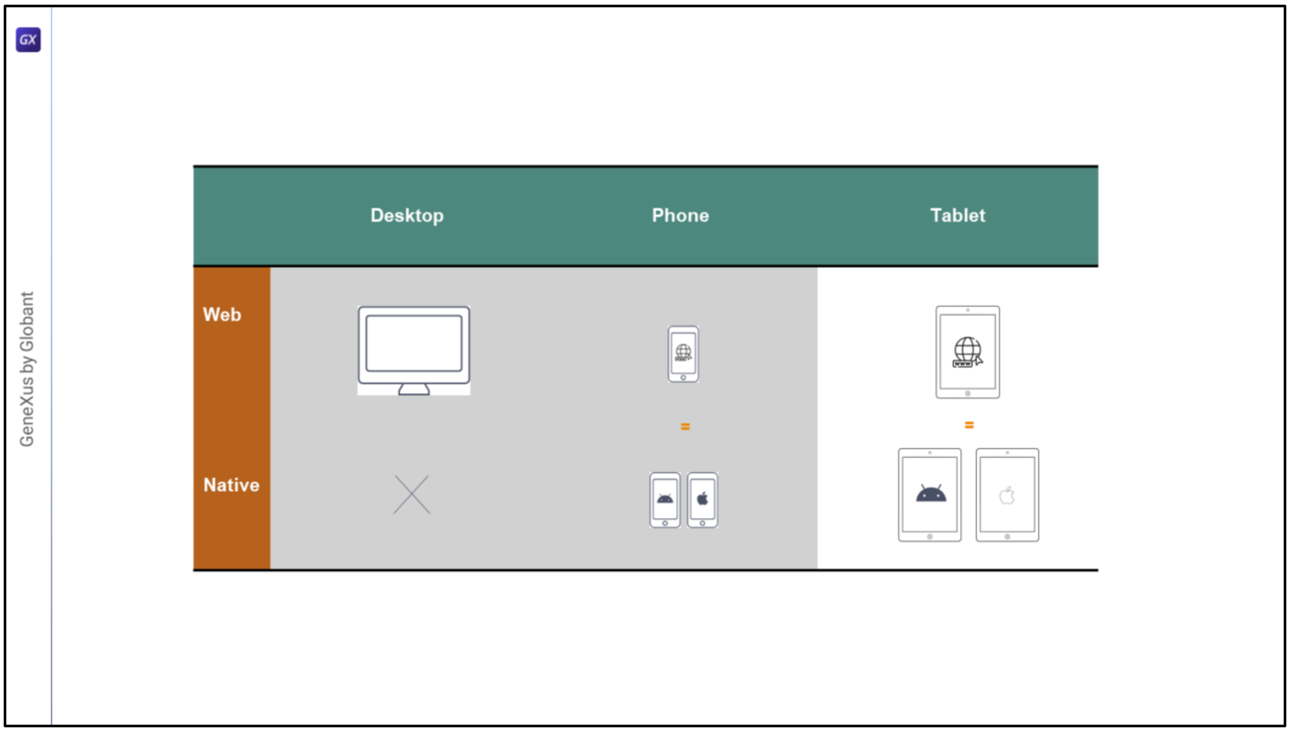
GeneXus by Globant

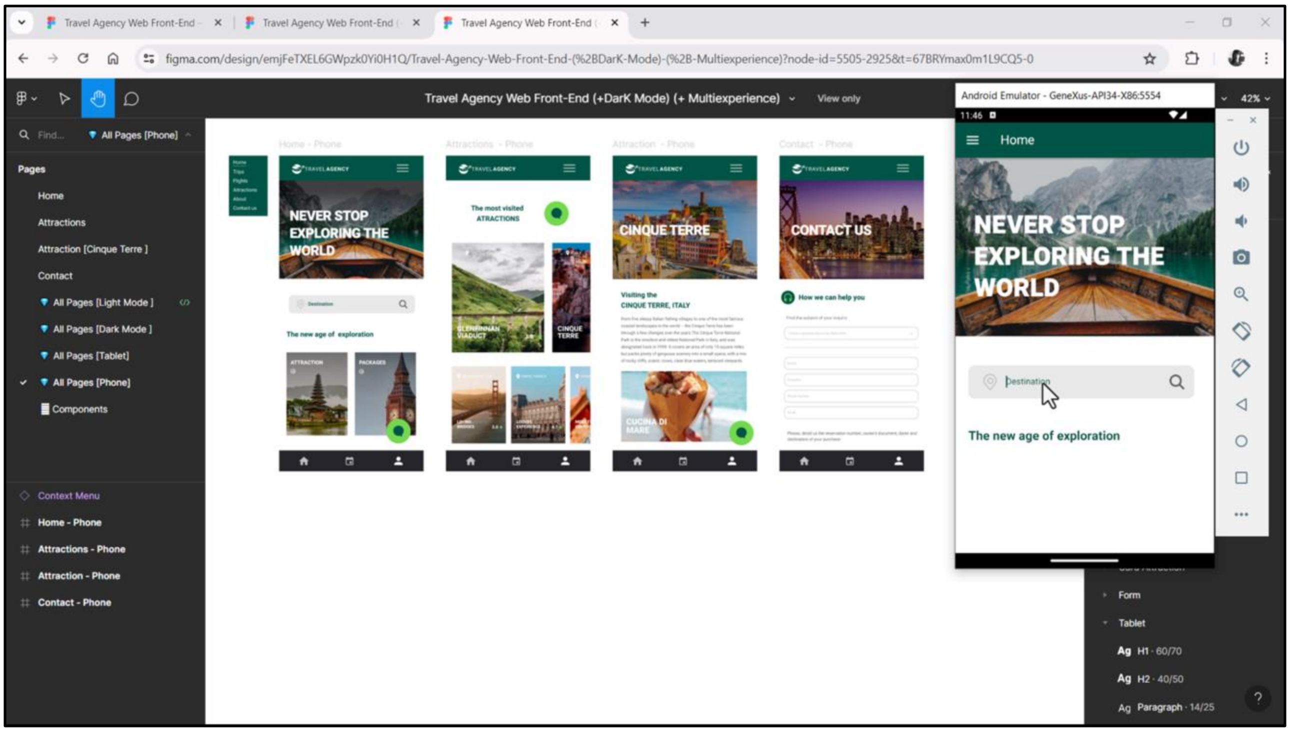
From Travel Agency Web to Native Mobile (part 2)

Cecilia Fernández

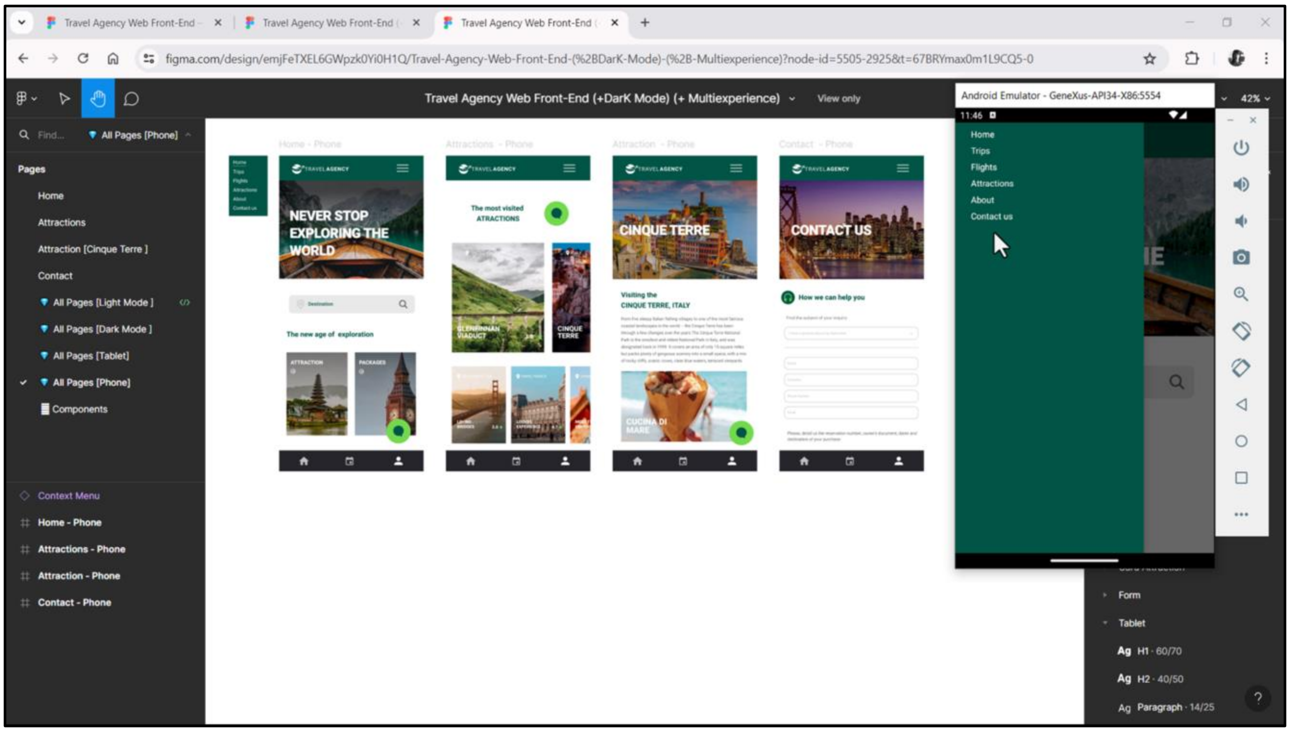


Okay, I'm going to pick up where I left off at the end of the previous video, where we talked about the effects of native applications not being built on the CSS paradigm.

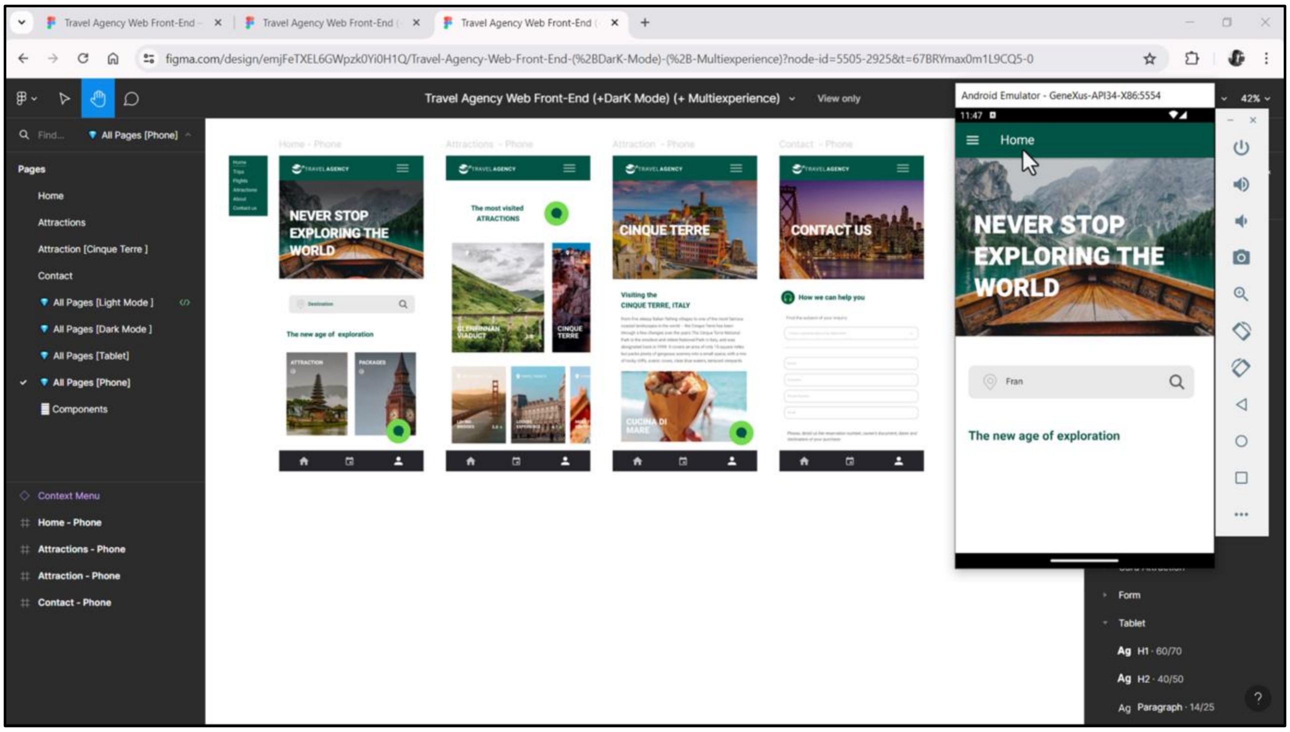
There, I told you the following:



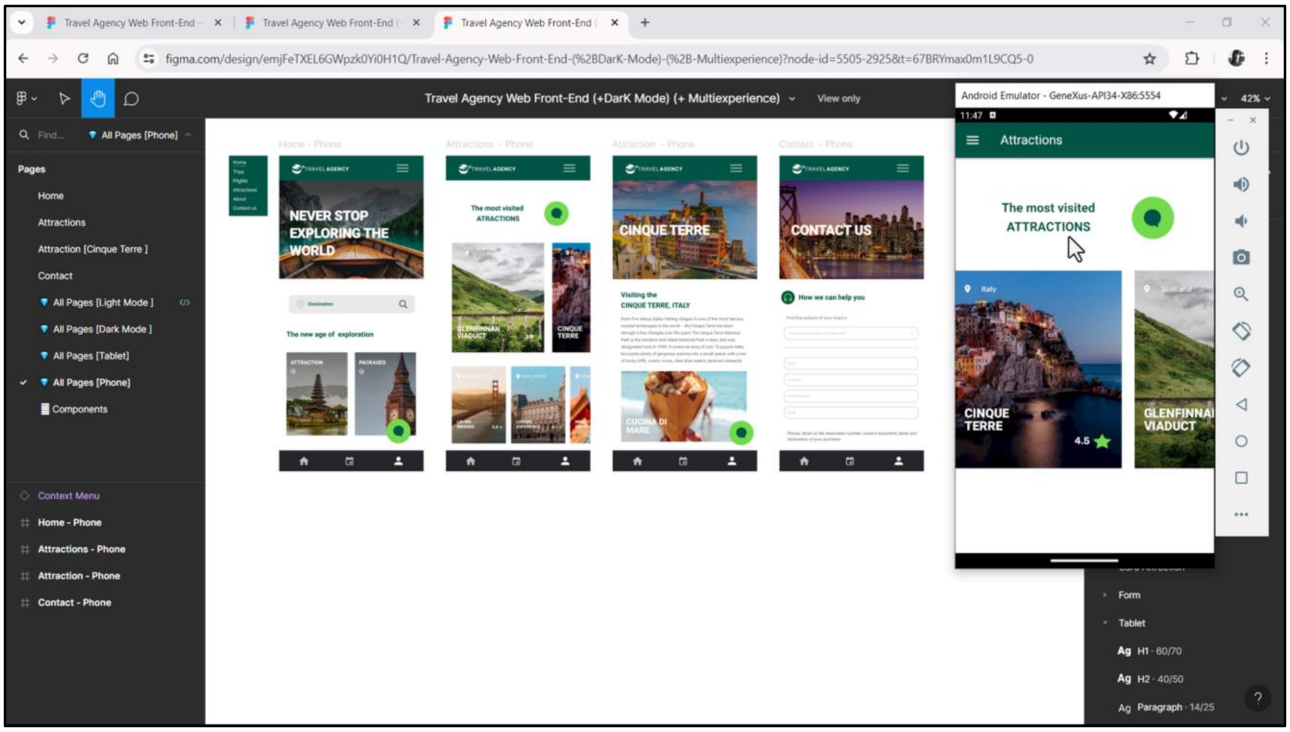
To inspire you, I advanced quickly in my KB so that you can see in this emulator how the screens of the Android application for Phone look like.


Travel Agency Web Front-End (+DarK Mode) (+ Multiexperience)
figma.com/design/emjFeTXEL6GWpzk0Yi0H1Q/Travel-Agency-Web-Front-End-(%2BDarK-Mode)-(%2B-Multiexperience)?node-id=5505-2925&t=67BRYmax0m1L9CQ5-0
Android Emulator - GeneXus-API34-X86:5554
Pages
Home
Attractions
Attraction [Cinque Terre]
Contact
All Pages [Light Mode]
All Pages [Dark Mode]
All Pages [Tablet]
All Pages [Phone]
Components
Context Menu
Home - Phone
Attractions - Phone
Attraction - Phone
Contact - Phone
Home
Trips
Flights
Attractions
About
Contact us
NEVER STOP EXPLORING THE WORLD
CINQUE TERRE
CONTACT US

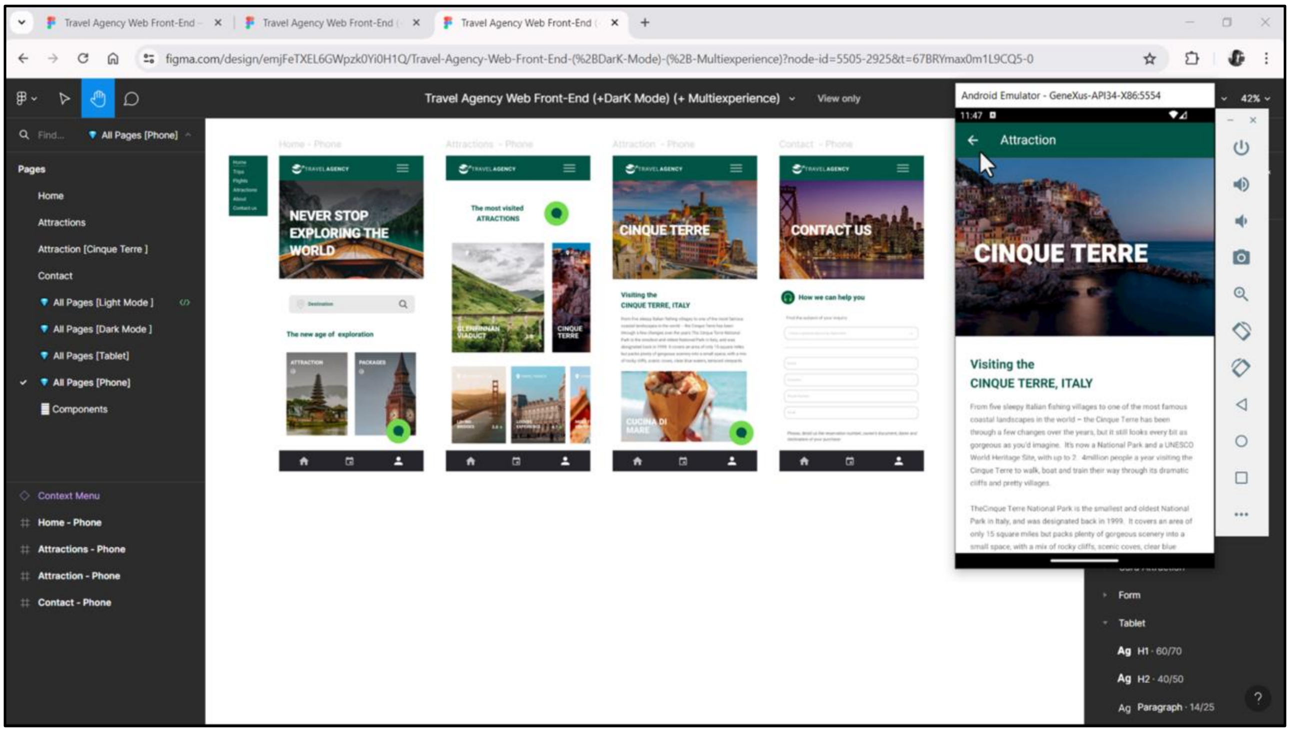
For example, we see the hamburger menu (on the left, as is the standard in their operating system, and not on the right, as proposed by Chechu's design)...



We see as title in the Application Bar the name of the object being loaded, and not this icon and text that I will show you later how to change in the simplest way.



Note that in the Attractions panel I removed the Header, as indicated in the design, and that for now I implemented the carousel as a horizontal grid (to make it quick and easy)...



...and that if I tap on an attraction it takes us to the Attraction panel and automatically, and also according to the operating system's own mechanisms and Android's design guides, the back button appears to return to the object that called it.

