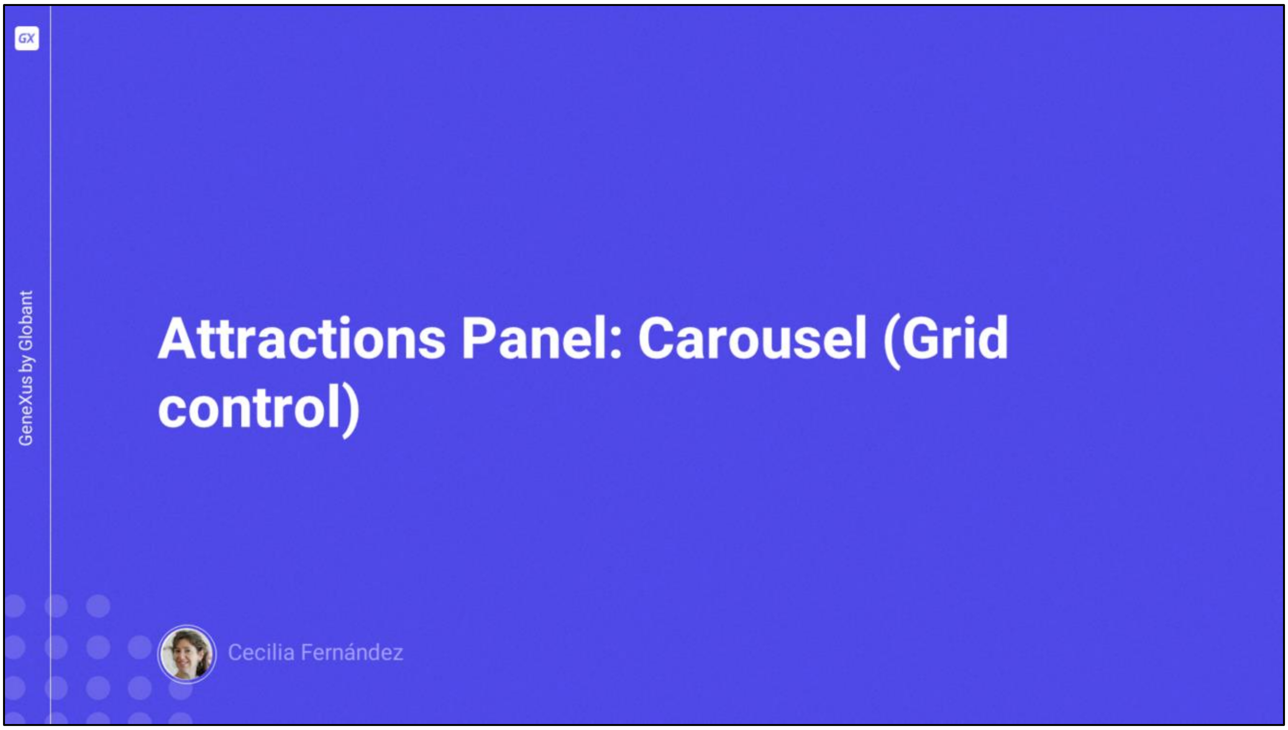
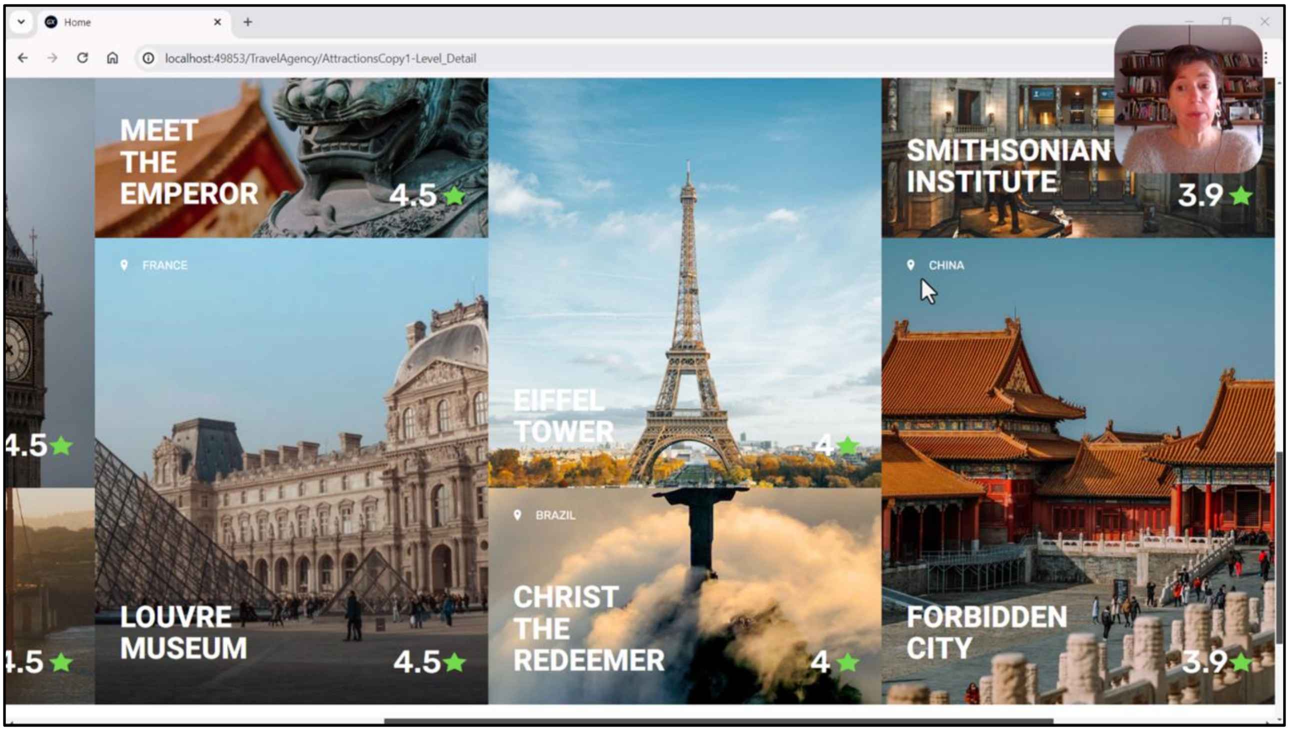


GeneXus by Globant

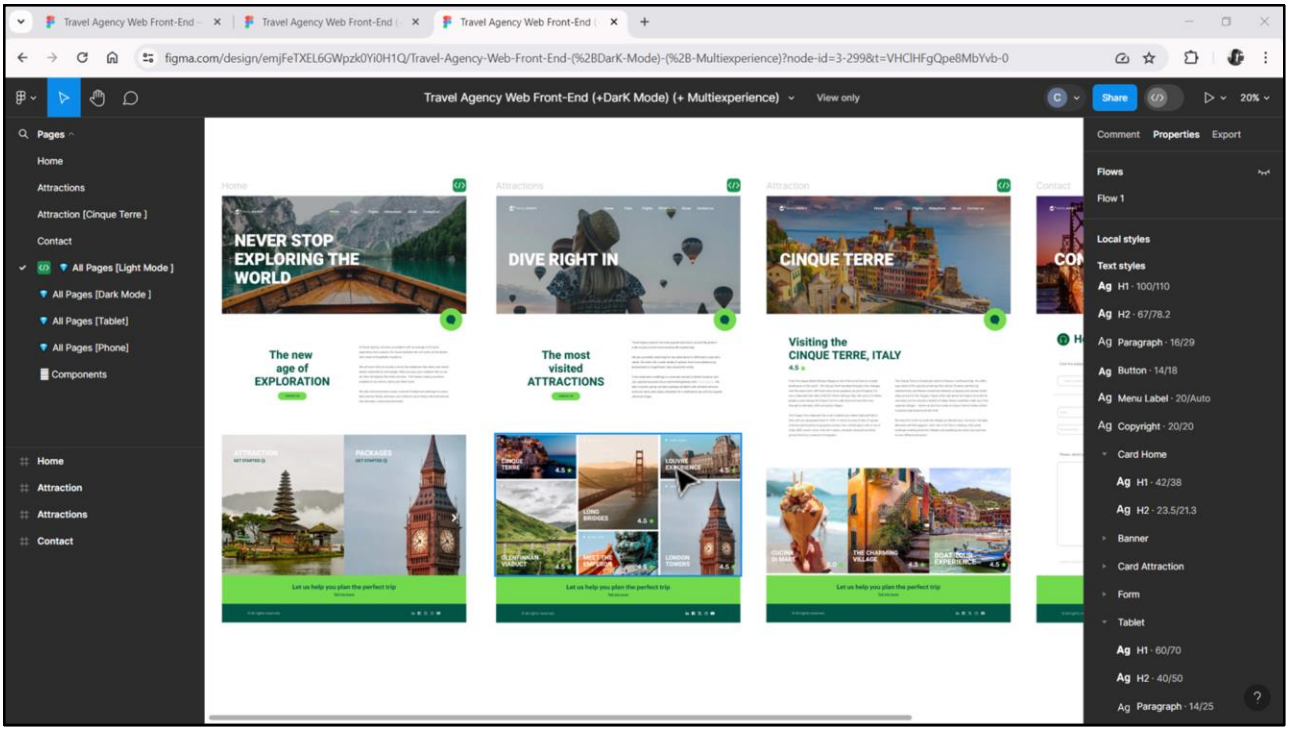
Attractions Panel: Carousel (Grid control)

Cecilia Fernández



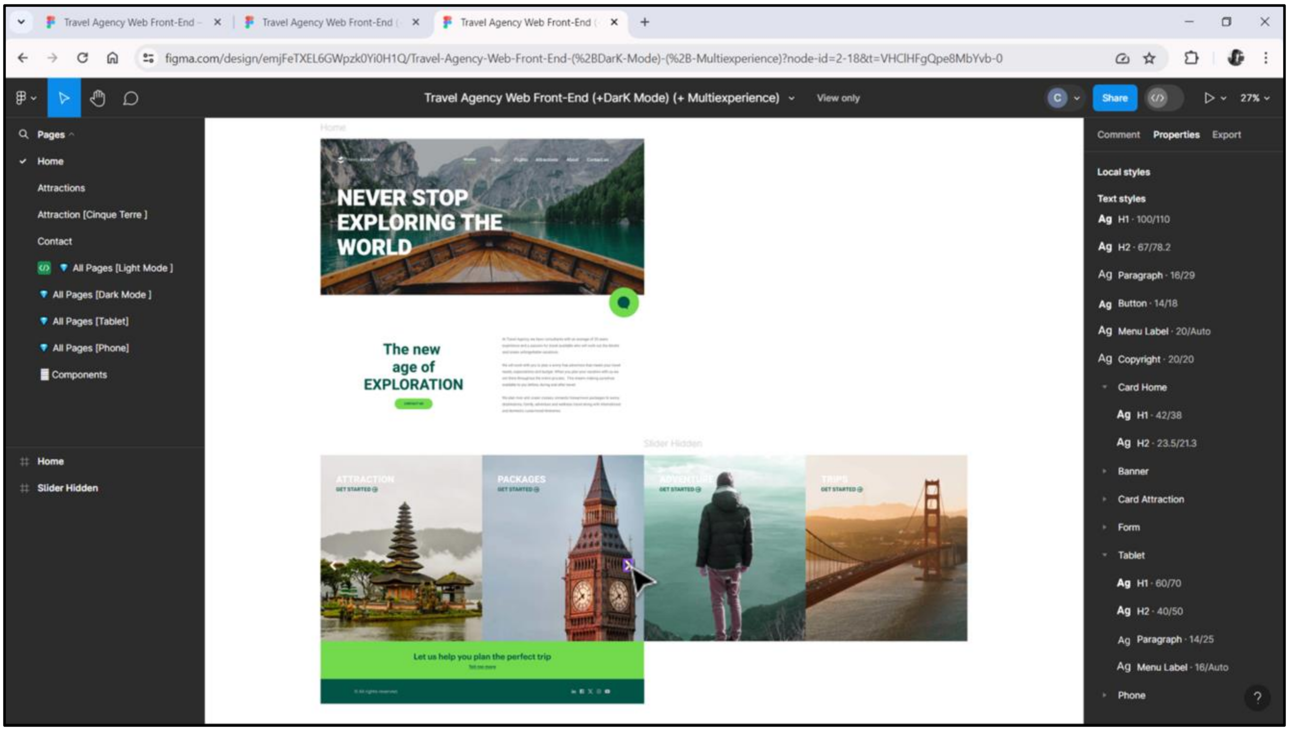
In the previous video, I showed one unfinished implementation for the carousel of the Attractions panel.

Now we will analyze it in detail and think about other possibilities.



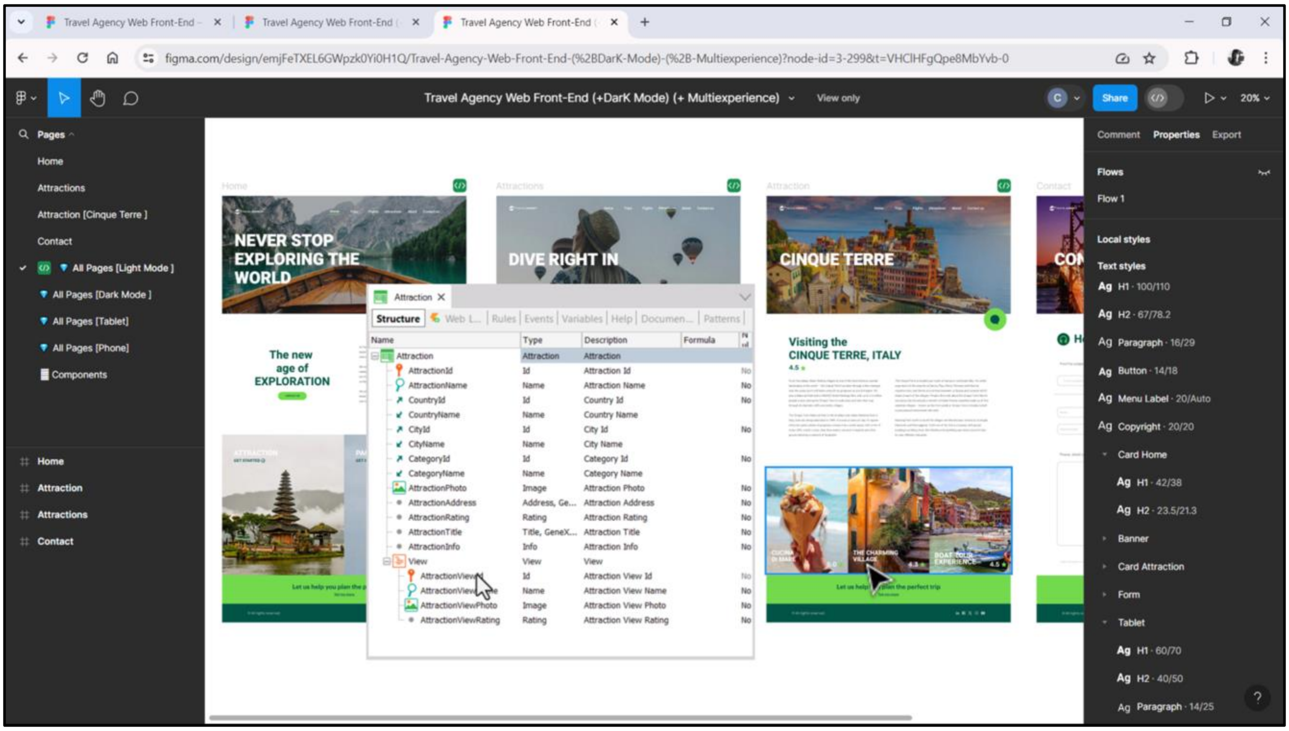
A grid control is used when we need to display a fixed or variable amount of repetitive information.

When the amount of information to be displayed is variable, the grid control is clearly used. This is our case, where the information to be displayed is that of the attractions in the database, which is clearly variable.



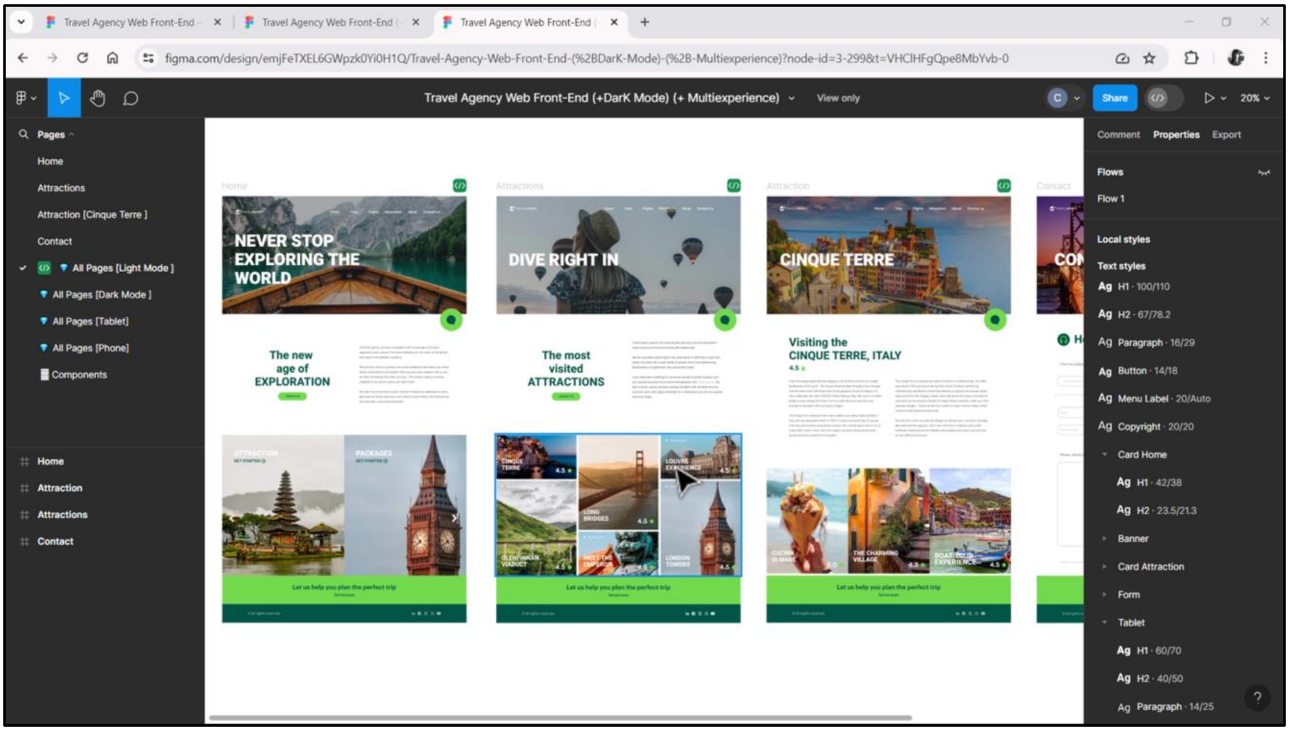
But it is also used for a fixed amount of information. For example, to model these cards of the Home panel, we will also use a grid, because, remember, it will be composed of 4 cards, fixed, where only 2 are visible on the screen at a time.

