

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.

1. 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.
2. 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.
3. Both Screens should be accessible by everyone.

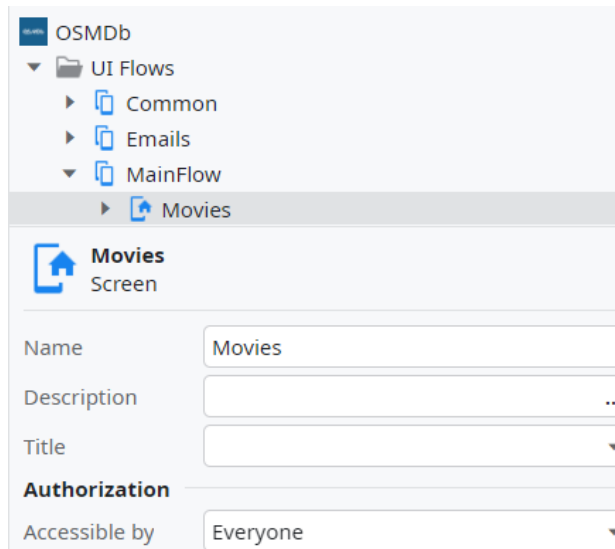
How to

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

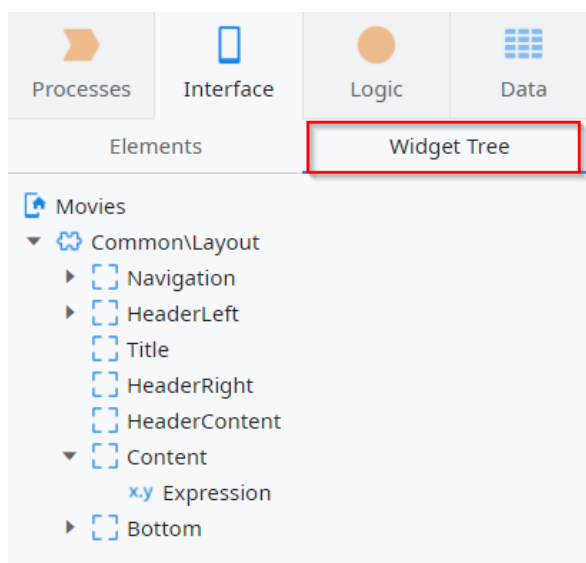
Movies Screens

We will start by creating the Movies Screen. This Screen will display all the movies in the database, in a list 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 List 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.

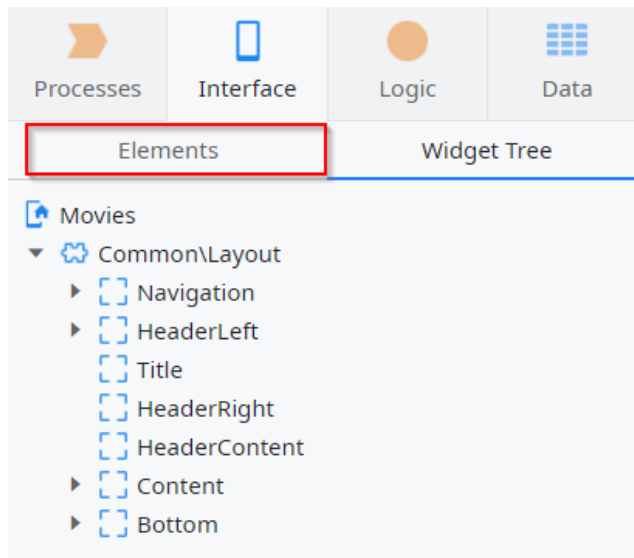


- b. Double-click on the Screen to open it on the preview of ODC Studio. Notice the **Widget Tree** option on the top right and click on it. Expand the **Content** section to find the Expression added in the first exercise. Right-click on it and delete it.

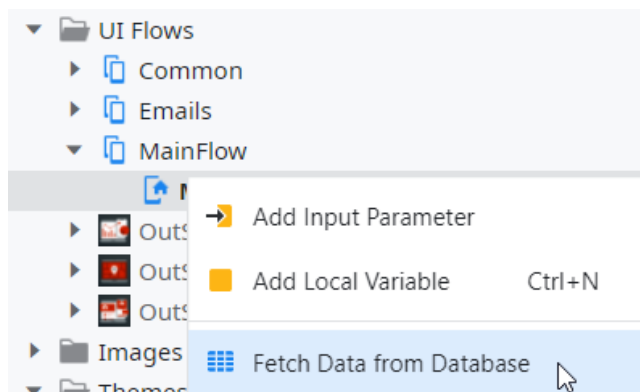


Note: The Widget Tree is an option that appears when we have an open Screen in the preview of ODC studio. It shows the hierarchical structure of the Screen with all its elements. For that reason, it is a very helpful tool to build and customize the UI in OutSystems, since it makes it easier to find every 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.