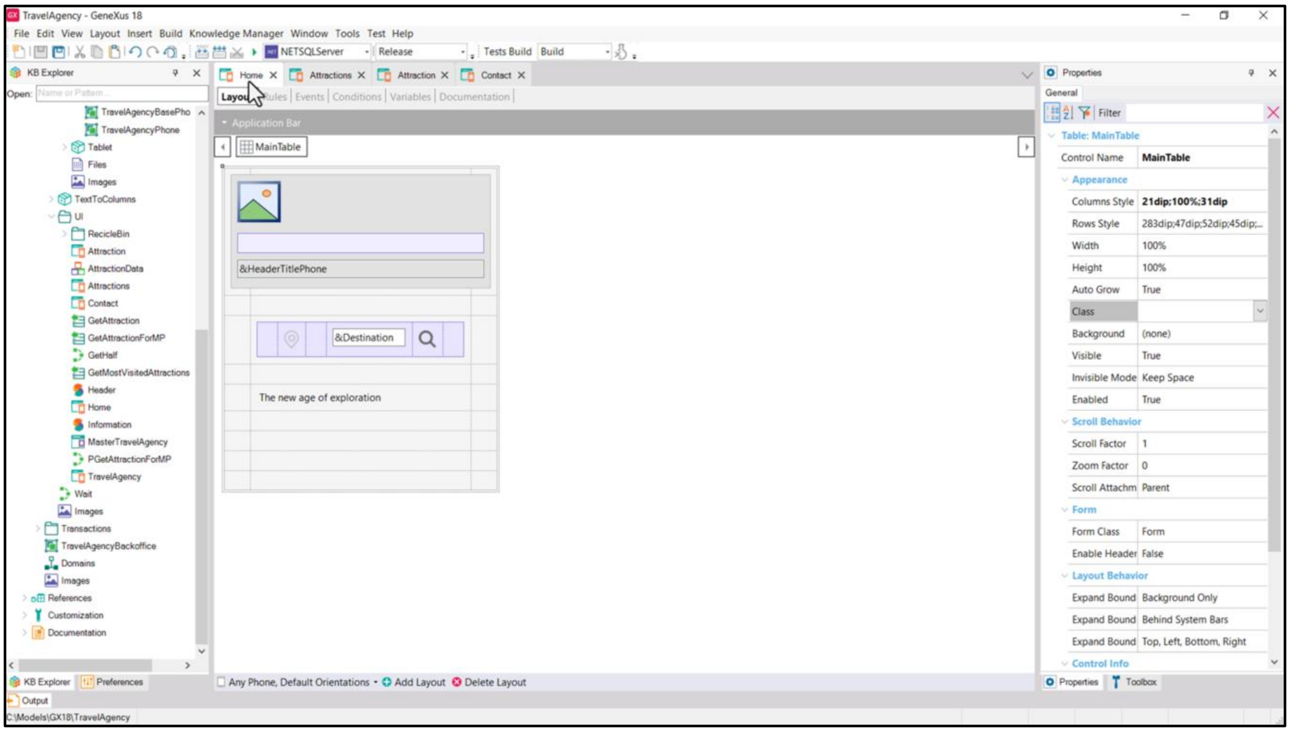
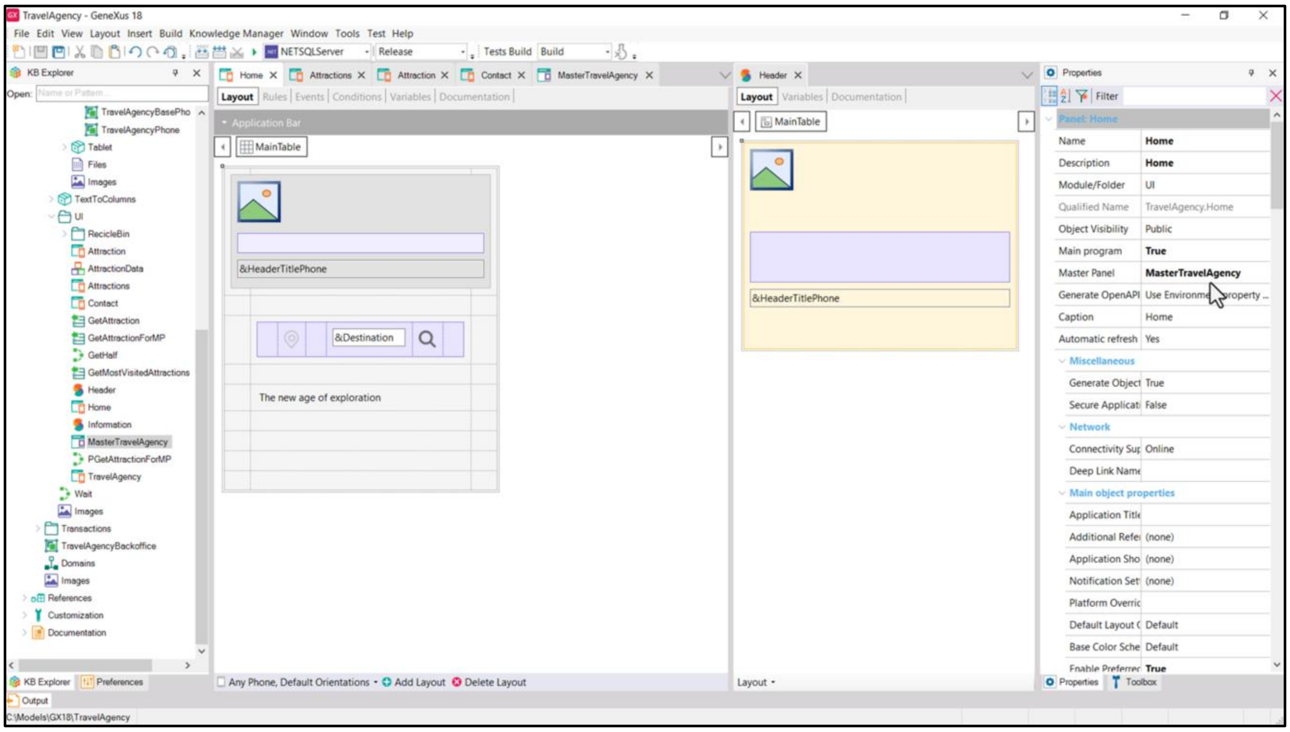


Table: MainTable	
Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;47dip;52dip;45dip;...
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachm	Parent
Form	
Form Class	Form
Enable Header	False
Layout Behavior	
Expand Bound	Background Only
Expand Bound	Behind System Bars
Expand Bound	Top, Left, Bottom, Right
Control Info	

The panels are exactly the same as the ones we used for the Angular Desktop application. But, of course, I defined another layout for each one, this time for Any Phone, so that it is also valid for iPhone. There we can see the 4 layouts.



Panel: Home

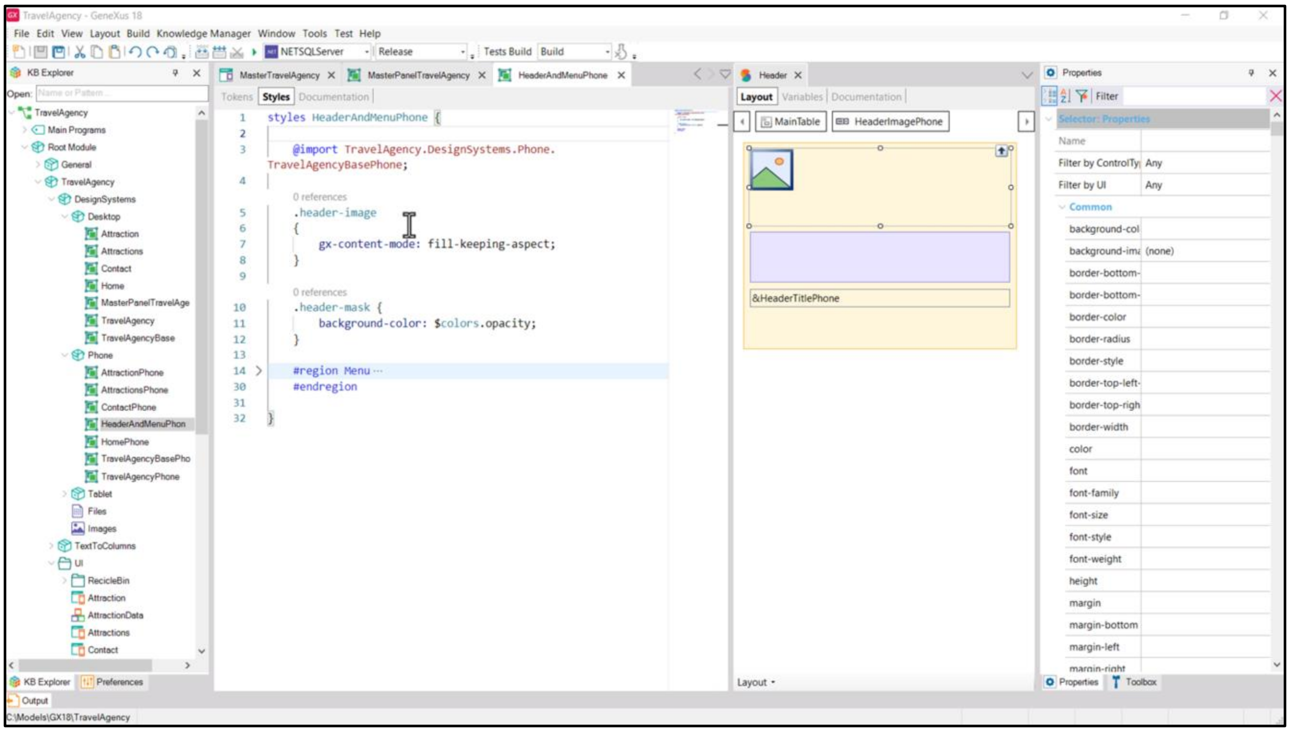
Name	Home
Description	Home
Module/Folder	UI
Qualified Name	TravelAgency.Home
Object Visibility	Public
Main program	True
Master Panel	MasterTravelAgency
Generate OpenAPI	Use Environme property ...
Caption	Home
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Applicati	False
Network	
Connectivity Sup	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Refe	(none)
Application Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout C	Default
Base Color Sche	Default
Enable Preferre	True

I only had to add two objects to the UI: this one, which will be the menu and entry point of the application, and this Stencil that competes with the Master Panel.

Why do I say it competes? Because native applications ignore the Master Panel property and the referenced object, of course. They don't take it into account. And that's why I had to insert in each of the panels that had this Header the stencil that designs it.

Thus, while the menu and the Header were included for Angular Desktop in the Master Panel object, for native applications we have no choice but to include the Header as a stencil in each of the layouts, if we want to reuse it. Or otherwise, as a component, but in principle for our case it wouldn't be necessary.

Later on we will see what happens with the menu.

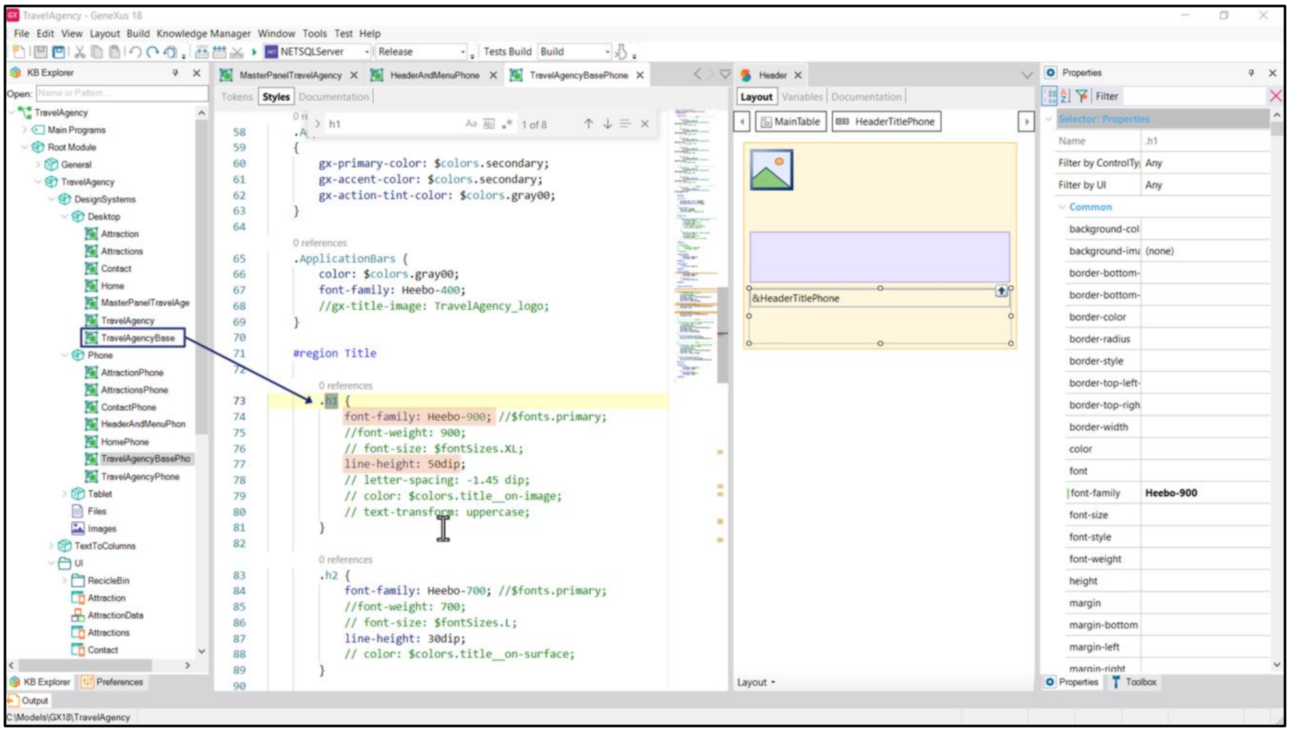


```
styles HeaderAndMenuPhone {

    @import TravelAgency.DesignSystems.Phone.
TravelAgencyBasePhone;

    0 references
    .header-image
    {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .header-mask {
        background-color: $colors.opacity;
    }

    #region Menu ···
    #endregion

}
```

In the Stencil I have the canvas with the variable for the image, the table that works as a mask, and the variable for the title.

Where did I define the style of its classes?

If for Angular Desktop I had done it in the DSO with the same name as the Master Panel, here I created a parallel one and called it that way. And here I define the properties of the Header and also those of the menu that we will see later.

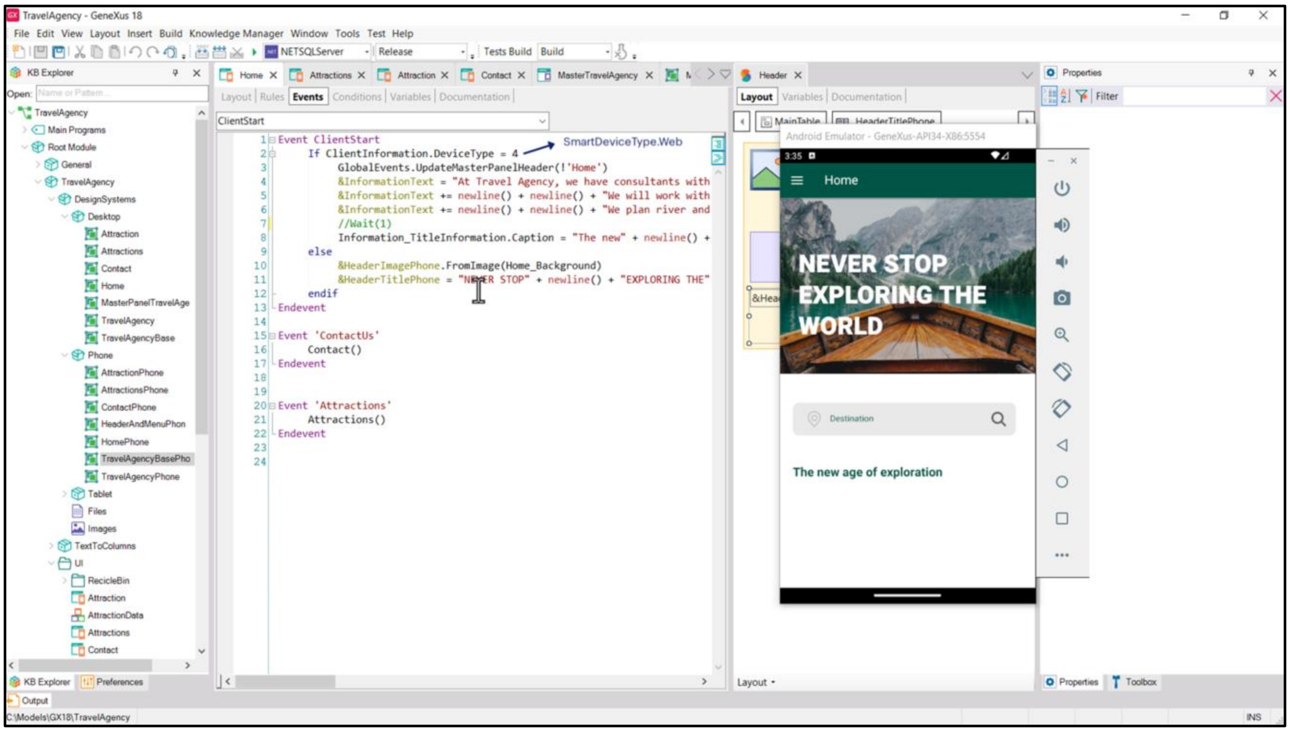


```
.A
{
    gx-primary-color: $colors.secondary;
    gx-accent-color: $colors.secondary;
    gx-action-tint-color: $colors.gray00;
}

0 references
.ApplicationBars {
    color: $colors.gray00;
    font-family: Heebo-400;
    //gx-title-image: TravelAgency_logo;
}

#region Title

    0 references
    .h1 {
        font-family: Heebo-900; //$fonts.primary;
        //font-weight: 900;
        // font-size: $fontSizes.XL;
        line-height: 50dip;
        // letter-spacing: -1.45 dip;
        // color: $colors.title__on-image;
        // text-transform: uppercase;
    }

    0 references
    .h2 {
        font-family: Heebo-700; //$fonts.primary;
        //font-weight: 700;
        // font-size: $fontSizes.L;
        line-height: 30dip;
        // color: $colors.title__on-surface;
    }
```

Name	.h1
Filter by ControlTy	Any
Filter by UI	Any
background-image	(none)
font-family	Heebo-900

The h1 is in the base DSO for Phone, and will have these characteristics (all those coming from the TravelAgencyBase DSO with these changes here).

However, we will have to see if all these properties apply to the native world. As I told you before, not all CSS properties will. In fact, for the moment, text-transform with uppercase value will not work.

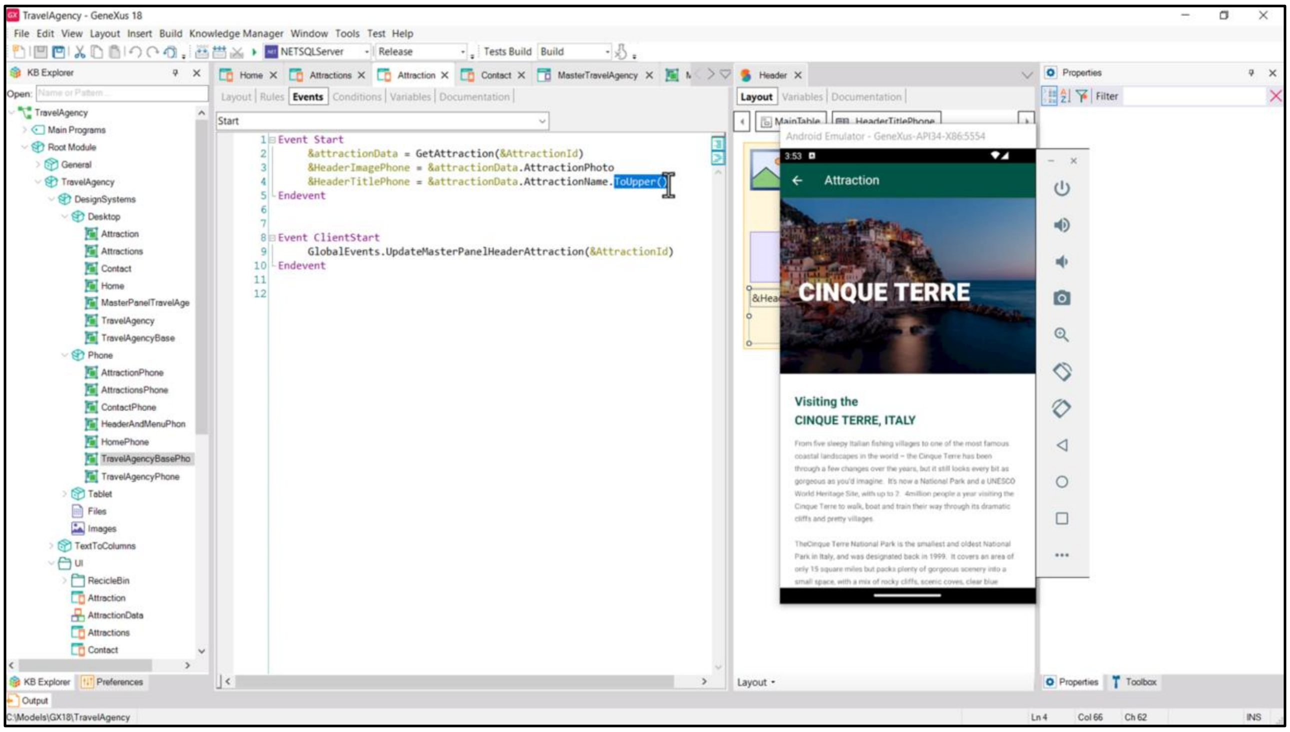


```
Event ClientStart
      If ClientInformation.DeviceType = 4
            GlobalEvents.UpdateMasterPanelHeader(!'Home')
            &InformationText = "At Travel Agency, we have consultants with
            &InformationText += newline() + newline() + "We will work with
            &InformationText += newline() + newline() + "We plan river and
            //Wait(1)
            Information_TitleInformation.Caption = "The new" + newline() +
      else
            &HeaderImagePhone.FromImage(Home_Background)
            &HeaderTitlePhone = "NEVER STOP" + newline() + "EXPLORING THE"
      endif
Endevent

Event 'ContactUs'
      Contact()
Endevent


Event 'Attractions'
      Attractions()
Endevent
```

Note that I get it to be capitalized because the content of the variable is capitalized on all screens.

Here we see how I loaded in the ClientStart these two variables of the Header only if Angular is not running. It's not really the break we'll want to make, because, for the sake of transversality, we'll want to use the same solution for Angular of this window size. But for now it doesn't matter.

We see that the title is entered in uppercase.



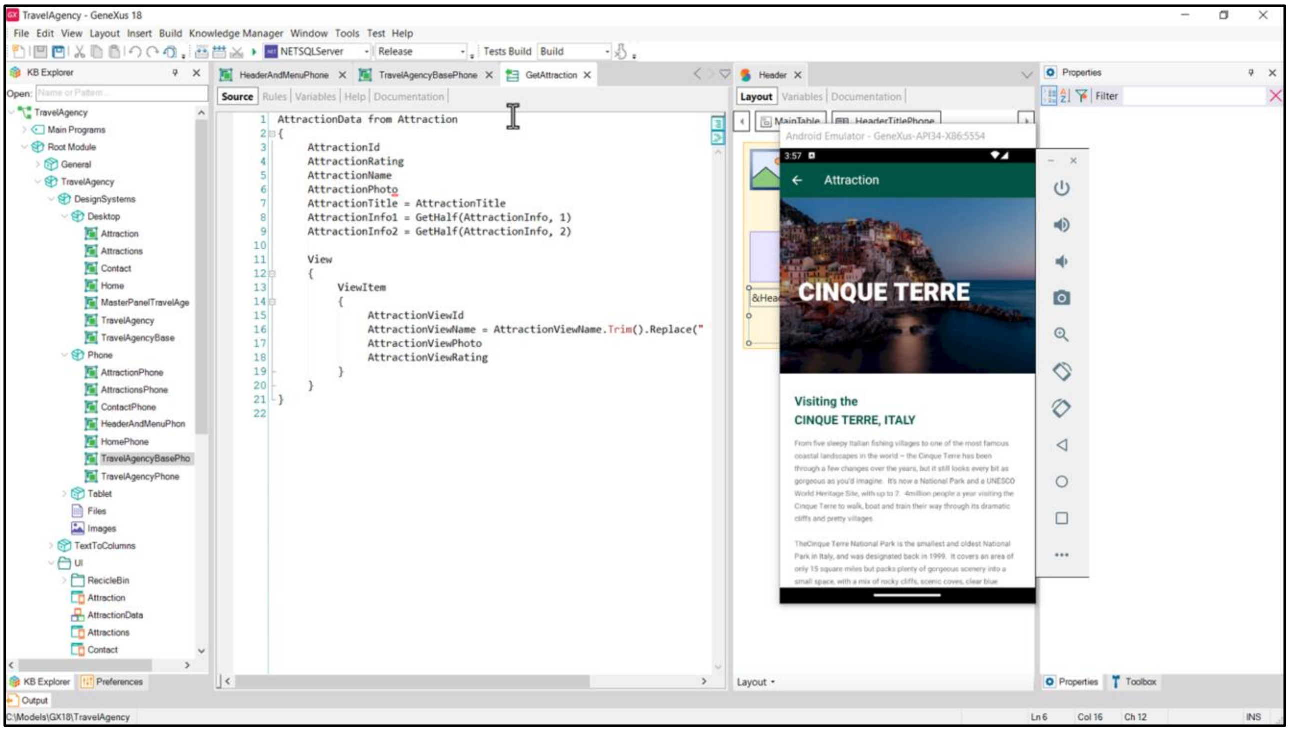
```
Event Start
	&attractionData = GetAttraction(&AttractionId)
	&HeaderImagePhone = &attractionData.AttractionPhoto
	&HeaderTitlePhone = &attractionData.AttractionName.ToUpper()
Endevent


Event ClientStart
	GlobalEvents.UpdateMasterPanelHeaderAttraction(&AttractionId)
Endevent
```

Visiting the
CINQUE TERRE, ITALY

From five sleepy Italian fishing villages to one of the most famous coastal landscapes in the world – the Cinque Terre has been through a few changes over the years, but it still looks every bit as gorgeous as you'd imagine. It's now a National Park and a UNESCO World Heritage Site, with up to 2. 4million people a year visiting the Cinque Terre to walk, boat and train their way through its dramatic cliffs and pretty villages.