In this case, the grid will load 4 items of information, but each one with fixed values, not taken from the database.

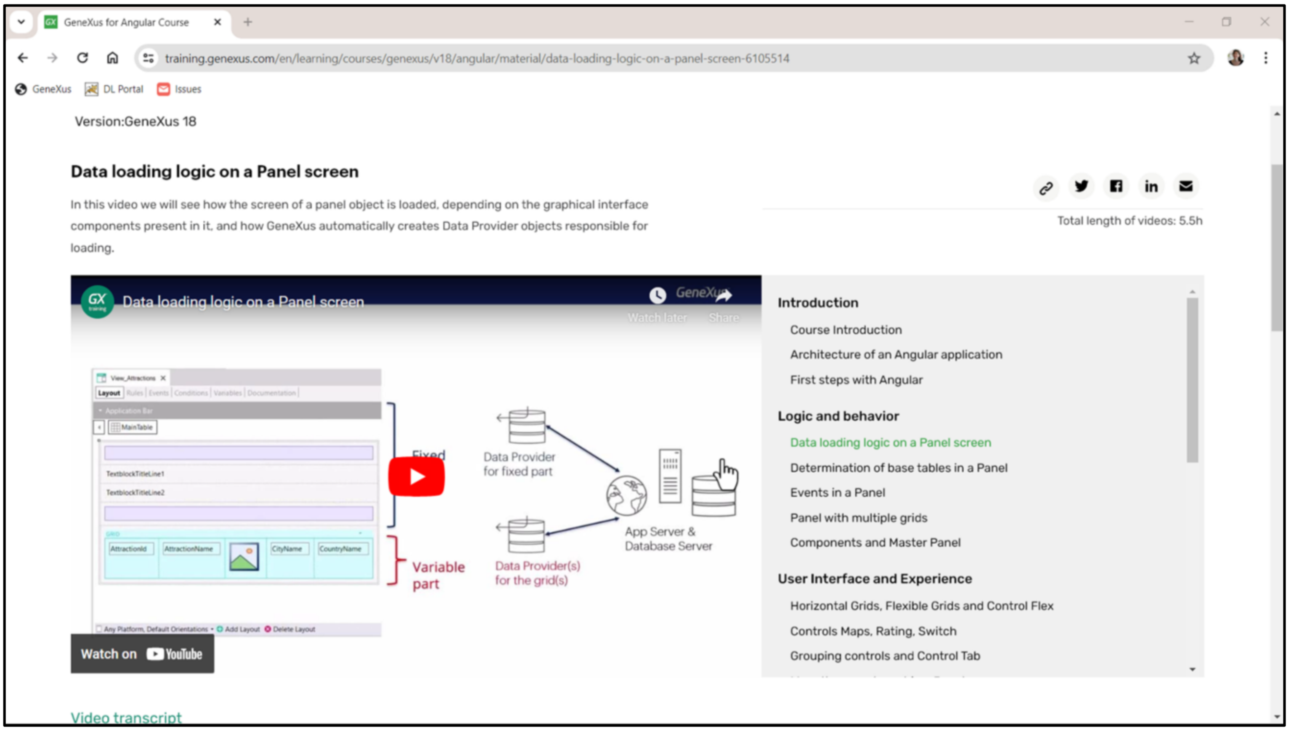


Name	Type	Description	Formula	N
Attraction	Attraction	Attraction		
AttractionId	Id	Attraction Id		No
AttractionName	Name	Attraction Name		No
CountryId	Id	Country Id		No
CountryName	Name	Country Name		
CityId	Id	City Id		No
CityName	Name	City Name		
CategoryId	Id	Category Id		No
CategoryName	Name	Category 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

The case of Attraction will be more similar to that of Attractions, not only because the visual structure of the information displayed is almost identical to that of the longer cards of this other grid, but also because it is taken from the database. In this case, from the second level of the Attraction transaction.



Although the 3 carousels will be implemented by means of grids, they will have particular features. Two of them can be thought of as **horizontal grids**, while the one we will study now will be of the **flex** type.


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

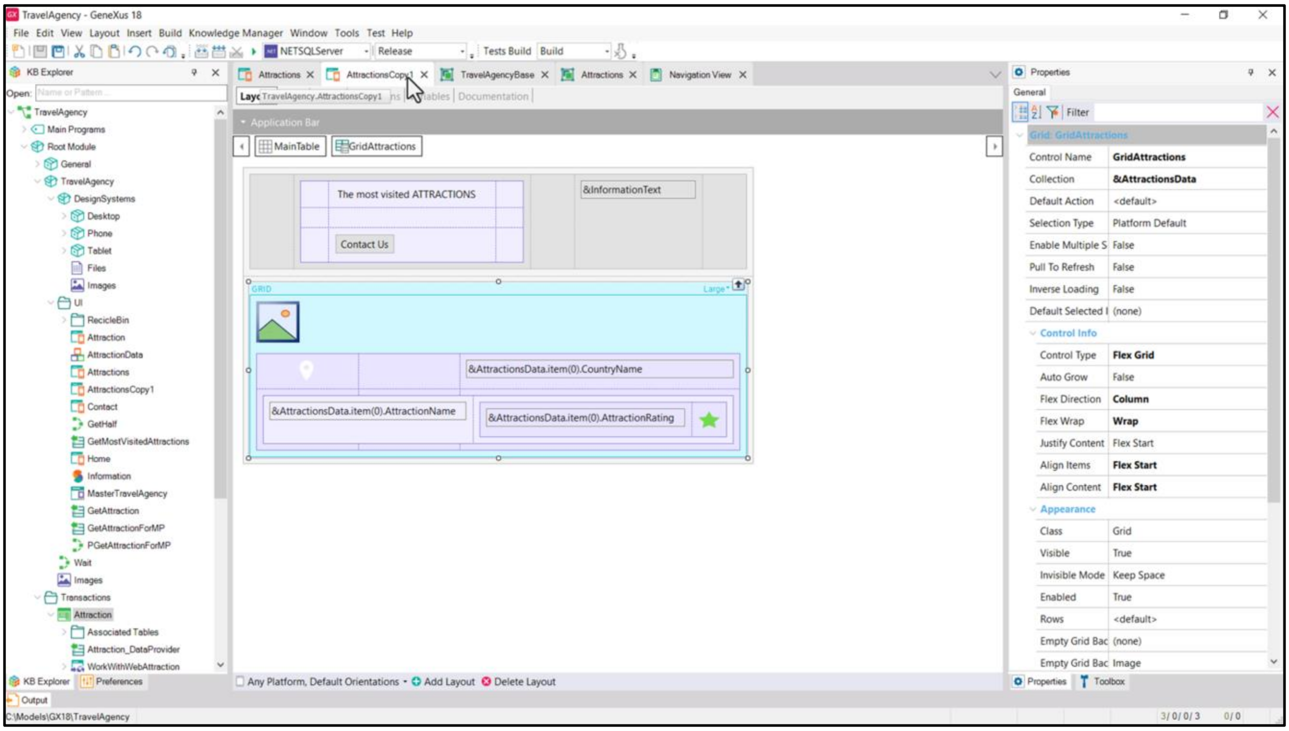
In this video we will see how the screen of a panel object is loaded, depending on the graphical interface components present in it, and how GeneXus automatically creates Data Provider objects responsible for loading.

Total length of videos: 5.5h

Data loading logic on a Panel screen
Watch later
Share
View_Attractions
Layout
MainTable
TextblockTitleLine1
TextblockTitleLine2
AttractionId
AttractionName
CityName
CountryName
Fixed
Variable part
Data Provider for fixed part
Data Provider(s) for the grid(s)
App Server & Database Server
Watch on YouTube

Video transcript

The GeneXus for Angular course includes this short video that describes the relationship of a grid with database attributes and the automatic loading of this grid. If you have never seen any of this, I recommend that you stop here and watch it.

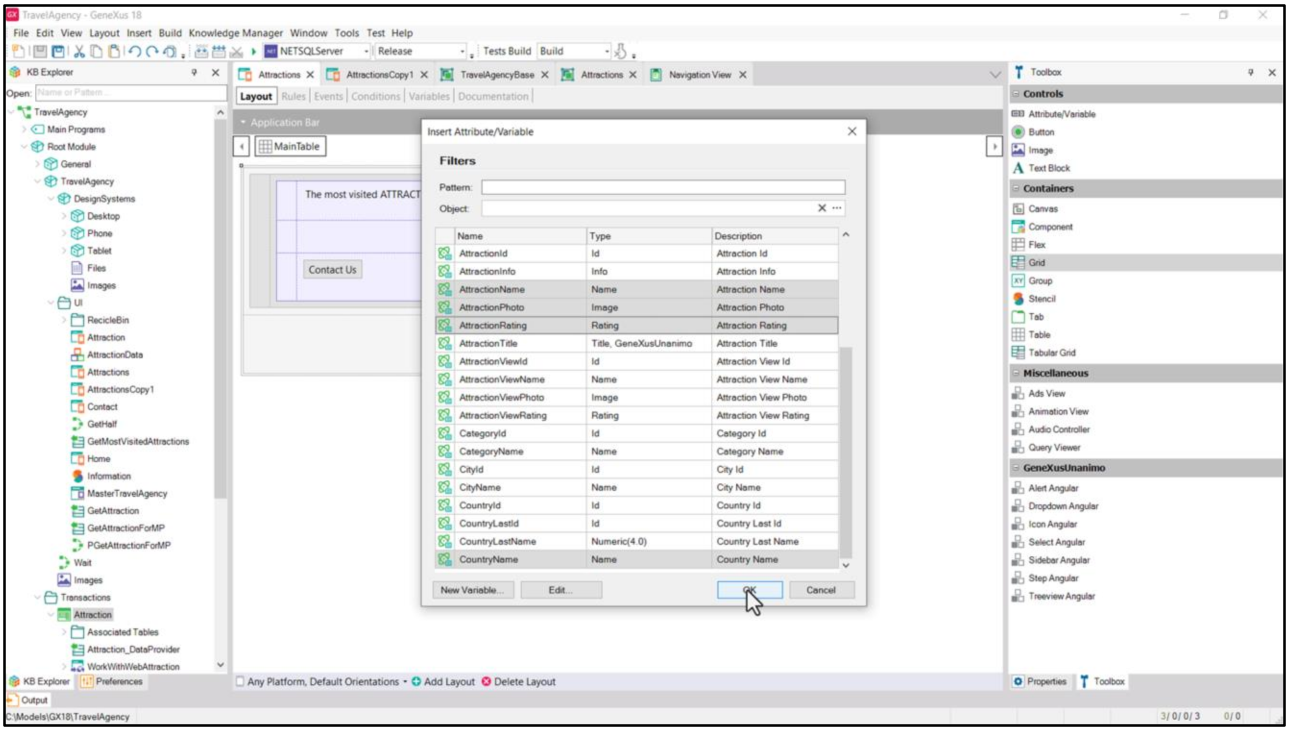


Control Name	**GridAttractions**
Collection	**&AttractionsData**
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	**Flex Grid**
Auto Grow	False
Flex Direction	**Column**
Flex 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

In the KB I had already implemented a first version of this grid, in the copy of the Attractions panel.

I'm going to do it now with you in detail, to explain the most relevant aspects from the frontender's point of view.

This area we have entered has a User Interface and also coding.



Insert Attribute/Variable

Filters

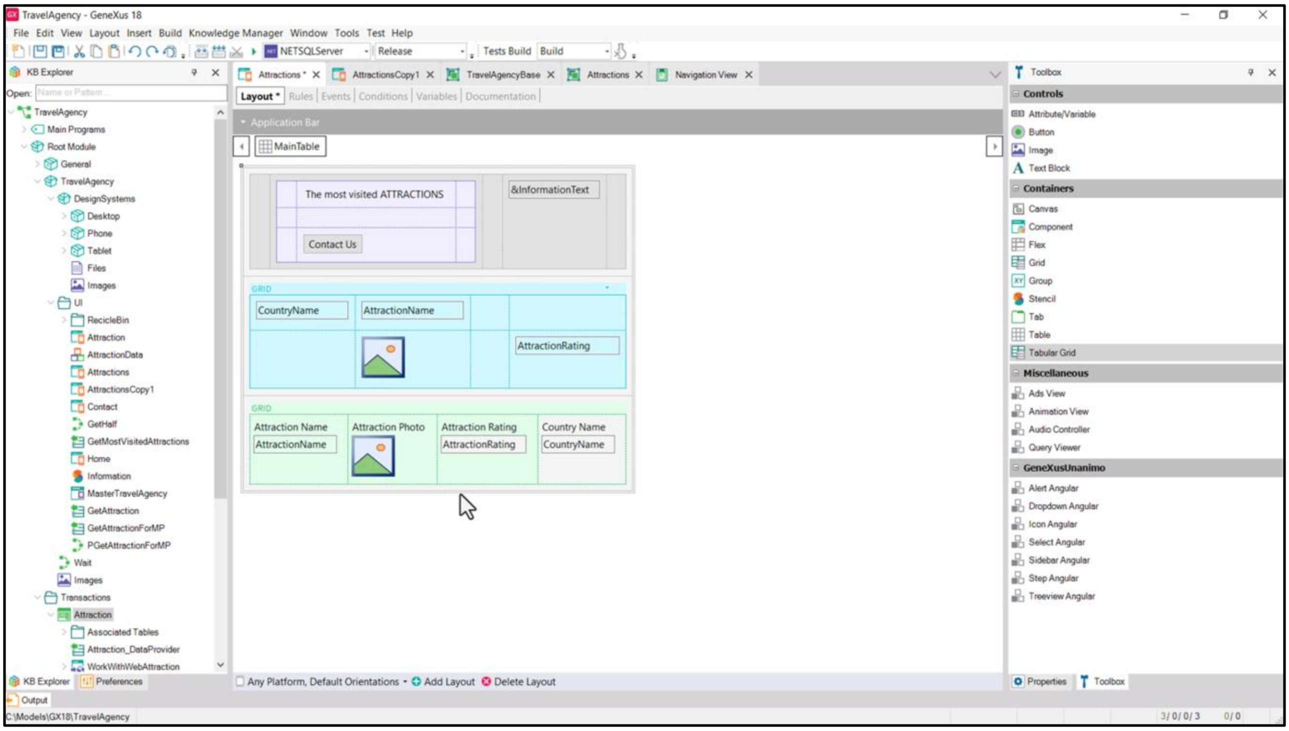
Pattern:

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

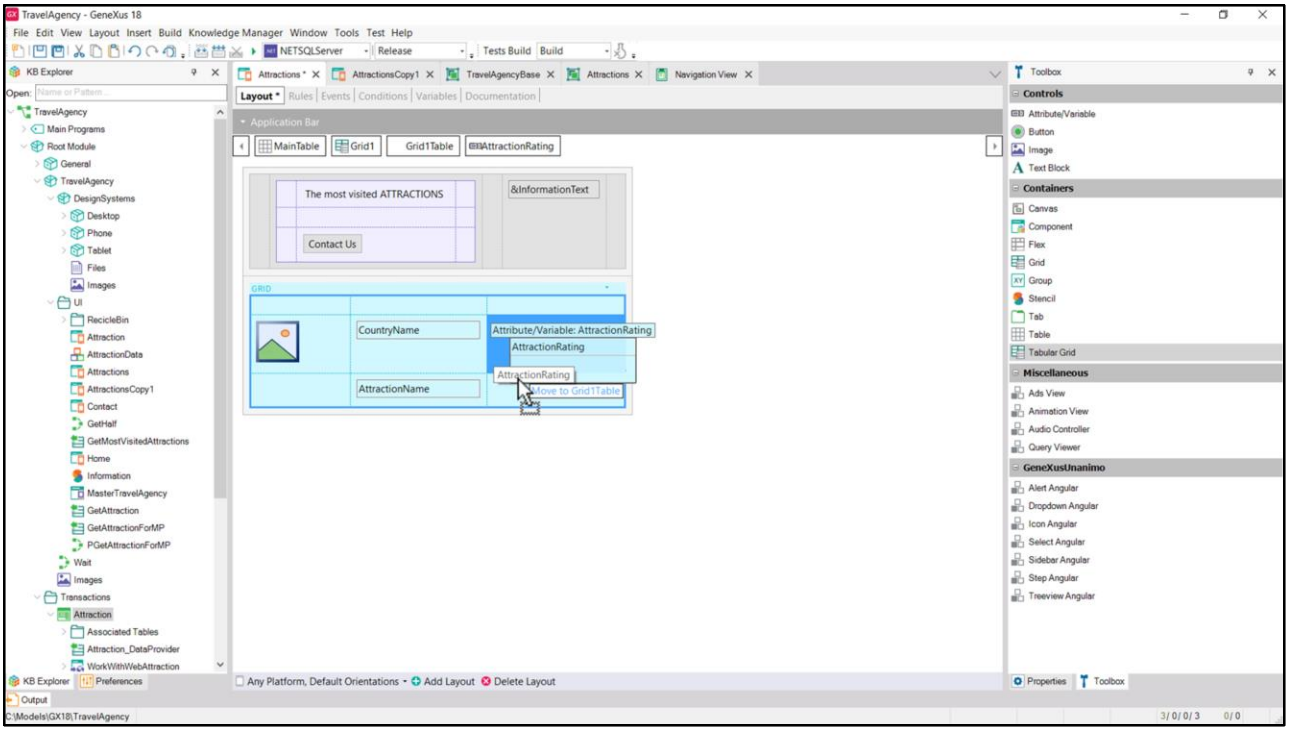
I will start by inserting a grid in the second row of Attractions. It opens this window for us to select attributes and/or variables that we want to be part of each item displayed by the grid.

For our case, I could select, for example, CountryName, AttractionName, AttractionPhoto, AttractionRating.

