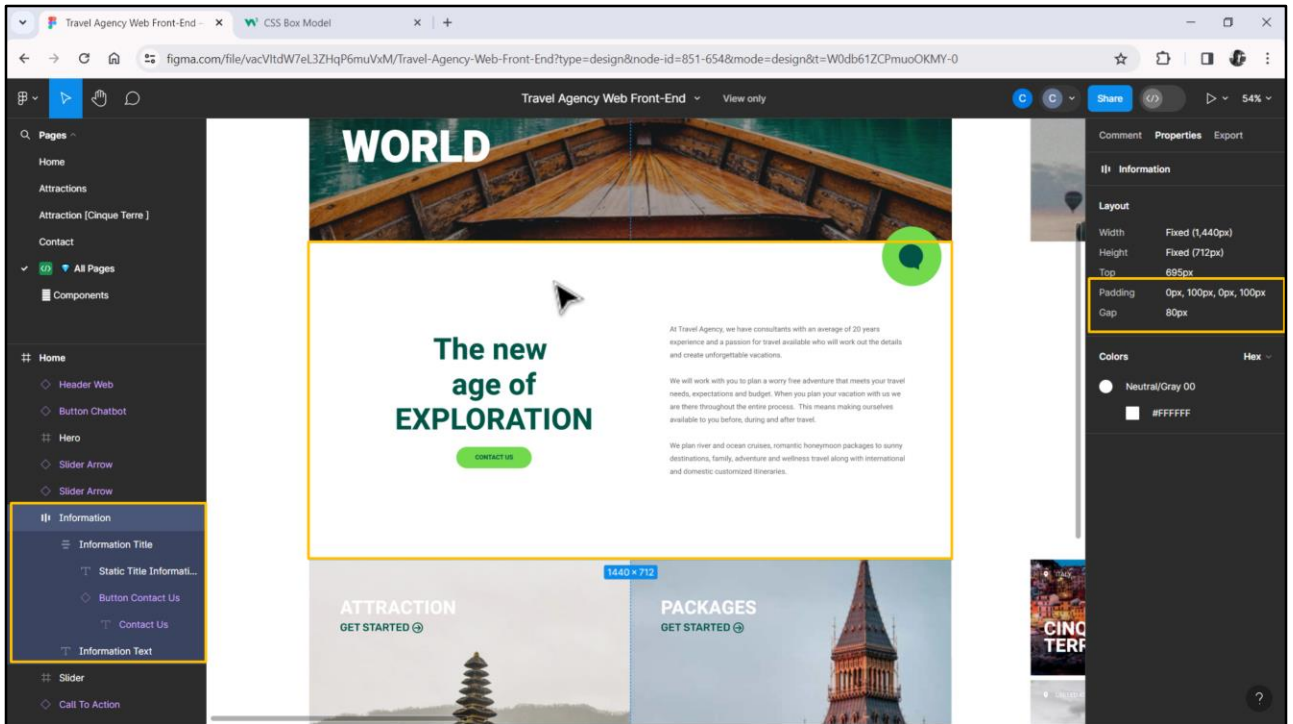


First Layout in GeneXus. Structure: spacing



Cecilia Fernandez

Let's pick up where we left off in the previous video.



We had said that before looking into the sizes of this inner table we were going to look at some aspects of the outer table.

What else do we know by inspecting this frame? We see these properties here, and in particular let's pay attention to these two, which will have to do with spacing, precisely, within the content.

Travel Agency Web Front-End ... x CSS Box Model x +

w3schools.com/css/css_boxmodel.asp

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CSS Tutorial

- CSS HOME
- CSS Introduction
- CSS Syntax
- CSS Selectors
- CSS How To
- CSS Comments
- CSS Colors
- CSS Backgrounds
- CSS Borders
- CSS Margins
- CSS Padding
- CSS Height/Width
- CSS Box Model**
- CSS Outline
- CSS Text
- CSS Fonts
- CSS Icons
- CSS Links
- CSS Lists
- CSS Tables
- CSS Display
- CSS Max-width
- CSS Position
- CSS Z-index
- CSS Overflow

The CSS Box Model

In CSS, the term "box model" is used when talking about design and layout.

The CSS box model is essentially a box that wraps around every HTML element. It consists of: content, padding, borders and margins. The image below illustrates the box model:

The diagram illustrates the CSS Box Model as a series of nested rectangles. The outermost rectangle is labeled 'Margin' and is light gray. Inside it is a green rectangle labeled 'Border'. Inside the border is a light gray rectangle labeled 'Padding'. The innermost rectangle is white and labeled 'Content'. Dashed lines indicate the boundaries of each layer.

Explanation of the different parts:

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We already know that Padding inside the CSS box model is the internal spacing of the content with respect to the 4 borders...
That is, this is the edge of the element, which in this representation has a border of this size, and an internal spacing of this size.

Travel Agency Web Front-End ... CSS Padding W3Schools Tryit Editor

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Home > CSS > CSS Box Model > Tryit: The box model

Run > Result Size: 753 x 590 Get your own website

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
  background-color: lightgrey;
  width: 300px;
  border: 15px solid green;
  padding: 30px 60px 90px 120px;
  margin: 20px;
}
</style>
</head>
<body>

<h2>Demonstrating the Box Model</h2>

<p>The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.</p>

<div>This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
</div>

</body>
</html>
```

Demonstrating the Box Model

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This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

As we know, the Padding doesn't have to be even all around. This is an example, a test, where I'm setting padding-top—the padding relative to the top edge—to 30 pixels; the padding relative to the right edge—padding-right—to 60; padding-bottom to 90; and padding-left to 120. This is the shorthand notation. We could use each of the properties separately.

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<!DOCTYPE html>
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</div>

</body>
</html>
```

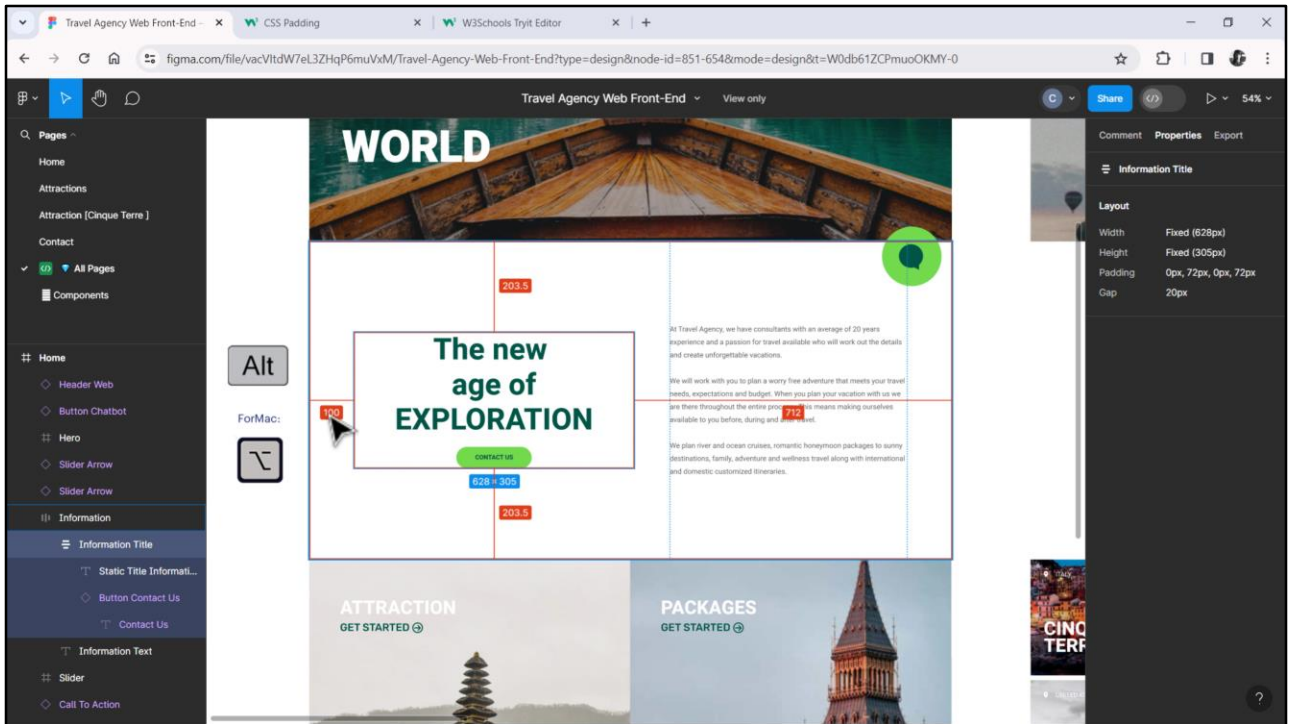
Demonstrating the Box Model

The CSS box model is essentially a box that wraps around every HTML element. It consists of: borders, padding, margins, and the actual content.

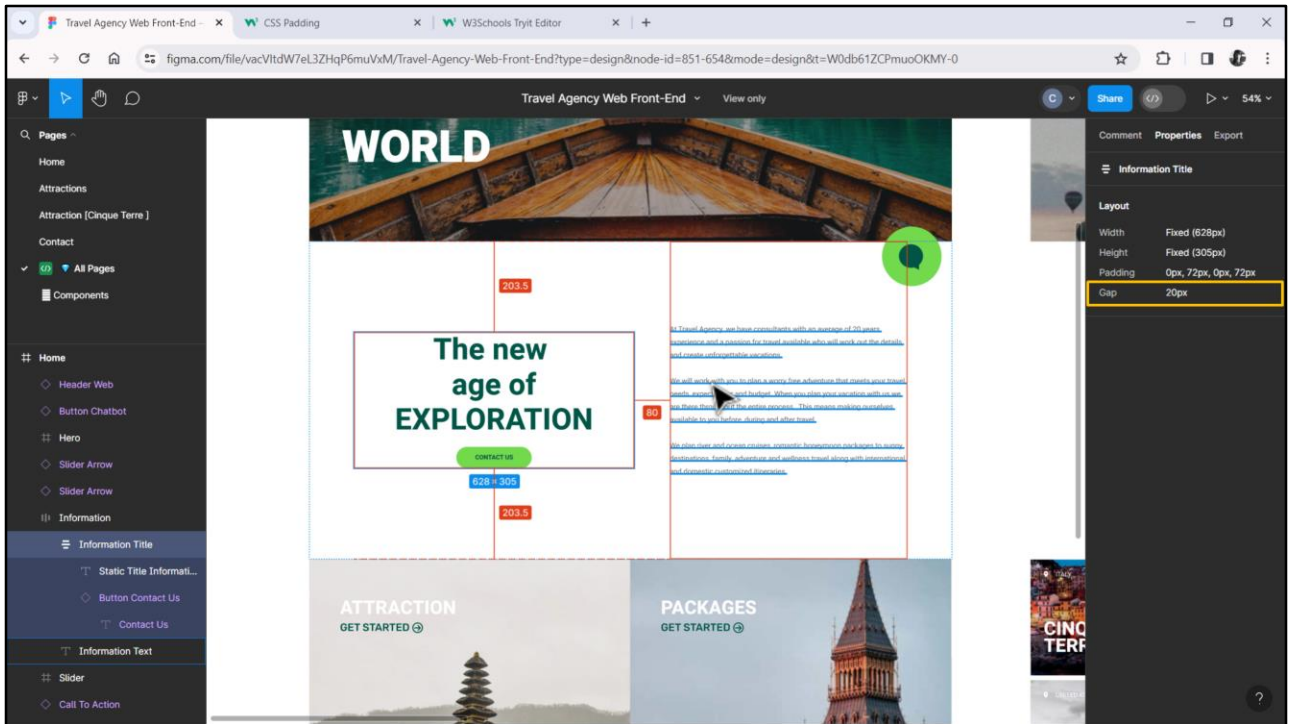
This text is the content of the box. We have added a 50px padding, 20px margin and a 15px green border. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

For example, if we want the top and bottom to be the same, and right and left as well, we shorten it like this, and there we see how top and bottom are 30, right and left 120...

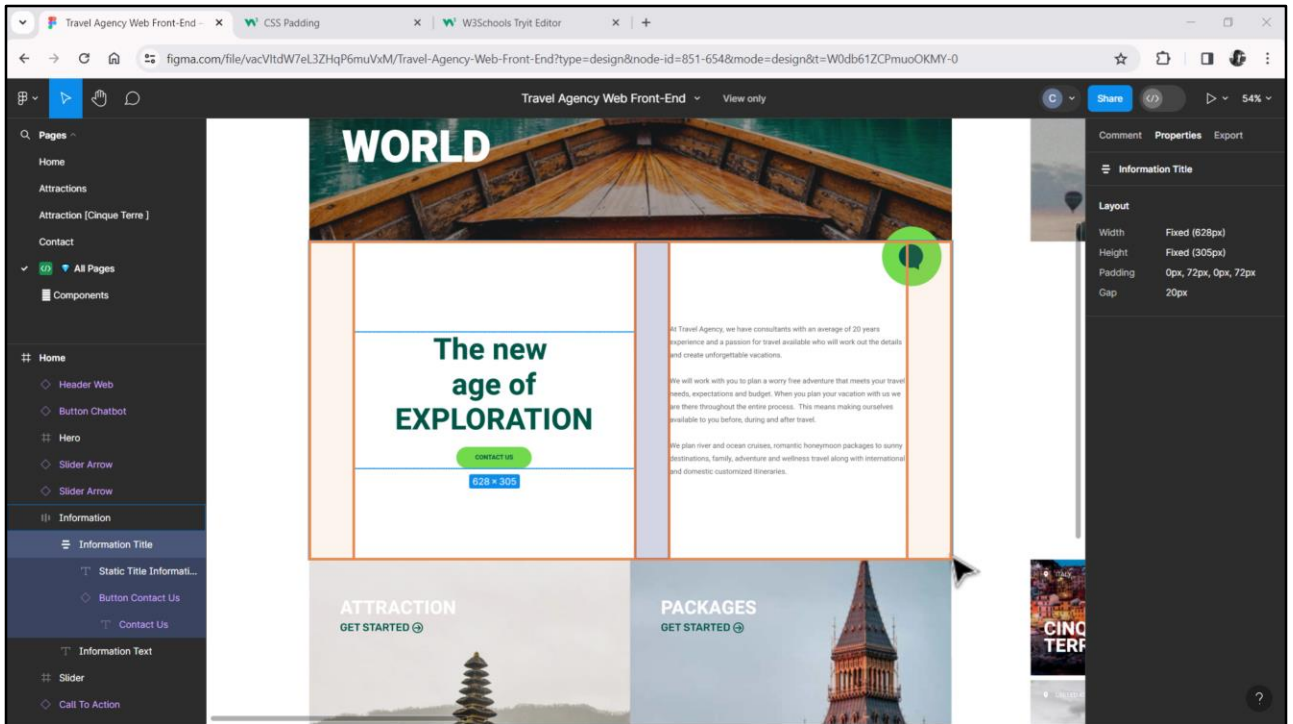
... or even if we leave only one, this means that the same padding will be applied on all four sides.



So we know that there will be a padding of 100 pixels on the left and 100 pixels on the right. And we can also see this graphically by choosing the first element and with the ALT key if we are in Windows, we see these 100 pixels here... and if now we select this other element we see these 100 pixels here.



Lastly, what about the gap, what is it? It's no more and no less than the distance between the internal elements of the container. Again, in this case, if we select this one and look at how it relates to this element, we see these 80 indicated there.



There are several ways to set this spacing in GeneXus. One will be almost a literal translation of these properties. We will see it later, when we move on to specifying the DSO. But another one will be more structural: what if we think of these empty spaces not as paddings, but as empty columns? That is, the Main table will have 5 columns instead of 2: the first and the last one will be 100 pixels wide, and the middle one will be 80 pixels wide.

Travel Agency Web Front-End

Pages

- Home
- Attractions
- Attraction [Cinque Terre]
- Contact
- All Pages
- Components

Home

- Header Web
- Button Chatbot
- Hero
- Slider Arrow
- Slider Arrow
- Information
 - Information Title
 - Static Title Informati...
 - Button Contact Us
 - Contact Us
 - Information Text
- Slider
- Call To Action

WORLD

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CONTACT US

828 x 305

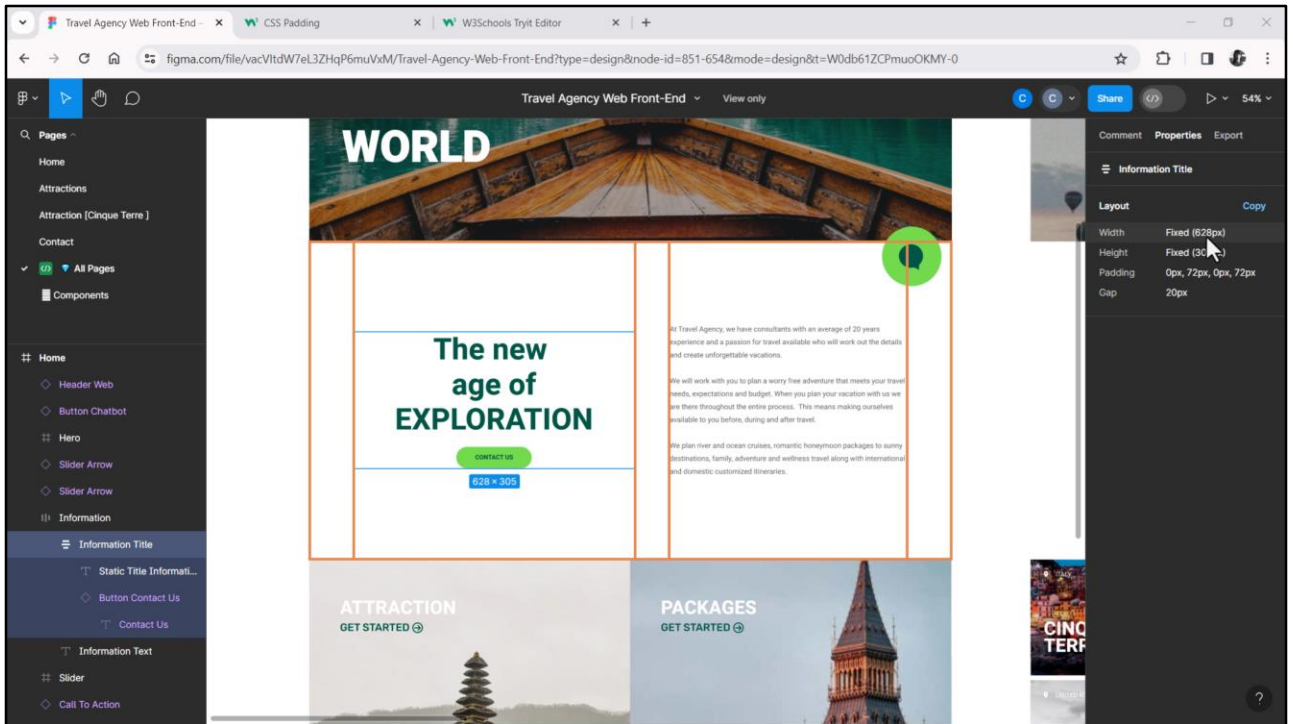
ATTRACTION GET STARTED

PACKAGES GET STARTED

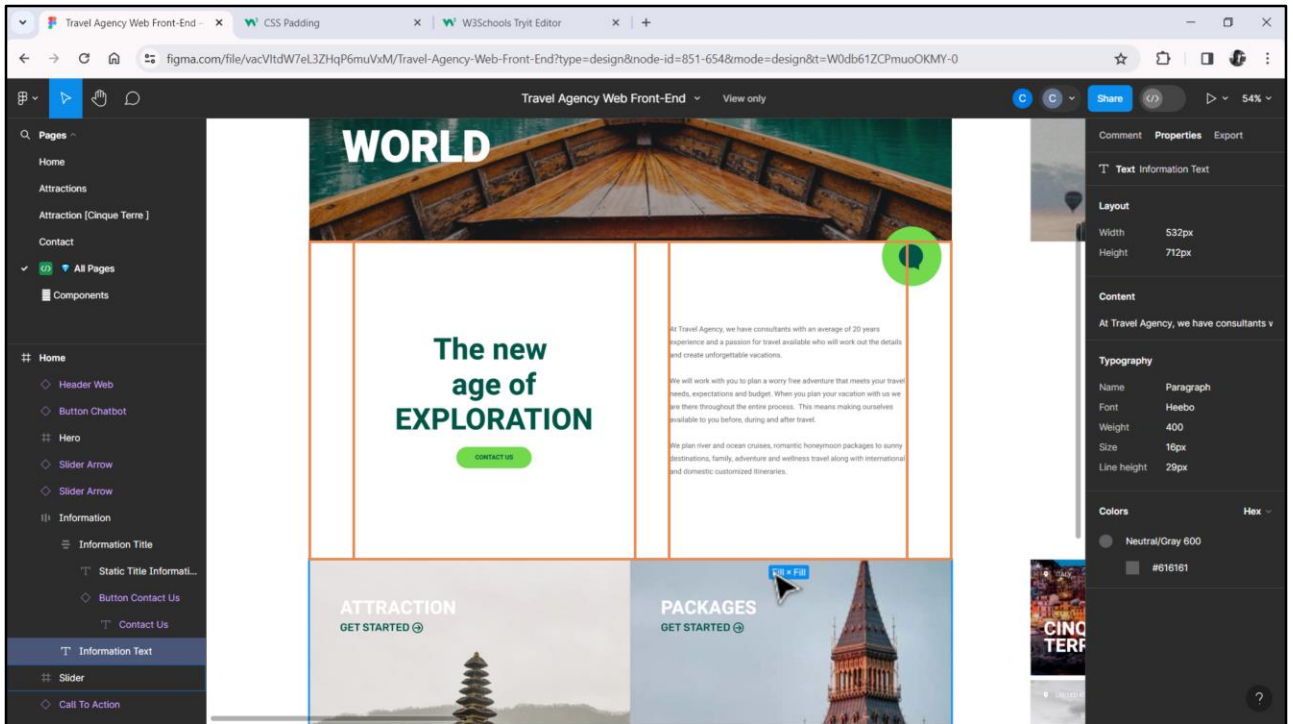
CINQUE TERRE

Table control can be seen as an abstraction of the CSS "display: grid", which allows designing a grid of rows and columns to place elements in certain places, allowing empty cells where no elements are placed, unlike what happened when the html table tag was used.

