

List Screens

Exercise - How to

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Outline

In this exercise, we will start building our app's UI. We will build two List Screens to list the movies and the people in the database.

- Movies Screen
 - a. Screen to display the list of movies in the Movie Entity.
 - b. The list of movies should be displayed in a tabular layout, with the title, year, plot summary, and the gross amount.
- People Screen
 - a. Screen to display the list of people in the Person Entity.
 - b. The list of people should be displayed in a tabular layout, with the name, surname, and date of birth.
- Both Screens should be accessible by everyone.

How to

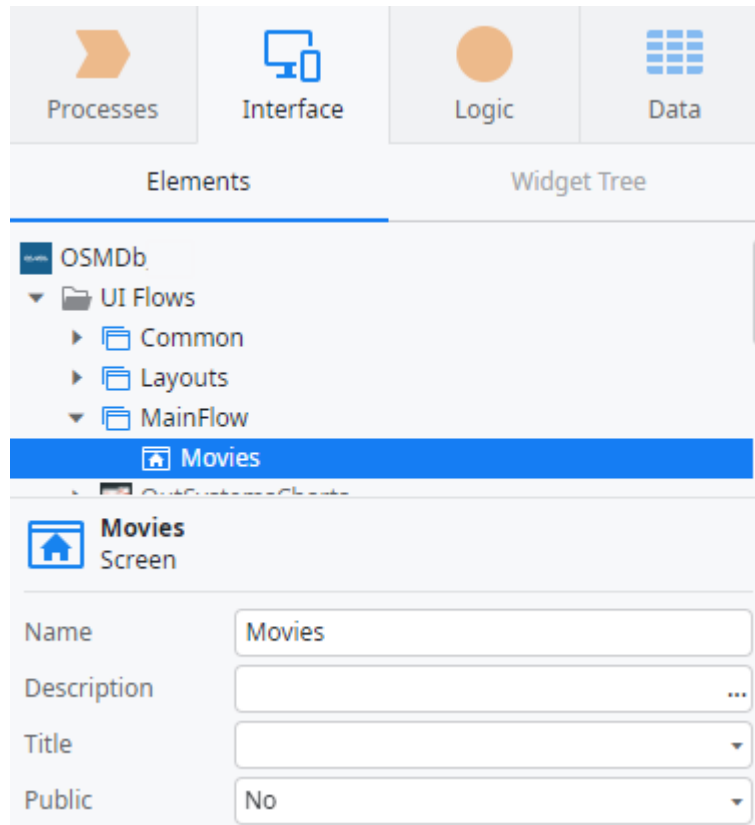
In this section, we'll describe the exercise *3.4 - List Screens* step-by-step.

Movies Screen

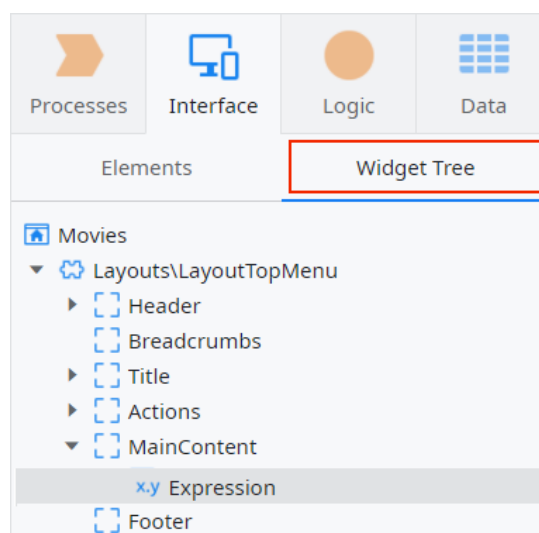
We will start by creating the Movies Screen. This Screen will display all the movies in the database, in a tabular layout. Since we already have a Screen in the app, the HomeScreen, we can use it and adapt it to the purpose we want. For that, we need to delete the "Hello" expression created in the first exercise, create an Aggregate to fetch the movies from the database, and then create the table that displays all the movies, showing the movie title, year, plot summary, and gross takings amount. Seems too much? It isn't! Let's do it!