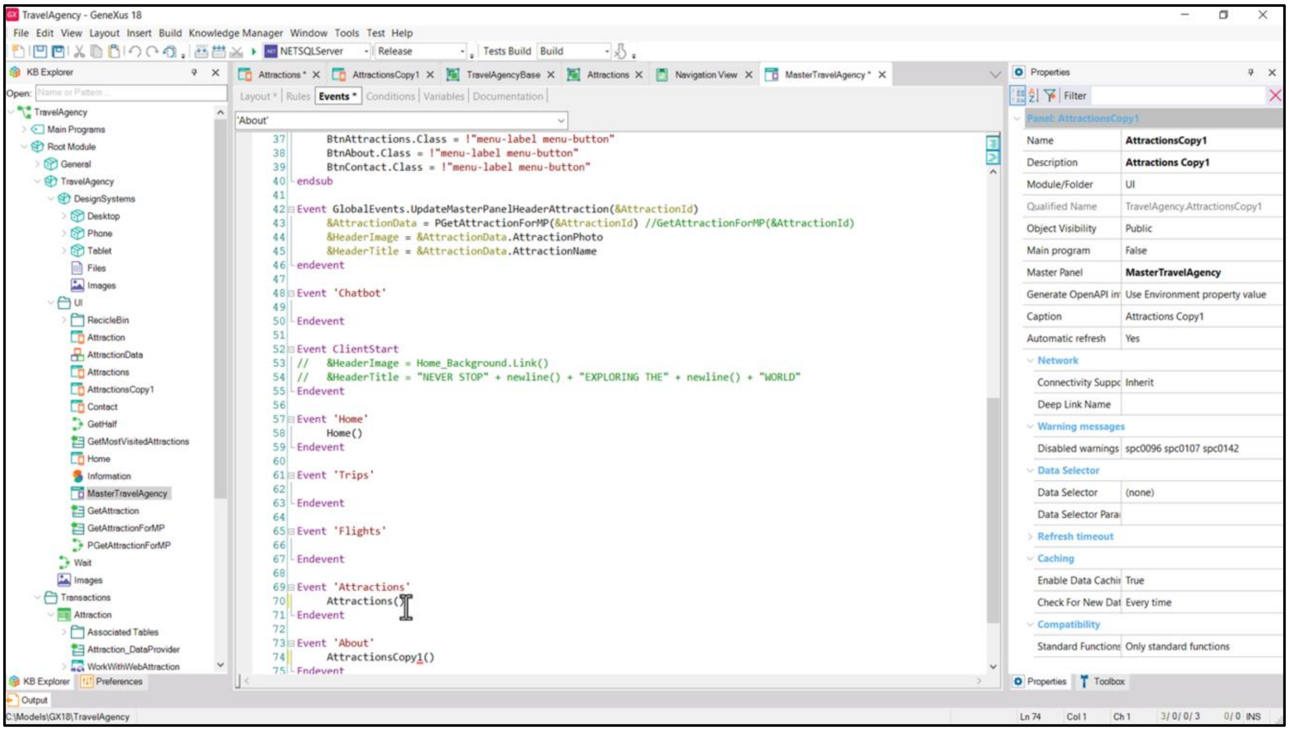


Note that it placed the 4 attributes side by side, in 4 columns, but we can rearrange the elements as we want. This is different from what happens with tabular grids, where there are only columns and we can't do this.

We are going to choose the first case, clearly.



I rearrange the elements as I want them to be displayed.

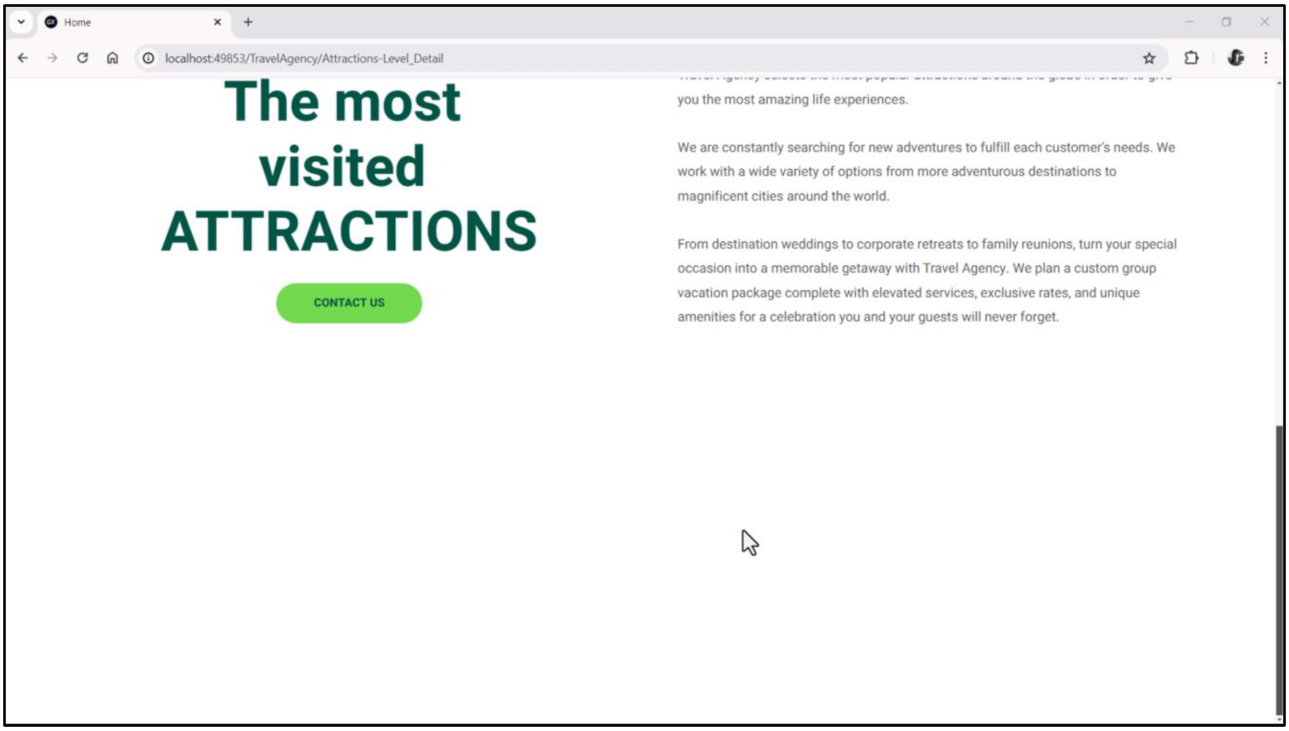


```
        BtnAttractions.Class = !"menu-label menu-button"
        BtnAbout.Class = !"menu-label menu-button"
        BtnContact.Class = !"menu-label menu-button"
endsub

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
```

Name	AttractionsCopy1
Description	Attractions Copy1
Module/Folder	UI
Qualified Name	TravelAgency.AttractionsCopy1
Object Visibility	Public
Main program	False
Master Panel	MasterTravelAgency
Generate OpenAPI in	Use Environment property value
Caption	Attractions Copy1
Automatic refresh	Yes
Network	
Connectivity Suppo	Inherit
Deep Link Name	
Warning messages	
Disabled warnings	spc0096 spc0107 spc0142
Data Selector	
Data Selector	(none)
Data Selector Para	
Refresh timeout	
Caching	
Enable Data Cachir	True
Check For New Dat	Every time
Compatibility	
Standard Functions	Only standard functions

And now I want to execute.

So in the Master Panel... in the event associated with the Attractions button... I uncomment the invocation to the panel that we are building... and as for the invocation to the copy that already has the advanced grid, I place it for the About button, provisionally.



The most visited ATTRACTIONS

CONTACT US

Travel Agency selects the most popular attractions around the globe in order to give 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.

Nothing is being shown at runtime. Why?

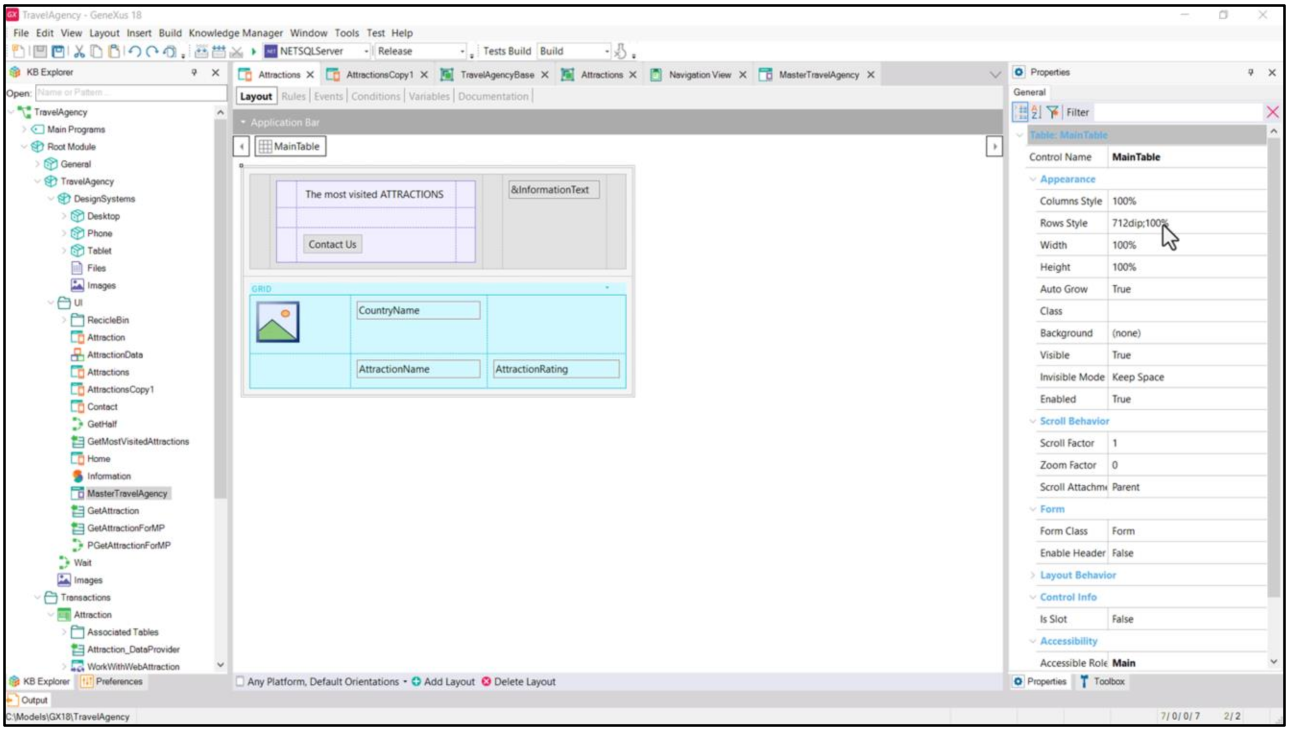
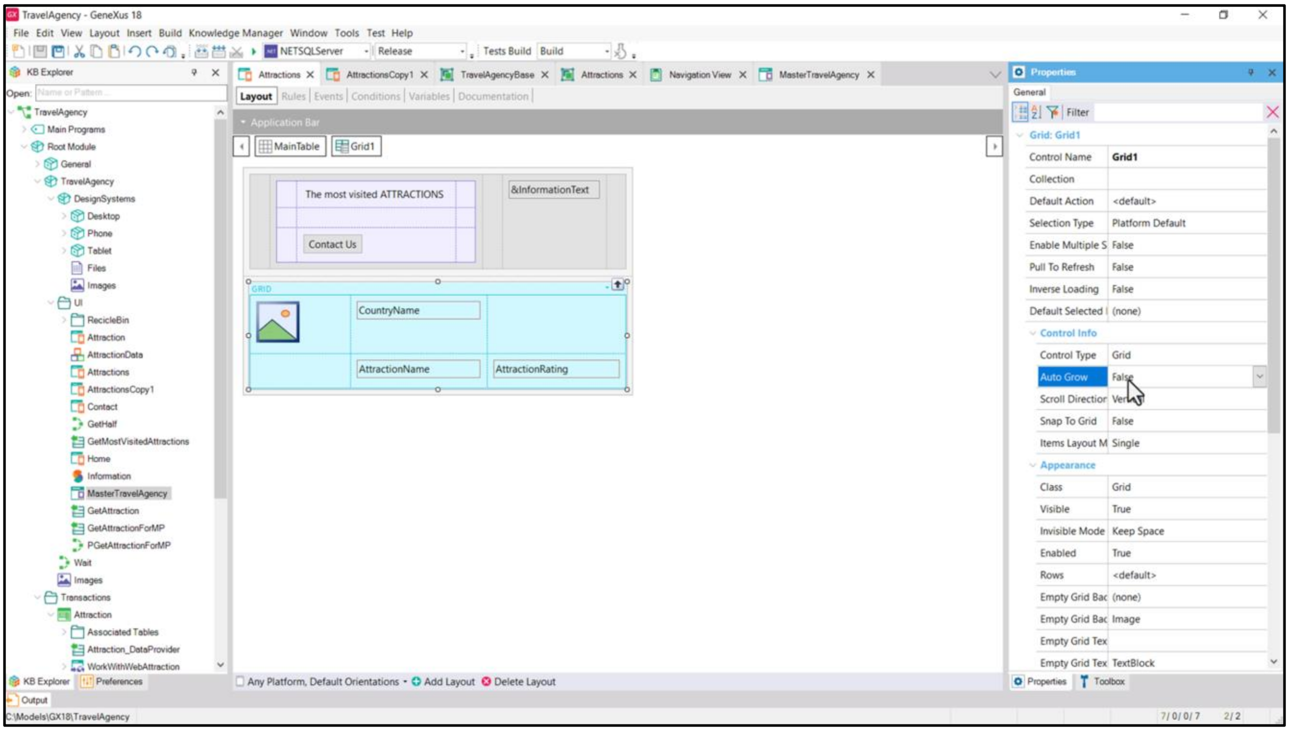


Table: MainTable

Control Name	MainTable
Appearance	
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 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

First of all, let's look at the size of the row in which the grid is located. 100% of the remaining height after removing 712 dips. Obviously there is no problem here.



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

Among the properties of the Grid we see that it has Auto Grow set to False, so it will not grow as its content grows.

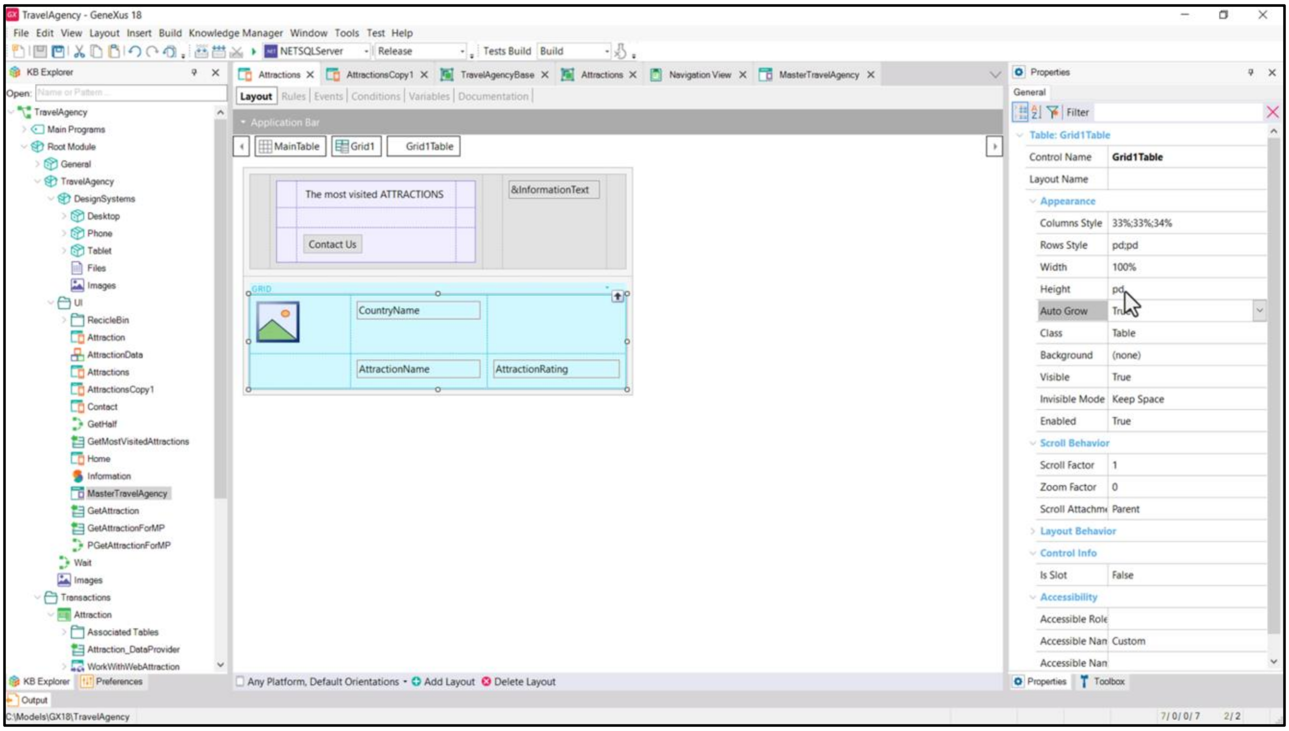
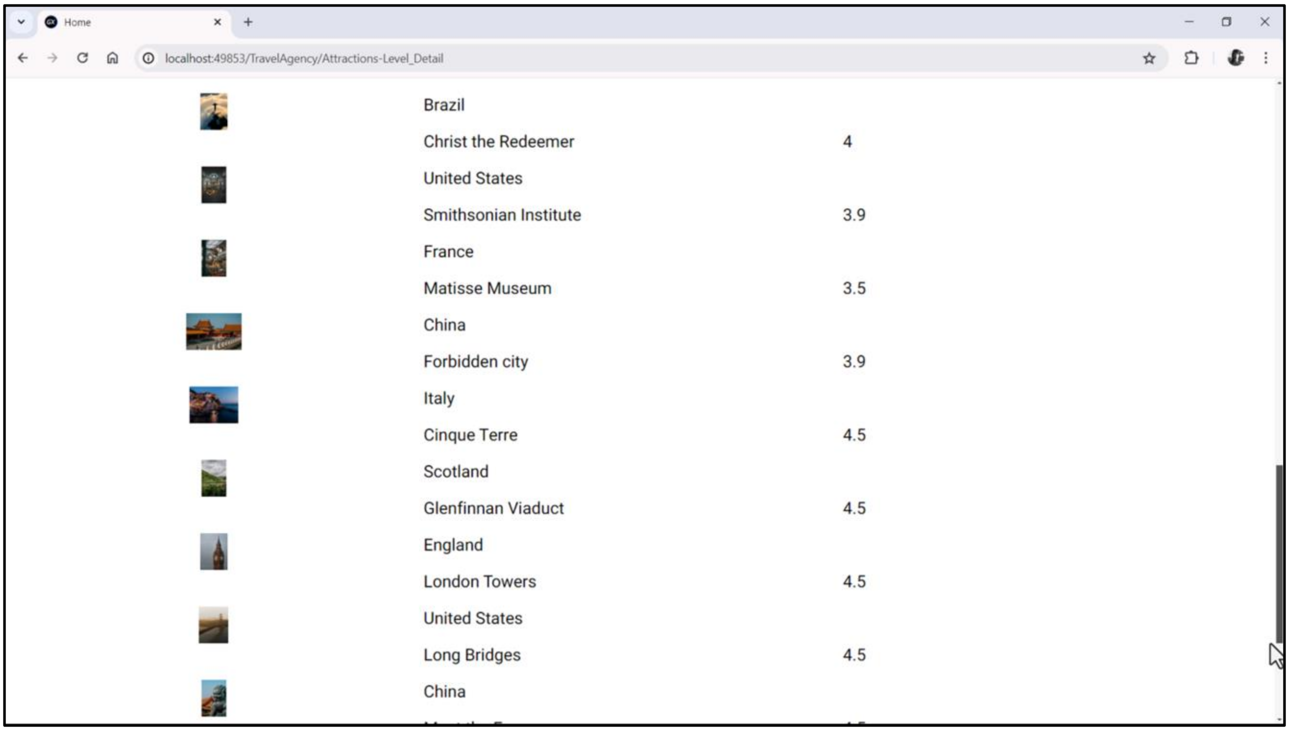