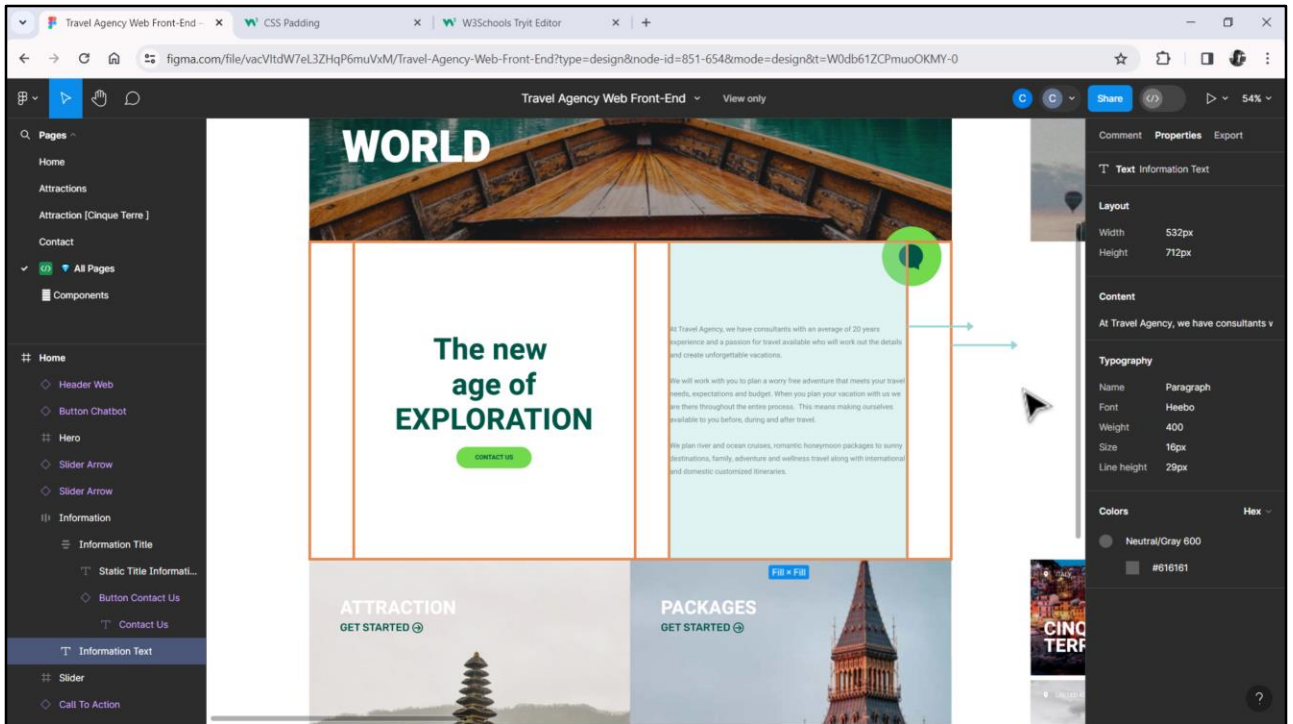
Some of you may be wondering whether leaving empty columns will represent a performance problem. The answer is no and I leave a short explanation here.



And the other two, those of the content itself, how wide should they be? If we analyze the width of the first element, we see that it is fixed, 628 pixels.



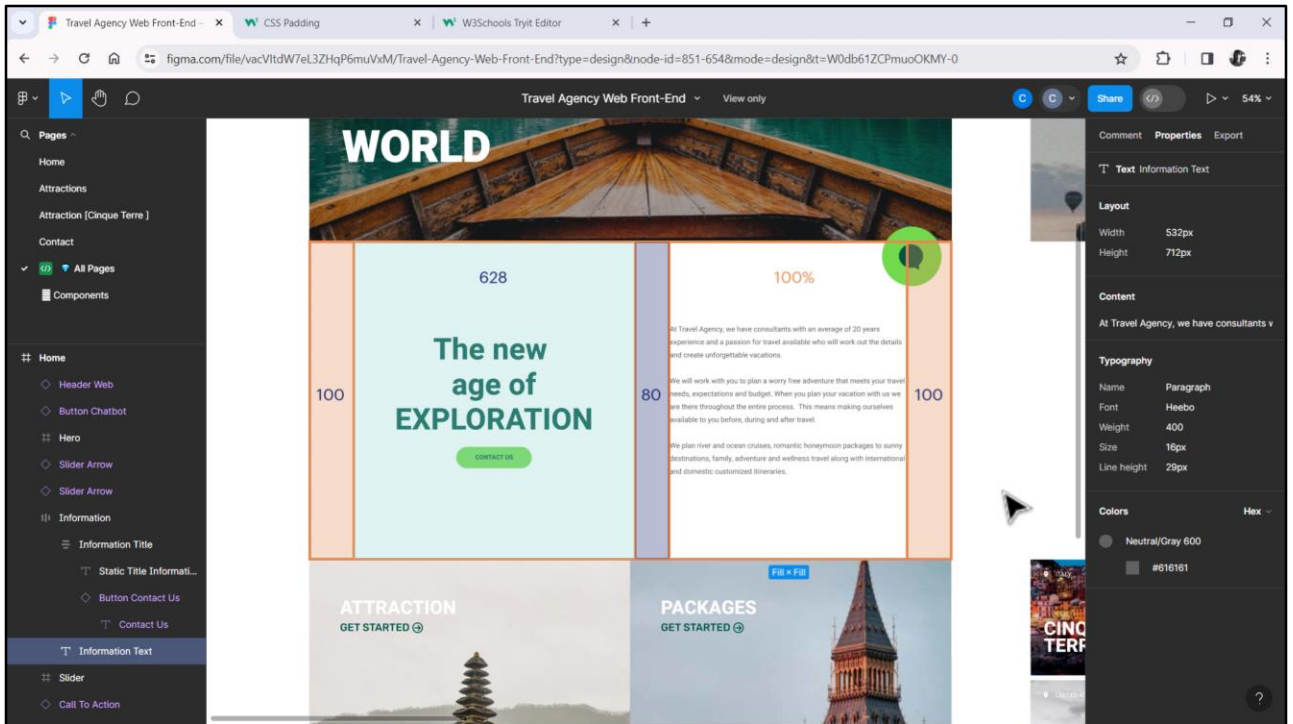
And if we analyze the second element, it is no longer fixed, it says Fill. That is, it will take up all the size available, both horizontally and vertically.



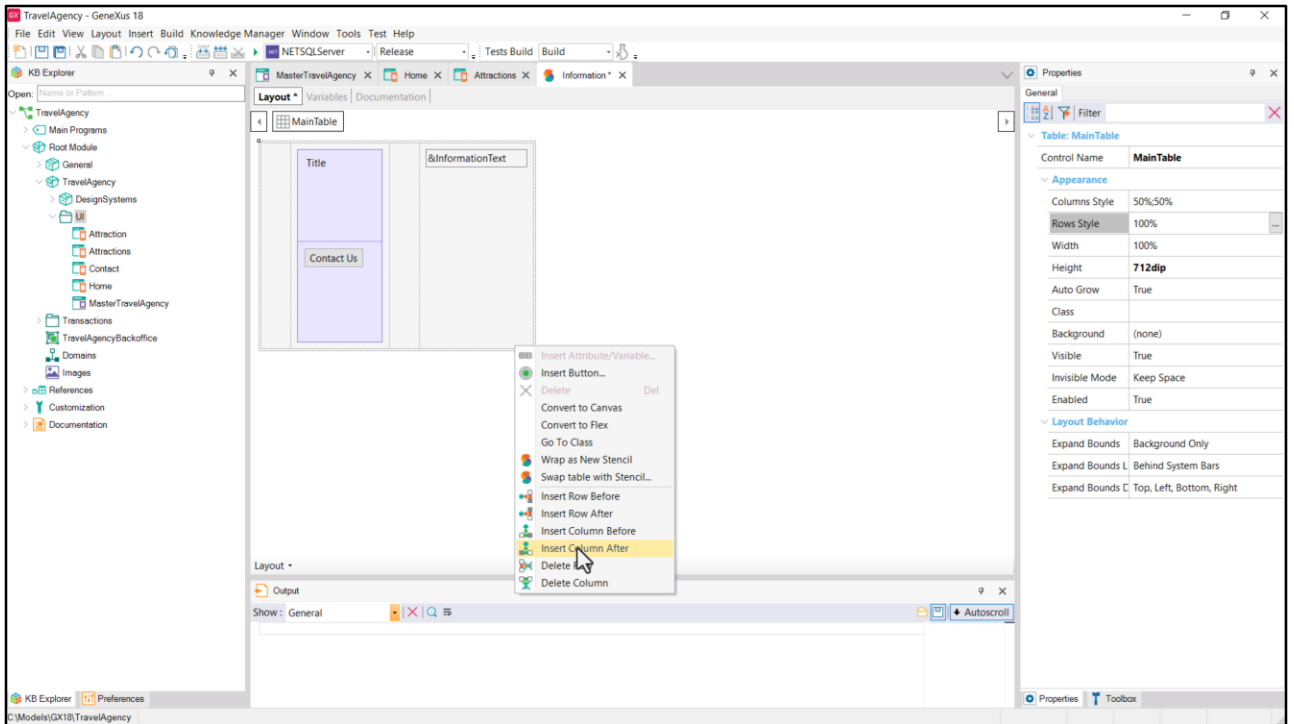
This means that if I extend the browser's border to the right, leaving the element on the left unchanged, the one on the right will expand to the right as well.

And if I reduce the size, it will also get smaller. The spaces, on the other hand, will always remain fixed: 100, 80, and 100 pixels.

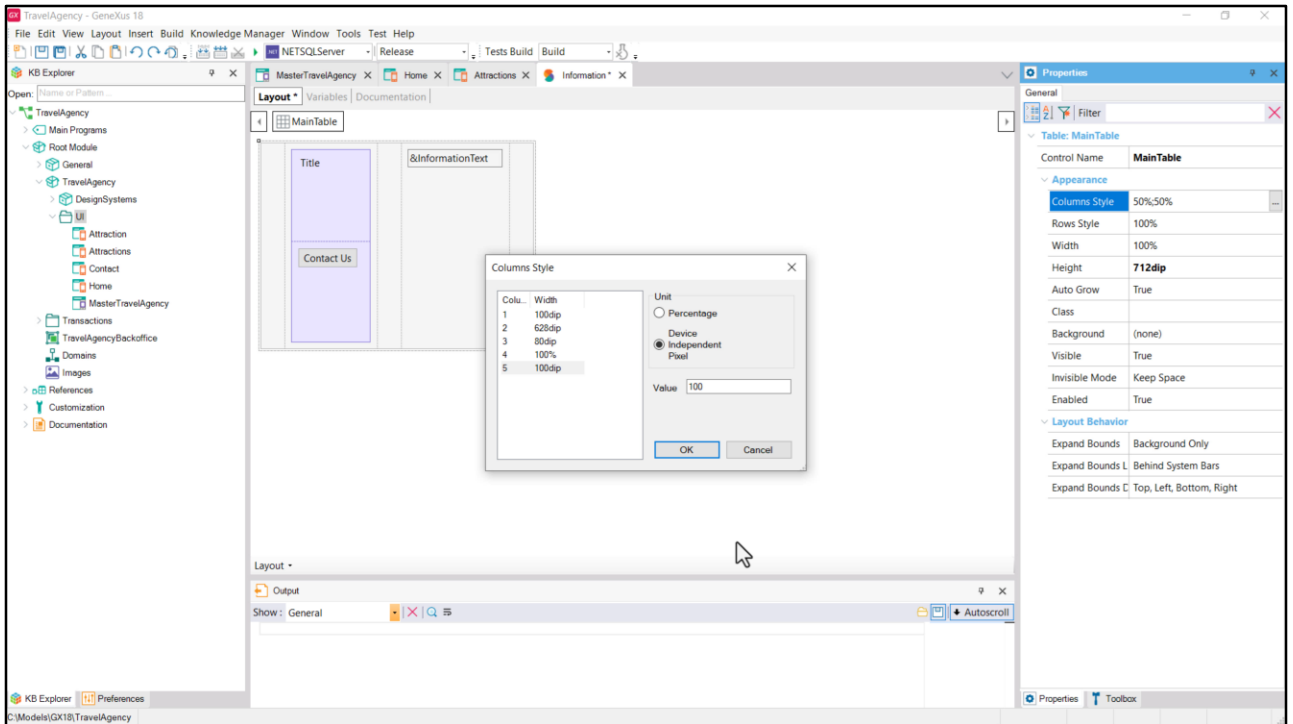
We should ask the designer if what we have inferred is indeed the behavior expected by her when designing like this. If she says yes, then we already know that our column 2 will have a fixed size, 628 dips, and the fourth column is the one that will have to adapt to the remaining width.



That is, we will set its width to 100%. Of what? Of the width remaining after subtracting the fixed widths from the total width of the table.

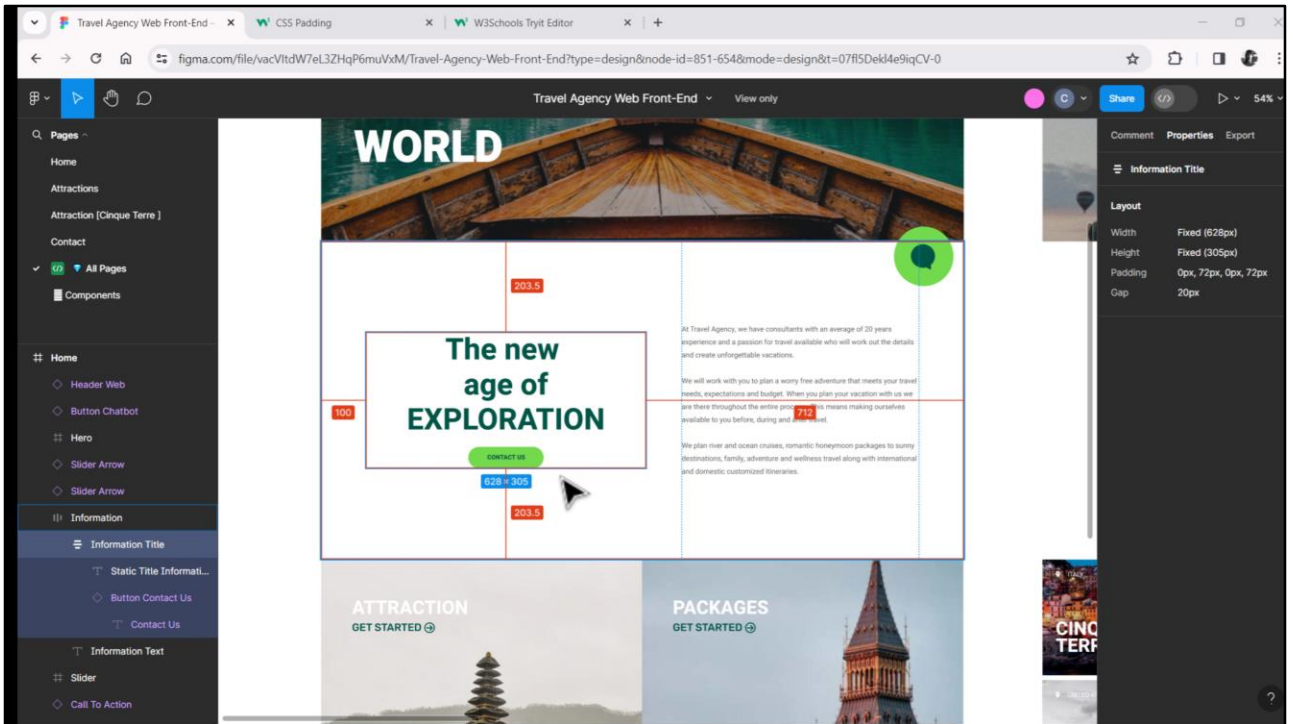


So we add a column to the left of this one, and another after this other one.



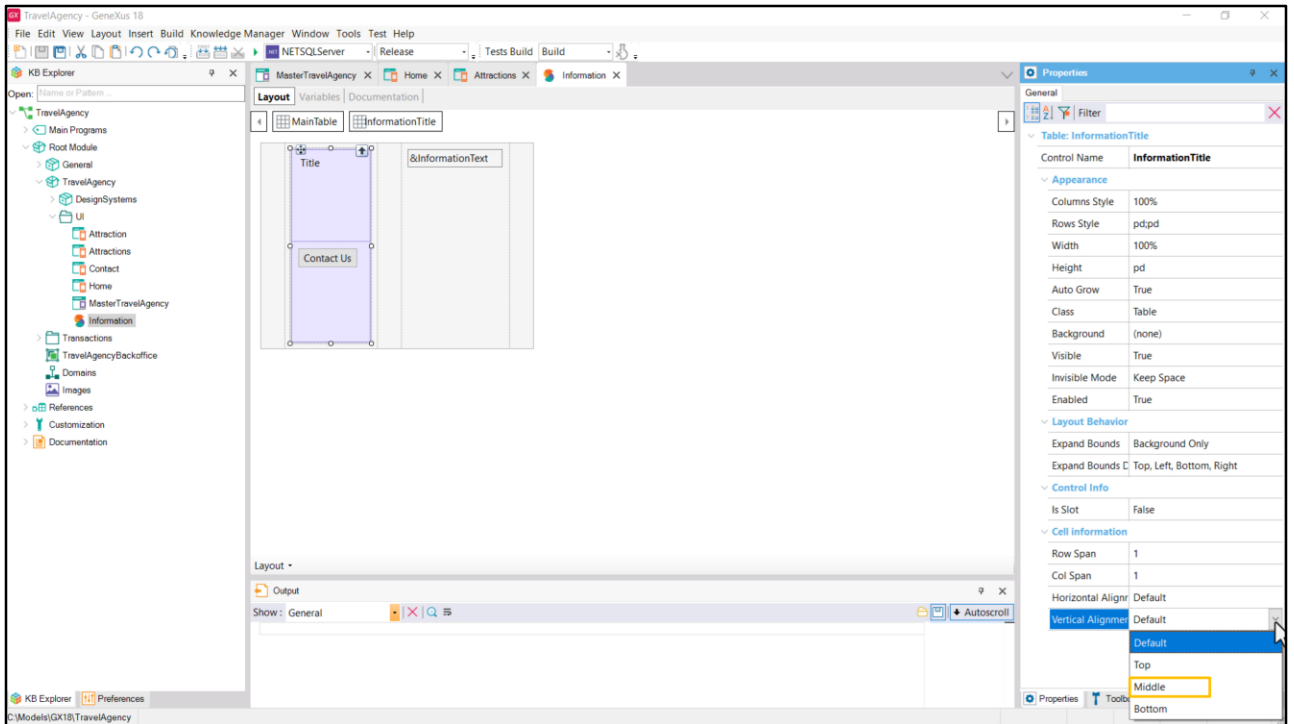
And now we establish their widths.

We can do it from here... 100, for the second one: 628, for the third one: 80 dips, for the fourth one 100%, and for the fifth one 100 dips. We save.

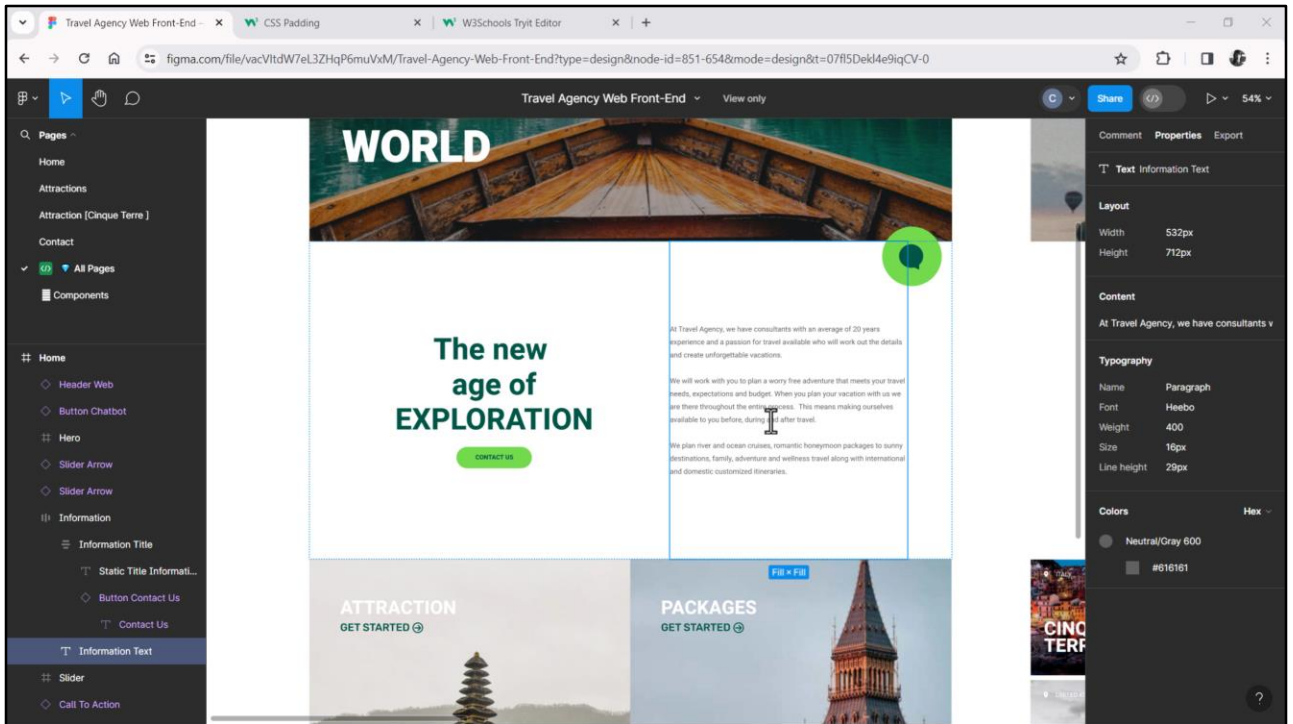


What about these spaces, at the top and the bottom? Do we have to do the same and place empty rows this time? Not necessarily.

Our designer has indicated that this banner will have a fixed height of 305 pixels. And it is clearly centered vertically. We can see it with those 203.5 pixels on each side of the border. So it would be enough to do this in GeneXus...

