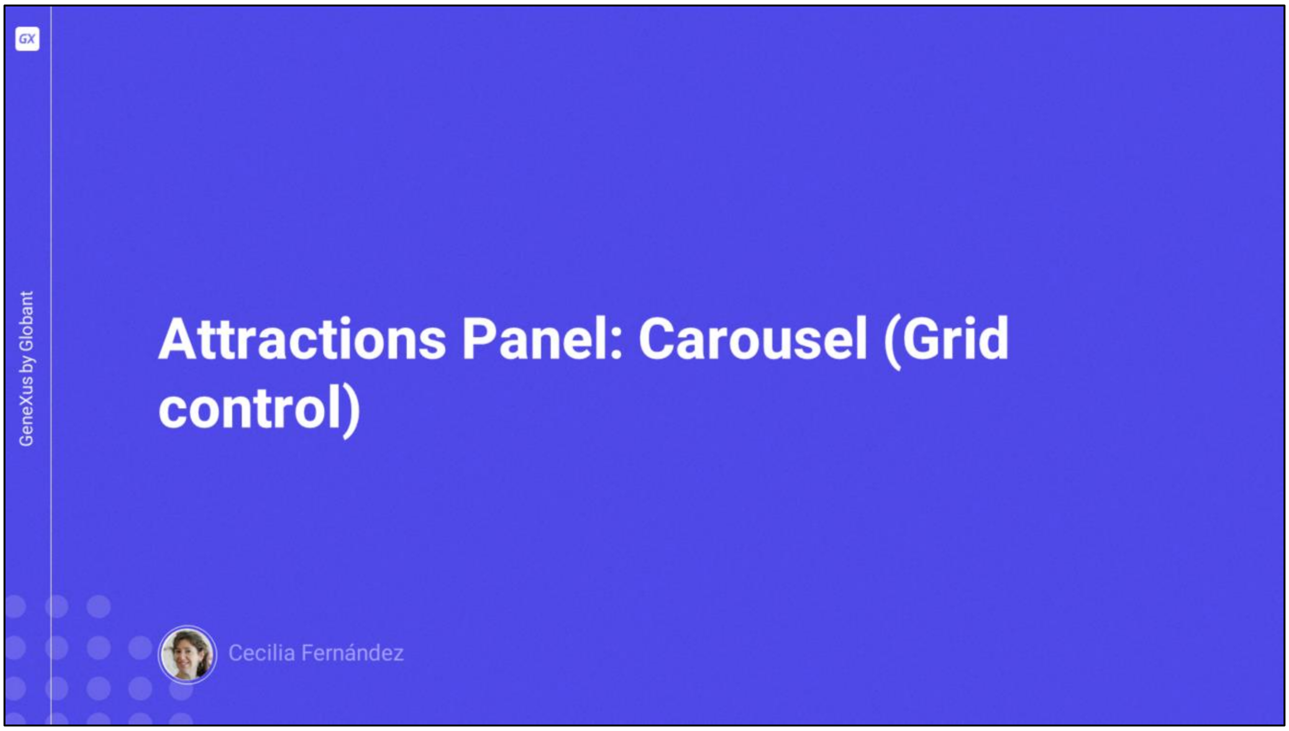
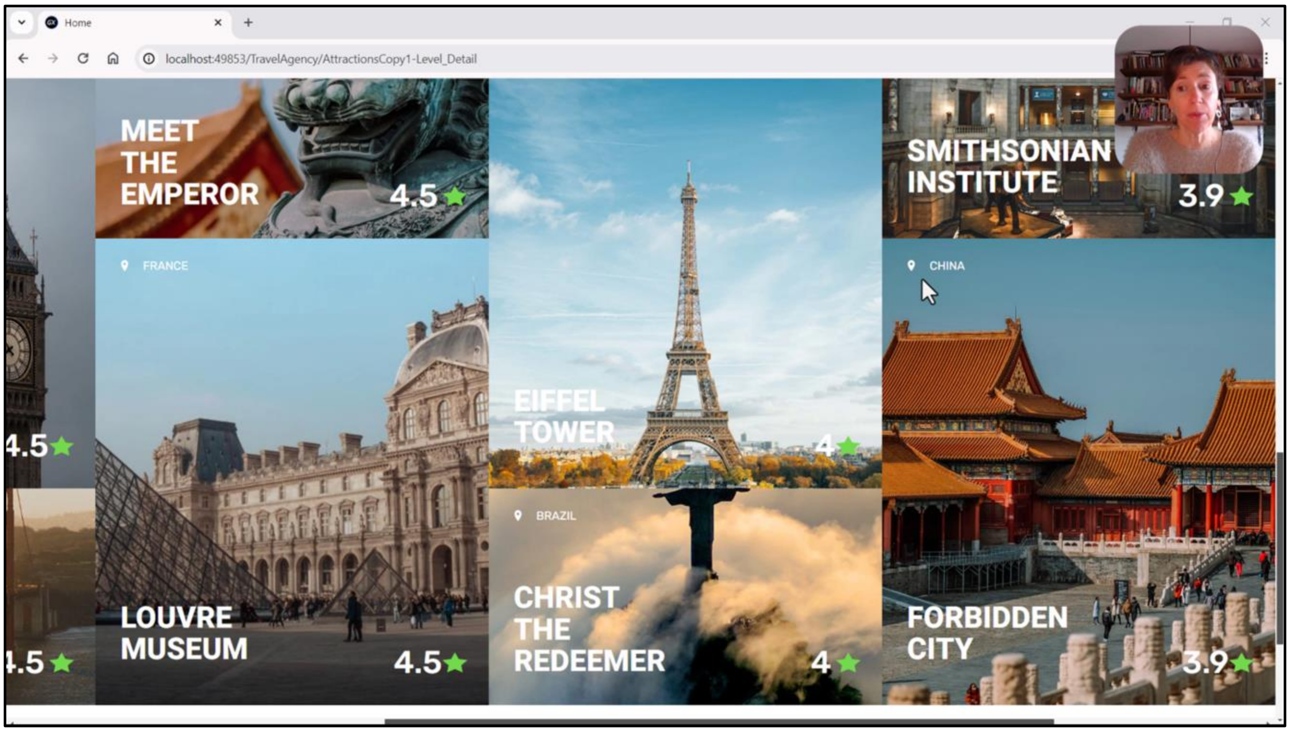


GeneXus by Globant

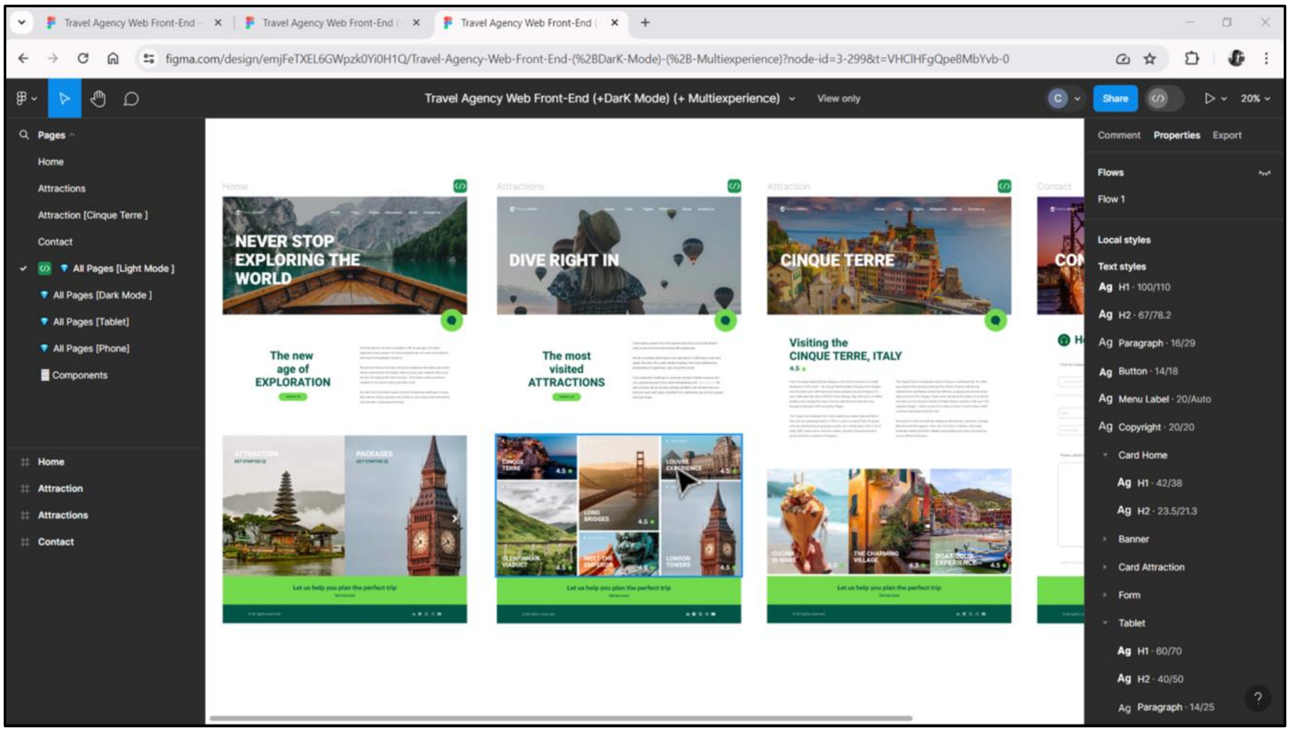
Attractions Panel: Carousel (Grid control)

Cecilia Fernández



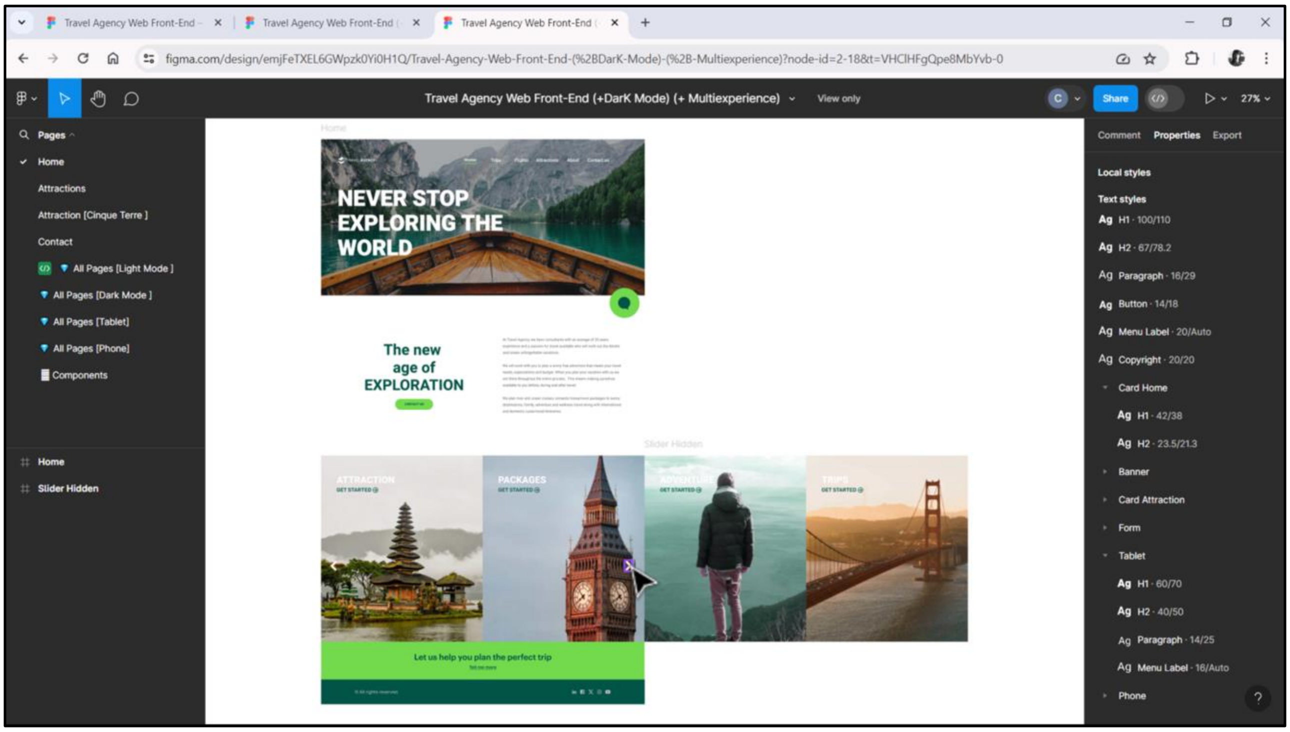
No vídeo anterior, apresentei uma possível implementação inacabada para o carrossel do panel Attractions.

Agora vamos analisá-la em profundidade e pensaremos em outras possibilidades.



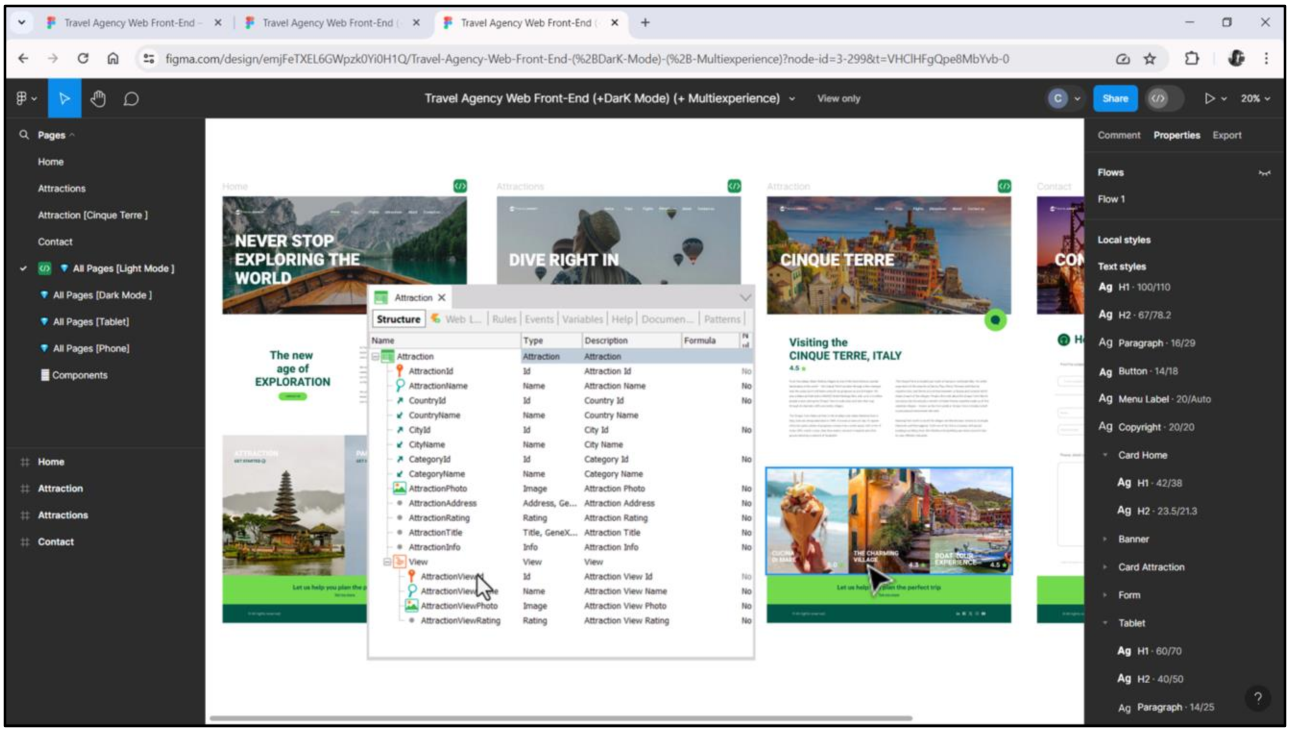
É utilizado um controle grid quando precisamos apresentar informação repetitiva, seja em quantidade fixa ou variável.

Quando a informação a ser apresentada é variável em quantidade, é claro o uso do grid. Este é o nosso caso, em que a informação a ser exibida é a das atrações da base de dados, que é claramente variável.



Mas também é utilizado quando a quantidade é fixa. Por exemplo, para modelar esses cards do panel Home, também utilizaremos um grid, pois, lembrem-se, será composto por 4 cards fixos, onde apenas 2 ficam visíveis na tela por vez.

Neste caso o grid carregará 4 itens de informação, mas cada um com valores fixos, não retirados da base de dados.

