



Build your own mobile app

OutSystems Mobile - Exercise

Download Jump Start Online Materials

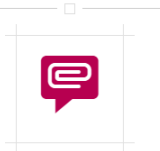
Download all

1. From a browser, navigate to

<https://www.agentbase.de/aktionen/materialien-zum-outsystems-intensiv-workshop/>

2. If not completed beforehand:
setup your environment

EINRICHTUNG DER OUTSYSTEMS UMGEBUNG



LEITFADEN ALS PDF DATEI HERUNTERLADEN



● OutSystems Free Edition einrichten

3. Download the materials
(PDFs + Resources folder)

ÜBUNGSAUFGABE



ÜBUNG: BUILD A
MOBILE APP

RESSOURCEN



PRODUKT-KATALOG (EXCEL-
DATEI)

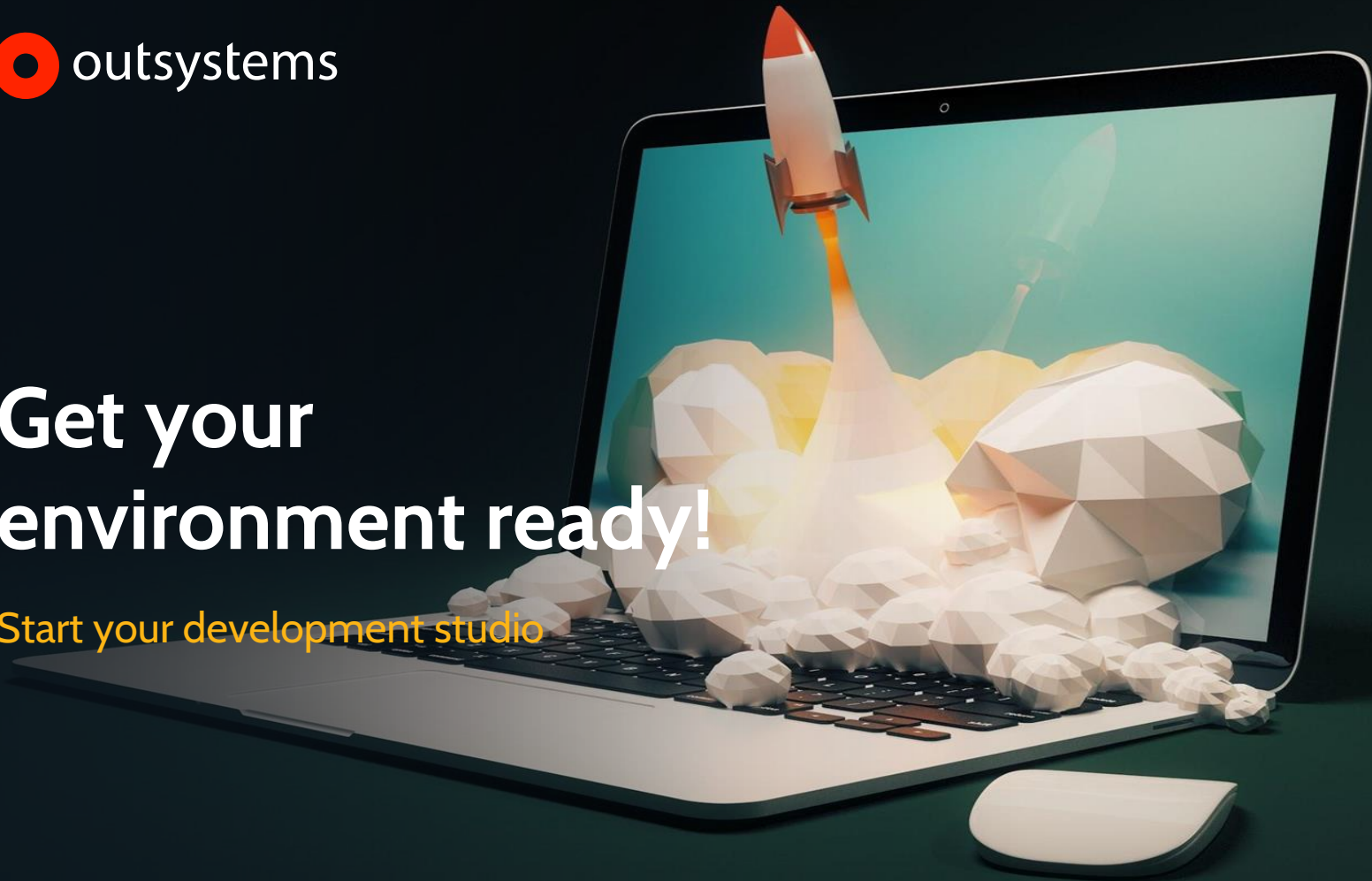


ONLINE SHOPPING ICON



Get your environment ready!

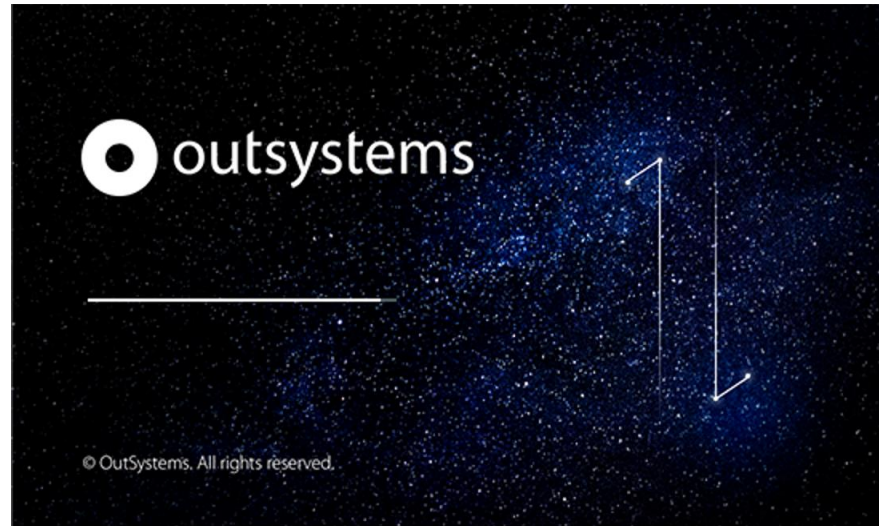
Start your development studio

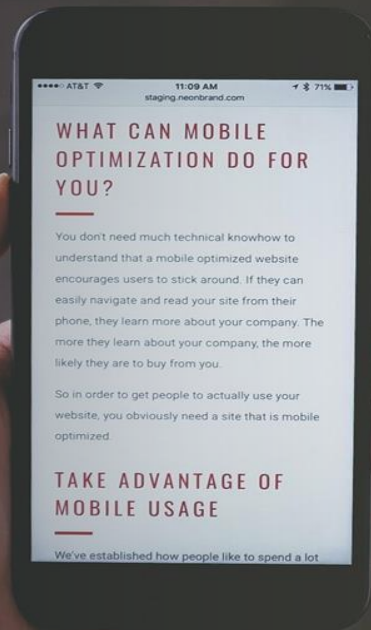


Development Studio

Open and start

1. Open **Development Studio (Service Studio)**
2. Be awesome and **build your own mobile app.**





Section 1

Mobile Application Foundation

In this exercise, you will be creating a Mobile Application that lists products hosted in the application demonstrated in the build up demo.

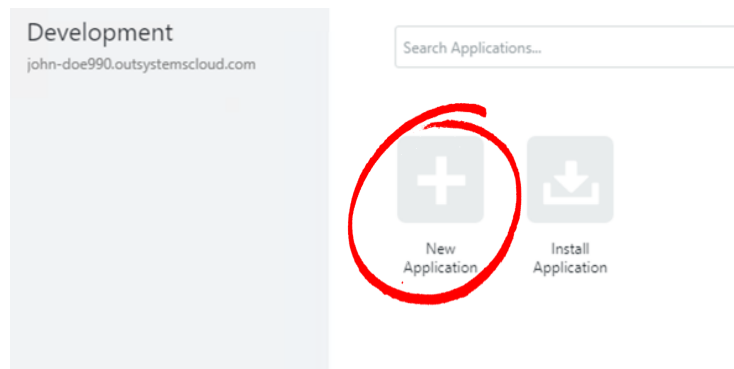
You will learn the basic differences between web and mobile apps, using a barcode plugin and mobile templates.

The following Forge Component will be downloaded during this Exercise:

- Barcode Plugin (Plugin for scanning barcodes and QR codes)

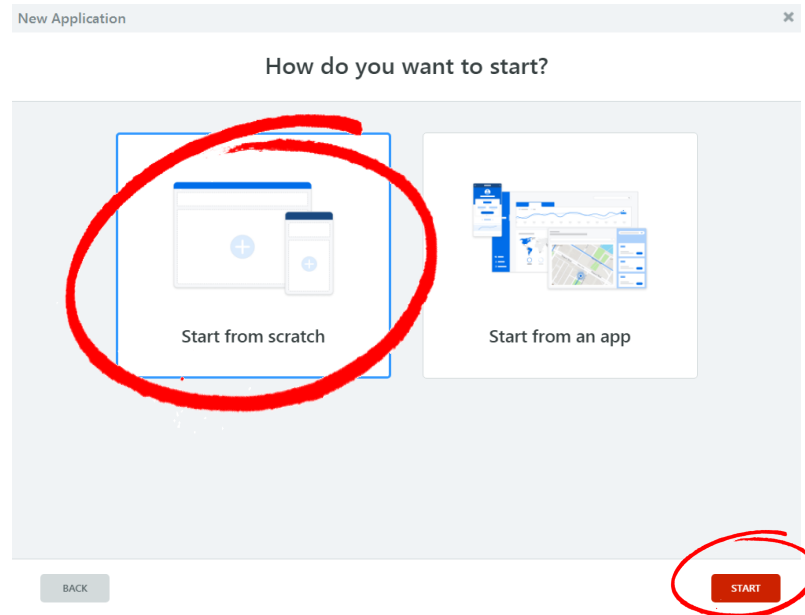
Create a new mobile app

1. Click upper left icon "New Application"



Create a new mobile app

1. Select "Start from scratch"
2. Click NEXT



Section 1

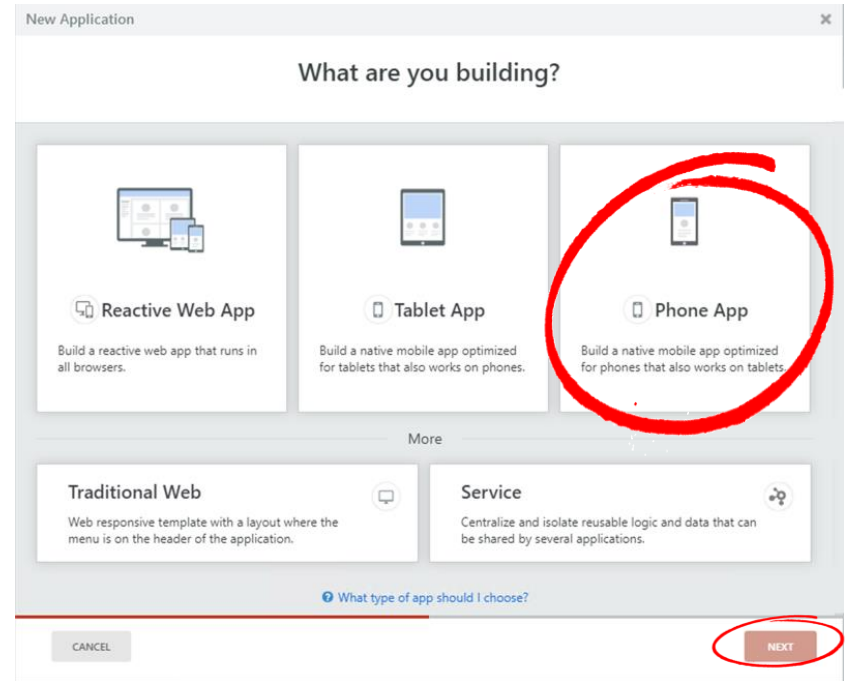
A

1. Create a New App

Create a new mobile app

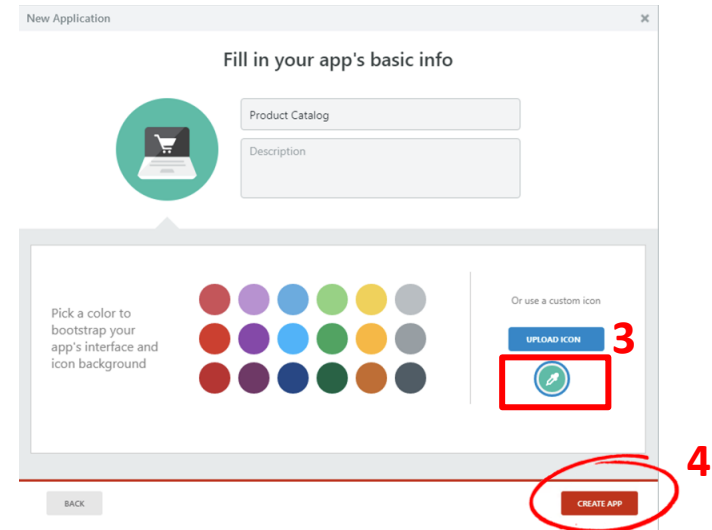
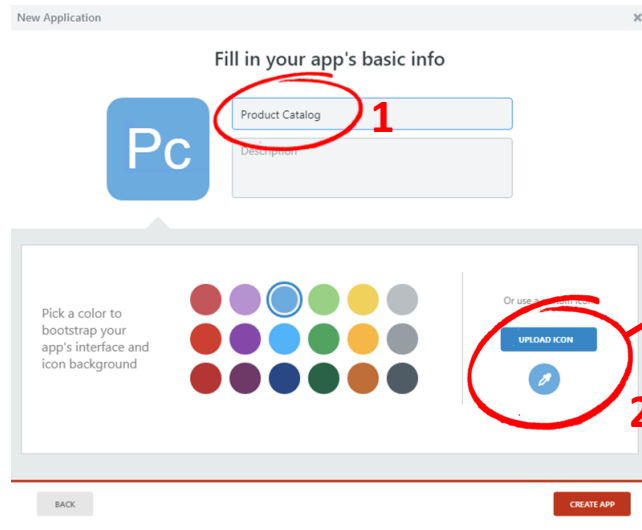
1. Select "Phone App"
2. Click NEXT

Create a mobile app when you want to create an optimized native experience for mobile devices, with touch friendly behaviors, offline capability and/or leverage the device features such as fingerprint authentication, geo-location, camera, etc.



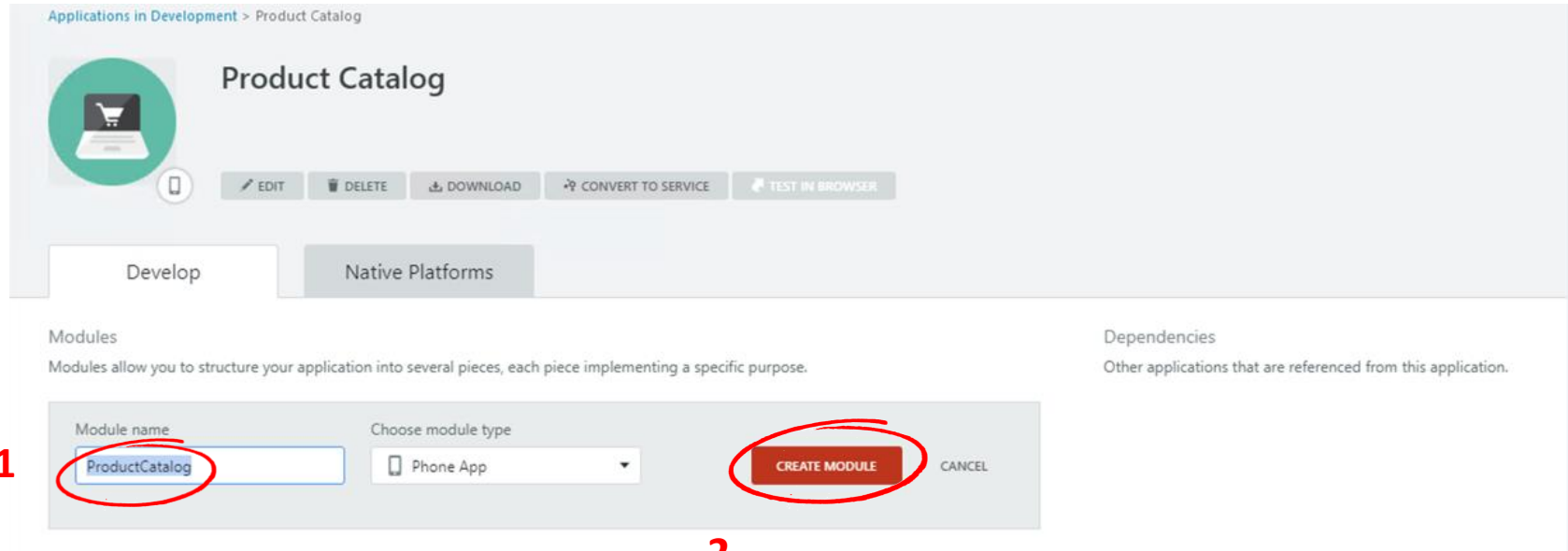
New Application

1. Type **Name** of your application “**Product Catalog**”
2. Upload the **icon** provided from Jumpstart Resources Material folder
3. Color palette will be automatically determine based on icon color. Select a **color palette**, if you want to change.
4. Click “Create App”



Create Phone App Module

1. Leave the default Module Name
2. Click Create Module button



Applications in Development > Product Catalog

Product Catalog

EDIT DELETE DOWNLOAD CONVERT TO SERVICE TEST IN BROWSER

Develop Native Platforms

Modules

Modules allow you to structure your application into several pieces, each piece implementing a specific purpose.

Dependencies

Other applications that are referenced from this application.