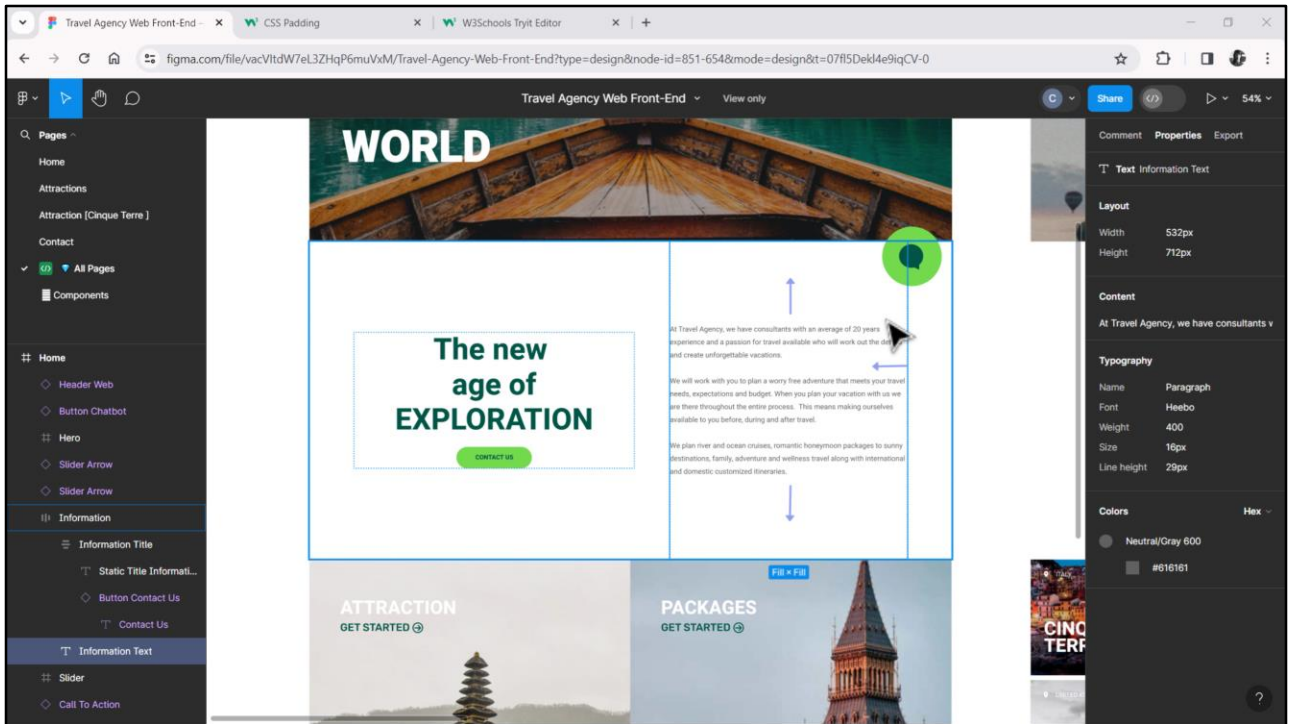


Edit the table, and set Middle as vertical alignment.

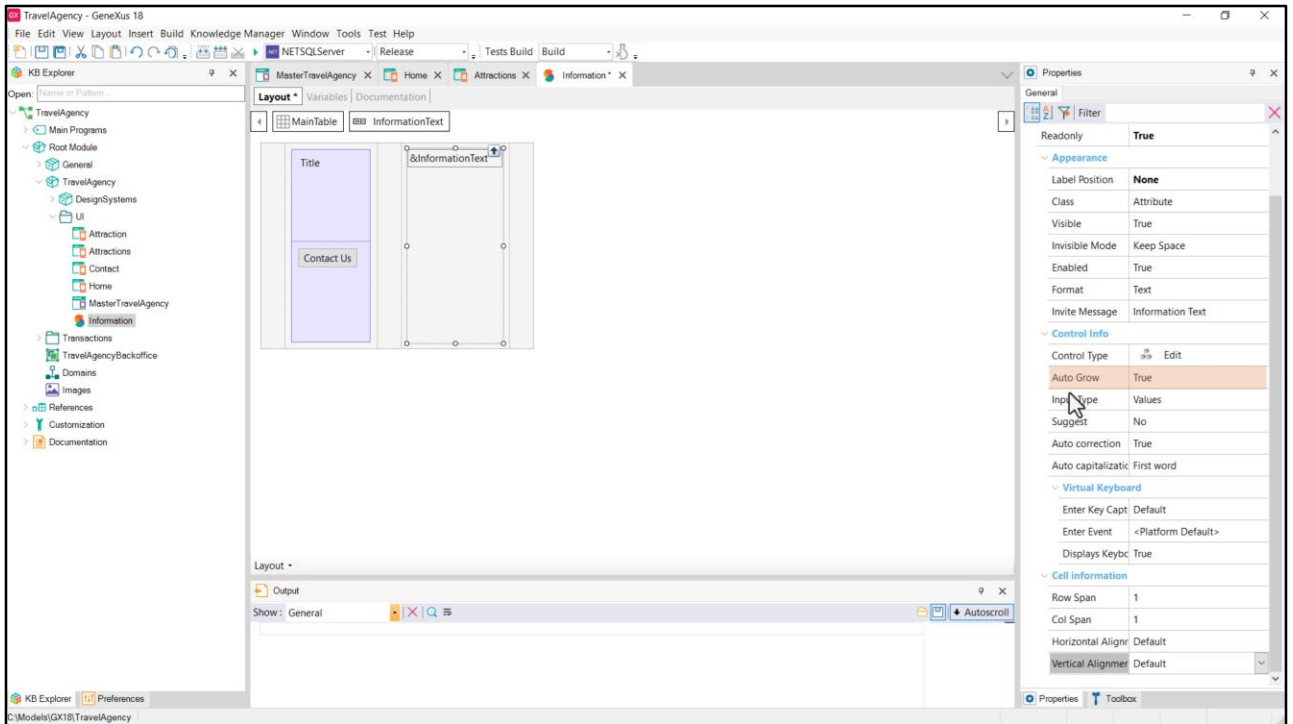


On the other hand, this other element, the text, which is also vertically centered, does not have a fixed height but says Fill.

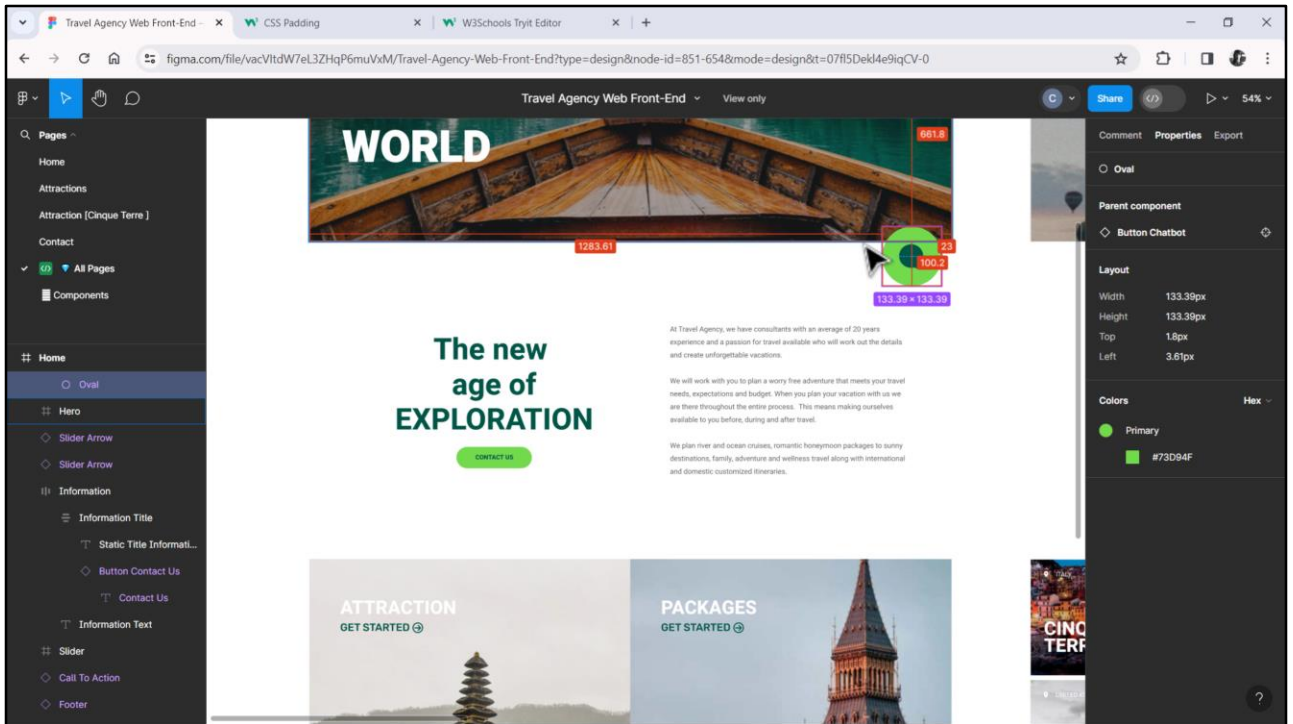
How much it ends taking up will depend on the amount of text. We know that if the text is exactly this, it's going to look like this, but if there were more text, there would be less space above and below. Eventually, there could be no space at all.



Similarly, if the browser border became smaller, as the width of the column would be reduced, the text length would also be increased, and the same could happen. It could even become larger than the height of the table. In the latter case, it would be possible to take the default action in the web world, and that is to allow the element and container to expand to fit all the text.

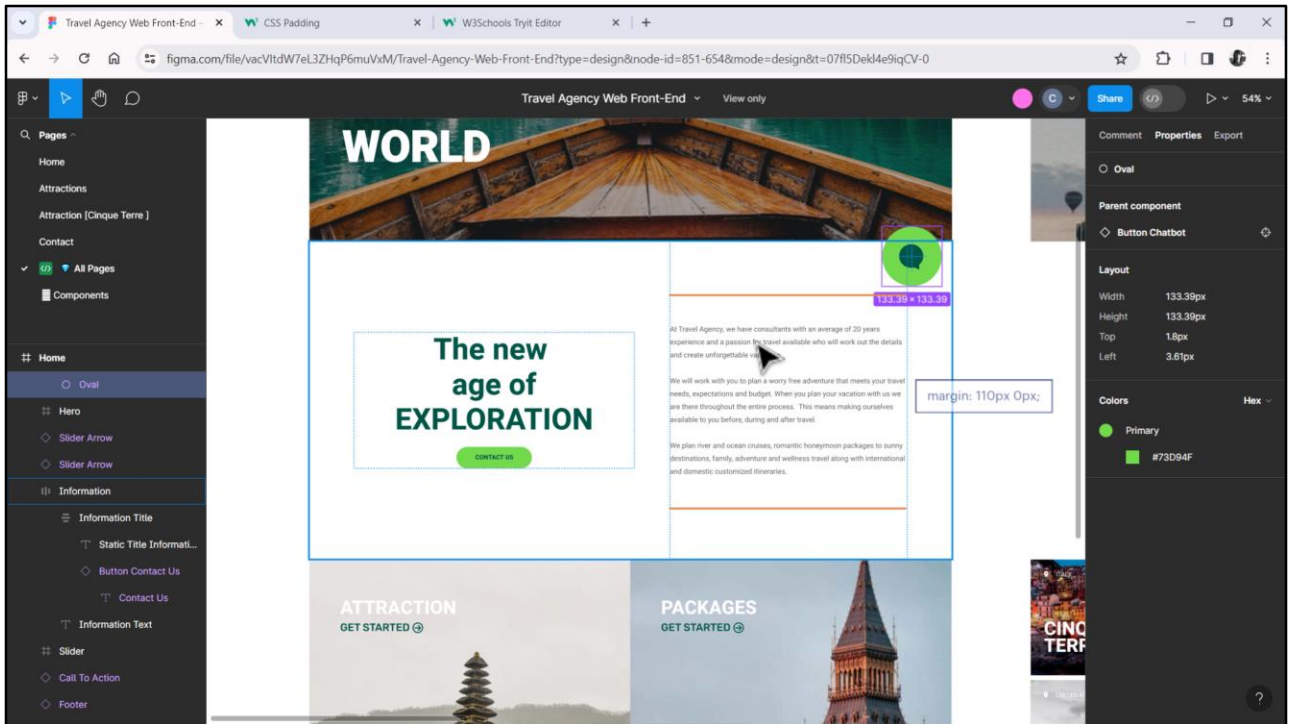


That's why I left the Auto Grow property set to True, both for the variable and for the table containing it (because if the table doesn't have Auto Grow set to True, the value of the Auto Grow property will not be taken into account for the elements in that table). Since we are already here we will vertically align the variable in the middle.

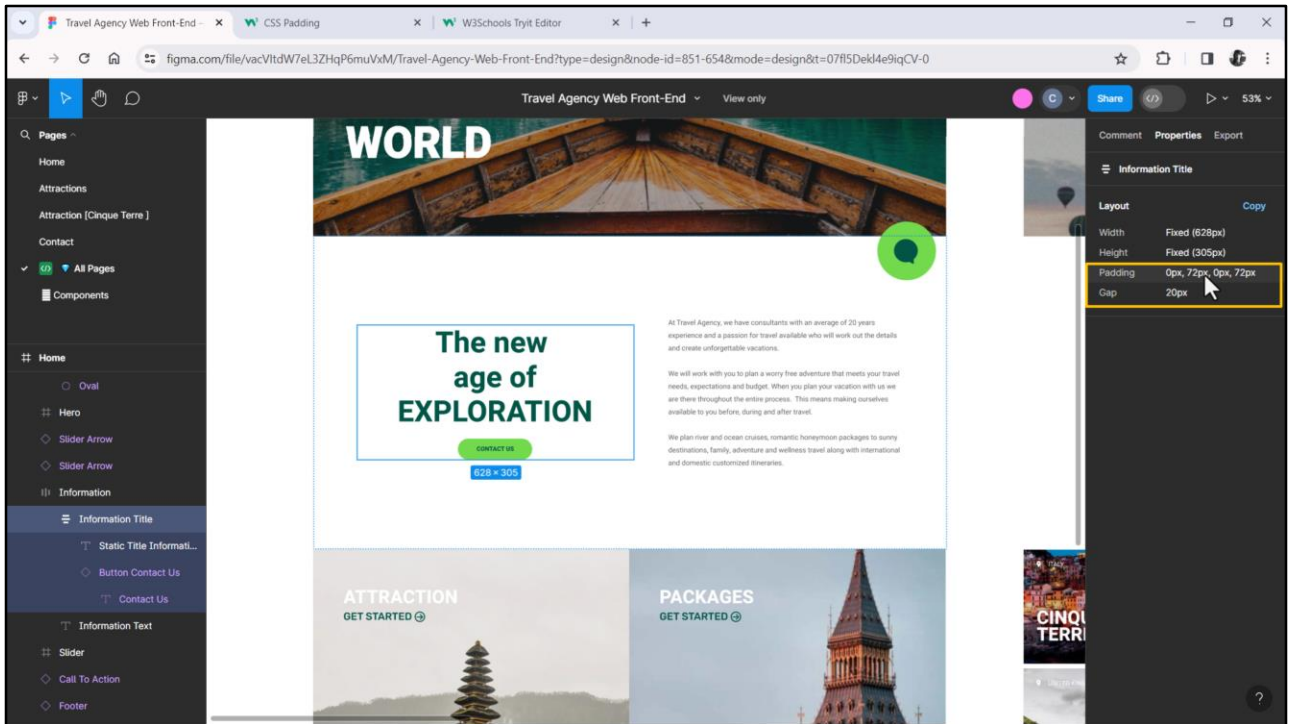


OK, if we leave it like this, we can't be sure that in any situation there will be a space above and below.

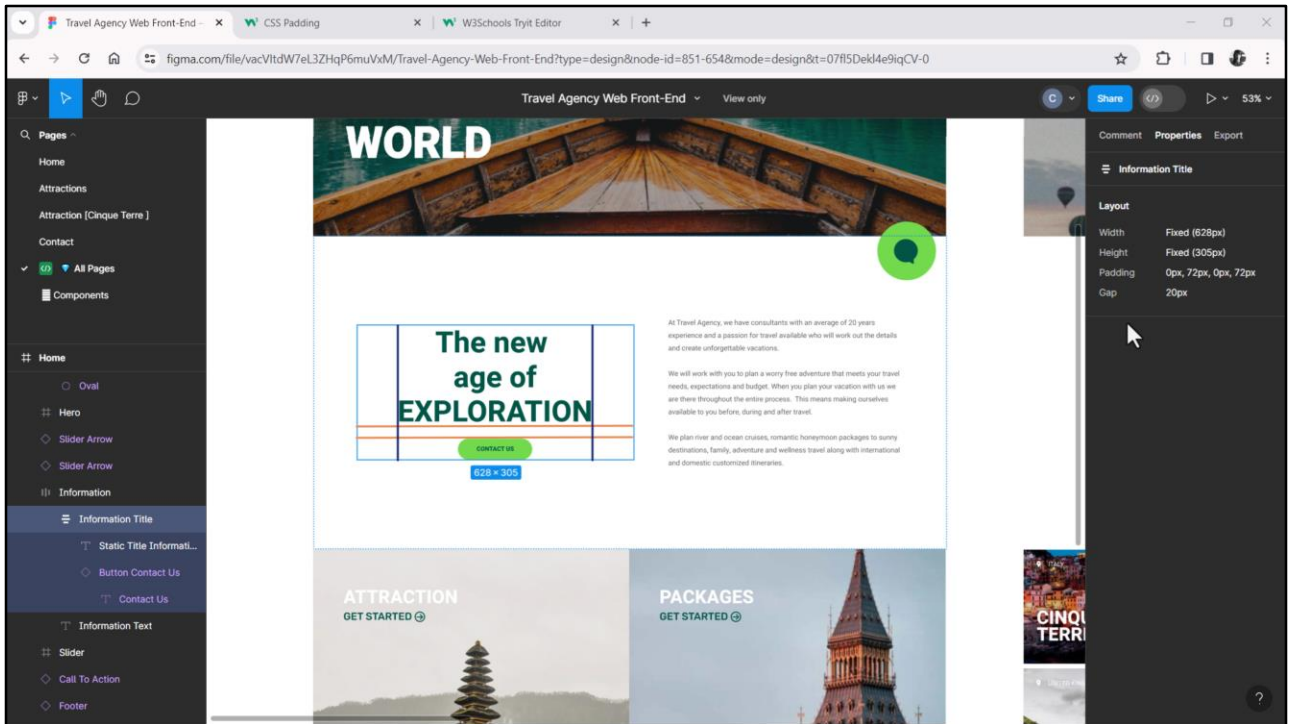
What I would do would be to talk to Chechu and ask her what she thinks about it, since that is not modeled in her design. In fact, if we look at the container we started from it has 0 padding at the top and bottom, and we can see here clearly that this element is expanding to the edges. Surely we will not want the text to expand beyond the bottom edge of this chatbot image. We see its length of 133.39 and if we compare the distance to the edge of the Header we see those 100.2 pixels, so it would not be unreasonable to propose a spacing of 110 top and 110 bottom so that they are symmetrical.



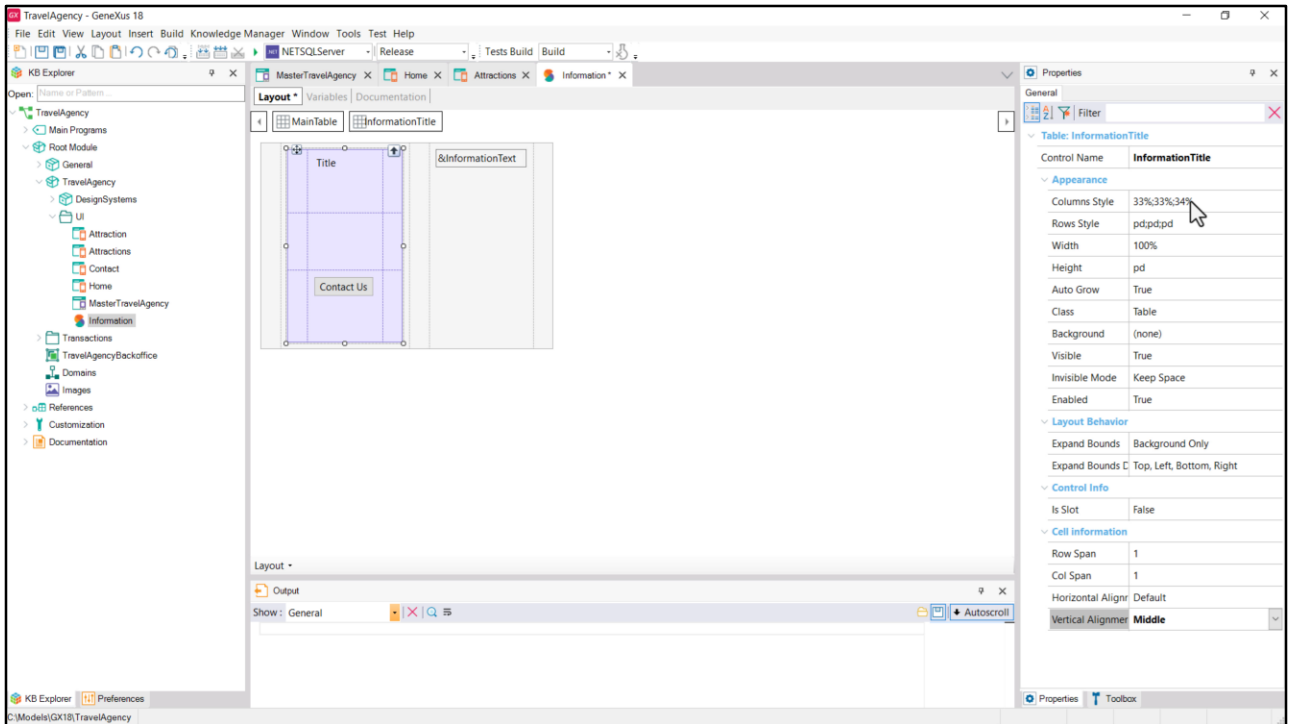
This, of course, can be done in the same way that we did for the columns, that is to say, adding two empty rows, one above and one below. But we have another alternative, among several, which will be to give a top and bottom margin to this element, and we will leave it for later, when we go through the Design System Object.