TheCinque Terre National Park is the smallest and oldest National Park in Italy, and was designated back in 1999. It covers an area of only 15 square miles but packs plenty of gorgeous scenery into a small space, with a mix of rocky cliffs, scenic coves, clear blue

And if I go now to see the title for Attraction, which is taken from the database... so I don't know if it's capitalized there... I force it to be capitalized with this method.



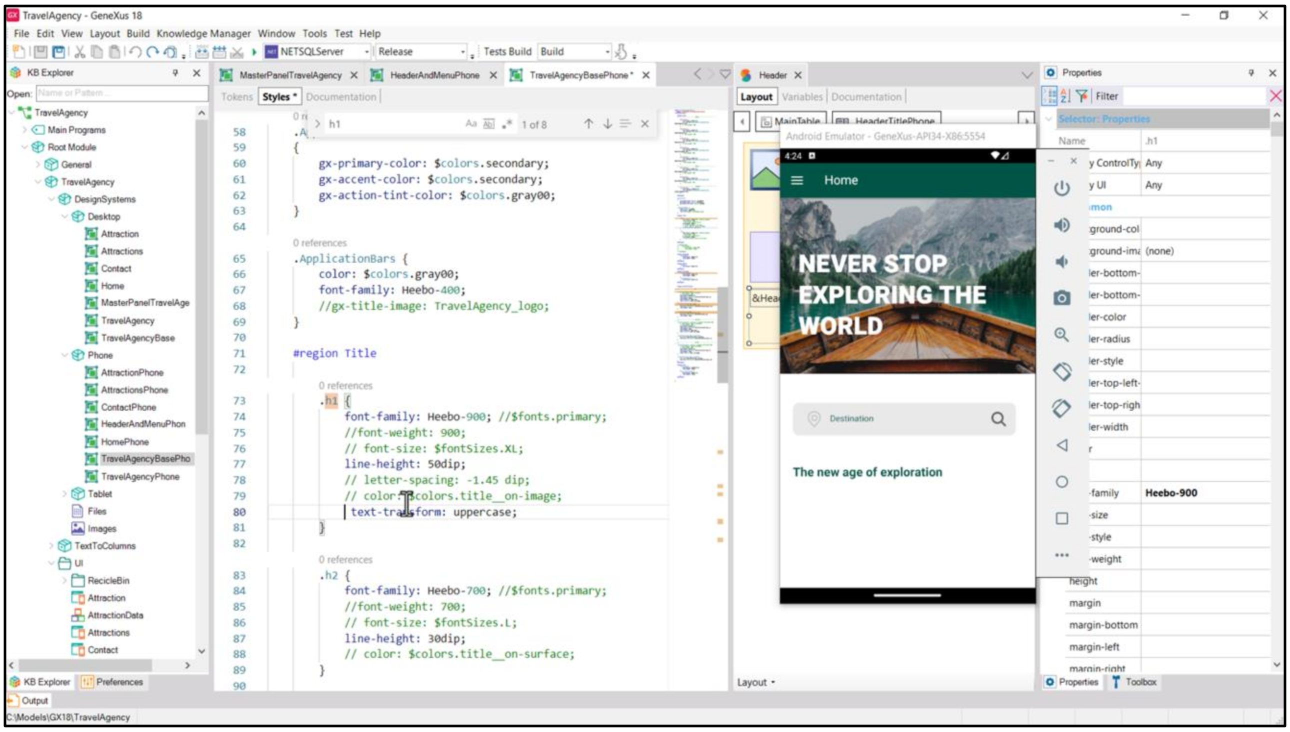
```
AttractionData from Attraction
{
      AttractionId
      AttractionRating
      AttractionName
      AttractionPhoto
      AttractionTitle = AttractionTitle
      AttractionInfo1 = GetHalf(AttractionInfo, 1)
      AttractionInfo2 = GetHalf(AttractionInfo, 2)

      View
      {
            ViewItem
            {
                  AttractionViewId
                  AttractionViewName = AttractionViewName.Trim().Replace("
                  AttractionViewPhoto
                  AttractionViewRating
            }
      }
}
```

Visiting the
CINQUE TERRE, ITALY

From five sleepy Italian fishing villages to one of the most famous coastal landscapes in the world – the Cinque Terre has been through a few changes over the years, but it still looks every bit as gorgeous as you'd imagine. It's now a National Park and a UNESCO World Heritage Site, with up to 2. 4million people a year visiting the Cinque Terre to walk, boat and train their way through its dramatic cliffs and pretty villages.

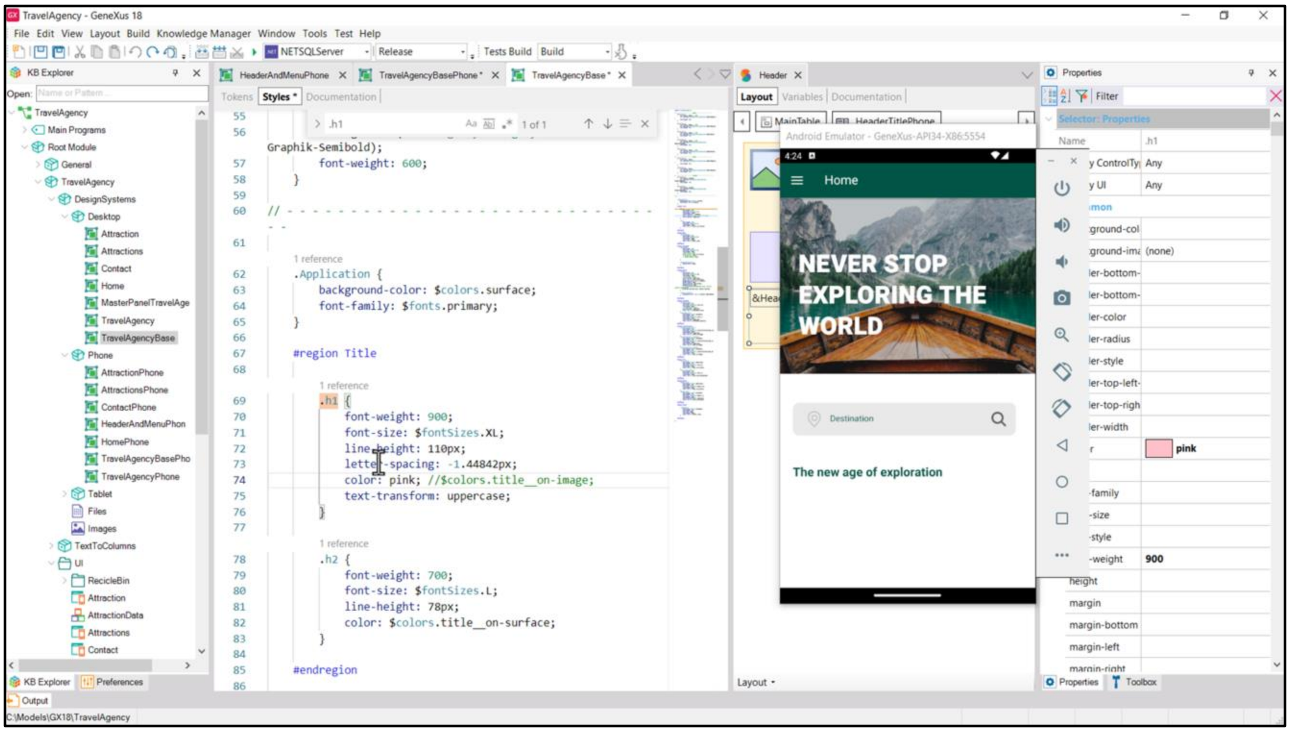
TheCinque Terre National Park is the smallest and oldest National Park in Italy, and was designated back in 1999. It covers an area of only 15 square miles but packs plenty of gorgeous scenery into a small space, with a mix of rocky cliffs, scenic coves, clear blue

Note that I added to the Data Provider that we had used for the Desktop application, and that returned the attraction data, the values of AttractionPhoto and AttractionName, which we didn't load at that time.



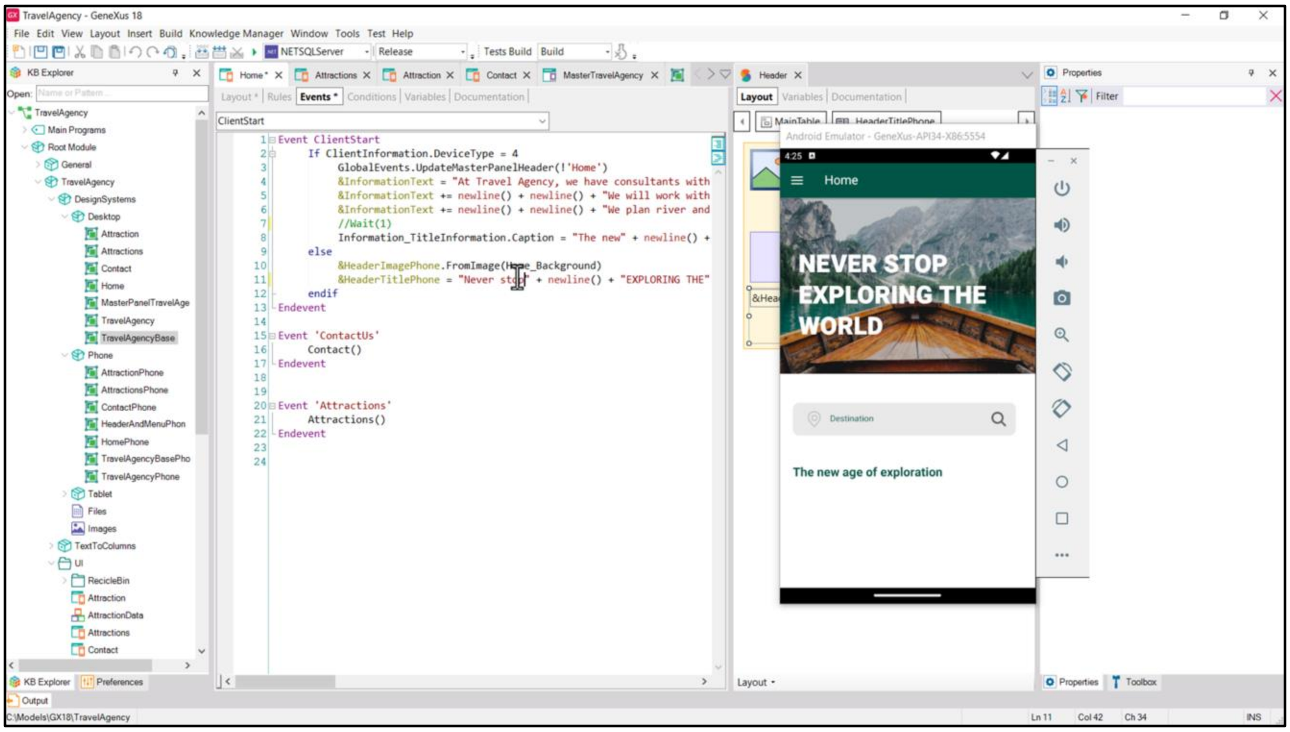
```
.A
{
    gx-primary-color: $colors.secondary;
    gx-accent-color: $colors.secondary;
    gx-action-tint-color: $colors.gray00;
}

.ApplicationBars {
    color: $colors.gray00;
    font-family: Heebo-400;
    //gx-title-image: TravelAgency_logo;
}

#region Title

    .h1 {
        font-family: Heebo-900; //$fonts.primary;
        //font-weight: 900;
        // font-size: $fontSizes.XL;
        line-height: 50dip;
        // letter-spacing: -1.45 dip;
        // color: $colors.title__on-image;
        text-transform: uppercase;
    }

    .h2 {
        font-family: Heebo-700; //$fonts.primary;
        //font-weight: 700;
        // font-size: $fontSizes.L;
        line-height: 30dip;
        // color: $colors.title__on-surface;
    }
```

I will show it explicitly so that there are no doubts that this CSS property is not being applied. I will uncomment it, in case you doubt that it is being taken correctly from the TravelAgencyBase...



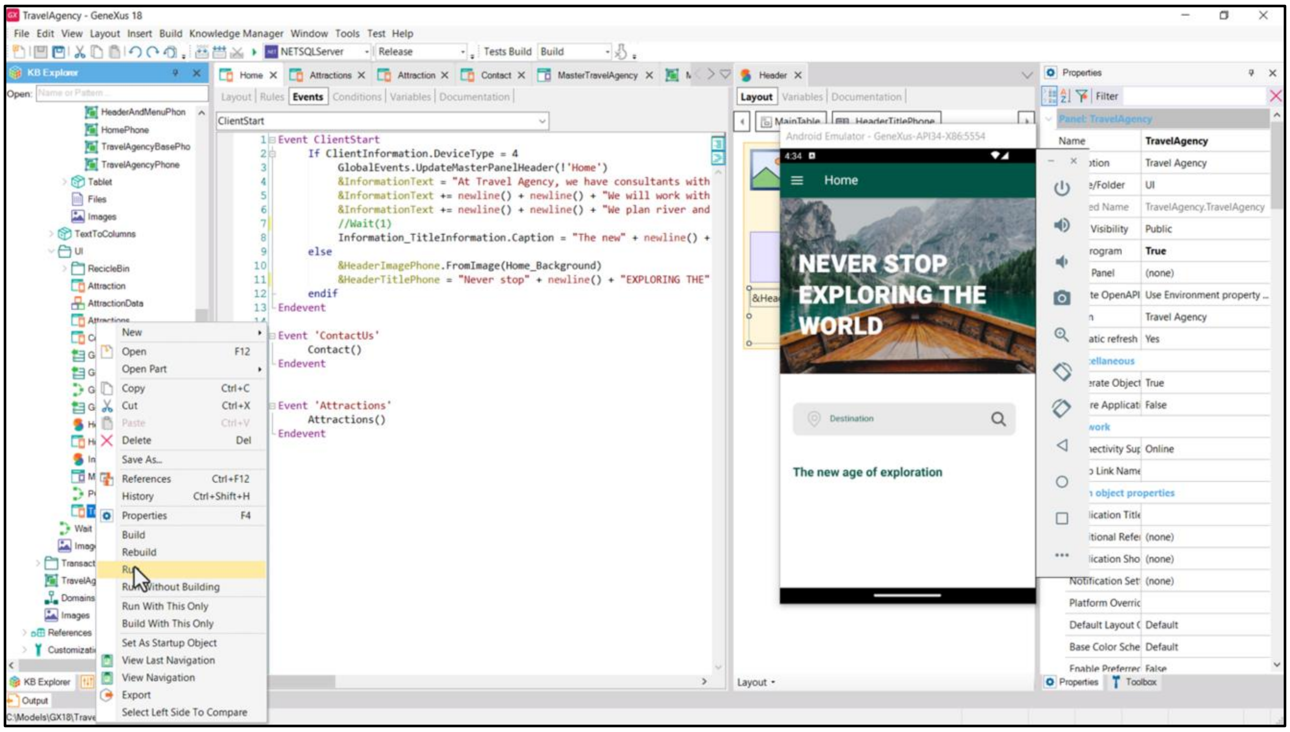
```
Graphik-Semibold);
        font-weight: 600;
    }

// - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- -

    1 reference
    .Application {
        background-color: $colors.surface;
        font-family: $fonts.primary;
    }

    #region Title

        1 reference
        .h1 {
            font-weight: 900;
            font-size: $fontSizes.XL;
            line-height: 110px;
            letter-spacing: -1.44842px;
            color: pink; //$colors.title__on-image;
            text-transform: uppercase;
        }

        1 reference
        .h2 {
            font-weight: 700;
            font-size: $fontSizes.L;
            line-height: 78px;
            color: $colors.title__on-surface;
        }

    #endregion
```

And at the same time in that DSO I'm going to change its color, to make it pink, so that you can see that this is not the problem, because it does take the properties that come from there.



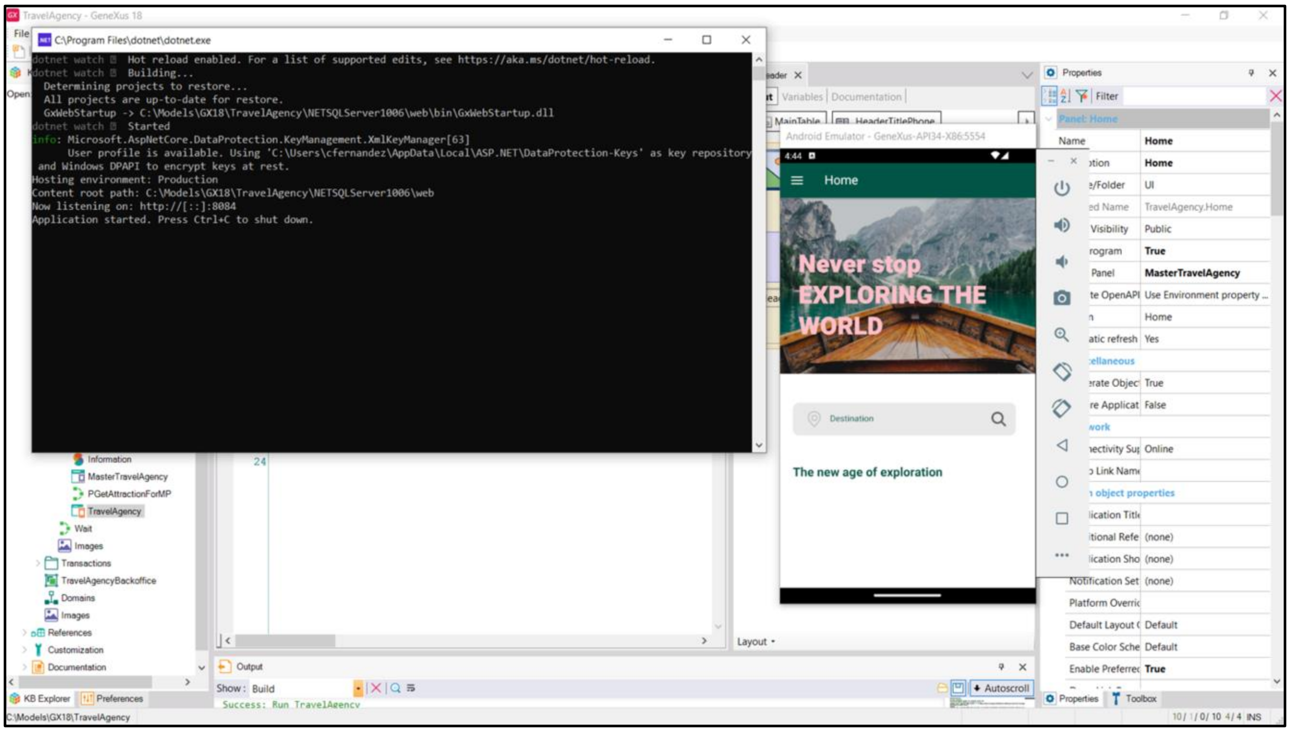
```
Event ClientStart
	If ClientInformation.DeviceType = 4
		GlobalEvents.UpdateMasterPanelHeader(!'Home')
		&InformationText = "At Travel Agency, we have consultants with
		&InformationText += newline() + newline() + "We will work with
		&InformationText += newline() + newline() + "We plan river and
		//Wait(1)
		Information_TitleInformation.Caption = "The new" + newline() +
	else
		&HeaderImagePhone.FromImage(Home_Background)
		&HeaderTitlePhone = "Never stop" + newline() + "EXPLORING THE"
	endif
Endevent

Event 'ContactUs'
	Contact()
Endevent


Event 'Attractions'
	Attractions()
Endevent
```

And the other thing I will do is modify this here so that it is in lowercase.



```
Event ClientStart
    If ClientInformation.DeviceType = 4
        GlobalEvents.UpdateMasterPanelHeader(!'Home')
        &InformationText = "At Travel Agency, we have consultants with
        &InformationText += newline() + newline() + "We will work with
        &InformationText += newline() + newline() + "We plan river and
        //Wait(1)
        Information_TitleInformation.Caption = "The new" + newline() +
    else
        &HeaderImagePhone.FromImage(Home_Background)
        &HeaderTitlePhone = "Never stop" + newline() + "EXPLORING THE"
    endif
Endevent

Event 'ContactUs'
    Contact()
Endevent


Event 'Attractions'
    Attractions()
Endevent
```

My main object is the menu, so that's the one I'm going to run.