1

Module name: ProductCatalog

Choose module type: Phone App

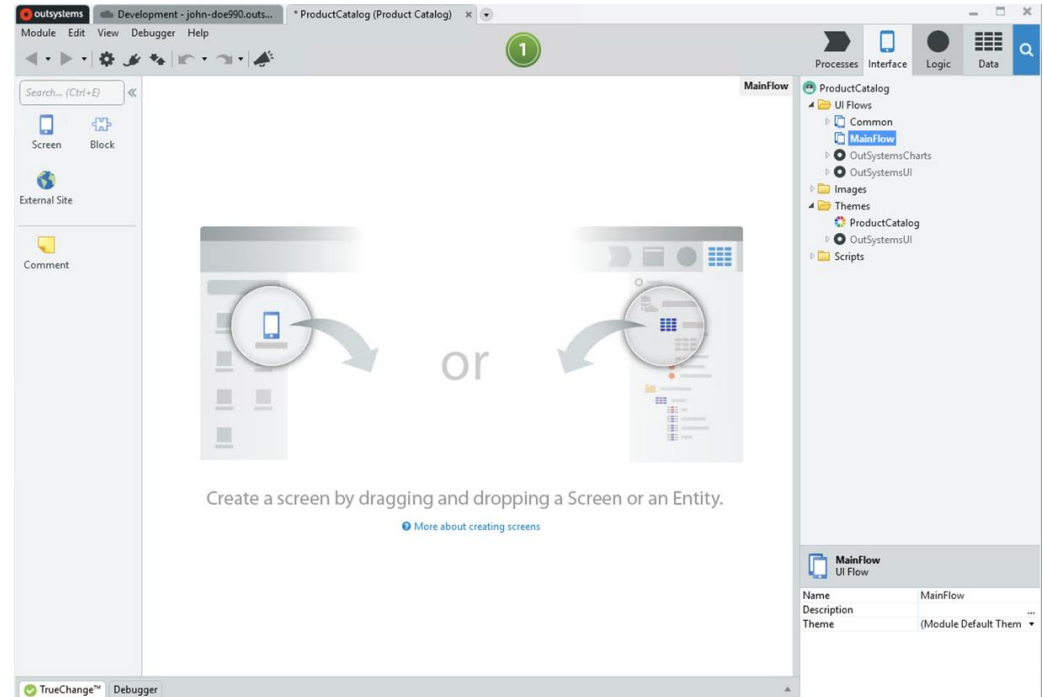
CREATE MODULE CANCEL

2

Section 1 > A > 5. Module Creation

Create Phone App Module

Your mobile app canvas is ready. You will be navigated to your new Mobile module



Let's start by creating our data model. In Outsystems tables are known as **Entities** while columns are known as **attributes**.

In this part, we will create a Product entity, by quickly importing an Excel file. This process is also known as **Bootstrap**.

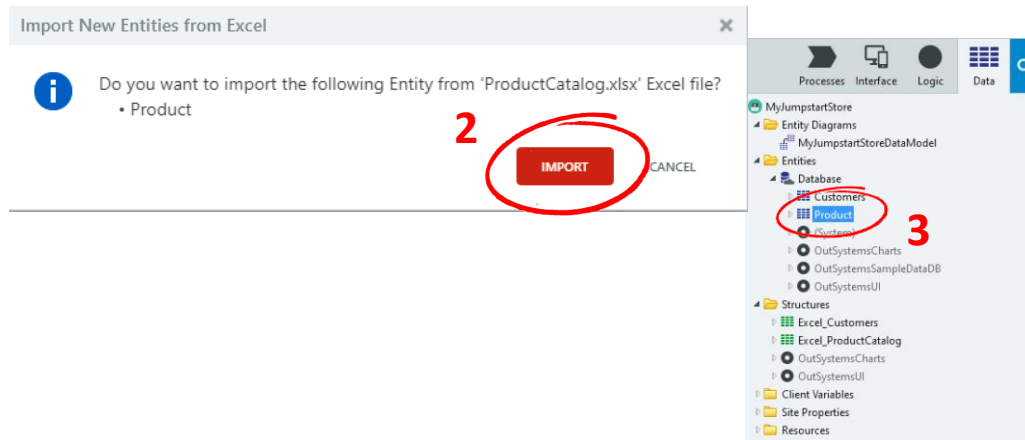
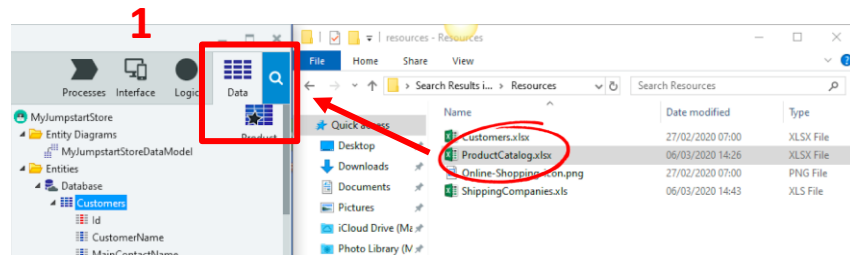
Section 1

B

1. Create Product Entity

1. Drag the “**ProductCatalog.xlsx**” onto Service Studio. Make sure you drop it on the top of the “**Data**” tab.
2. Click **Import** when prompted for confirmation.
3. You’ll notice that the “**Product**” entity is automatically created.

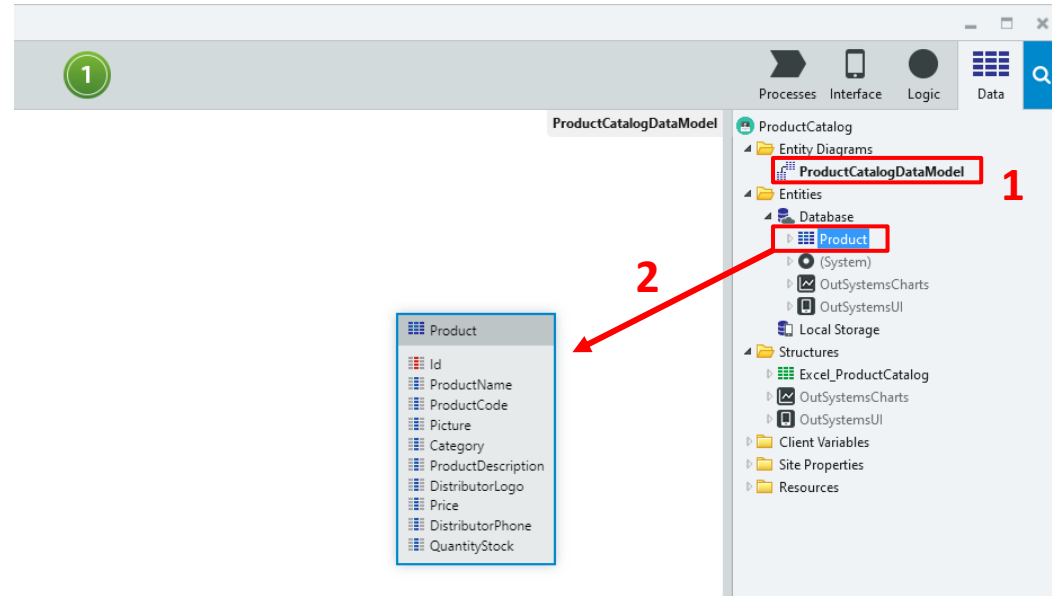
i The OutSystems platform provides development **accelerators** to increase productivity on common, patterned and repeating development tasks (**scaffolding**).



1. Double-click the Entity Diagram
“**ProductCatalogDataModel**” to open it
2. Drag the “**Product**” entity into the canvas.




Entity Diagrams are a powerful way of quickly visualizing your data entities and their relationship



1. Press the **1-Click-Publish** () button to publish your application



 With a single click, the 1-Click-Publish button triggers the following steps:

1. Upload of the visual model to the environment, and versioning
2. Compilation and generation of optimized code
3. Deploy in the database and web server

✓ TrueChange™	Debugger	✓ 1-Click Publish
1	Uploading	Storing a new version into '1' ... /ServiceCenter'.
2	Compiling	Generating and compiling optimized code and database scripts.
3	Deploying	Updating database model and deploying the web application.
✓	Done	'ProductCatalog' is now available at 'https://' ... /ProductCatalog'.

End of Section 1 - Mobile Application Foundation

Search... (Ctrl+E)

Screen Block

External Site

Comment

or

Create a screen by dragging and dropping a Screen or an Entity.

[More about creating screens](#)

MainFlow

- ProductCatalog
 - Entity Diagrams
 - ProductCatalogDataModel
 - Entities
 - Database
 - (System)
 - MyJumpstartStore
 - Product
 - Id
 - ProductName
 - Picture
 - Category
 - ProductDescription
 - DistributorLogo
 - Price
 - DistributorPhone
 - QuantityStock
 - ProductCode
 - GetProduct
 - OutSystemsCharts
 - OutSystemsUI
 - Local Storage
 - Structures
 - Client Variables
 - Site Properties
 - Resources

TrueChange™ Debugger 1-Click Publish

1	Uploading	Storing a new version into 'https://john-doe990.outsystemscloud.com/ServiceCenter'.	4:31 PM
2	Compiling	Generating and compiling optimized code and database scripts.	4:31 PM
3	Deploying	Updating database model and deploying the web application.	4:31 PM
Done	Done	'ProductCatalog' is now available at 'https://john-doe990.outsystemscloud.com/ProductCatalog'.	4:32 PM



Section 2

Product Gallery



The previous section has taught you how to add dependencies (references) into your application so that you can use downloaded plugins and reuse elements created from other applications.

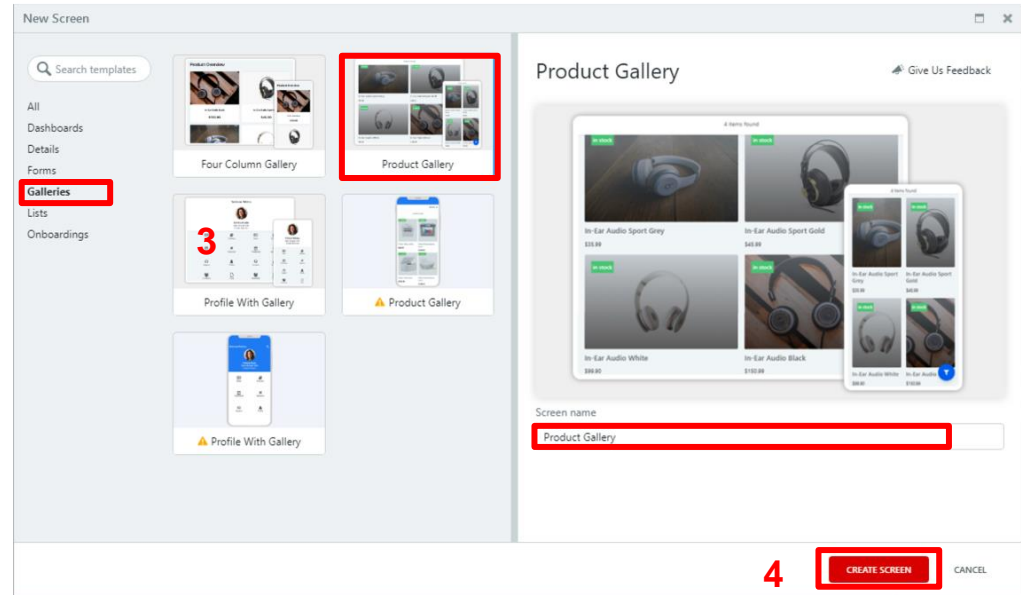
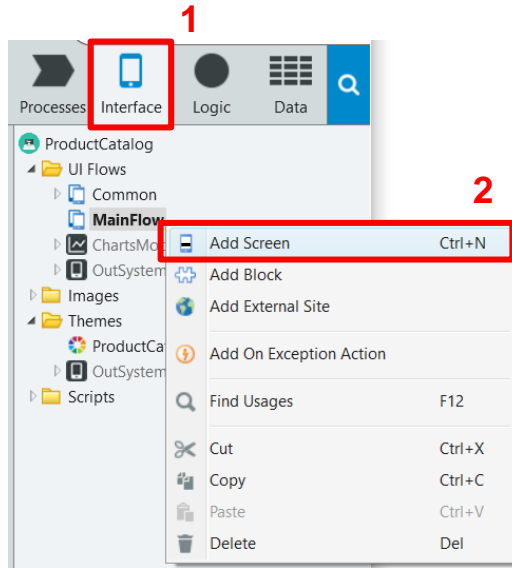
In this exercise, we will create a mobile **Product Gallery screen** that contains a **filter** based on the **Outsystems UI templates**.

Section 2

A

1. Create a new Screen

Create a new Screen



1. Go to the interface tab


2. Right-click on **MainFlow** and **Add Screen**

3. Select the **Product Gallery** Template

4. Keep the screen name as "**Product Gallery**", and click **Create Screen**

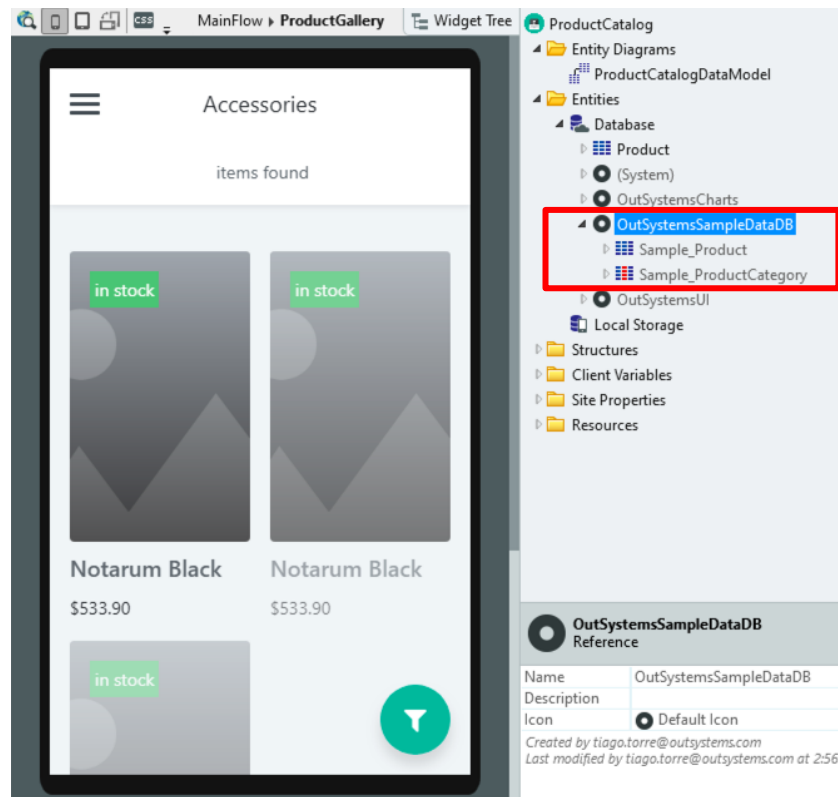
Section 2 > A > 2. Review Sample Data

Sample data was automatically added

 A screen with pre-built template was automatically created.

Notice that it's using Sample Data Entities
“**Sample_Product**” and
“**Sample_ProductCategory**”.

You can find these under **Data** section > Entities
> OutSystemsSampleDataDB



The screenshot displays the OutSystems Studio interface. On the left, a mobile app preview shows a screen titled "Accessories" with a list of items. The first two items are "Notarum Black" priced at \$533.90, each with a green "in stock" label. A third item is partially visible. On the right, the "Widget Tree" panel shows the project structure. The "OutSystemsSampleDataDB" entity is highlighted with a red box. Below the widget tree, a "Reference" table is visible.

OutSystemsSampleDataDB Reference	
Name	OutSystemsSampleDataDB
Description	
Icon	<input checked="" type="radio"/> Default Icon

Created by tiago.torre@outsystems.com
Last modified by tiago.torre@outsystems.com at 2:56

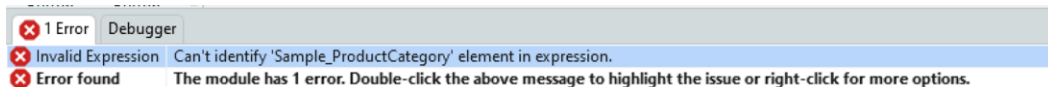
- | The Outsystems platform provides screen templates to help developers create user interfaces easily. These Templates contain **UI design**, include **pre-created actions** to accelerate development of the screen actions (such as filters) and **pre-created sample data** so you don't have to start from scratch.
- | In the next exercise, we will replace the Sample Data with our own data and adapt the pre-built backend rules (such as filters) that reference the Sample Data.

Section 2 > B > 1. Replace Sample Data

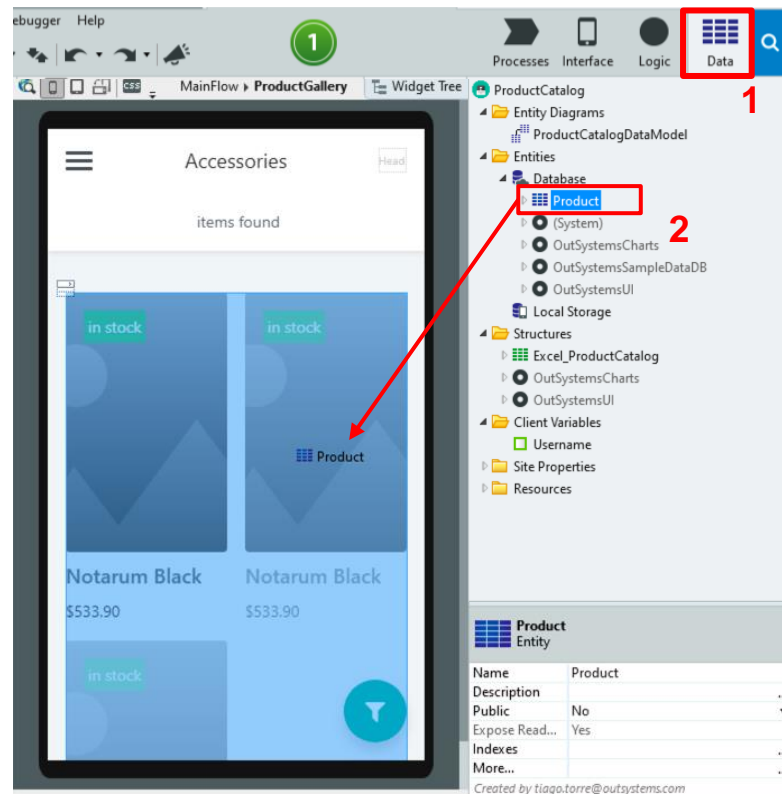
Use product entity data

1. Navigate to the **Data** tab
2. Drag and drop the **Product** entity into the **Gallery** area. Make sure you see “**Replace data with Product**” before letting go of the mouse click.