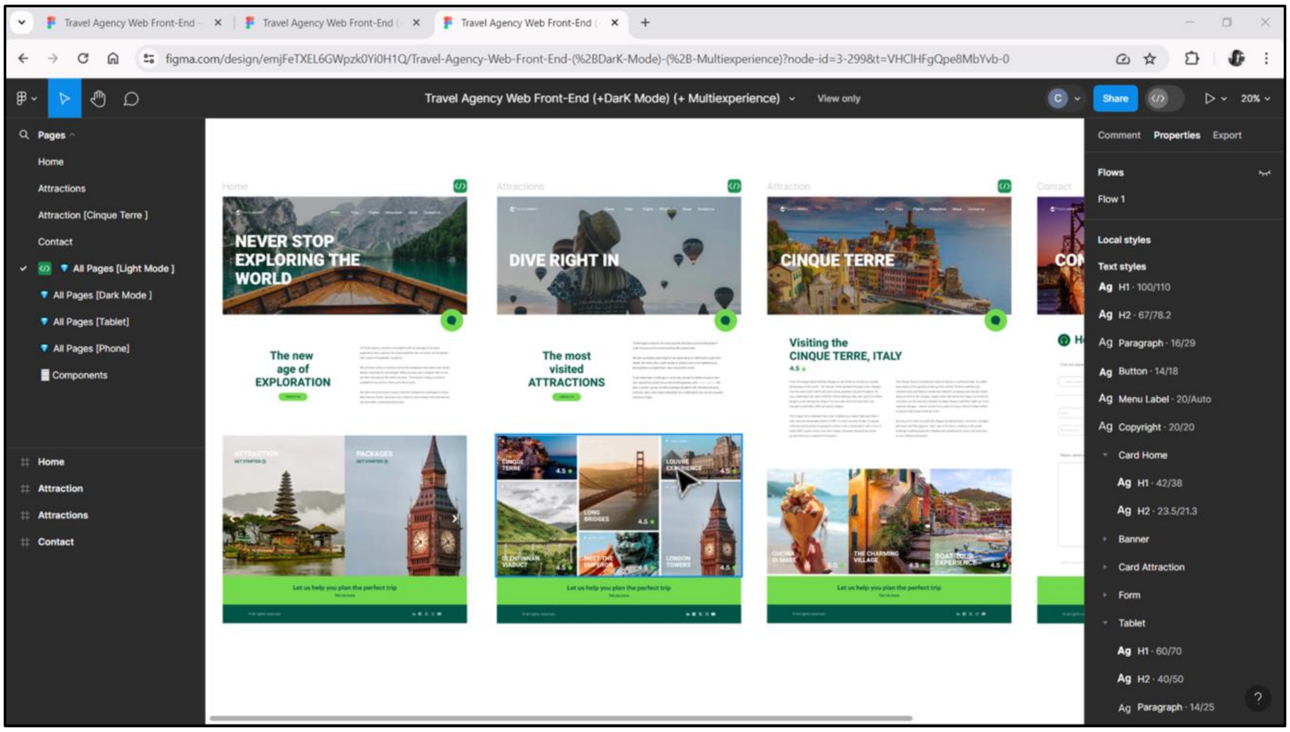


Attraction

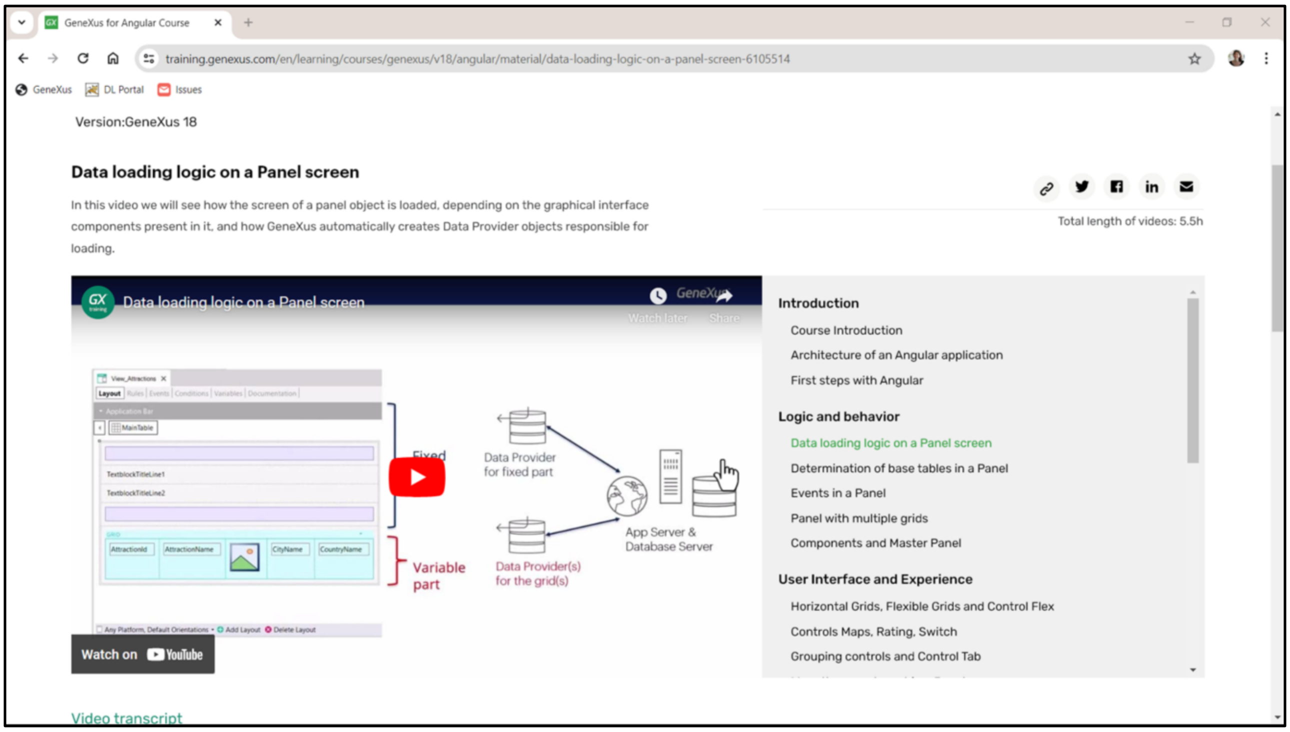
Structure | Web L... | Rules | Events | Variables | Help | Documen... | Patterns

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

O caso de Attraction será mais parecido com o de Attractions, não apenas porque a informação apresentada é quase idêntica em estrutura visual à dos cards maiores deste outro grid, mas também porque é retirada da base de dados. Neste caso, do segundo nível da transação Attraction.



Embora os 3 carrosséis sejam implementados usando grids, terão suas particularidades. Dois deles podem ser pensados como grids do tipo **grid horizontal**, enquanto o que vamos estudar agora será do 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.

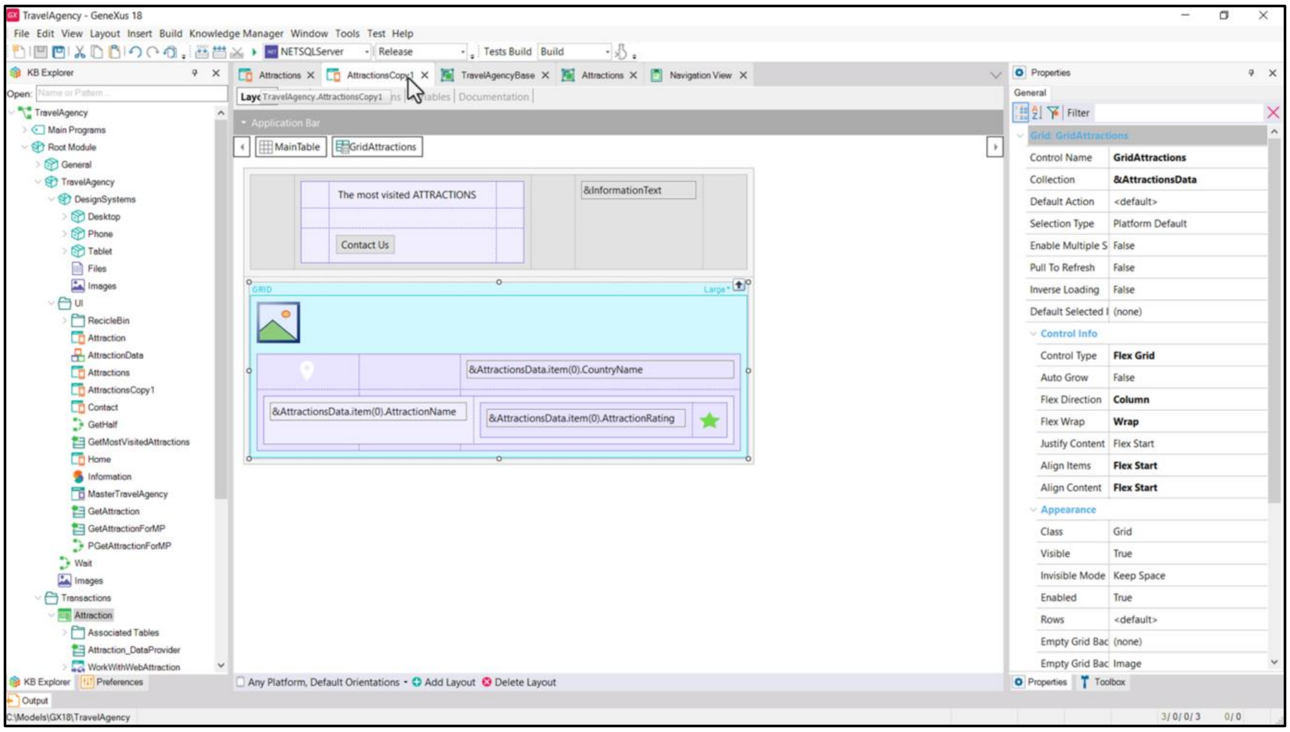
Total length of videos: 5.5h

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

Introduction
Course Introduction
Architecture of an Angular application
First steps with Angular
Logic and behavior
Data loading logic on a Panel screen
Determination of base tables in a Panel
Events in a Panel
Panel with multiple grids
Components and Master Panel
User Interface and Experience
Horizontal Grids, Flexible Grids and Control Flex
Controls Maps, Rating, Switch
Grouping controls and Control Tab

Video transcript

No curso de GeneXus para Angular, vocês têm esse primeiro vídeo bem curto que fala sobre a relação de um grid com atributos da base de dados e a carga automática desse grid. Para quem nunca viu nada disso, recomendo parar aqui e assistir.

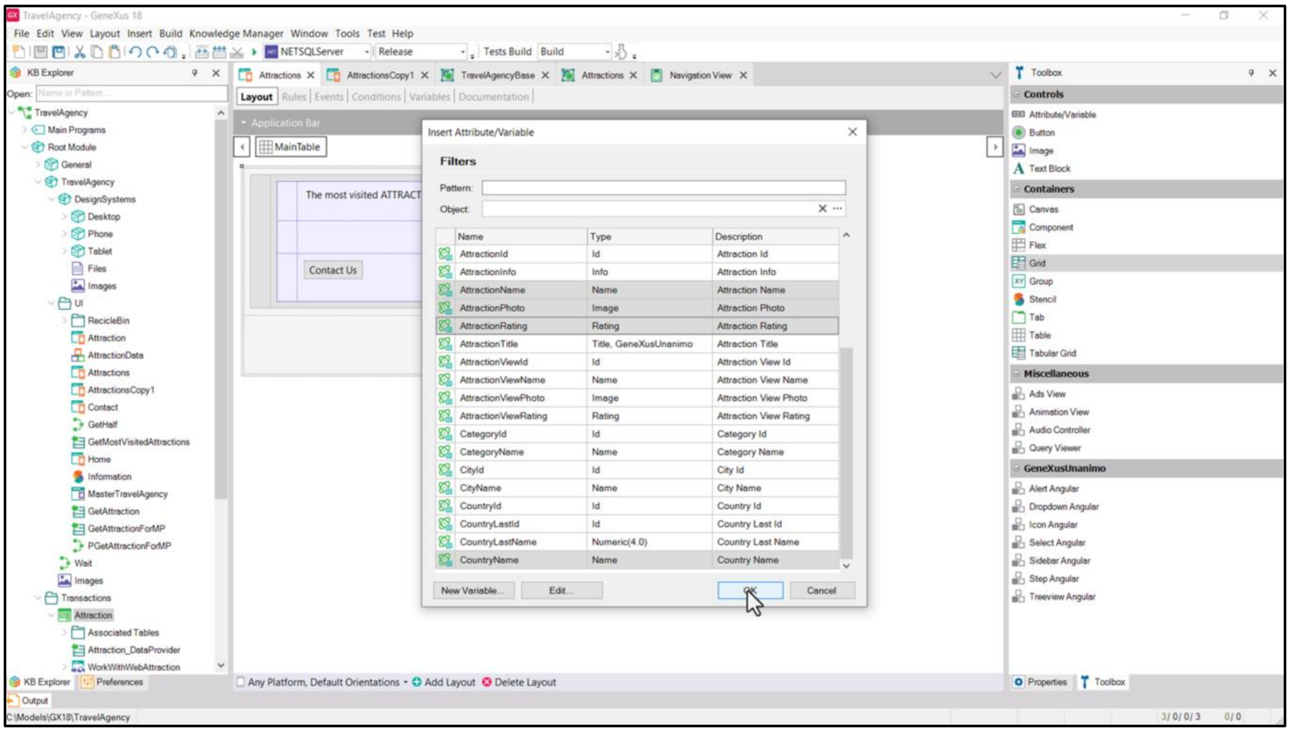


Grid: GridAttractions	
Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column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

Na KB eu já havia implementado uma primeira versão deste grid, na cópia do panel Attractions.

Vou fazer isso com vocês agora em detalhes, para explicar as questões mais relevantes do ponto de vista do frontender.

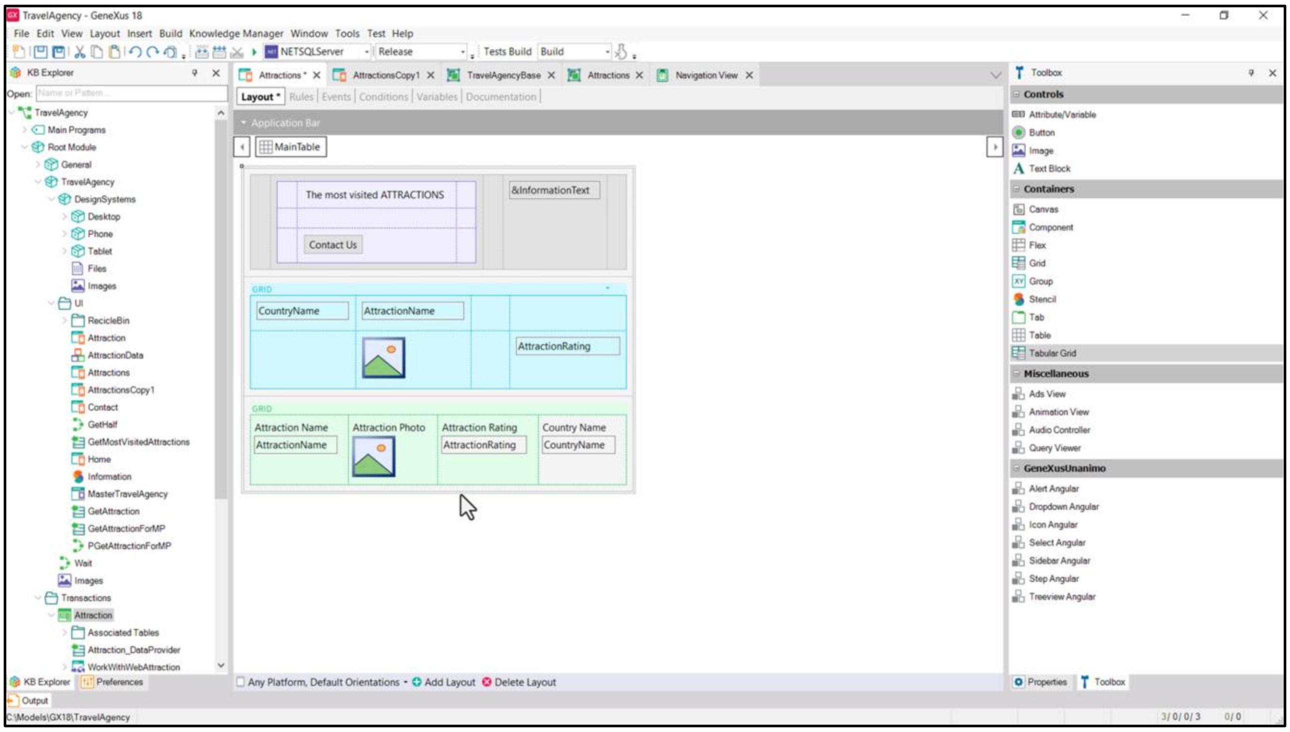
Esta área em que entramos tem de User Interface e também de codificação.



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

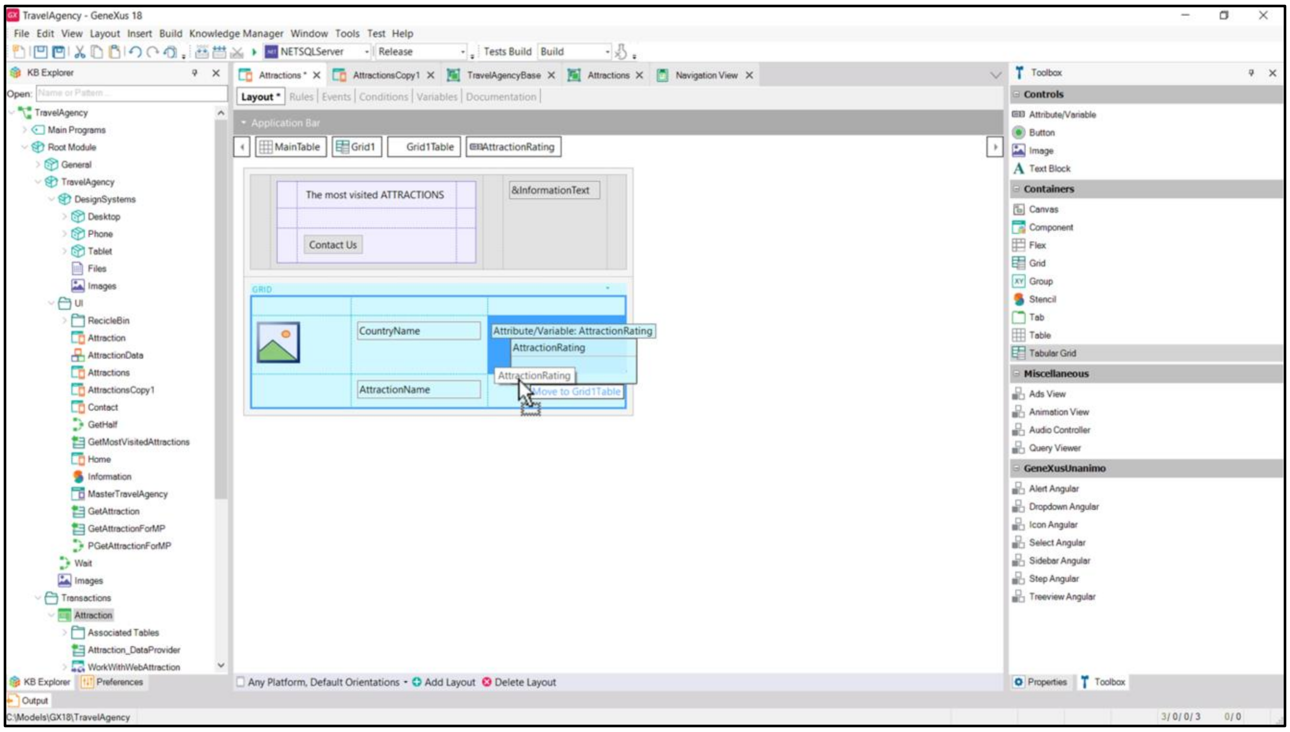
Vou começar inserindo um grid na segunda linha de Attractions. É aberta esta janela para selecionar atributos e/ou variáveis que queremos que façam parte de cada item que o grid irá apresentar.

Poderia selecionar, por exemplo, para o nosso caso, CountryName, AttractionName, AttractionPhoto, AttractionRating.