1. Change the HomeScreen to become the Movies Screen. Delete the Expression on the Screen and create an Aggregate to fetch all the movies from the database.

- a. Switch to the Interface tab, select the **HomeScreen** by clicking on it, and rename it to *Movies* in its properties.

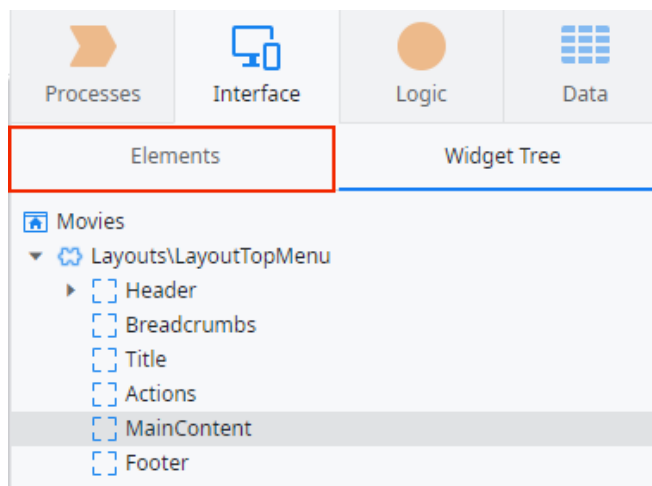


- b. Double-click on the Screen to open it on the preview of ODC Studio. Notice the **Widget Tree** option on the top right and click on it. Expand the **MainContent** section to find the Expression added in the first exercise. Right-click on it and delete it.

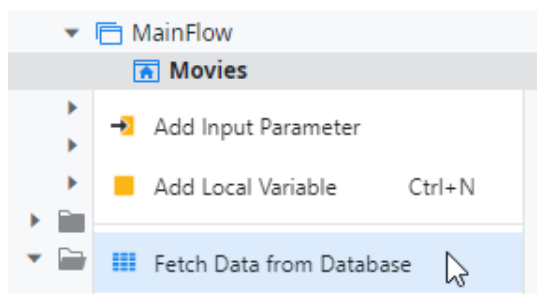


Note: The Widget Tree is an option that appears when we have an open Screen in the preview of ODC studio. It shows the hierarchical structure of the Screen with all its elements. For that reason, it is a very helpful tool to build and customize the UI in OutSystems, since it makes it easier to find every existing Screen element (and all the other elements inside it if that is the case). It is also useful to add new Screen elements to a Screen by helping the developer place them exactly where it needs to be, as we will see in future exercises.

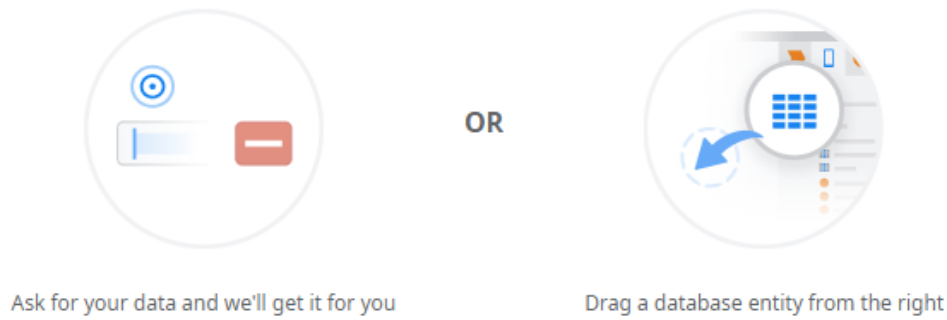
- c. With the Widget Tree option selected, you only see the structure of the Screen that you are previewing. To see all the other Screens and UI elements, go back to the **Elements** tab by clicking on it.