Table: Grid1Table

Control Name	Grid1Table
Layout Name	
Appearance	
Columns Style	33%;33%;34%
Rows Style	pd;pd
Width	100%
Height	pd
Auto Grow	True
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	

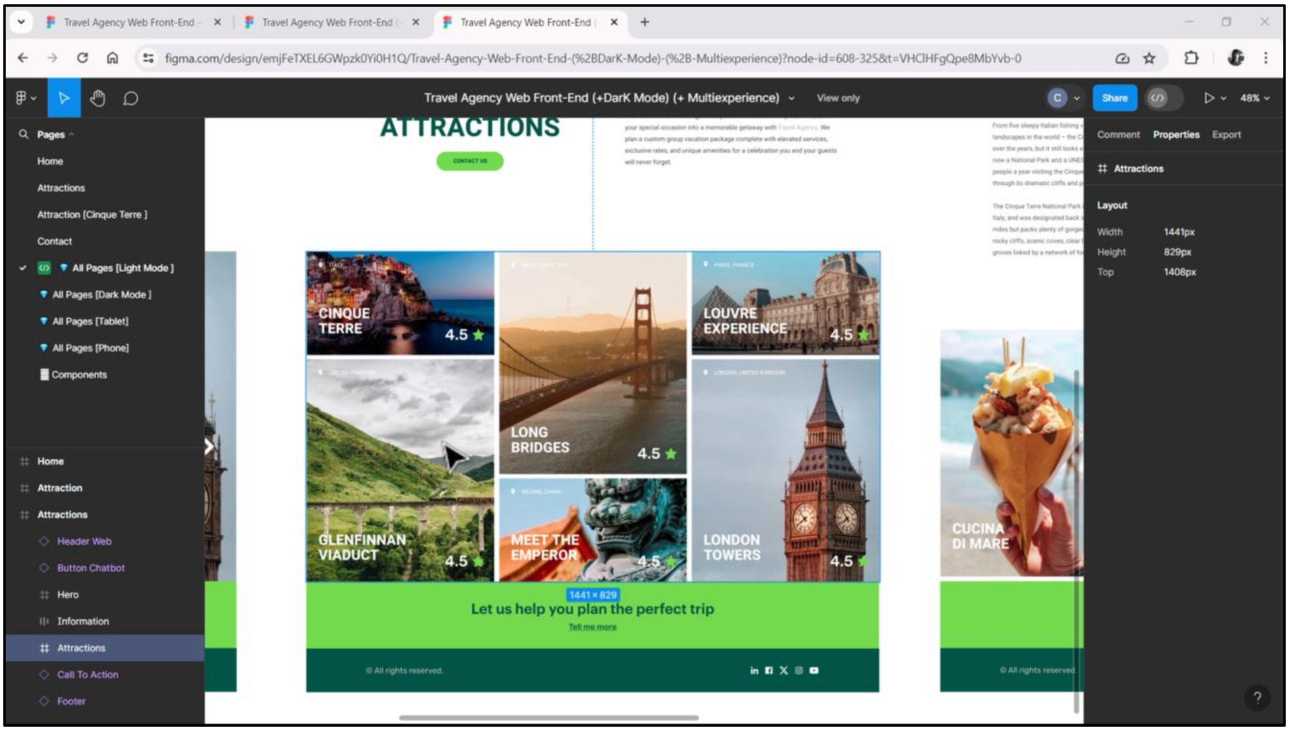
And if we analyze each content item, we see that it will be modeled as this table, which has 3 columns and two rows, and whose height is set to “platform default”. And although it has Auto Grow set to true, since the grid doesn't have it, it will not apply.



localhost:49853/TravelAgency/Attractions-Level_Detail

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	

Let's see what happens if we change the Auto Grow of the grid to True...



Width 1441px
Height 829px
Top 1408px

We don't want a grid with Auto Grow, because we actually want a carousel that has a horizontal scroll. The height will have to be fixed.

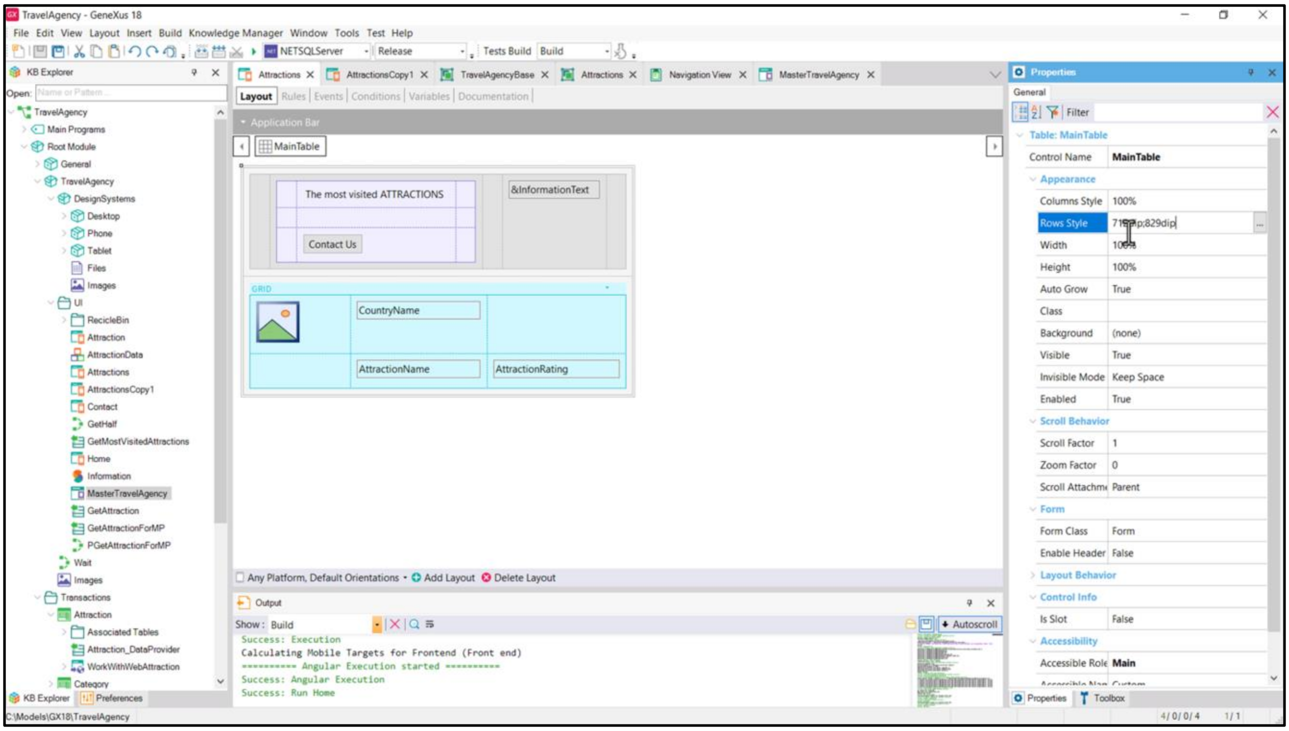
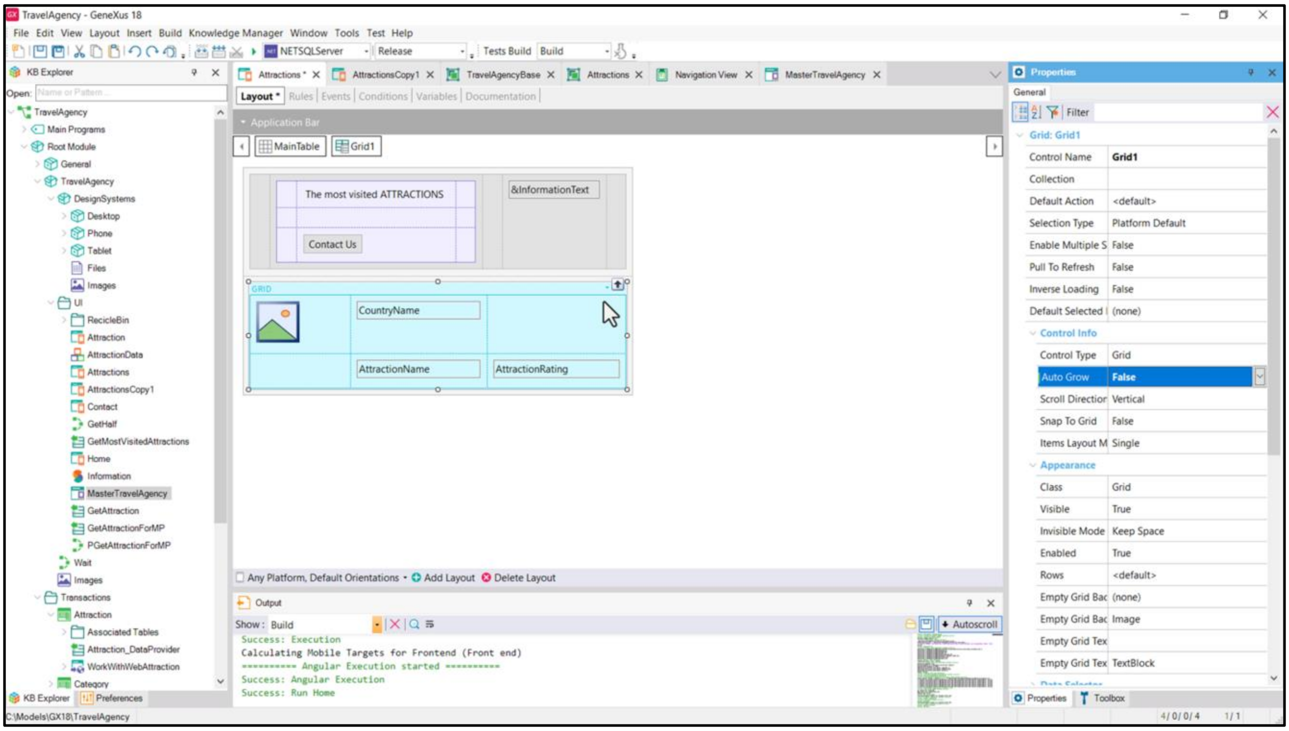


Table: MainTable

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
Accessible Nam	Custom

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

So I define this height for the row in which the grid is located...

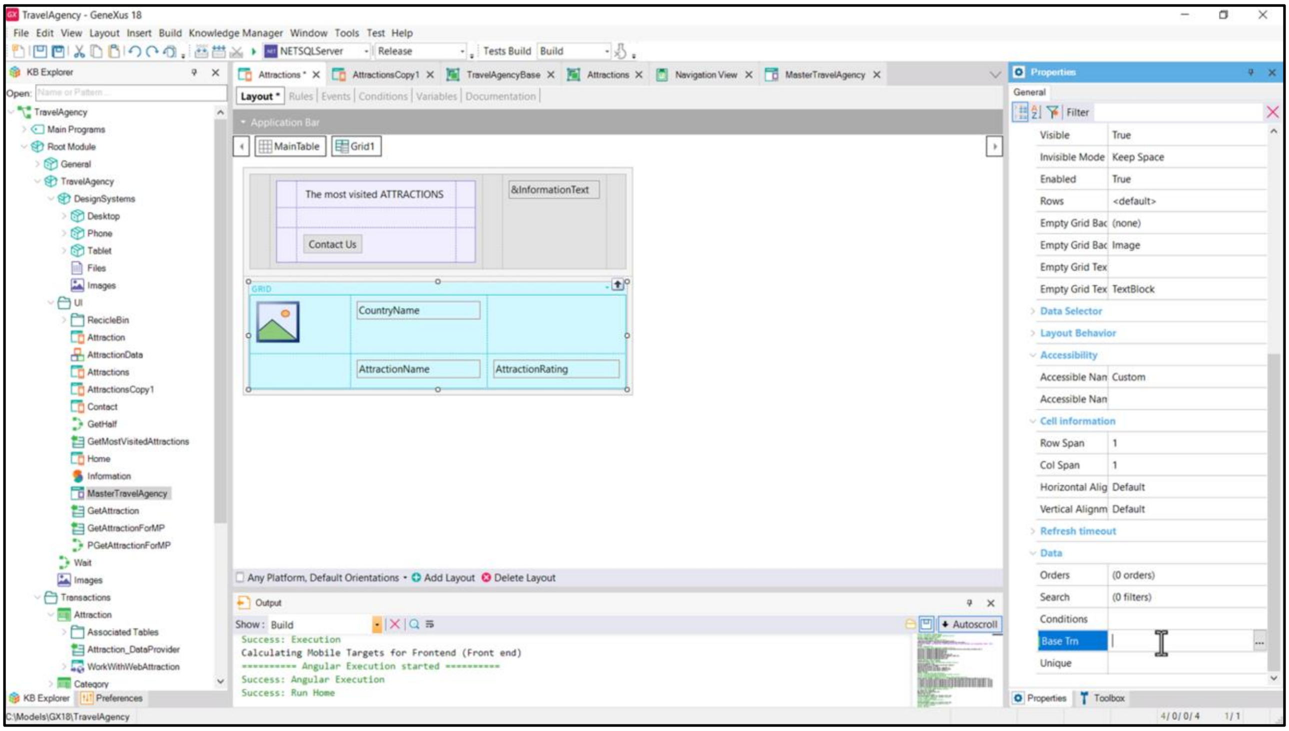


Grid: Grid1	
Control Name	Grid1
Collection	
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Vertical
Snap To Grid	False
Items Layout 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
```

...and I leave Auto Grow set to False.

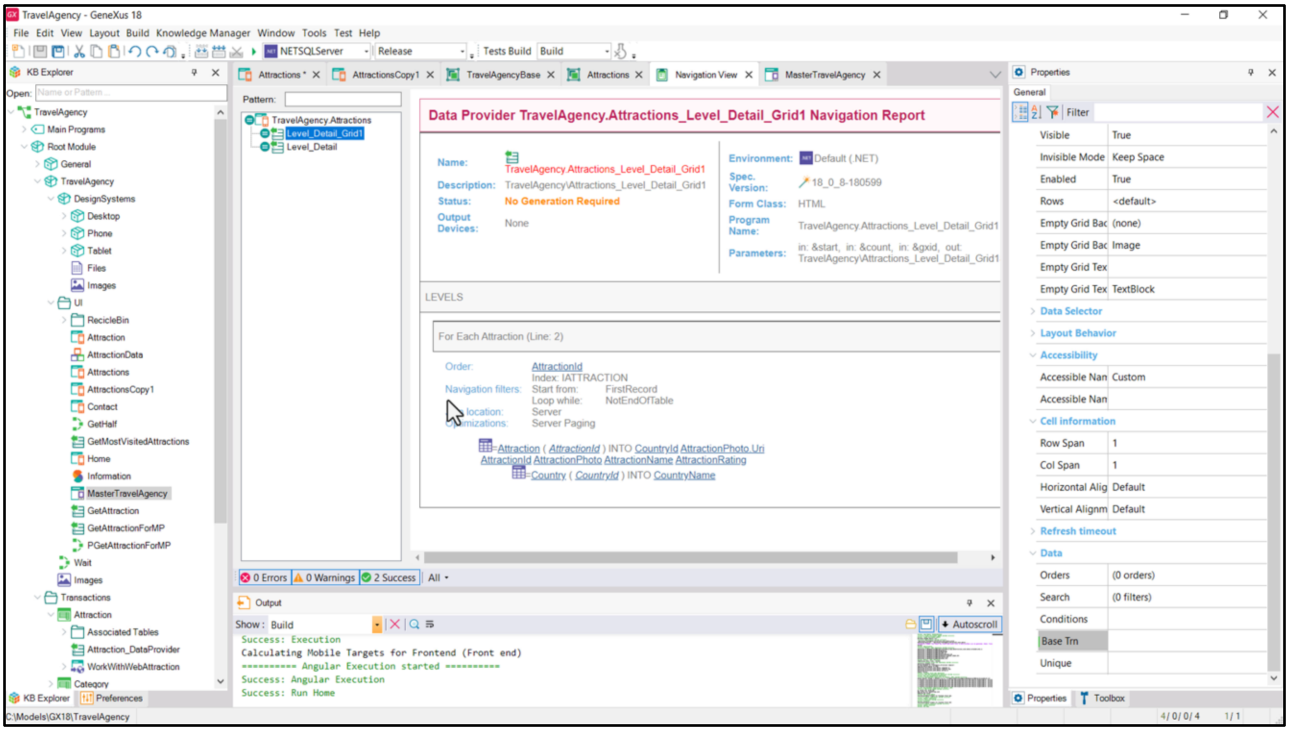
I will have to work carefully with the sizes of this table.



Property	Value
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	

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

What we can see so far is that by using attributes the grid loading is already automatic. It is a grid with Attraction base table. I didn't even have to make it explicit in this property. It inferred it automatically.



Data Provider TravelAgency.Attractions_Level_Detail_Grid1 Navigation Report

Name: TravelAgency.Attractions_Level_Detail_Grid1
Description: TravelAgency\Attractions_Level_Detail_Grid1
Status: No Generation Required
Output Devices: None

Environment: Default (.NET)
Spec. Version: 18_0_8-180599
Form Class: HTML
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
mizations:           Server Paging

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

0 Errors | 0 Warnings | 2 Success | All

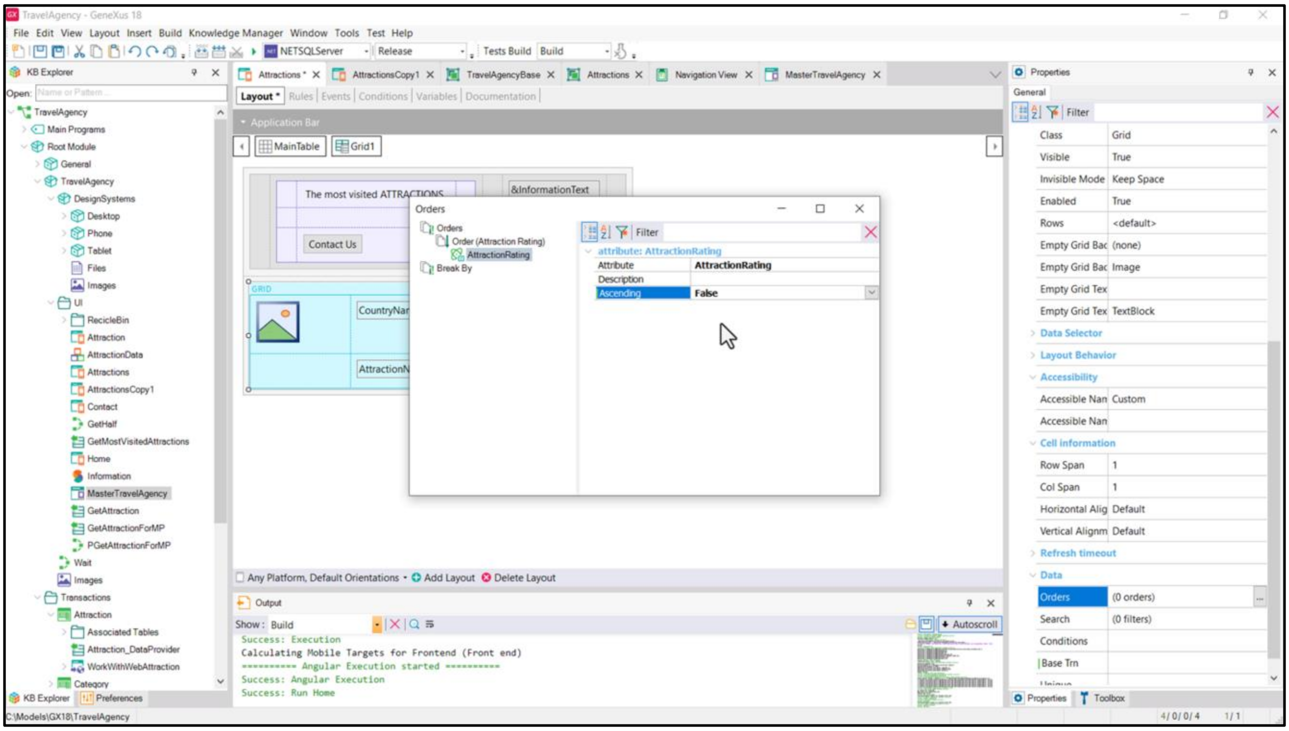
Output

Show : Build | Autoscroll

```
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
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	

In the background, GeneXus builds a Data Provider that returns a collection SDT with all the necessary items to load the grid. Look at the navigation of this Data Provider. It goes to the Attraction table, accessing Country to get the CountryName.