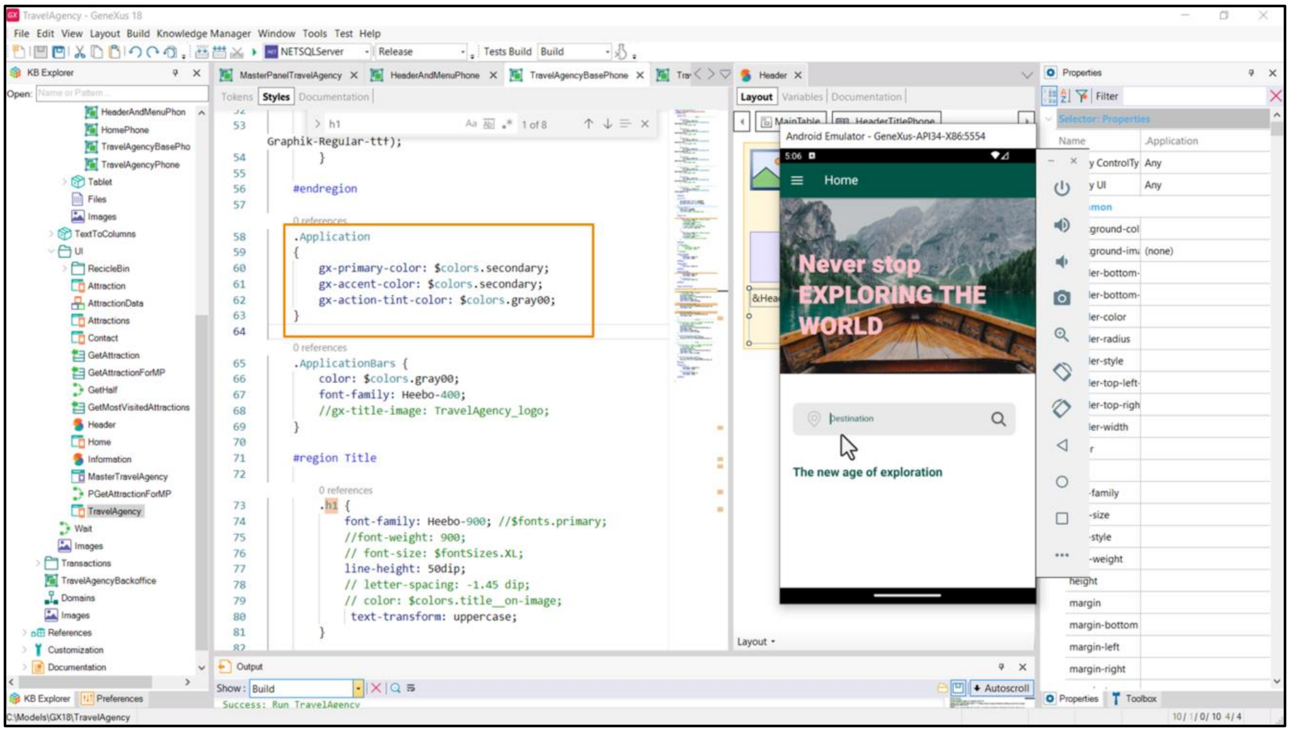


```
dotnet watch 🔥 Hot reload enabled. For a list of supported edits, see https://aka.ms/dotnet/hot-reload.
dotnet watch 🔥 Building...
  Determining projects to restore...
  All projects are up-to-date for restore.
  GxWebStartup -> C:\Models\GX18\TravelAgency\NETSQLServer1006\web\bin\GxWebStartup.dll
dotnet watch 🔥 Started
info: Microsoft.AspNetCore.DataProtection.KeyManagement.XmlKeyManager[63]
      User profile is available. Using 'C:\Users\cfernandez\AppData\Local\ASP.NET\DataProtection-Keys' as key repository
 and Windows DPAPI to encrypt keys at rest.
Hosting environment: Production
Content root path: C:\Models\GX18\TravelAgency\NETSQLServer1006\web
Now listening on: http://[::]:8084
Application started. Press Ctrl+C to shut down.
```

TravelAgency - GeneXus 18
C:\Program Files\dotnet\dotnet.exe
Android Emulator - GeneXus-API34-X86:5554
Home
Never stop EXPLORING THE WORLD
Destination
The new age of exploration
Properties
Output
Success: Run TravelAgency

Name	Home
ption	Home
e/Folder	UI
ed Name	TravelAgency.Home
Visibility	Public
rogram	True
Panel	MasterTravelAgency
te OpenAPI	Use Environment property ...
n	Home
atic refresh	Yes
rate Objec	True
re Applicat	False
nectivity Sup	Online
Notification Set	(none)
Default Layout	Default
Base Color Sche	Default
Enable Preferre	True

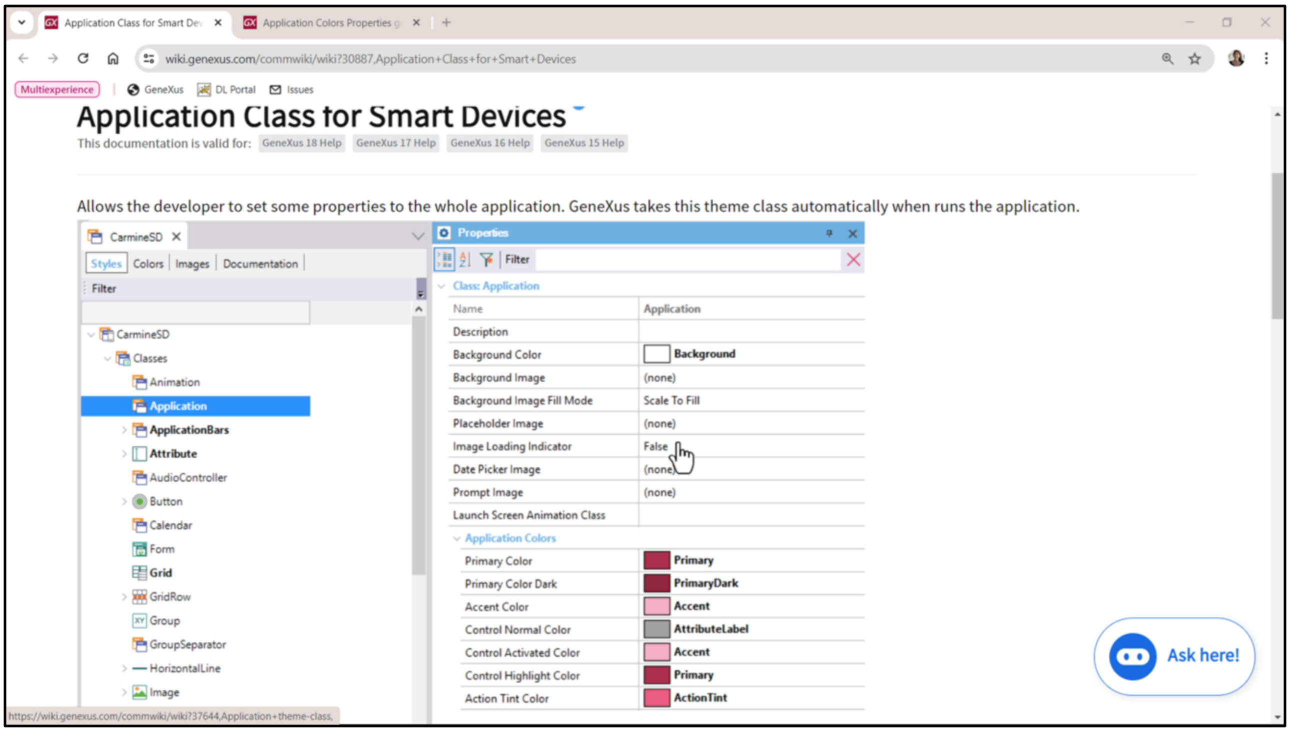
Well, that should have made it clear, shouldn't it?



```
        Graphik-Regular-ttf);
            }

    #endregion

    .Application
    {
        gx-primary-color: $colors.secondary;
        gx-accent-color: $colors.secondary;
        gx-action-tint-color: $colors.gray00;
    }

    .ApplicationBars {
        color: $colors.gray00;
        font-family: Heebo-400;
        //gx-title-image: TravelAgency_logo;
    }

    #region Title

        .h1 {
            font-family: Heebo-900; //$fonts.primary;
            //font-weight: 900;
            // font-size: $fontSizes.XL;
            line-height: 50dip;
            // letter-spacing: -1.45 dip;
            // color: $colors.title__on-image;
             text-transform: uppercase;
        }
```

```
Success: Run TravelAgency
```

Before we go on, I want to show you that the way to specify that this color is the color of the application bar, and that this white is the color of the texts and of the hamburger icon, and that for editable fields this is the color of the cursor... is through these properties specified at the Application class level. Only this class will understand them.



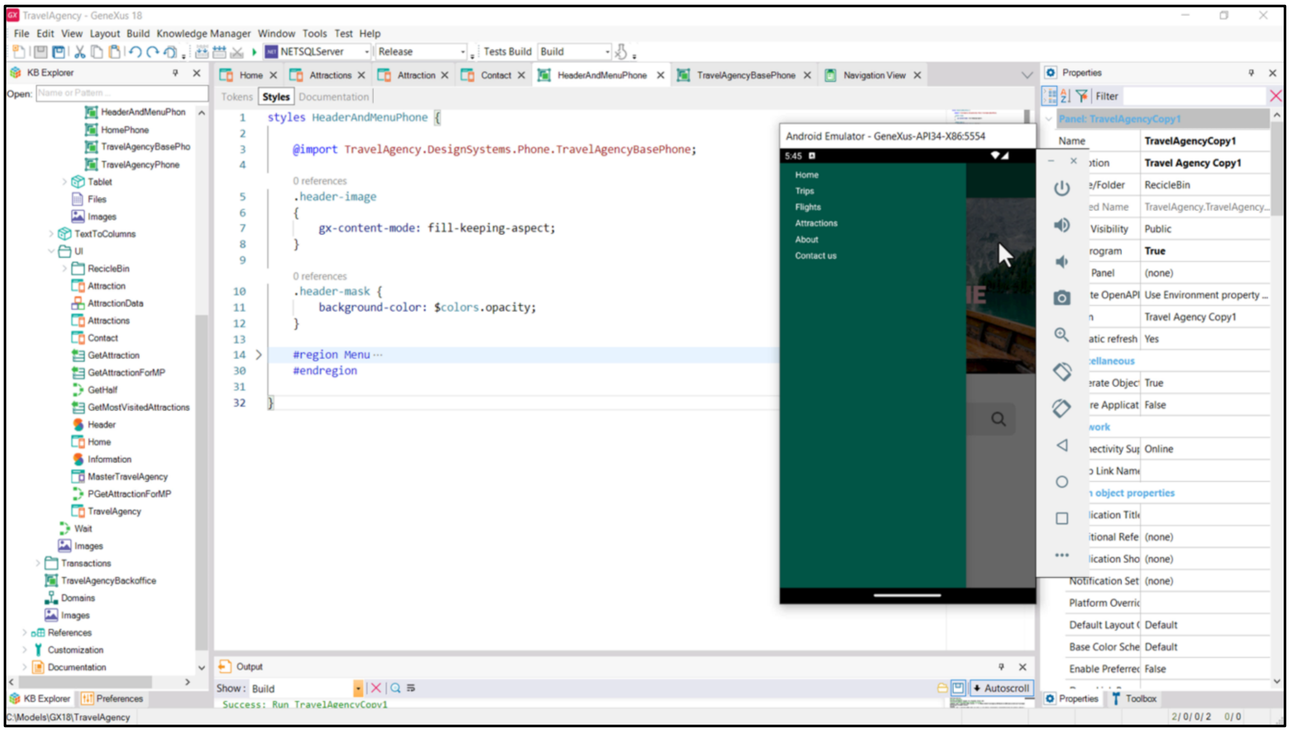
Application Class for Smart Devices

This documentation is valid for: GeneXus 18 Help GeneXus 17 Help GeneXus 16 Help GeneXus 15 Help

Allows the developer to set some properties to the whole application. GeneXus takes this theme class automatically when runs the application.

Class: Application	
Name	Application
Description	
Background Color	Background
Background Image	(none)
Background Image Fill Mode	Scale To Fill
Placeholder Image	(none)
Image Loading Indicator	False
Date Picker Image	(none)
Prompt Image	(none)
Launch Screen Animation Class	
Application Colors	
Primary Color	Primary
Primary Color Dark	PrimaryDark
Accent Color	Accent
Control Normal Color	AttributeLabel
Control Activated Color	Accent
Control Highlight Color	Primary
Action Tint Color	ActionTint

You can find the complete information in the GeneXus wiki. It corresponds to definitions from the Android and Apple design guides.



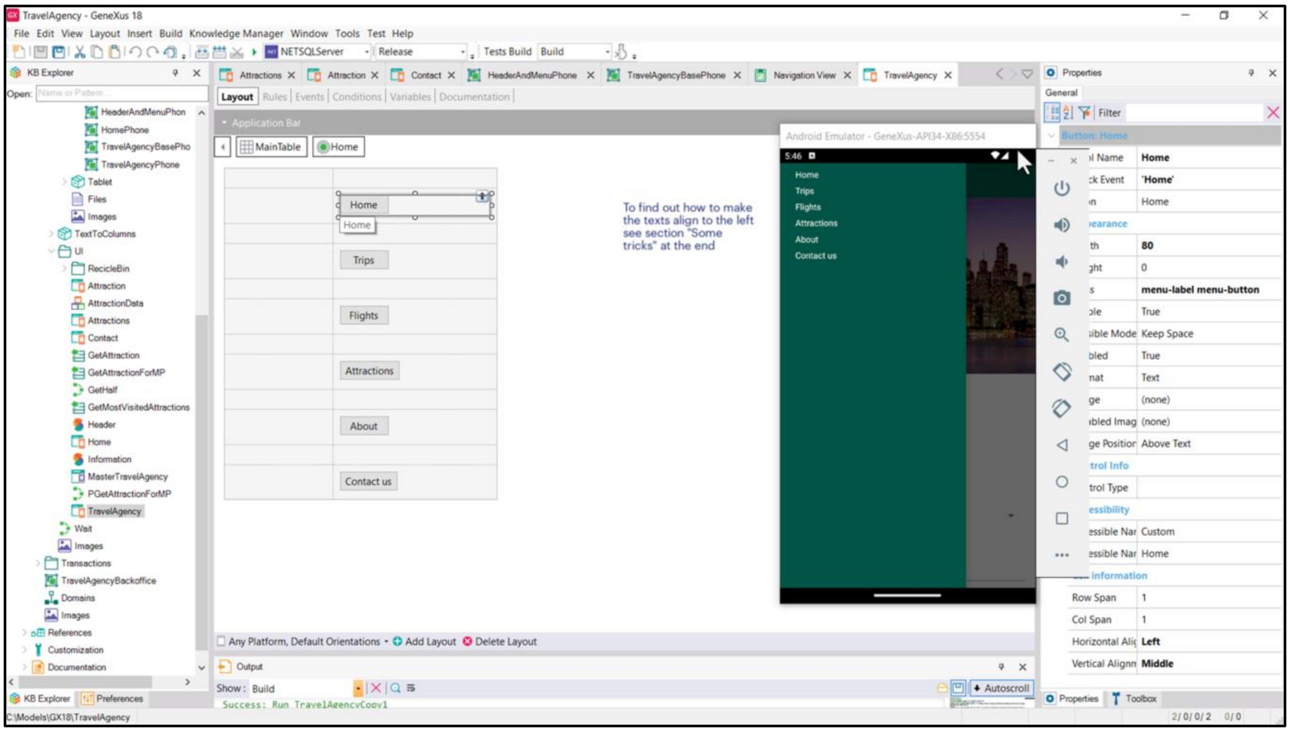
```
styles HeaderAndMenuPhone {

    @import TravelAgency.DesignSystems.Phone.TravelAgencyBasePhone;

    0 references
    .header-image
    {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .header-mask {
        background-color: $colors.opacity;
    }

    #region Menu···
    #endregion
}
```

```
Success: Run TravelAgencyCopy1
```

Panel: TravelAgencyCopy1	
Name	TravelAgencyCopy1
ption	Travel Agency Copy1
e/Folder	RecicleBin
ed Name	TravelAgency.TravelAgency...
Visibility	Public
rogram	True
Panel	(none)
te OpenAPI	Use Environment property ...
n	Travel Agency Copy1
atic refresh	Yes
cellaneous	
erate Objec	True
re Applicat	False
work	
nectivity Sup	Online
o Link Name	
n object properties	
lication Title	
itional Refe	(none)
lication Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout (	Default
Base Color Sche	Default
Enable Preferrec	False

So how did I implement the hamburger menu? We have two aspects at play:

1. Implementing the menu itself, and
2. Getting it to behave as a hamburger menu.



To find out how to make the texts align to the left see section "Some tricks" at the end

Button: Home

l Name	Home
ck Event	'Home'
n	Home
earance	
th	80
ght	0
s	menu-label menu-button
ble	True
ible Mode	Keep Space
bled	True
nat	Text
ge	(none)
abled Imag	(none)
ge Position	Above Text
trol Info	
trol Type	
essibility	
essible Nar	Custom
essible Nar	Home
information	
Row Span	1
Col Span	1
Horizontal Alig	Left
Vertical Alignm	Middle

```
Show: Build
Success: Run TravelAgencyCopy1
```

C:\Models\GX18\TravelAgency

I did the first thing using a panel object with a table with the 6 buttons.

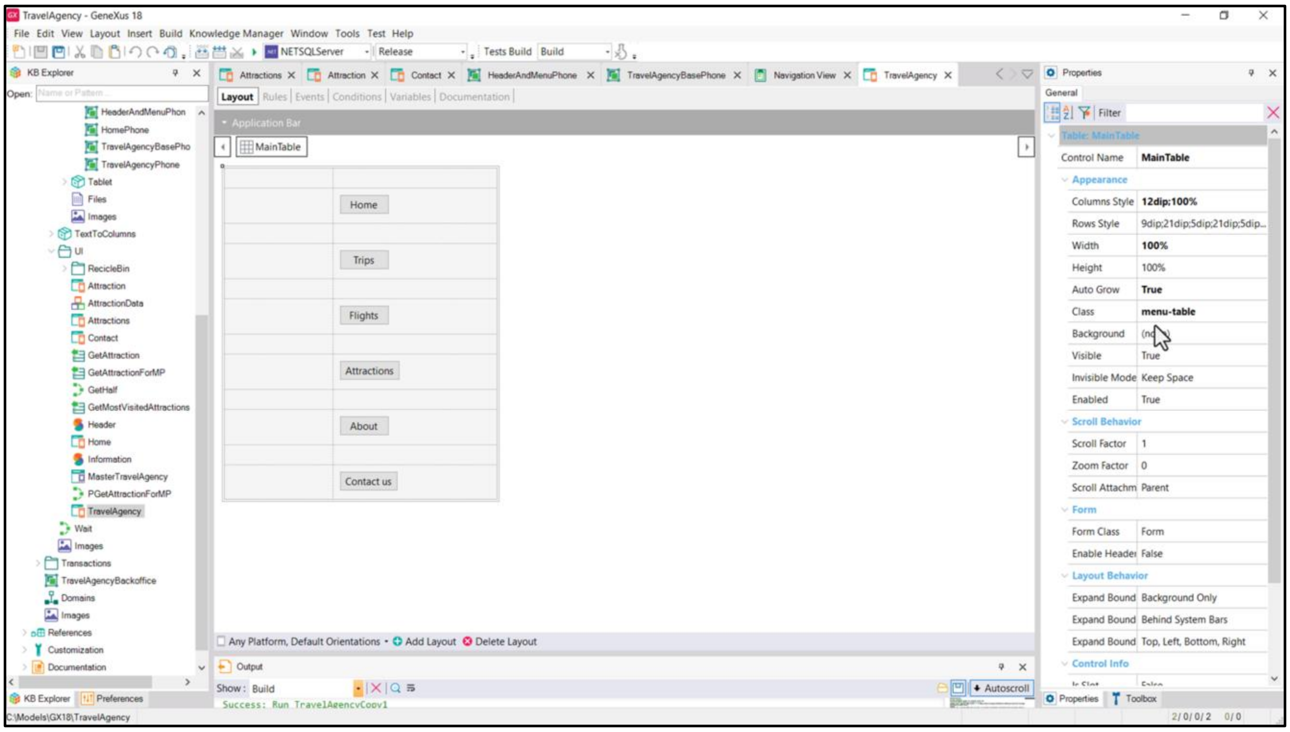
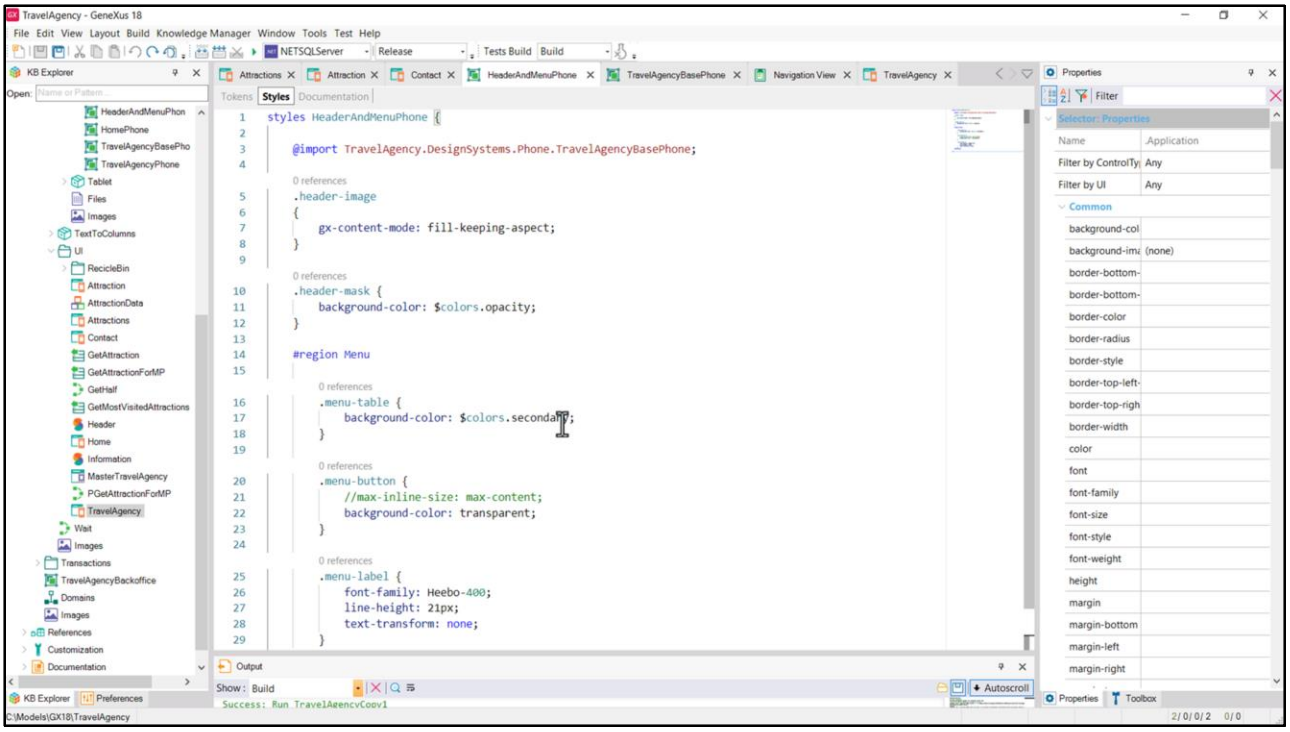

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
Attractions
Attraction
Contact
HeaderAndMenuPhone
TravelAgencyBasePhone
Navigation View
TravelAgency
Layout | Rules | Events | Conditions | Variables | Documentation
Application Bar
MainTable
Home
Trips
Flights
Attractions
About
Contact us
Any Platform, Default Orientations • Add Layout • Delete Layout

Table: MainTable	
Control Name	MainTable
Appearance	
Columns Style	12dip;100%
Rows Style	9dip;21dip;5dip;21dip;5dip...
Width	100%
Height	100%
Auto Grow	True
Class	menu-table
Background	(no
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	
Expand Bound	Background Only
Expand Bound	Behind System Bars
Expand Bound	Top, Left, Bottom, Right
Control Info	

```
Success: Run TravelAgencyCopy1
```

I associated a class with this table...