Ask for your data and we'll get it for you

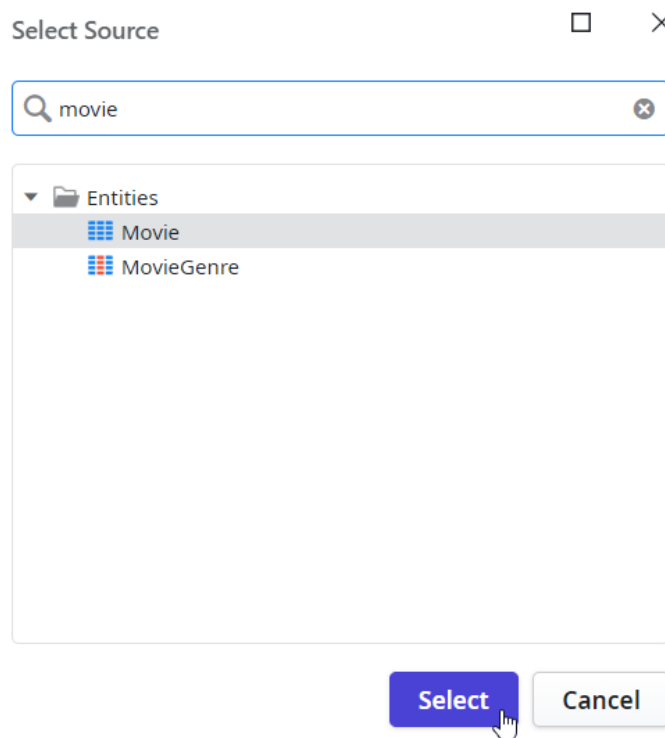
OR



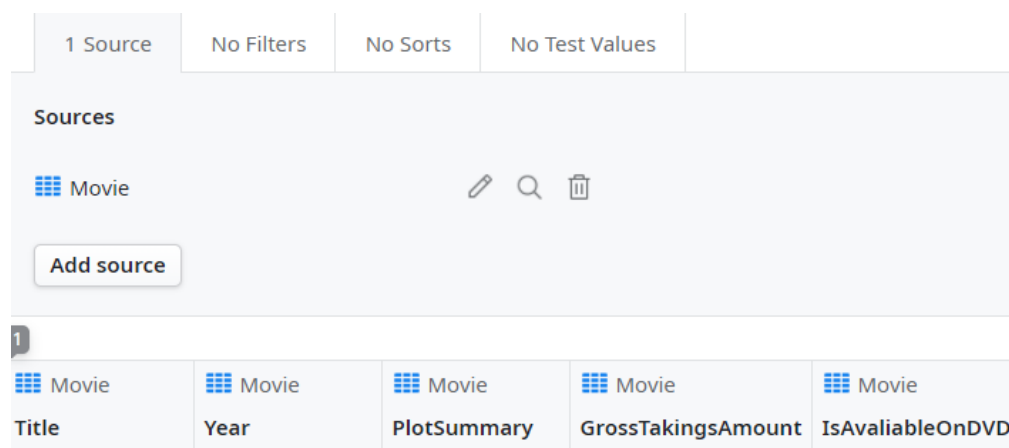
Drag a database entity from the right

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*.

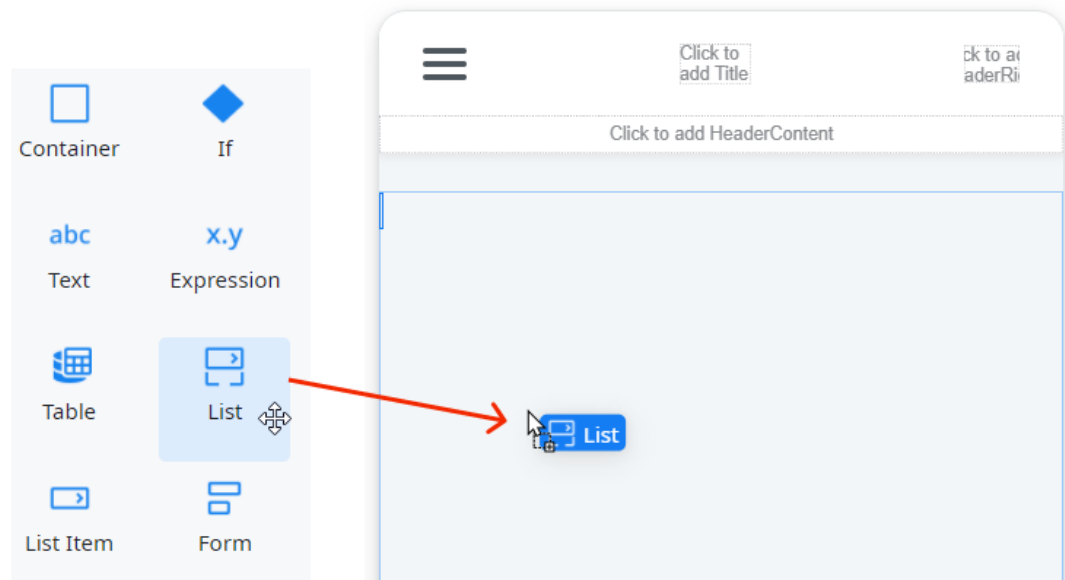


You should get something like the following screenshot:

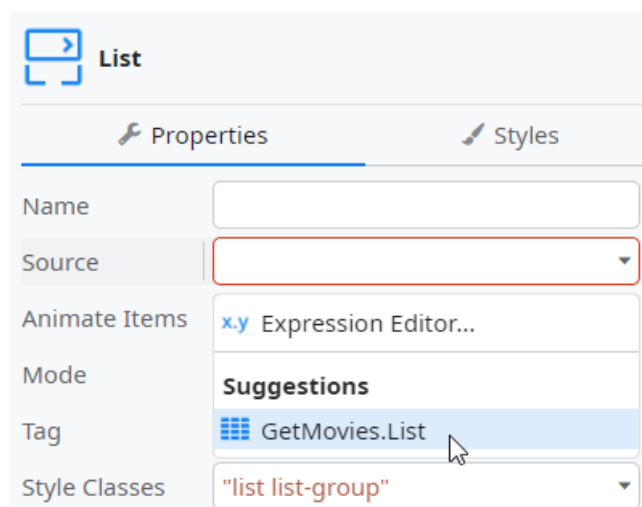


2. Define the UI of the Movies Screen by using a **List** displaying all the movies with the **Title**, **Year**, **PlotSummary**, and **GrossTakingsAmount** information. Also, make sure the Title of the Screen (in the UI) is set to Movies.
 - a. Double-click on the **Movies** Screen to open it.

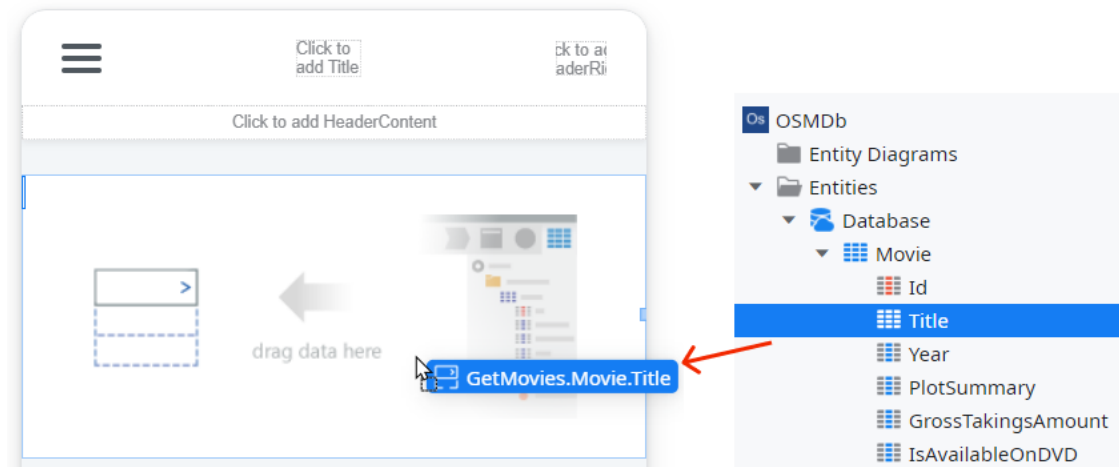
- b. Drag a **List** and drop it on the content of the Screen.



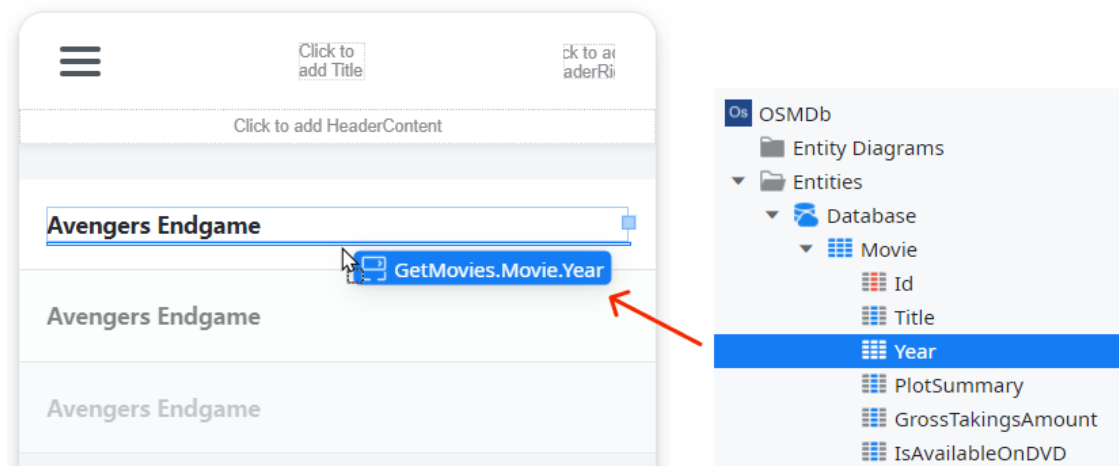
- c. Set the **Source** property of the List to the output of the **GetMovies** Aggregate.