- d. Right-click on the **Movies** Screen and choose **Fetch Data from Database**

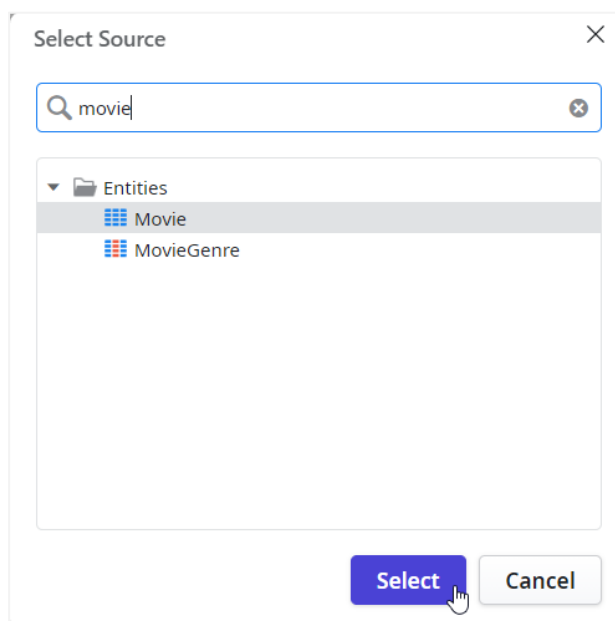


- e. Click on the main preview area to add a source to the Aggregate.

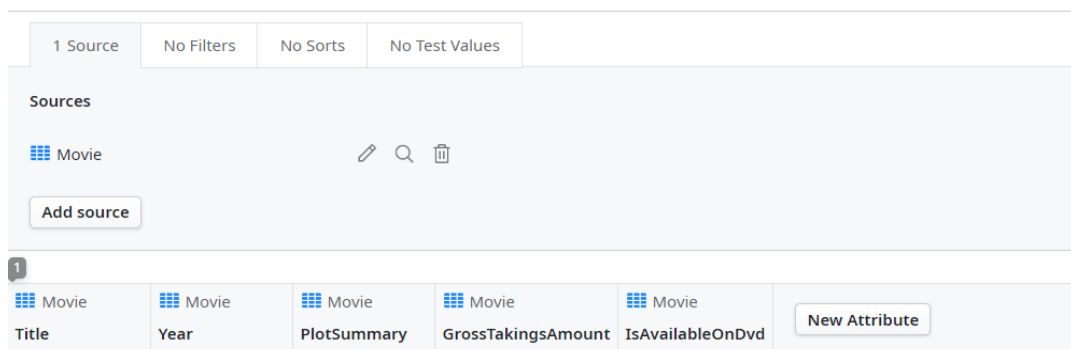


There are other ways of defining the Aggregate, like dragging the Entity from the right sidebar to the main preview area, just like the image indicates.

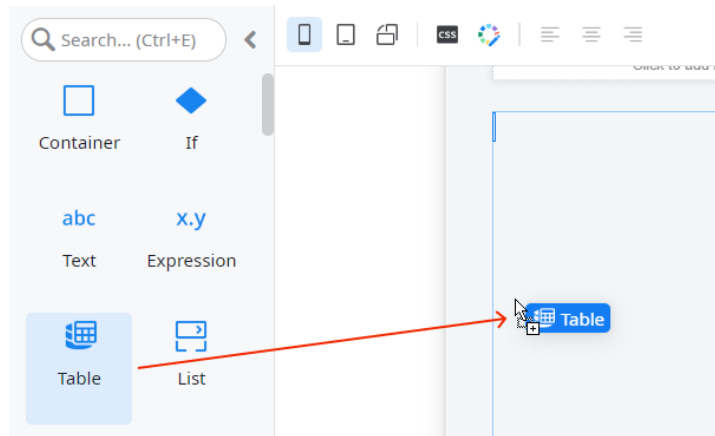
- f. Select the **Movie** Entity and click **Select**. The Aggregate is automatically renamed to *GetMovies*.