Orders

- Orders
  - Order (Attraction Rating)
    - AttractionRating
- Break By

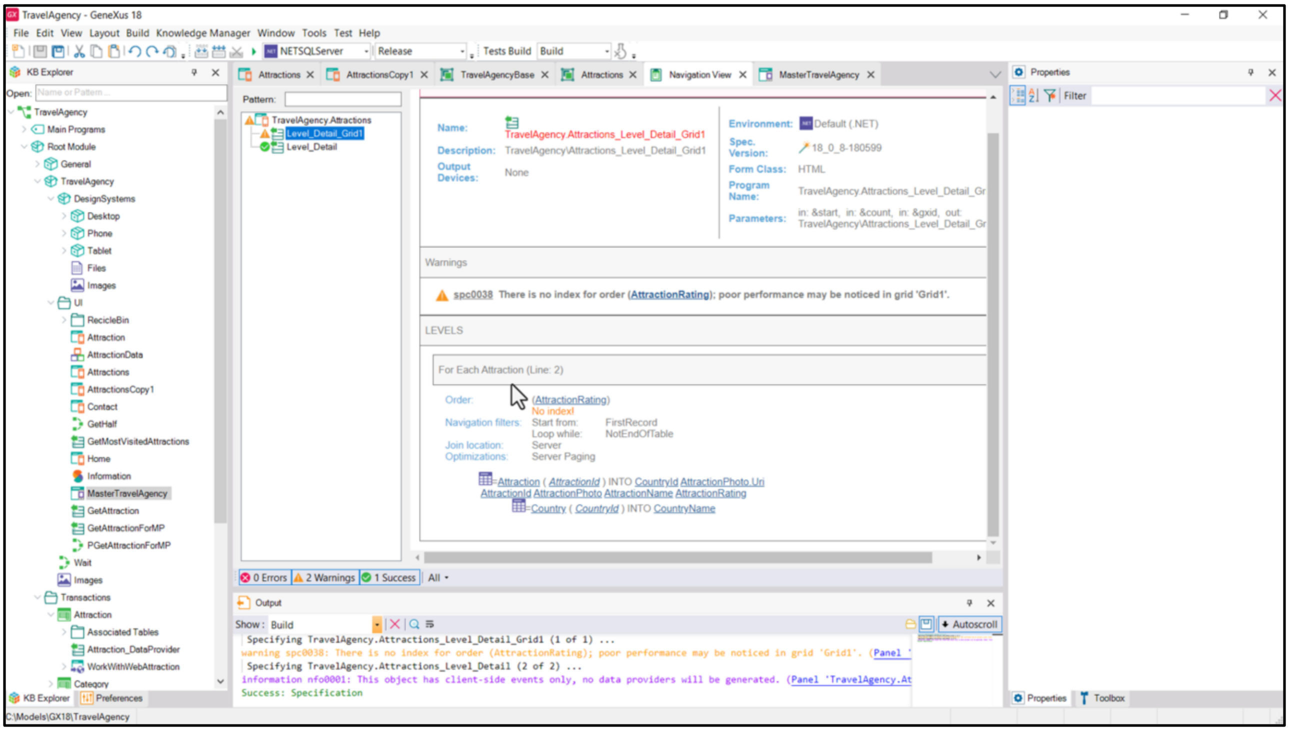
attribute: AttractionRating

Attribute	AttractionRating
Description	
Ascending	False

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
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	

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

If we wanted to sort in descending order by AttractionRating, note that it would be enough to do this... define an order... according to this attribute that is NOT ascending.



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

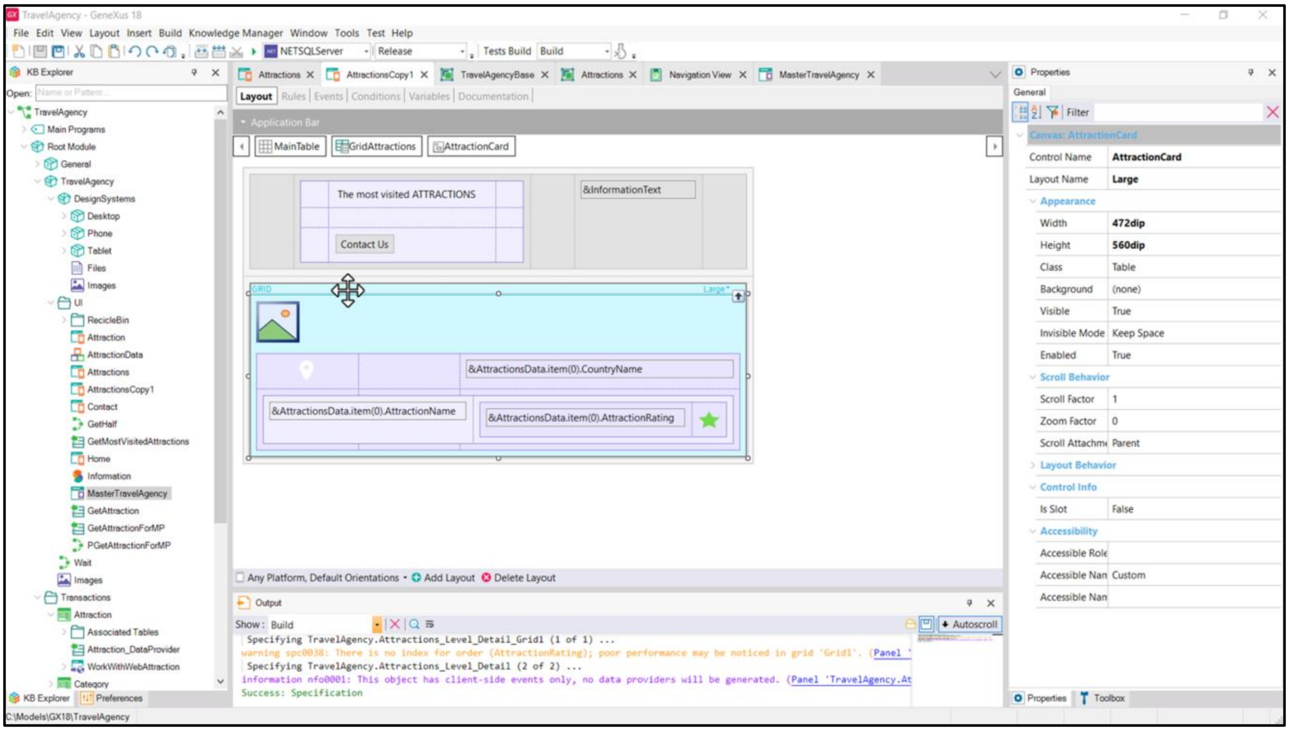
0 Errors | 2 Warnings | 1 Success | All

Output

Show : Build

```
 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
```

And if we now ask to see the navigation list... here we see it reflected.



```
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
```

Control Name: AttractionCard
Layout Name: Large

Appearance
- Width: 472dip
- Height: 560dip
- Class: Table
- Background: (none)
- Visible: True
- Invisible Mode: Keep Space
- Enabled: True

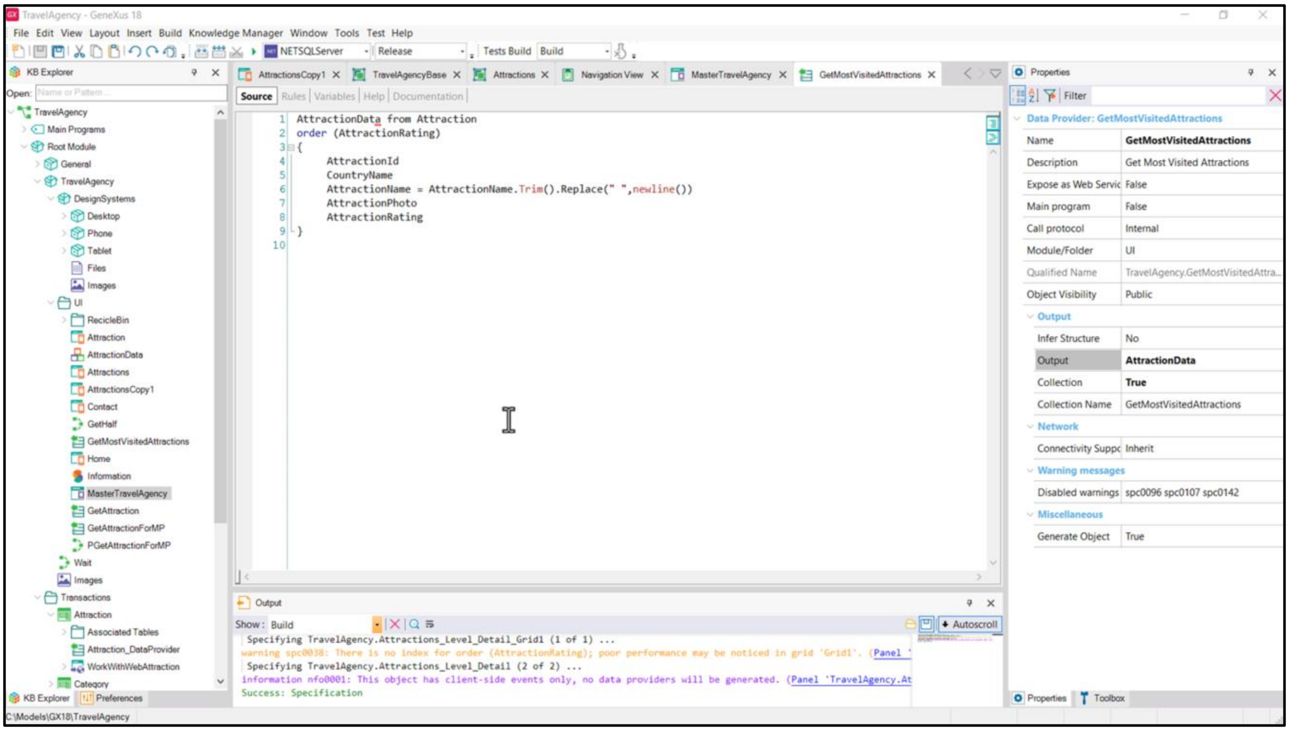
Scroll Behavior
- Scroll Factor: 1
- Zoom Factor: 0
- Scroll Attachm: Parent

Layout Behavior

Control Info
- Is Slot: False

Accessibility
- Accessible Role:
- Accessible Nan: Custom
- Accessible Nan:

In the implementation that I showed in the previous video, in which I didn't use attributes...



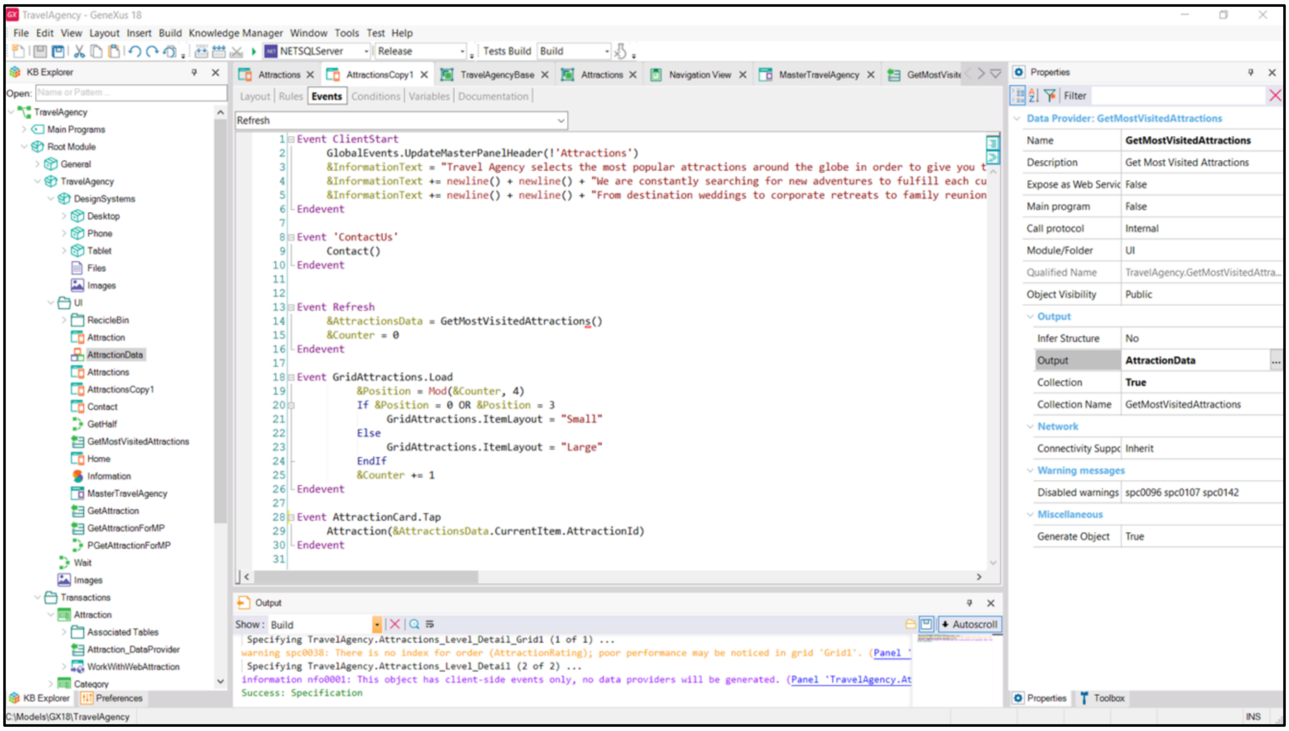
```
AttractionData from Attraction
order (AttractionRating)
{
     AttractionId
     CountryName
     AttractionName = AttractionName.Trim().Replace(" ",newline())
     AttractionPhoto
     AttractionRating
}
```

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
```

...I explicitly built a Data Provider, as well as the SDT that I use as a collection, and I also invoke it explicitly, so that it is loaded into the grid once I have its data.



```
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

```

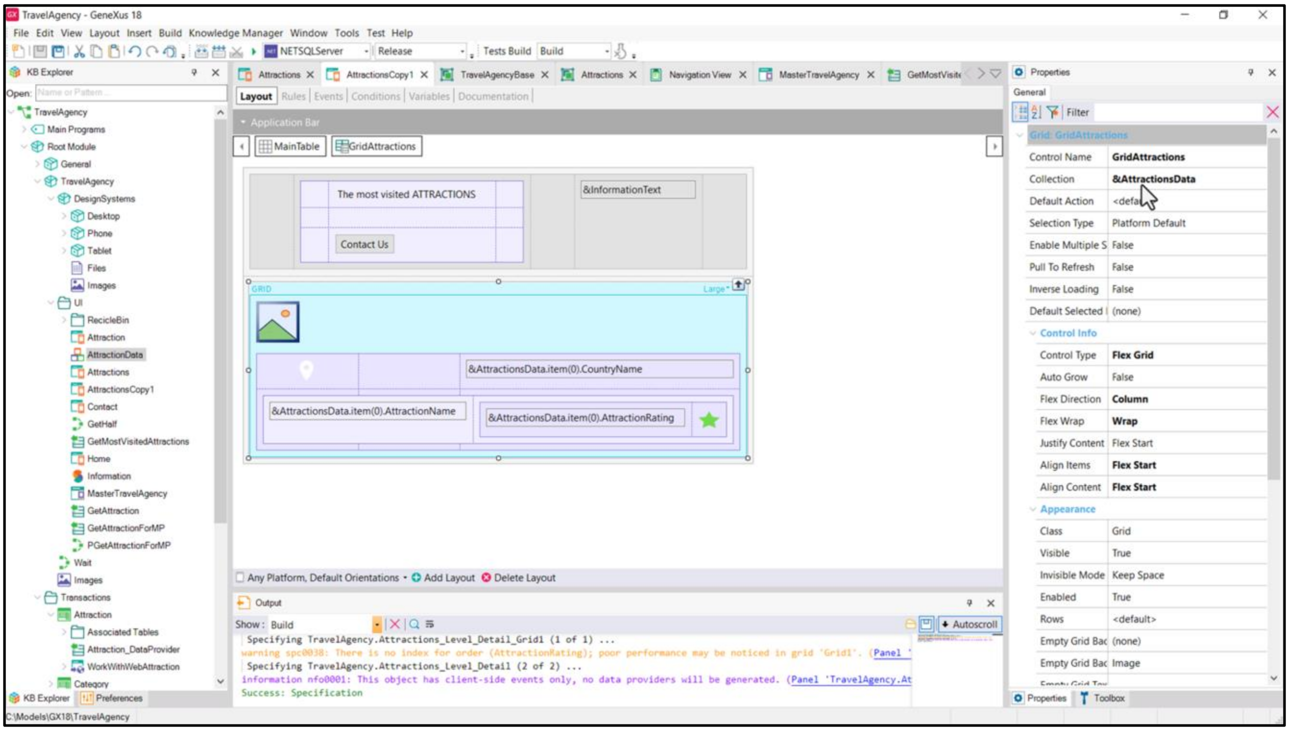
```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side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

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

Remember that the Refresh event will be fired before the grid is loaded.

So, I call the Data Provider, it returns the collection of data, of items, loaded...