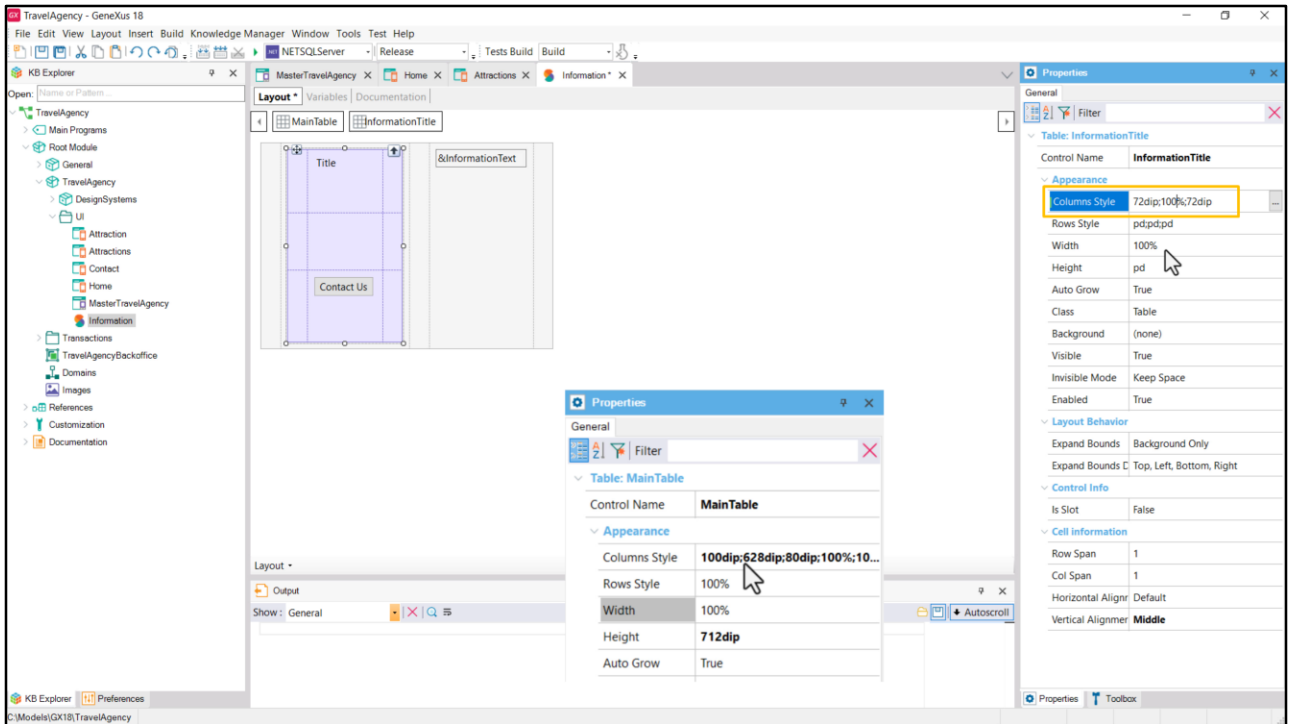
Now, let's analyze the container on the left. This one is very similar to the previous one, only that here, instead of being ordered in this horizontal line the elements are arranged vertically: the text above and the button below. And here we see the padding in this way: 72 pixels on the right, and 72 pixels on the left. And 0 from top and bottom. And what is the space that separates one element from the another? These 20 pixels indicated here.



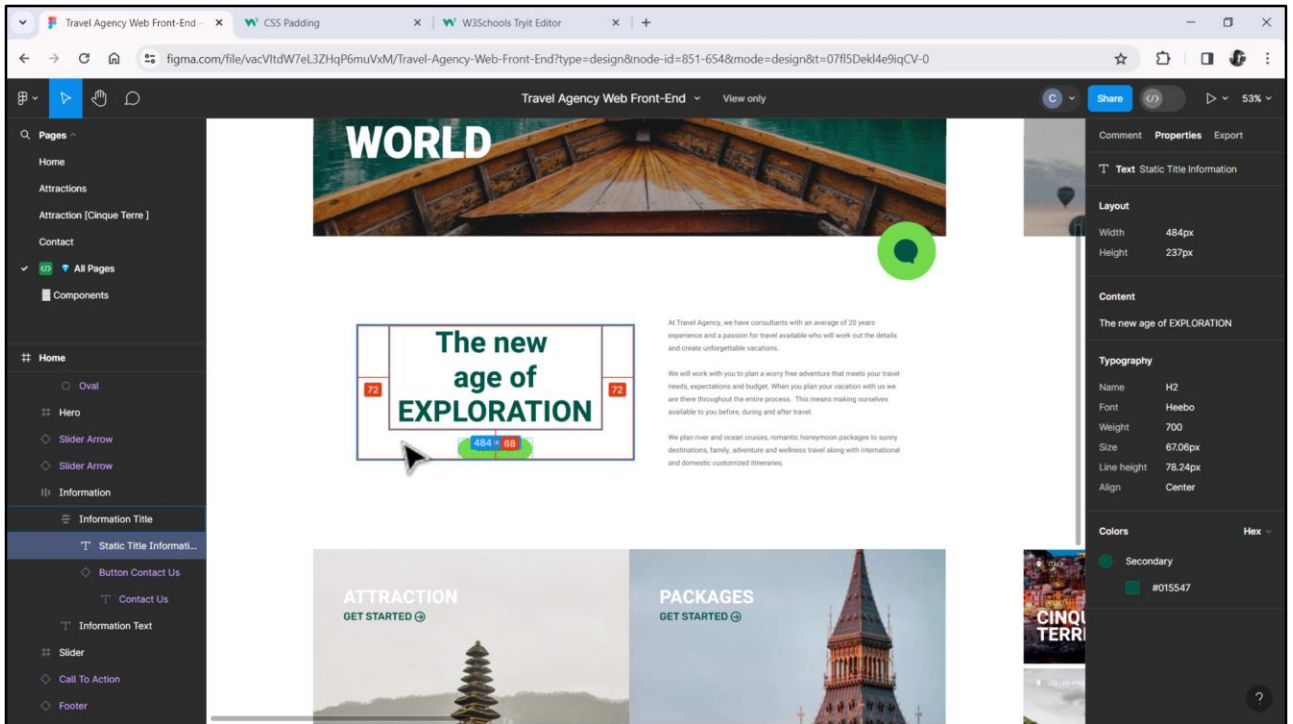
So with this perspective I could think of adding an empty row in between, and two empty columns on the sides.



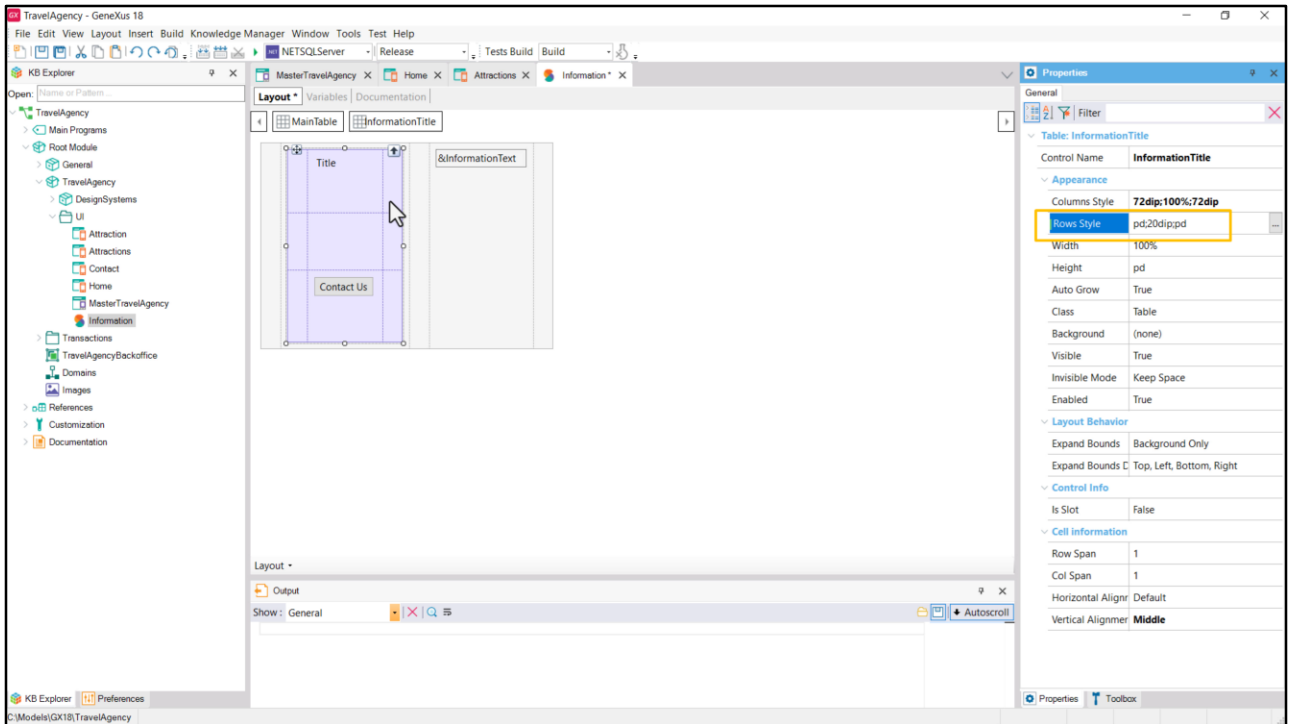
By doing this, we see that the properties were updated, and now the columns have taken these values in percentages, to be equally distributed, which is like the default.



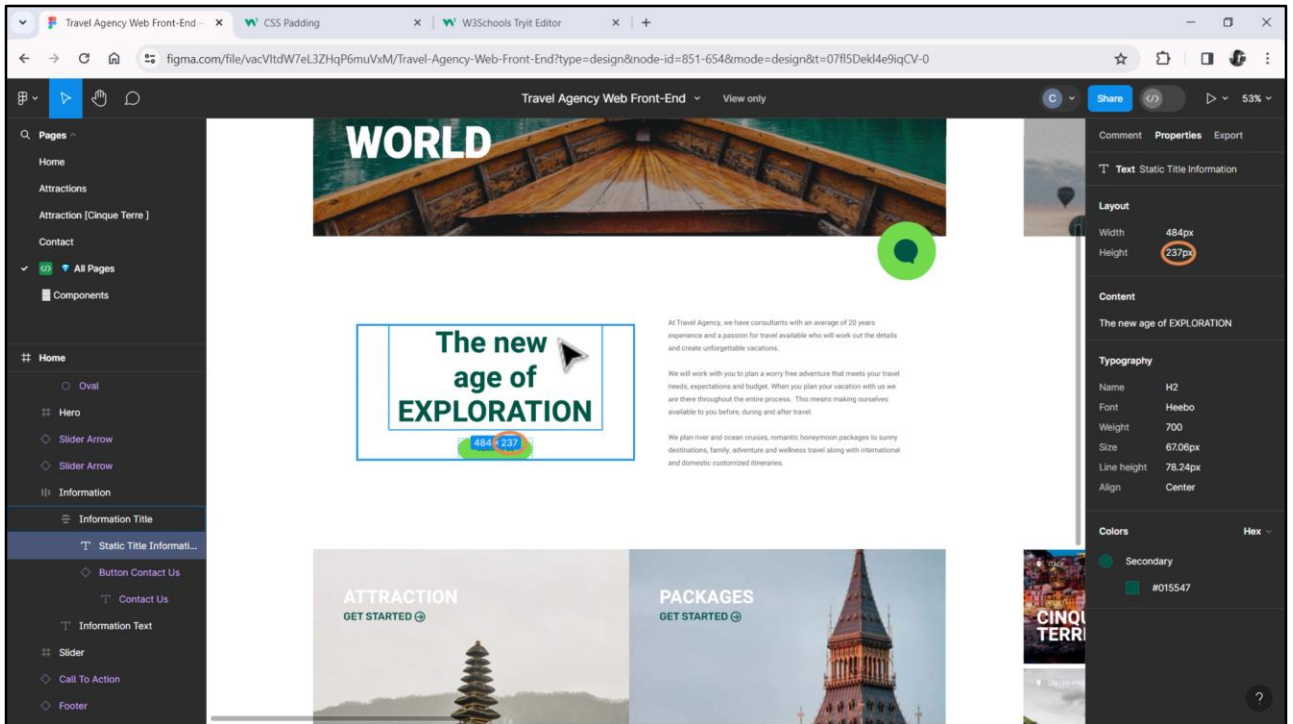
So, we're going to set 72 dips in the left one and 72 dips in the right one. And what about the one in the middle? I'm going to set 100%... of the Width of the table that will correspond to the width of the cell, of the column in this case, in which the table is located. It is the second column, so it will correspond to these 628 dips. Therefore, the width that the second column will take will be the one resulting from subtracting the values of the two columns on the left and right from these 628 dips.



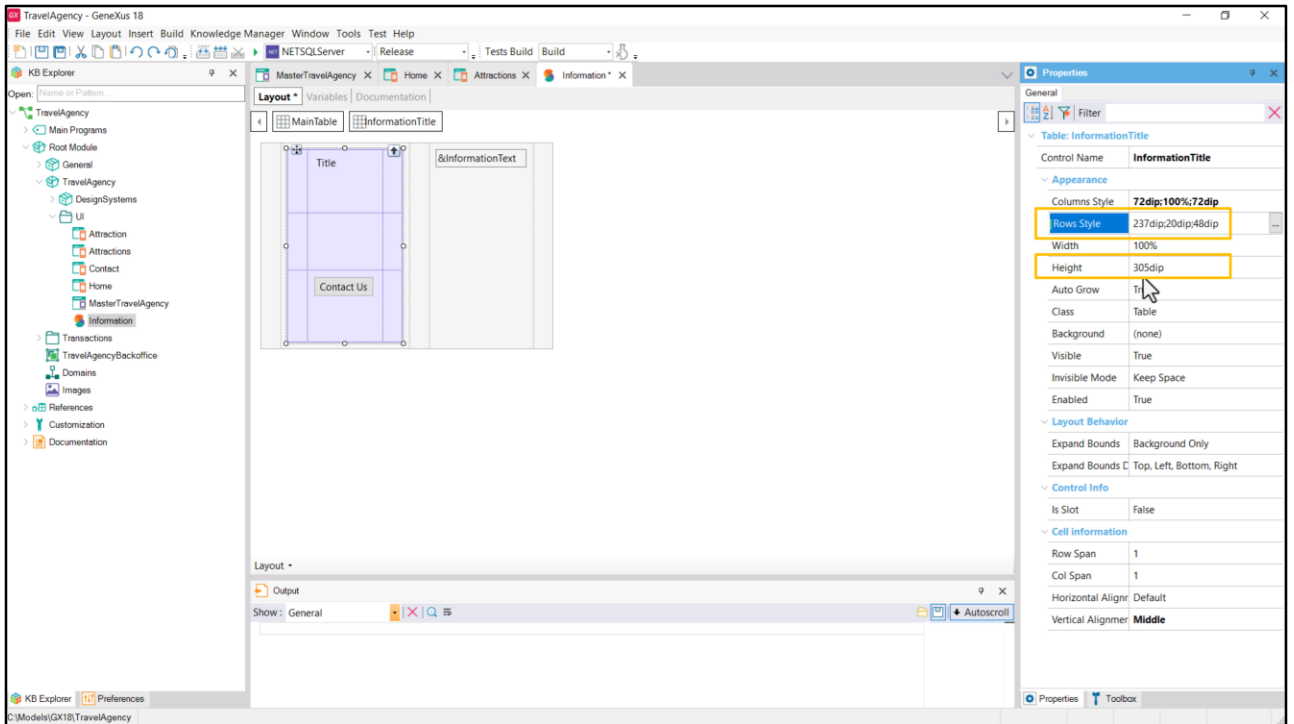
And we see this clearly here in Figma... 628... 72, 72, and what will be left of the width of that column will be 484.



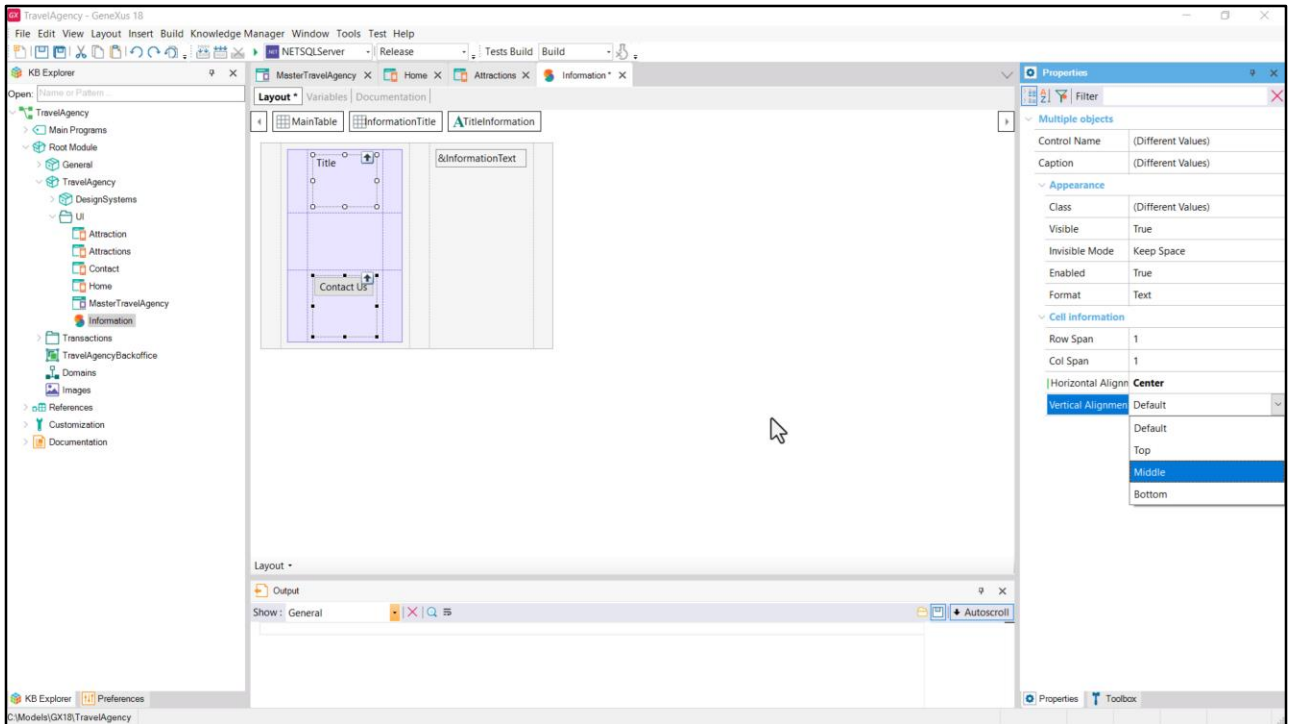
Well, what about the height of the rows? We know that the middle one is a spacing row, which is going to be 20 dips. Now we need to see what would be the height of the row... of the first one... and what would be the height of the row that will contain the button.



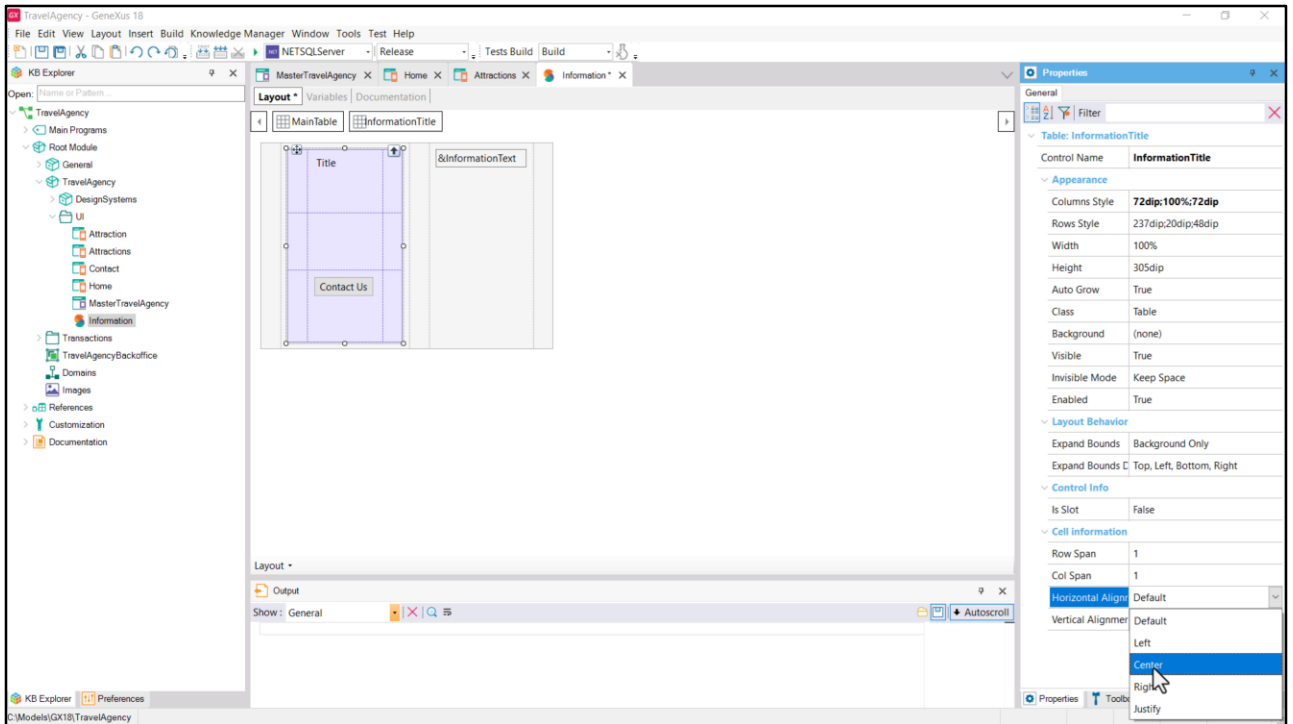
Well, the one of the text, as we see here, is going to be 234 pixels, and the one of the button is going to be 48.