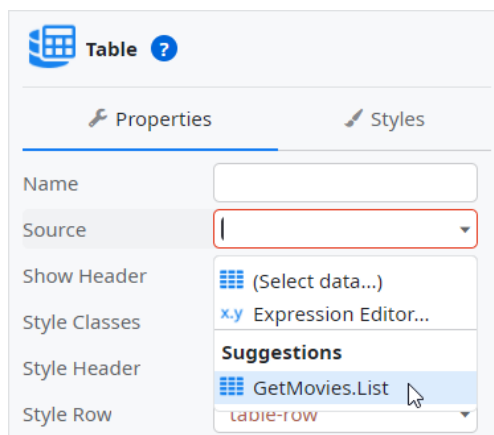
You should get something like the following screenshot:



2. Define the UI of the Movies Screen by using a **Table** displaying all the movies with the **Title**, **Year**, **PlotSummary**, and **GrossTakingsAmount** information. Also, make sure the Title of the Screen (in the UI) is set to *Movies*.
 - a. Double-click on the **Movies** Screen to open it.
 - b. Find the Table widget on the left sidebar, then drag and drop it on the main content of the Screen.

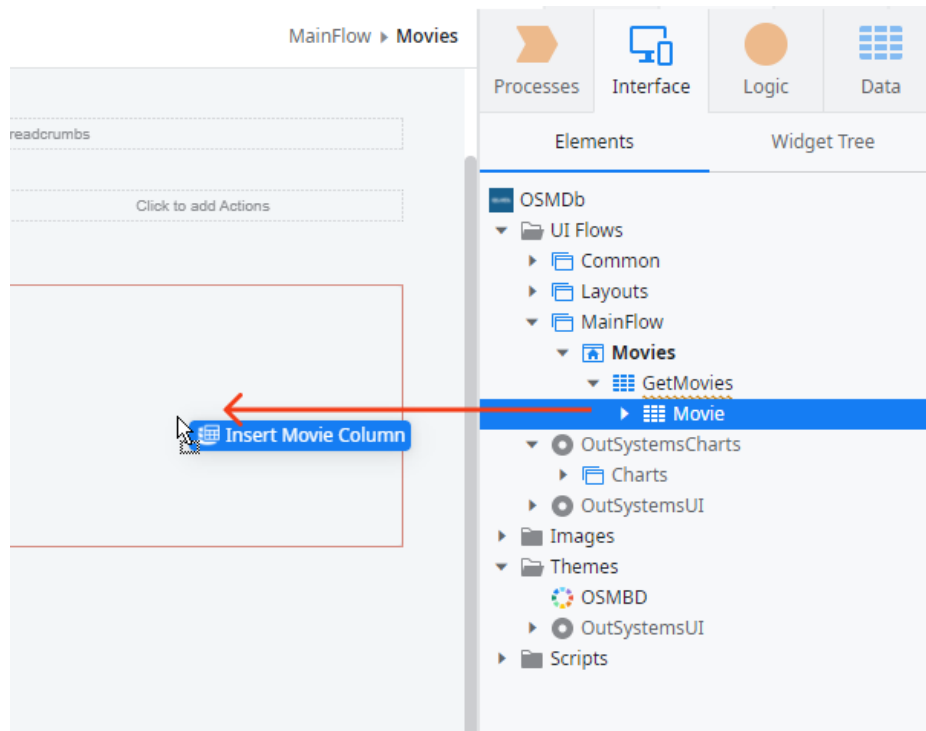


- c. Click on the Table's properties, then expand the dropdown of the **Source** property, and select the output of the GetMovies Aggregate.