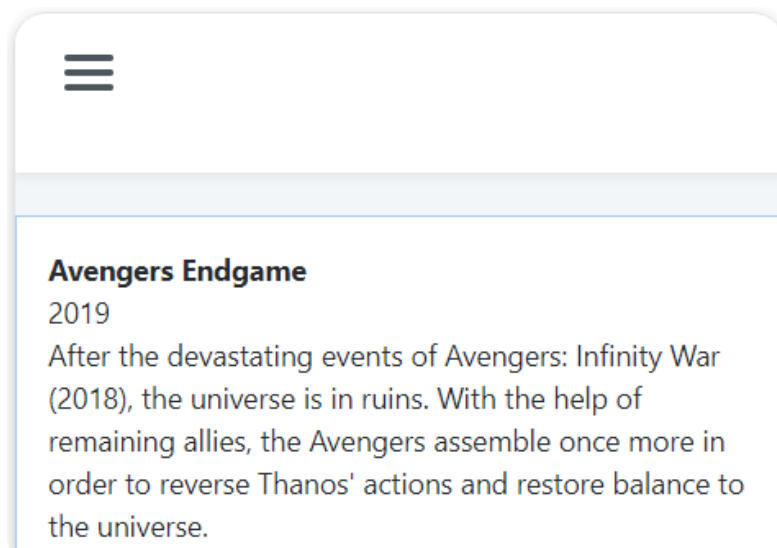
- d. Expand the **GetMovies** Aggregate, followed by the Movie Entity, drag the **Title** attribute and drop it on the **List**.



- e. Drag the **Year** attribute and drop it below the Title on the List.