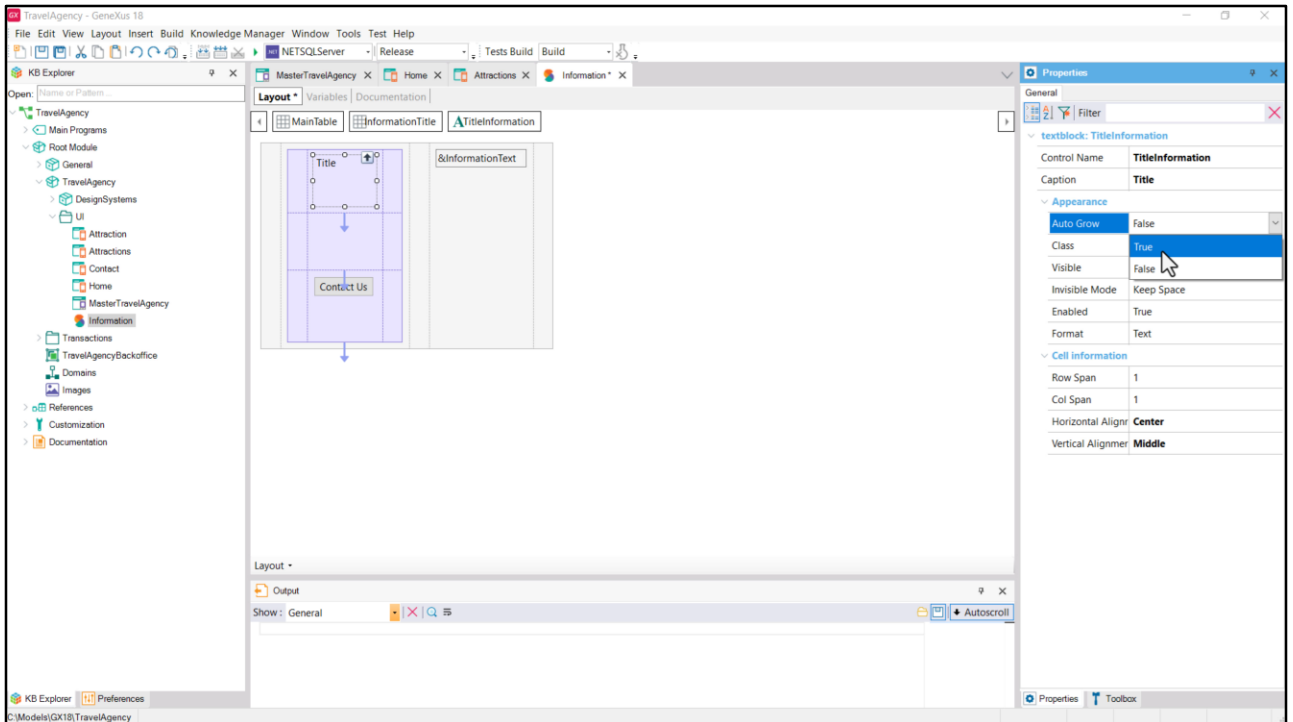
So... 237... note how having done this, as all the rows are of fixed width, it automatically modified the Height property adding those values.



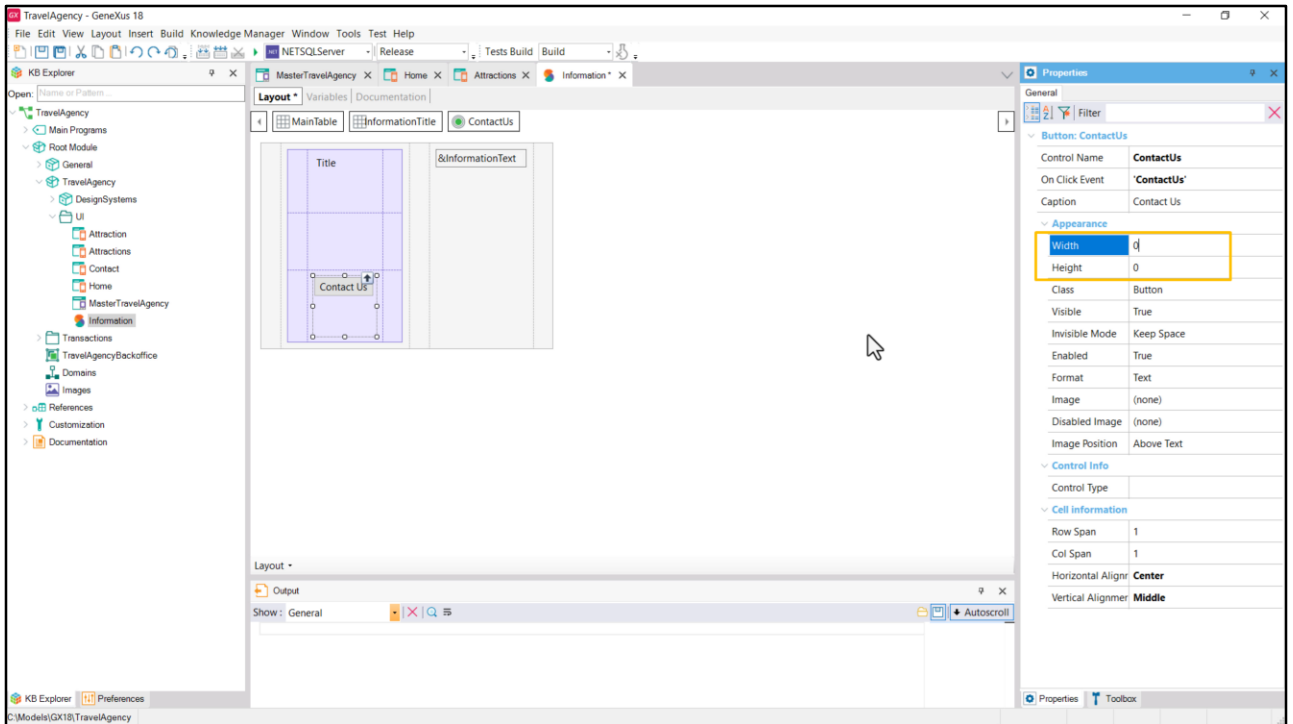
Now before I go any further I'm going to center these two elements... I will center them horizontally and also center them vertically.



I'm going to do the same for the table, although it's not necessary in this case... I'm going to center it horizontally. Why isn't it necessary? Because it's going to take up the full size of the cell and I'm centering everything inside.

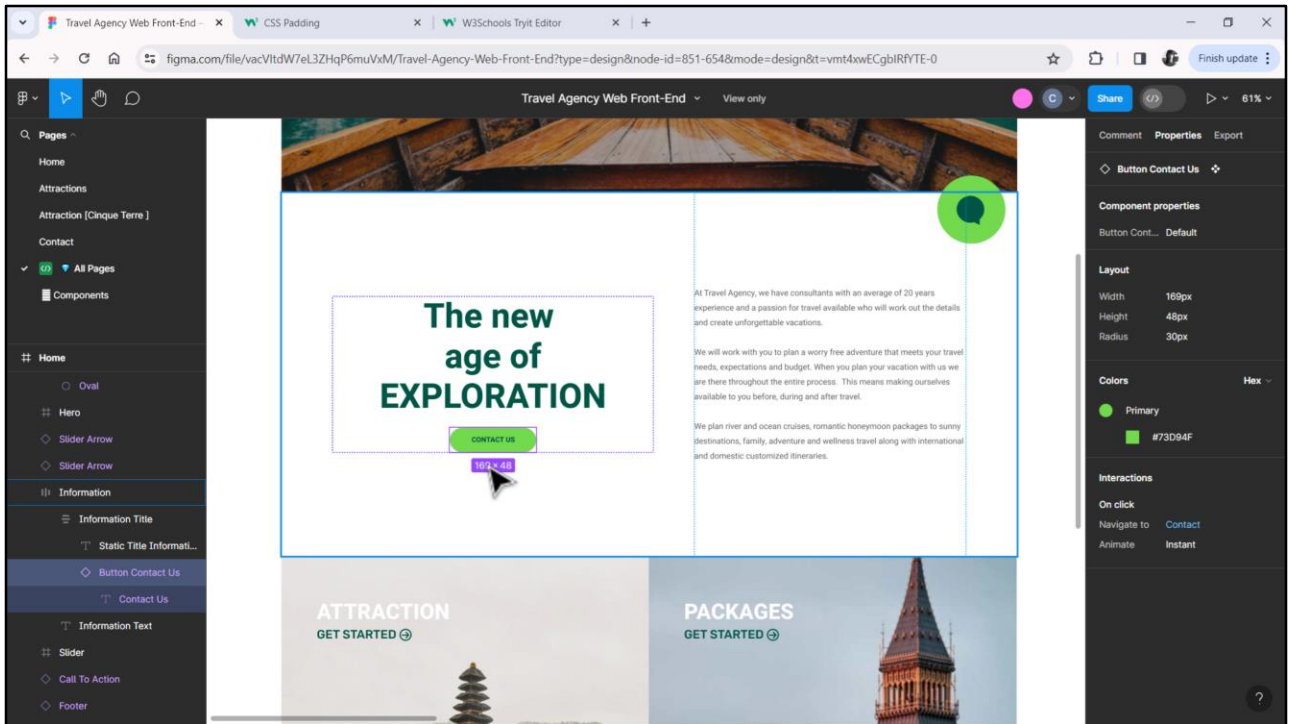


Well, with what we did, we know that how far it will go depends on the content of the TextBlock Caption. If the number of characters makes its width smaller than the width of the column, it will be equidistant from the sides, since we centered it (and also from the top and bottom). If it has more characters, the text will be wrapped so as not to overflow and will have more than one line. And what would happen if the height of the cell is not enough? As we can see, in this case the TextBlock has False as default for Auto Grow, because it is the default for native platforms, so it will be truncated. If we want the row to be pushed down, and therefore the other two rows as well in the case it overflows the height, then we change it to True, which is usually the expected behavior on the Web.

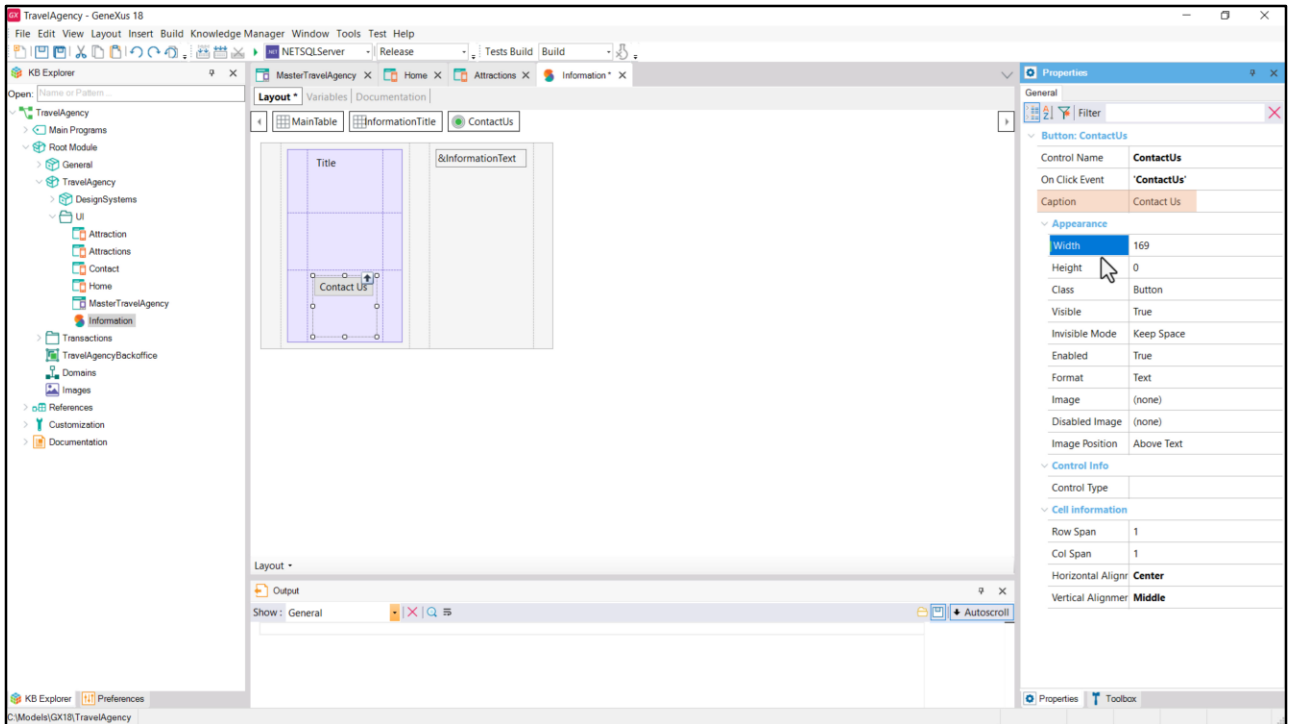


What about the button? By default it will expand to fill all the space in the container (although it may seem a little counter-intuitive that it has these zeros instead of a more expected 100%).

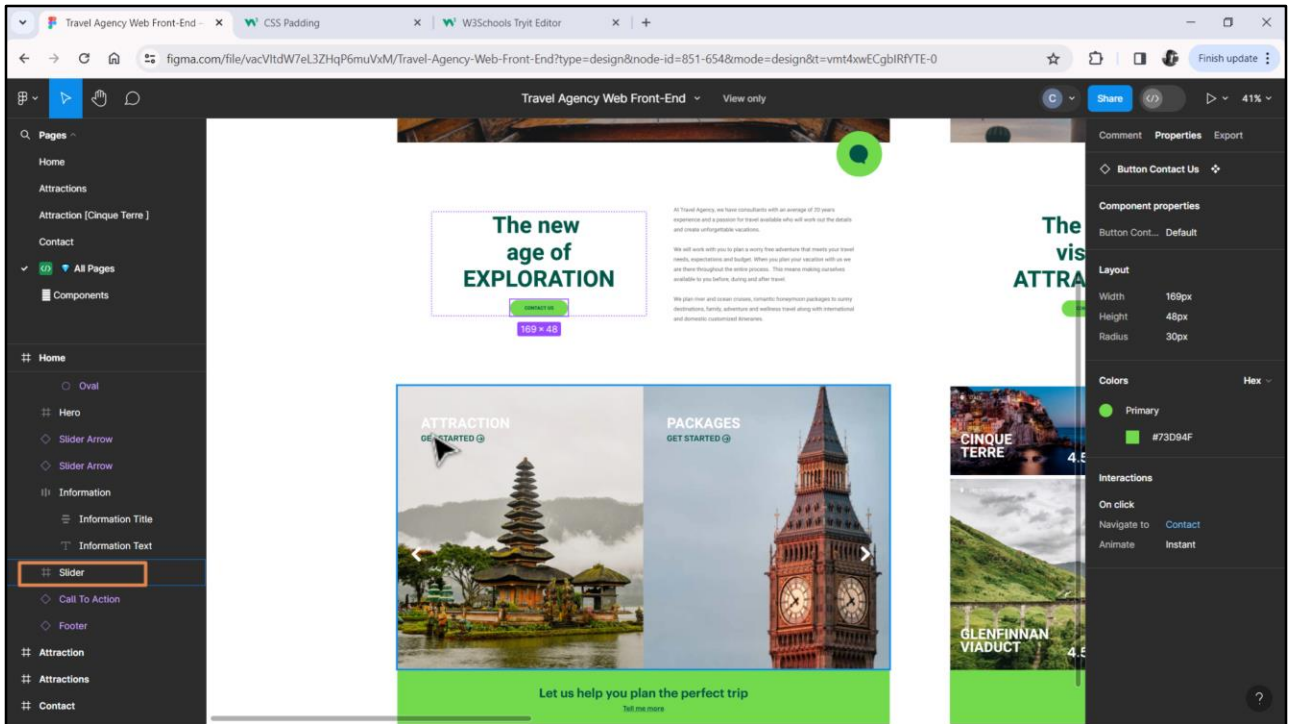
For the height, that it takes the same space as the height of this cell is perfect, because we indicated that it was 48 dips just because it was the height of the button. But for the width it is not correct.



If we go to Figma, the width is smaller, it's 169 pixels.

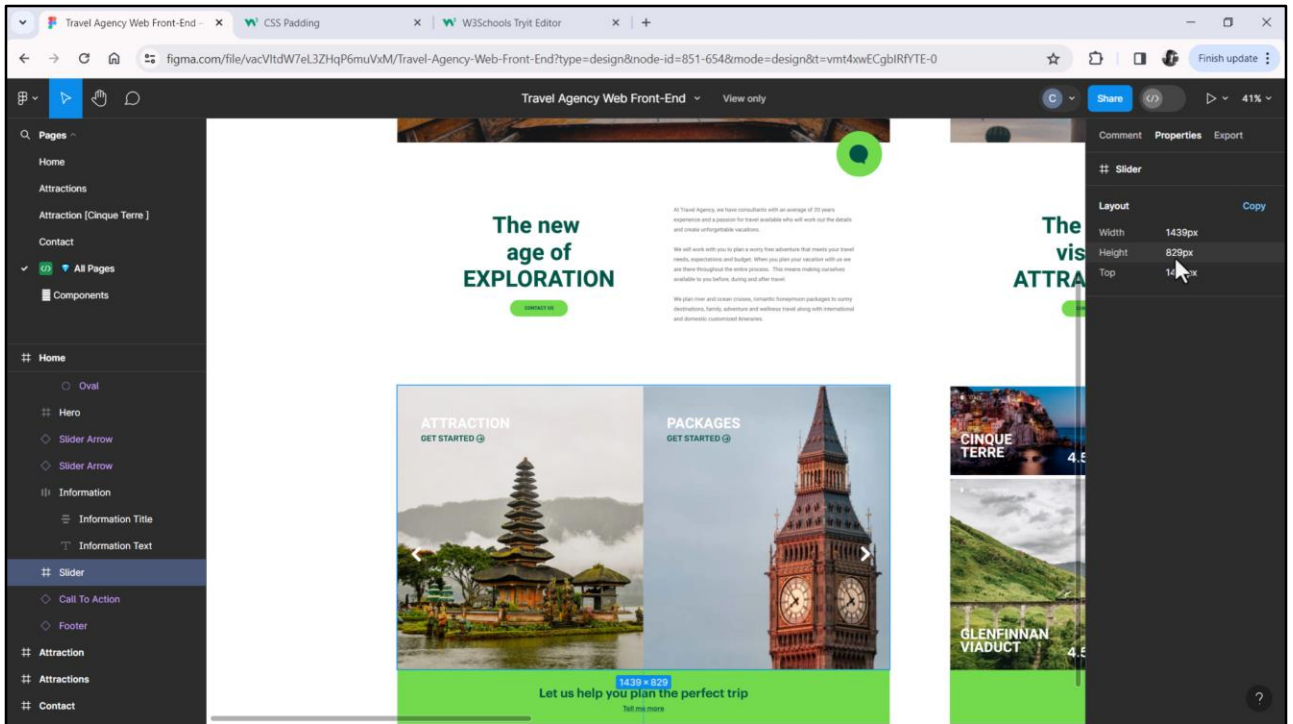


Later we will see that this would be the minimum width, but if the "caption" of the button exceeds this size, the button should expand to the sides, without exceeding the width of the container, of course. But we will see that later, for now we leave it like that.

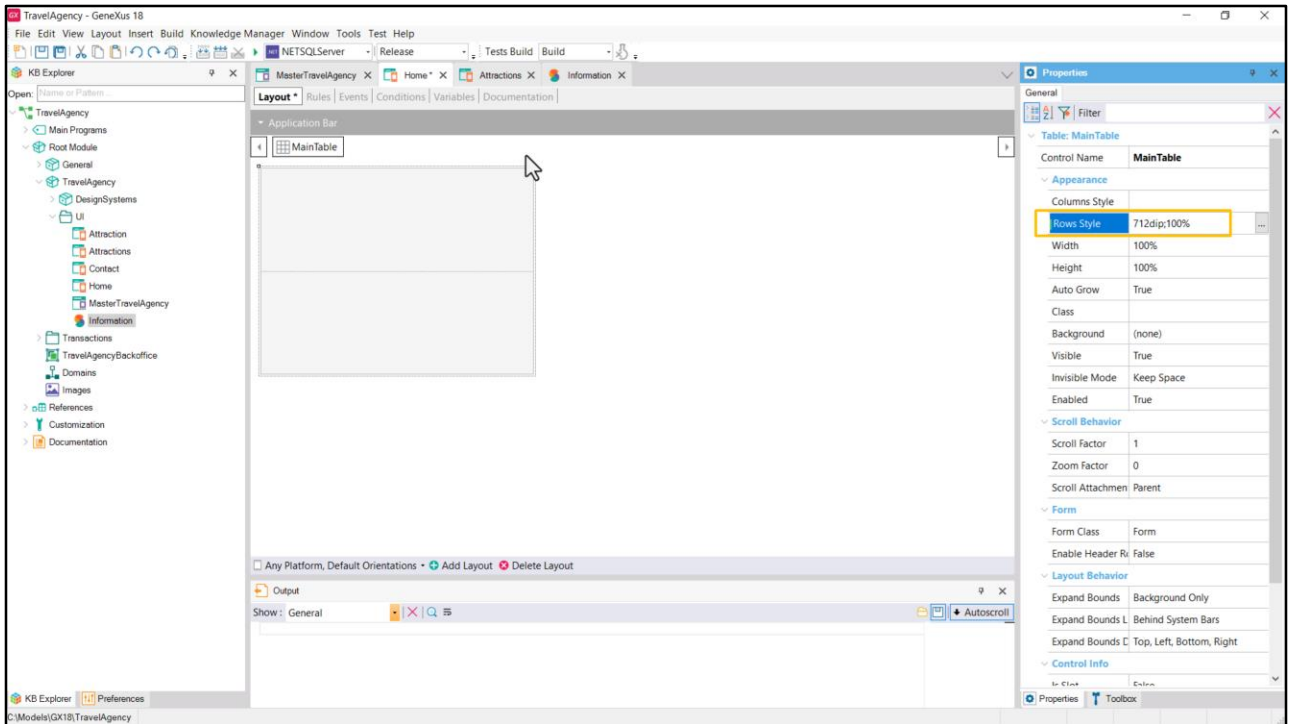


Before defining the style, I want to see how this looks running. For that I will have to instantiate the Stencil in the Home panel first, and then in the Attractions panel, that for now are empty.

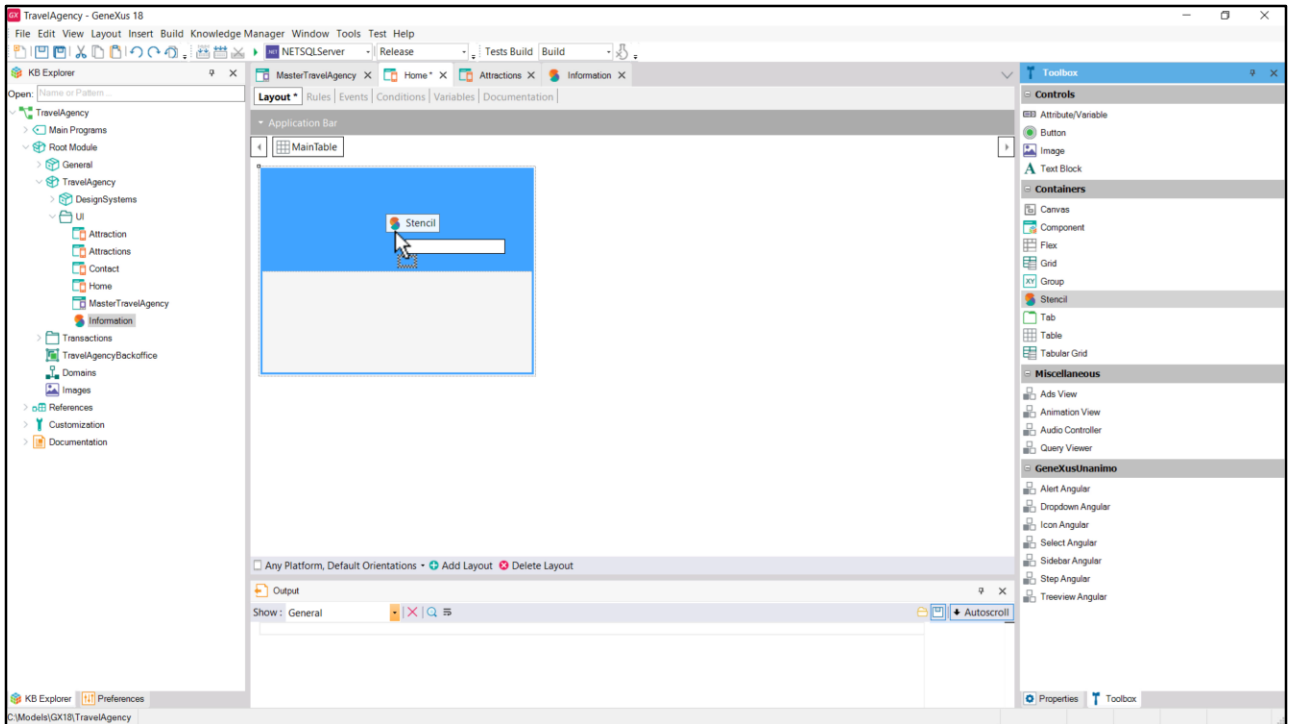
The Home will have this element and this other one, that Chechu called Slider, and is a frame with subelements.