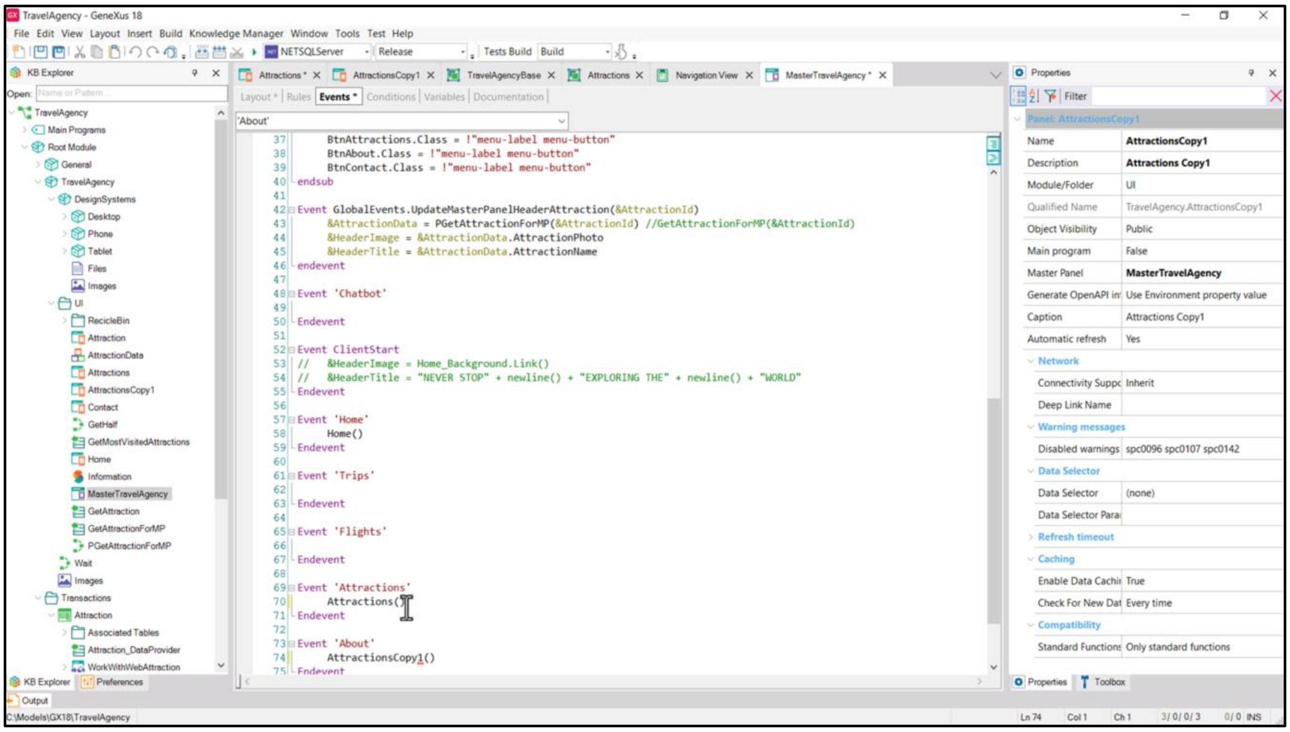


Vejamos que colocou os 4 atributos um ao lado do outro, em 4 colunas, mas podemos reacomodar os elementos como quisermos. Diferentemente do que acontece com grid tabulares, nos quais há apenas colunas e não é possível fazer essa outra coisa.

Vamos escolher o primeiro caso, claramente.



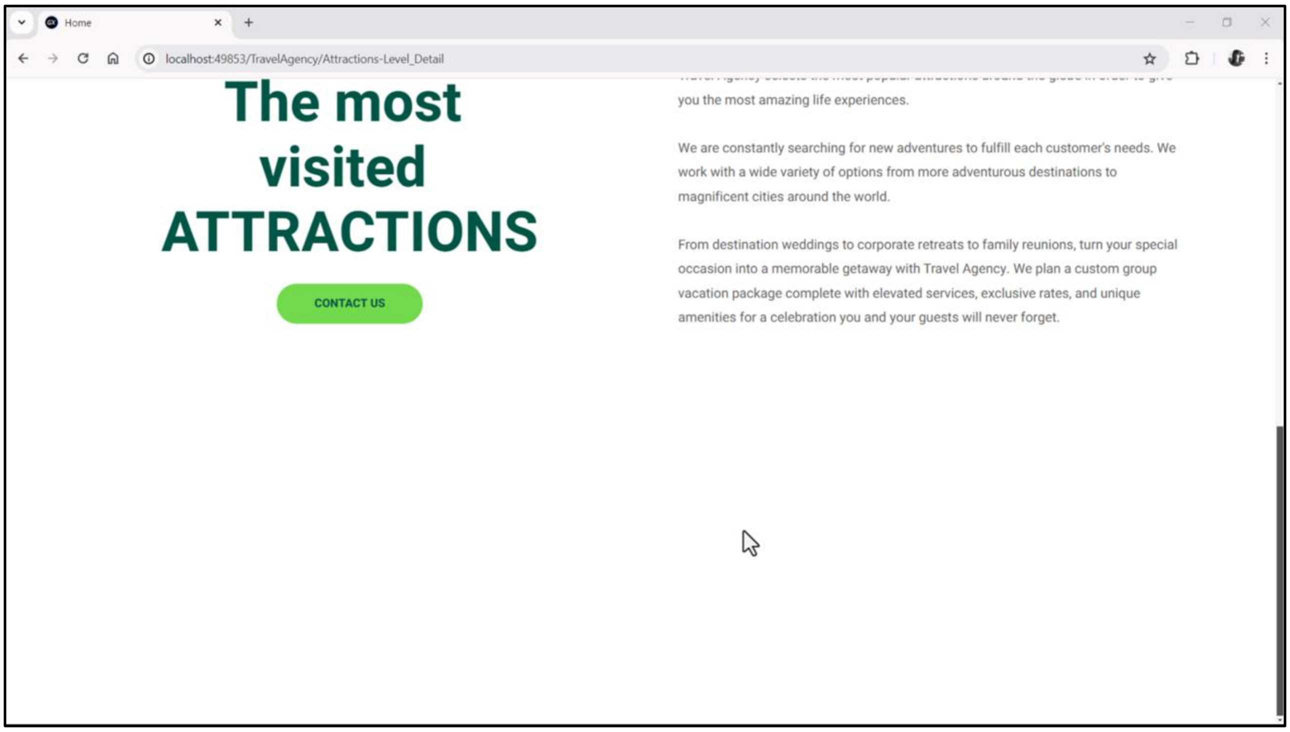
Reacomodo os elementos conforme quero que eles apareçam.



```
        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
```

E agora quero executar.

Então no Master Panel… no evento associado ao botão Attractions… descomento a invocação para o panel que estamos construindo… e a invocação para a cópia que já tem o grid avançado coloco para o botão About, provisoriamente.

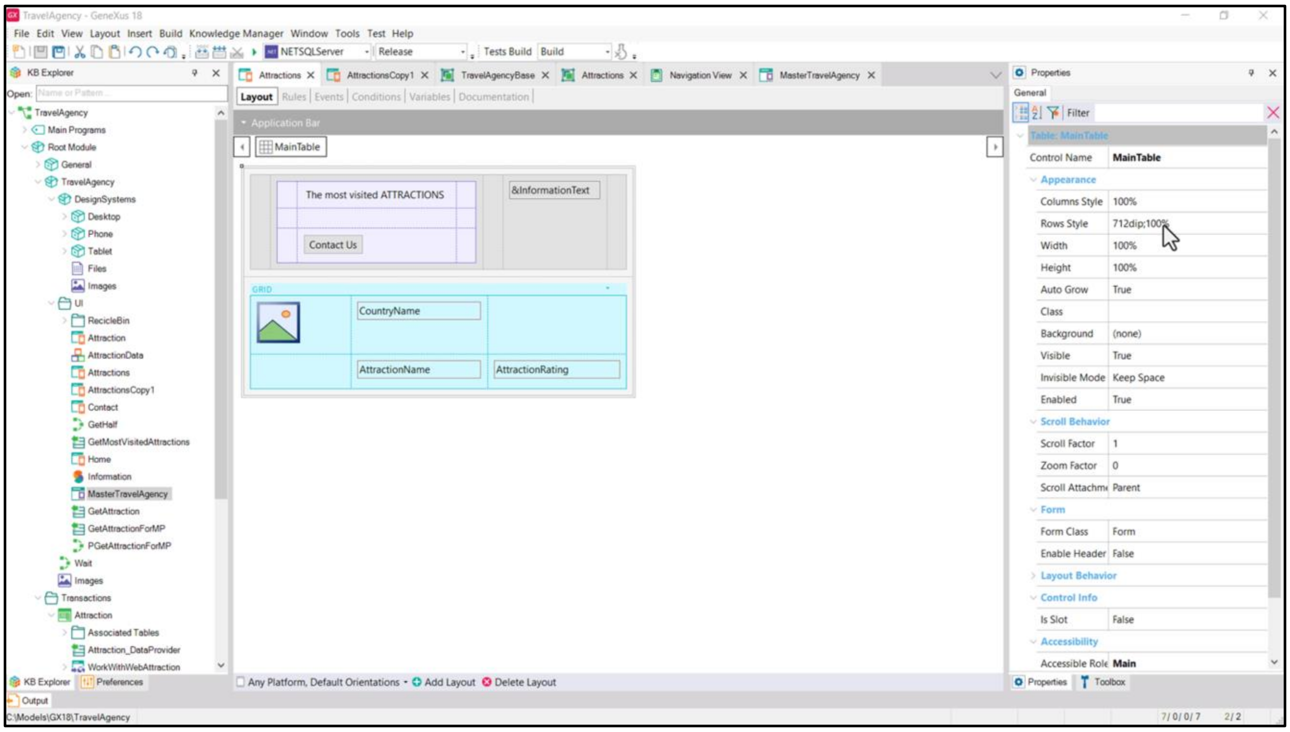

Home
localhost:49853/TravelAgency/Attractions-Level_Detail
The most visited ATTRACTIONS
CONTACT US

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.

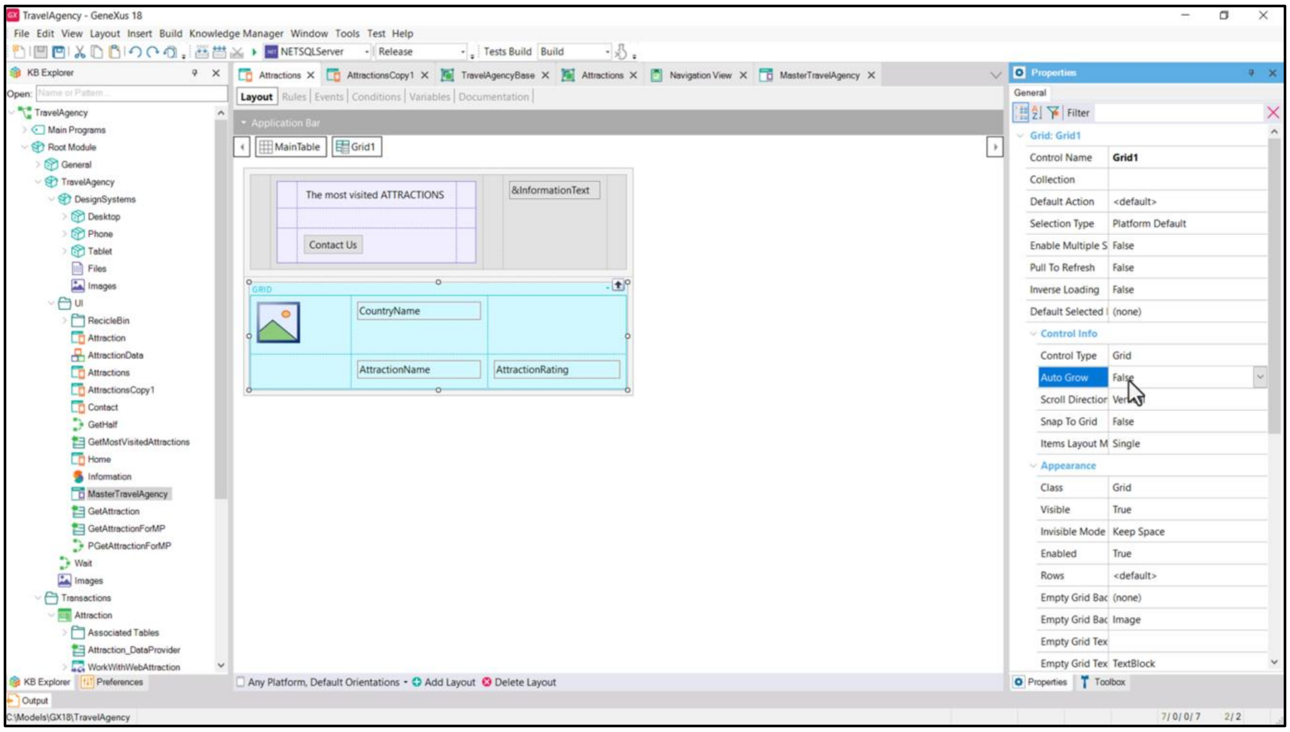
From destination weddings to corporate retreats to family reunions, turn your special occasion into a memorable getaway with Travel Agency. We plan a custom group vacation package complete with elevated services, exclusive rates, and unique amenities for a celebration you and your guests will never forget.

Não se vê nada em execução. Por quê?



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

Antes de mais nada, vejamos o tamanho da linha na qual o grid está localizado. 100% da altura restante de tirar 712 dips. Obviamente aqui não está o 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	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

Entre as propriedades do Grid, vemos que tem a Auto Grow definida como False, então não crescerá conforme seu conteúdo cresce.

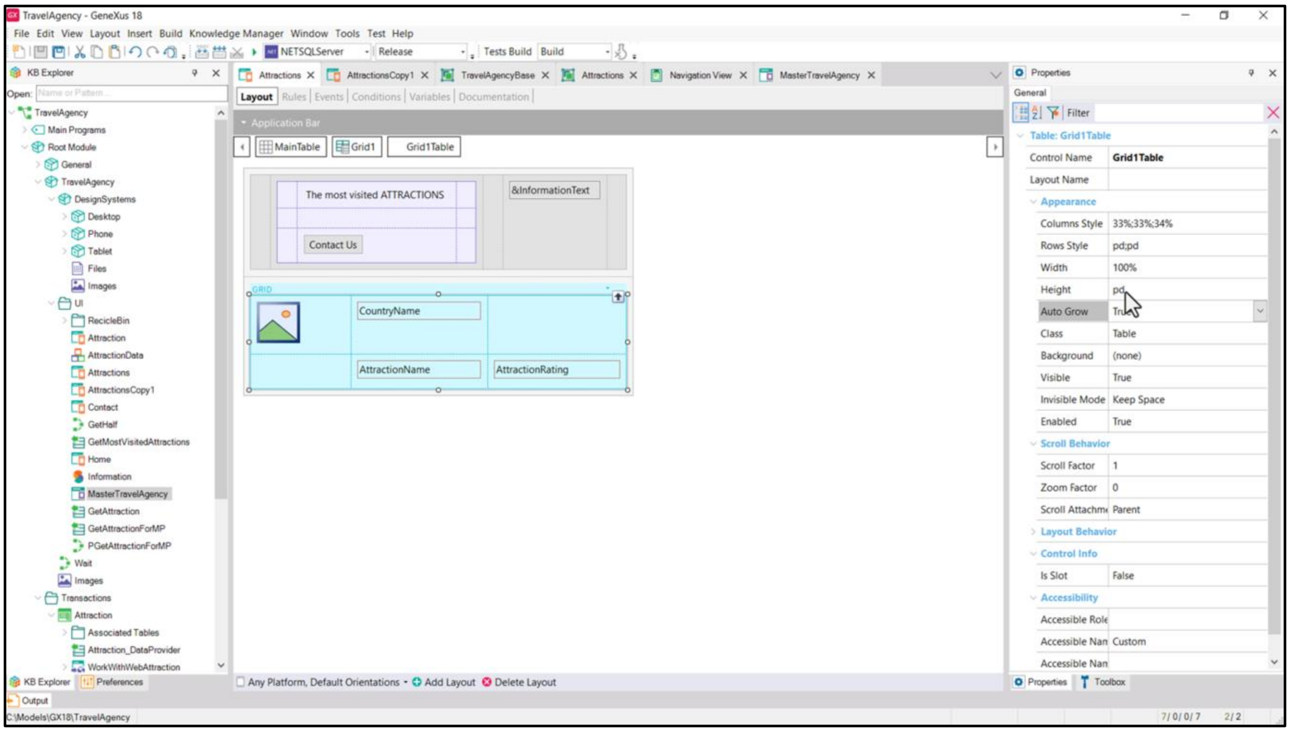
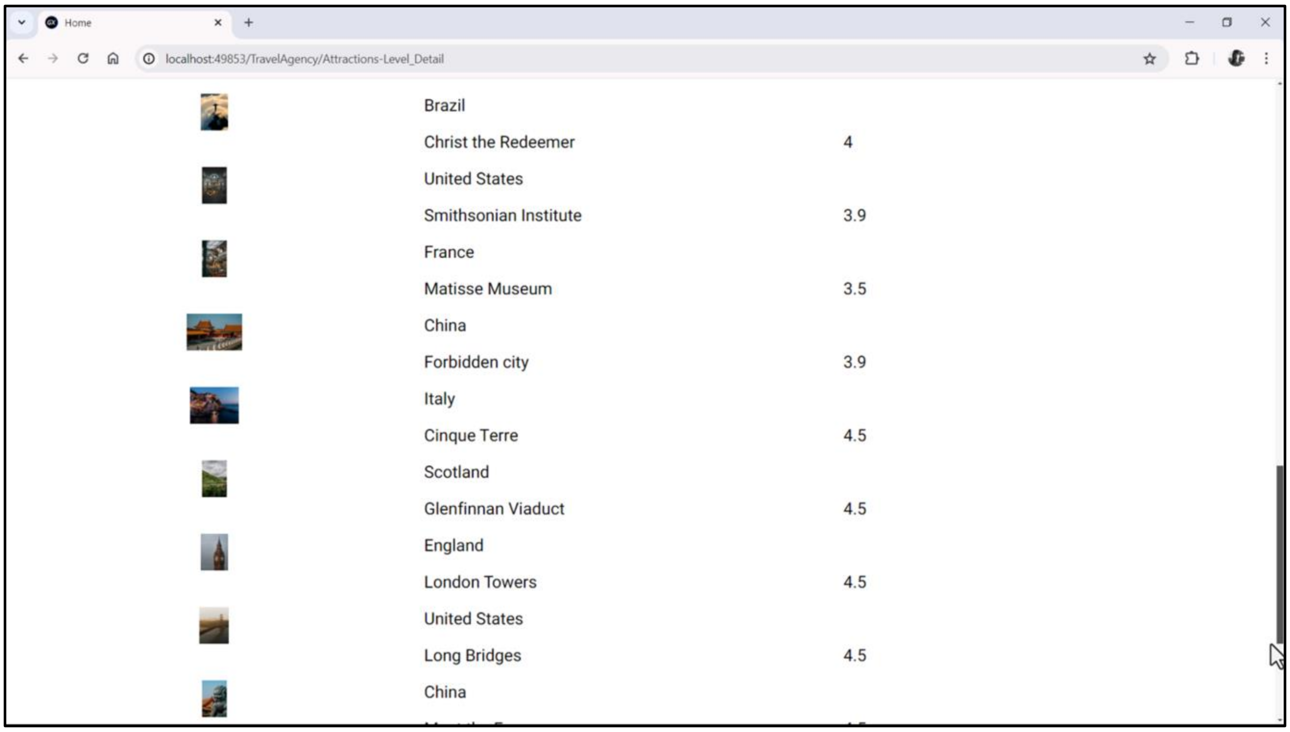