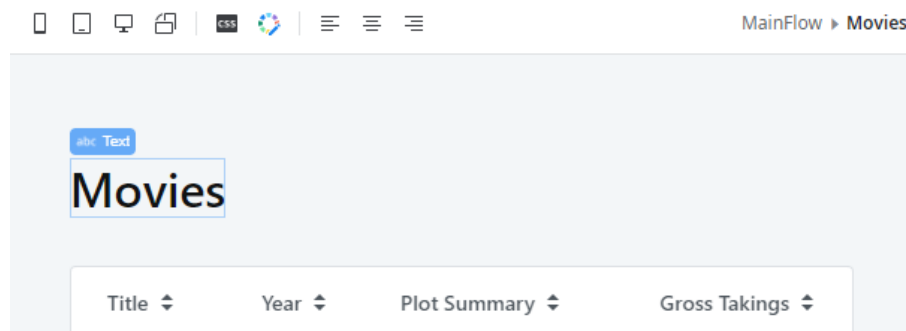
Note: This creates a relationship between the UI element (Table), and the output of the Aggregate that fetches the movies from the database.

- d. Expand the **GetMovies** Aggregate and drag the **Movie** Entity to the Table.



Note: This automatically creates the table with the first four attributes in the Entity (except the Id).

- e. Click on the Title area on the Screen preview, above the Table, and type *Movies*.



- f. **Publish** the app and open it in the browser. Make sure the movies appear on the Screen.



OSMDB Login

Movies

Title ↕	Year ↕	Plot Summary ↕	Gross Takings ↕
Star Wars: The Force Awakens	2015	Three decades after the defeat of the Galactic Empire, a new threat arises. The First Order attempts to rule the galaxy and only a ragtag group of heroes can stop them, along with the help of the Resistance.	\$815,843,529.00
Raiders of the Lost Ark	1981	Archaeologist and adventurer Indiana Jones is hired by the US government to find the Ark of the Covenant before the Nazis.	\$242,374,454.00
Schindler's List	1993	In Poland during World War II, Oskar Schindler gradually becomes concerned for his Jewish workforce after witnessing their persecution by the Nazis.	\$16,439,233.00
Avatar 2	2020	(unknown)	\$0.00
Indiana Jones and the Last Crusade	1989	When Dr. Henry Jones Sr. suddenly goes missing while pursuing the Holy Grail, eminent archaeologist Indiana Jones must follow in his father's footsteps and stop the Nazis.	\$197,171,806.00

People Screen

Now, we will create a similar Screen to represent the people in the database, just like we did for the movies. We will start by creating the People Screen based on an Empty Screen that lists all the people in the database. Then, we will create a Table to display all the people in the database, with their Name, Surname, and Date of Birth.