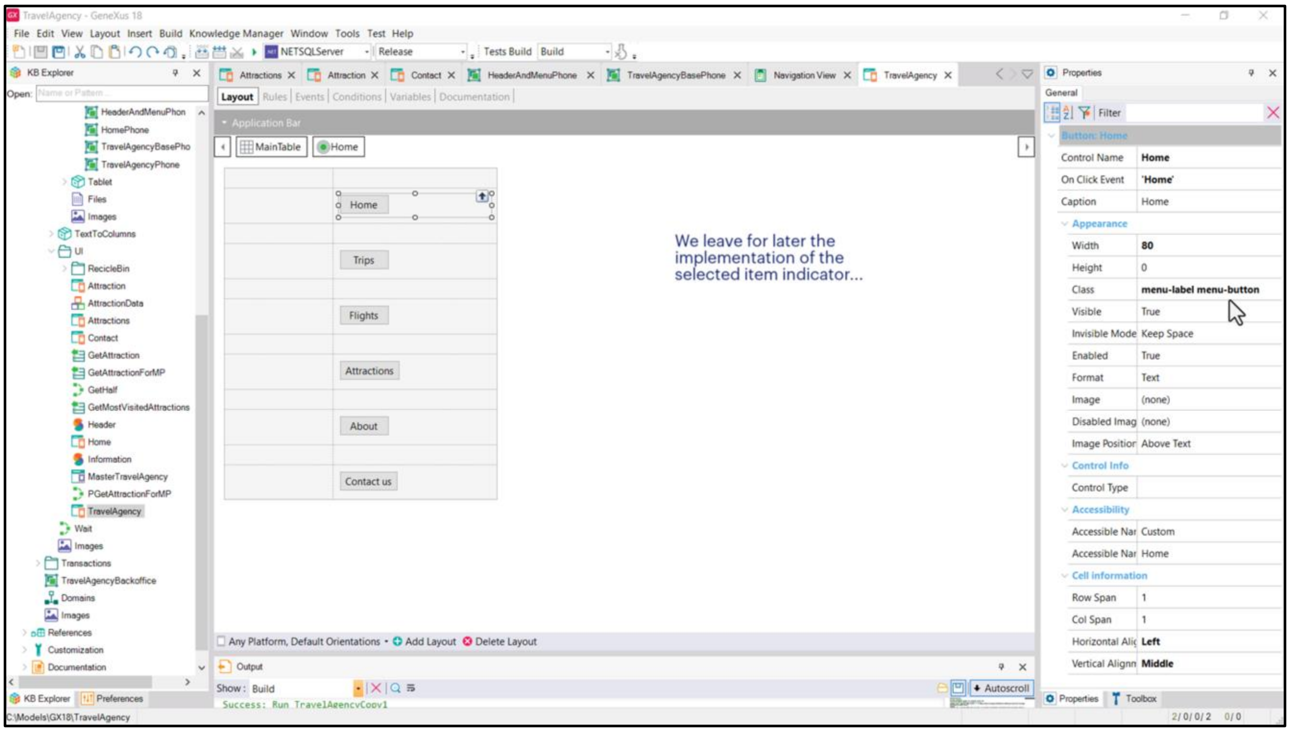
```
styles HeaderAndMenuPhone {

    @import TravelAgency.DesignSystems.Phone.TravelAgencyBasePhone;

    0 references
    .header-image
    {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .header-mask {
        background-color: $colors.opacity;
    }

    #region Menu

        0 references
        .menu-table {
            background-color: $colors.secondary;
        }

        0 references
        .menu-button {
            //max-inline-size: max-content;
            background-color: transparent;
        }

        0 references
        .menu-label {
            font-family: Heebo-400;
            line-height: 21px;
            text-transform: none;
        }
```

Selector: Properties	
Name	Application
Filter by ControlTy	Any
Filter by UI	Any
Common	
background-col	
background-ima	(none)
border-bottom-	
border-bottom-	
border-color	
border-radius	
border-style	
border-top-left-	
border-top-righ	
border-width	
color	
font	
font-family	
font-size	
font-style	
font-weight	
height	
margin	
margin-bottom	
margin-left	
margin-right	

```
Show: Build
Success: Run TravelAgencyCopy1
```

C:\Models\GX18\TravelAgency

...with the background color I want.



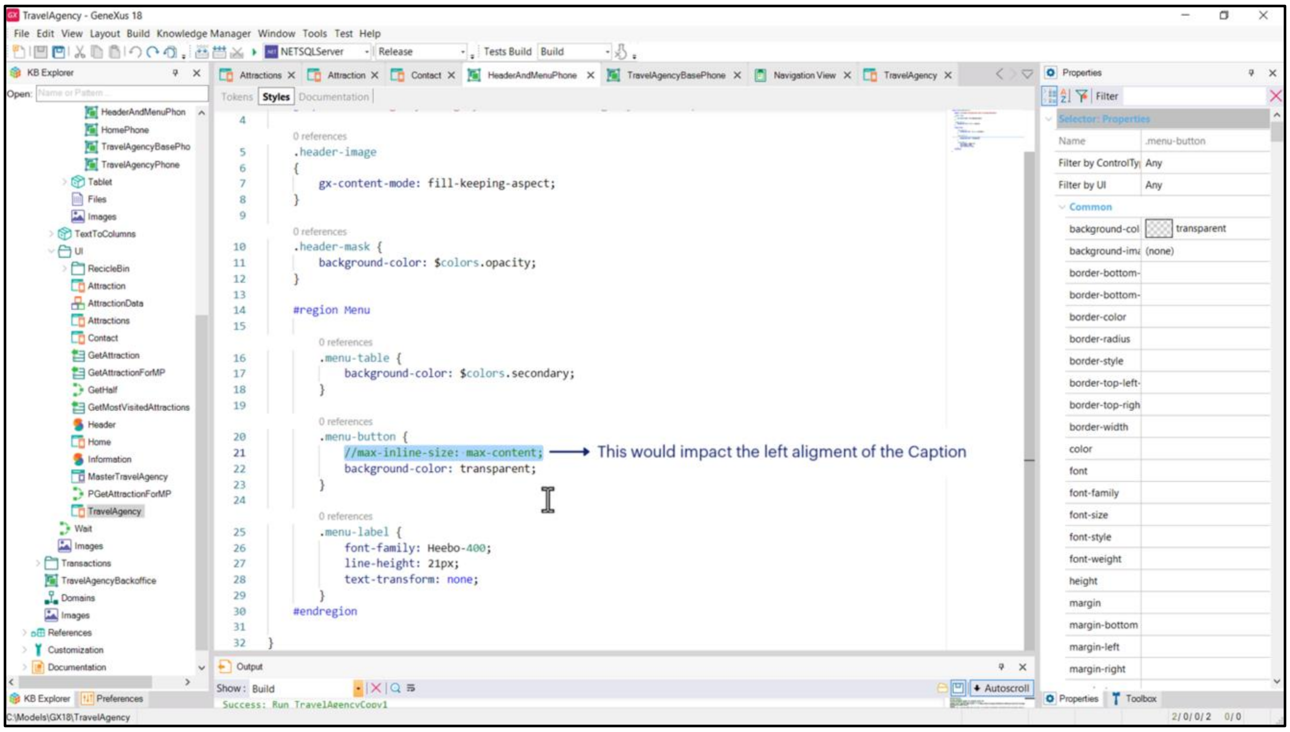
We leave for later the implementation of the selected item indicator...

Button: Home

Control Name	**Home**
On Click Event	**'Home'**
Caption	Home
Appearance	
Width	**80**
Height	0
Class	**menu-label menu-button**
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Image	(none)
Disabled Imag	(none)
Image Positior	Above Text
Control Info	
Control Type	
Accessibility	
Accessible Nar	Custom
Accessible Nar	Home
Cell information	
Row Span	1
Col Span	1
Horizontal Alic	**Left**
Vertical Alignn	**Middle**

```
Success: Run TravelAgencyCopy1
```

And to the buttons I associated the same two classes that we used in the Angular Desktop application (I copied the menu-label here, and removed it from TravelAgencyBasePhone).



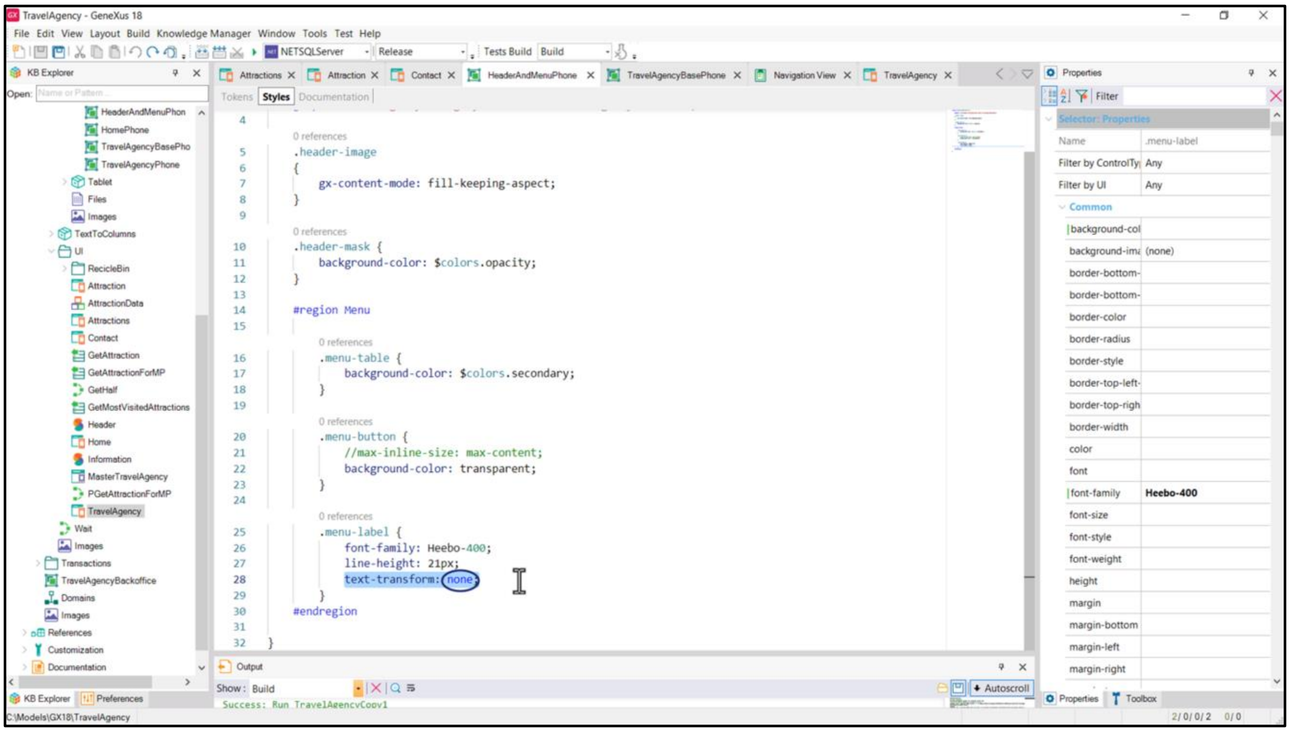
```
    0 references
    .header-image
    {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .header-mask {
        background-color: $colors.opacity;
    }

    #region Menu

        0 references
        .menu-table {
            background-color: $colors.secondary;
        }

        0 references
        .menu-button {
            //max-inline-size: max-content;
            background-color: transparent;
        }

        0 references
        .menu-label {
            font-family: Heebo-400;
            line-height: 21px;
            text-transform: none;
        }
    #endregion
}
```

This would impact the left aligment of the Caption

Name	.menu-button
Filter by ControlTy	Any
Filter by UI	Any
background-col	transparent
background-ima	(none)

Success: Run TravelAgencyCopy1

But here there are also some differences. For example, this CSS property that we used for the button to have the same width as its content doesn't work here.



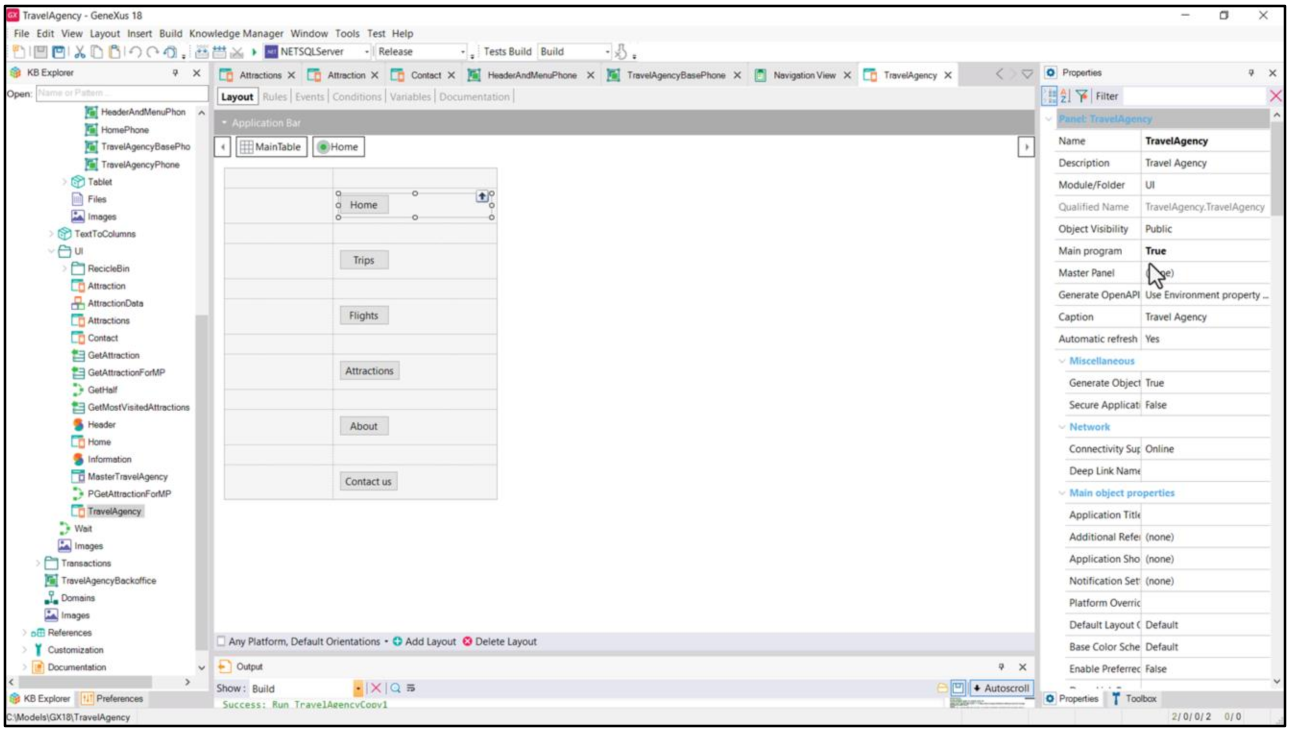
```
    0 references
    .header-image
    {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .header-mask {
        background-color: $colors.opacity;
    }

    #region Menu

        0 references
        .menu-table {
            background-color: $colors.secondary;
        }

        0 references
        .menu-button {
            //max-inline-size: max-content;
            background-color: transparent;
        }

        0 references
        .menu-label {
            font-family: Heebo-400;
            line-height: 21px;
            text-transform: none;
        }
    #endregion
}
```

Name	.menu-label
Filter by ControlTy	Any
Filter by UI	Any
background-ima	(none)
font-family	Heebo-400

```
Success: Run TravelAgencyCopy1
```

In addition, by default, all button captions will be capitalized, so I use the text-transform property so that they are not capitalized. Indeed, here the text-transform property will have an effect, but with this value.

In summary: some CSS properties are valid for native exactly the same, others are valid but for other values and others are not valid at all. The aim of GeneXus is to gradually remove all these differences so that the use of properties is as cross-cutting as possible.

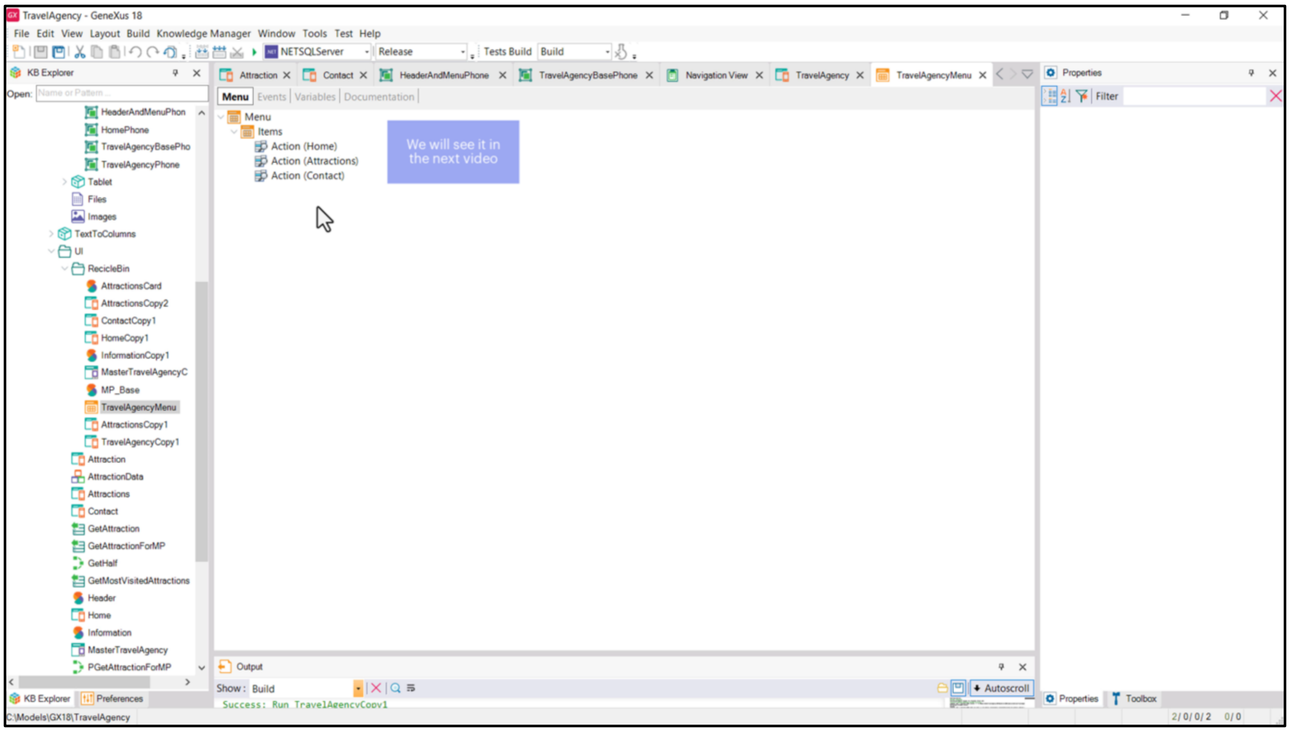


Panel: TravelAgency	
Name	TravelAgency
Description	Travel Agency
Module/Folder	UI
Qualified Name	TravelAgency.TravelAgency
Object Visibility	Public
Main program	True
Master Panel	(none)
Generate OpenAPI	Use Environment property ...
Caption	Travel Agency
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Applicati	False
Network	
Connectivity Sup	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Refe	(none)
Application Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout C	Default
Base Color Sche	Default
Enable Preferrec	False

```
Show: Build
Success: Run TravelAgencyCopy1
```

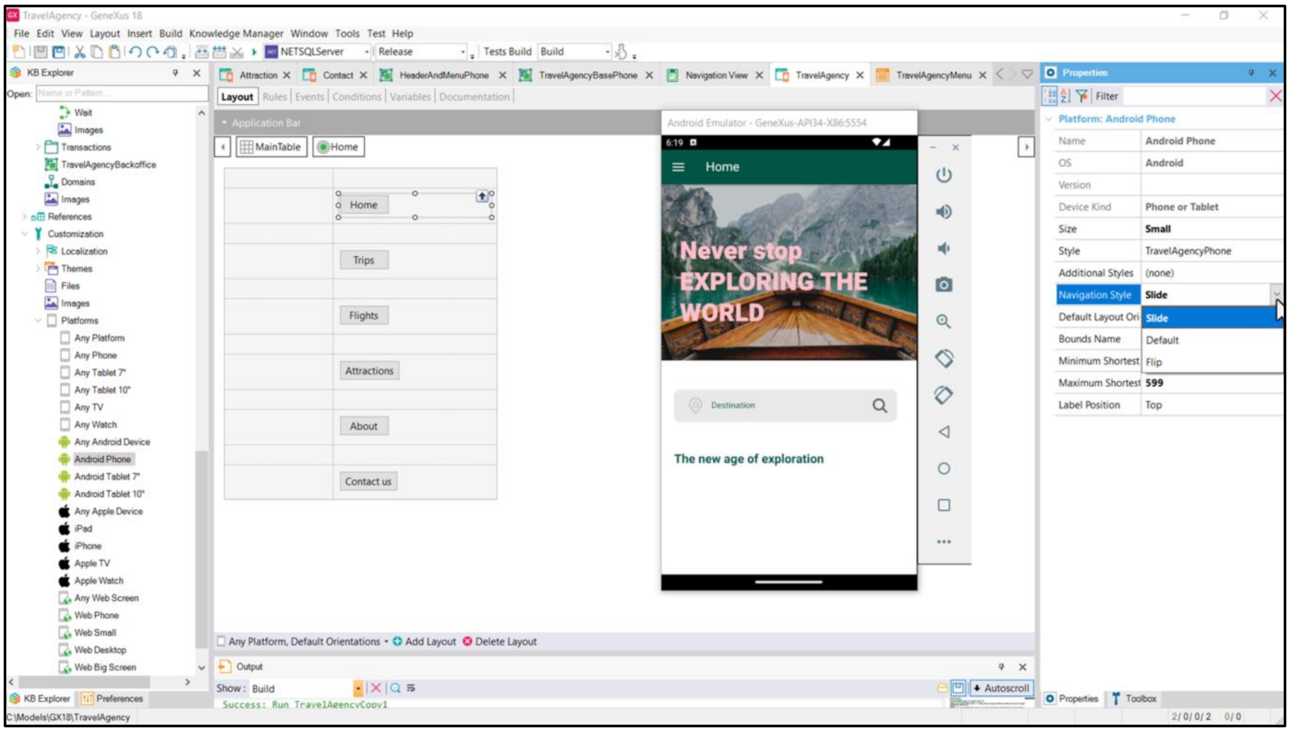
C:\Models\GX18\TravelAgency

So, I have this object that will act as a menu. That's why I have to specify it as main object. It will be the entry point of the application. This will be the one that will be compiled and uploaded to the store when the whole application is ready.



```
Success: Run TravelAgencyCopy1
```

I could have used, instead of an ordinary Panel object, an object of Menu type, which already has this semantics. Since it is less flexible, I chose a panel, which gives me all the flexibility.