Table: Grid1Table

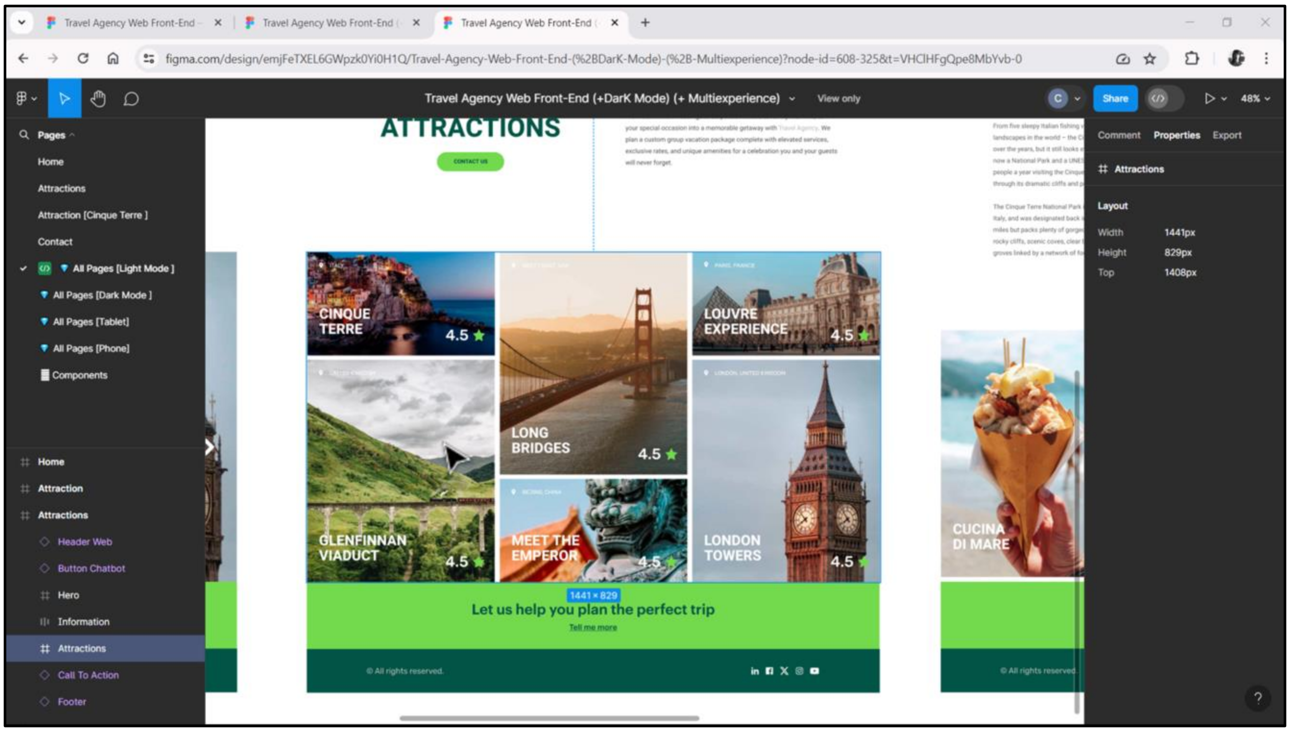
Control Name	Grid1Table
Layout Name	
Appearance	
Columns Style	33%;33%;34%
Rows Style	pd;pd
Width	100%
Height	pd
Auto Grow	True
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Layout Behavior	
Control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

E se analisarmos cada item de seu conteúdo, veremos que será modelado como esta tabela, que possui 3 colunas e duas linhas, e que tem configurada como altura “platform default”. E mesmo que tenha Auto Grow em true, como o grid não o tem, não será aplicado.

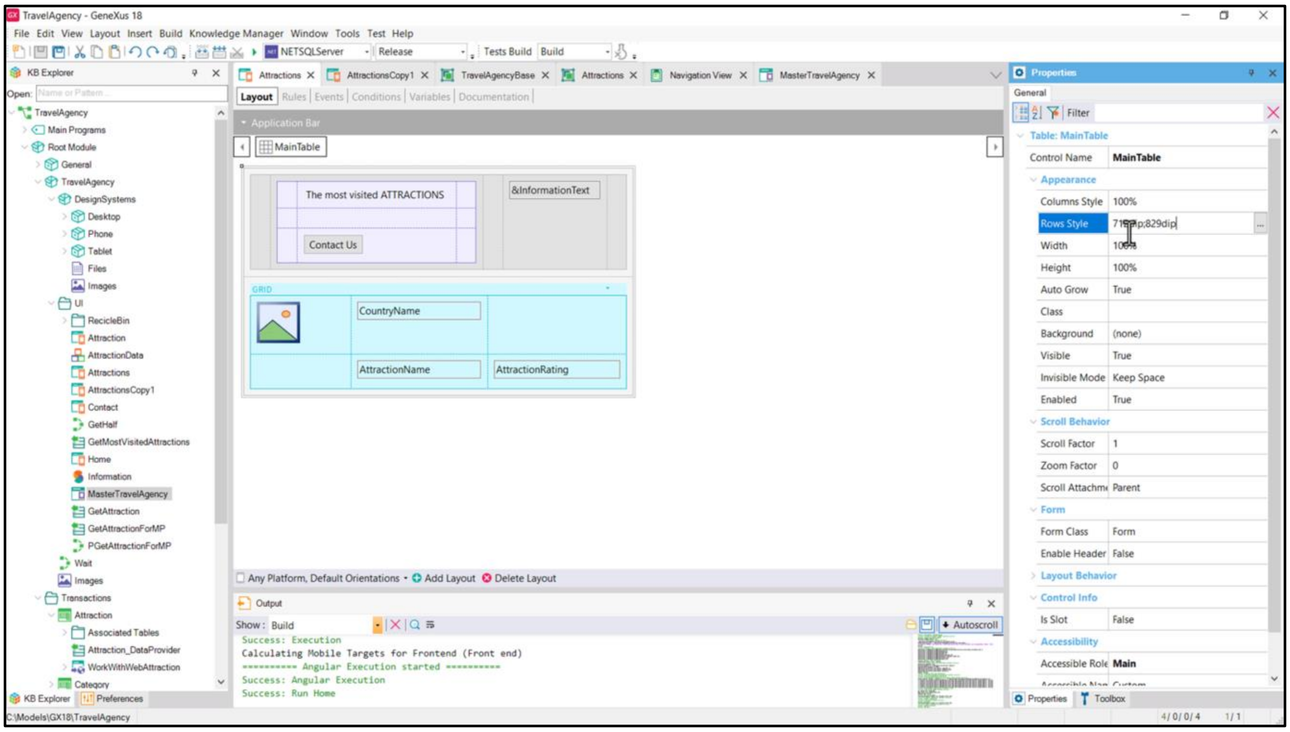

localhost:49853/TravelAgency/Attractions-Level_Detail

	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	

Observemos o que acontece se alterarmos para True o Auto Grow do grid…



Não queremos um grid com Auto Grow, porque na verdade queremos um carrossel que tenha um scroll horizontal. A altura terá que ser fixa.

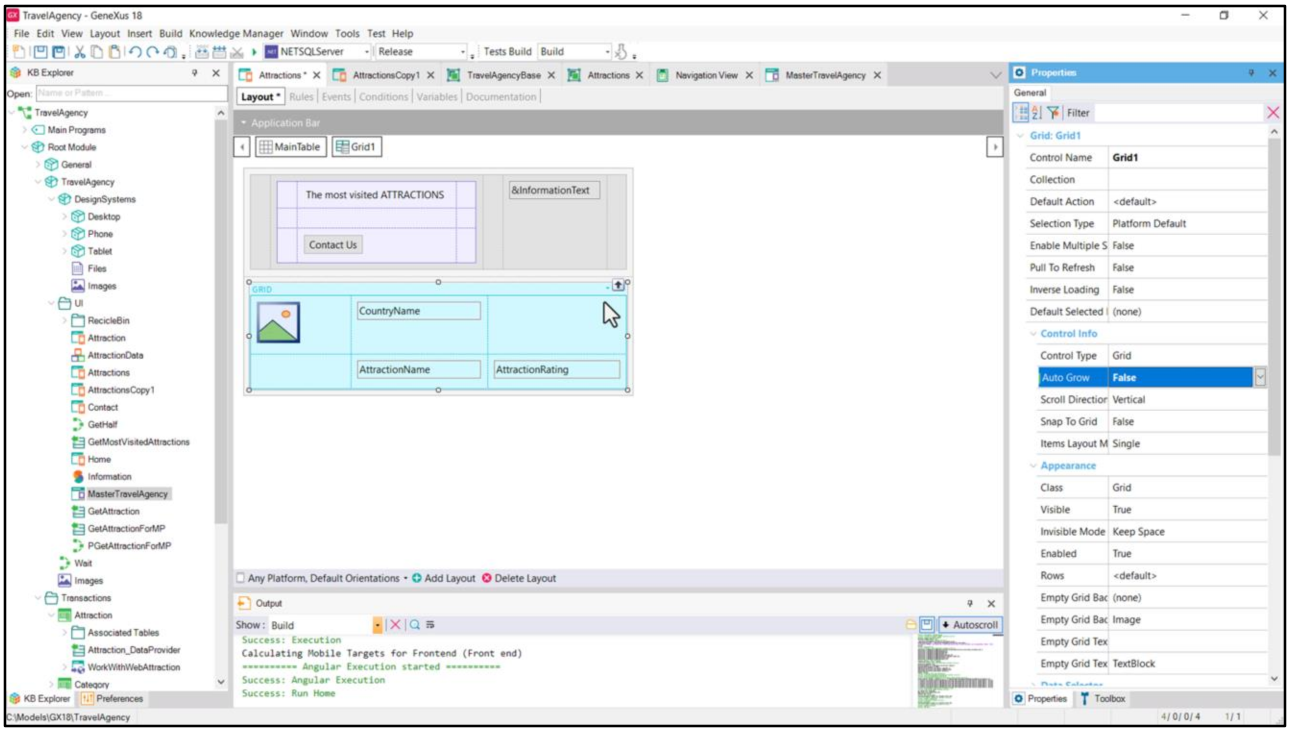


```
Success: Execution
Calculating Mobile Targets for Frontend (Front end)
========== Angular Execution started ==========
Success: Angular Execution
Success: Run Home
```

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

Então defino essa altura para a linha em que o grid está…


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
Attractions* AttractionsCopy1 TravelAgencyBase Attractions Navigation View MasterTravelAgency
Layout* Rules Events Conditions Variables Documentation
Application Bar
MainTable Grid1
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
CountryName
AttractionName
AttractionRating
Any Platform, Default Orientations Add Layout Delete Layout
Output
Properties
Toolbox