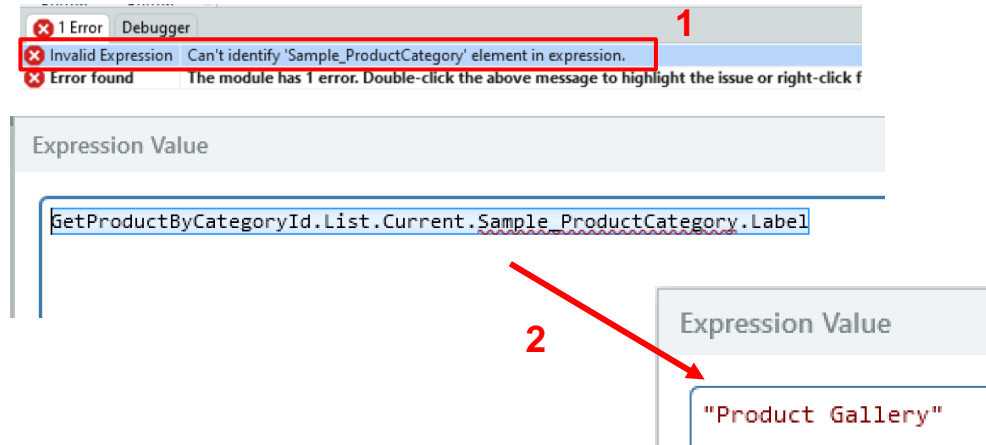
After replacing the list with our data, some variables may still need to be replaced manually.



Go to the next page to fix these errors

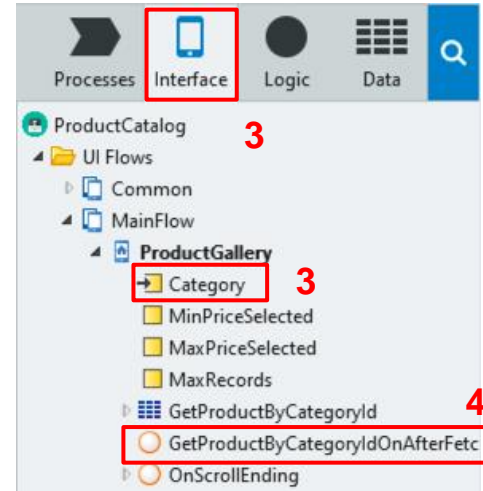


Can't identify 'Sample_ProductCategory' element in expression.



1. Double click on the error "Can't identify 'Sample_ProductCategory' element in expression."
2. This expression is the title of the screen. Delete it and change to just "**Product Gallery**" with the double quotes and click **Done**.

Jump Start Training



3. Navigate to the **Interface** tab and Delete the **Category** input parameter
4. Delete the **GetProductByIdOnAfterFetch** Client Action. We don't need these.

Section 2 > B > 3. Fix Warning

Delete unused data & logic

1. Double click on the “**Unknown On After Fetch**” warning or click on the **GetProductByCategoryId** aggregate
2. Expand the **On After Fetch** Event
3. Update the value of the **On After Fetch** event to **(None)**


The screenshot shows the OutSystems development environment with a warning message at the bottom: "1 Warning | Debugger | Unknown On After Fetch - On After Fetch 'GetProductByCategoryIdOnAfterFetch' does not exist." A red box highlights this warning, with a '1' next to it. The main interface displays a 'Product Gallery' widget with two 'in stock' items. The right-hand 'Widget Tree' shows the 'ProductCatalog' structure, with 'GetProductByCategoryId' aggregate highlighted by a red box and a '1'. Below it, the 'On After Fetch' event is expanded, showing a dropdown menu with 'GetProductByCategoryIdOnAfterFetch' selected. A red box highlights this event, with a '2' next to it. The dropdown menu is open, showing options like '(Select On After Fetch...)', 'Suggestions', 'OnScrollEnding', 'RangeSliderIntervalOnChange', '(None)', and '(New Client Action)'. A red box highlights the '(None)' option, with a '3' next to it. A '3' is also present in the top right corner of the widget tree area.

1. Go to the toolbox search bar (top left) and search for “Image”.
2. Then, drag the Image widget and drop it on the “BackgroundImage” placeholder as illustrated.

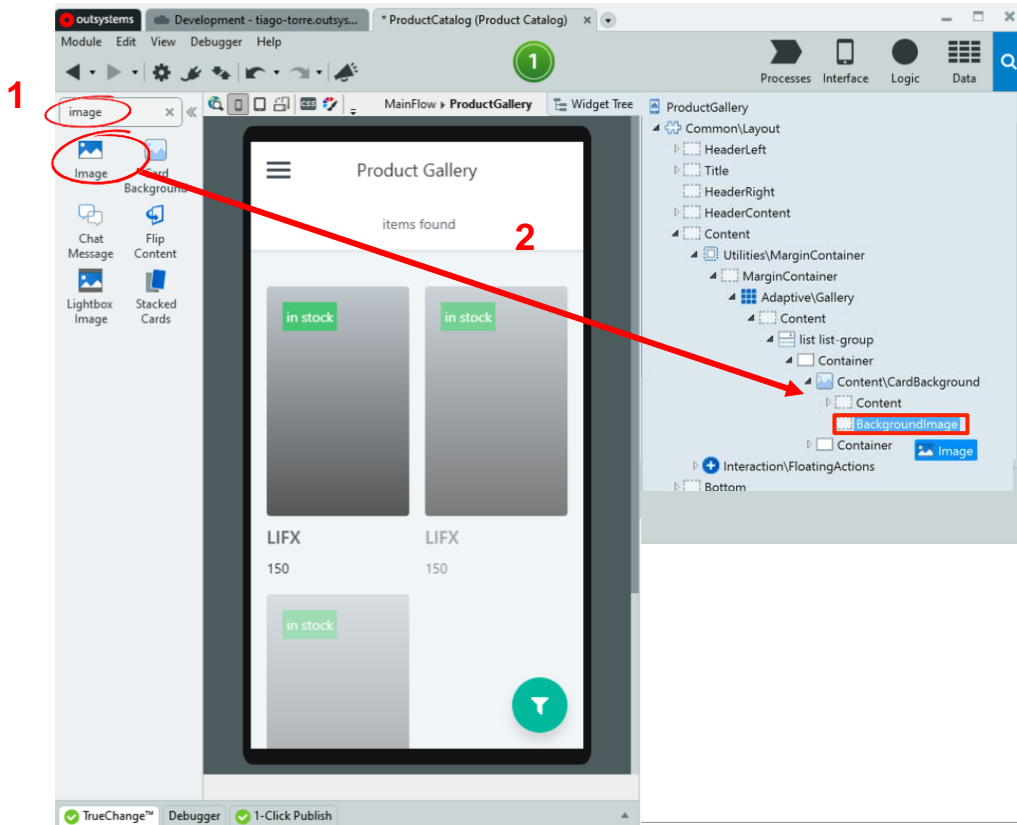


QUICK TIP

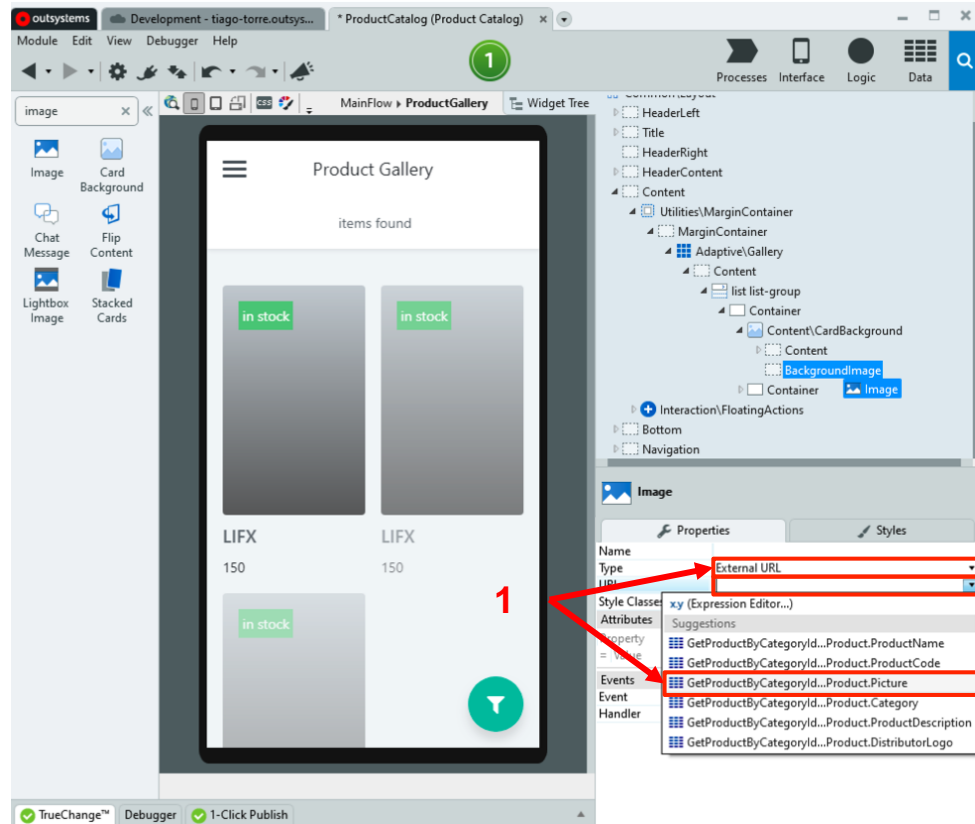
Use the **Widget Tree** to easily locate elements in the screen structure.

It can be manually opened by clicking the upper right icon ( Widget Tree)

It also **opens automatically** when you drag a widget onto the screen!



1. On the Image Properties tab set the following attributes:
 - **Type: External URL**
 - **URL: Select the suggested `GetProductByCategoryId...Product.Picture`**




Section 2 > B > 6. Make Screen Anonymous

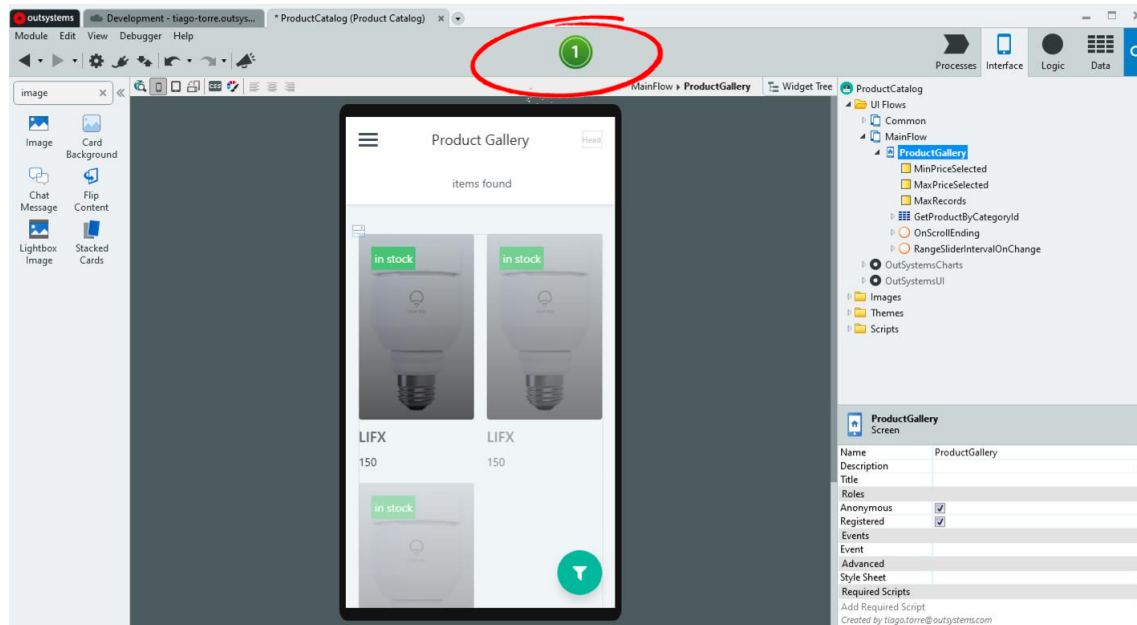
1. Click on the “ProductGallery” screen.
2. Mark the **ProductGallery** screen to be accessible by **Anonymous** users.

The screenshot shows the SAP Fiori Designer tool interface. The top navigation bar includes 'Processes', 'Interface', 'Logic', and 'Data'. The main workspace displays a tree view of the 'ProductCatalog' project. Under 'UI Flows', 'MainFlow' is expanded, and 'ProductGallery' is highlighted with a red box and a red '1'. Below the tree view, the 'ProductGallery' screen configuration is shown. The 'Roles' section is expanded, and the 'Anonymous' role is checked with a red box and a red '2'.

ProductGallery Screen	
Name	ProductGallery
Description	...
Title	
Public	No
Roles	
Anonymous	<input checked="" type="checkbox"/>
Registered	<input checked="" type="checkbox"/>
Events	
On Initialize	
On Ready	

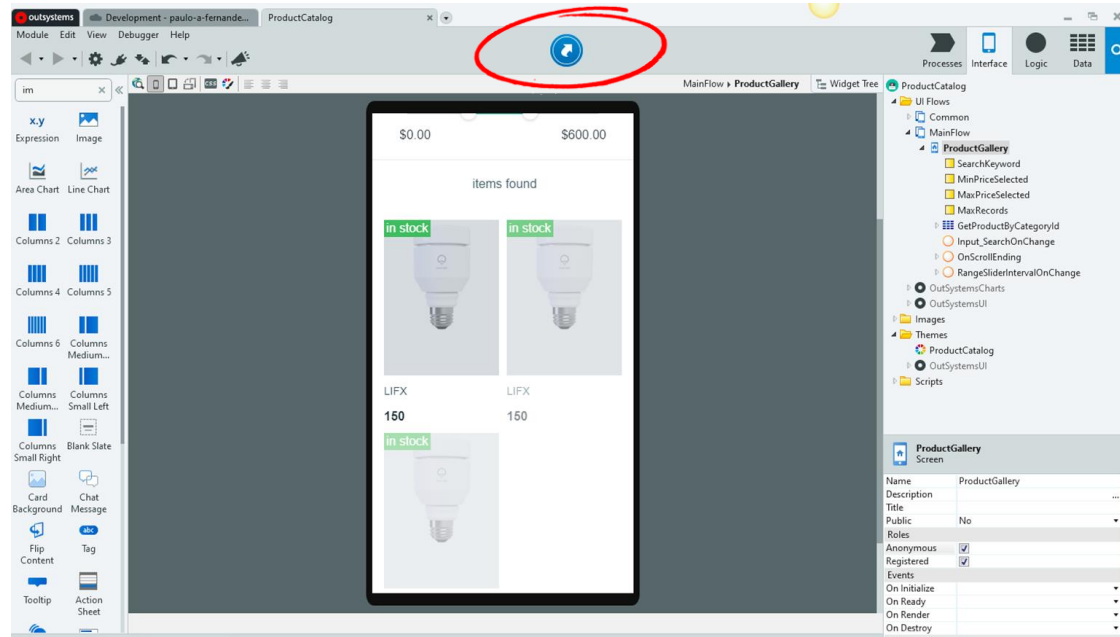
Deploy and Test it

1. At this point you can deploy your application by clicking the 1-click-publish button (). This will generate the mobile app.



Deploy and Test it

1. Open it in the **simulator** () and test your app.





Mobile Application Test

Testing on Android & iOS

Test it on Your Device

1. Navigate to the **Distribute** tab in Service Studio.

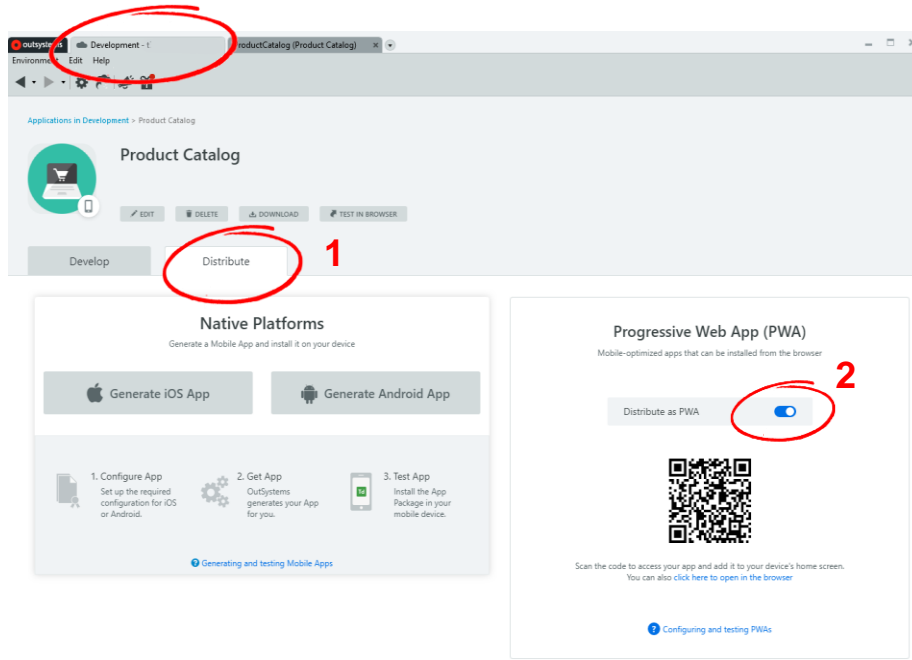
2. Enable **Distribute as PWA**

3.

Scan QR Code from using your mobile phone


4.

Add App to homescreen (See next screen)



3



 iOS device?