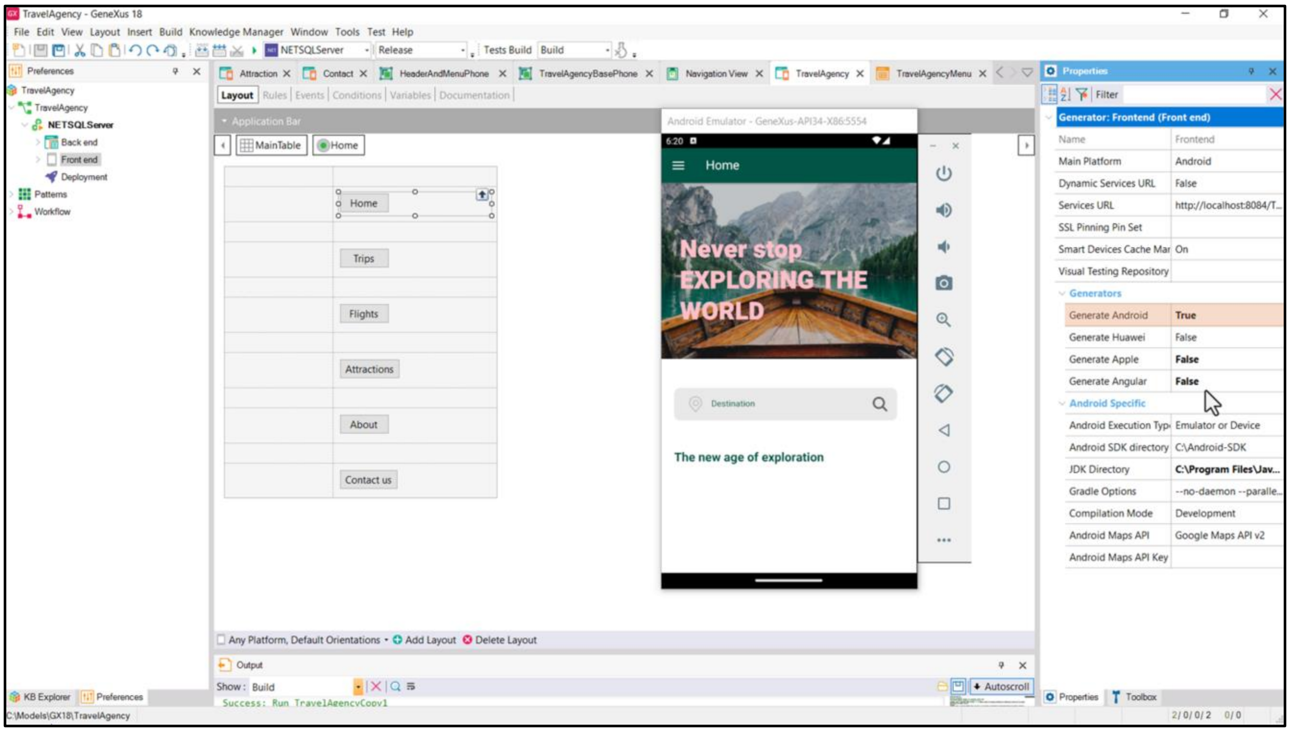
Platform: Android Phone

Name	Android Phone
OS	Android
Version	
Device Kind	Phone or Tablet
Size	Small
Style	TravelAgencyPhone
Additional Styles	(none)
Navigation Style	Slide
Default Layout Ori	Slide
Bounds Name	Default
Minimum Shortest	Flip
Maximum Shortest	599
Label Position	Top

```
Success: Run TravelAgencyCopy1
```

But how do we get this object to act as a hamburger menu? If we use the native solution of the mobile device's operating system (which in the case of Android displays the menu on the left), it will be very simple. It is enough to indicate that the navigation style for the platform is Slide.

This is what I indicated for Android Phone. The default value is Flip.

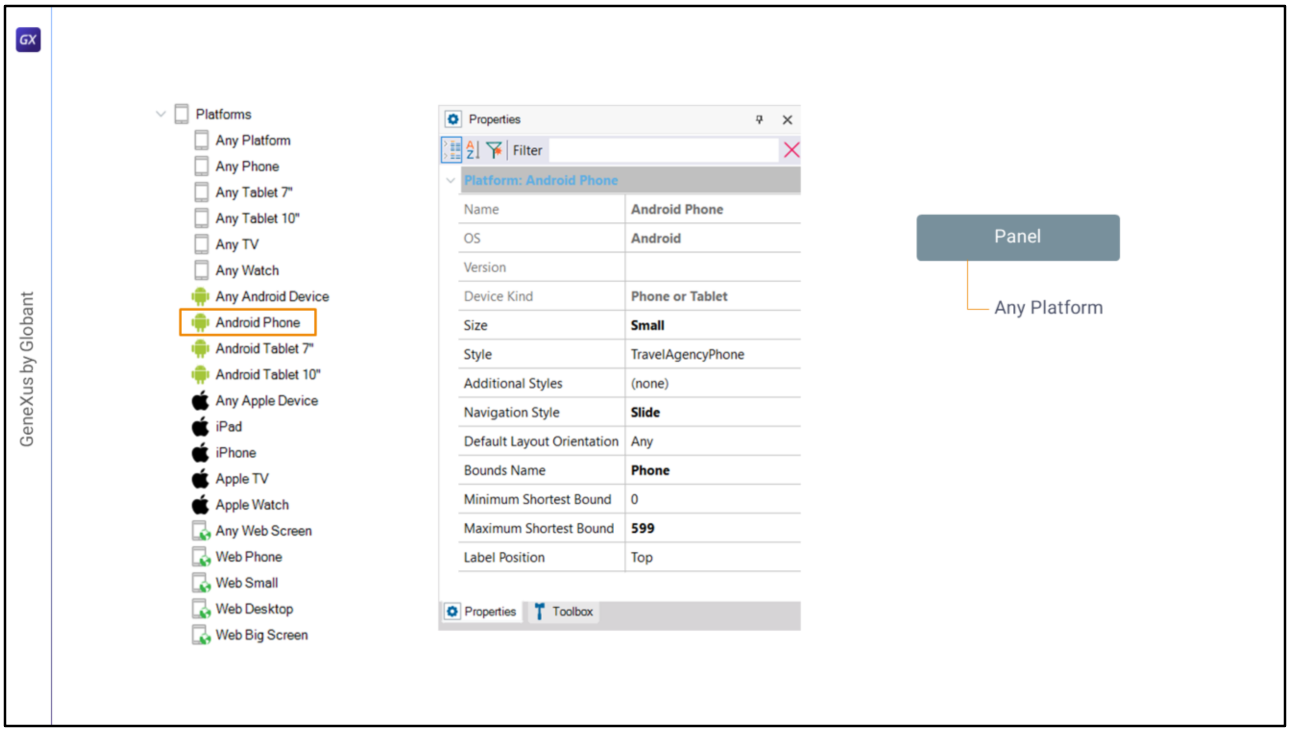


Generator: Frontend (Front end)

Name	Frontend
Main Platform	Android
Dynamic Services URL	False
Services URL	http://localhost:8084/T...
SSL Pinning Pin Set	
Smart Devices Cache Mar	On
Visual Testing Repository	
Generators	
Generate Android	**True**
Generate Huawei	False
Generate Apple	**False**
Generate Angular	**False**
Android Specific	
Android Execution Typ	Emulator or Device
Android SDK directory	C:\Android-SDK
JDK Directory	**C:\Program Files\Jav...**
Gradle Options	--no-daemon --paralle...
Compilation Mode	Development
Android Maps API	Google Maps API v2
Android Maps API Key	

```
Success: Run TravelAgencyCopy1
```

Of course, to test everything as I'm showing it I had to turn on for the Frontend the generation for Android (and temporarily turn off the generation for Angular). Doing this automatically opens the emulator when running.

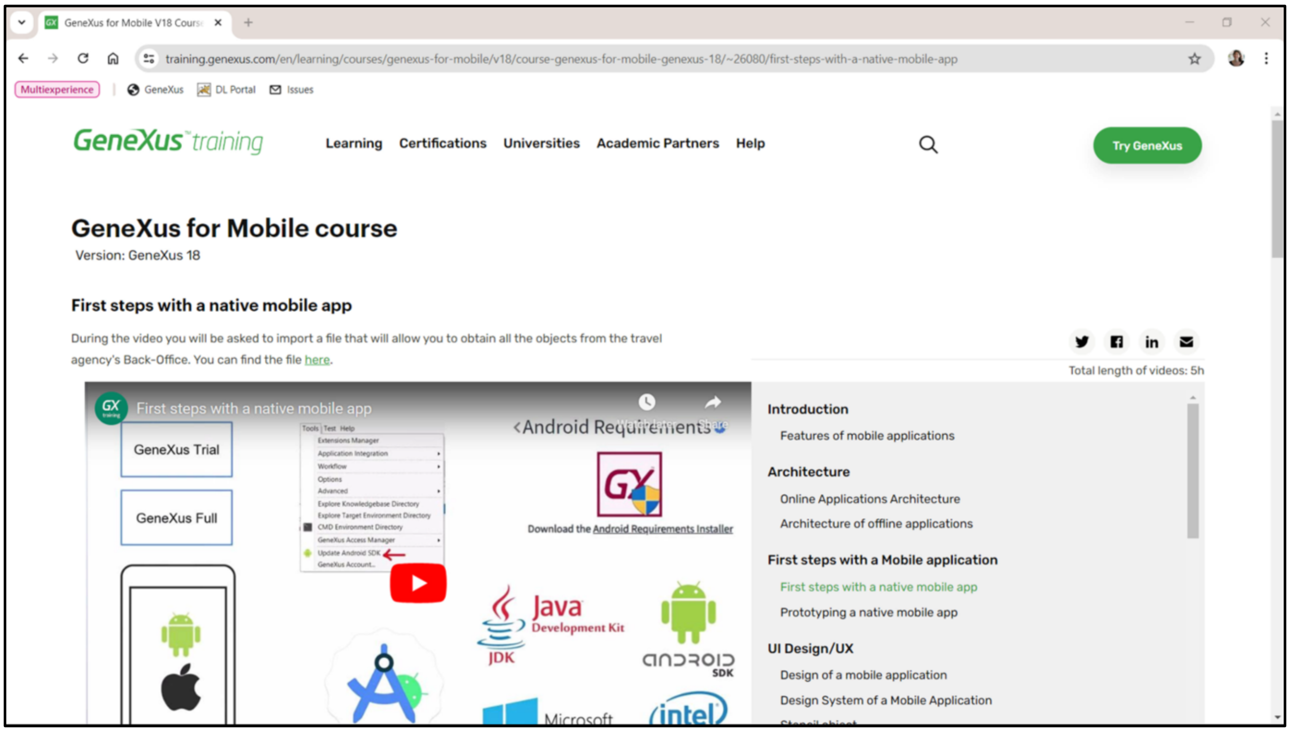


Platform: Android Phone

Name	Android Phone
OS	Android
Version	
Device Kind	Phone or Tablet
Size	Small
Style	TravelAgencyPhone
Additional Styles	(none)
Navigation Style	Slide
Default Layout Orientation	Any
Bounds Name	Phone
Minimum Shortest Bound	0
Maximum Shortest Bound	599
Label Position	Top

Perhaps before we go any further it is worth clarifying something about the platforms. If I'm running the native application on an Android phone, the properties indicated here will be taken into account. For example, the DSO and the navigation style. But which layout will be selected from the ones specified in each panel?

The one whose characteristics are closest to those of the device I'm using. So, if I'm running on an Android phone a panel with these 4 layouts, which one will it use? (this is not chosen at runtime, but when the application is compiled). Clearly it will use Any Phone. If, on the other hand, the application was running on an iPhone, this layout would be chosen. And if a web application is running on either Android Phone or iPhone, it will be this other one. If we only had the Any Platform layout for a panel, in any case it would run this one.



GeneXus for Mobile V18 Course

training.genexus.com/en/learning/courses/genexus-for-mobile/v18/course-genexus-for-mobile-genexus-18/~26080/first-steps-with-a-native-mobile-app

Multiexperience | GeneXus | DL Portal | Issues

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GeneXus for Mobile course

Version: GeneXus 18

First steps with a native mobile app

During the video you will be asked to import a file that will allow you to obtain all the objects from the travel agency's Back-Office. You can find the file here.

Total length of videos: 5h

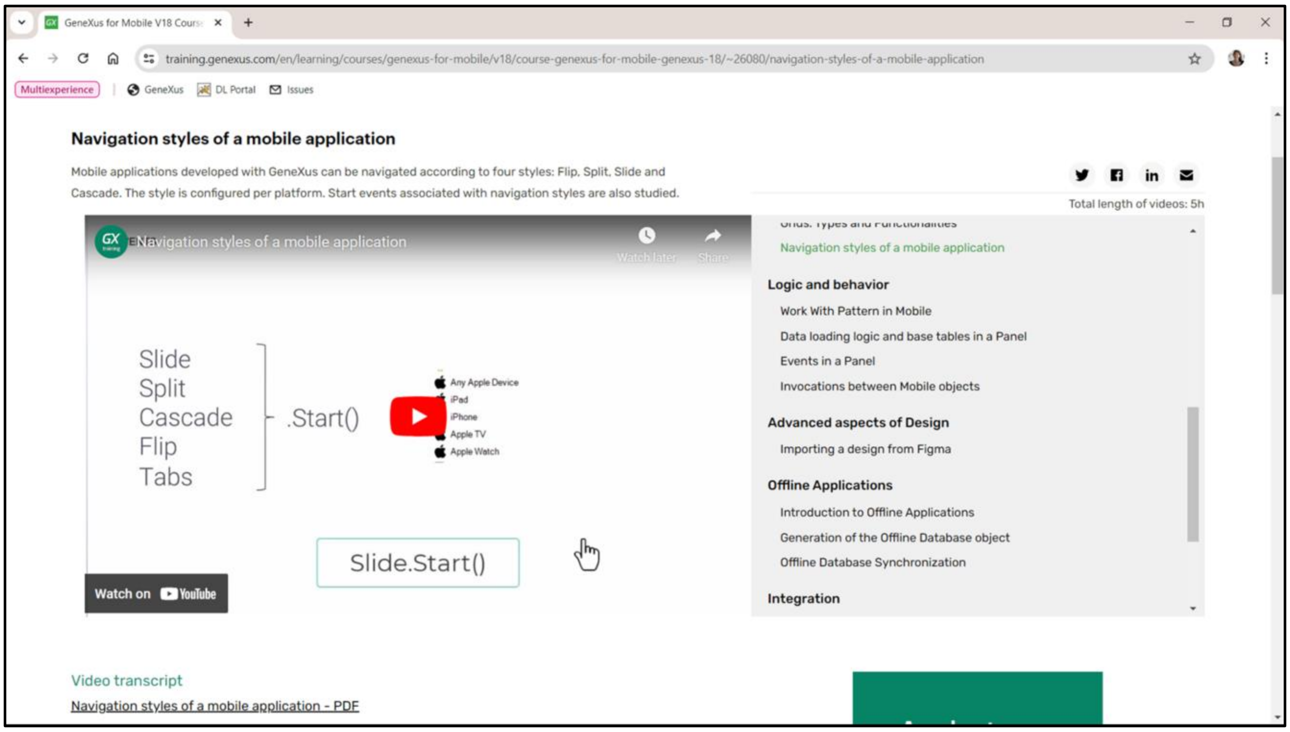
Introduction
- Features of mobile applications

Architecture
- Online Applications Architecture
- Architecture of offline applications

First steps with a Mobile application
- First steps with a native mobile app
- Prototyping a native mobile app

UI Design/UX
- Design of a mobile application
- Design System of a Mobile Application

If you have never prototyped a native development from GeneXus, I recommend watching this video of our GeneXus for Mobile course. In fact, I recommend watching the entire course, which is quite short.



GeneXus for Mobile V18 Course

training.genexus.com/en/learning/courses/genexus-for-mobile/v18/course-genexus-for-mobile-genexus-18/~26080/navigation-styles-of-a-mobile-application

Multiexperience | GeneXus | DL Portal | Issues

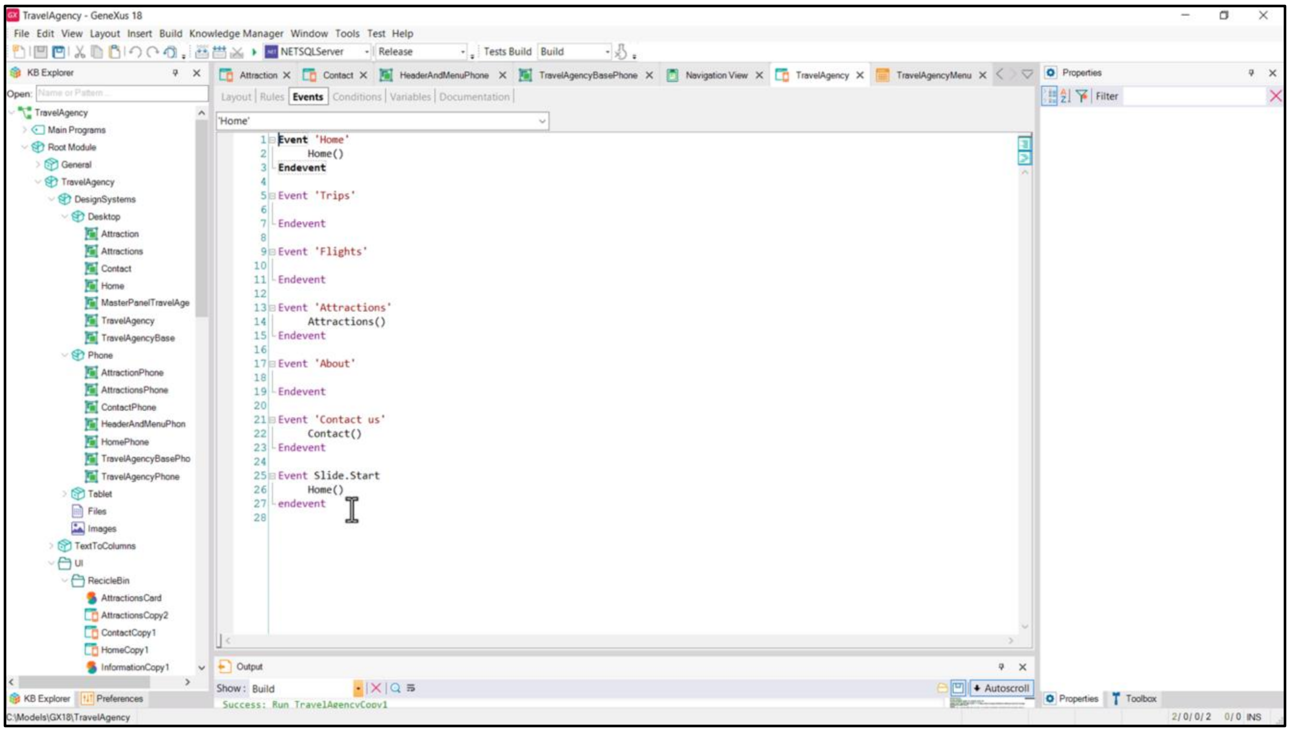
Navigation styles of a mobile application

Mobile applications developed with GeneXus can be navigated according to four styles: Flip, Split, Slide and Cascade. The style is configured per platform. Start events associated with navigation styles are also studied.

Total length of videos: 5h

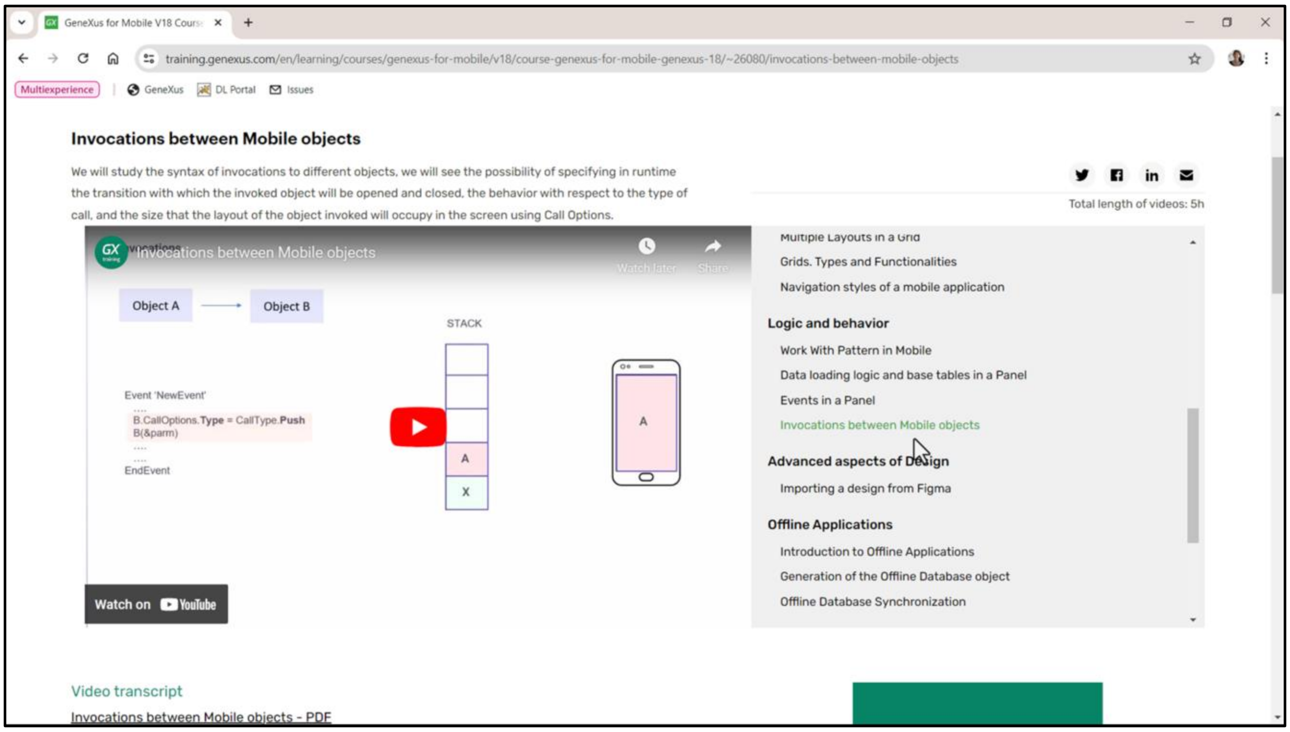
Video transcript
Navigation styles of a mobile application - PDF

In particular, here you will be able to expand this for the navigation styles. Precisely, as you can see there, I had to use the Slide.Start event...



```
Event 'Home'
      Home()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
      Attractions()
Endevent

Event 'About'

Endevent

Event 'Contact us'
      Contact()
Endevent

Event Slide.Start
      Home()
endevent
```

... in order to indicate which object to open when executing the main object that will act as a menu. When the navigation style is Slide, precisely.


GeneXus for Mobile V18 Course
training.genexus.com/en/learning/courses/genexus-for-mobile/v18/course-genexus-for-mobile-genexus-18/~26080/invocations-between-mobile-objects
Multiexperience
GeneXus
DL Portal
Issues
Invocations between Mobile objects
Watch later
Share
Object A
Object B
STACK
Event 'NewEvent'
B.CallOptions.Type = CallType.Push
B(&parm)
EndEvent
A
X
A
Watch on YouTube

Invocations between Mobile objects

We will study the syntax of invocations to different objects, we will see the possibility of specifying in runtime the transition with which the invoked object will be opened and closed, the behavior with respect to the type of call, and the size that the layout of the object invoked will occupy in the screen using Call Options.