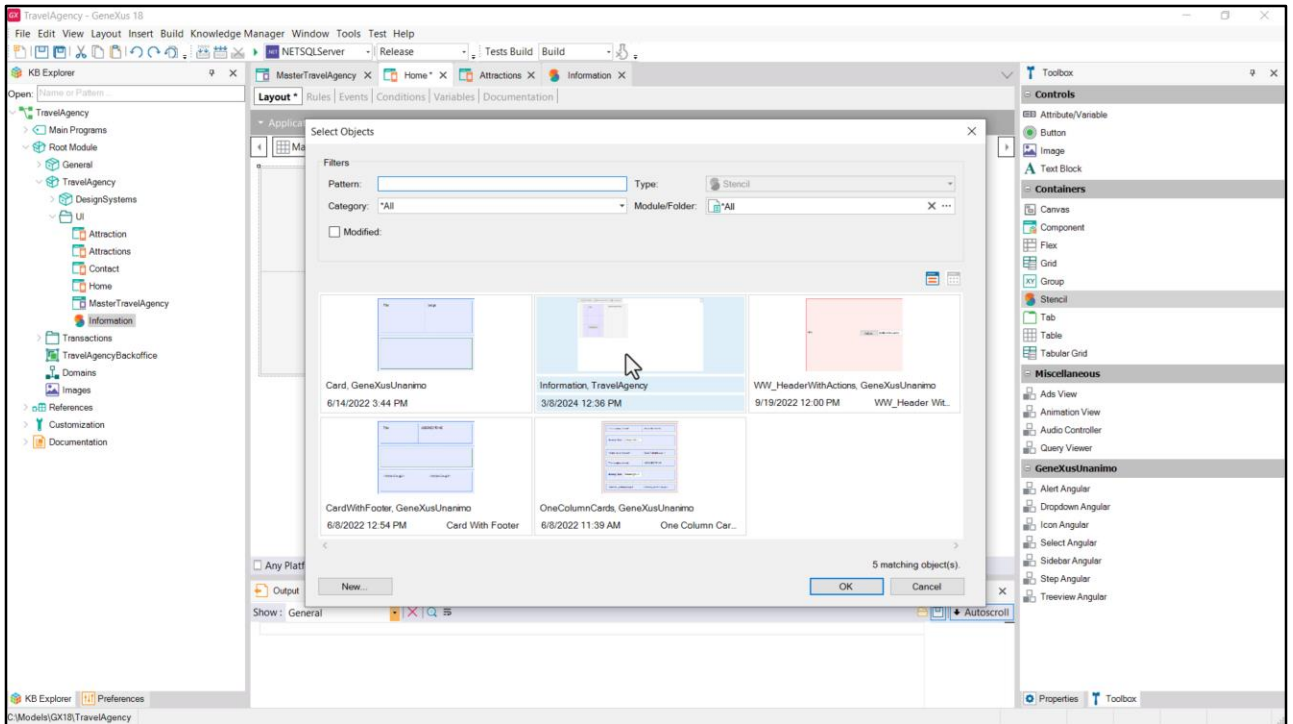
Its height will be 829 pixels. That of Information was 712.



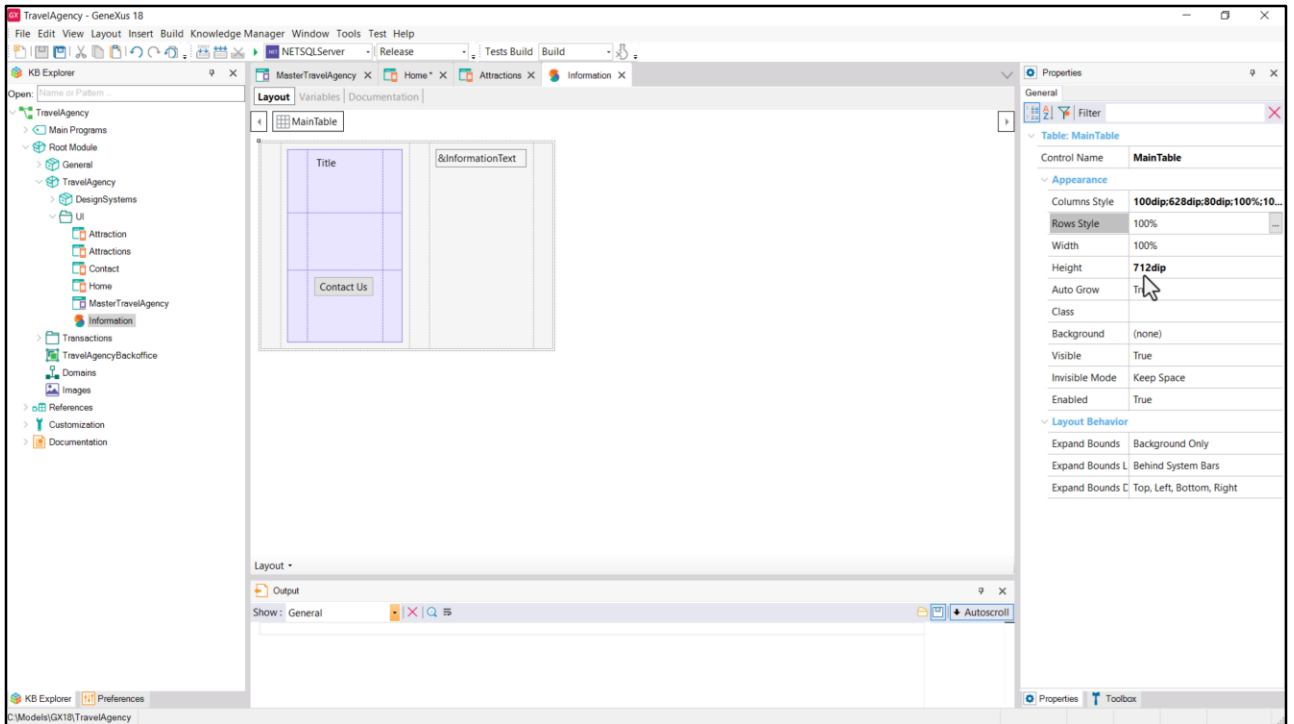
Then I add a row to the main table... the first of the two rows that it has for now is going to be 712 dips and the second one, which could be 829, I will leave it at 100%. We'll analyze this later. The remaining 100% of, obviously, the height of the Main table.



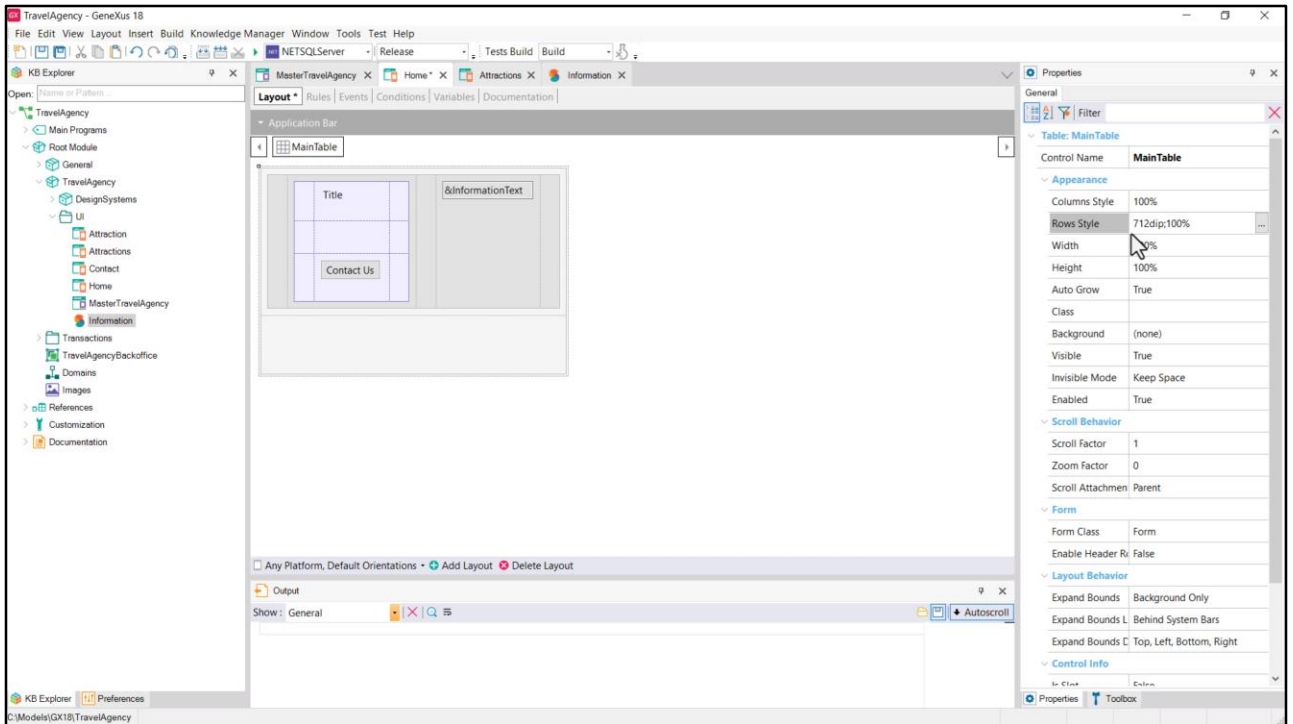
What I'm going to do next is drag a Stencil control to the first of these rows...



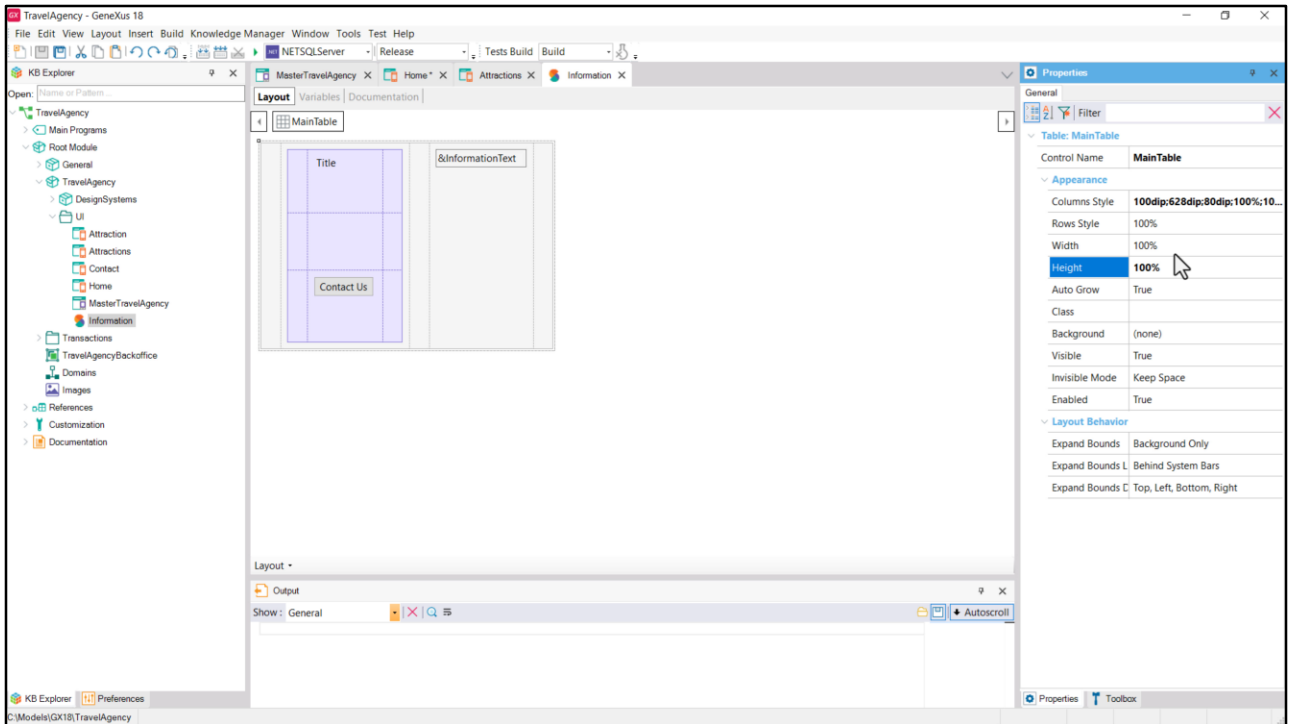
... and choose ours, Information.



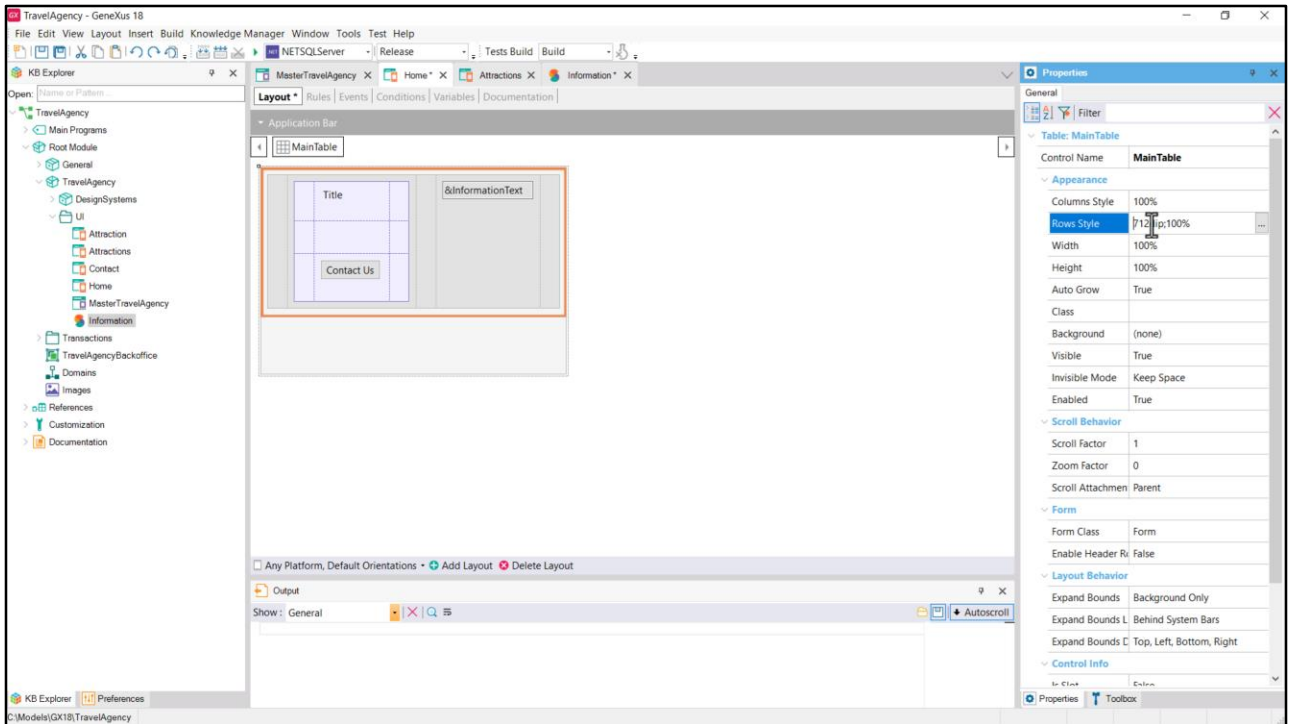
If now Chechu warned us that she changed the height from 712 pixels or dips to 800, for example, what would we have to do? We would have to come and change it here...



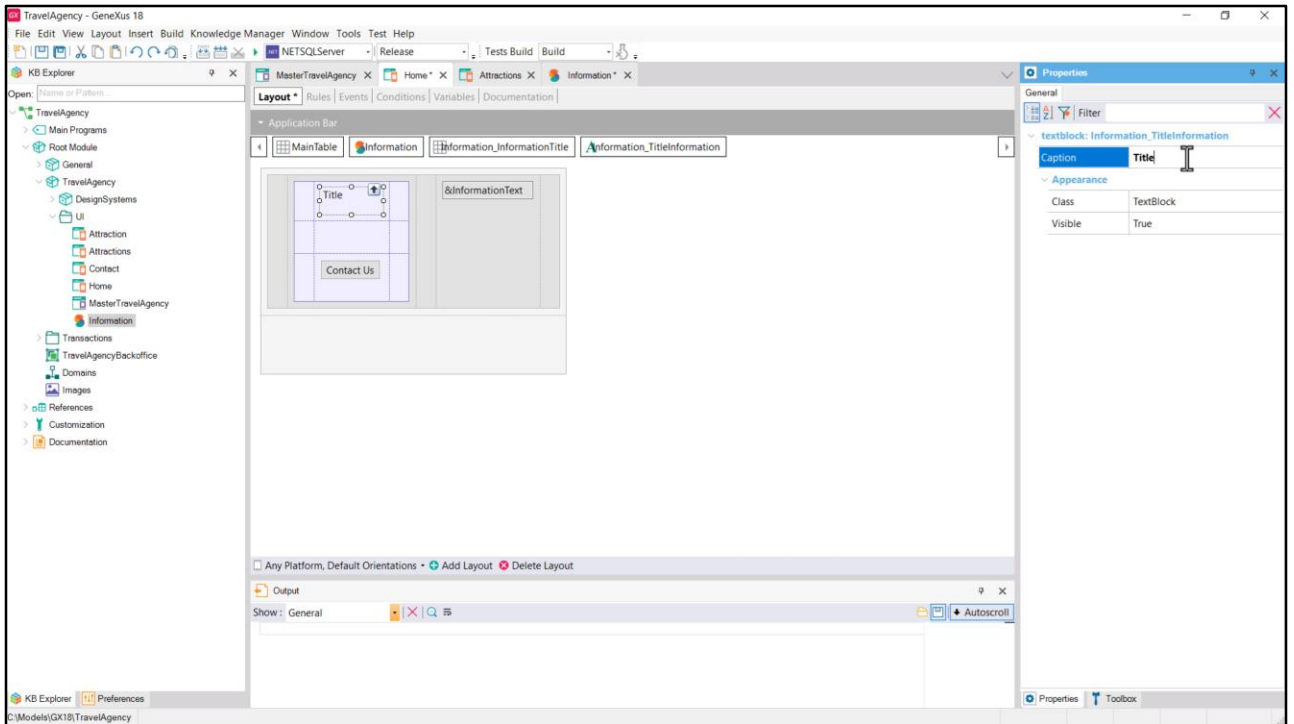
And then come here too, to change it at the level of the row height. And the same if we then place that same Stencil in the attractions panel.



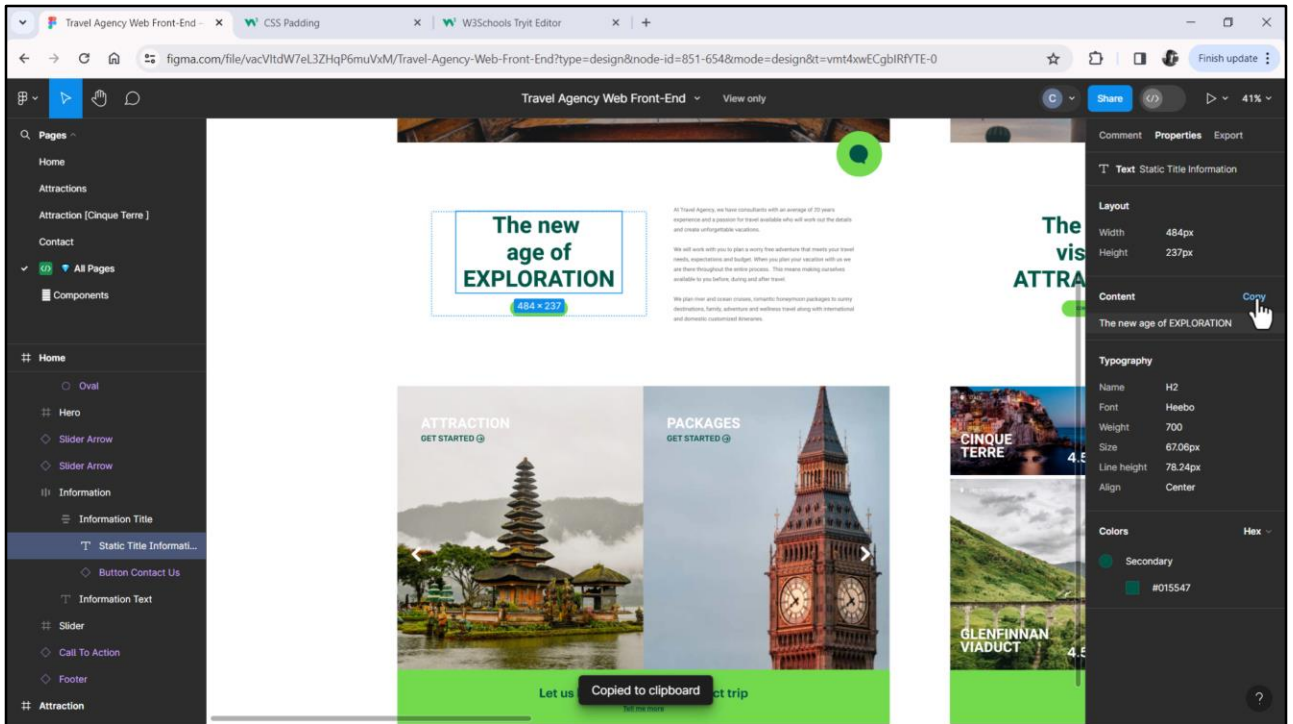
So to avoid those redundancies we are going to choose to leave those 712 dips on one side only, and it's going to be at the row level of that Stencil's container. So, here we're going to change this to 100%. So that now, if I have to change it to 800, this is going to be fine, we're saying the table height is going to be 100% of the container...