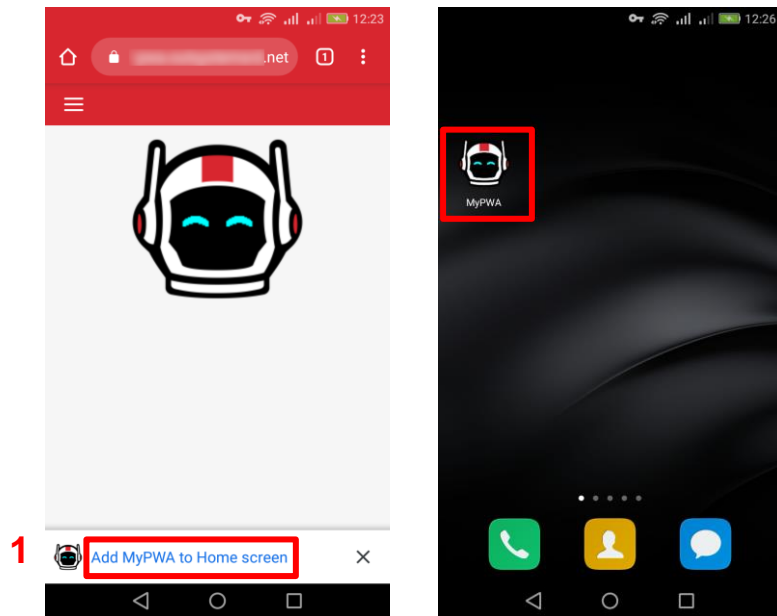
If you're running iOS 13 and later, iOS requires enabling Web SQL for PWAs. Go to **Settings > Safari > Advanced > Experimental Features** and make sure to **switch off "Disable Web SQL"**.

[More info](#)

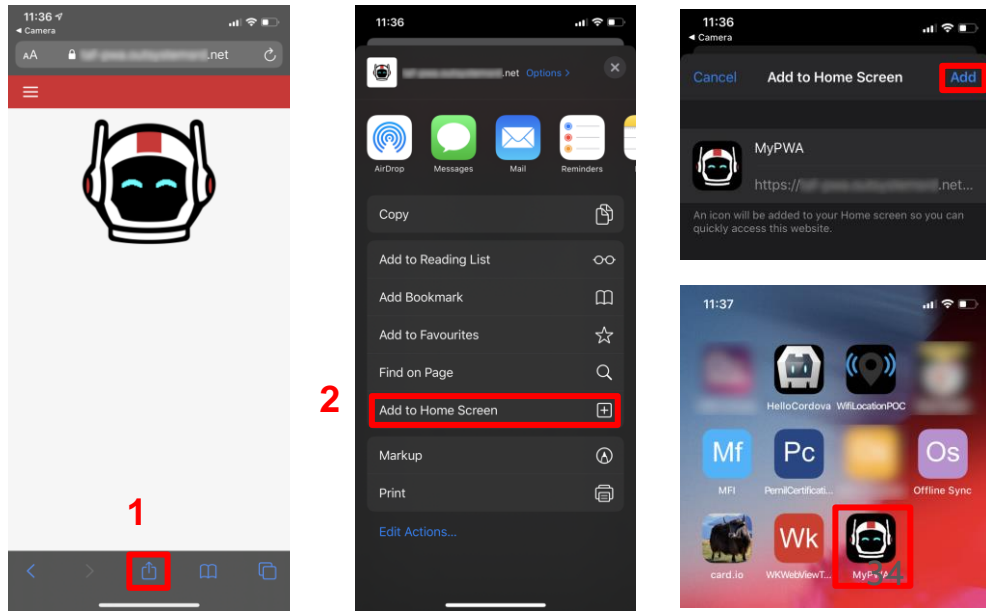
Test it on Your Device



1. Tap the banner Add <My app> to Home screen.



1. Tap the Share button (📄)
2. Tap **Add to Home Screen**.
3. In the confirmation screen, tap **Add**.



Test your Mobile App

Open and start testing

Test your app and play around. Take a minute and consider: How long would it have taken to build this app in traditional code for both Android and IOS?



Section 3

Product Detail



In the previous section we have created a Product Gallery page and replaced the sample data with the Product Entity data.

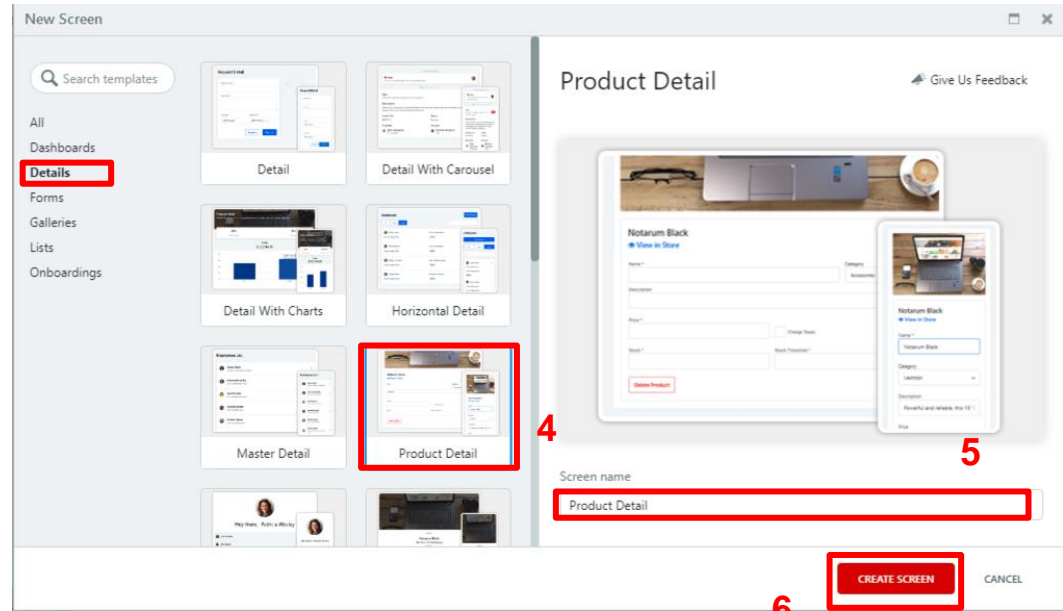
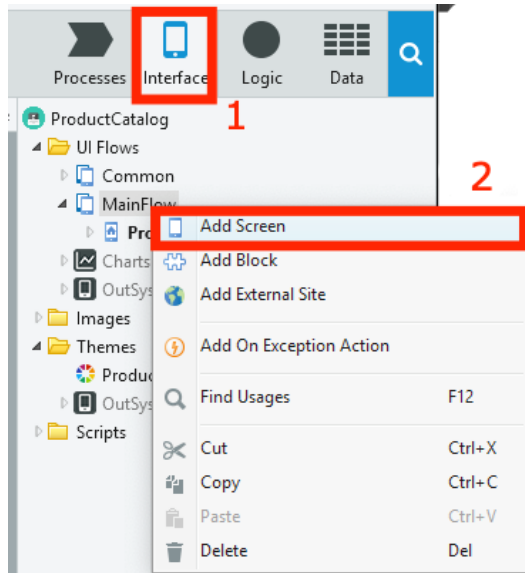
In this section we will create a Product Detail page using the Outsystems UI templates, replace the sample data with our own data and link the Product Gallery to the Product Detail page.

Section 3

A

1. Create a new Screen

Product Detail



1. Go to the interface tab

2. Right-click on **MainFlow** and **Add Screen**

3,4,5. Select the **Product Detail** Template and name your screen as **Product Detail**.

6. Click on **Create Screen**

Section 3 > A > 2. Configure Product Detail Screen

Set it as anonymous

1. Select the “ProductDetail” screen from the MainFlow
2. From the screen properties, Check the **Anonymous Role**

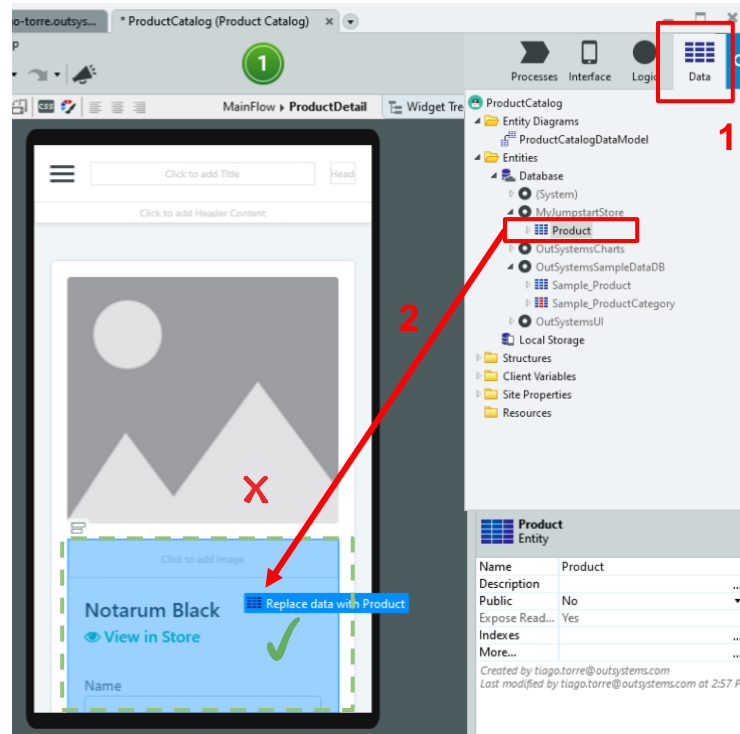
The screenshot displays the SAP Fiori Designer interface. On the left, a mobile device preview shows a product detail screen with a header, a main image area, and a 'Notarum Black' product card with a 'View in Store' button. On the right, the 'Widget Tree' pane shows a hierarchical structure of UI flows, with 'ProductDetail' under 'MainFlow' highlighted by a red box and a red '1'. Below the widget tree, the 'ProductDetail Screen' properties table is visible, with the 'Anonymous' role checkbox checked, highlighted by a red box and a red '2'.

ProductDetail Screen	
Name	ProductDetail
Description	
Title	
Roles	
Anonymous	<input checked="" type="checkbox"/>
Registered	<input checked="" type="checkbox"/>
Events	

Section 3 > A > 3. Replace Sample Data

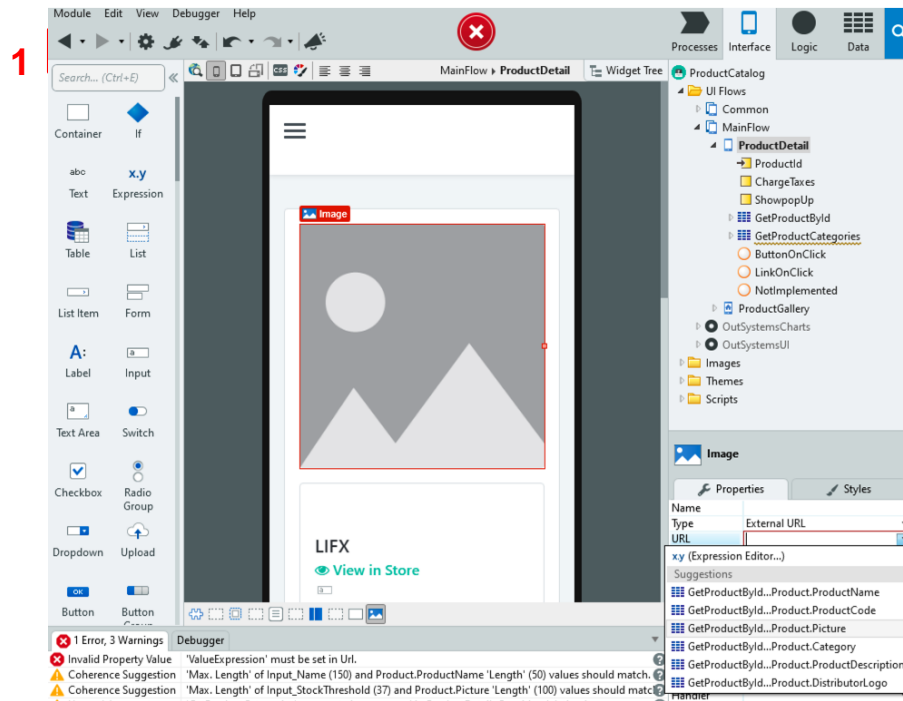
Use the Product Entity data

1. Go to the **Data** tab
2. Replace the data with the **Product** entity, by dragging the Product entity onto the lower part of the screen.
Make sure you see “**Replace data with Product**” before letting go of the mouse button.



Fix error *Can't identify 'Image' element in the expression*

1. Select the “Image” widget of the ProductDetail screen.
2. On the Image Properties tab set the following attributes:
 - **Type:** External URL
 - **URL:** Select the suggested GetProductById...Product.Picture



Now that we have replaced the Product Detail screen with the Product Entity data, we want to enable users to choose a product from the Product Gallery and see its details.

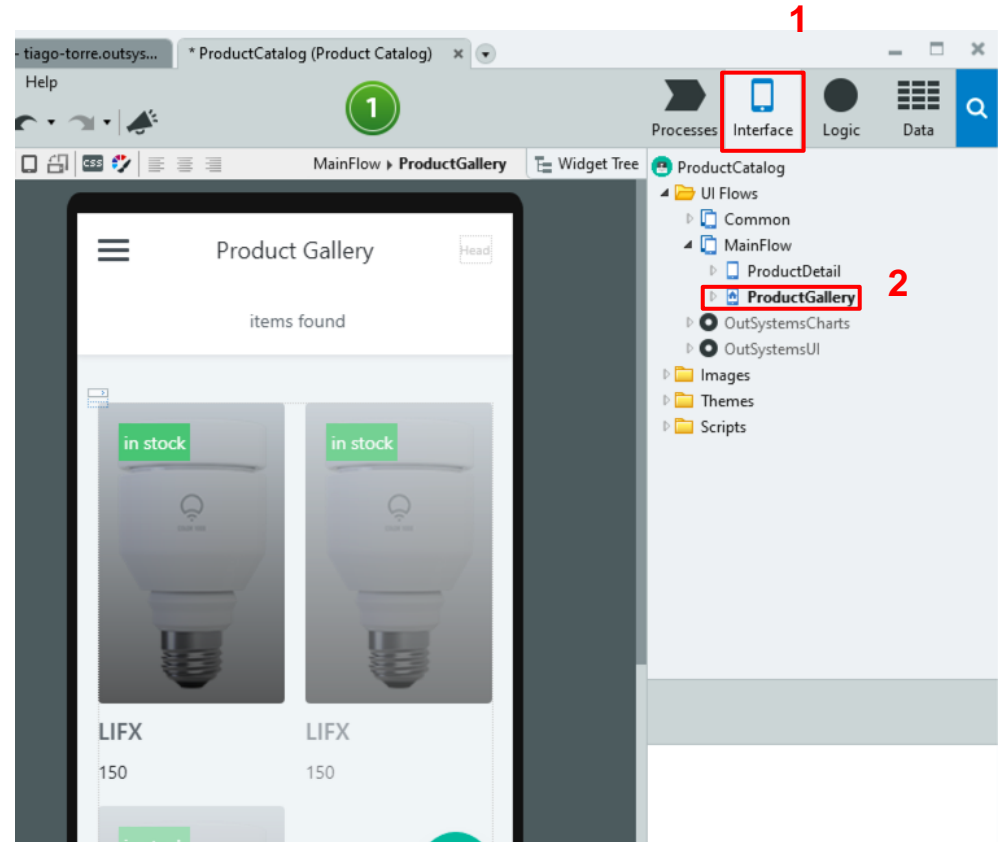
Section 3

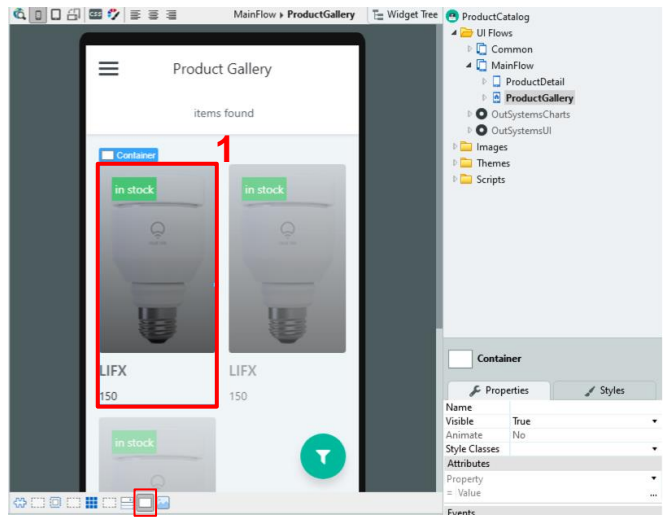
B

1. Open Product Gallery Screen

Open the screen

1. Go to the **Interface** tab
2. Double click the **Product Gallery** screen

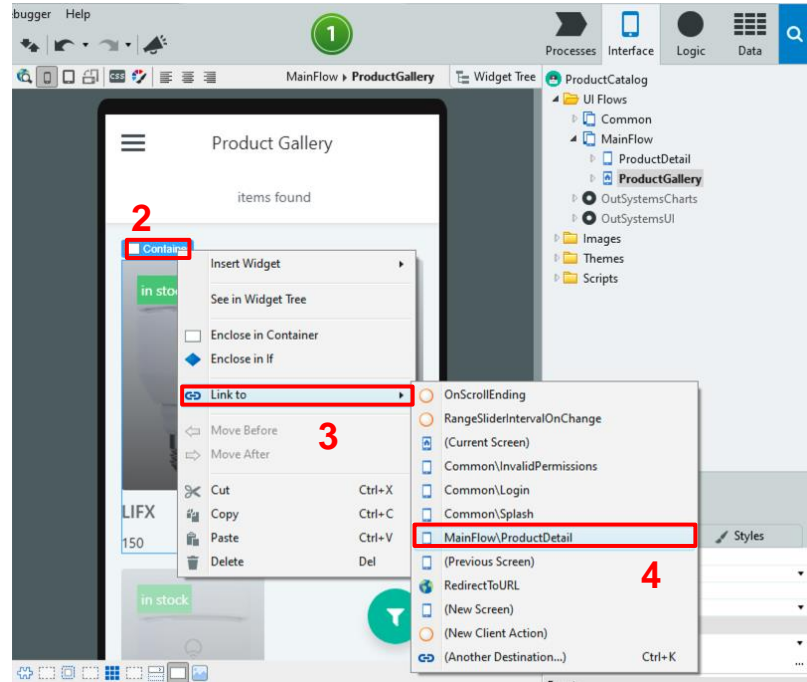





1. Select the **Container** widget



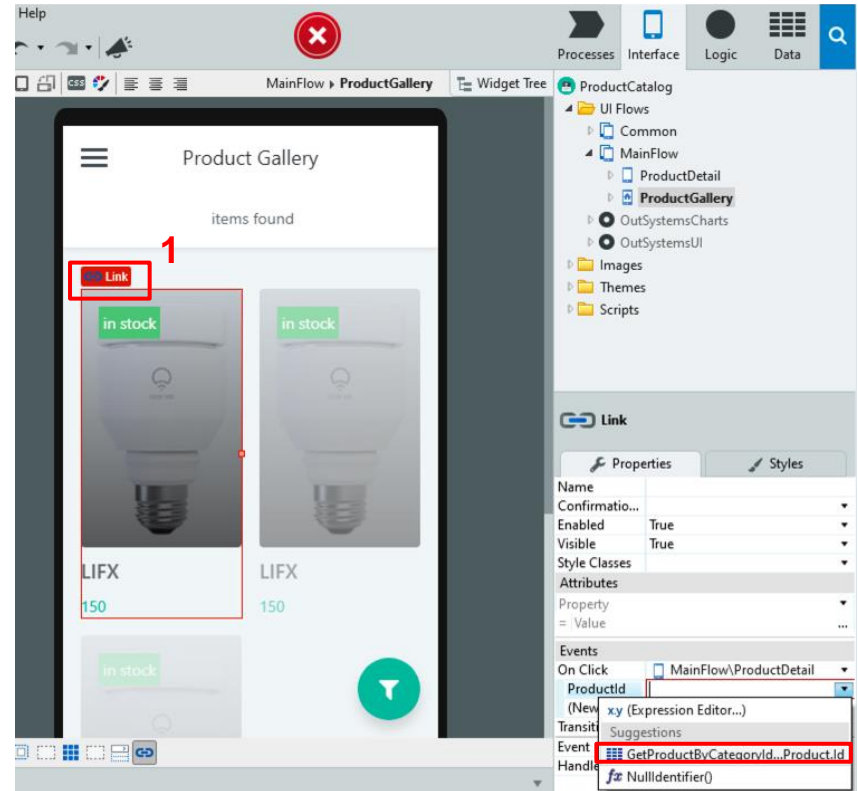
To help you select an enclosing element, you can use the **breadcrumbs** on the bottom of the main view:



2. Right-click in the **Container** () icon
3. Select **Link to** and then
4. **MainFlow\ProductDetail** screen.

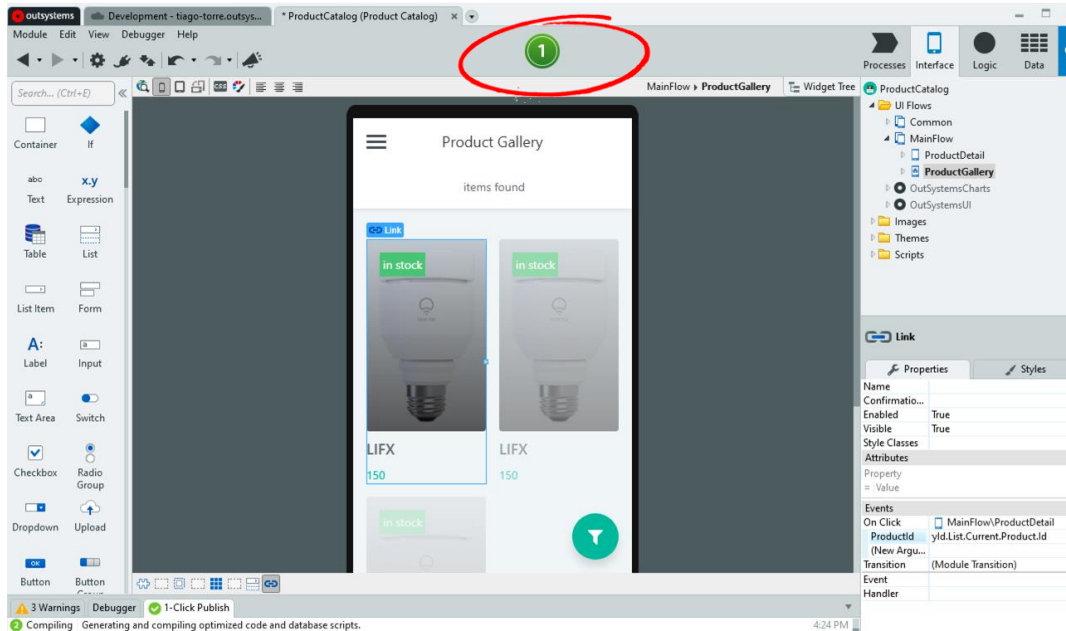
Assign Product Id

1. Make sure the **Link** widget is selected
2. On the **On Click** event assign to the **ProductId** the value **GetProductByCategoryId....ProductId**



Deploy and Test it

1. At this point you can deploy your application by clicking the 1-click-publish button () and test it ().

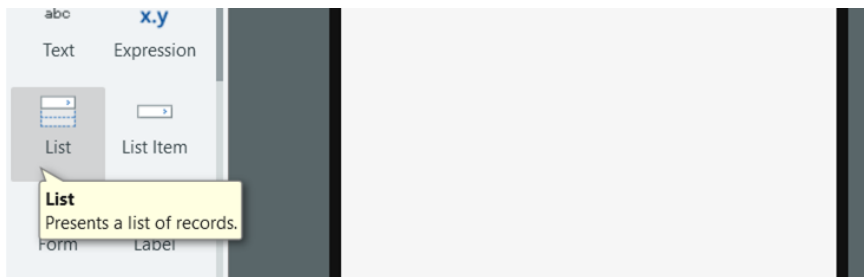


Section 4

Product Listing



Similar to building apps in Web, in mobile, there are a few ways of building a listing screen. The manual way is to drag the List widget into the screen, and then add a List Item widget. Then build your preparation function that queries the details from the database.

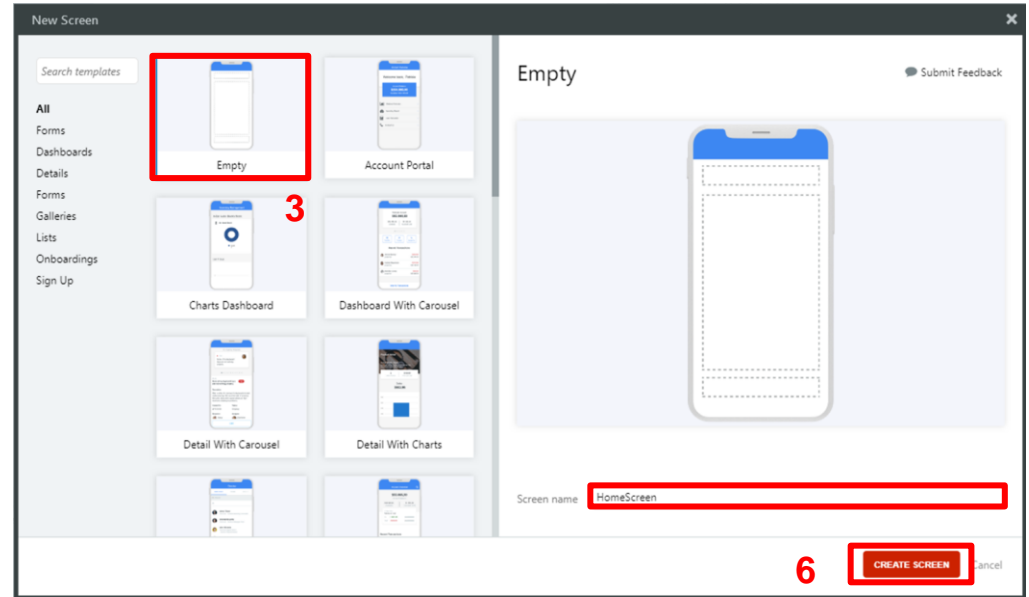
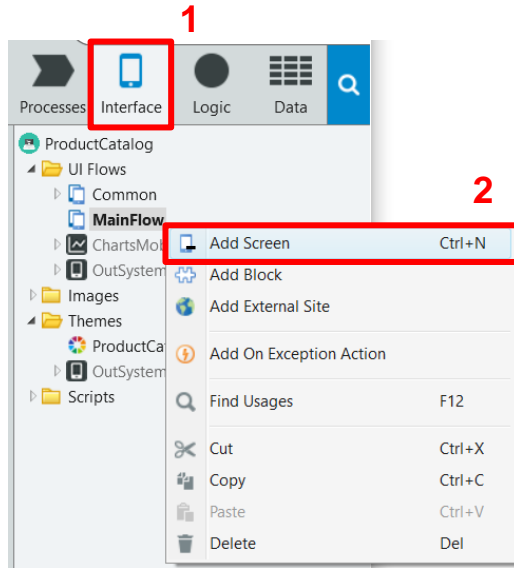


Within this exercise, we will instead use OutSystems accelerators to automate building the listing screen.

Section 4

A

1. Create a new Empty Screen



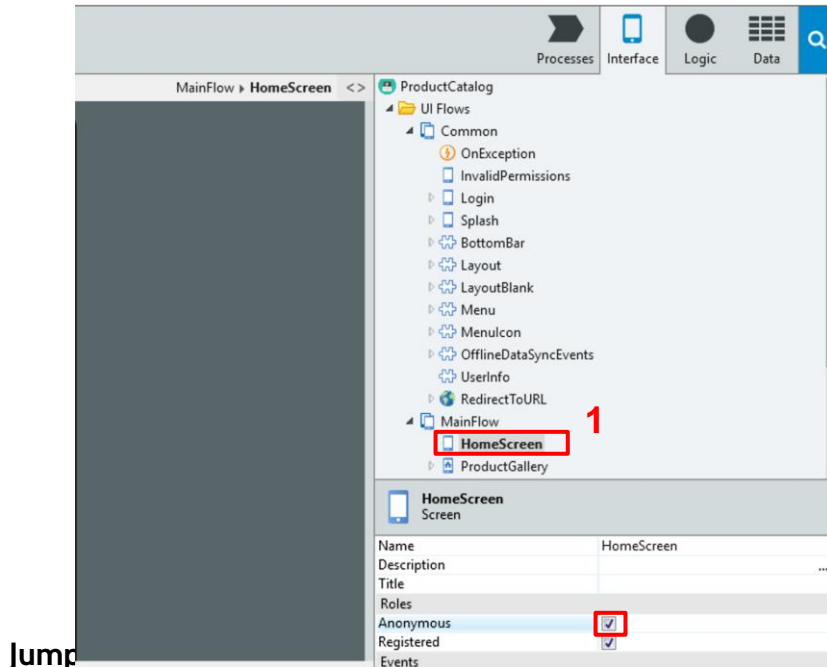
1. Go to the interface tab

2. Right-click on **MainFlow** and **Add Screen**

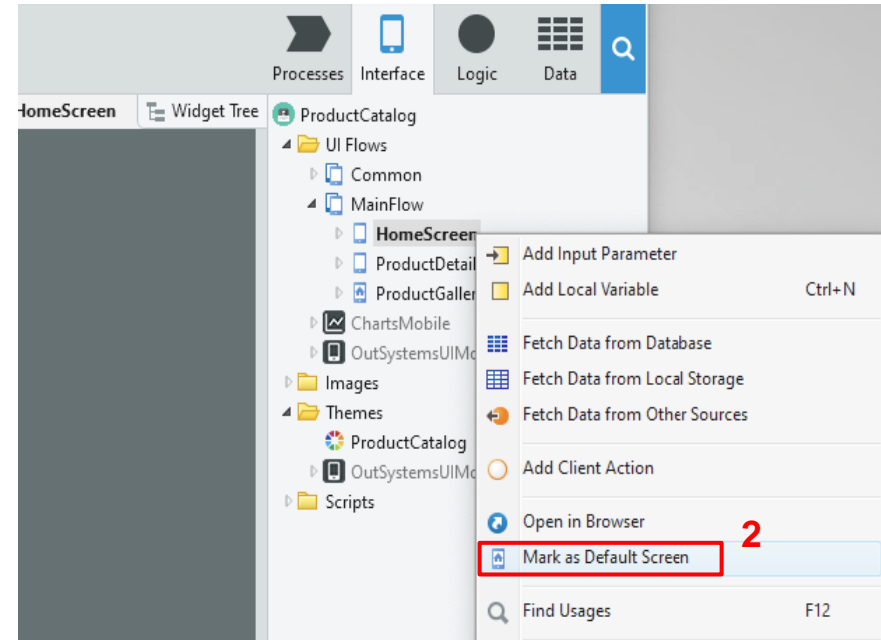
3. Select the **Empty Template** and name your screen as **HomeScreen**.

4. Click on **Create Screen**

1. Go to the interface tab, under the **MainFlow**
Set the “HomeScreen” screen to **Anonymous**

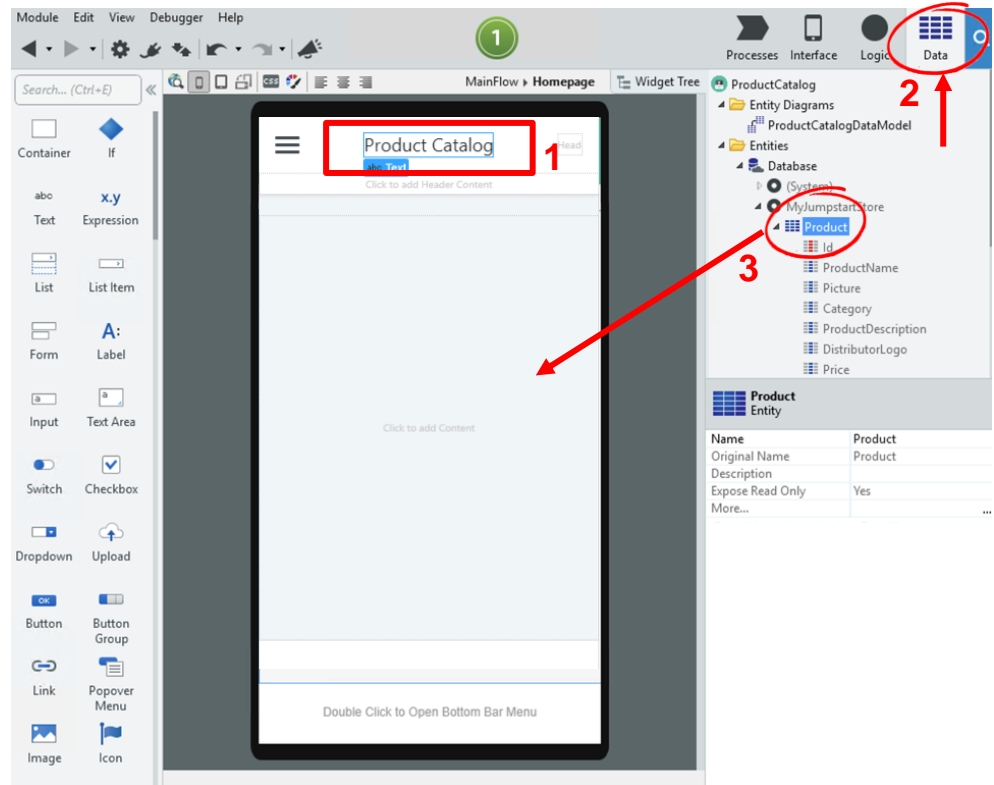


2. Right-click “HomeScreen” and select **Mark as Default Screen**



Section 4 > A > 3. Add Title and Data

1. Add a title. Type **Product Catalog** in the Title area of your mobile app.
2. Click Data tab.
3. Drag and drop the **Product** entity into the Content area.



This will automatically create the listing widgets within the screen and the preparation logic that queries the data from the Product database.

Section 4 > A > 4. Remove Data

Unnecessary data can be removed

We now have a list of products!

1. You can remove unnecessary attributes that we do not need.
2. Multi-select the items using **CTRL+click**, then press **Delete**.

Product Catalog	
LIFX	
CD794954657337	
https://www.muzzley.com/uploads/devices/	
Lighting	
The brightest, most efficient Wi-Fi LED light bulb.	
https://www.muzzley.com/uploads/devices/	
150	
35,193,768,321.00	
48	

Delete Items in red

Section 4 > A > 5. Add Product Image to List


Drag and Drop the image widget

1. Add an **Image widget** into the top of the first attribute
2. Make sure the **image widget** is inserted on the correct position

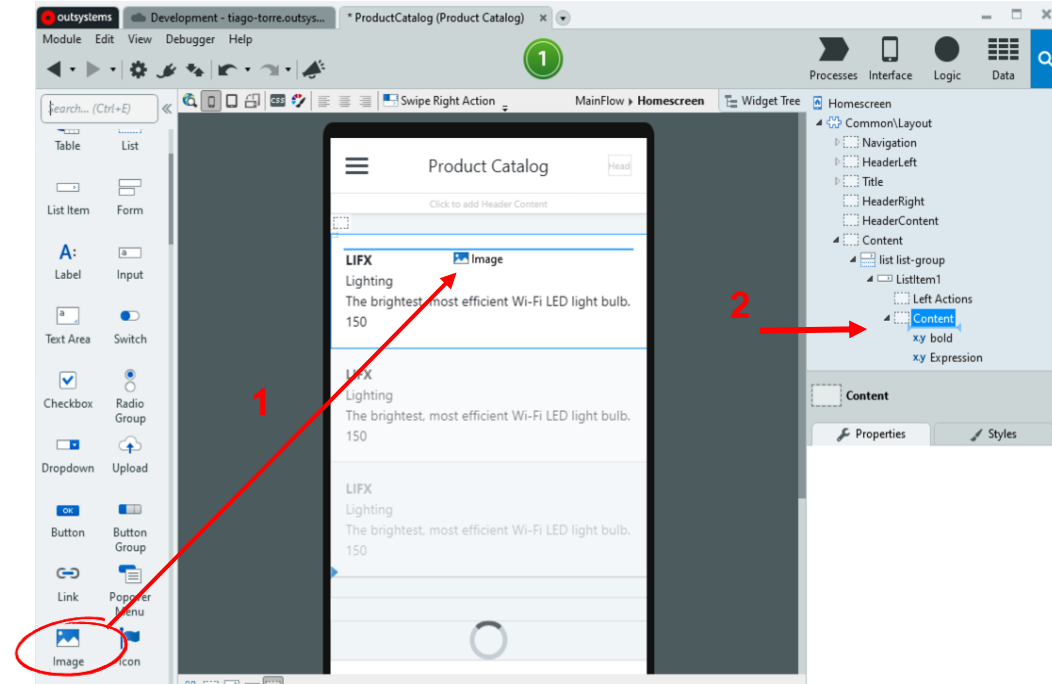


QUICK TIP

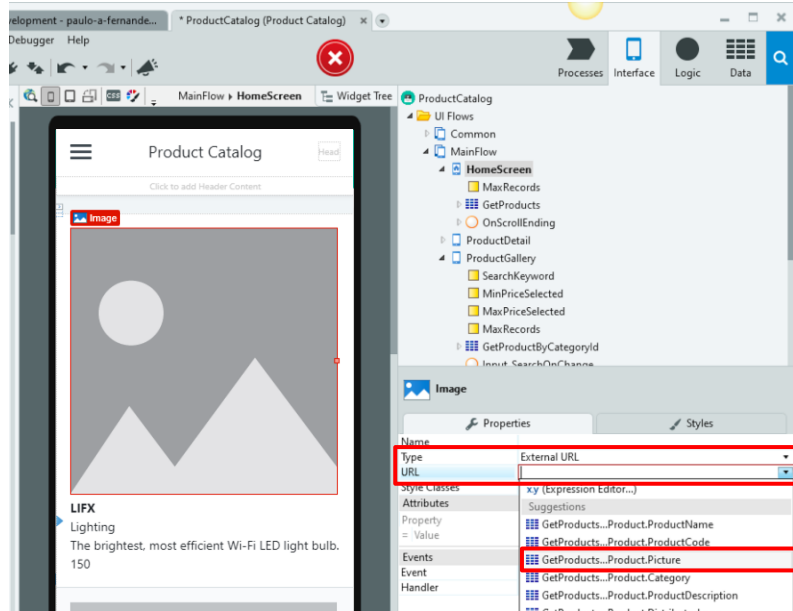
The **Widget Tree** is a great way of locating elements in the screen structure.

