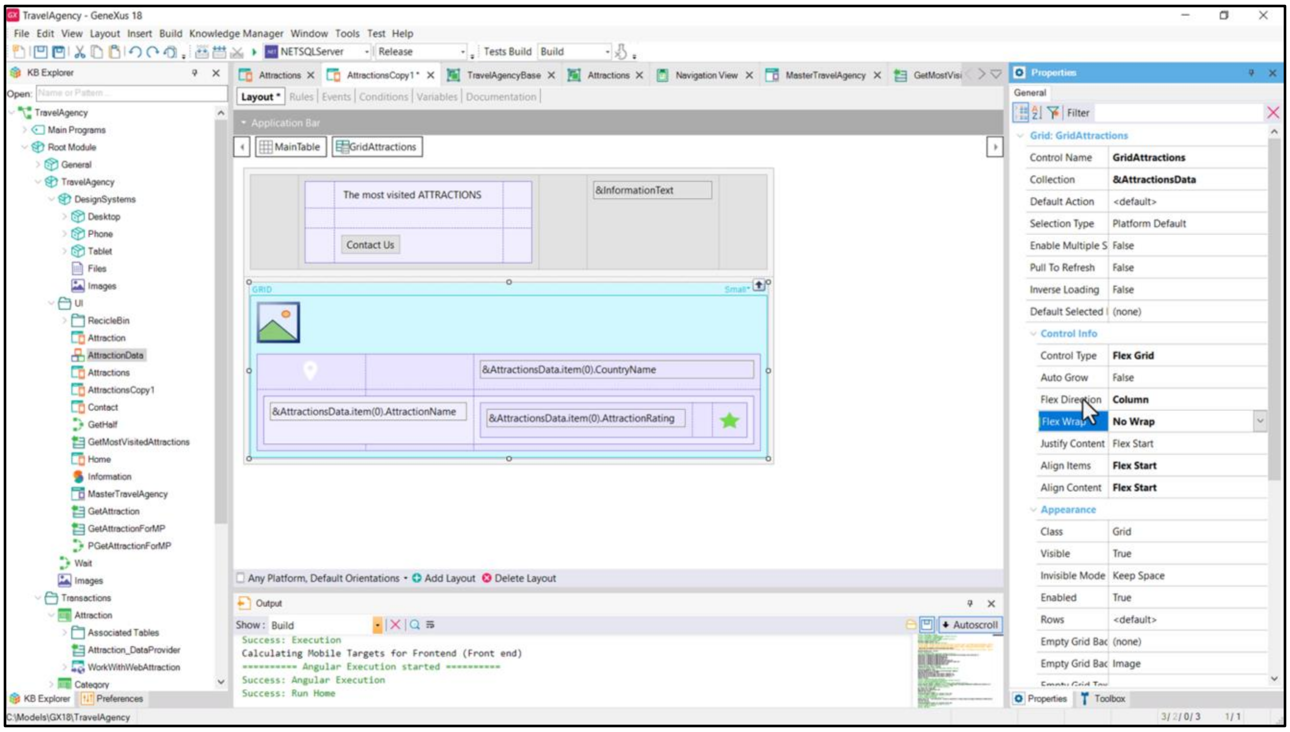
Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	712dip;800dip
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Form	
Form Class	Form
Enable Header	False
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible Role	Main

…pero veamos qué pasa si coloco un valor menor a la suma de los altos de las cards, como 800, por ejemplo…



No le alcanza el espacio para colocar dos cards por columna, por lo que nos ocurre esto…


TravelAgency - GeneXus 18
KB Explorer
Layout
The most visited ATTRACTIONS
Contact Us
&InformationText
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating
Output