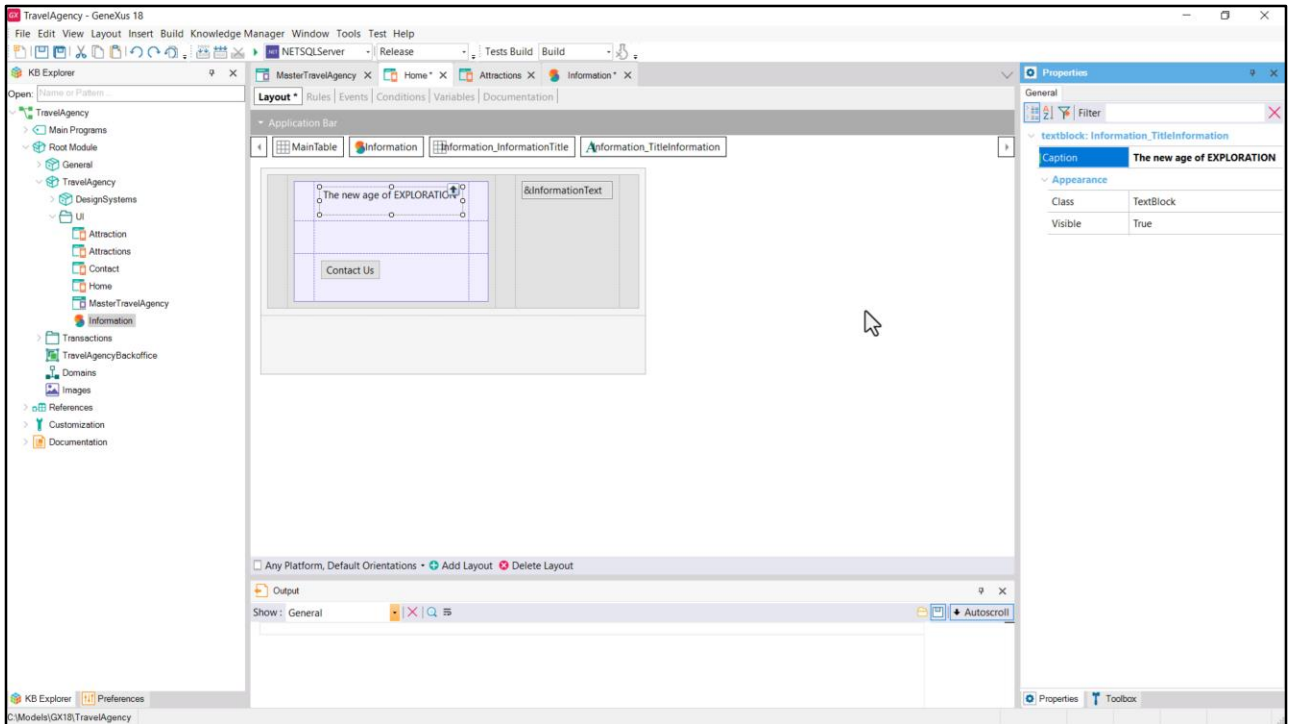
...and the container in this case is this cell that corresponds to the first row of the table. So here I would change to 800 dips. Of course I would have to do the same thing in the attractions panel.



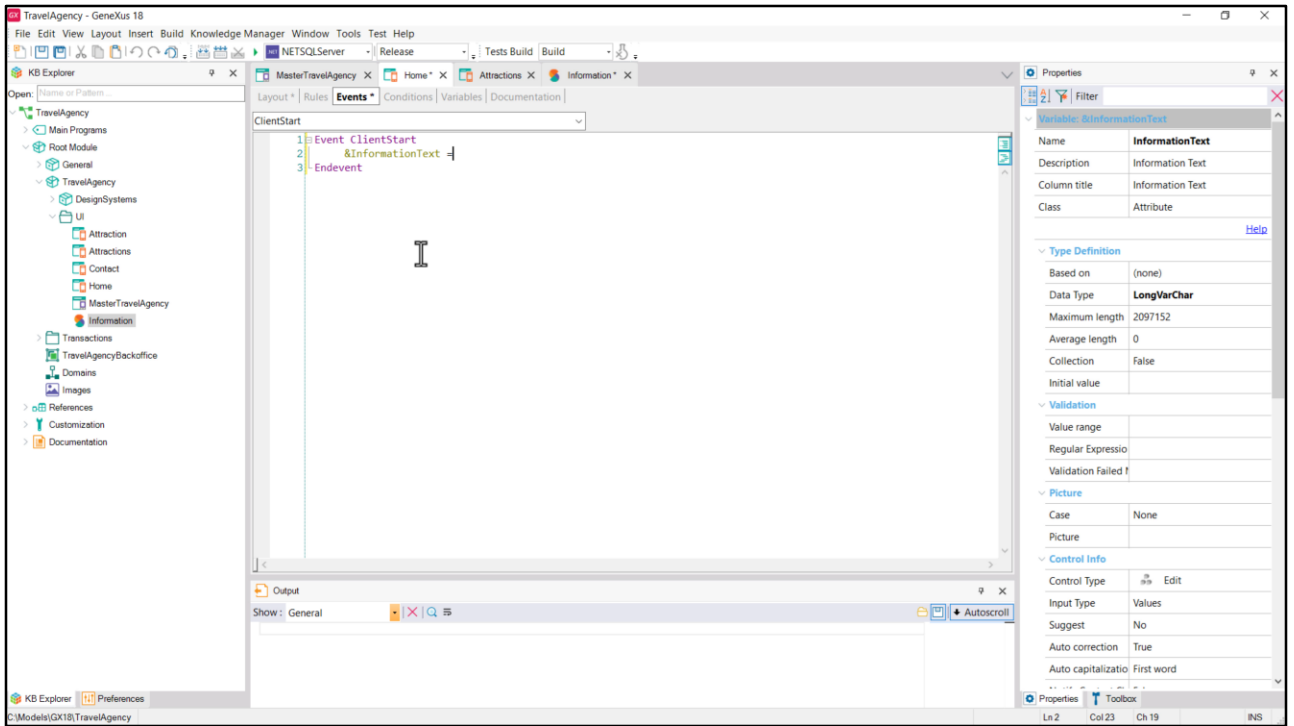
What is left to do to be able to run? To assign a value to the TextBlock and to the variable. I could assign both contents in the Start event of the client, or, for example, to the TextBlock I could directly assign it here, changing this Title...



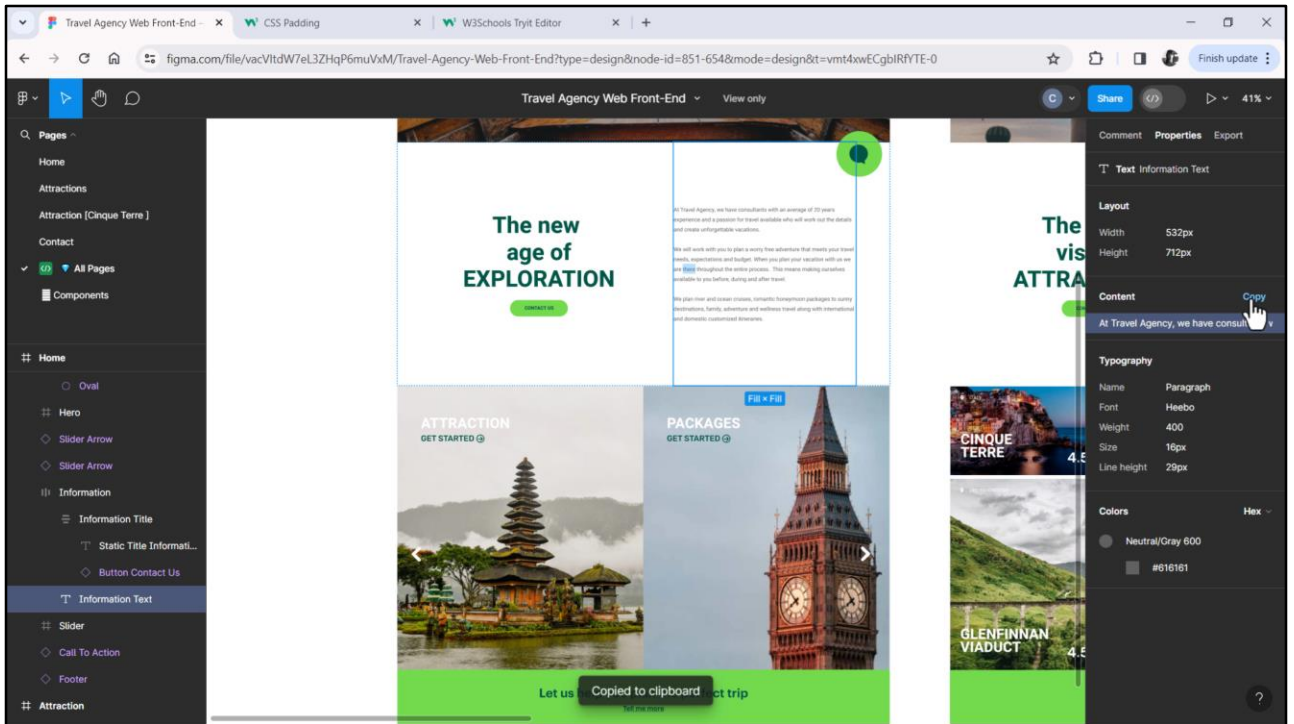
...for this content that I can copy directly from the file in Figma... you see that it is copied to the clipboard...



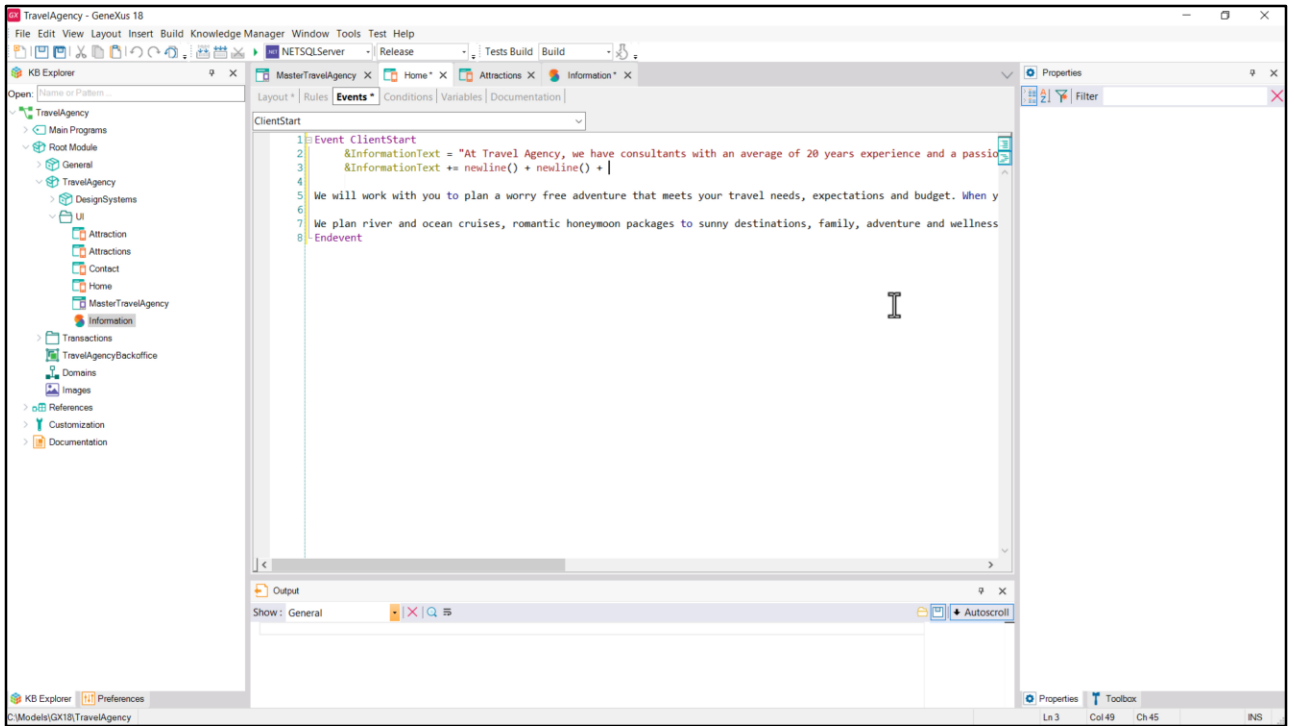
...and then I come here and I paste it directly.



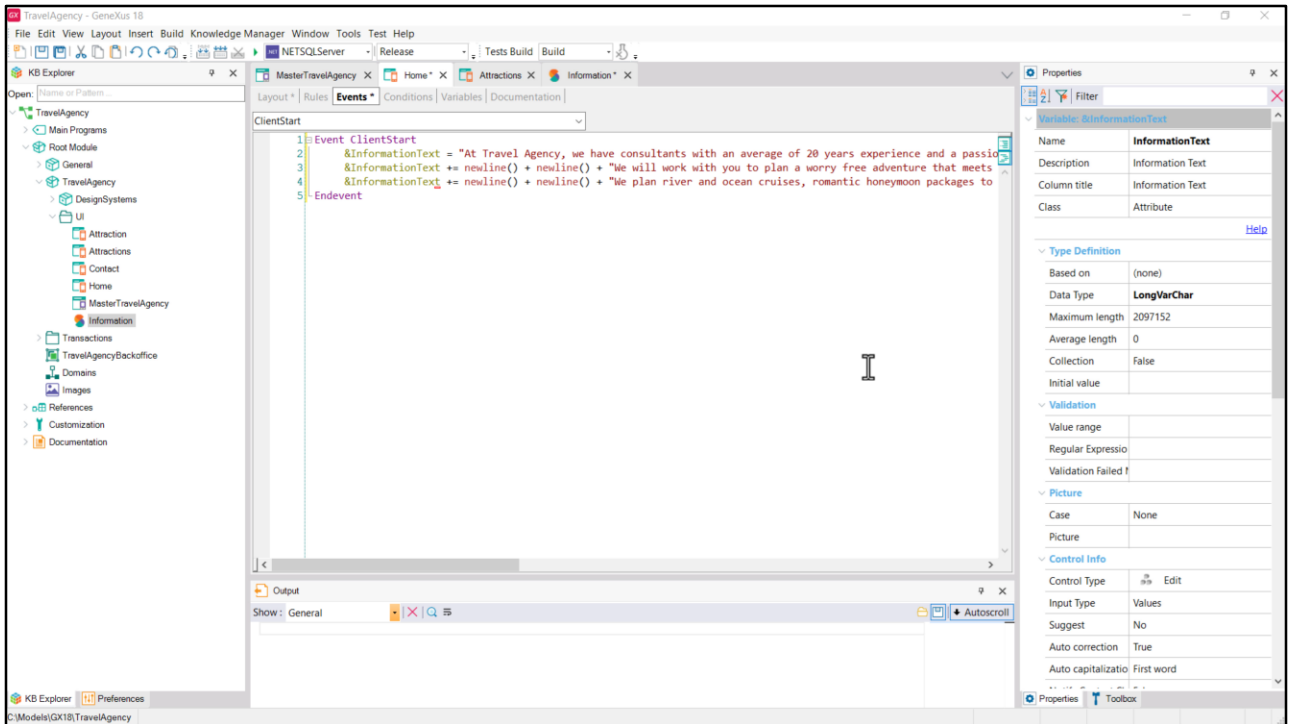
As for the variable one, I have no choice but to do it in the ClientStart event... then to the InformationText variable I assign...



... the content I copy from here...

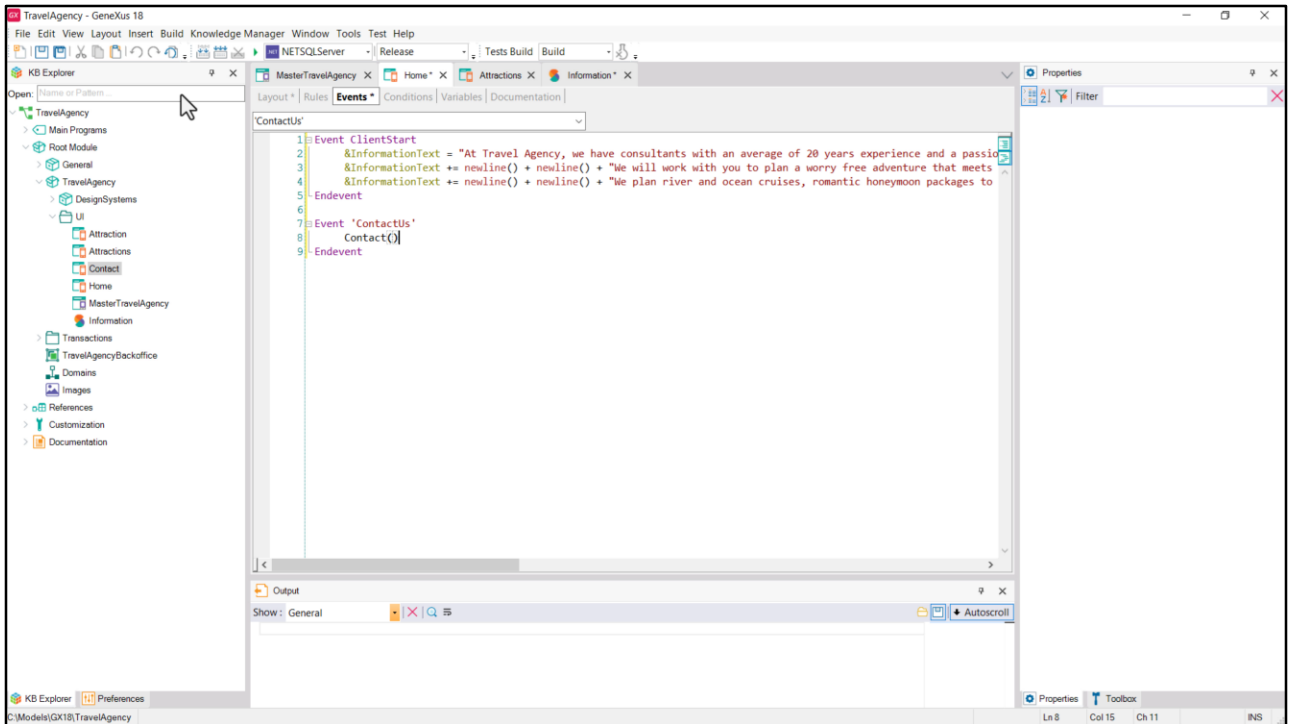


And I have to separate it in the sentences... Then... to its content, to what I had, I add a line break, another line break...

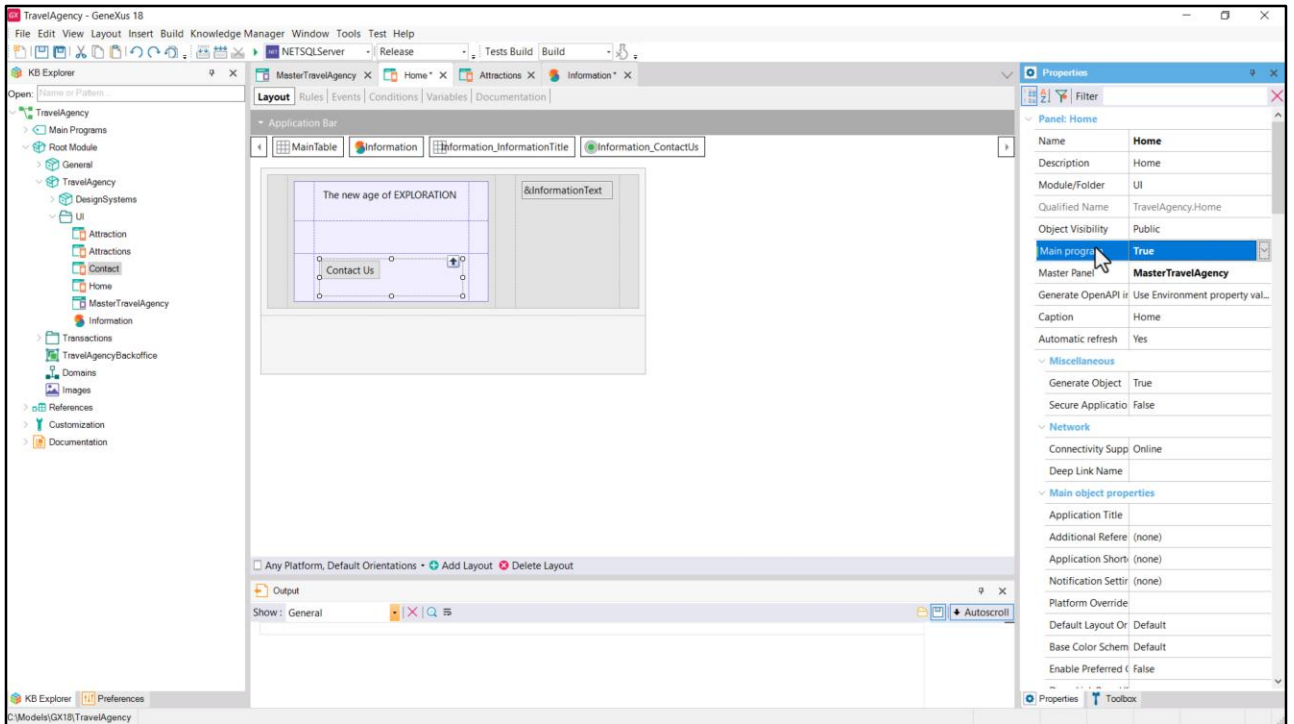


... and now this that was still here... and in the same way...