1. Create a new **Empty** Screen in the MainFlow and set its **Name** to *People*. Make it accessible by **Everyone**.

MainFlow
Movies
People
OutSystemsCharts

People

Screen

Name

People

Description

Title

Public

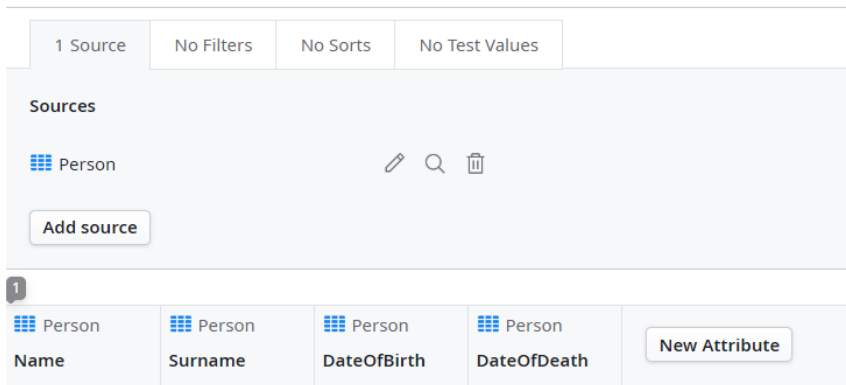
No

Authorization

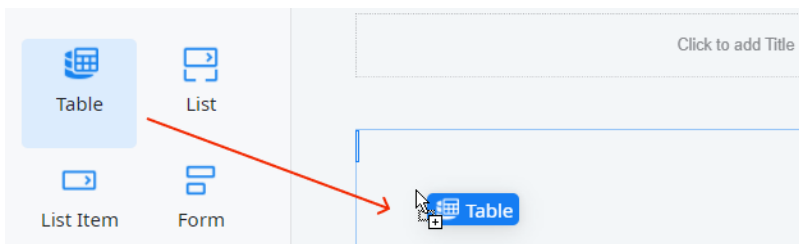
Accessible by

Everyone

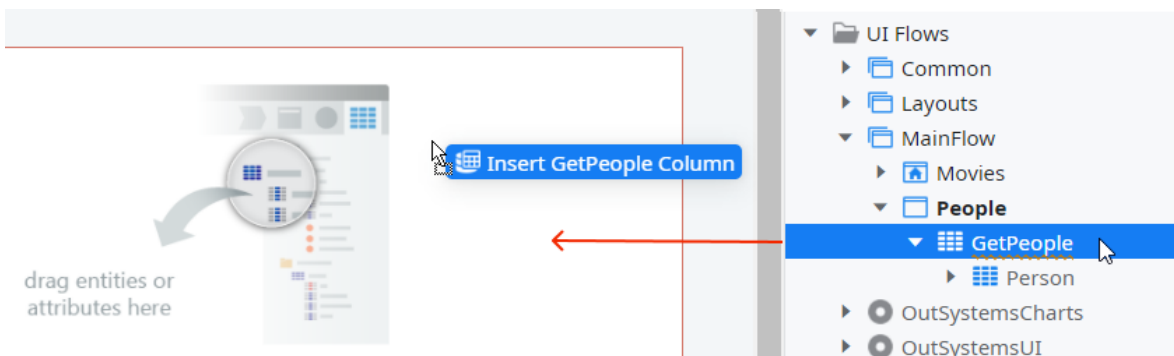
2. Add a new **Aggregate** to the Screen, with the **Person** Entity as Source.



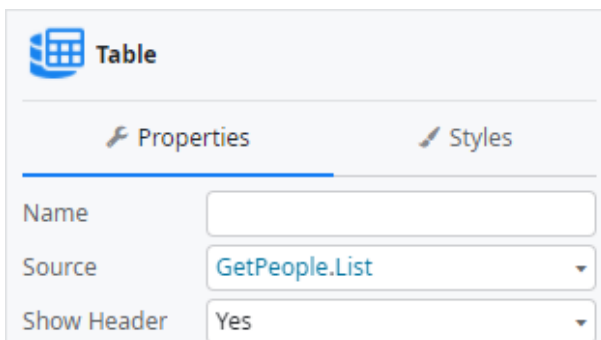
3. Drag a **Table** and drop it on the main area of the People Screen.



4. Drag the **GetPeople** Aggregate and drop it on the Table.



Note: By dragging the Aggregate directly to the database, the Source property of the Table is automatically filled, creating the link between the table and the source of data.