Total length of videos: 5h

Multiple Layouts in a Grid
Grids. Types and Functionalities
Navigation styles of a mobile application

Logic and behavior

Work With Pattern in Mobile
Data loading logic and base tables in a Panel
Events in a Panel
Invocations between Mobile objects

Advanced aspects of Design

Importing a design from Figma

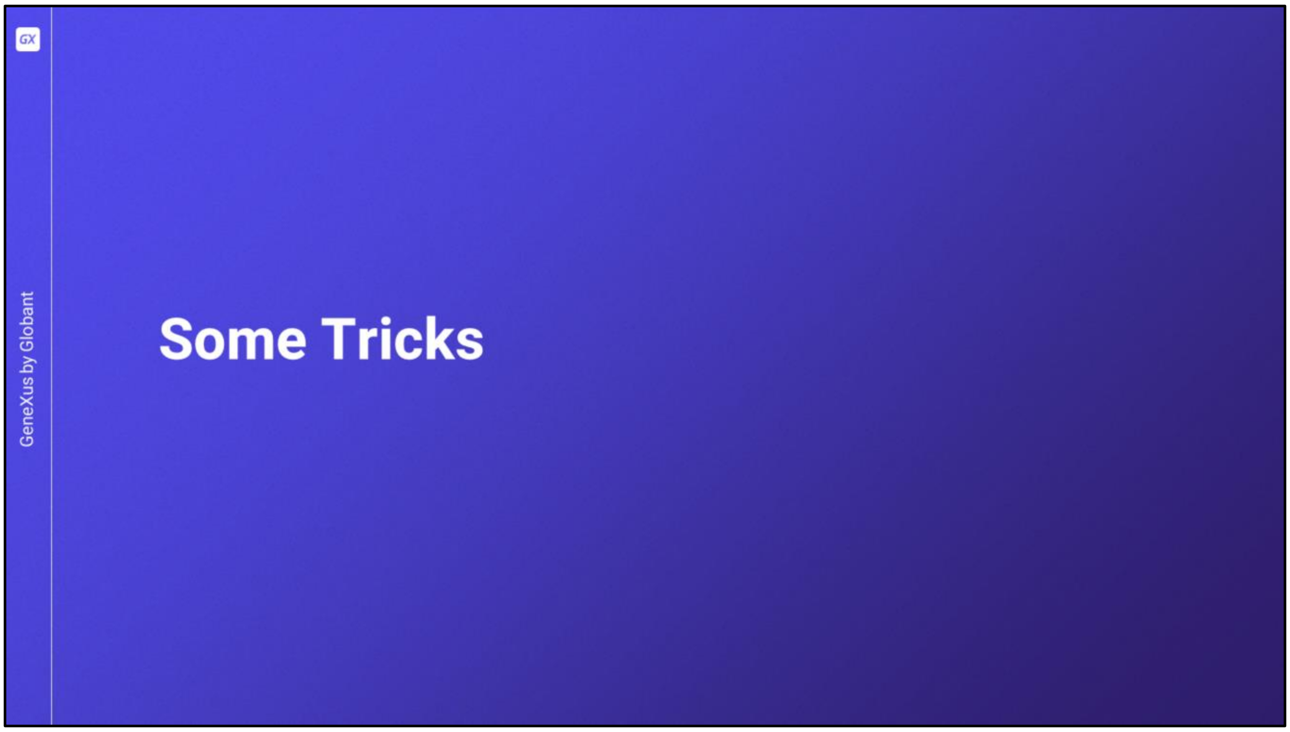
Offline Applications

Introduction to Offline Applications
Generation of the Offline Database object
Offline Database Synchronization

Video transcript

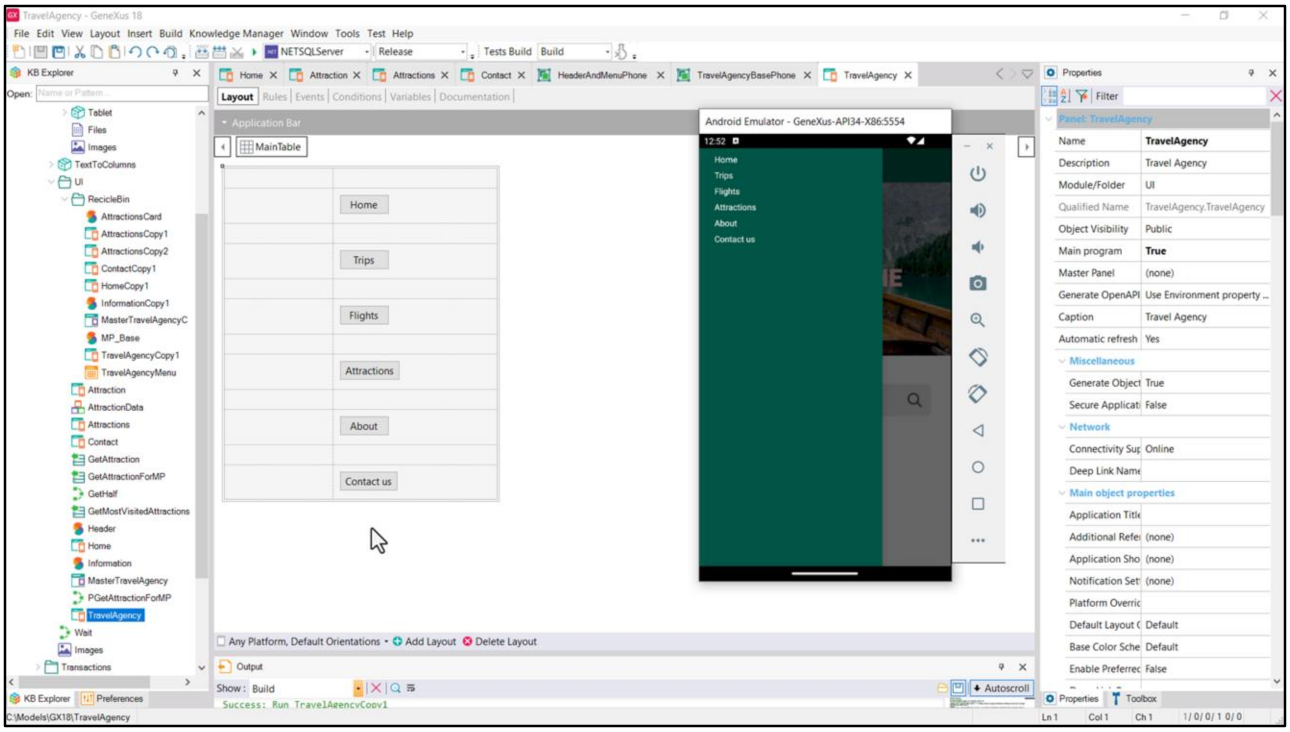
Invocations between Mobile objects - PDF

I also recommend watching this other video that will be very useful to see the different possibilities for invocations. For example, in the next video we'll see a possible manual implementation of the hamburger menu on the right. It won't end up being useful for this particular functionality, but it will be useful in general for opening windows from the right when the navigation style is split screen.



GeneXus by Globant

Some Tricks

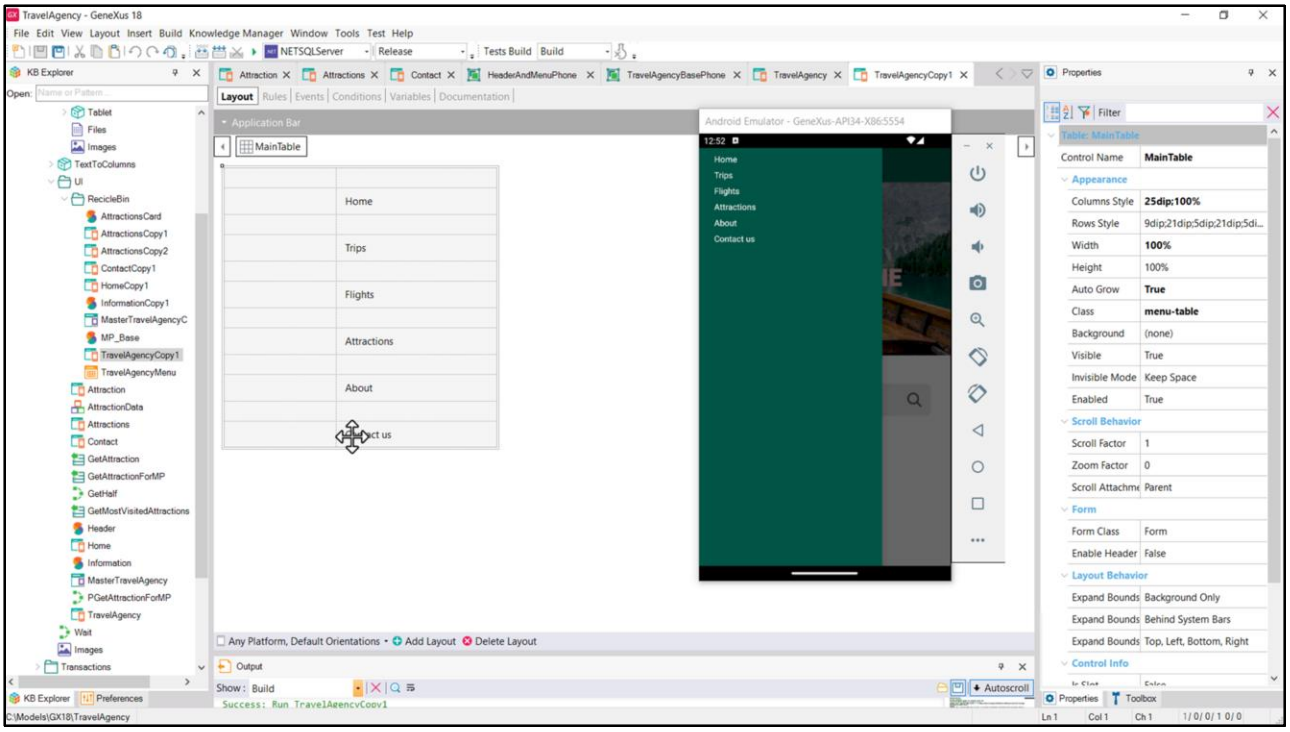


Panel: TravelAgency	
Name	TravelAgency
Description	Travel Agency
Module/Folder	UI
Qualified Name	TravelAgency.TravelAgency
Object Visibility	Public
Main program	True
Master Panel	(none)
Generate OpenAPI	Use Environment property ...
Caption	Travel Agency
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Applicati	False
Network	
Connectivity Sup	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Refe	(none)
Application Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout (	Default
Base Color Sche	Default
Enable Preferrec	False

```
Success: Run TravelAgencyCopy1
```

Throughout the course I kept saying that for accessibility reasons, all actions should be implemented as buttons.

That's why I showed you this menu with buttons.

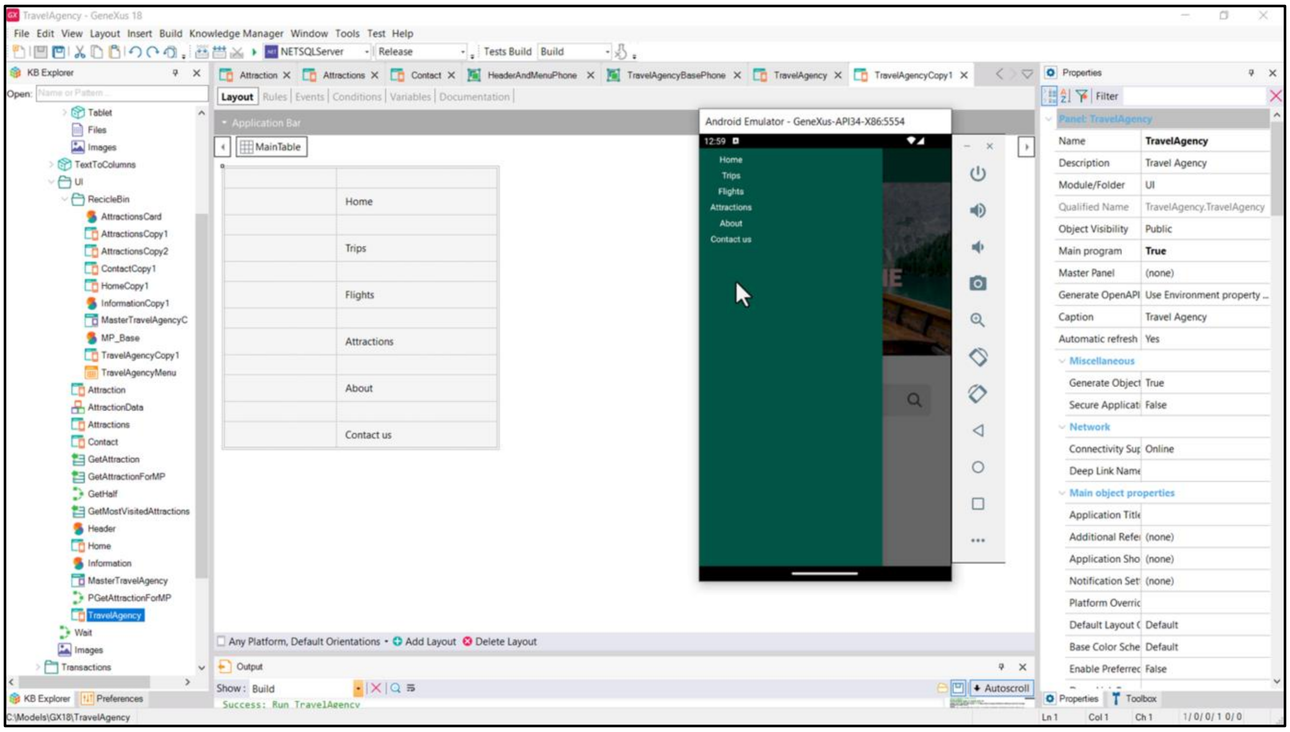


```
Success: Run TravelAgencyCopy1
```

Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	25dip;100%
Rows Style	9dip;21dip;5dip;21dip;5di...
Width	100%
Height	100%
Auto Grow	True
Class	menu-table
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	
Expand Bounds	Background Only
Expand Bounds	Behind System Bars
Expand Bounds	Top, Left, Bottom, Right
Control Info	

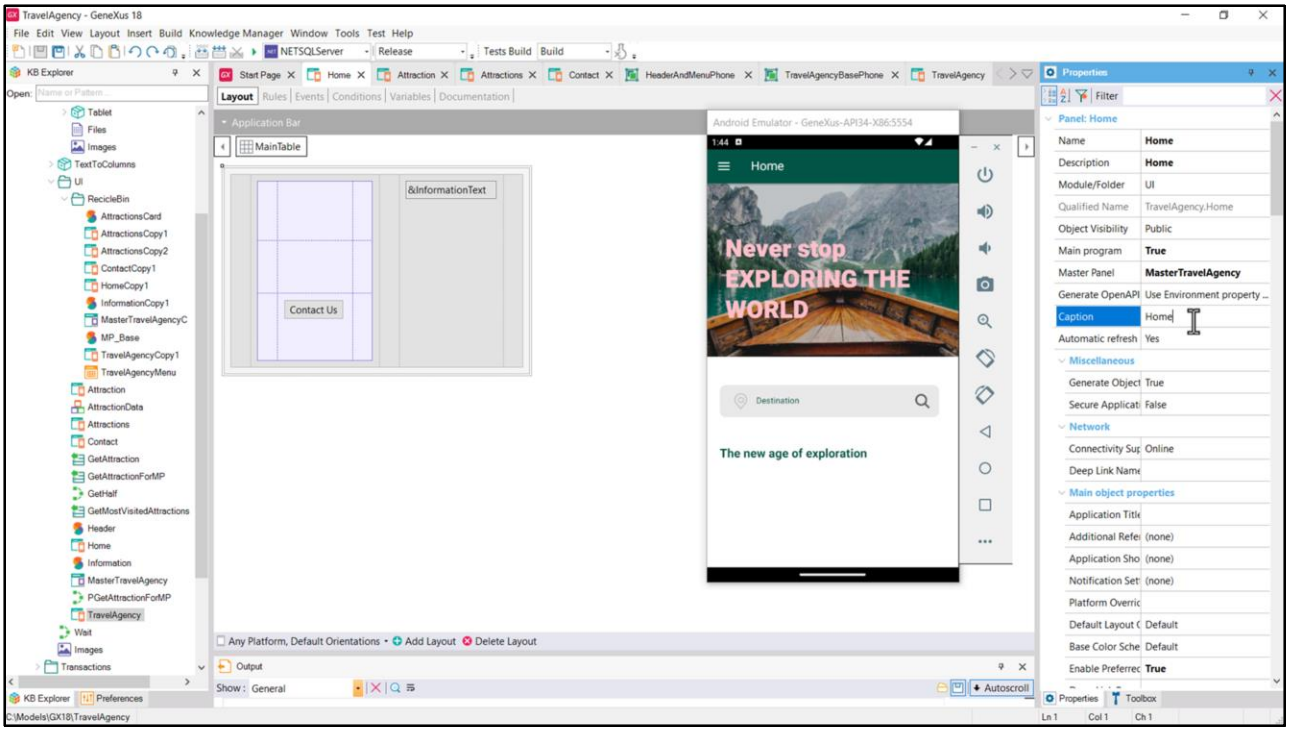
But in fact the one you saw running is not this one, but this other one with Textblocks instead of buttons.



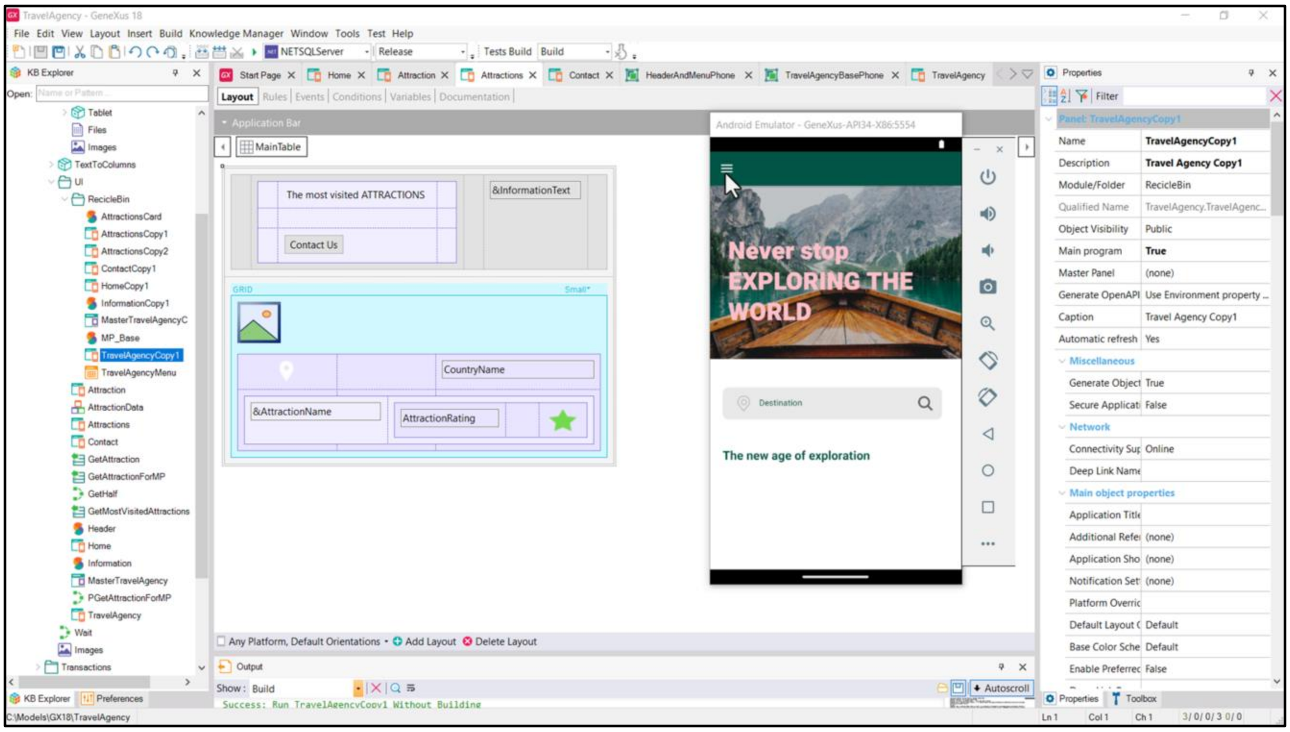
Name	TravelAgency
Description	Travel Agency
Module/Folder	UI
Qualified Name	TravelAgency.TravelAgency
Object Visibility	Public
Main program	True
Master Panel	(none)
Generate OpenAPI	Use Environment property ...
Caption	Travel Agency
Automatic refresh	Yes

```
Success: Run TravelAgency
```

The solution with buttons looks like this: that is, as I couldn't make the buttons have the width of their caption, and I can't set the caption to be aligned to the left, I have no way to align their texts to the left. This will be fixed in the future.



Now look at this text that is loading by default in the Application Bar. It is taken from the Caption property of the panel.

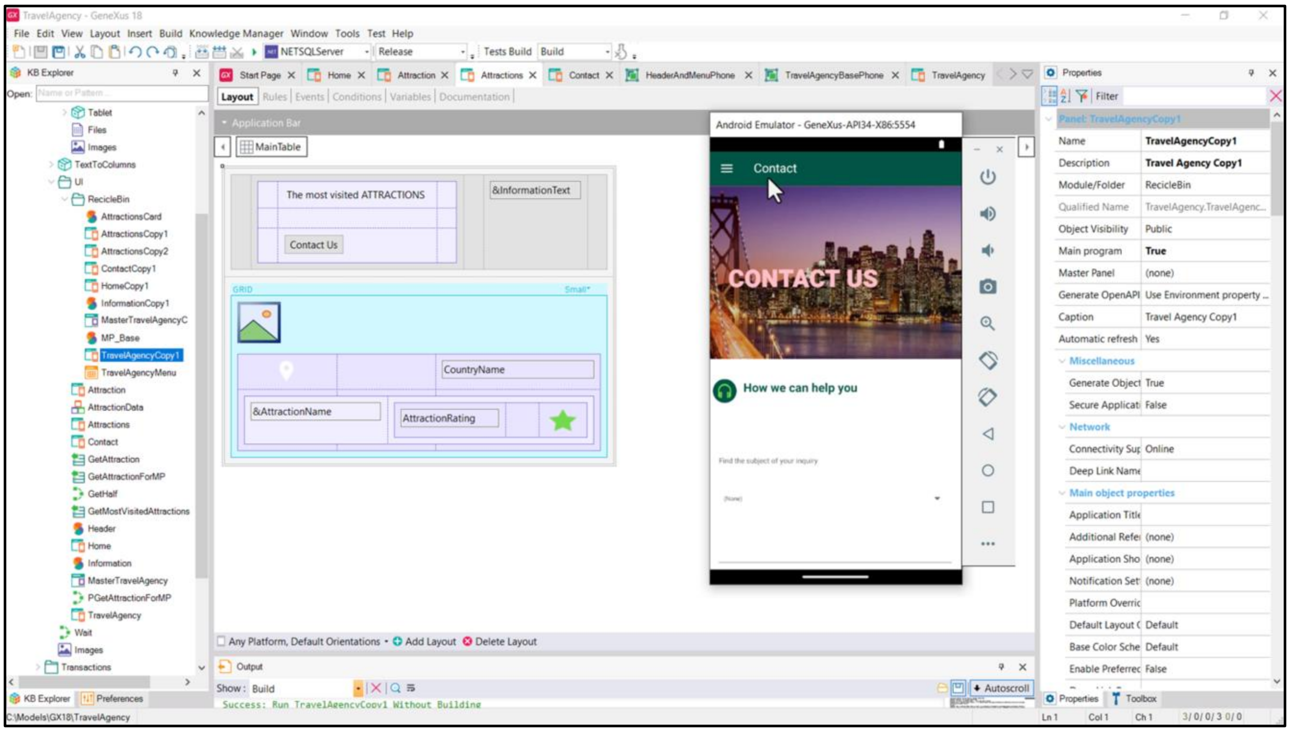


Panel: TravelAgencyCopy1	
Name	TravelAgencyCopy1
Description	Travel Agency Copy1
Module/Folder	RecicleBin
Qualified Name	TravelAgency.TravelAgenc...
Object Visibility	Public
Main program	True
Master Panel	(none)
Generate OpenAPI	Use Environment property ...
Caption	Travel Agency Copy1
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Applicati	False
Network	
Connectivity Sup	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Refe	(none)
Application Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout C	Default
Base Color Sche	Default
Enable Preferrec	False

```
Success: Run TravelAgencyCopy1 Without Building
```

I'm going to remove it for you to see... And I'm going to remove it also for the Attractions one, but not for the other two.