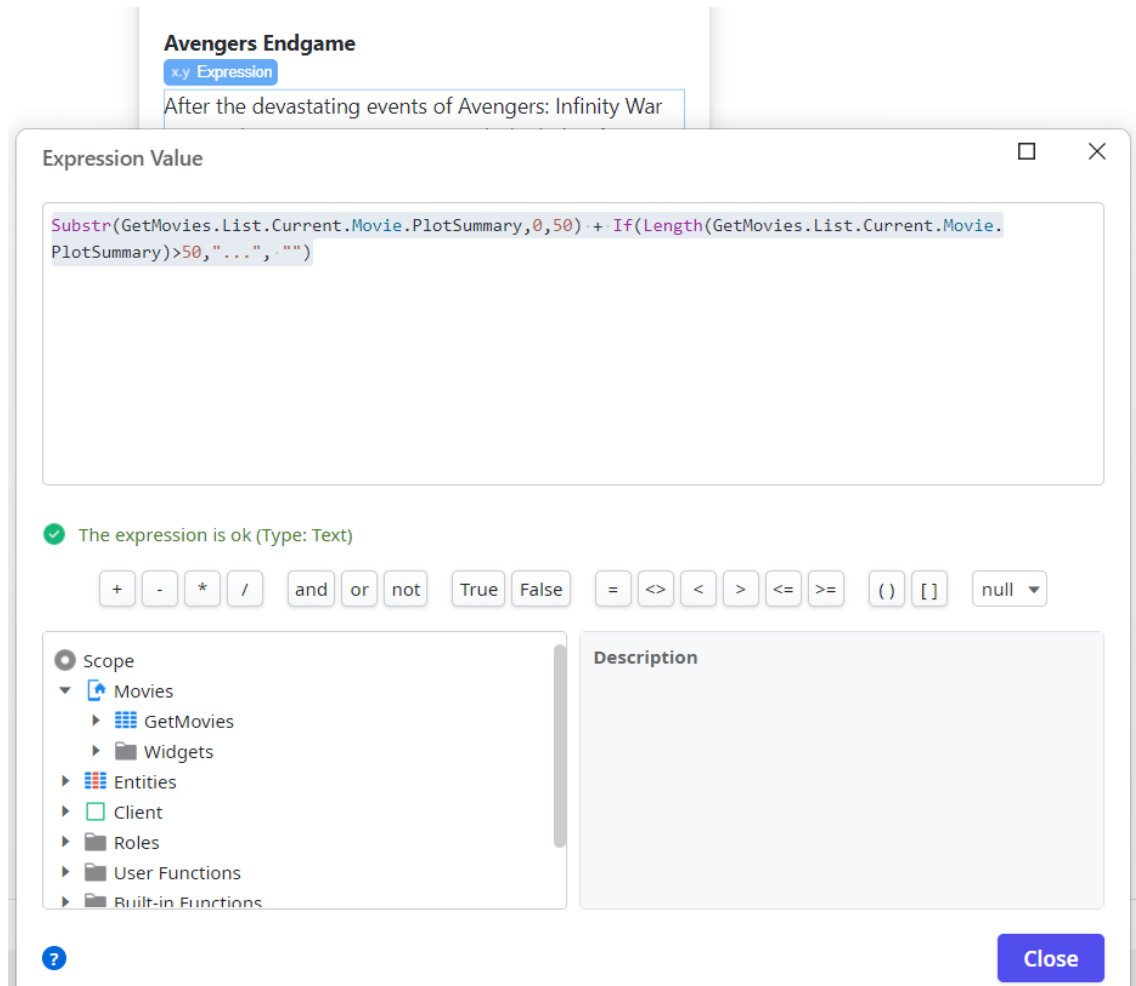


- f. Drag the **PlotSummary** attribute and drop it below the Year.



- g. Double click on the Plot Summary Expression in the List and change its value to:

```
Substr(GetMovies.List.Current.Movie.PlotSummary,0,50) +  
If(Length(GetMovies.List.Current.Movie.PlotSummary)>50,"...", "")
```



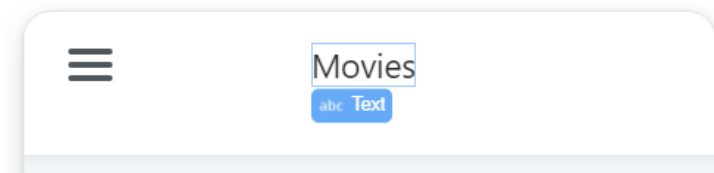
Note: This Expression guarantees that if the PlotSummary has more than 50 characters, the Screen displays the first 50 characters and then ... afterwards. This is to avoid having large texts being displayed on a mobile device Screen, which usually is smaller.

The **Substr** function already exists in OutSystems and returns a substring starting on *start*, which in this example is 0, to a maximum *length* of characters, which in this example is 50.

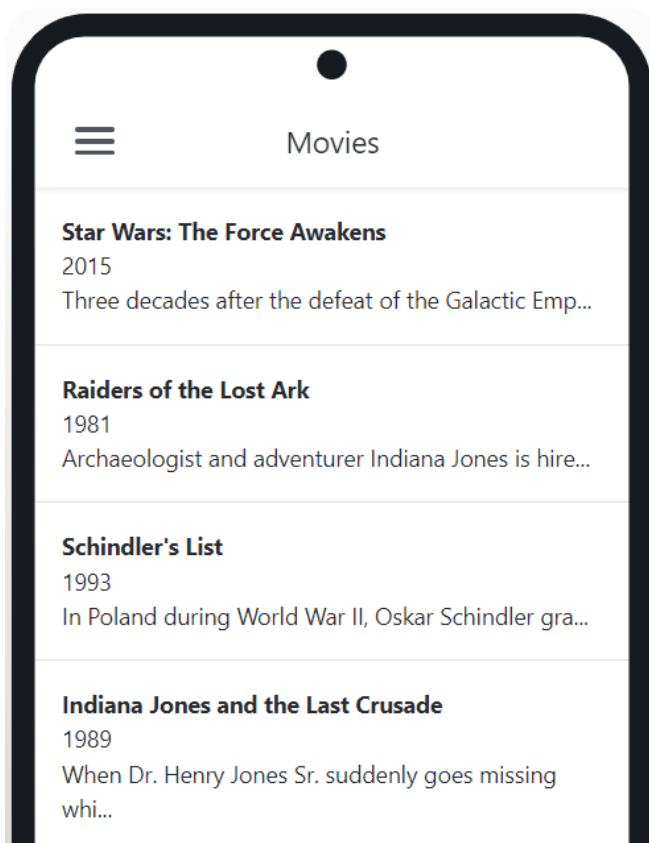
Then, an **If** is used to determine that if the Length of the PlotSummary is bigger than 50, then the three dots are added to the substring and the rest of

the summary will not appear. Otherwise, the PlotSummary stays as it is, since it's small enough to fit nicely on the Screen.

- h. Set the **Title** of the Screen to be *Movies*:



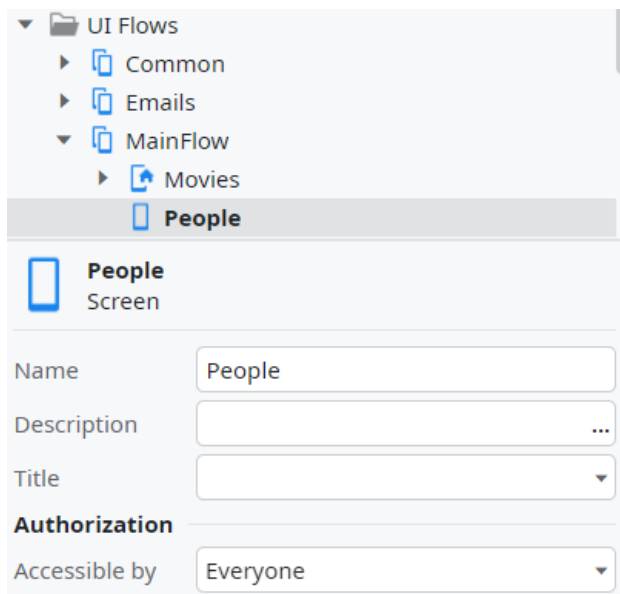
- i. **Publish** the application and open it in the browser. Make sure all the movies appear on the Screen.