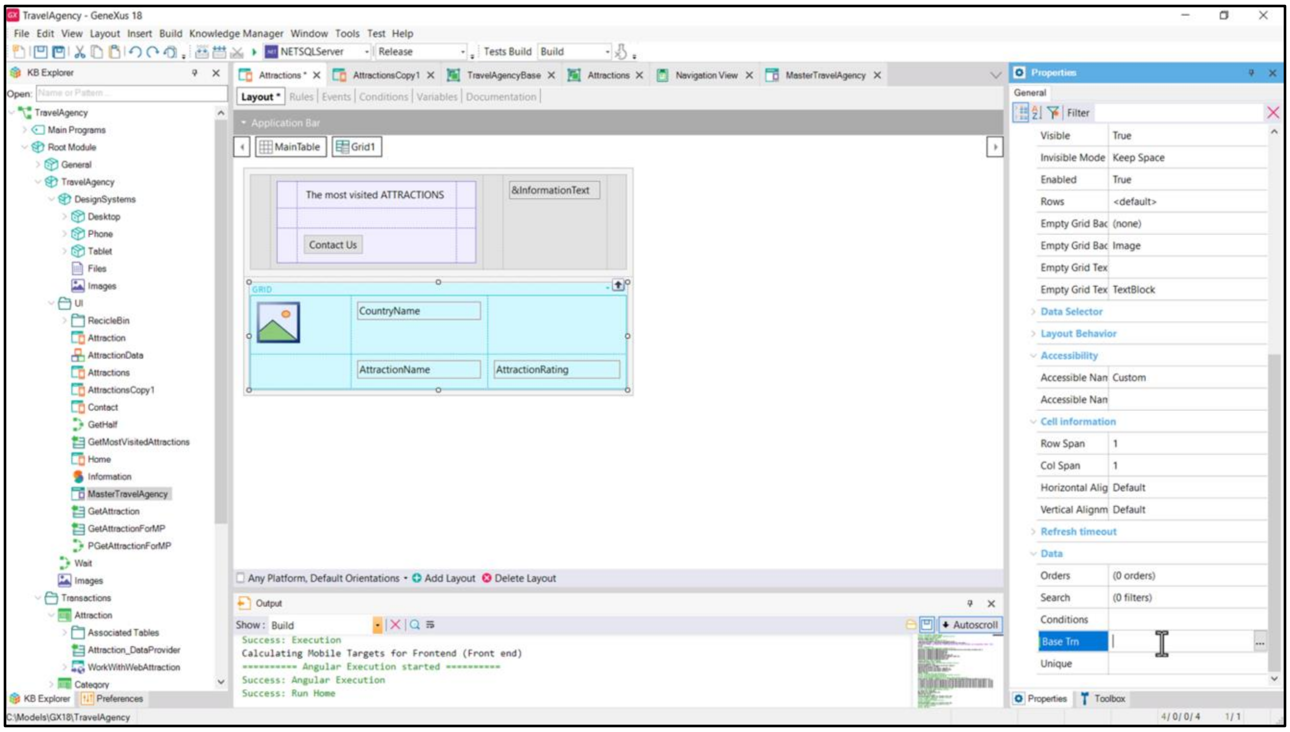
Grid: Grid1

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
```

…e deixo o Auto Grow do Grid em False.

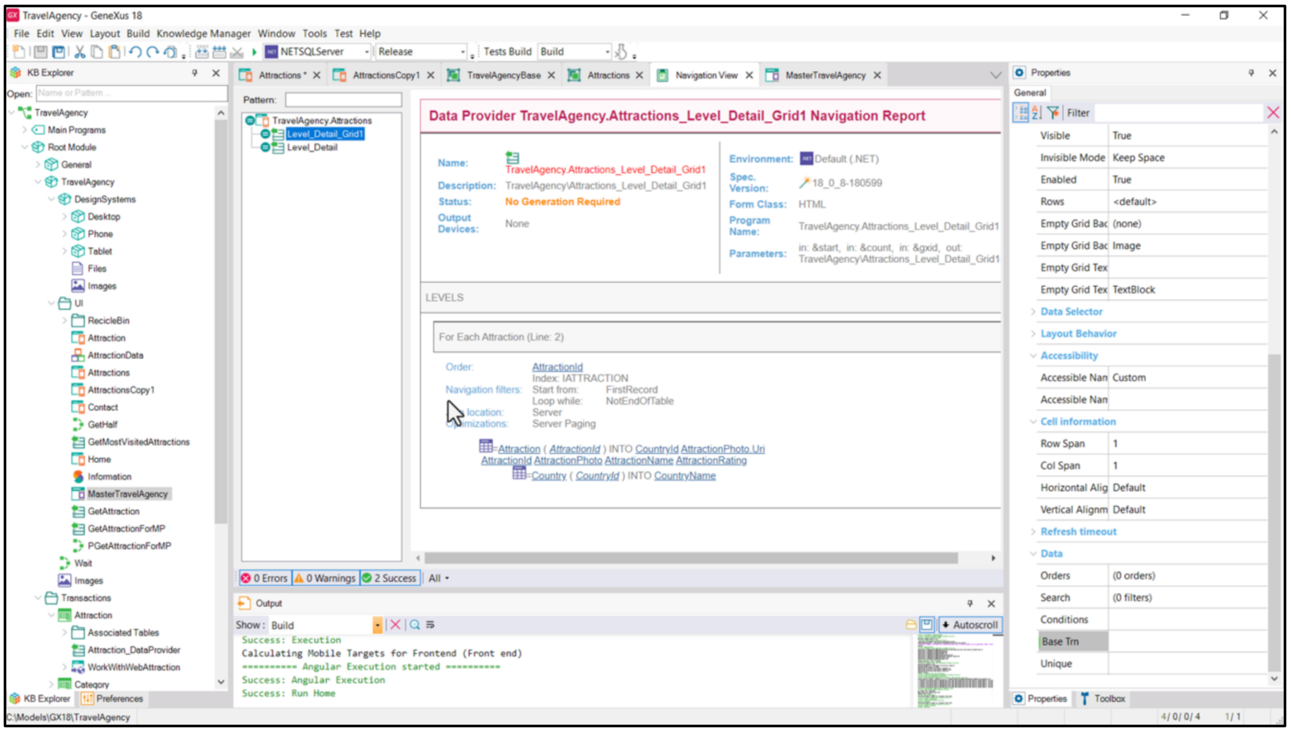
Terei que trabalhar com cuidado os tamanhos desta tabela.



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	

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

O que podemos ver até agora é que utilizando atributos a carga do grid já é automática. É um grid com tabela base Attraction. Nem precisei explicitar nesta propriedade. Inferiu isso sozinho.



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

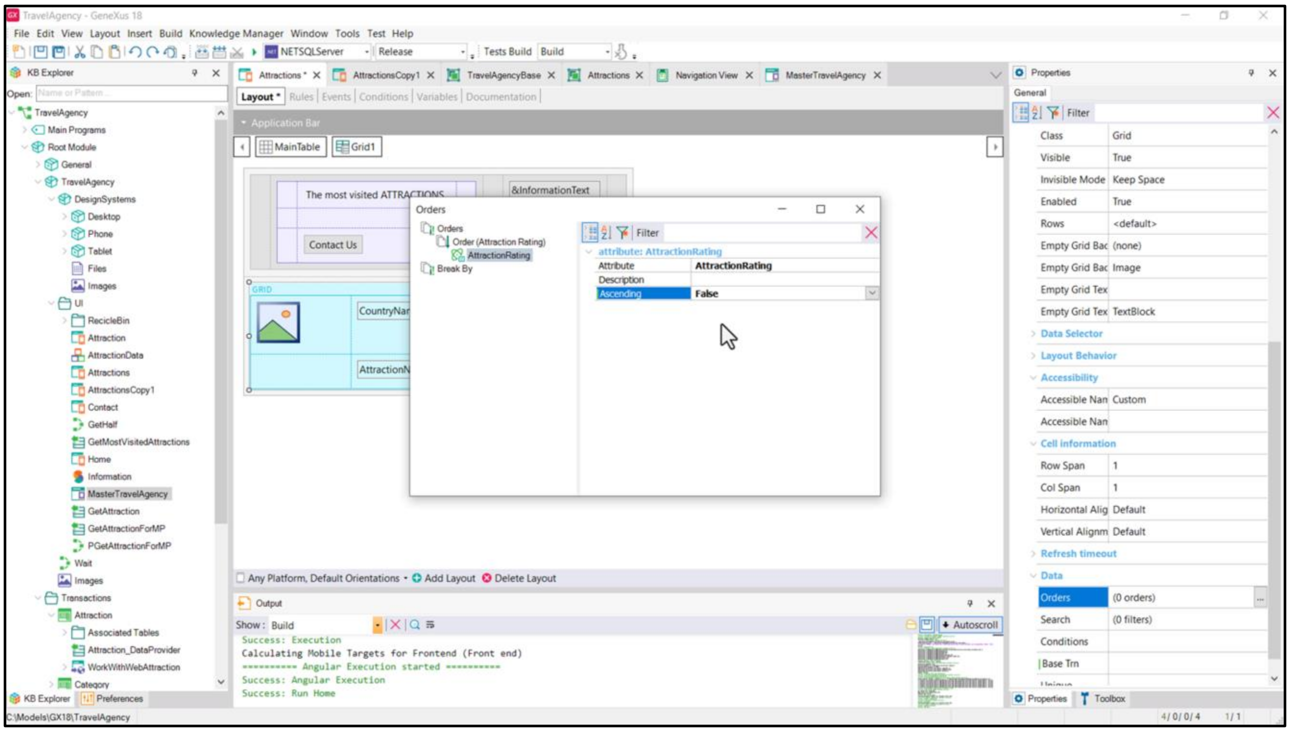
LEVELS

For Each Attraction (Line: 2)

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

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

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

Por trás GeneXus constrói um Data Provider que é o que retorna um SDT coleção com todos os itens necessários para carregar o grid. E observem a navegação desse Data Provider. Está indo navegar pela tabela Attraction, acessando Country para trazer o CountryName.



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
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	

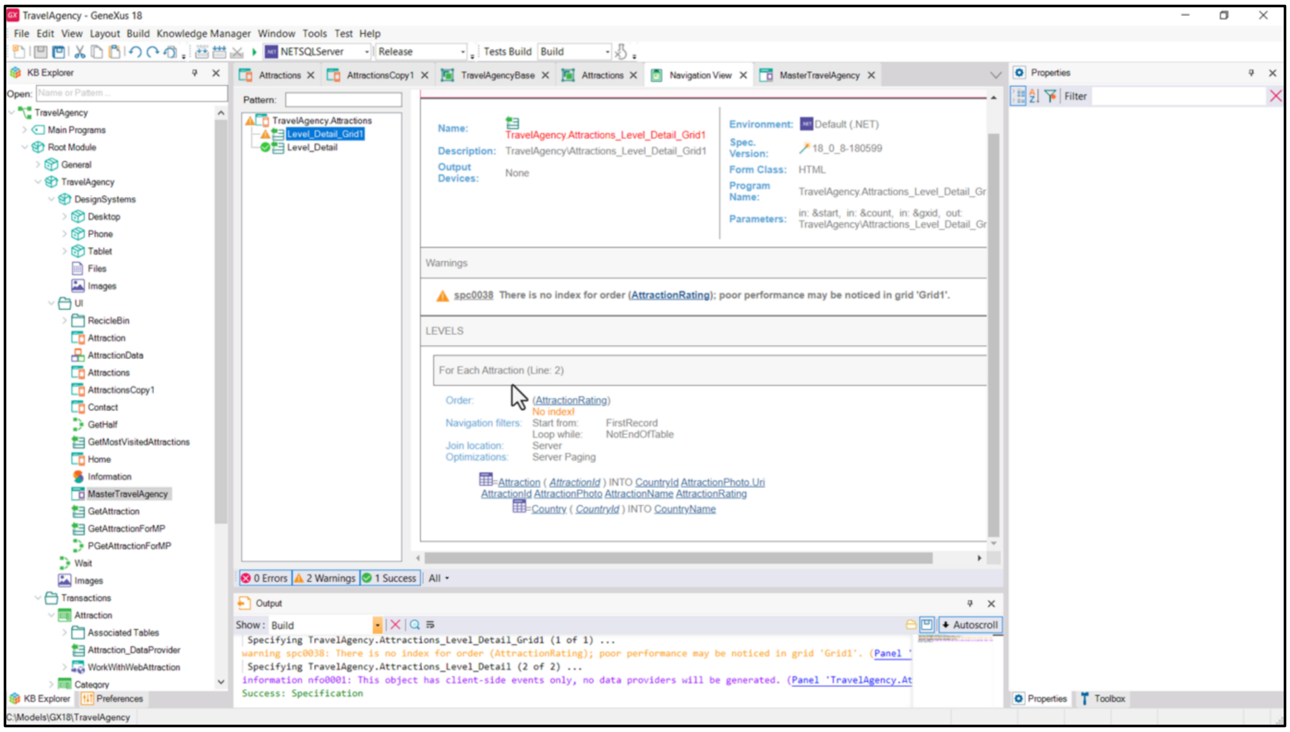
Output

Show: Build

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

C:\Models\GX18\TravelAgency

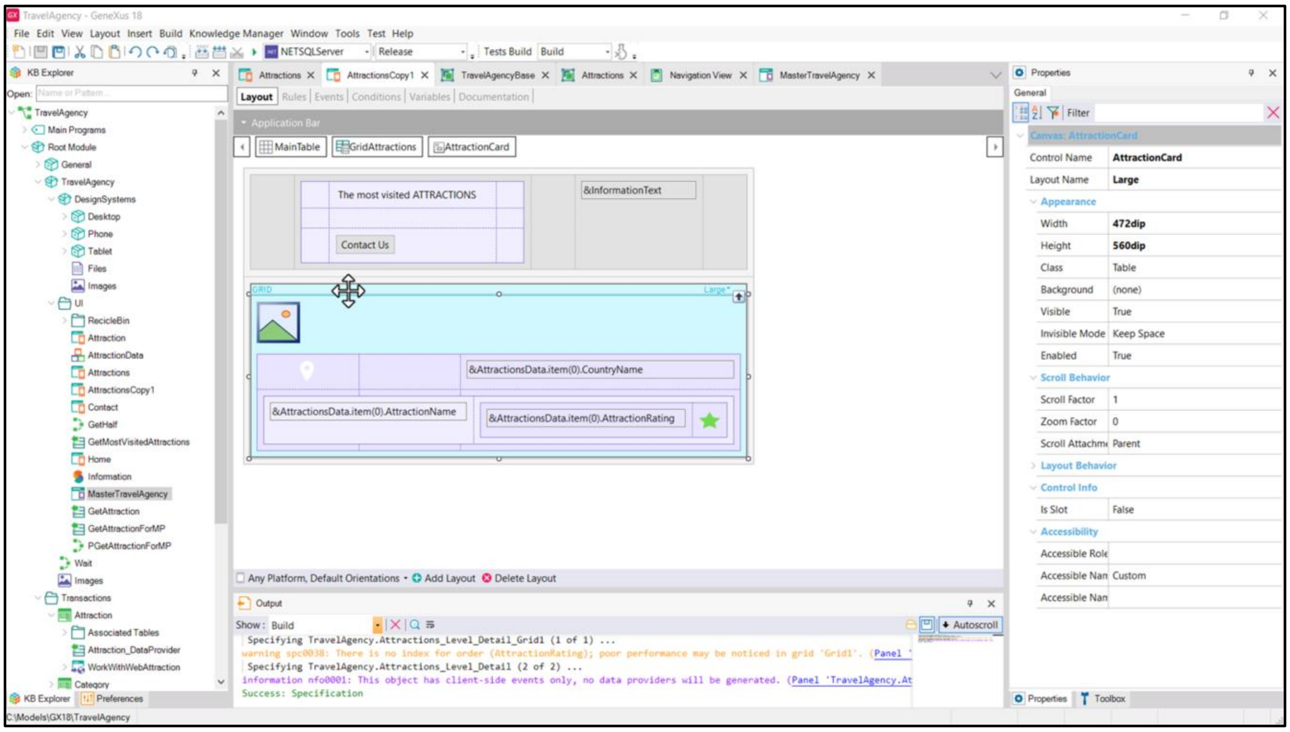
Se quiséssemos ordenar de forma decrescente por AttractionRating, vejam que será suficiente fazer isto... definir uma order... de acordo com esse atributo, NÃO crescente.



```
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
```

```
 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
```

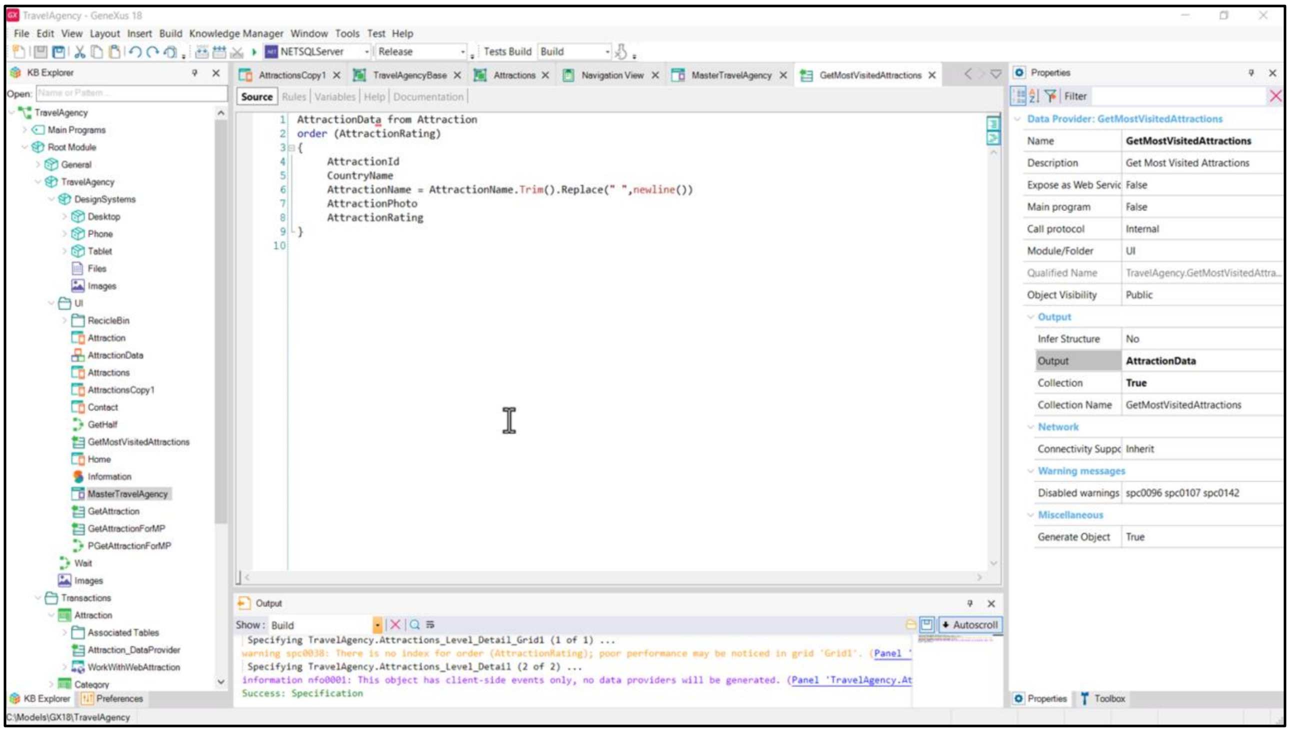
E se agora pedirmos para ver a lista de navegação… a vemos refletida aqui.



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	

```
 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
```

Na implementação que mostrei no vídeo anterior, onde não utilizei atributos…

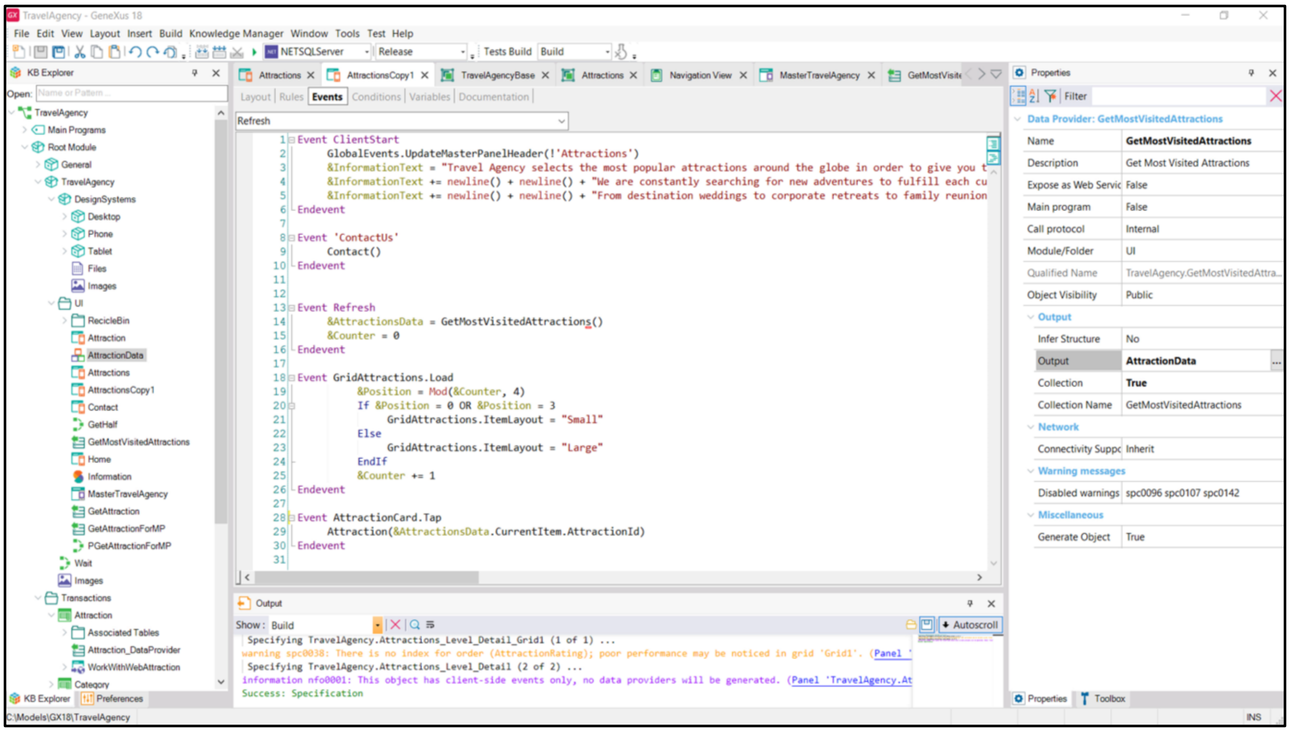


```
AttractionData from Attraction
order (AttractionRating)
{
    AttractionId
    CountryName
    AttractionName = AttractionName.Trim().Replace(" ",newline())
    AttractionPhoto
    AttractionRating
}
```

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
```

…eu criei explicitamente um Data Provider, bem como também o SDT que utilizo como coleção, e o invoco também explicitamente, para que seja carregado no grid quando tiver seus dados.



```
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
```

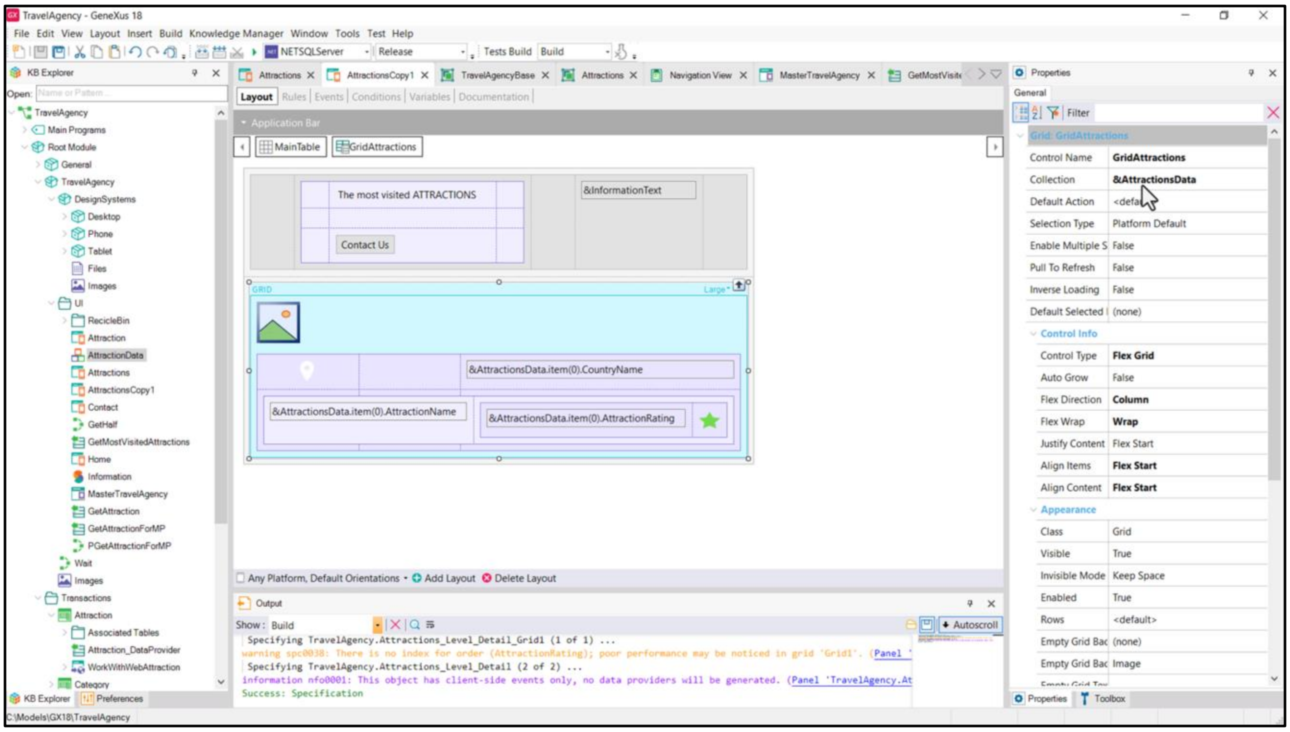
```
 Specifying TravelAgency.Attractions_Level_Detail_Grid1 (1 of 1) ...
warning spc0038: There is no index for order (AttractionRating); poor performance may be noticed in grid 'Grid1'. (Panel '
 Specifying TravelAgency.Attractions_Level_Detail (2 of 2) ...
information nfo0001: This object has client-side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

O evento Refresh, lembremos, será disparado antes da carga do grid.

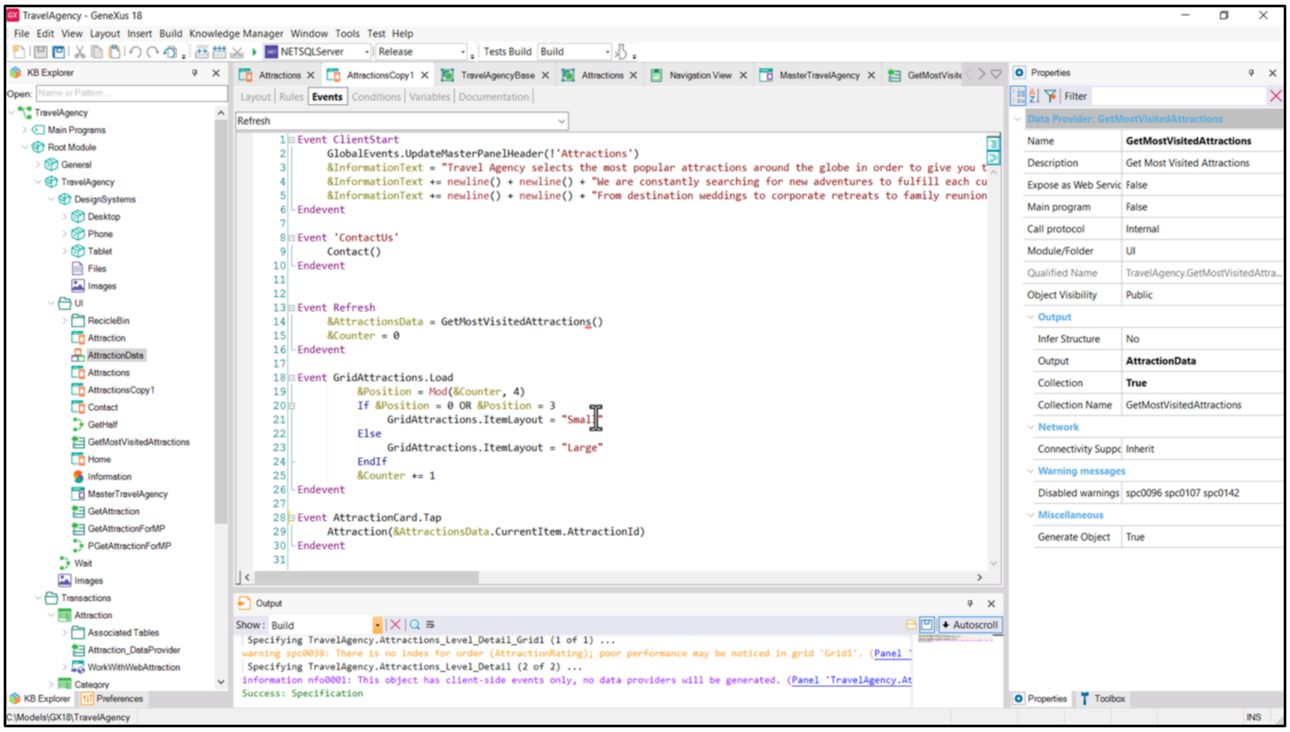
Então, chamo o Data Provider, ele retorna a coleção de dados, de itens, carregados…



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
```