It can be manually opened by clicking the upper right icon ( **Widget Tree**)

It also **opens automatically** when you drag a widget onto the screen!



1. On the Image Properties tab set the following attributes:
 - Type: External URL
 - URL: Select the suggested GetProducts...Product.Picture

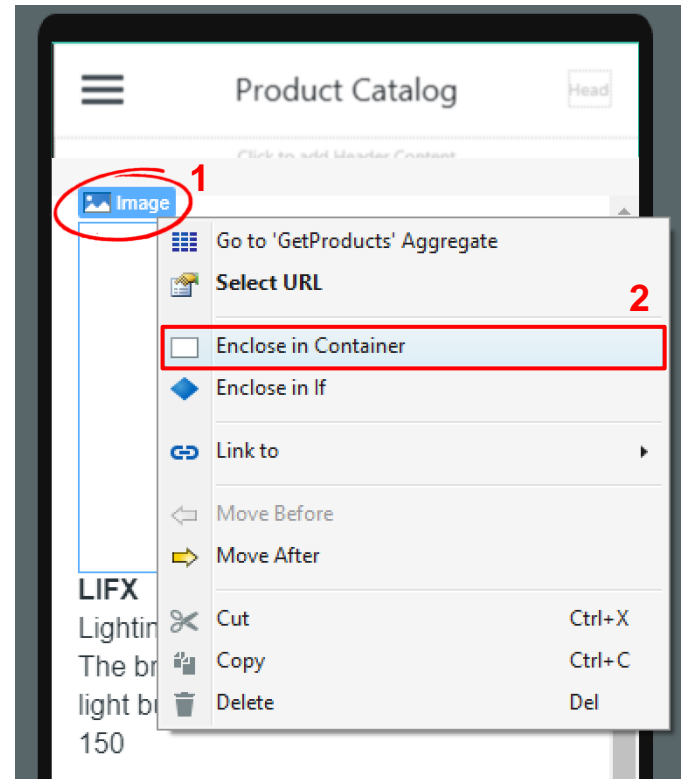


We will format the list items to show 2 columns. We want to have the product image on the left column, and the product description on the right column.

To do this, we will enclose the objects into Containers (similar to `<div>` in HTML)

Enclose image in container

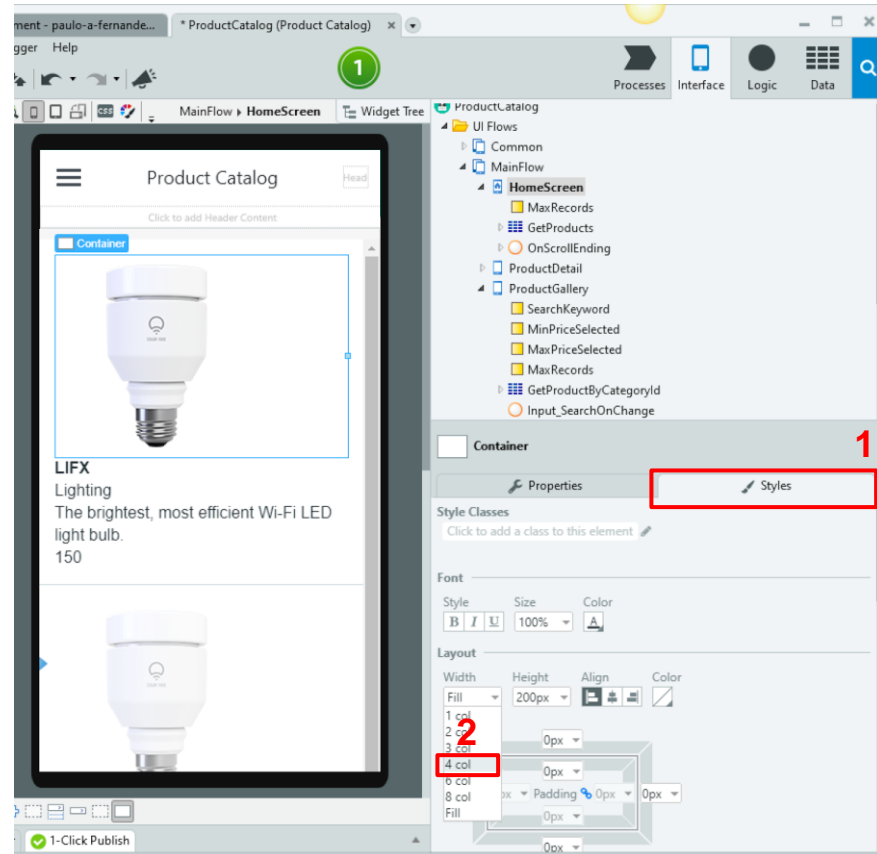
1. Right-click on the **image widget**
2. Click on **Enclose in Container**



Section 4 > B > 2. Format List Items

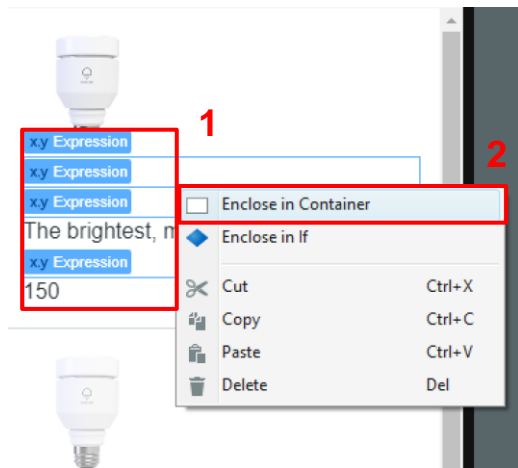
Set container width

1. With the container still selected, toggle to the Style Editor (🔍🔧)
2. Set the **width** to **4 col**



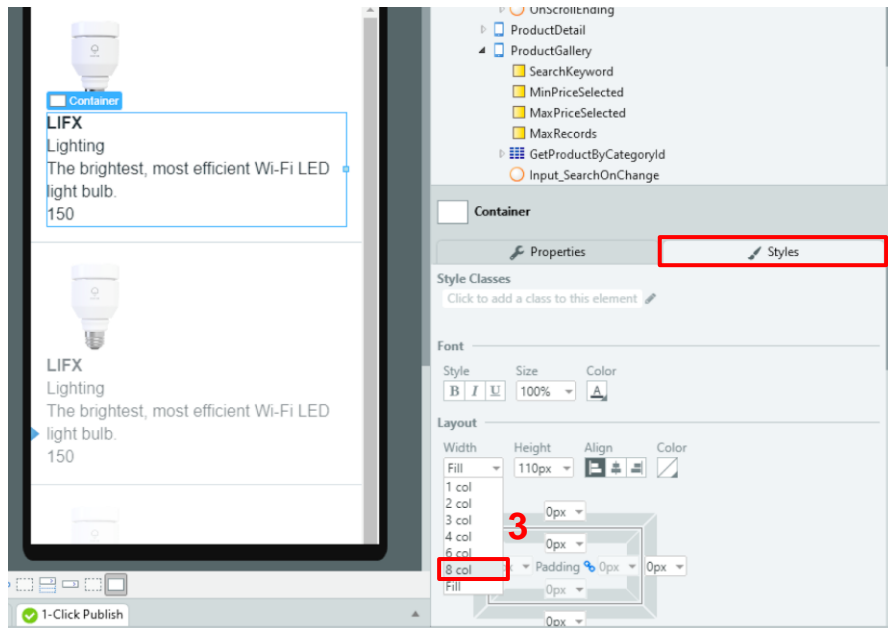
Section 4 > B > 3. Format List Items


Adapt text attributes look and feel



1. Select all the text attributes (**Shift + Click**)

2. Right click > **Enclose in Container**




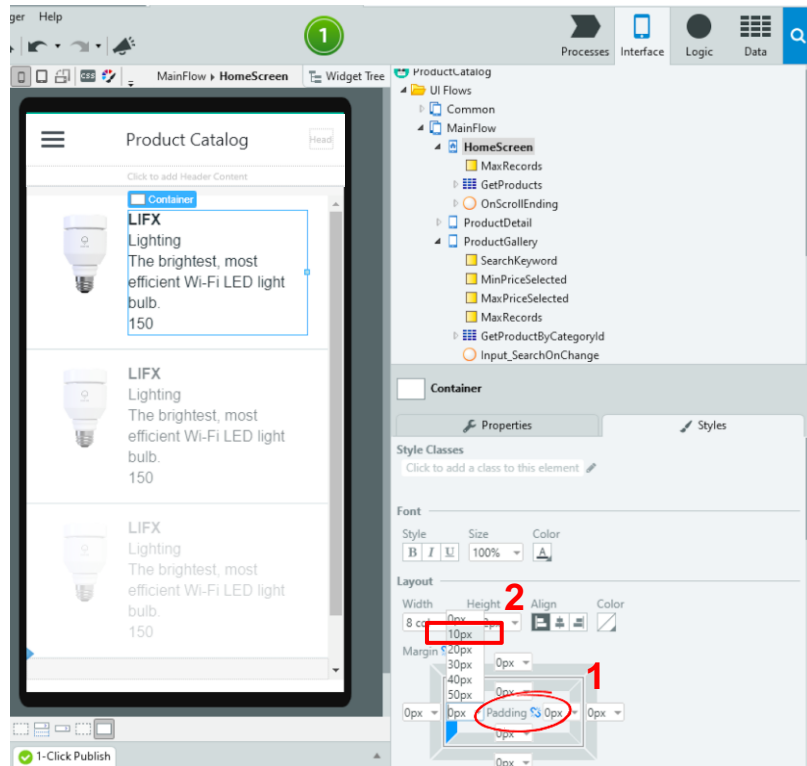
3. With the container still selected, toggle to the **Style Editor** () and set the **width** to **8 col**

Section 4 > B > 4. Format List Items

Add space between image and text

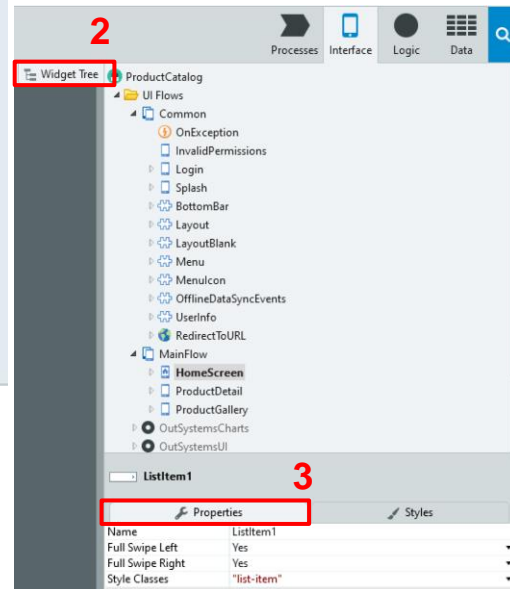
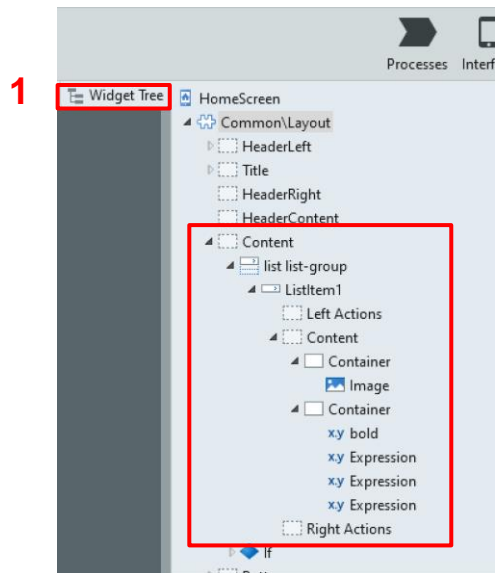
You now have 2 columns. But there's no space in between the image and the text.

1. With the same **container** still selected, click the **chain icon** () to unlock the padding lock.
2. Then change the style attributes to have a **Padding-left of 10px**.



Section 4 > B > 5. Review Widget Structure

1. Navigate to the image block in the **widget tree** and make sure your structure looks like the following (see above)
2. Click on the **widget tree** to go back to the Navigation pane.
3. Click on the **Properties** tab.



Now that we have a product listing screen, we want users to be able to “swipe” each item to view its detail screen.

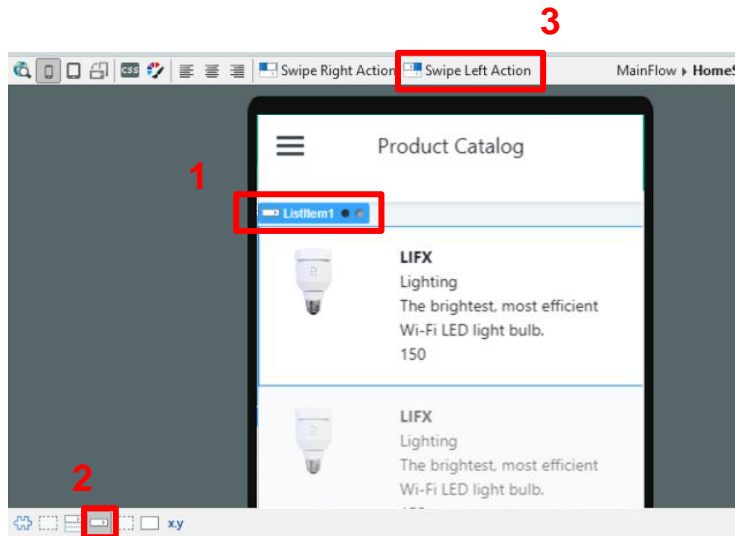
To do this, we will add a swipe action to each list item so that users can see the product details when swiping left.


Section 4

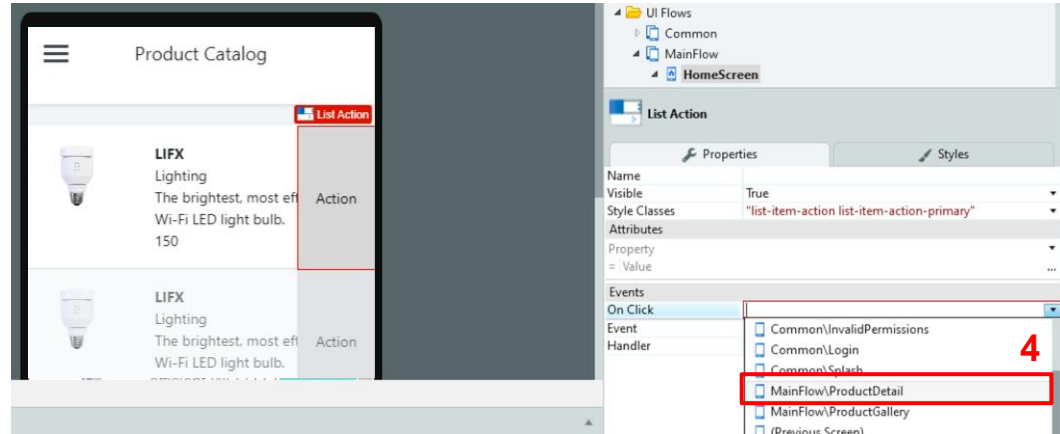
C

1. Add Swipe Left Action

Add swipe action to list item



1,2,3. Select the List Item (make sure the icon “” is selected), and then **Swipe Left Action**.