People Screen

Now, we will create the Screens for People, 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. Make sure the DateOfDeath only appears if the person has already passed away.

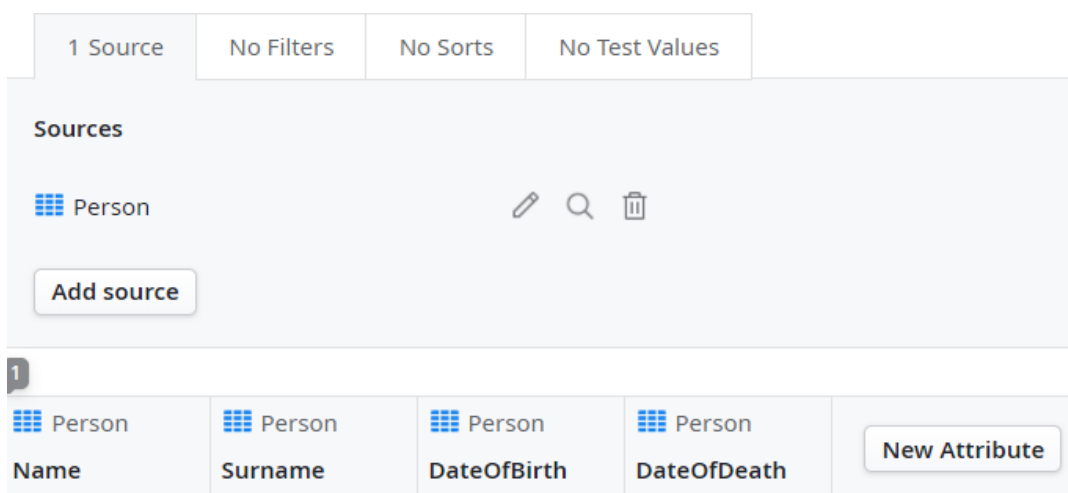
1. Create a new **Empty** Screen in the MainFlow and set its **Name** to *People*. Make it accessible by **Everyone**.



The screenshot shows the configuration for a new screen named 'People'. The interface includes a sidebar with a tree view showing 'UI Flows' > 'MainFlow' > 'People'. The main area contains a form with the following fields:

- Name:** A text input field containing 'People'.
- Description:** A text input field with a placeholder '...'.
- Title:** A dropdown menu.
- Authorization:** A section header.
- Accessible by:** A dropdown menu set to 'Everyone'.

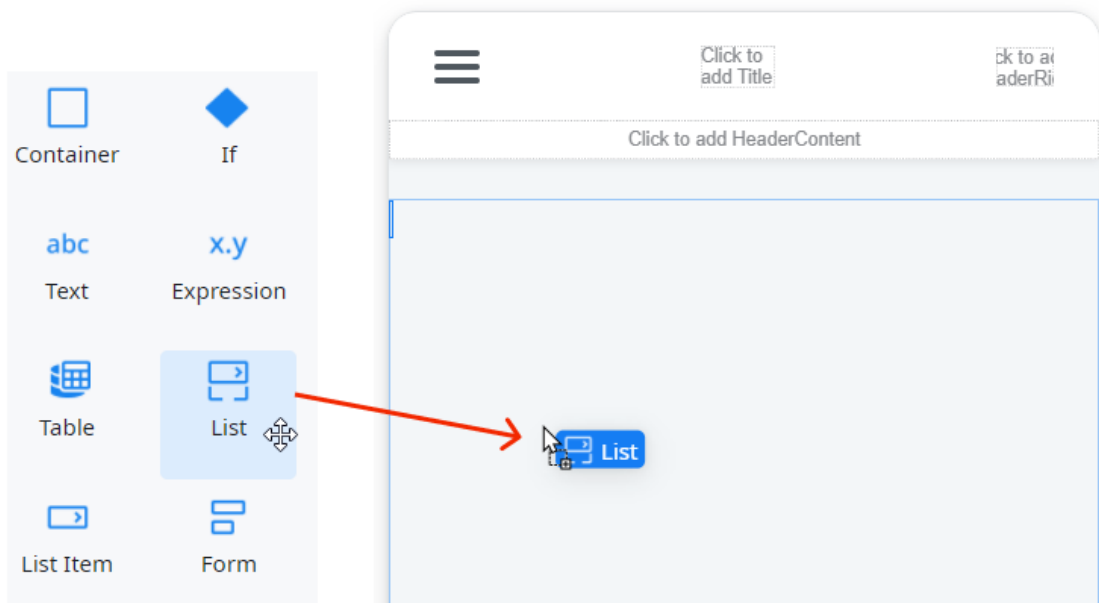
2. Add a new **Aggregate** to the Screen, with the **Person** Entity as Source.