…e como ao grid eu associo esta coleção, fará um Load por item…



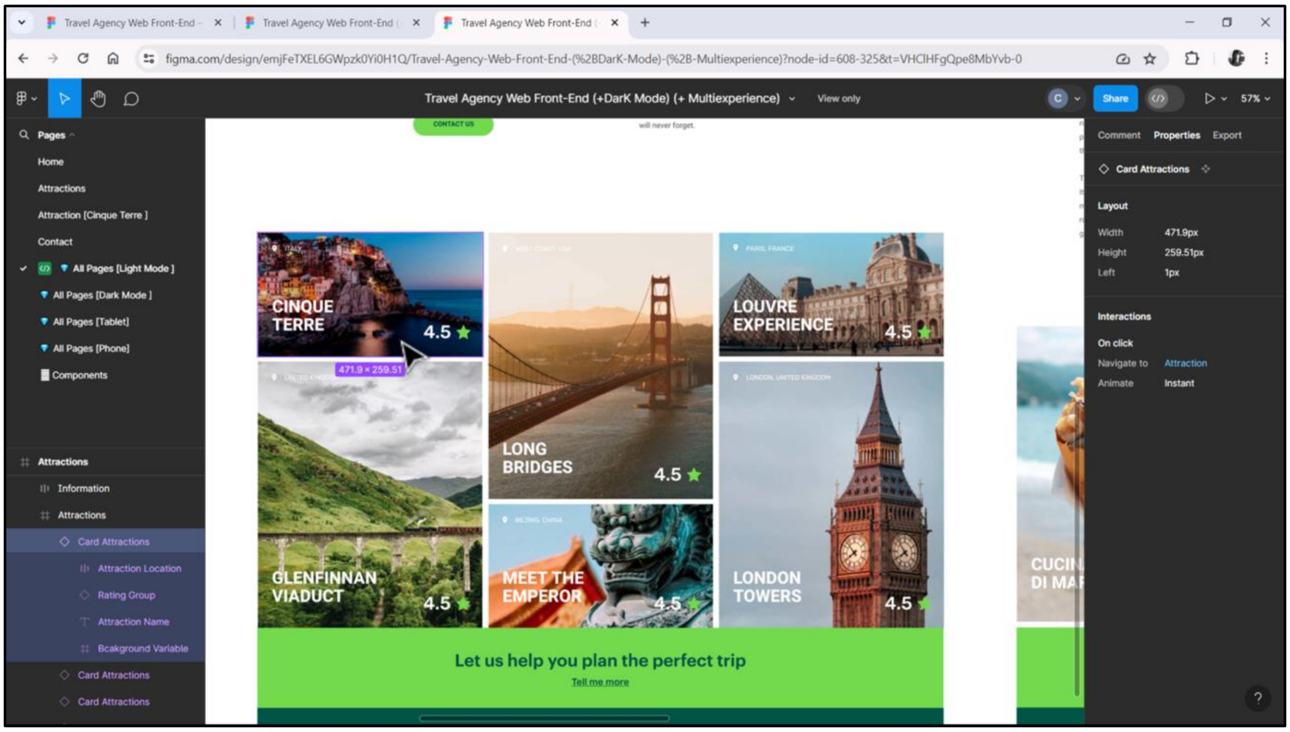
```
Event ClientStart
     GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
     &InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
     &InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill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

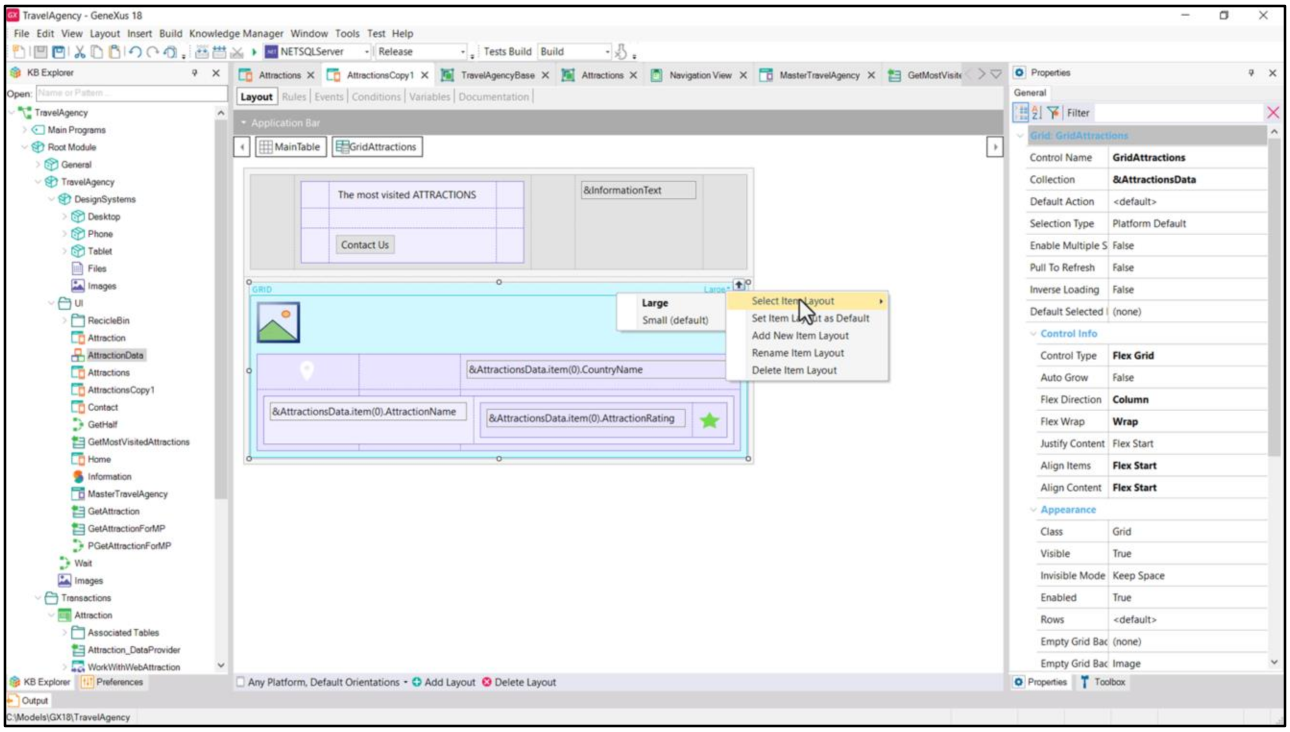
Data Provider: GetMostVisitedAttractions

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

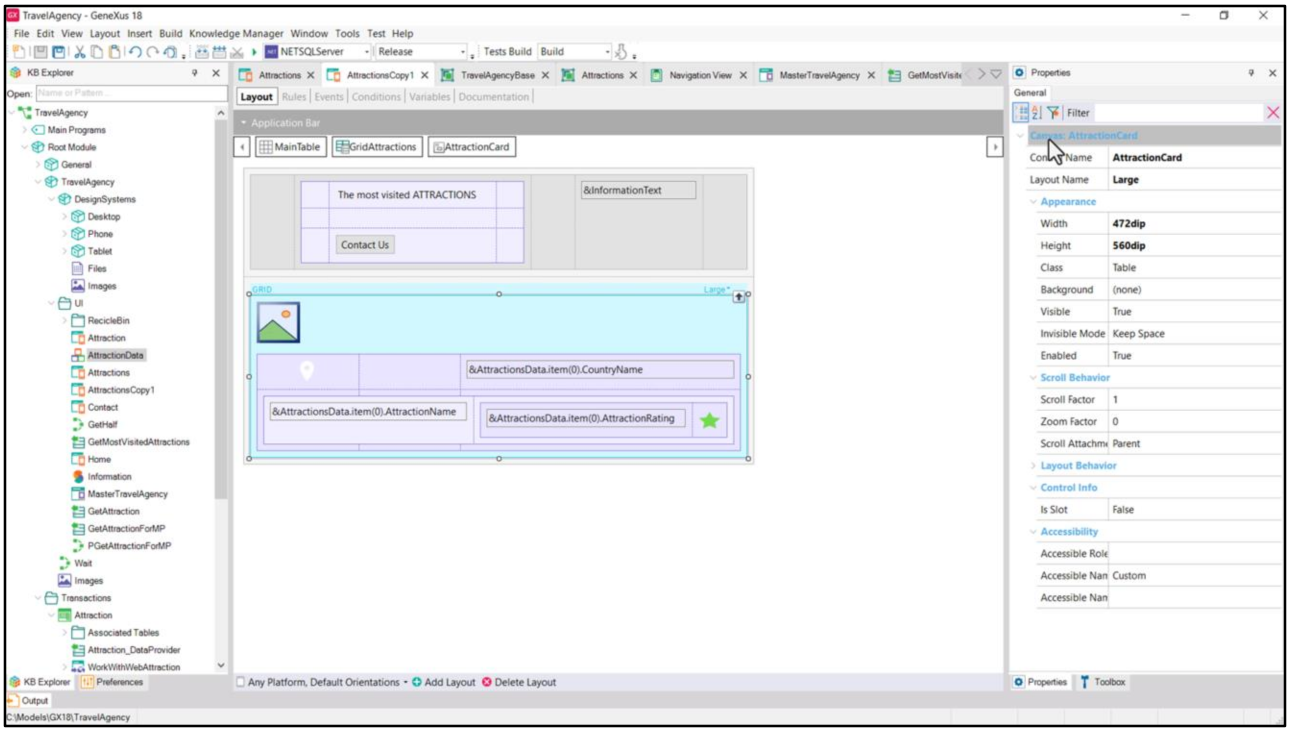
…disparando, para cada um, o evento Load (que está programado aqui para produzir uma alternância entre os cards: aqueles de altura Small e aqueles de altura Large…



Ou seja, entre estes, de altura 260 e estes outros, de altura 560.



Nos grids podemos definir **múltiplos layouts** para seus itens, eles não precisam ser iguais para todos eles. E foi isso que eu fiz em meu grid. Defini dois layouts diferentes: este eu chamei de Large, e este, que é o default, que chamei de Small.

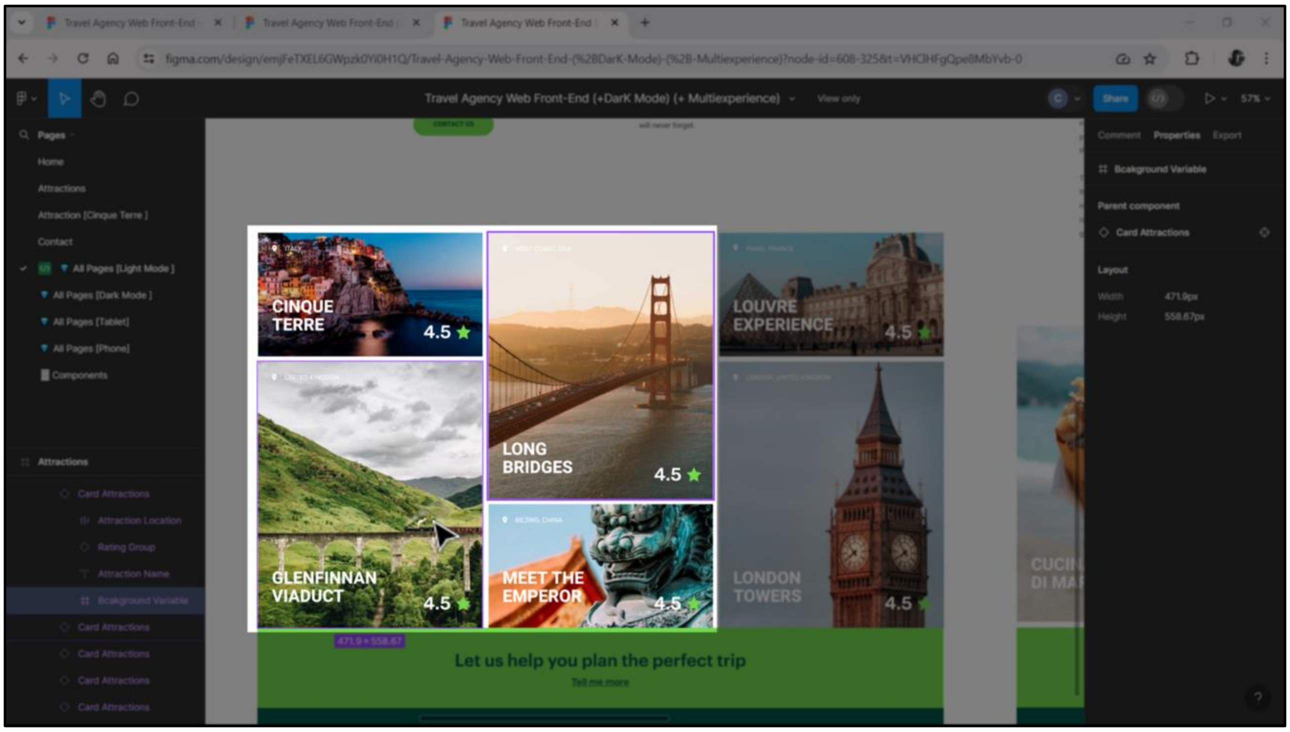


Properties — General

Canvas: AttractionCard

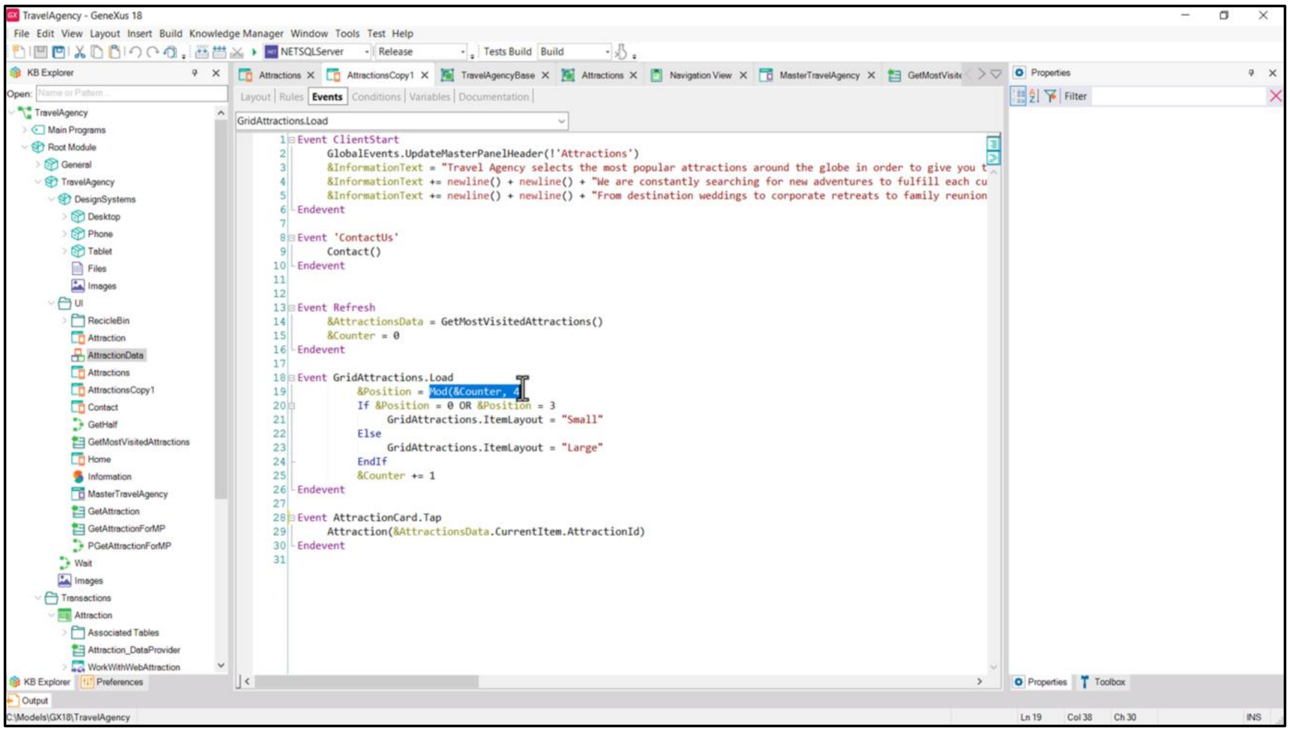
Control Name	AttractionCard
Layout Name	Large
Appearance	
Width	472dip
Height	560dip
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachme	Parent
Layout Behavior	
Control Info	
Is Slot	False
Accessibility	
Accessible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

Embora pareçam idênticos, na verdade diferem em uma coisa: na altura desta tabela (que já vemos ser um canvas). A do layout chamado Large é de 560 dips, enquanto a do layout chamado Small é de 260.



Já podemos pensar nesse grid como um container flex, dessa altura, e que coloca seus itens em direção coluna, com a propriedade Wrap ativada, de modo que as duas primeiras atrações turísticas retornadas serão essas duas, que se começarmos a contá-las com 0, então ficará assim: a 0 e 1 vão para a primeira coluna, mas a 2 e 3 não, então vão para uma segunda coluna, e a 4 e 5 para uma terceira, e assim por diante.

Notem que podemos formalizar a alternância dos cards observando essas quatro, pois mais tarde o esquema será repetido. A 0 e a 3 corresponderão à altura Small; e a 1 e a 2 à altura Large.
Para seus múltiplos vale o mesmo esquema. É por isso que resolvi dessa maneira.

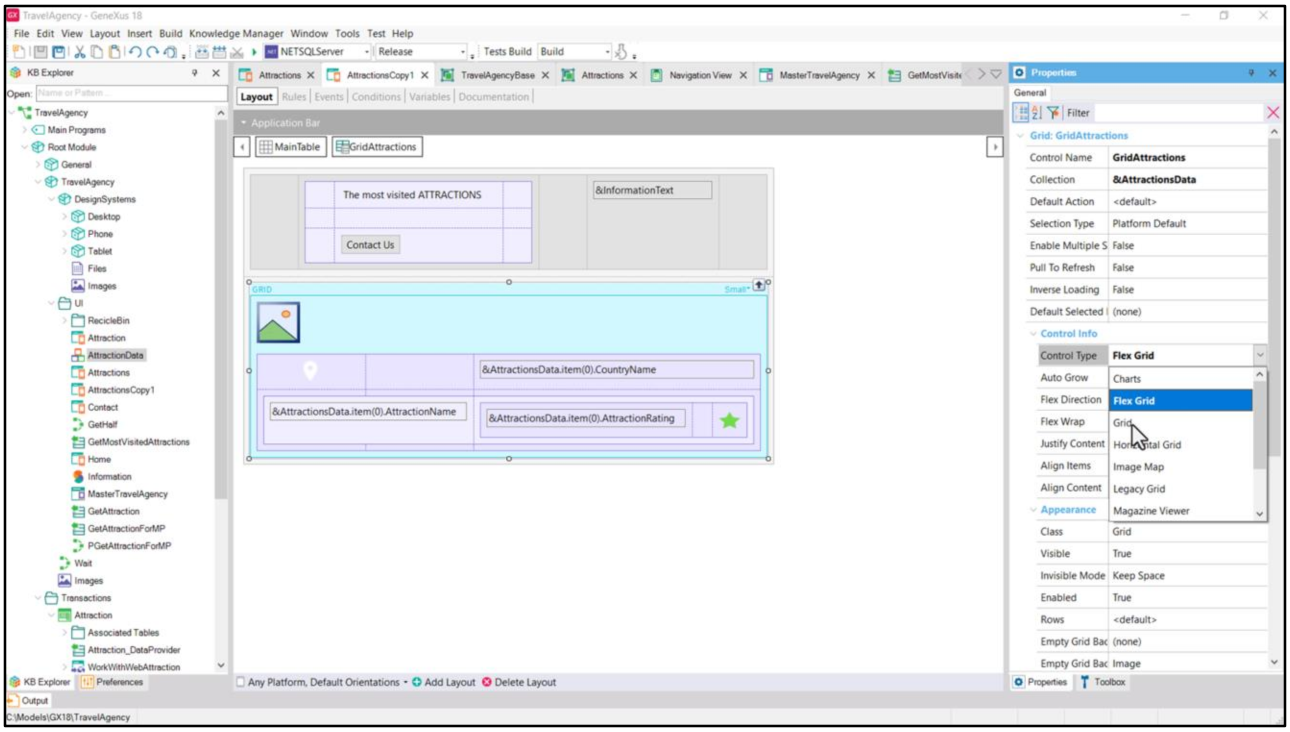