Let's run it...

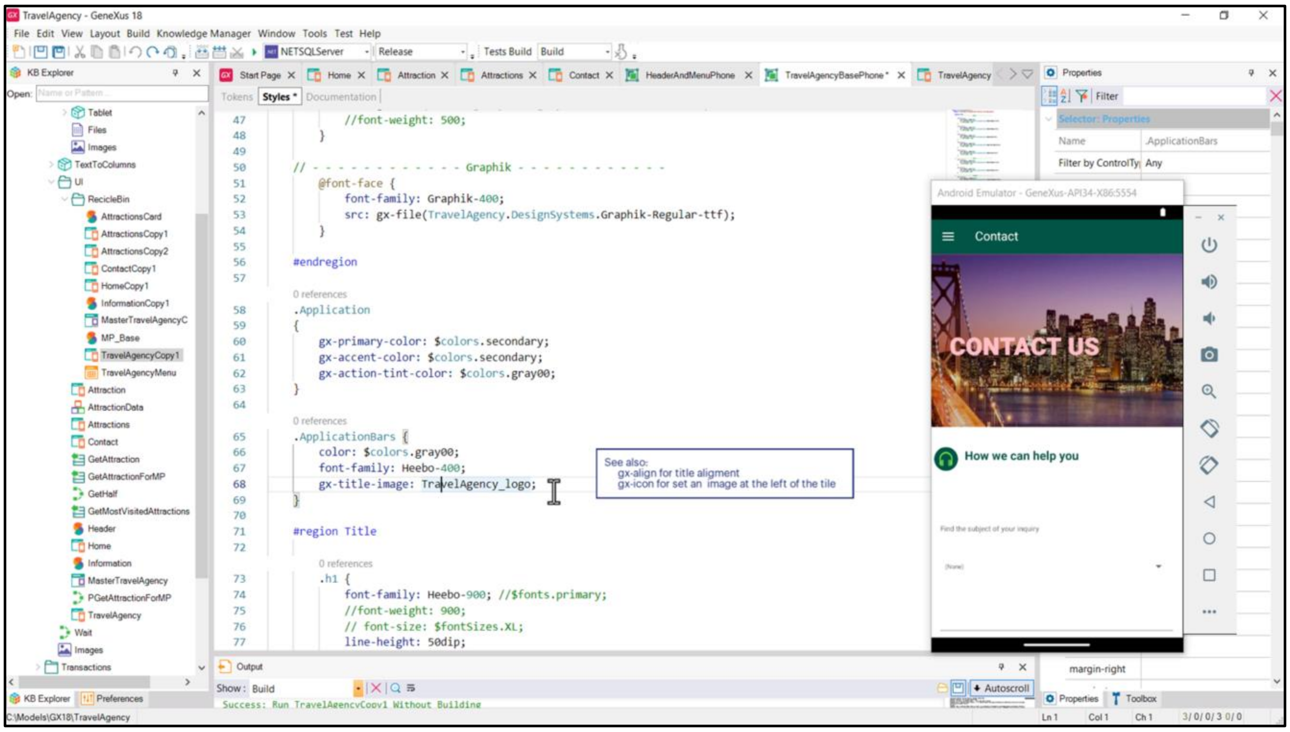


```
Success: Run TravelAgencyCopy1 Without Building
```

Panel: TravelAgencyCopy1	
Name	TravelAgencyCopy1
Description	Travel Agency Copy1
Module/Folder	RecicleBin
Qualified Name	TravelAgency.TravelAgenc...
Object Visibility	Public
Main program	True
Master Panel	(none)
Generate OpenAPI	Use Environment property ...
Caption	Travel Agency Copy1
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Applicati	False
Network	
Connectivity Sup	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Refe	(none)
Application Sho	(none)
Notification Set	(none)
Platform Overric	
Default Layout C	Default
Base Color Sche	Default
Enable Preferred	False

Tablet, Files, Images, TextToColumns, UI, RecicleBin, AttractionsCard, AttractionsCopy1, AttractionsCopy2, ContactCopy1, HomeCopy1, InformationCopy1, MasterTravelAgencyC, MP_Base, TravelAgencyCopy1, TravelAgencyMenu, Attraction, AttractionData, Attractions, Contact, GetAttraction, GetAttractionForMP, GetHalf, GetMostVisitedAttractions, Header, Home, Information, MasterTravelAgency, PGetAttractionForMP, TravelAgency, Wait, Images, Transactions

For Contact, on the other hand... fine.



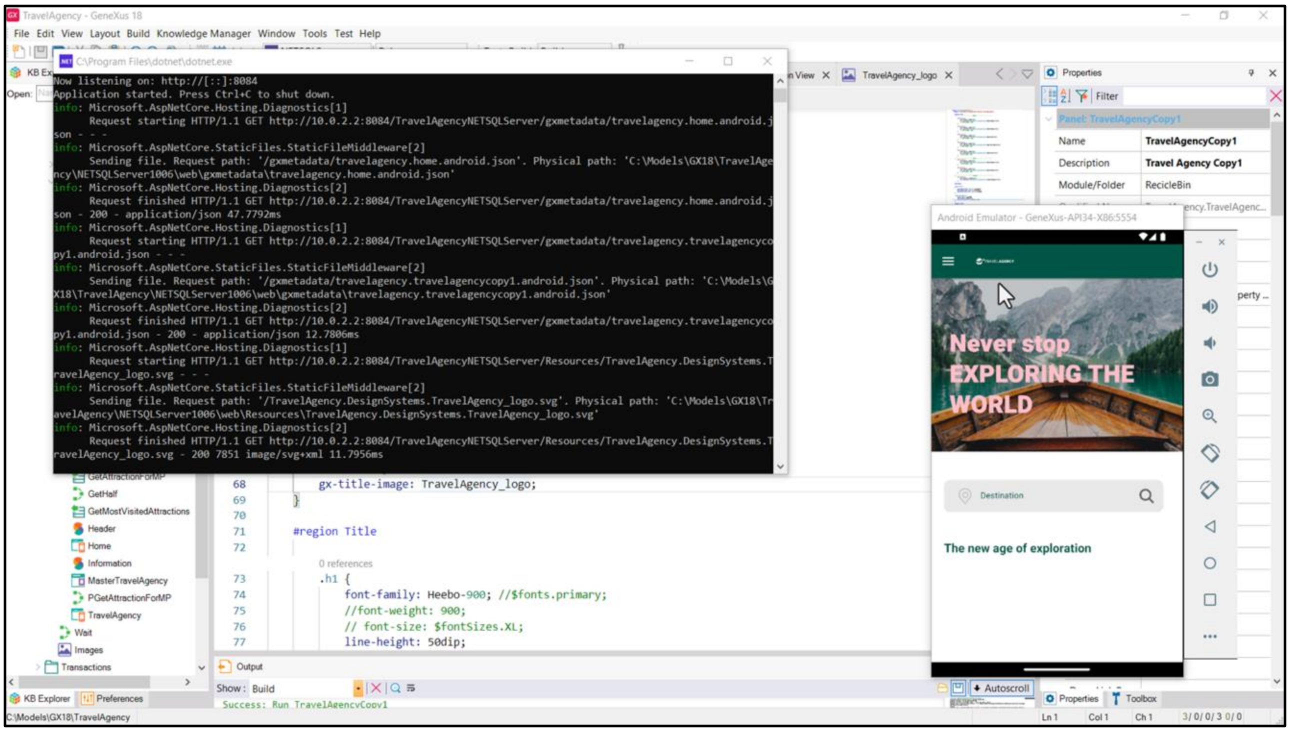
```
        //font-weight: 500;
    }

// - - - - - - - - - - - - - Graphik - - - - - - - - - - - - -
    @font-face {
        font-family: Graphik-400;
        src: gx-file(TravelAgency.DesignSystems.Graphik-Regular-ttf);
    }

#endregion

0 references
.Application
{
    gx-primary-color: $colors.secondary;
    gx-accent-color: $colors.secondary;
    gx-action-tint-color: $colors.gray00;
}

0 references
.ApplicationBars {
    color: $colors.gray00;
    font-family: Heebo-400;
    gx-title-image: TravelAgency_logo;
}

#region Title

    0 references
    .h1 {
        font-family: Heebo-900; //$fonts.primary;
        //font-weight: 900;
        // font-size: $fontSizes.XL;
        line-height: 50dip;
```

See also:
gx-align for title aligment
gx-icon for set an image at the left of the tile

```
Success: Run TravelAgencyCopy1 Without Building
```

If now we want the Application Bar to display an image, then we can use this property in the ApplicationBars class. This is the name of the image that I took from Figma and inserted in the KB.

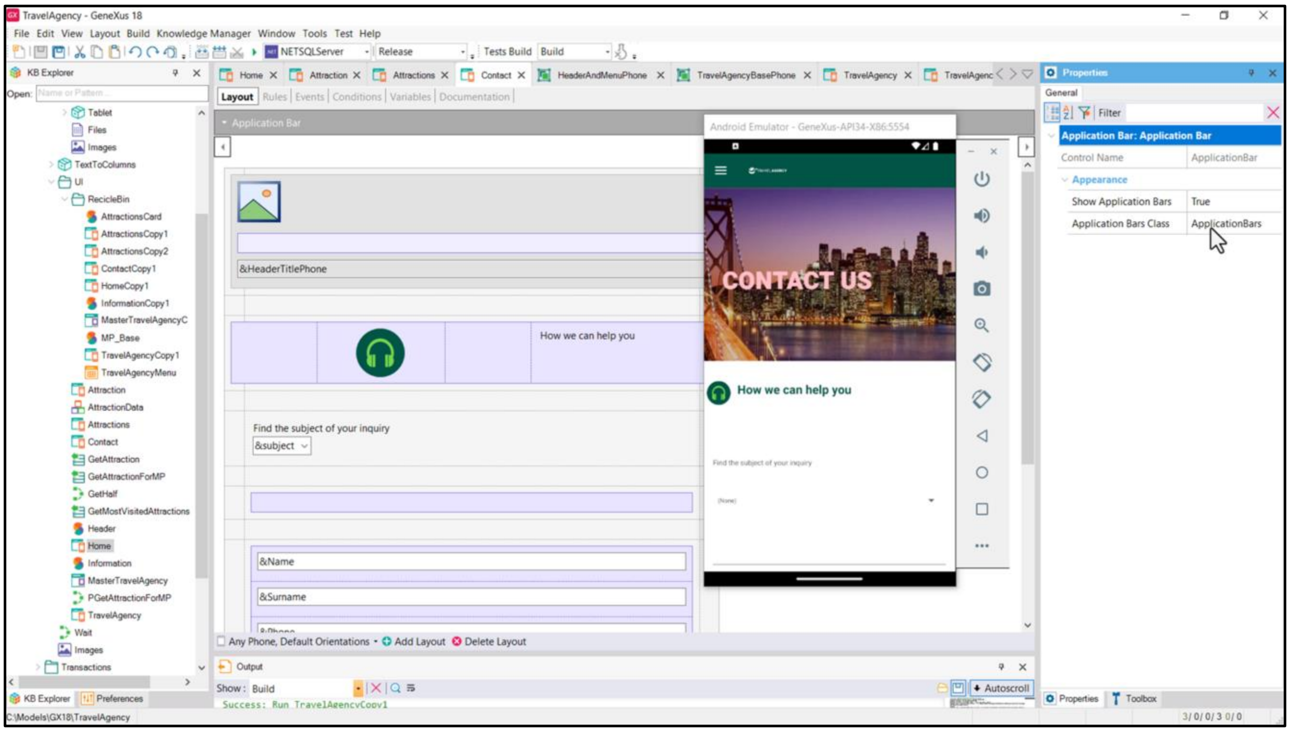
Since it is white we don't see it, but what I did, as you can imagine, was to export it from Figma...



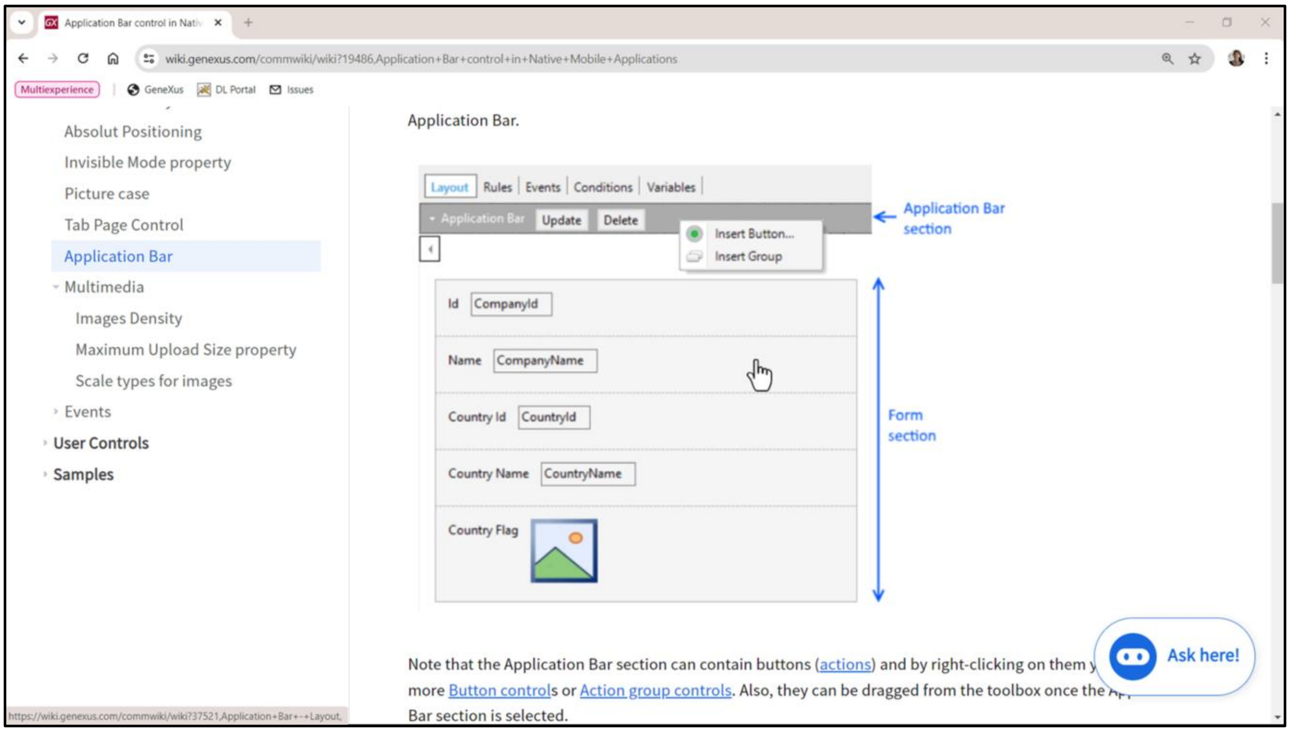
```
Now listening on: http://[::]:8084
Application started. Press Ctrl+C to shut down.
info: Microsoft.AspNetCore.Hosting.Diagnostics[1]
      Request starting HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/gxmetadata/travelagency.home.android.j
son - - -
info: Microsoft.AspNetCore.StaticFiles.StaticFileMiddleware[2]
      Sending file. Request path: '/gxmetadata/travelagency.home.android.json'. Physical path: 'C:\Models\GX18\TravelAge
ncy\NETSQLServer1006\web\gxmetadata\travelagency.home.android.json'
info: Microsoft.AspNetCore.Hosting.Diagnostics[2]
      Request finished HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/gxmetadata/travelagency.home.android.j
son - 200 - application/json 47.7792ms
info: Microsoft.AspNetCore.Hosting.Diagnostics[1]
      Request starting HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/gxmetadata/travelagency.travelagencyco
py1.android.json - - -
info: Microsoft.AspNetCore.StaticFiles.StaticFileMiddleware[2]
      Sending file. Request path: '/gxmetadata/travelagency.travelagencycopy1.android.json'. Physical path: 'C:\Models\G
X18\TravelAgency\NETSQLServer1006\web\gxmetadata\travelagency.travelagencycopy1.android.json'
info: Microsoft.AspNetCore.Hosting.Diagnostics[2]
      Request finished HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/gxmetadata/travelagency.travelagencyco
py1.android.json - 200 - application/json 12.7806ms
info: Microsoft.AspNetCore.Hosting.Diagnostics[1]
      Request starting HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/Resources/TravelAgency.DesignSystems.T
ravelAgency_logo.svg - - -
info: Microsoft.AspNetCore.StaticFiles.StaticFileMiddleware[2]
      Sending file. Request path: '/TravelAgency.DesignSystems.TravelAgency_logo.svg'. Physical path: 'C:\Models\GX18\Tr
avelAgency\NETSQLServer1006\web\Resources\TravelAgency.DesignSystems.TravelAgency_logo.svg'
info: Microsoft.AspNetCore.Hosting.Diagnostics[2]
      Request finished HTTP/1.1 GET http://10.0.2.2:8084/TravelAgencyNETSQLServer/Resources/TravelAgency.DesignSystems.T
ravelAgency_logo.svg - 200 7851 image/svg+xml 11.7956ms
```

```
        gx-title-image: TravelAgency_logo;
    }

    #region Title

        .h1 {
            font-family: Heebo-900; //$fonts.primary;
            //font-weight: 900;
            // font-size: $fontSizes.XL;
            line-height: 50dip;
```

If we run it now... we see it in all panels.



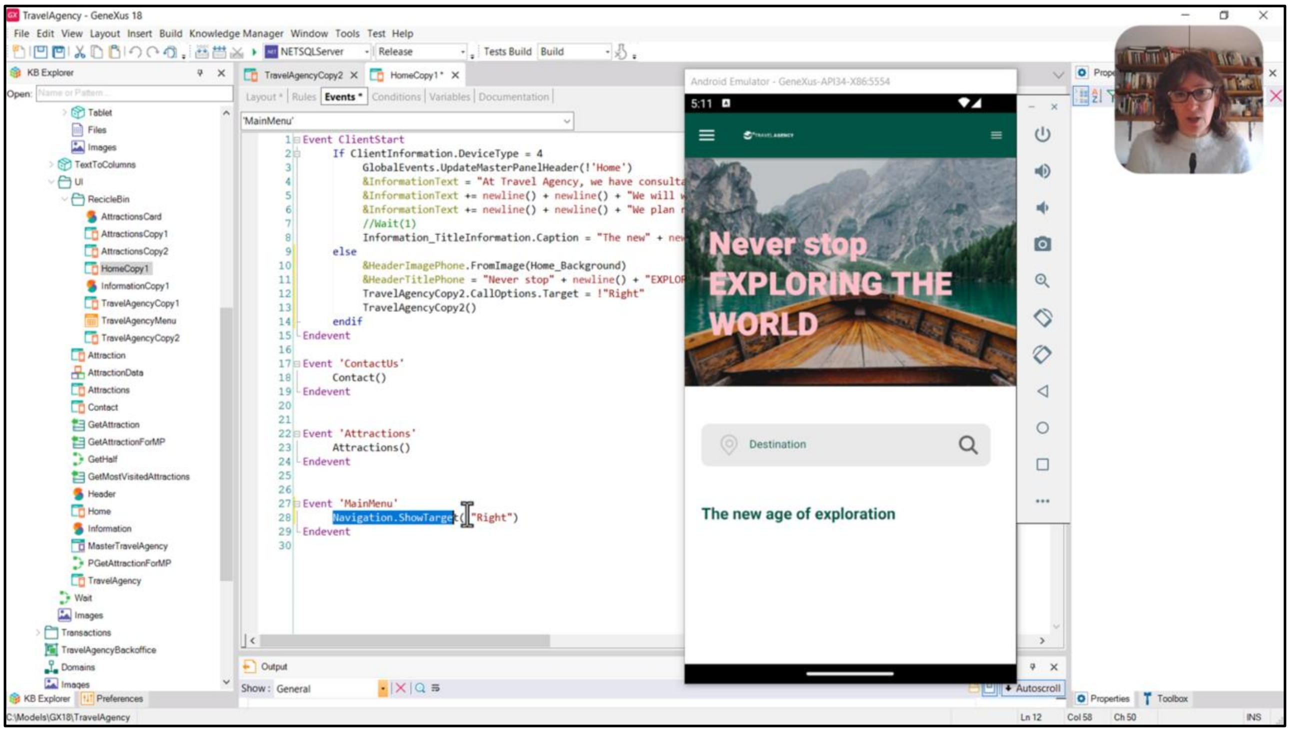
Something I didn't show you is that the ApplicationBars class is the one we can see associated with the panels, through these properties.



Application Bar.

Note that the Application Bar section can contain buttons (actions) and by right-clicking on them y
more Button controls or Action group controls. Also, they can be dragged from the toolbox once the Ap
Bar section is selected.

Of course, buttons can be placed to be displayed right there or as context menus.



```
Event ClientStart
    If ClientInformation.DeviceType = 4
        GlobalEvents.UpdateMasterPanelHeader(!'Home')
        &InformationText = "At Travel Agency, we have consulta
        &InformationText += newline() + newline() + "We will w
        &InformationText += newline() + newline() + "We plan r
        //Wait(1)
        Information_TitleInformation.Caption = "The new" + new
    else
        &HeaderImagePhone.FromImage(Home_Background)
        &HeaderTitlePhone = "Never stop" + newline() + "EXPLOR
        TravelAgencyCopy2.CallOptions.Target = !"Right"
        TravelAgencyCopy2()
    endif
Endevent

Event 'ContactUs'
    Contact()
Endevent


Event 'Attractions'
    Attractions()
Endevent


Event 'MainMenu'
    Navigation.ShowTarget("Right")
Endevent
```

In the next video, we'll revisit this and see how to add a button to the Application Bar with the image of the hamburger menu, and how to make the menu appear to the right.

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