4. In the **On Click** event, select **MainFlow\ProductDetail** to link to our Detail Screen.

Add missing parameter

1. Add the missing input parameter **GetProducts....Product.Id.**

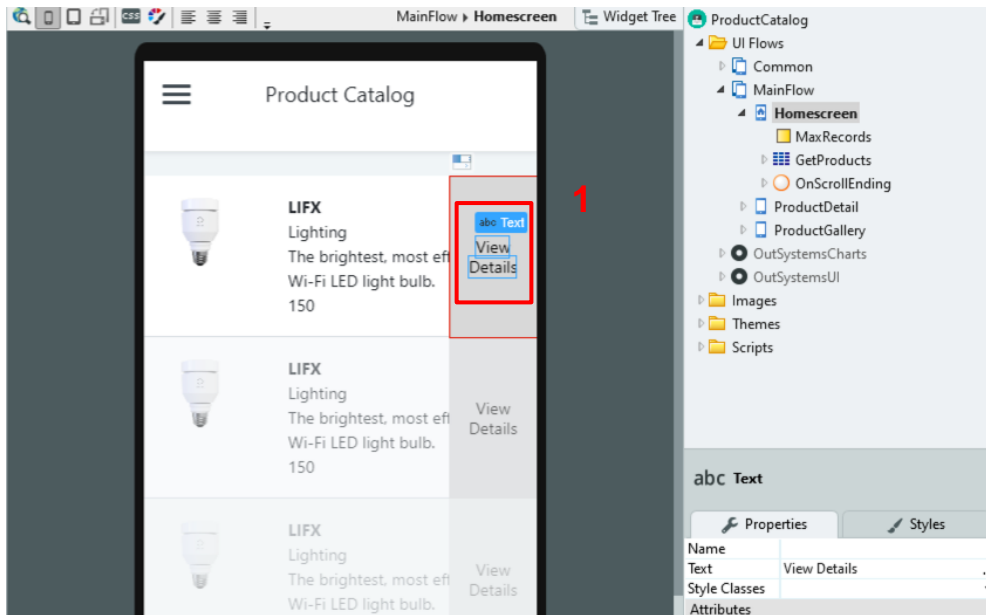
The screenshot displays the Axure RP editor interface. The central canvas shows a mobile app prototype titled "Product Catalog" with a list of items. Each item has a "List Action" button. The right-hand pane shows the "List Action" configuration for the selected item. The "On Click" event is set to "MainFlow/ProductDetail", and the "Productid" parameter is set to "xy (Expression Editor...)". The "Handler" is set to "GetProducts...Product.Id". A red box highlights the "Handler" field, and a red number "1" is placed to its right.

Property	Value
Name	
Visible	True
Style Classes	"list-item-action list-item-action-primary"
Attributes	
Property	= Value
Events	
On Click	MainFlow/ProductDetail
Productid	xy (Expression Editor...)
(New Argument)	xy (Expression Editor...)
Transition	Synchronous
Event	
Handler	GetProducts...Product.Id
	NullIdentifier

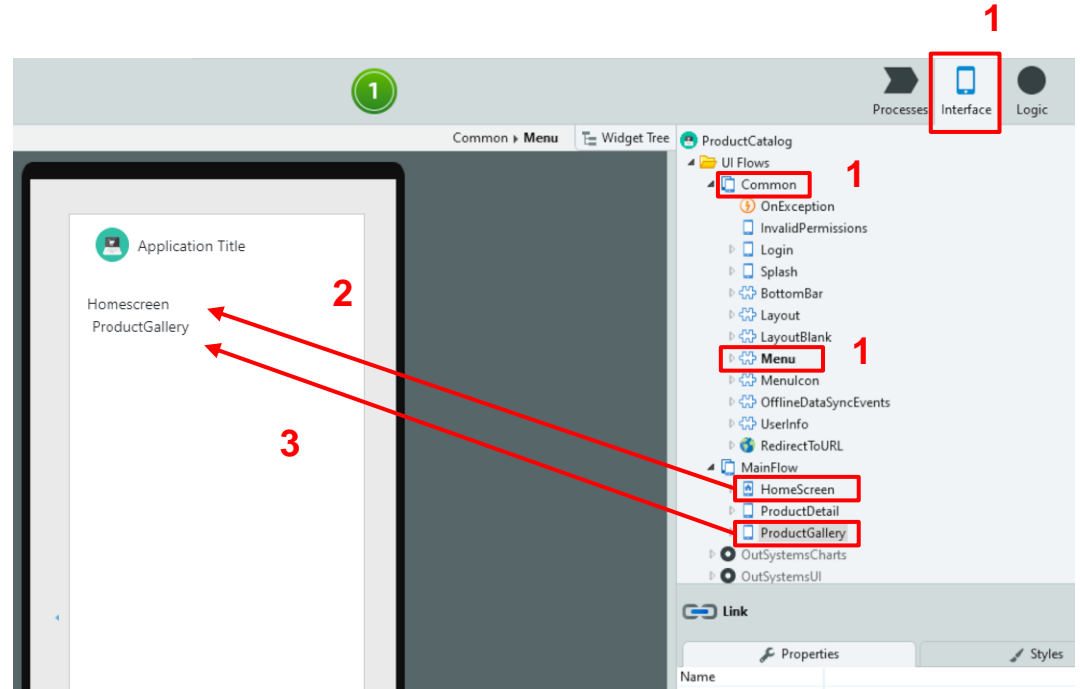
Section 4 > C > 3. Change Action Name

Add swipe action to list item

1. Change the action name from “Action” to “View Details”



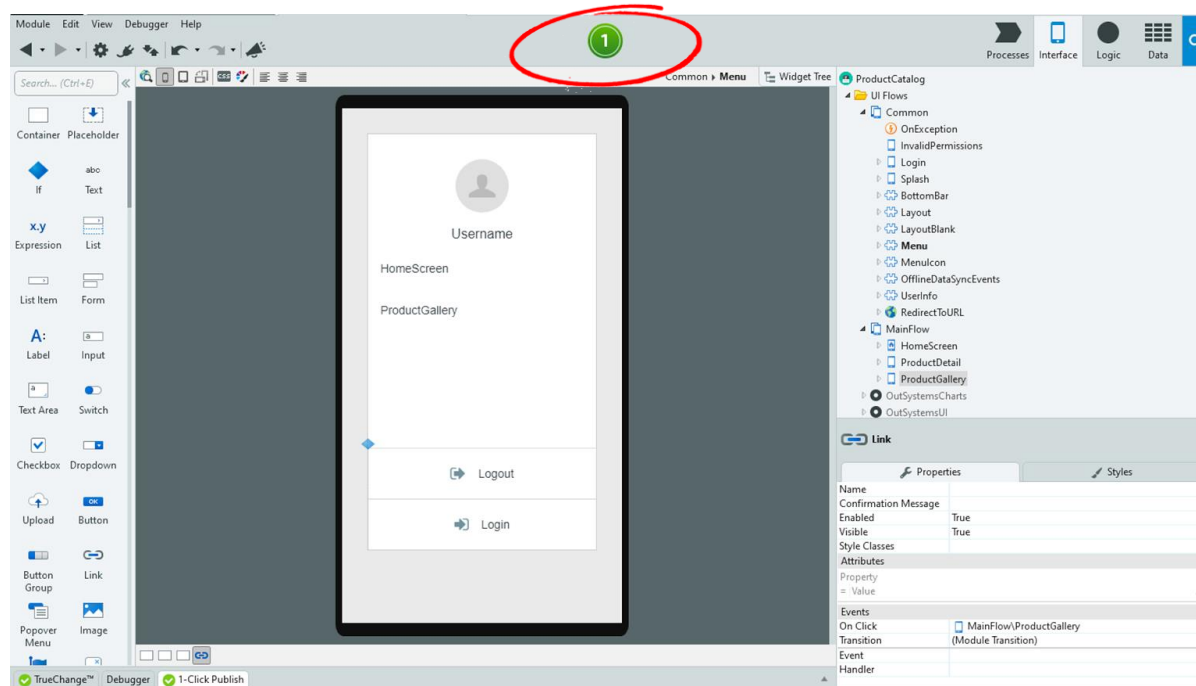
1. Go to the **Interface** tab, open the **Common** flow, and double click the **Menu** block
2. Drag the **HomeScreen** screen to the **Menu** block
3. Drag the **ProductGallery** screen to the **Menu** block



Section 4 > C > 5. 1-Click Publish

Deploy and Test it

1. At this point you can deploy your application by clicking the 1-click-publish button () and test it ().





Section 5

Mobile QR Code Scanner



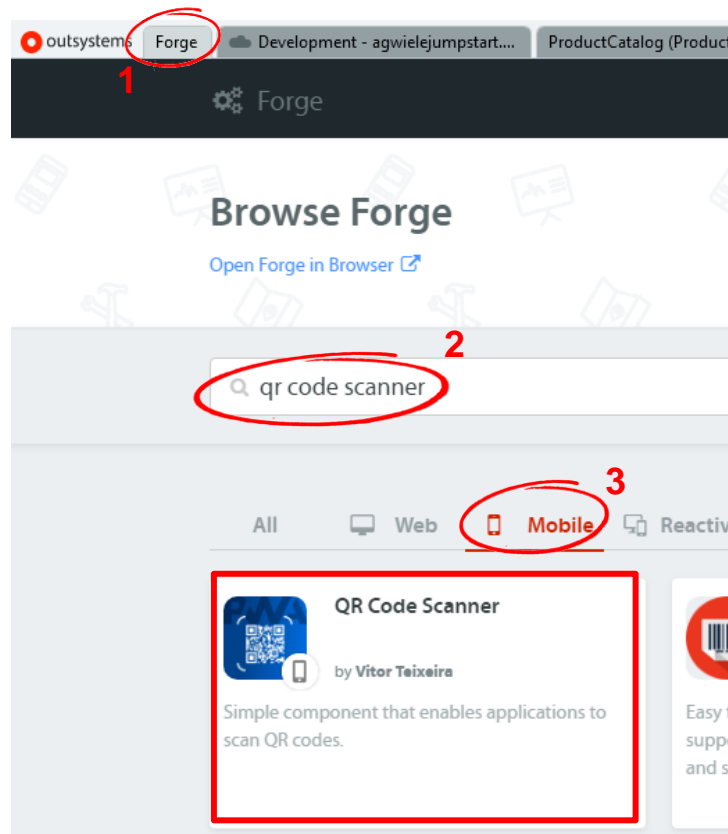
We now have a list of products. But how can we filter the products based on a QR Code, using the mobile camera?

The first thing we need to do is to install the [QR Code Scanner](#) plugin on our environment.

Section 5 > A > 1. Install a Forge Component

QR Code Scanner Plugin

1. In Service Studio, navigate to the Forge tab and make sure you are logged in (or navigate to <https://www.outsystems.com/forge/>).
2. Search for the application “QR Code Scanner” (Don’t forget to click Search Button.)
3. Filter Mobile Component
4. Click “QR Code Scanner” Plugin



Section 5 > A > 2. Install a Forge Component

QR Code Scanner Plugin

1. Click Install to install the component.
2. It will search for dependencies. Click Install again.
3. The application will install, together with any associated dependencies. Wait for your installation to complete.
4. You just installed your new Forge component!

Version 1.0.1 was automatically selected as the latest stable for your environment running OutSystems 11

< Go to list

QR Code Scanner

Stable version 1.0.1 (OutSystems 11)
★★★★★ 0.0 (0 ratings)
Published on 13 Apr (21 hours ago) by Vitor Teixeira

< Back

QR Code Scanner

Stable version 1.0.1 (OutSystems 11)
★★★★★ 0.0 (0 ratings)
Published on 13 Apr (21 hours ago) by Vitor Teixeira · See what's new

0 Mobile 0 reviews 4 2



Later you will learn how you can use this component in your apps by adding it as a dependency.

Application is ready to be installed

Development
tiagotorre-demo-dev.outsystemscloud...

Recent modules

- ProductCatalog
Product Catalog
- MvLuminstartStore

Search Applications...

QR Code Scanner

New Application

Install Application

Now that we have the QR Code Scanner plugin installed in our environment lets include it in our mobile application by adding a new dependency.

Remember dependencies are similar to “References” in .Net & Java enabling you to reuse Forge components, or pre-created templates, plugins, objects, methods, etc from existing applications.

Section 5 > B > 1. Add Forge Dependencies

Add QR Code Scanner Plugin

Let's use the Forge Component installed in the previous steps.

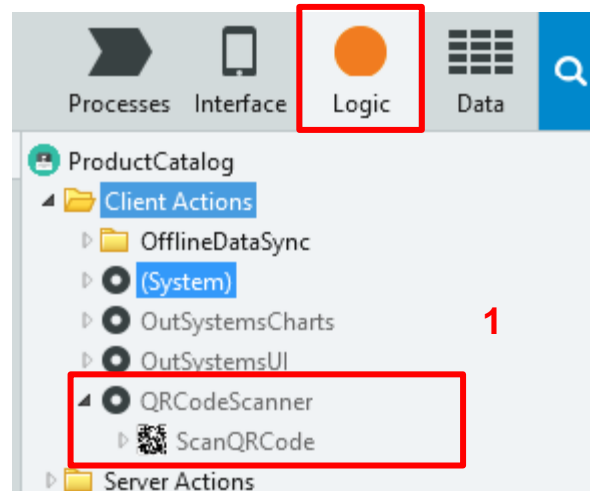
1. Click the **Manage Dependencies** icon
2. Under Producers, search for the **QRCodeScanner**.
3. Select the **QRCodeScanner**.
4. In the elements, select:
- **ScanQRCode**
5. Click the **“Apply”** button

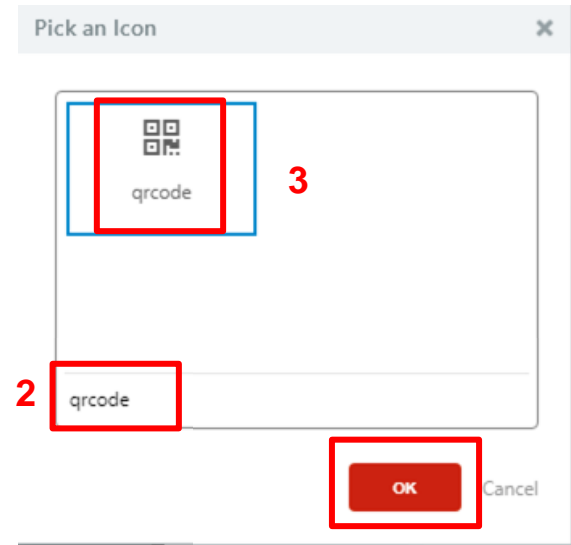
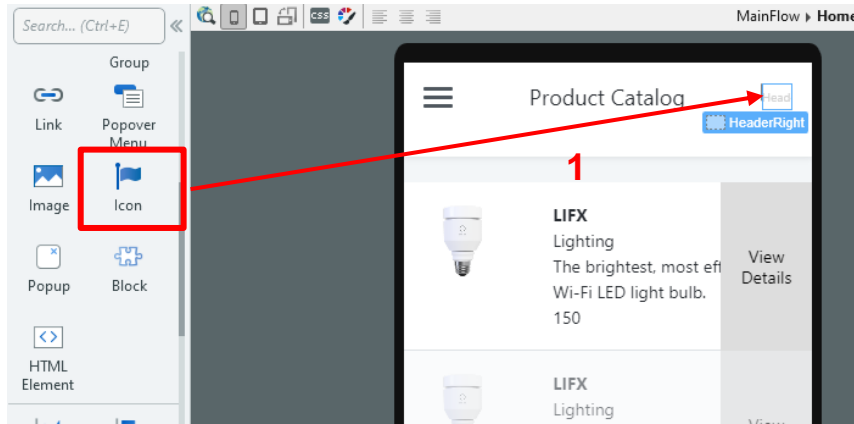
The screenshot shows the OutSystems IDE interface. A red circle labeled '1' highlights the 'Manage Dependencies' icon in the top toolbar. The 'Manage Dependencies' dialog is open, showing a search for 'qrcode' in the 'Producers' section, with 'QRCodeScanner' selected. In the 'Public elements' section, 'ScanQRCode' is selected under the 'Client Actions' category. A red box labeled '4' highlights the 'ScanQRCode' element. At the bottom right, the 'APPLY' button is highlighted with a red box labeled '5'. The background shows a 'ProductCatalog' widget with a 'HomeScreen' component.

Section 5 > B > 2. Add Forge Dependencies

Review Dependencies Added

1. After adding the references, you should now see the **ScanQRCode** actions in the logic tab of your project, under **Client Actions > QRCodeScanner**



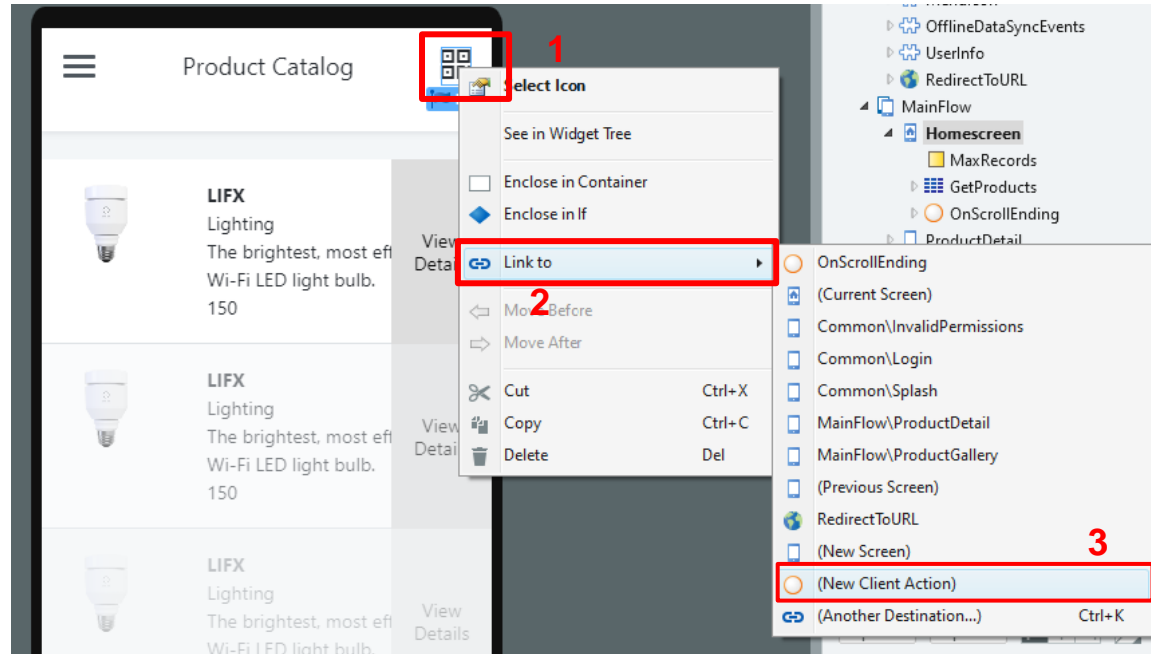


Let's create a button to trigger the QR Code.

1. On the **Interface** tab open the **HomeScreen** screen and drag and drop an **Icon** widget into the **HeaderRight** area.
2. When prompted for the Icon type, search for **qrcode**
3. Select the **qrcode** icon and click **OK**.