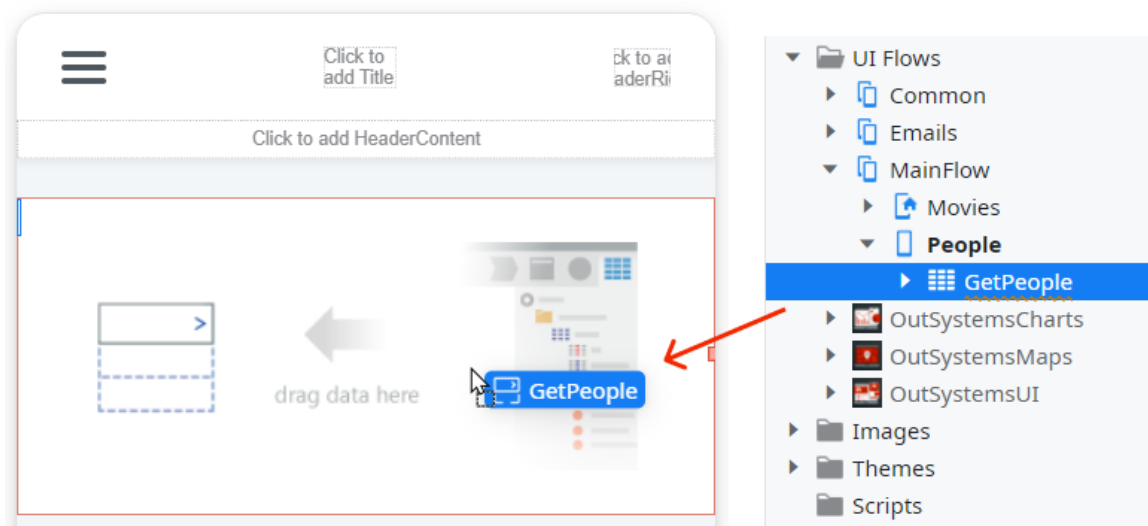
The screenshot shows the configuration for an Aggregate. The top bar indicates '1 Source', 'No Filters', 'No Sorts', and 'No Test Values'. The main area is titled 'Sources' and contains a list with one item: 'Person'. Below the list is an 'Add source' button. At the bottom, there is a table with four columns, each containing a 'Person' entity icon and a label: 'Name', 'Surname', 'DateOfBirth', and 'DateOfDeath'. A 'New Attribute' button is located to the right of the table.

Person	Person	Person	Person
Name	Surname	DateOfBirth	DateOfDeath

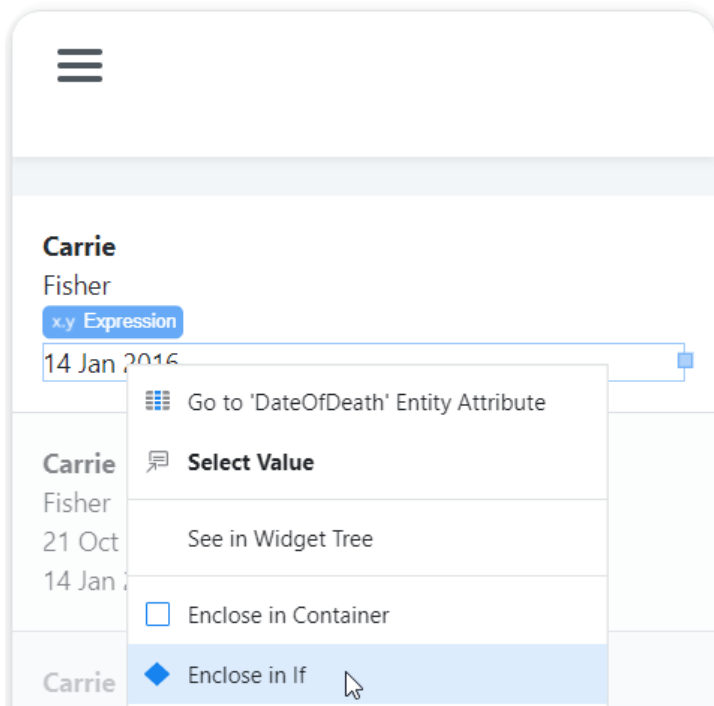
3. Drag a **List** to the People Screen.