```
Event ClientStart
    GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
    &InformationText = "Travel Agency selects the most popular attractions around the globe in order to give you t
    &InformationText += newline() + newline() + "We are constantly searching for new adventures to fulfill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

No Refresh coloco em 0 o contador da atração e depois calculo para cada item a ser carregado no grid, sua posição, que será o resto desse contador dividido por 4, ou seja, que será: 0, 1, 2 ou 3.

Se for 0 ou 3, peço que carregue o item com o layout Small; e se for 1 ou 2, com o layout Large.

Observem que este é o nome do grid e esta é a propriedade que indica qual é o layout do item.

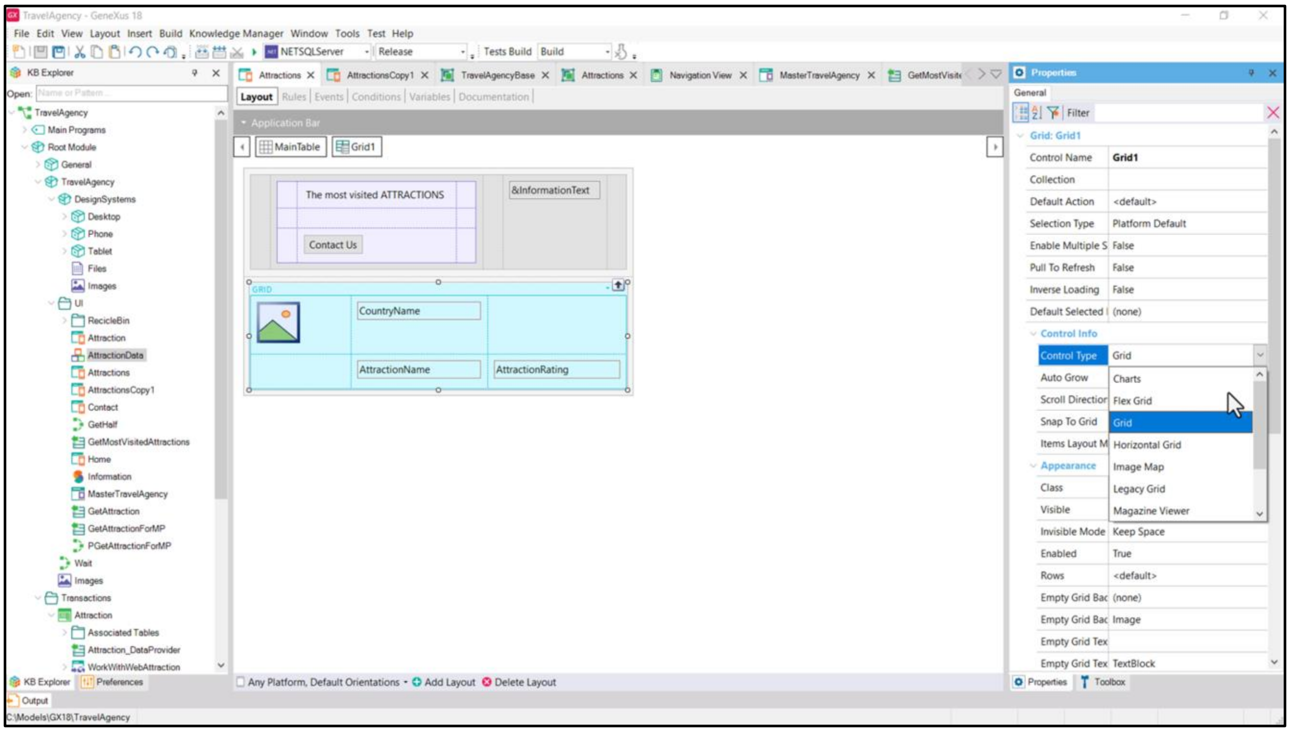


Grid: GridAttractions

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

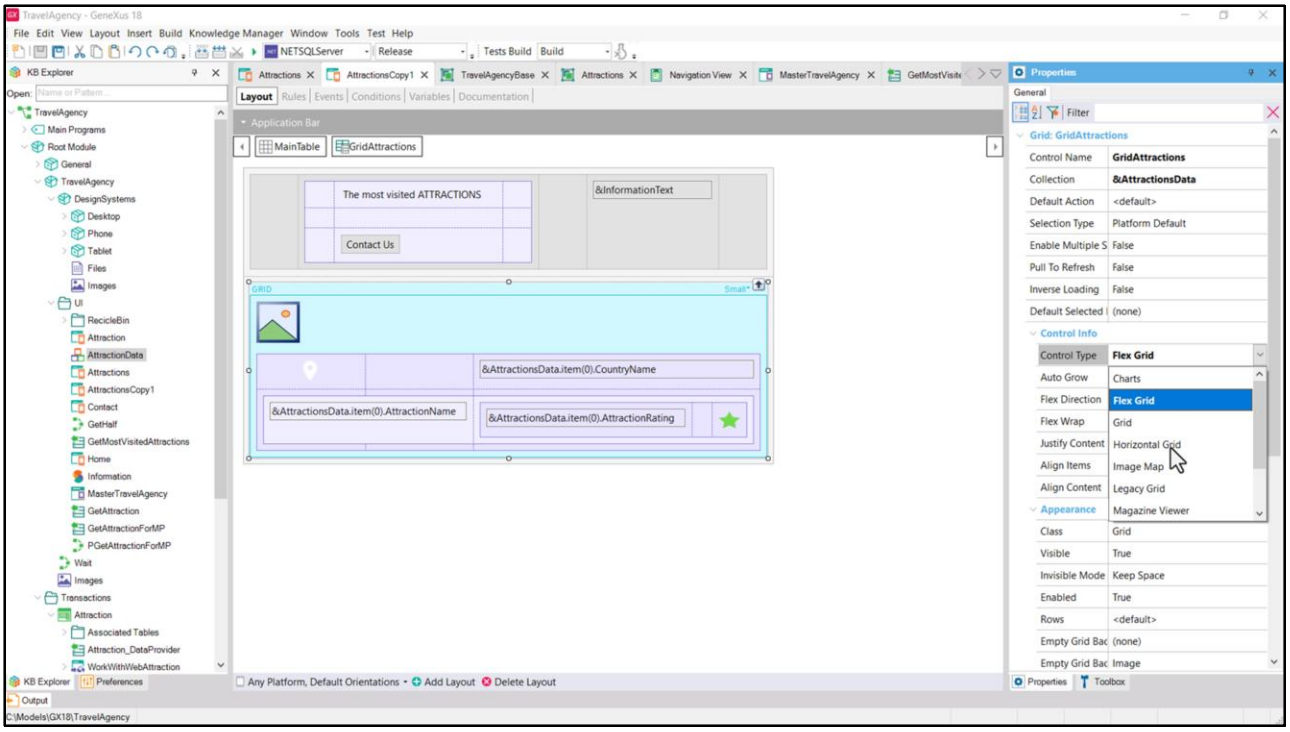
Se observarmos agora a seção **Control Info** do grid, veremos que especifiquei aqui que este não é um grid comum, mas sim um **Flex**. Vejam todas as opções que temos.

Esta corresponde ao default.



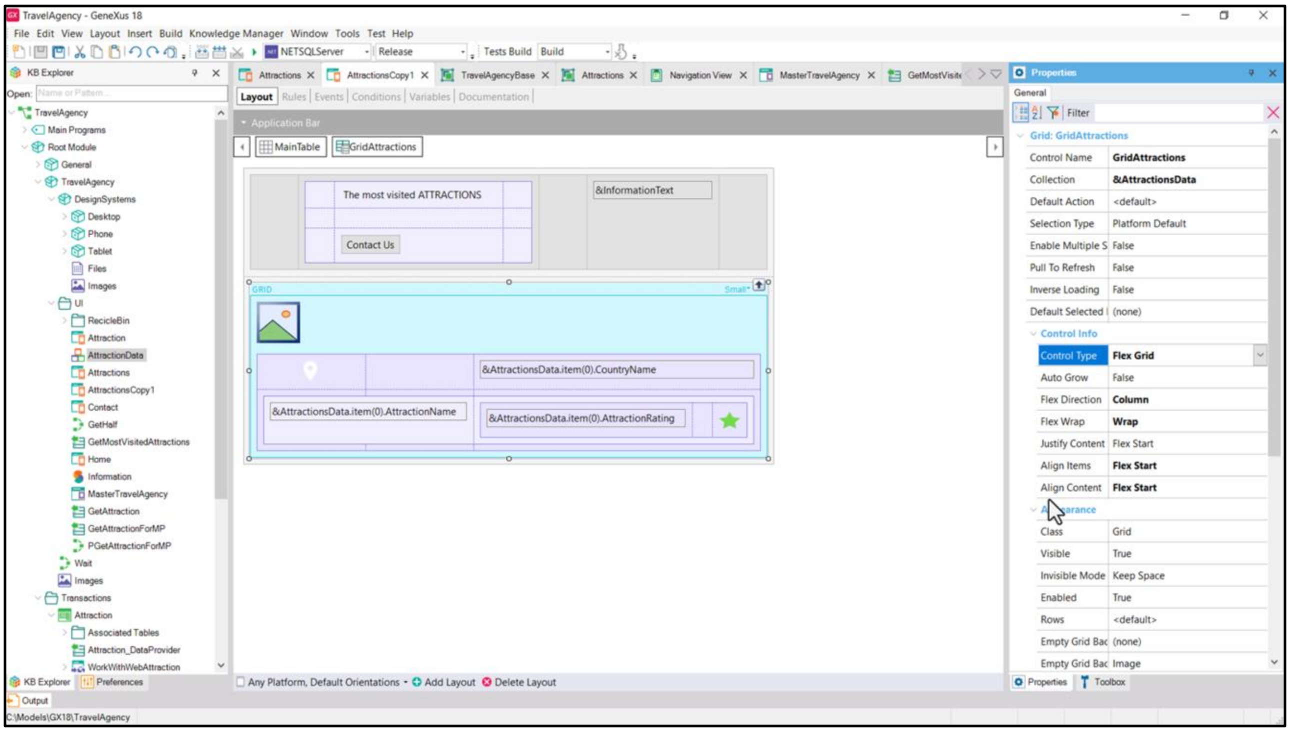
Control Name	Grid1
Collection	
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Type	Grid
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Bac	(none)
Empty Grid Bac	Image
Empty Grid Tex	
Empty Grid Tex	TextBlock

Vejamos a do grid que inserimos em Attractions.



TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
Layout Rules Events Conditions Variables Documentation
MainTable
GridAttractions
The most visited ATTRACTIONS
Contact Us
&InformationText
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating
Properties
Grid: GridAttractions
Control Type
Flex Grid
Charts
Grid
Horizontal Grid
Image Map
Legacy Grid
Magazine Viewer

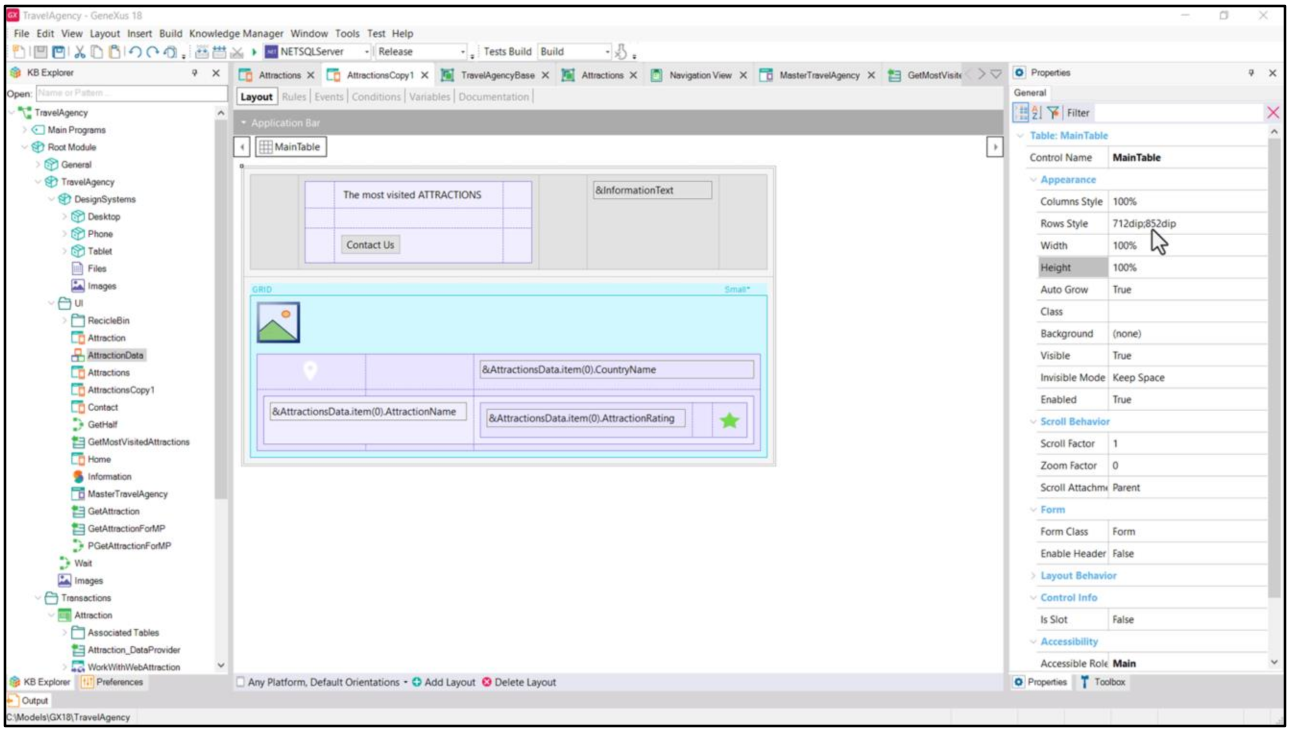
Aqui eu claramente mudei para **Flex**. Mas observem também que aparece o **Horizontal**, o que já podemos tentar para quando quisermos implementar os outros carrosséis.