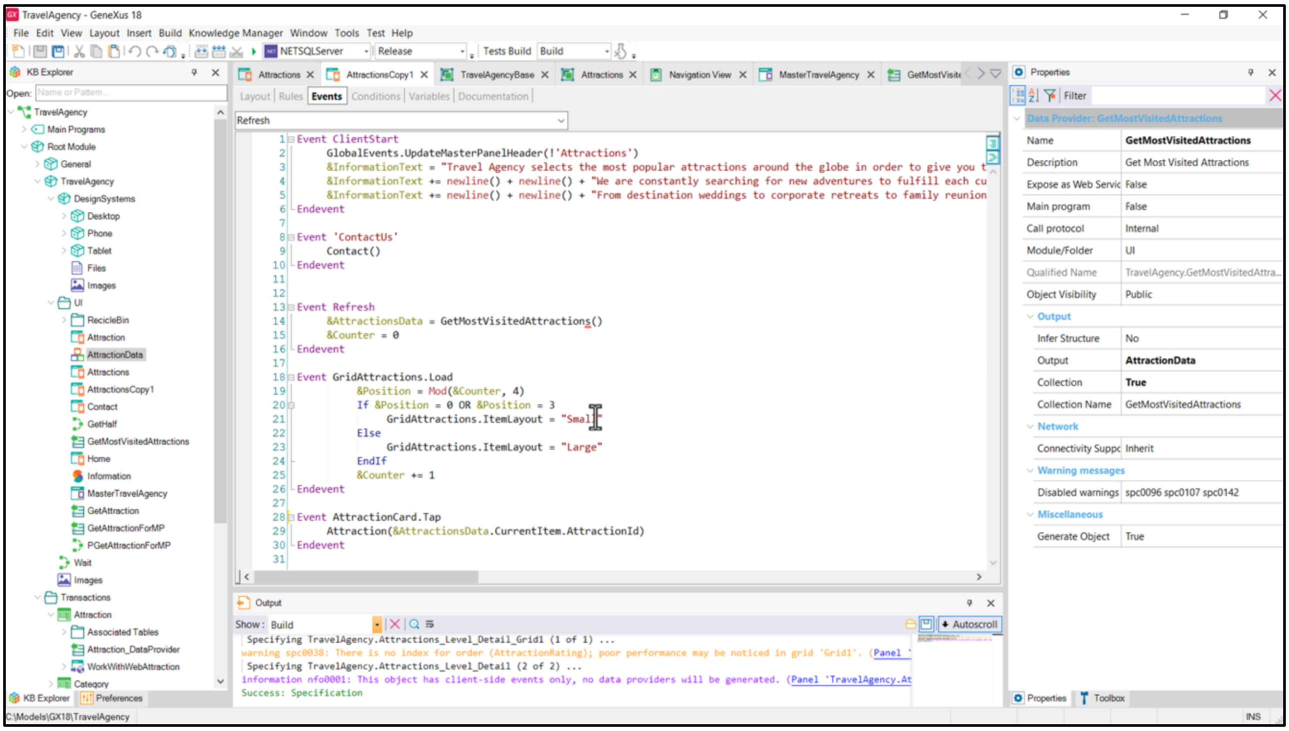
Grid: GridAttractions

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

☐ Any Platform, Default Orientations · Add Layout · Delete Layout

```
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
```

...and since I associate this collection with the grid, it will make a Load per item...



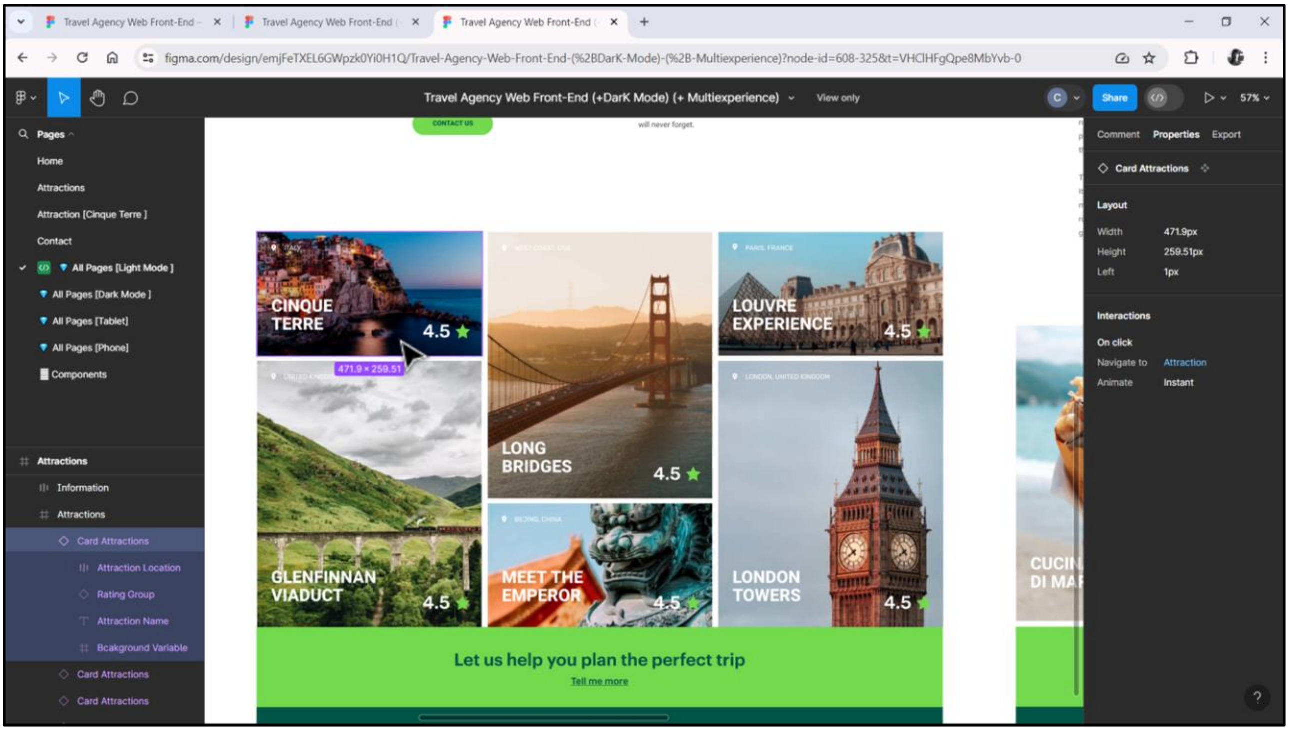
```
Event ClientStart
	GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
	&InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
	&InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill each cu
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

```
 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
```

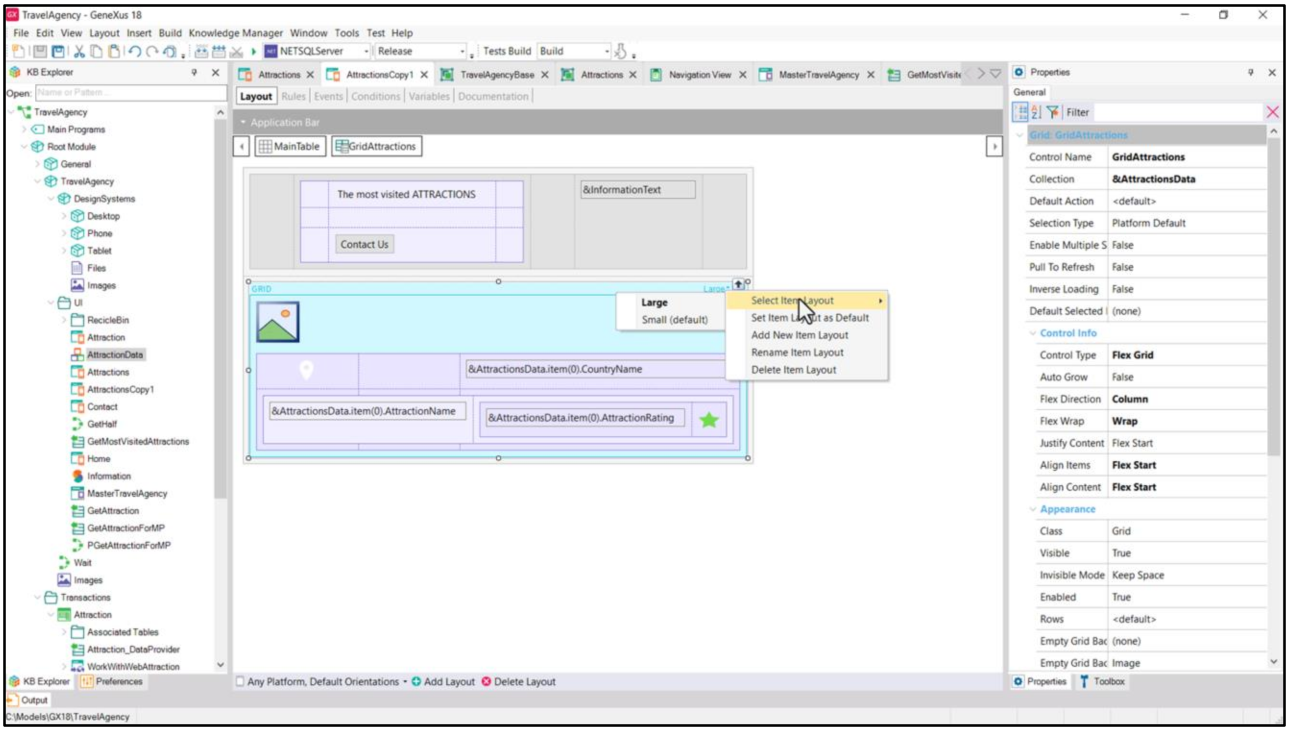
Data Provider: GetMostVisitedAttractions

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

...firing for each one the Load event (which is programmed here to alternate between the cards: those of Small height and those of Large height...

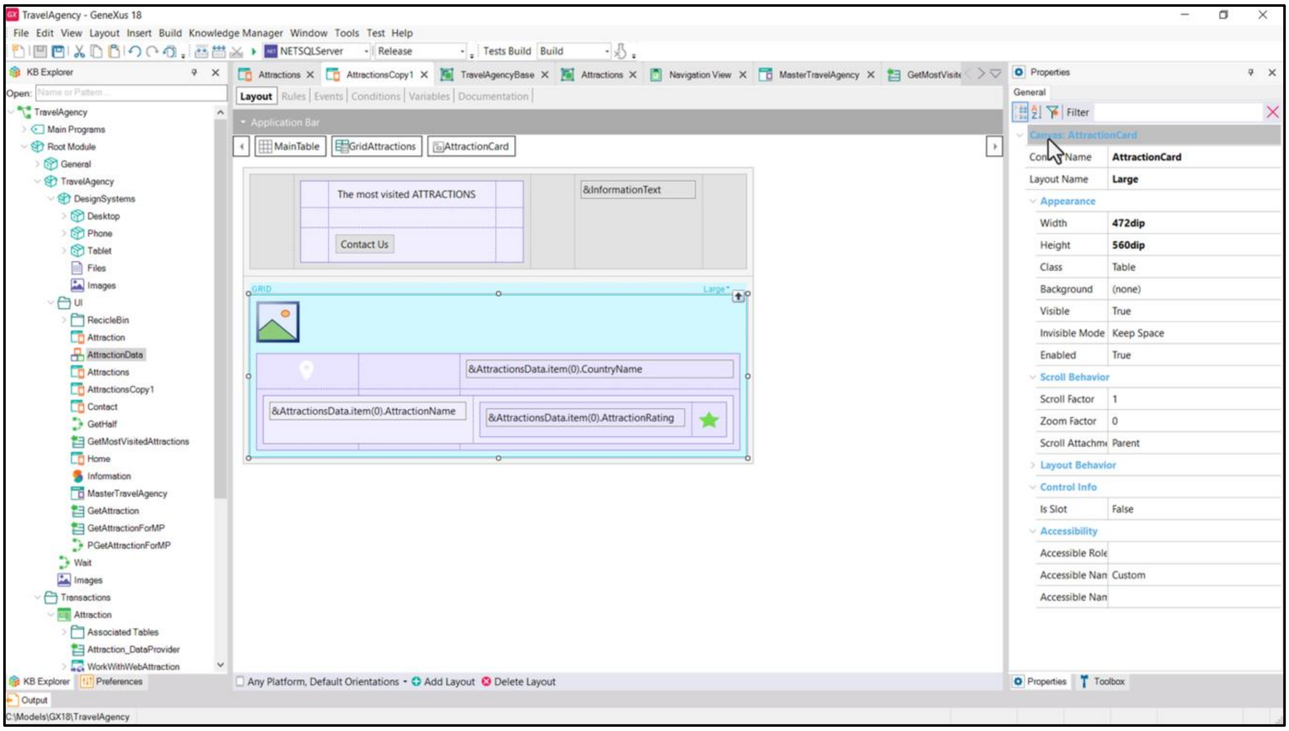


That is to say, between these with a height of 260 and these other ones with a height of 560.



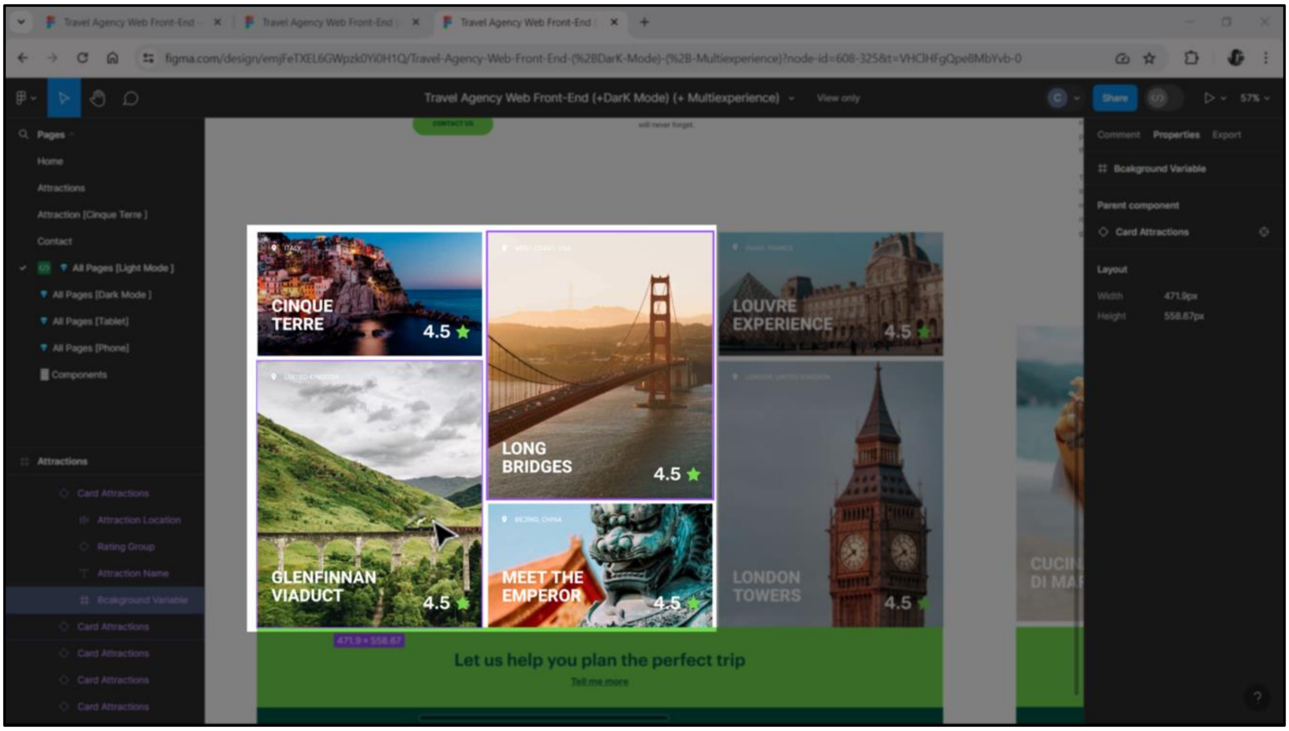
Grid: GridAttractions	
Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
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

In grids we can define **multiple layouts** for their items; they don't have to be the same for all of them. And this is what I did in my grid. I defined two different layouts: this one that I called Large, and this one, which is the default, which I called Small.



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

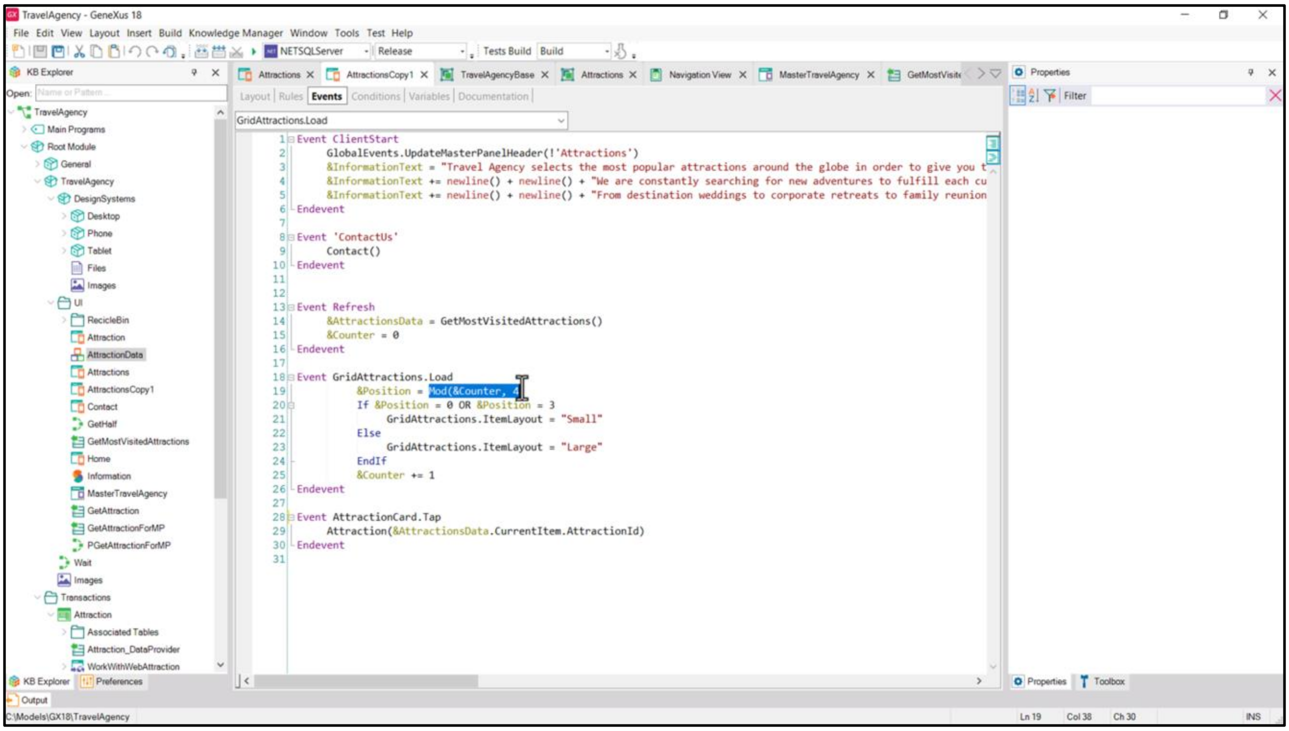
Although they look identical, actually they have one difference: the height of this table (which we can see is a canvas). That of the Large layout is 560 dips, while that of the Small layout is 260.



We can already think of this grid as a flex container, of this height, and with its items in column direction. The Wrap property is enabled, so the first two tourist attractions returned will be these two; if we start counting them at 0, then we will have this: 0 and 1 fit in the first column but 2 and 3 do not, so they go to a second column, and 4 and 5 in a third column, and so on.

Note that we can establish the alternation of the cards by looking at these four, because later the scheme will be repeated. Number 0 and 3 will correspond to Small height, and 1 and 2 to Large height.

For their multiples the same scheme applies. That is why I solved it this way.

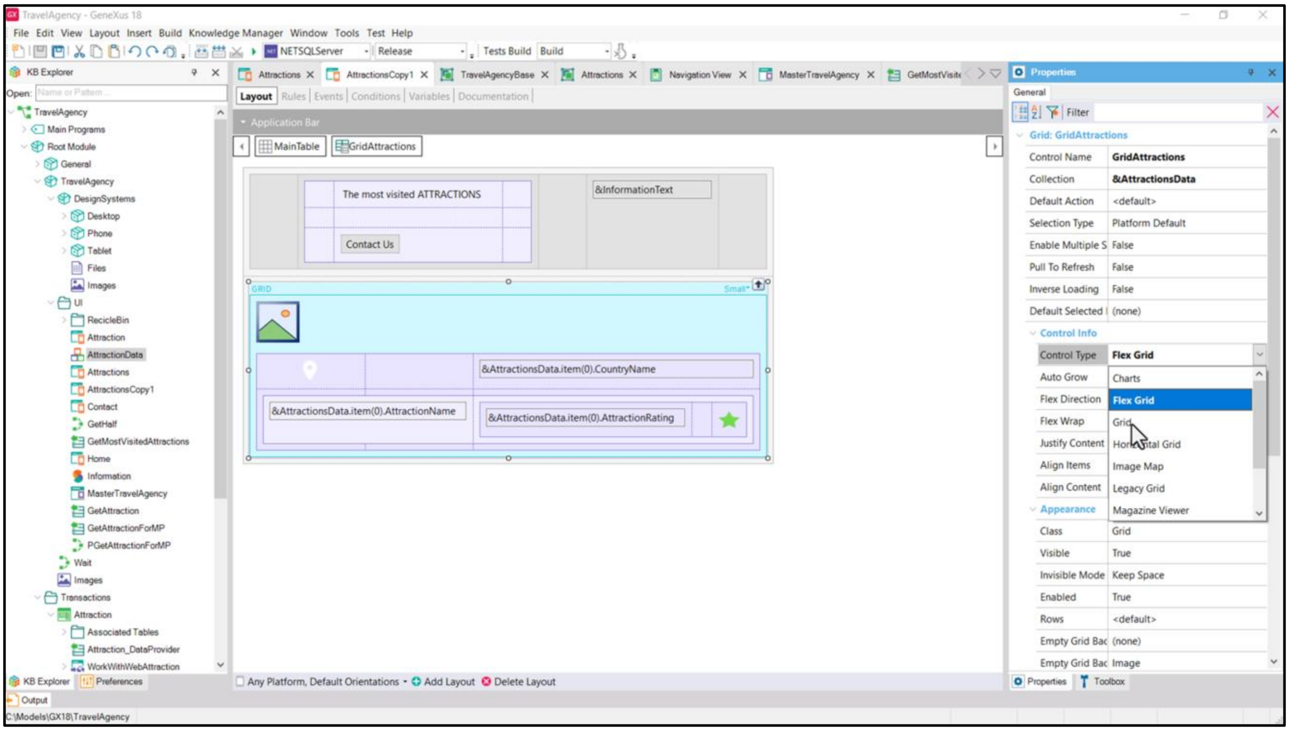