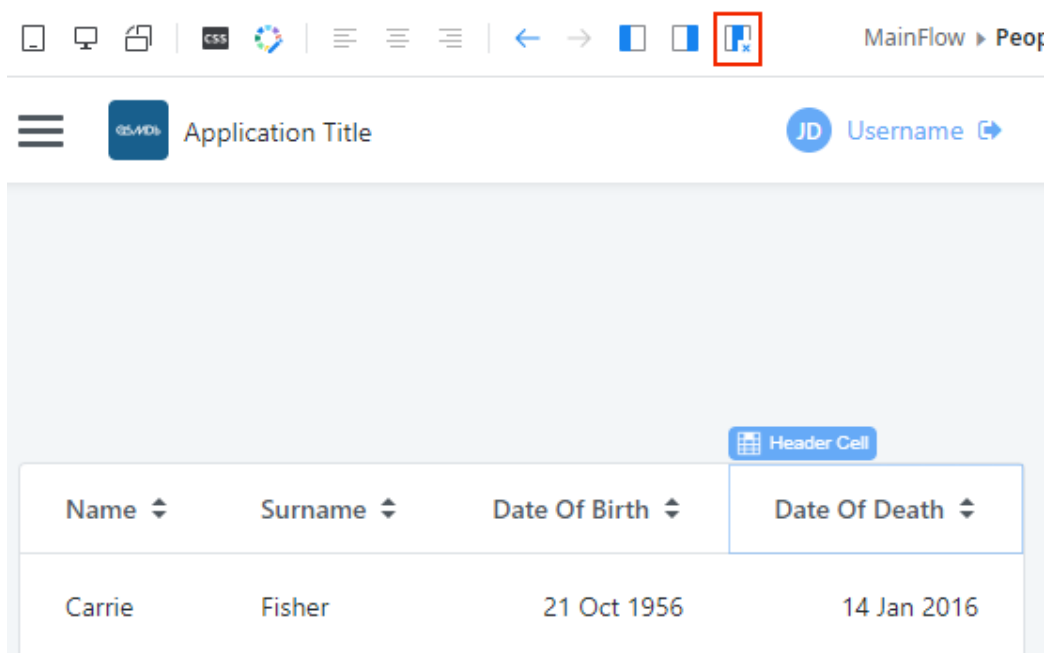


5. Notice that we have four values in our table, including the date of death. We don't want to display that date. So, click on the Date of Death cell to select it.



Name ▾	Surname ▾	Date Of Birth ▾	Date Of Death ▾
Carrie	Fisher	21 Oct 1956	14 Jan 2016
Carrie	Fisher	21 Oct 1956	14 Jan 2016
Carrie	Fisher	21 Oct 1956	14 Jan 2016

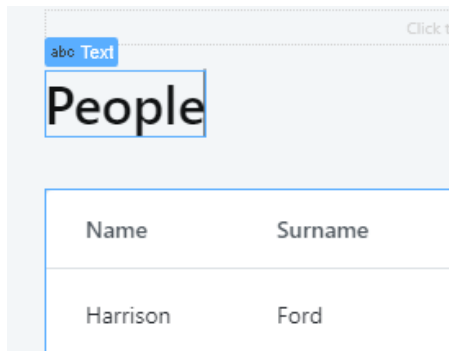
Then, on the top of ODC Studio, you will see some options available. Click on the one with a small **x** to remove the column of the table.



The screenshot shows the ODC Studio interface. At the top, there is a toolbar with various icons. One icon, representing a table with a small 'x' in the corner, is highlighted with a red box. Below the toolbar, the application title 'Application Title' is visible. On the right, there is a user profile 'JD Username'. The main area displays a table with the same data as the previous screenshot. A 'Header Cell' label points to the 'Date Of Death' header.

You can always customize the elements that are automatically created by OutSystems, leveraging the best of both worlds: speed and flexibility.

6. Set the Title of the Screen to *People*.



And that's it! Your People Screen is ready!

7. **Publish** the app and open it in the browser.