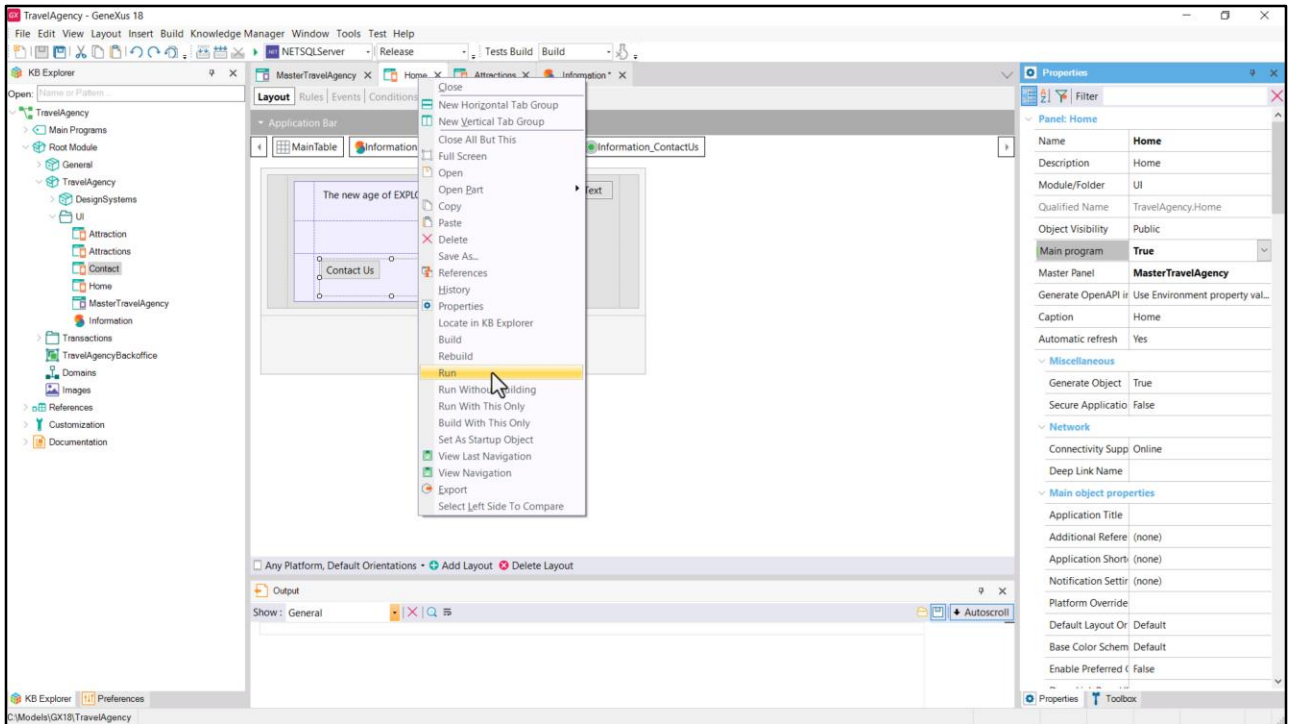
One clarification that I didn't make: the ClientStart event is different from the Start event in that the former is executed in the client, and the latter in the server. And they will be executed in that order, first the client start, and then the server start. The content of the UI can be updated in both, but as in our case the content of the variable doesn't depend on anything of the server, and it is static content, we do it in the client. If we were implementing a Web panel instead of a Panel, we wouldn't have the ClientStart and then we would have to use Start.



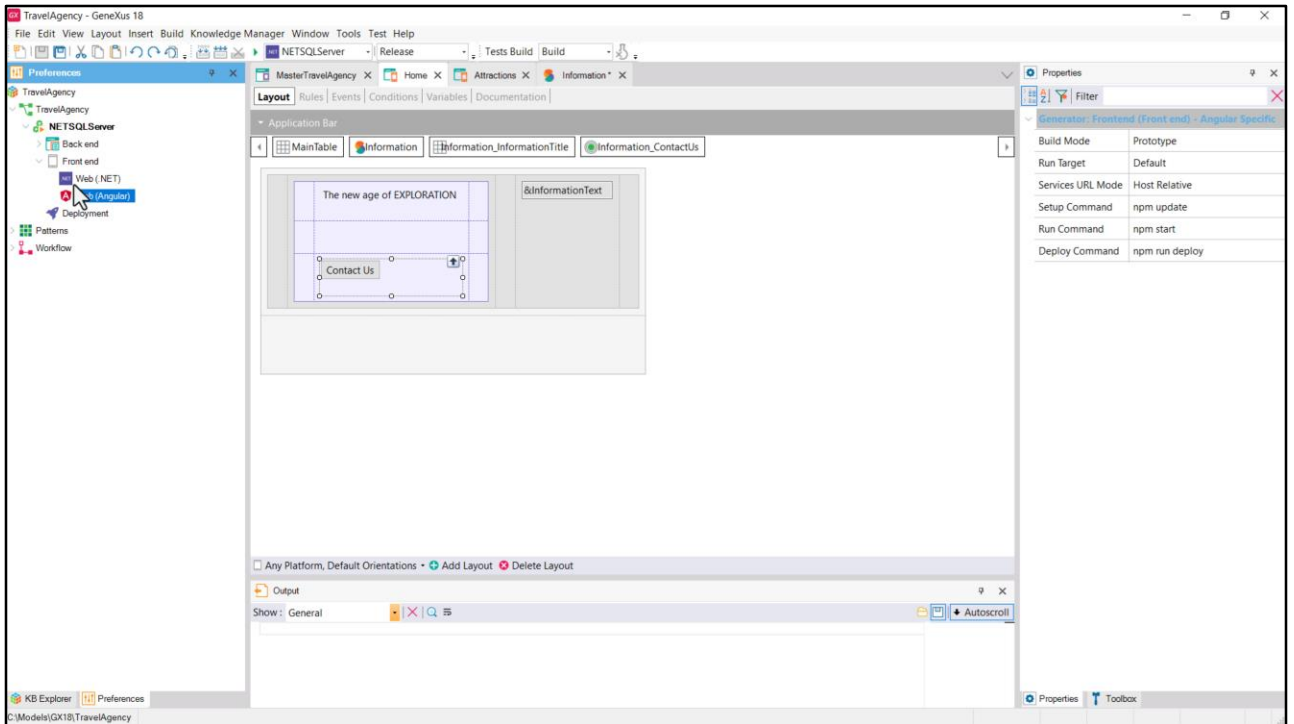
Finally, we have this ContactUs event at the button level and we're going to invoke this panel... which is empty for now.



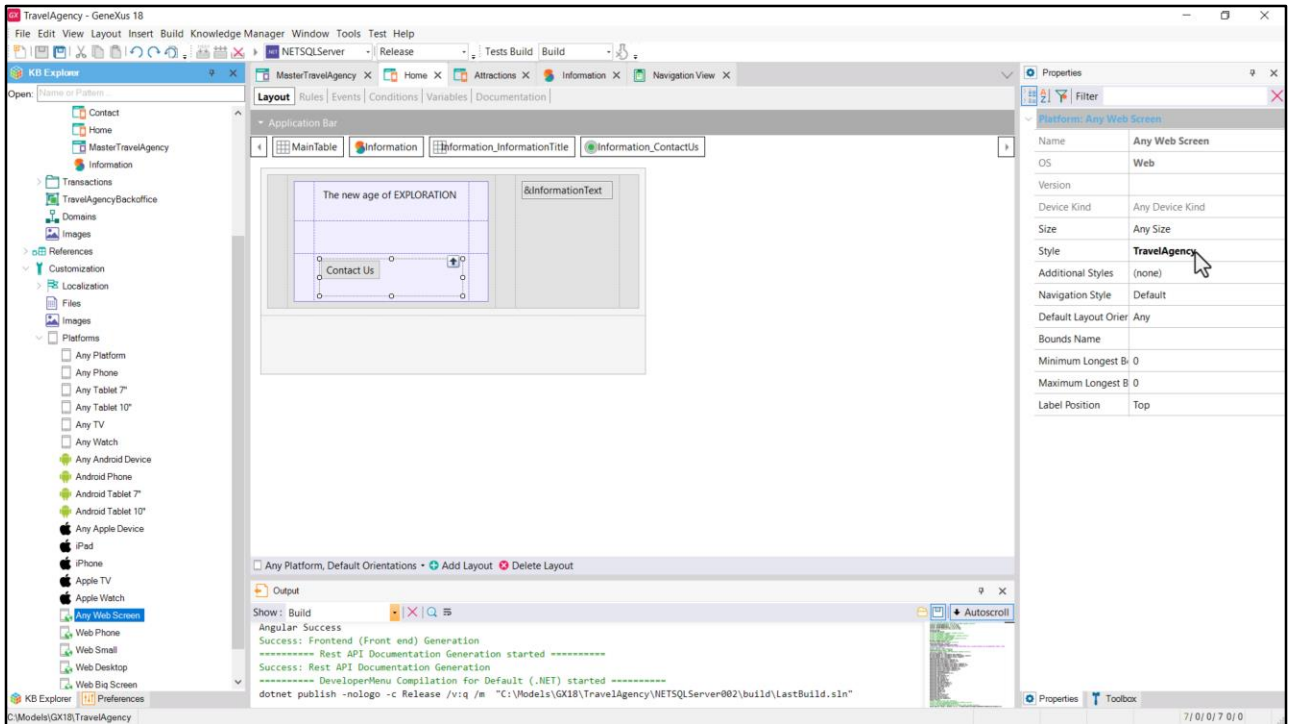
Well, we already have the object ready to be run. What do we need to run it in Angular? For example, to set this panel as Main program.



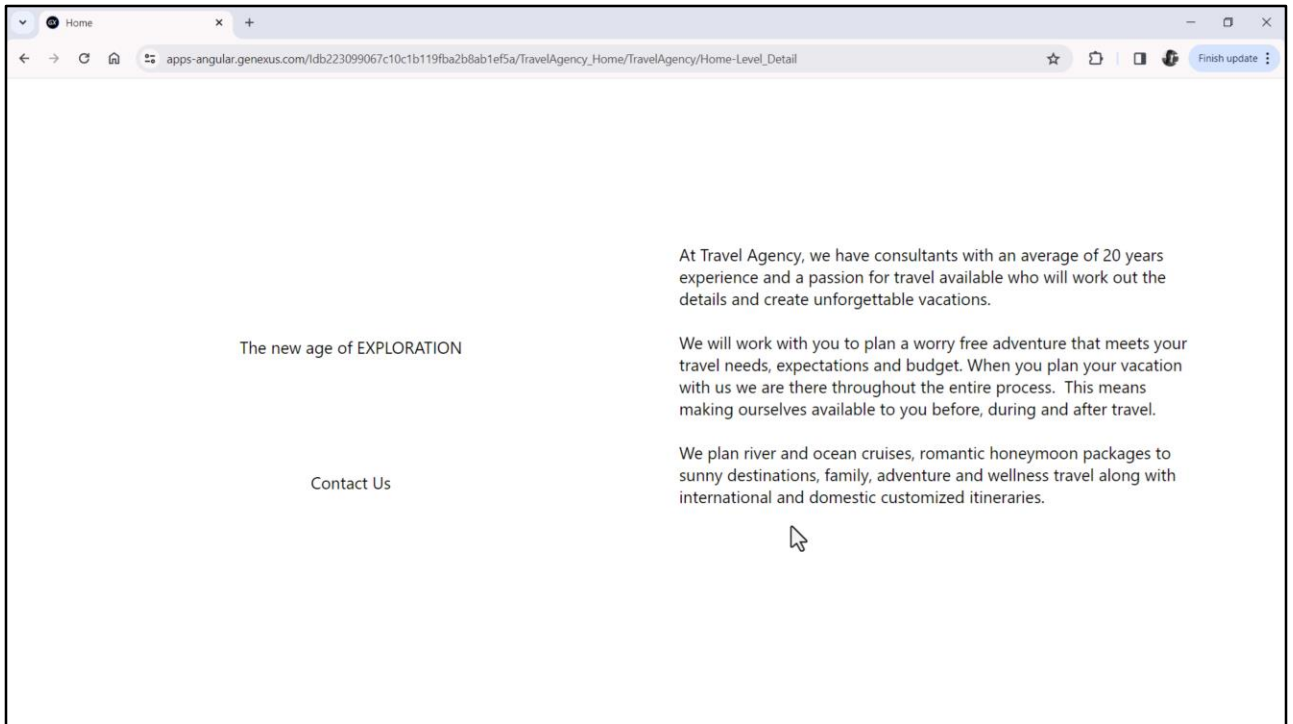
And doing this we can right-click on the panel / Run.



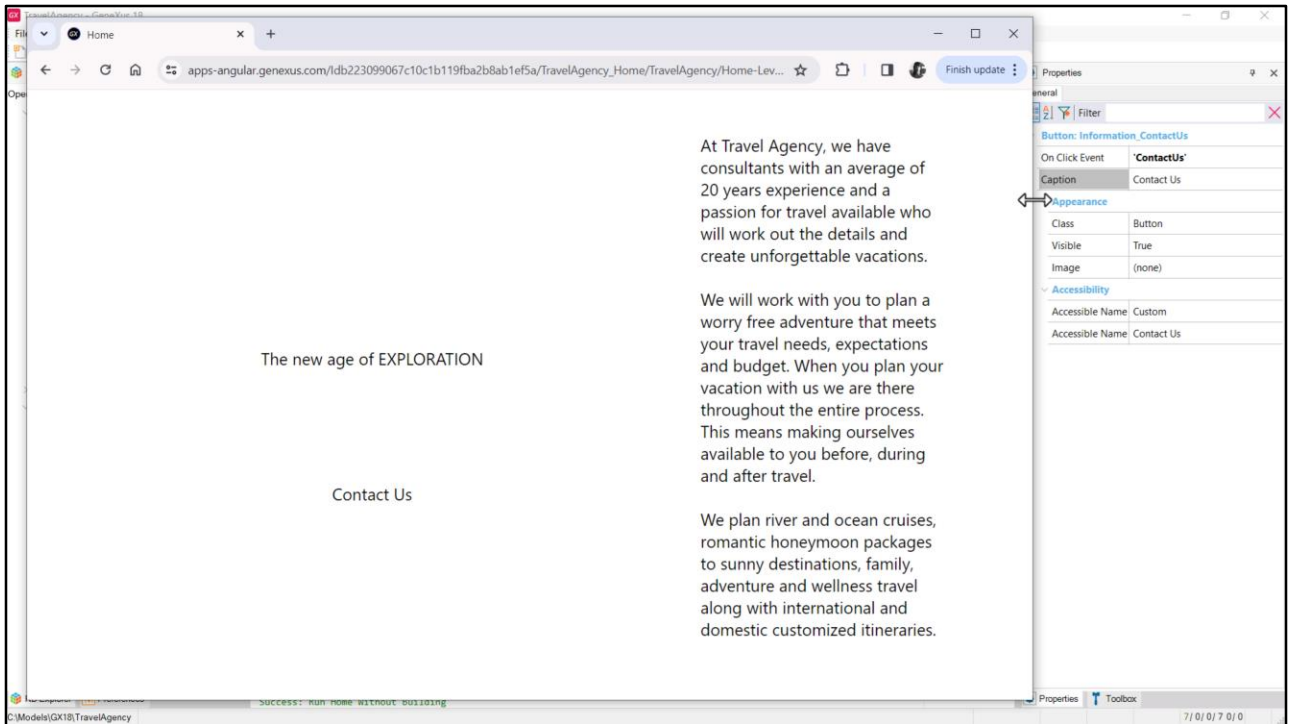
Knowing that we have the Angular Frontend defined and that for development it is always preferable to prototype locally and not in the cloud in order to save deployment time whenever any little detail is updated.
So...



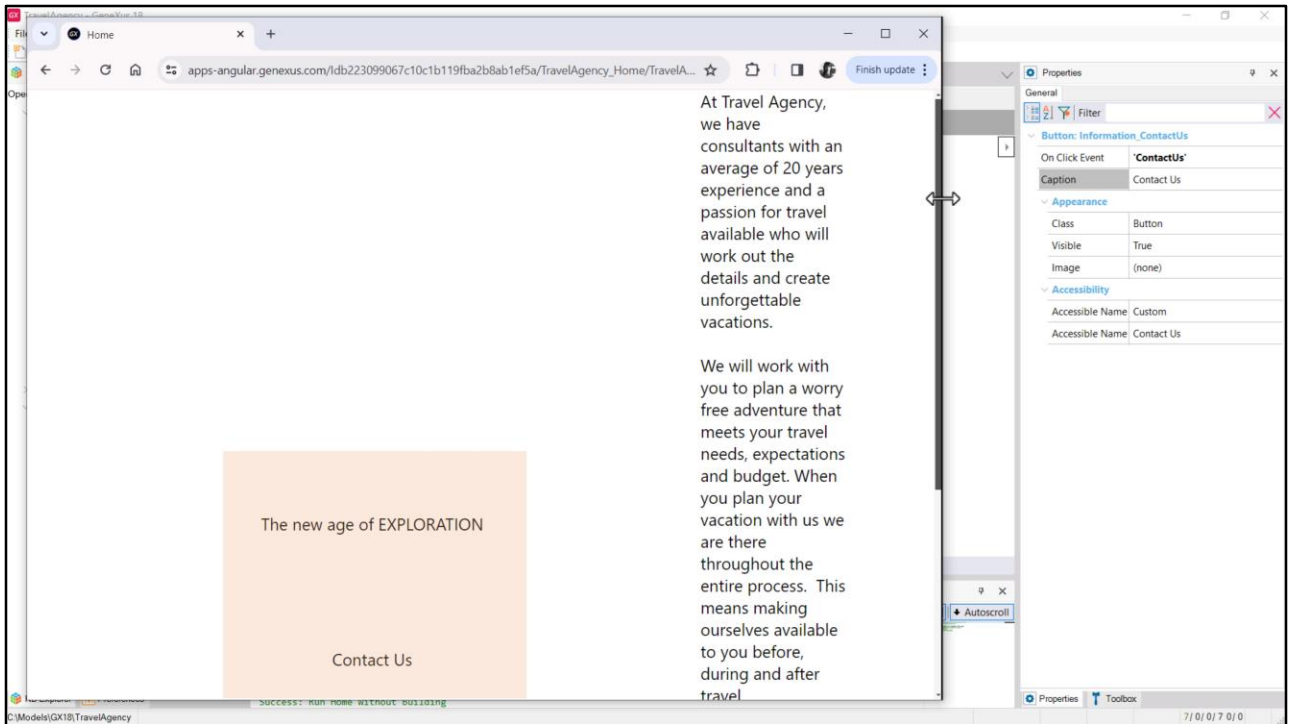
Before the end, let's remember that we had specified that the Any Web platform was going to use the Travel Agency DSO which for now is empty.



And so we see it in the Chrome browser.

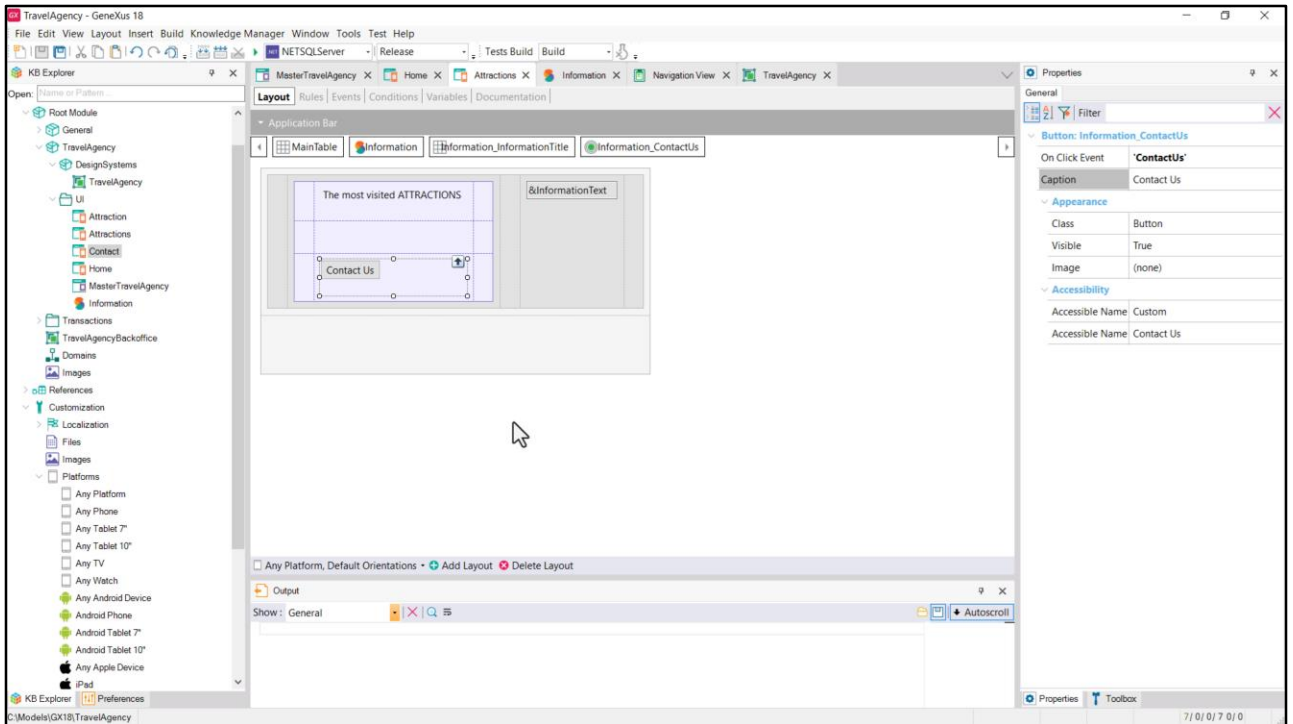


Note that if we reduce the width of the browser, as we expect, the height of the text on the right increases, but nothing else changes.



Nothing except for the height of the table, which is stretched so that the text still fits and that's why we see these other texts go down, since they are vertically centered.

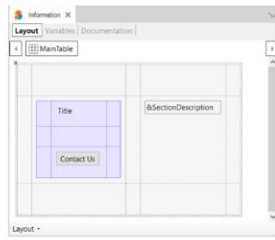
As our DSO is empty, clearly the browser defaults are being applied to our controls, both for font, line spacing, color, and everything else. This is what we will go into in the following videos.



Of course, we will do the same we did for the Home panel, now for the Attractions panel (I will reproduce it quickly so as not to bore you and with that we will end this class).

But first I need to clarify something: when we indicate that an object is Main, this will be implemented as a complete application that will include the object and all those involved from it. Since we haven't implemented the menu part yet, from which all our objects will be integrated, we did this by setting the Home as main and on the other hand the Attractions, in order to be able to run them now that we don't have them related yet. But this is more time consuming than if both objects were integrated in the same application, because in this way they are literally two independent applications. For now I will leave everything like this because we are going to focus only on the Home panel, but then I will have them all in the same program, because it is super important to reduce development times.

Stencil



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We will work with you to plan a variety of travel options that meet your travel needs, expectations and budget. When you plan your vacation with us we are there throughout the entire process. This means making ourselves available to you before, during and after travel.

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Home

**The most
visited
ATTRACTIONS**

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Attractions

Well, at this point we are ready to start working on the Design System Object, to make these two screen sections, both Home and Attractions, look like this.

GX

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