```
Event ClientStart
     GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
     &InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
     &InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill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

In Refresh I set the counter of the attraction to 0 and then I calculate, for each item to be loaded in the grid, the position of the item, which will be the rest of that counter divided by 4; that is to say, it will be: 0, 1, 2 or 3.

If it is 0 or 3, I instruct it to load the item with the Small layout; and if it is 1 or 2, with the Large layout.

Note that this is the name of the grid, and this is the property that indicates which is the layout of the item.



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

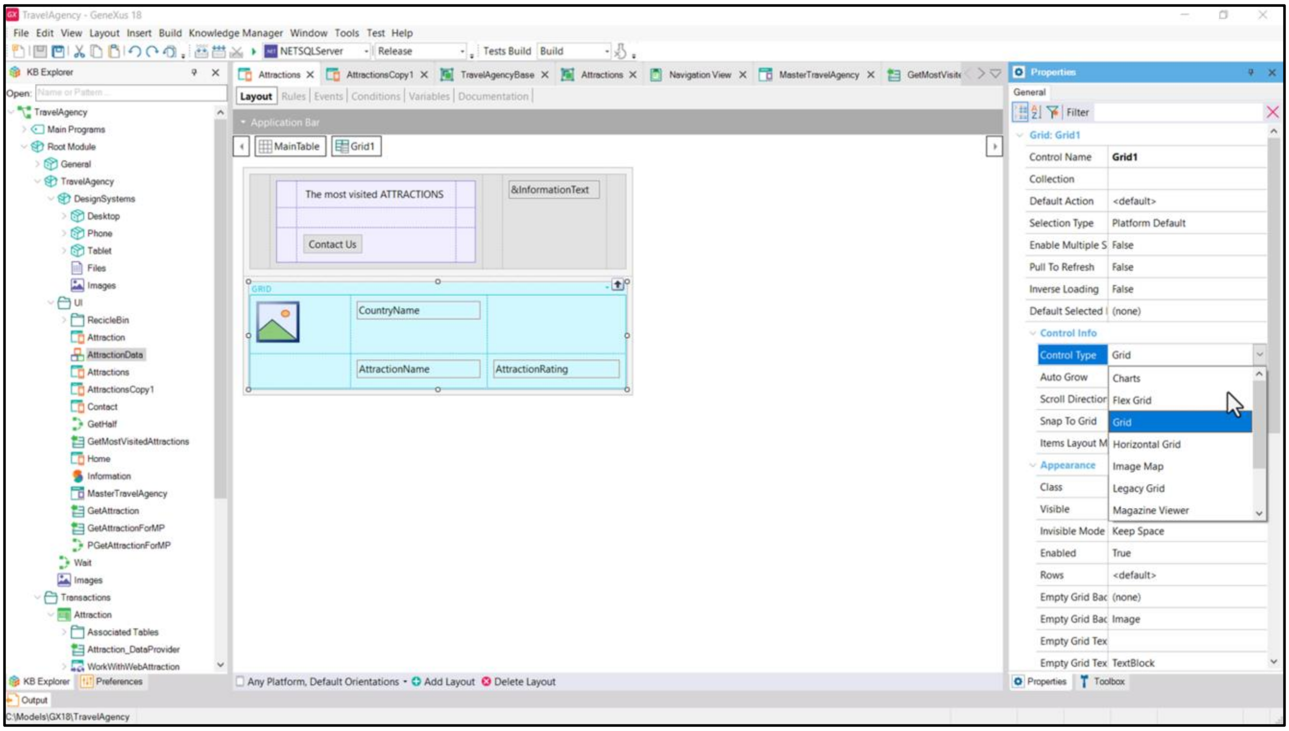
Control Type	Flex Grid
Auto Grow	Charts
Flex Direction	Flex Grid
Flex Wrap	Grid
Justify Content	Horizontal Grid
Align Items	Image Map
Align Content	Legacy Grid

Appearance

	Magazine Viewer
Class	Grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image

If we now look at the **Control Info** section of the grid, we see that here I specified that it is not a common grid, but a **Flex** one. Look at all the options we have.

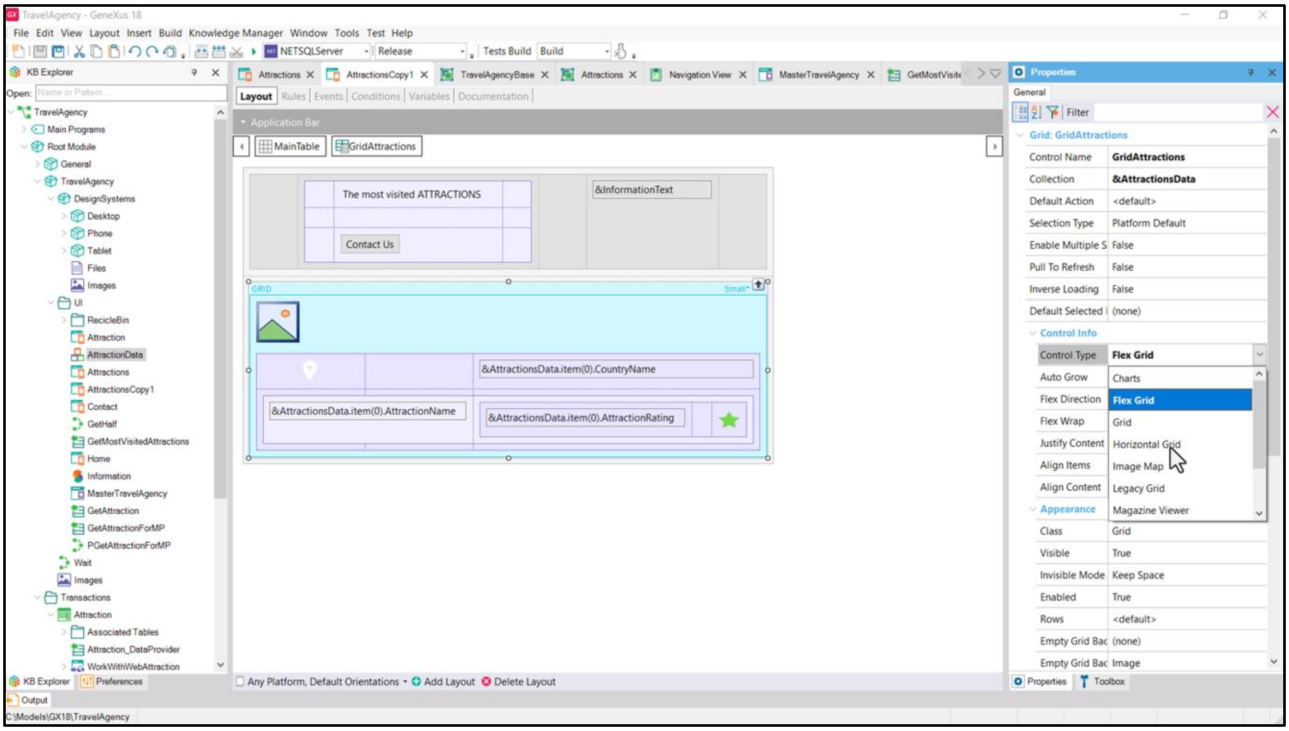
This one corresponds to the default.



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	
Scroll Direction	
Snap To Grid	
Items Layout M	
Appearance	
Class	
Visible	
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock

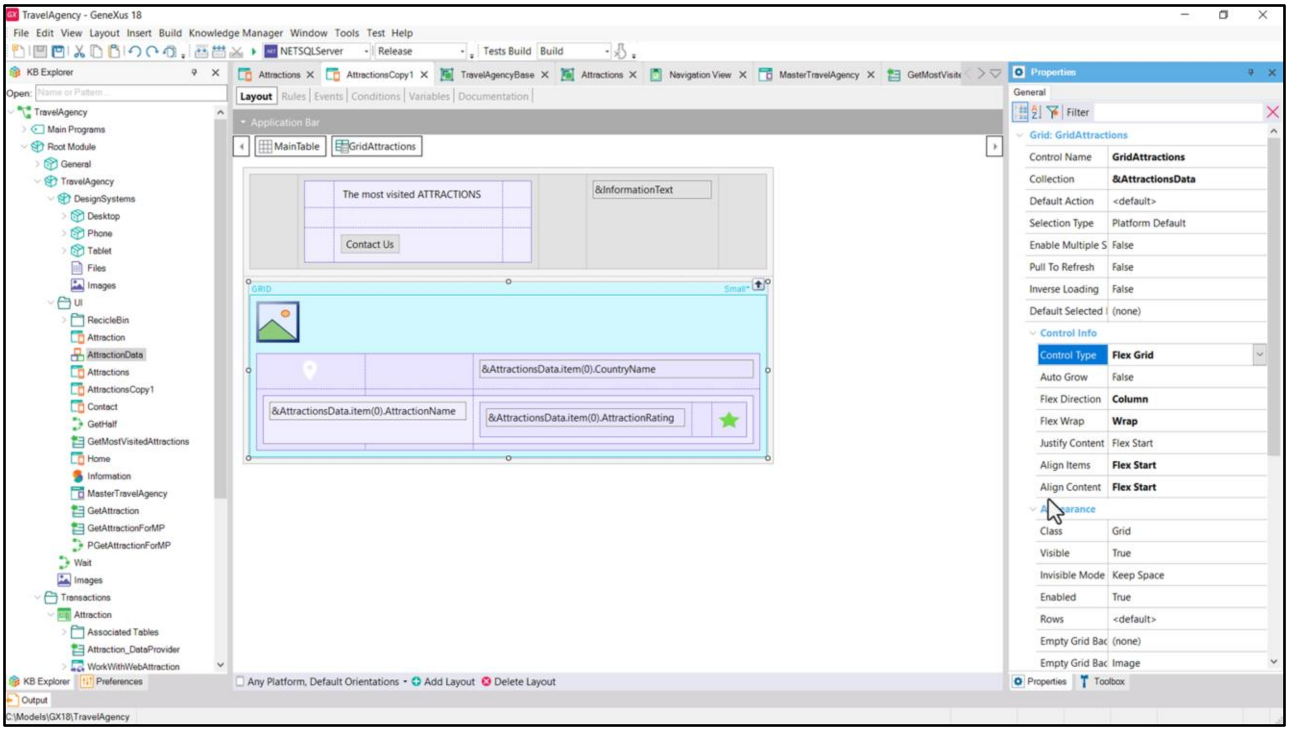
Let's see that of the grid we inserted in Attractions.



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

Here I clearly changed it to **Flex**. But also note that the **Horizontal** one appears, which can be convenient to implement the other carousels.



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

Also note that after choosing the **Flex** grid type, the typical properties of a flex container appear: Flex Direction, Flex Wrap, justification, alignment.

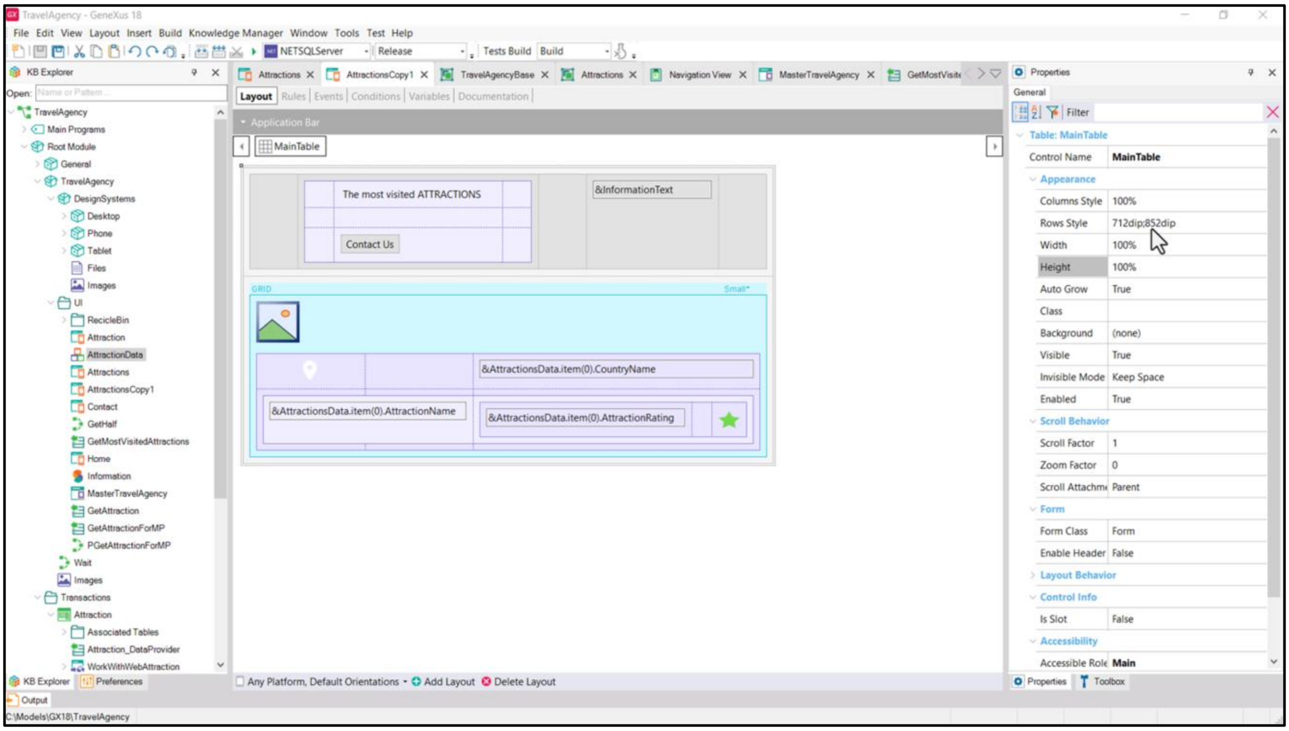


Table: MainTable

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 Attachm Parent

Form

Form Class Form

Enable Header False

Layout Behavior

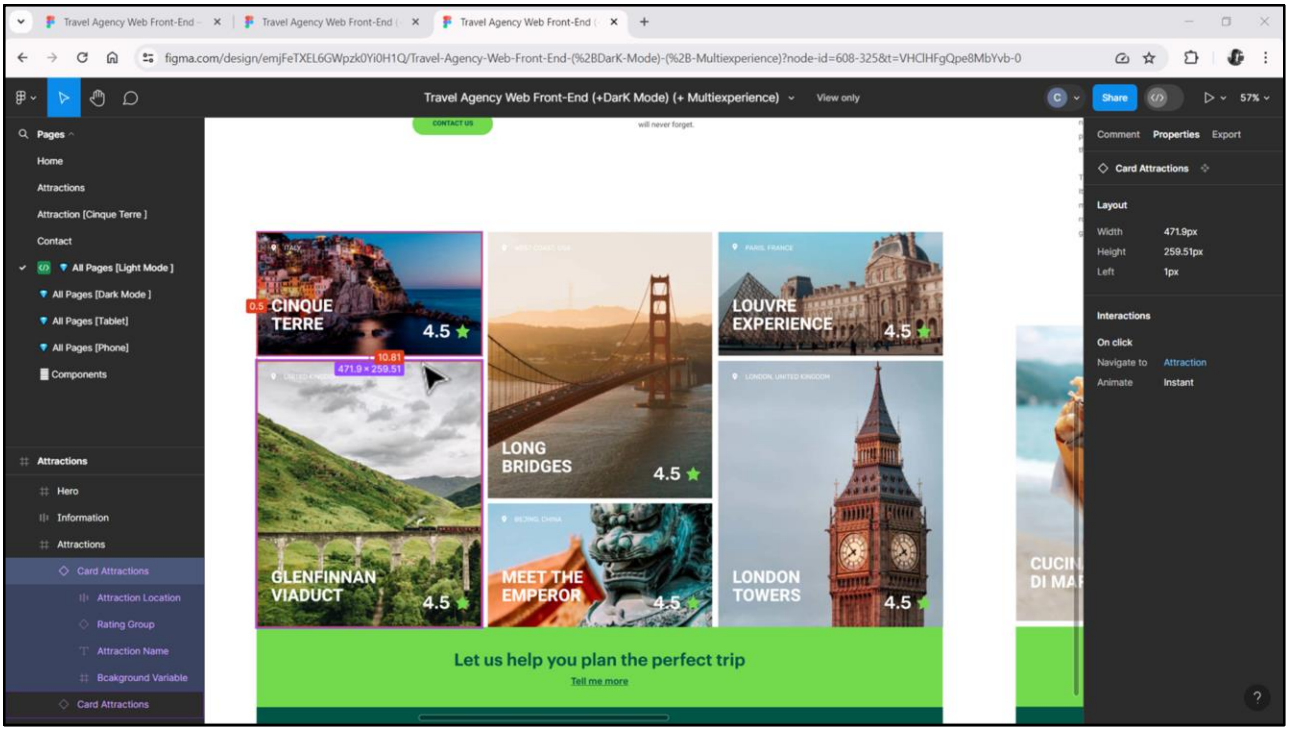
Control Info

Is Slot False

Accessibility

Accessible Role Main

Since the sum of the height of a Small and a Large card is 260 + 560, that is, 820, and the grid has Auto Grow set to false, and the row in which it is located is 852 dips...