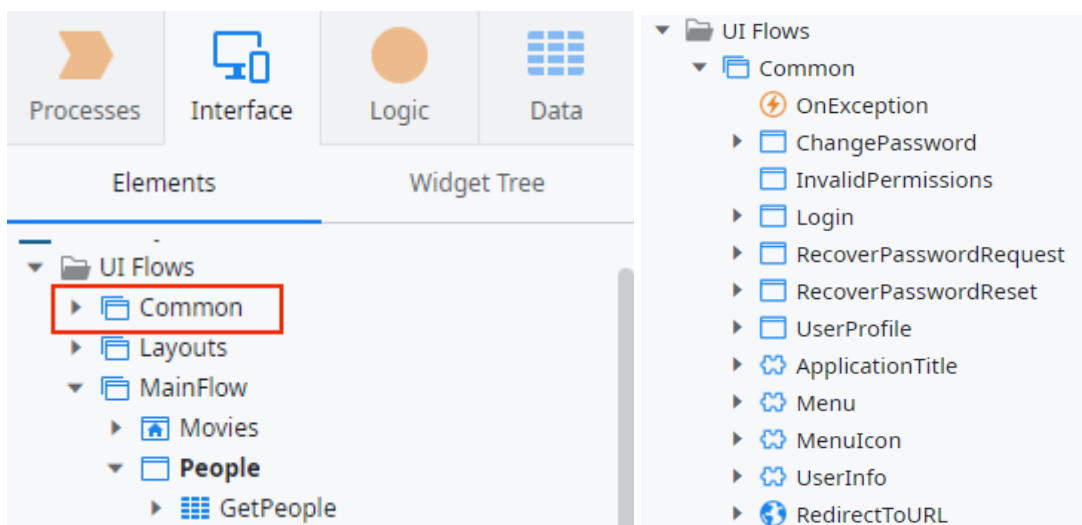


8. You will see the list of movies. But... how can you access the People Screen? It is created, but there's no way to navigate to it. So, let's solve that using the Menu of the app (Yes! It already has a Menu)

Menu

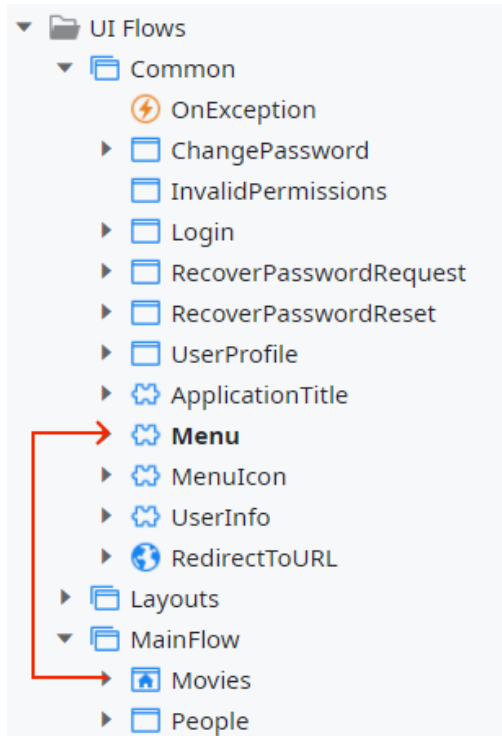
The last section of this exercise will focus on the Menu of the application. When the app is created, this Menu is already included, but has no entries. So, let's add an entry to the Movies Screen and to the People Screen.

1. In the Interface tab, expand the **Common** UI Flow.



Note: This UI Flow was already created with the app and has some Screens and Blocks that are common to the app, including the Login Screen and the Menu Block. We haven't seen Blocks yet, but we will deep dive on Blocks in a later exercise.

2. To add an entry to the **Menu**, drag a Screen and drop it over the **Menu Block**. We need to do this for the **Movies** and for the **People**.



3. Now that we added the two Screens to the Menu, publish the app and test it in the browser.
4. Both Screens should have a menu entry on the top of the page. Click on the People link to access the People Screen and make sure you see all the people in the database.

People

Name ⇅	Surname ⇅	Date Of Birth ⇅
Harrison	Ford	13 Jul 1942
Steven	Spielberg	18 Dec 1946
Ben	Kingsley	31 Dec 1943
Philip Seymour	Hoffman	23 Jul 1967