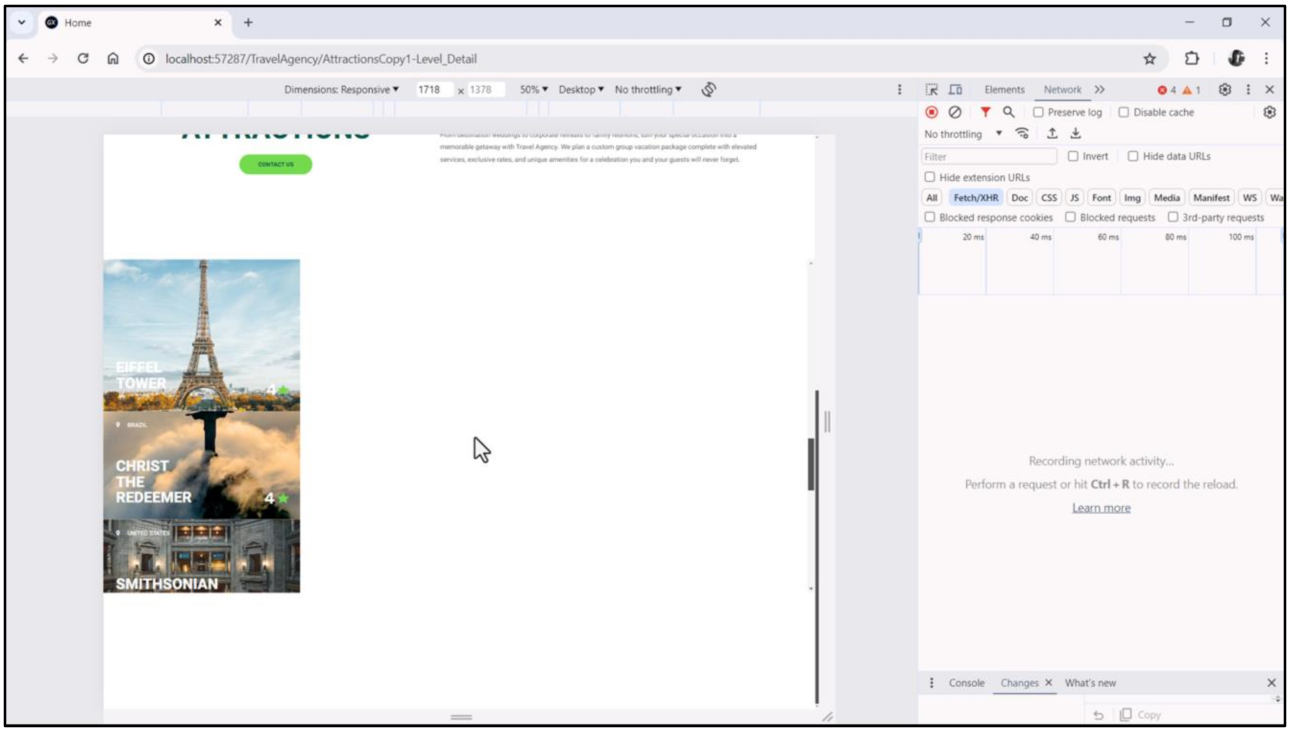
Grid: GridAttractions

Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	No Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