Width 471.9px
Height 259.51px
Left 1px

On click
Navigate to Attraction
Animate Instant

...(I don't know why I entered that value, when the space missing from the 820 dips is the spacing of the cards, something I haven't implemented yet, but we can already see that it is 11 pixels; I also have to add, as we will see in the next video, the space of the scroll bar)...

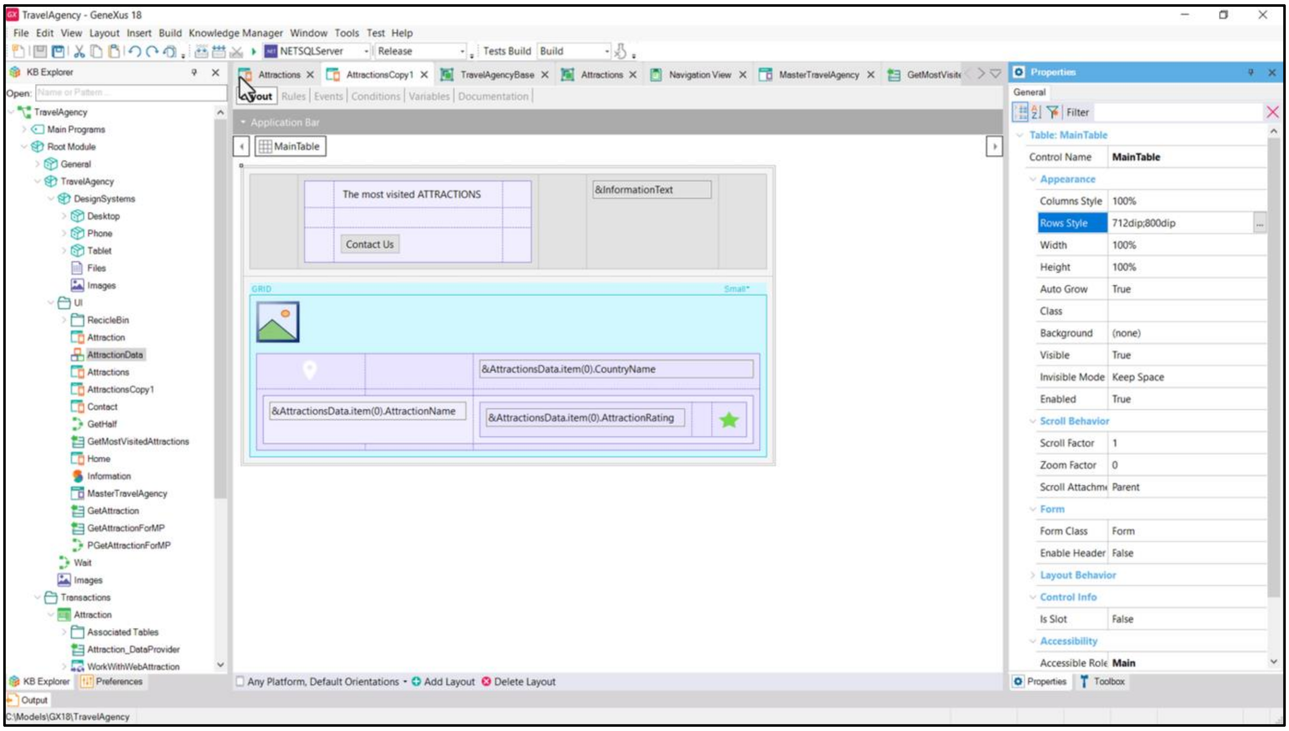
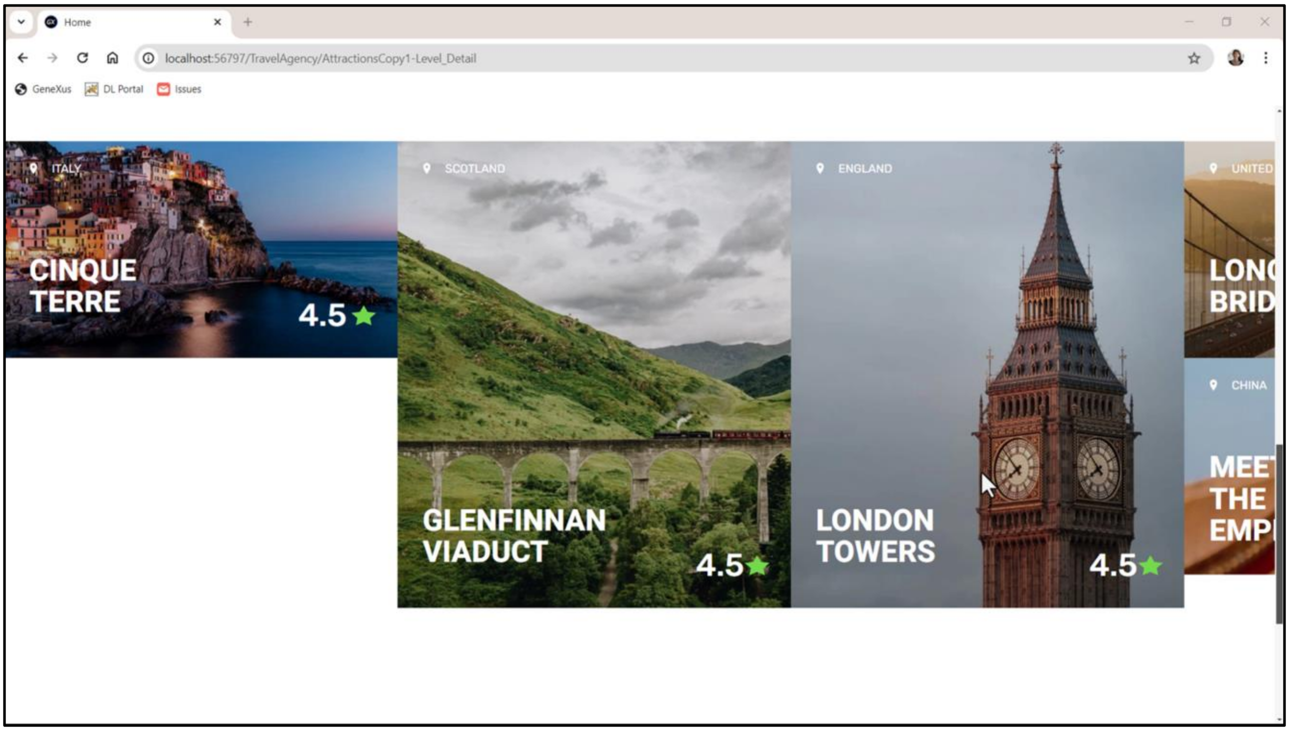


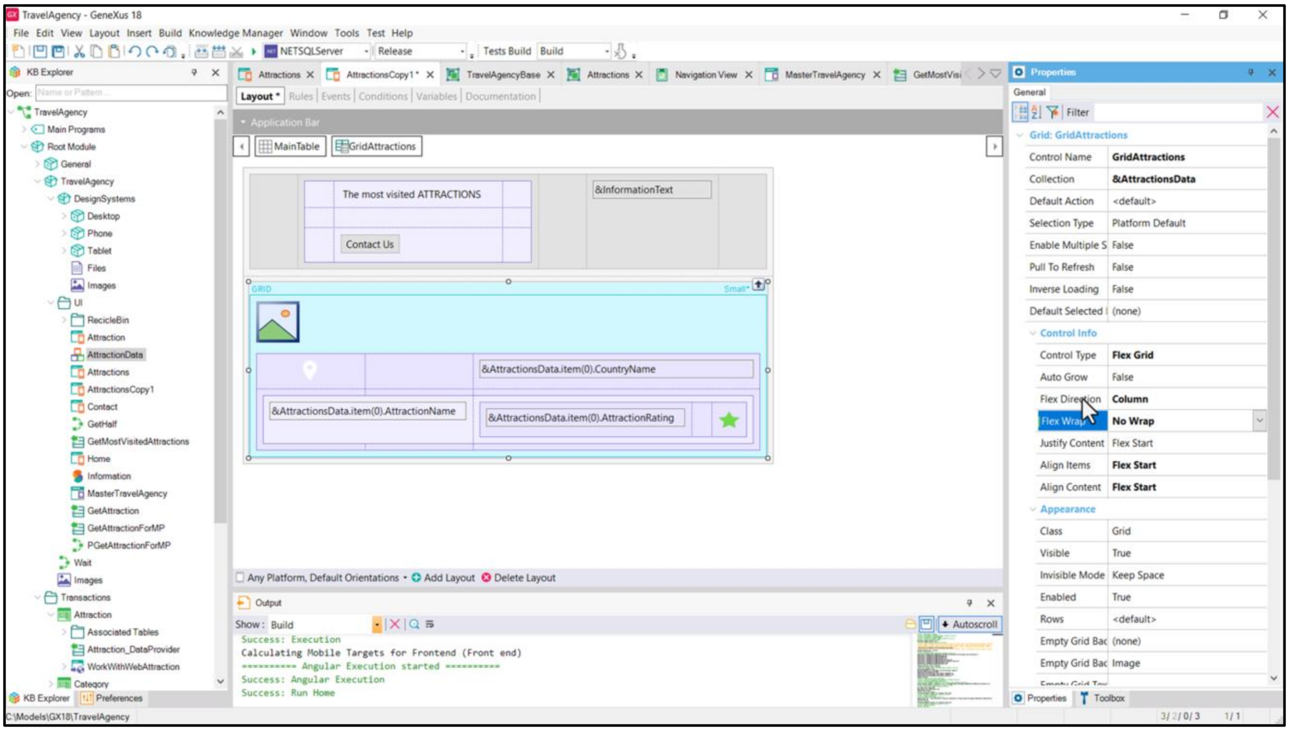
Table: MainTable

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

...but let's see what happens if I set a value lower than the sum of the heights of the cards, such as 800, for example...



There is not enough space to place two cards per column, so this happens...

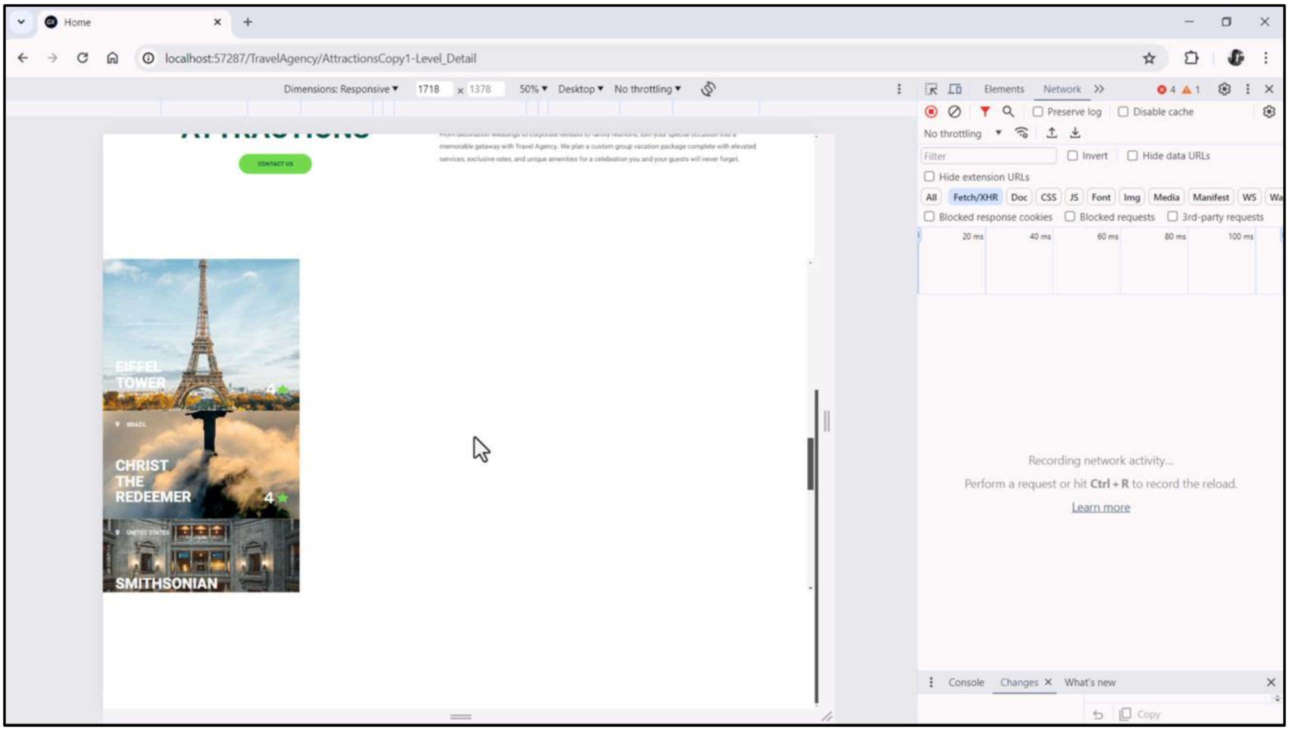


Grid: GridAttractions	
Control Name	**GridAttractions**
Collection	**&AttractionsData**
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	**Flex Grid**
Auto Grow	False
Flex Direction	**Column**
Flex Wrap	**No 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

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

In short, if the Grid doesn’t have Auto Grow, the number of items that will be placed in each column will depend on the height of each item and the height of the cell in which that grid is located.

Remember that the columns are created because of the Wrap. If there were no Wrap there would be a single column, since the direction is Column.


localhost:57287/TravelAgency/AttractionsCopy1-Level_Detail

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

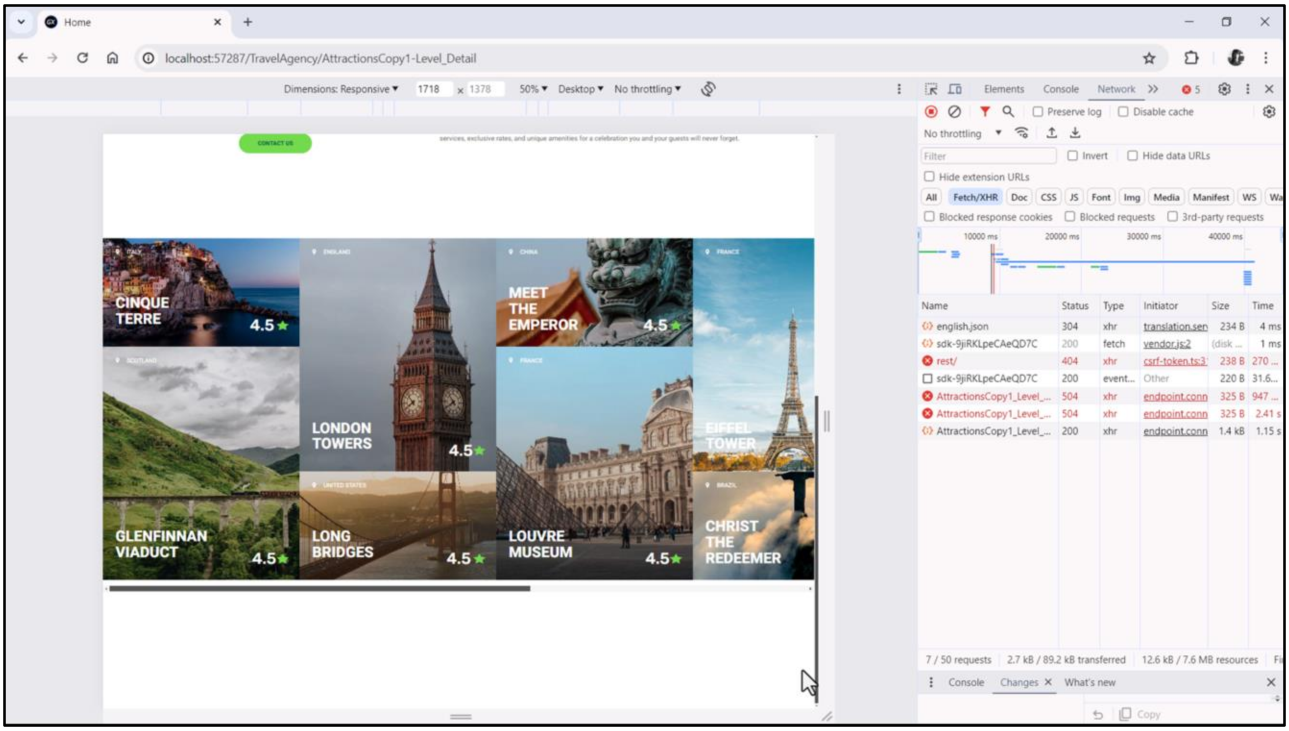
Recording network activity...

Perform a request or hit Ctrl + R to record the reload.

Learn more

I don't know if you notice it, but there is a double scroll bar. I will press F12 to see it better.

We have a vertical scroll bar of the grid. And the scroll bar of the panel.



□ Preserve log □ Disable cache

No throttling

□ 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

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

Console Changes What's new

On the other hand, if the property has Wrap enabled... and we set the row height, for example, to 850 dips, for the moment...
Note that we have the vertical scroll bar of the page and now for the grid a horizontal scroll bar (instead of a vertical one).

And also, of course, 2 cards can be placed in each column.

Well, I'll end this video here so that it doesn't become boring. In the next one, we will see in some detail the implementation of the layout of each card of the grid, and then return to the grid itself.

See you soon.

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