4. Drag the **GetPeople** Aggregate to the List.



5. Right-click the DateOfDeath Expression in the List and select **Enclose in If**.

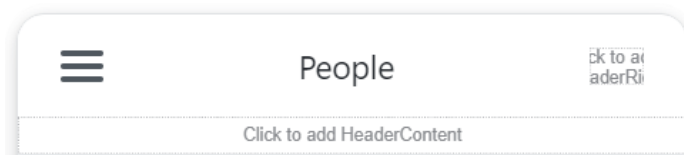


6. Set the Condition to:

GetPeople.List.Current.Person.DateOfDeath <> NullDate()

This will ensure the DateOfDeath will only appear when it exists (it's different from the NullDate).

7. Set the **Title** of the Screen to be *People*.



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

8. Publish the app and open it in the browser.

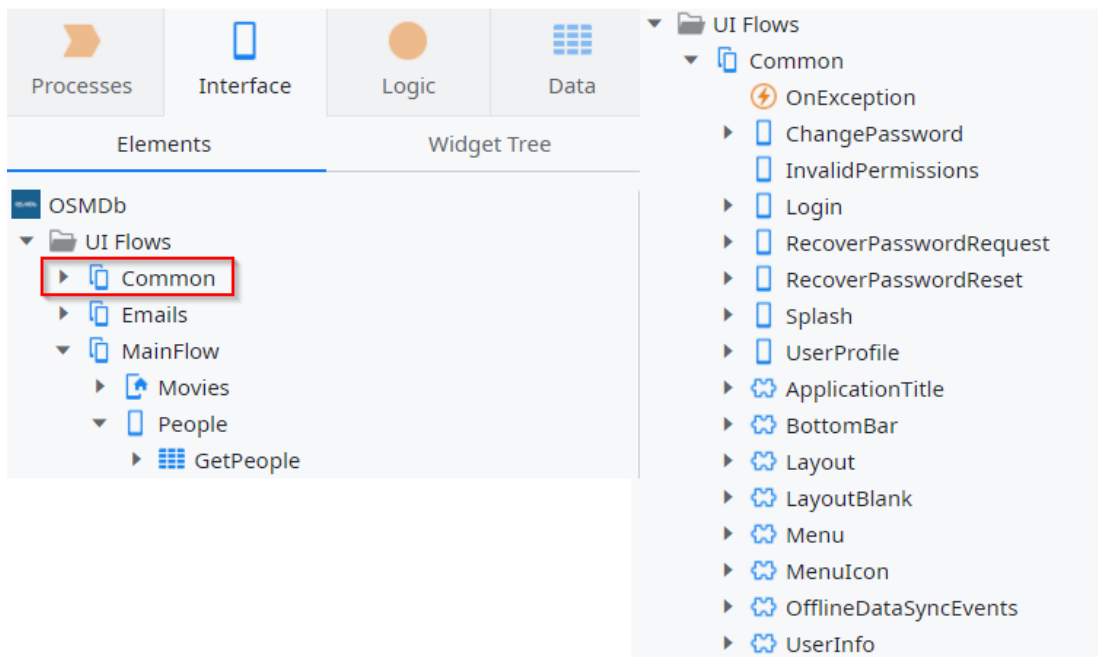


9. You will see the list of movies. But... How can you access the People Screen? It is created, but there's no way to navigate to it. So, let's solve that using the Menu of the app (Yes! It already has a Menu).

Menu

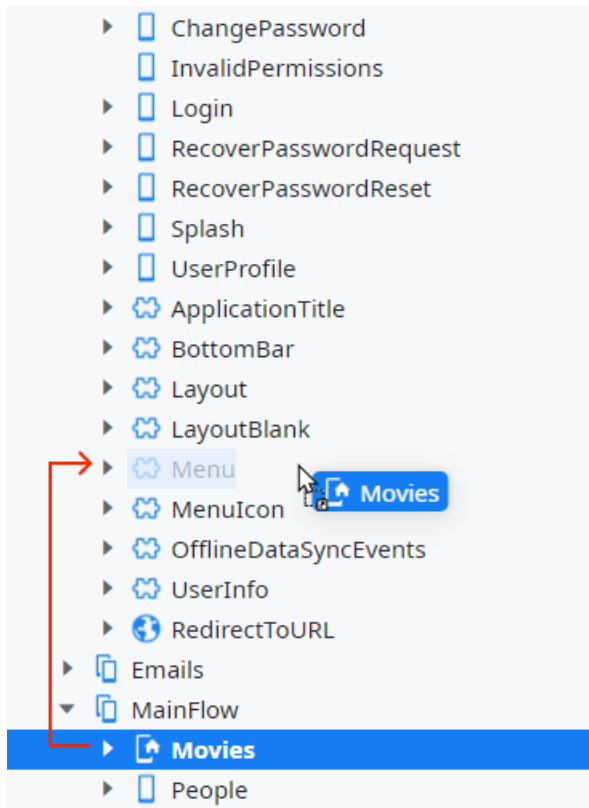
The last section of this exercise will focus on the Menu of the application. When the app is created, this Menu is already included, but has no entries. So, let's add an entry to the Movies Screen and to the People Screen.

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.