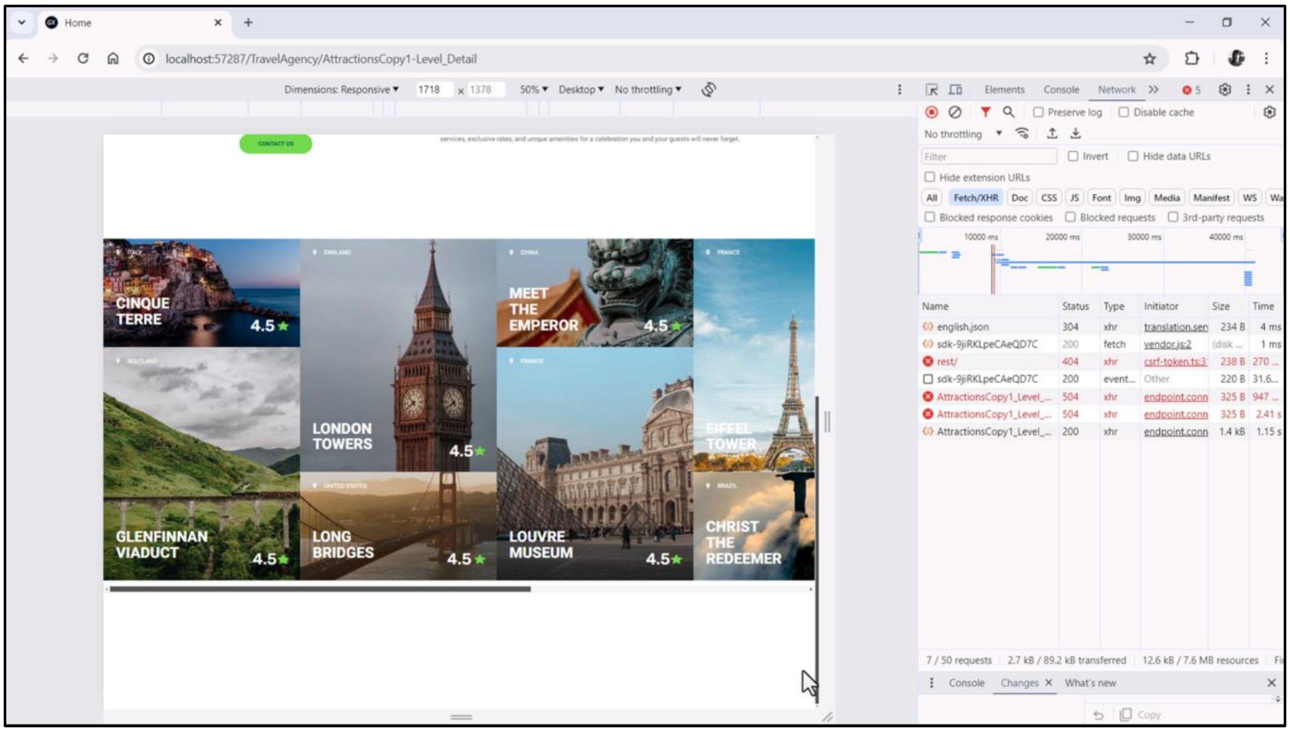
En definitiva, si el Grid no tiene Auto Grow, entonces la cantidad de ítems que se colocarán en cada columna dependerá del alto de cada ítem y del alto de la celda en la que se encuentre ese grid.

Recordemos que las columnas se producen debido al Wrap. Si no hubiera Wrap sería una única columna, dado que la dirección es Column.


Home
localhost:57287/TravelAgency/AttractionsCopy1-Level_Detail
Dimensions: Responsive 1718 x 1378 50% Desktop No throttling
Elements Network
Preserve log Disable cache
No throttling
Filter Invert Hide data URLs
Hide extension URLs
All Fetch/XHR Doc CSS JS Font Img Media Manifest WS
Blocked response cookies Blocked requests 3rd-party requests
CONTACT US
EIFFEL TOWER
CHRIST THE REDEEMER
SMITHSONIAN
Recording network activity...
Perform a request or hit Ctrl + R to record the reload.
Learn more
Console Changes What's new
Copy

No sé si lo perciben, pero tenemos una doble barra de scroll. Presionaré F12 para verlo mejor.

Tenemos barra de scroll vertical del grid. Y la barra de scroll del panel.



localhost:57287/TravelAgency/AttractionsCopy1-Level_Detail

Dimensions: Responsive ▾ 1718 x 1378 50% ▾ Desktop ▾ No throttling ▾

Name	Status	Type	Initiator	Size	Time
english.json	304	xhr	translation.sen	234 B	4 ms
sdk-9jiRKLpeCAeQD7C	200	fetch	vendor.js:2	(disk ...	1 ms
rest/	404	xhr	csrf-token.ts:3	238 B	270 ...
sdk-9jiRKLpeCAeQD7C	200	event...	Other	220 B	31.6...
AttractionsCopy1_Level_...	504	xhr	endpoint.conn	325 B	947 ...
AttractionsCopy1_Level_...	504	xhr	endpoint.conn	325 B	2.41 s
AttractionsCopy1_Level_...	200	xhr	endpoint.conn	1.4 kB	1.15 s

7 / 50 requests | 2.7 kB / 89.2 kB transferred | 12.6 kB / 7.6 MB resources

En cambio, si tenemos Wrap en el propiedad… y coloquemos para el alto de la fila por ejemplo, no sé, 850 dips, por el momento…
Vemos que tenemos la barra de scroll vertical de la página y ahora para el grid una barra de scroll horizontal (en lugar de vertical).

Y además, claro, están entrando 2 cards por columna.

Bueno, voy a interrumpir aquí este video para que no se nos haga pesado. Y en el siguiente veremos en cierto detalle la implementación del layout de cada card del grid, para luego volver sobre el grid propiamente dicho.

Lxs espero.

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