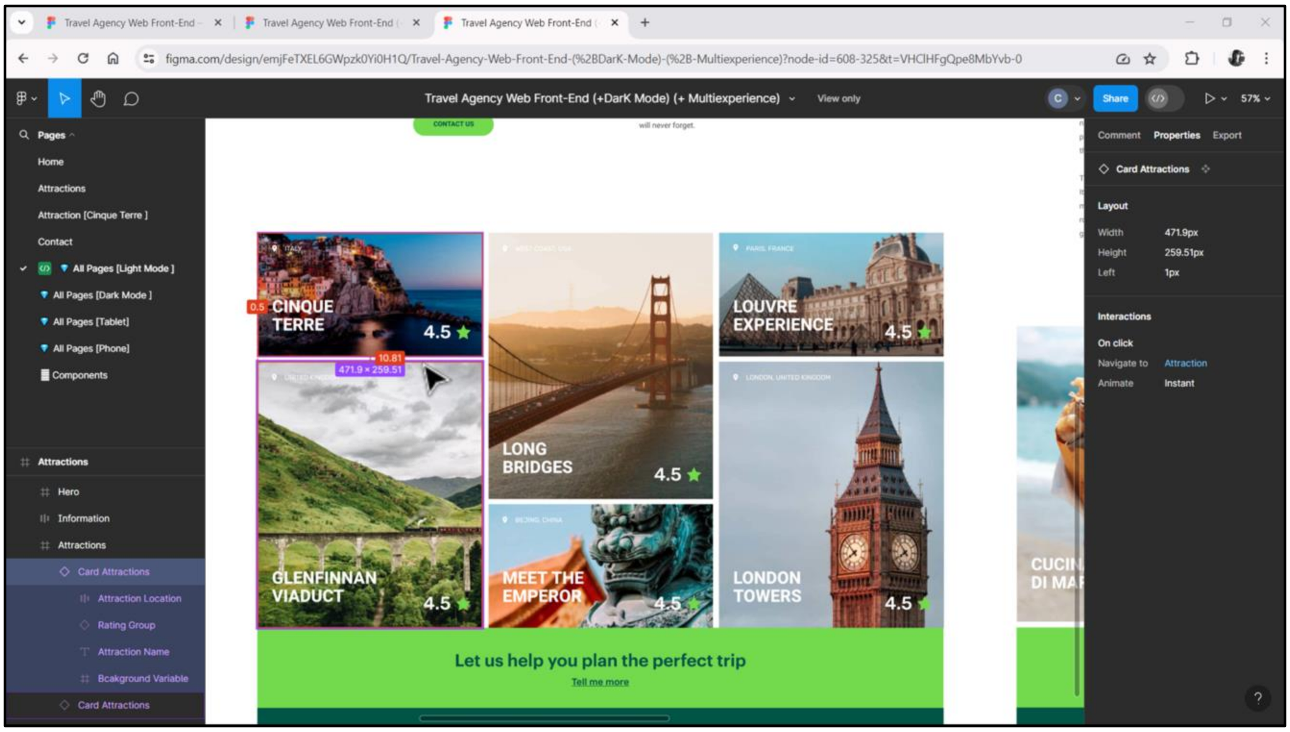
Grid: GridAttractions

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

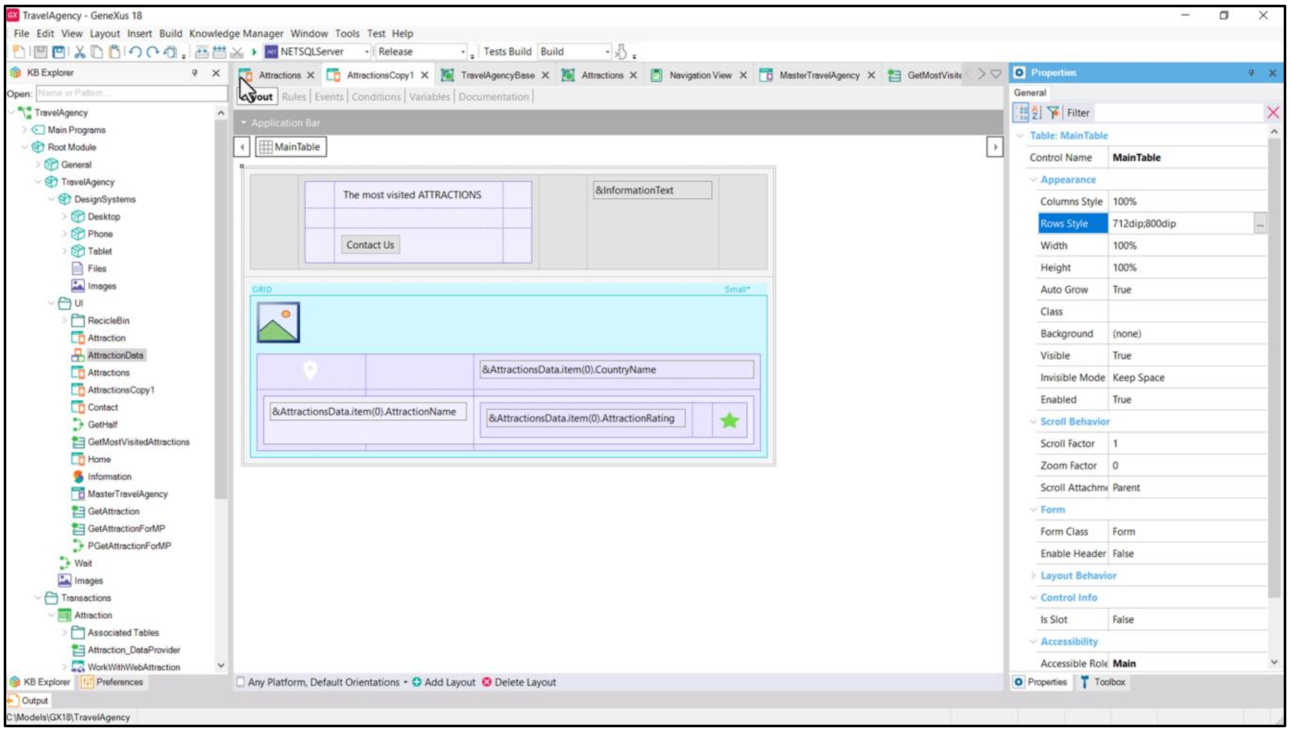
Vejam também que, ao ter escolhido o tipo de grid **Flex**, aparecem as propriedades típicas de um container flex: Flex Direction, Flex Wrap, justificação, alinhamento.



Como a soma da altura de um card Small e um Large é de 260 + 560, ou seja, 820, e o grid tem Auto Grow definido como false, e a linha em que está é de 852 dips…

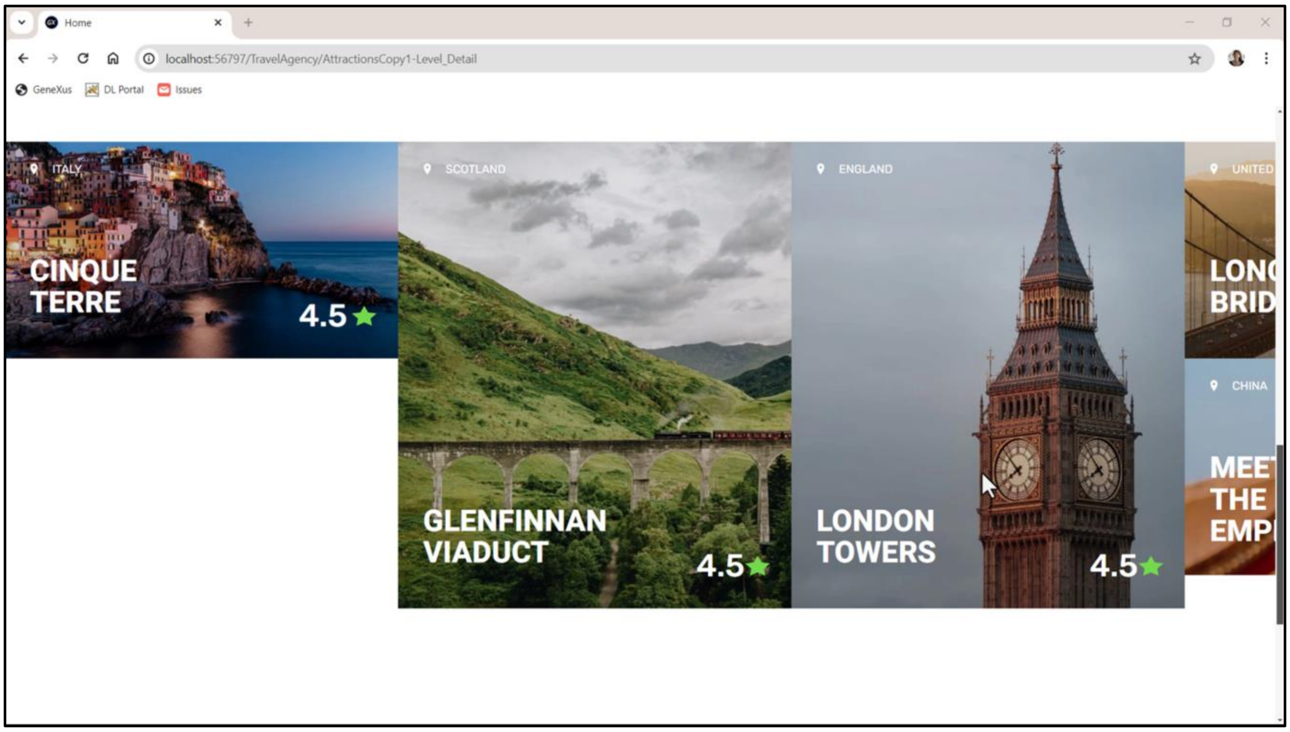


…(não sei por quê coloquei esse valor, quando o espaço que me falta para os 820 dips é o de separação dos cards, algo que ainda não implementei, mas que já vemos que é de 11 pixels, e também tenho que adicionar, como veremos no próximo vídeo, o espaço da barra de scroll)…

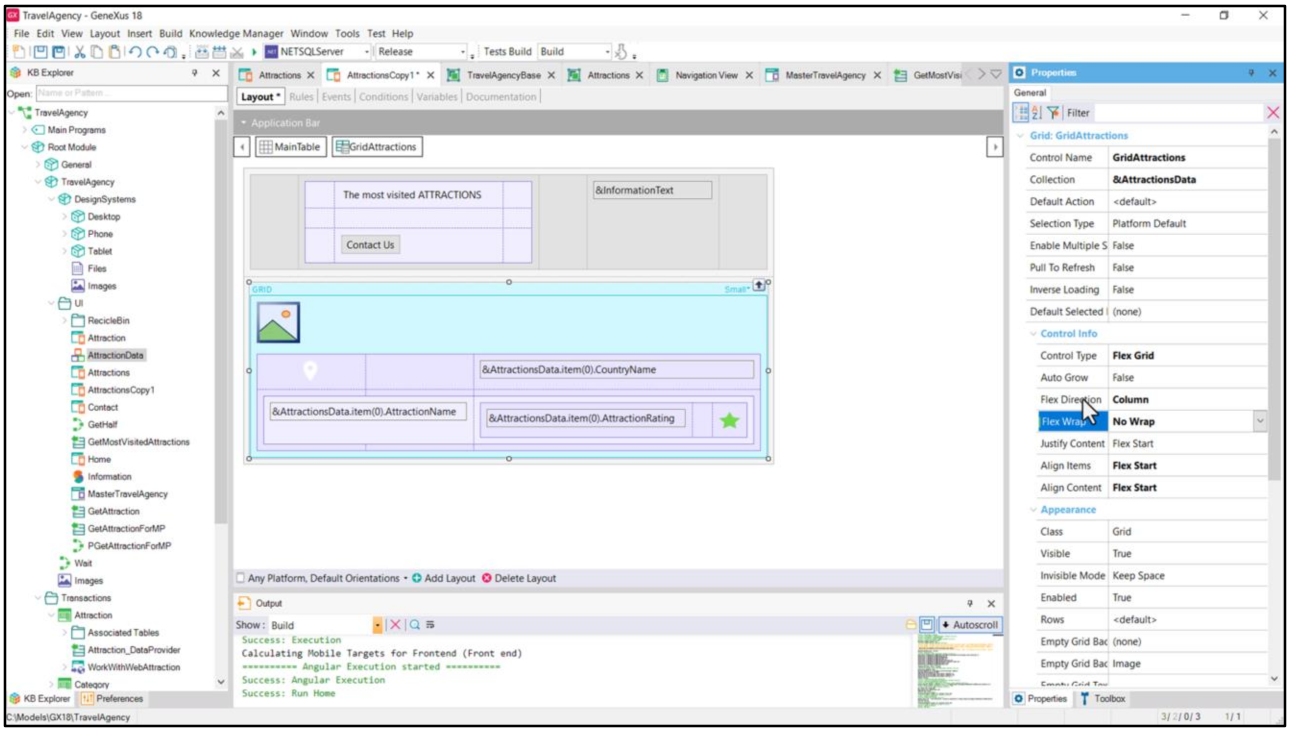

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
AttractionsCopy1
MainTable
The most visited ATTRACTIONS
Contact Us
&InformationText
&AttractionsData.item(0).CountryName
&AttractionsData.item(0).AttractionName
&AttractionsData.item(0).AttractionRating
Properties
Table: MainTable

Control Name	MainTable
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 Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Form Class	Form
Enable Header	False
Is Slot	False
Accessible Role	Main

…mas vamos ver o que acontece se eu colocar um valor menor que a soma das alturas dos cards, como 800, por exemplo…



Não há espaço suficiente para colocar dois cards por coluna, então acontece isso…



Grid: GridAttractions

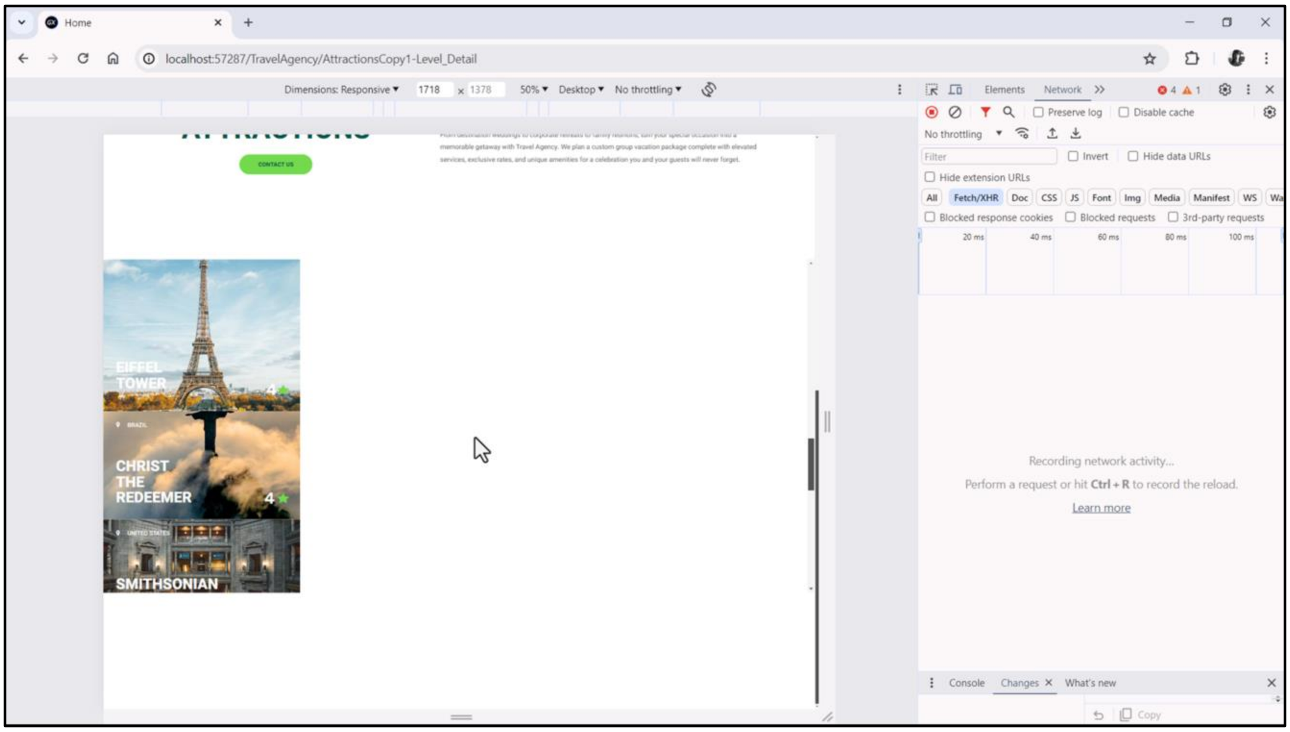
Control Name	GridAttractions
Collection	&AttractionsData
Default Action	<default>
Selection Type	Platform Default
Enable Multiple S	False
Pull To Refresh	False
Inverse Loading	False
Default Selected I	(none)
Control Info	
Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	No Wrap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

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

C:\Models\GX18\TravelAgency

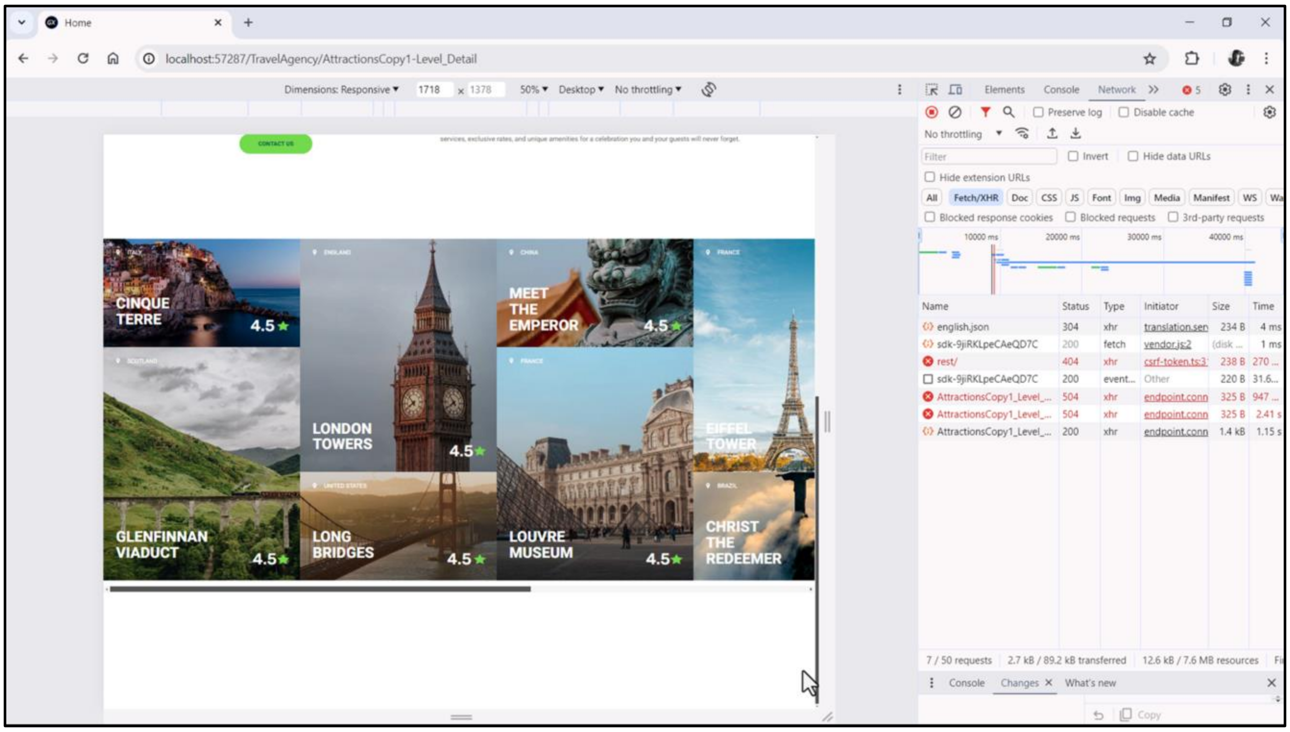
Em resumo, se o Grid não tiver Auto Grow, então a quantidade de itens que serão colocados em cada coluna dependerá da altura de cada item e da altura da célula na qual o grid está localizado.

Lembremos que as colunas são produzidas devido ao Wrap. Se não houvesse Wrap, seria uma única coluna, já que a direção é 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
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

Não sei se percebem, mas temos uma dupla barra de scroll. Pressionarei F12 para ver melhor.

Temos barra de scroll vertical do grid. E a barra de scroll do panel.



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

Em vez disso, se tivermos Wrap na propriedade... e definirmos para a altura da linha, por exemplo, não sei, 850 dips, por enquanto...
Vemos que temos a barra de scroll vertical da página e agora para o grid uma barra de scroll horizontal (em vez de vertical).

E também, claro, estão entrando 2 cards por coluna.

Bom, vou parar este vídeo aqui para que não fique pesado. E no próximo veremos com algum detalhe a implementação do layout de cada card do grid, para depois retornar sobre o grid propriamente dito.

Espero por vocês.

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