New Client Action

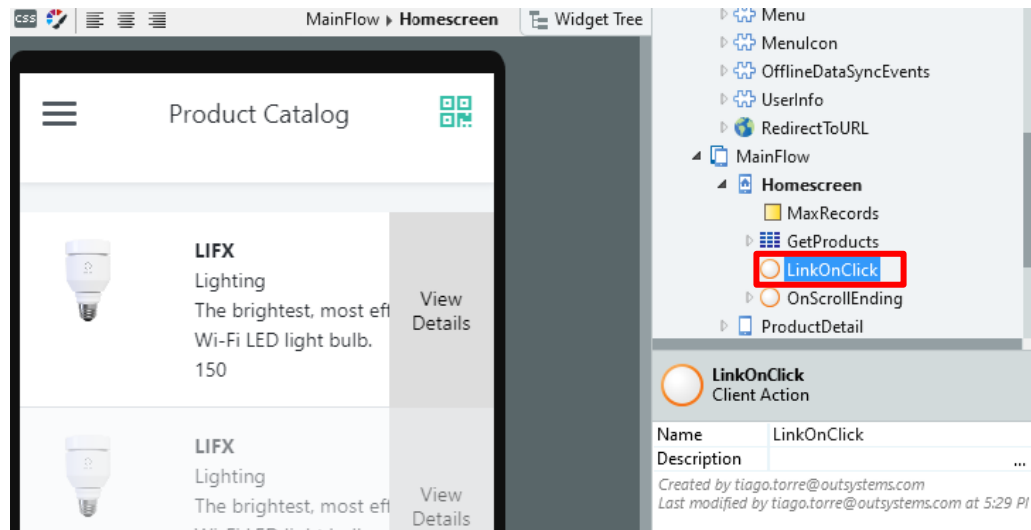
1. **Right click** the new QR code icon
2. Click on **Link to**
3. Click on **New Client Action**)



Section 5 > B > 5. Open Client Action

New Client Action

1. Notice that the “**LinkOnClick**” client action has been created. This action will be triggered when clicking the icon.
2. Double-click the “**LinkOnClick**” client action

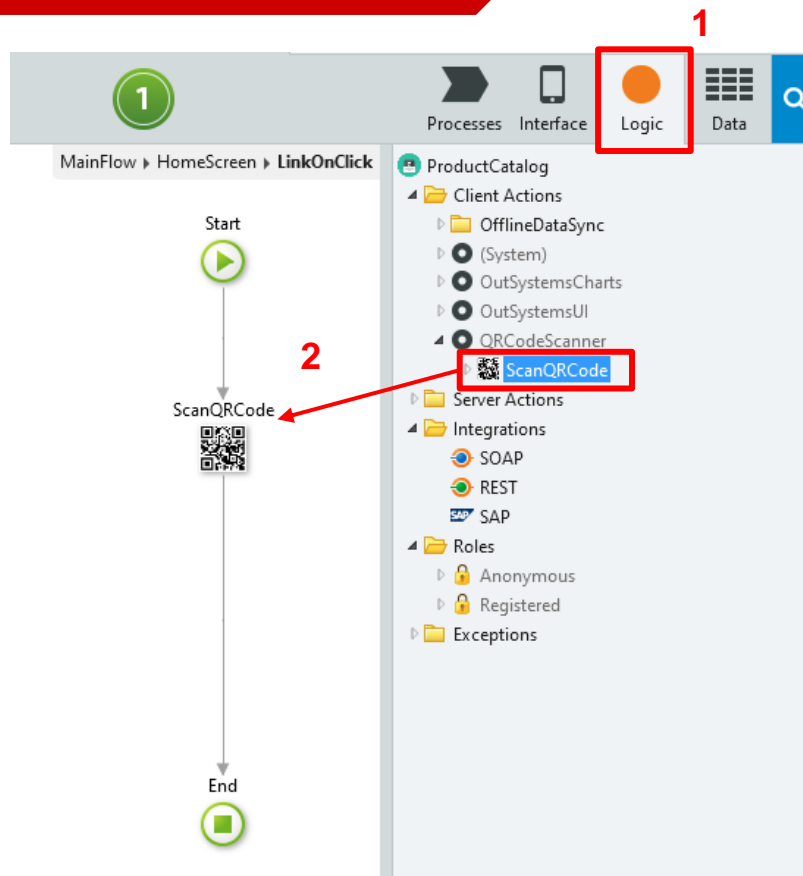


ScanQRCode Action

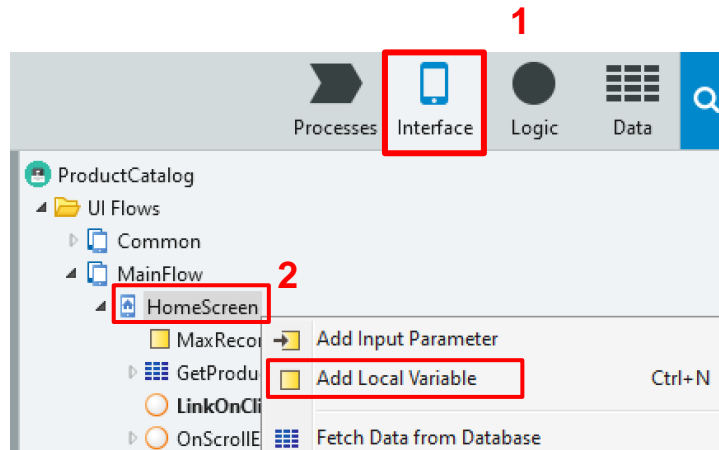
Look for the **ScanQRCode** action that you have added as a dependency earlier.

1. This is found under **Logic > Client Actions > QRCodeScanner Plugin > ScanQRCode**.
2. **Drag and drop** this into your **Action Flow**.

This action will trigger the user's mobile device camera to scan a QR code.



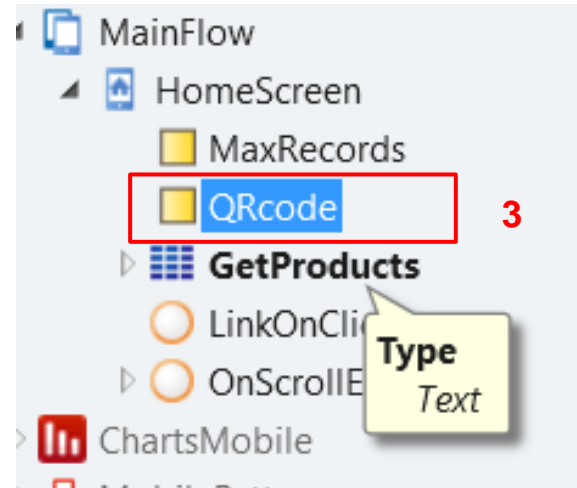
QRCode Variable



We need to store the QR code scan results into a variable, so that we could use the variable to filter the list results.

1. To add local variables, Click on the **Interface tab**
2. right click the **HomeScreen** screen > **Add Local Variable**

Jump Start Training



3. Name the variable as **QRcode**. Make sure its Data Type is **Text**.

We need to assign the scan results into the new **QRcode** variable.

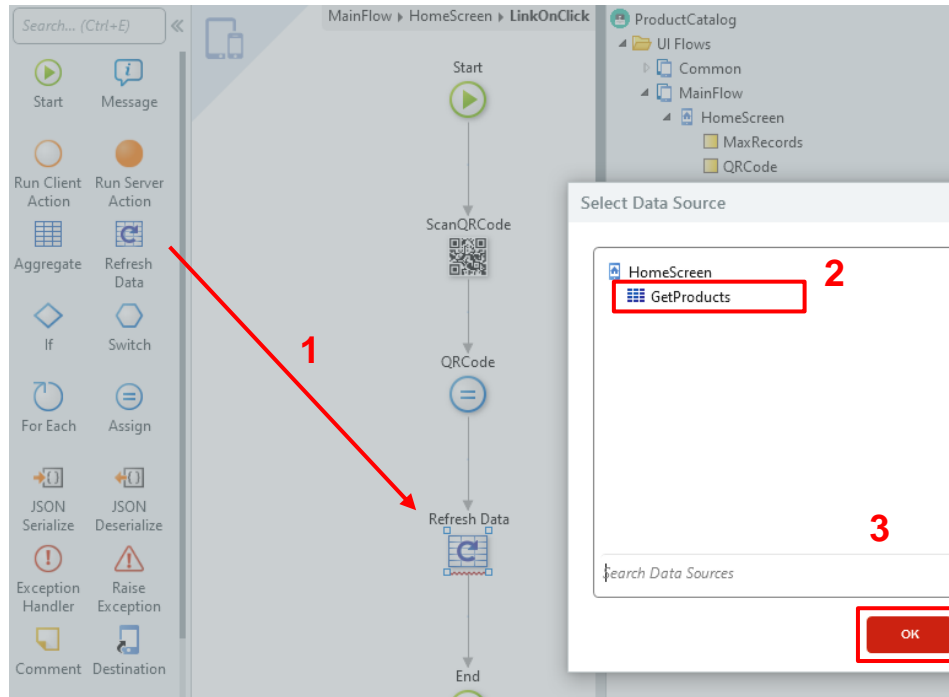
1. To do this, drag and drop the **QRcode** variable into the action flow
2. Set the Assignment to **QRcode = ScanQRCode.ScanResult**

The screenshot displays the PowerApps Studio interface. On the left, a flow diagram shows the sequence: Start -> ScanQRCode -> QRcode (assignment) -> End. A red arrow points from the 'QRcode' variable in the flow to the 'QRcode Assign' configuration pane on the right. In this pane, the 'Label' is set to 'QRcode'. The 'Assignments' section shows a dropdown menu for 'QRcode' with 'Value' selected. A red box highlights the dropdown, and another red box highlights the 'ScanQRCode.ScanResult' option in the suggestions list. A red arrow also points from the 'ScanQRCode' action in the flow to the 'ScanQRCode.ScanResult' suggestion. The right-hand pane also shows a tree view of the app structure with 'QRcode' highlighted under 'HomeScreen'.

Refresh Products List

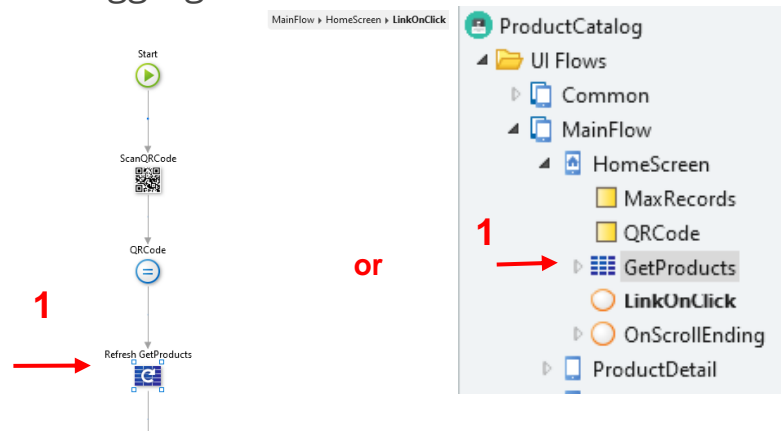
After scanning the QR Code, we need to refresh the Products list in the screen to reflect our filter (we will do the list filters later).

1. Use the **Refresh Data** widget.
2. When prompted for the data source to be refreshed, select **GetProducts**.
3. Press **OK**



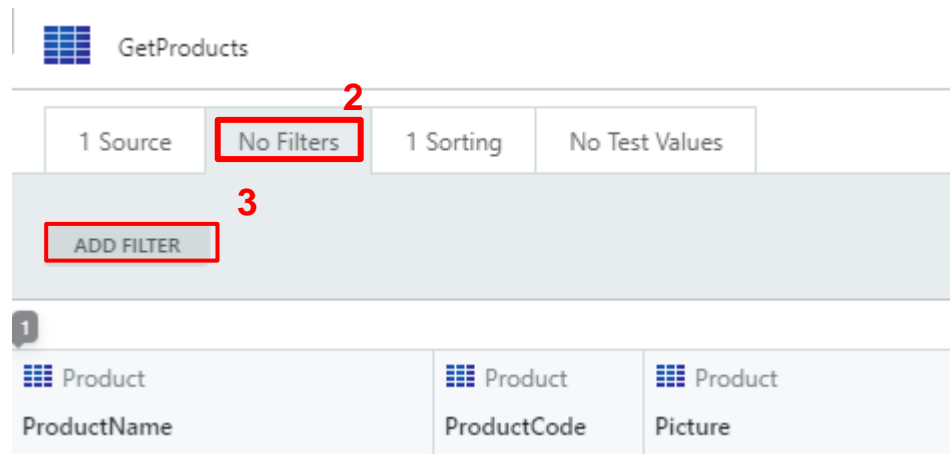
Section 5 > B > 10. Reconfigure Data Query

Add Aggregate Filter



We need to re-configure our query to ensure that the list is filtered based on the QRcode value.

1. Open aggregate editor by double clicking the **GetProducts** aggregate.



2. Click **No Filters**, and **Add filter**



The GetProducts aggregate is the query that the HomeScreen's List gets its values from

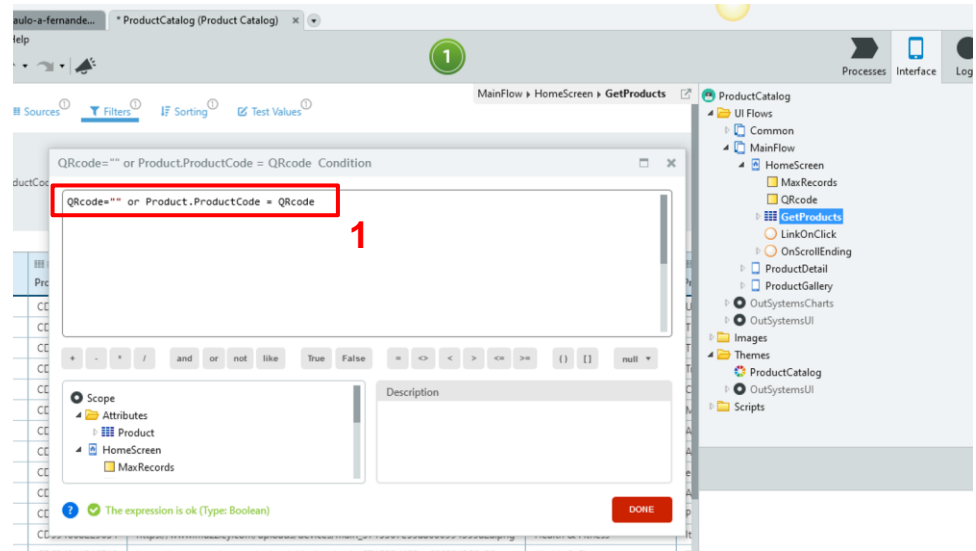
Add Query

1. Enter the following query:

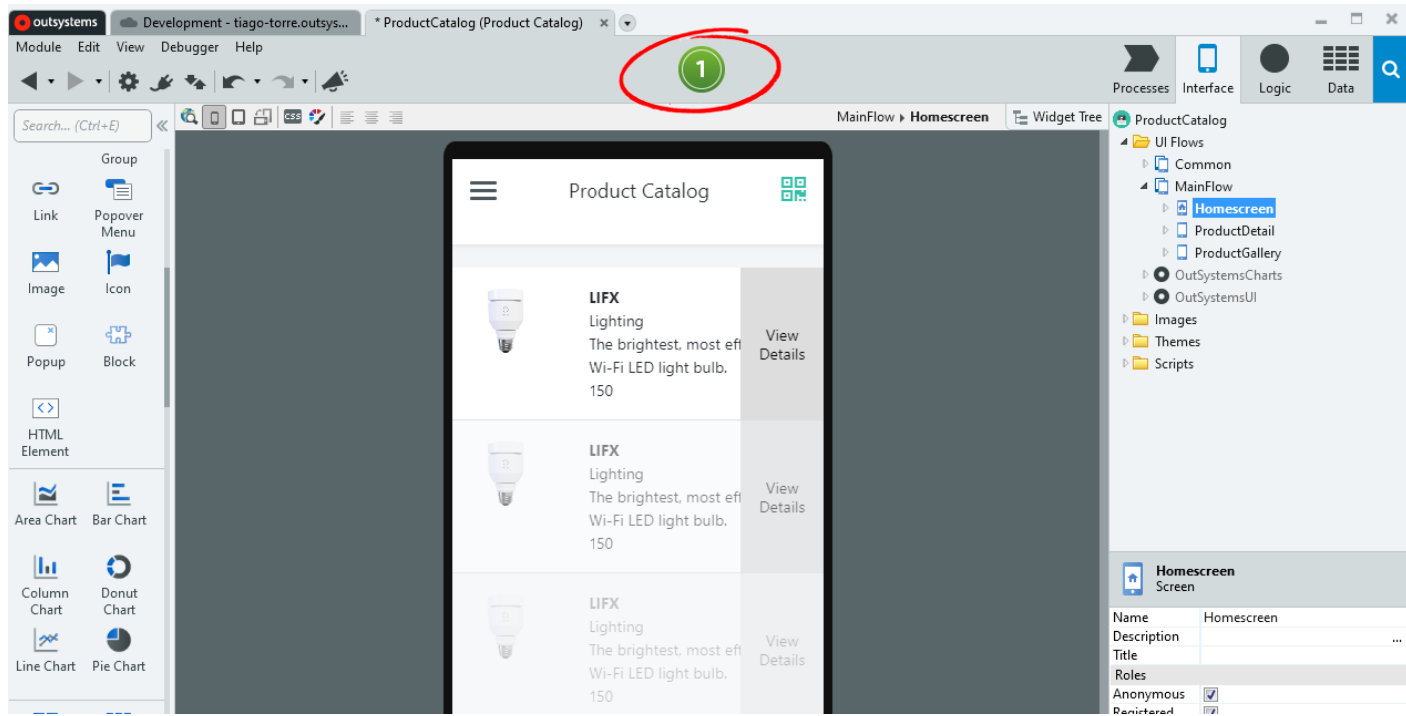
```
QRcode="" or Product.ProductCode = QRcode
```

Explanation of the query:

- `QRcode=""`
This query will ensure that the list will not filter the query if there is no value in the **QRcode**.
- `or Product.ProductCode = QRcode`
Otherwise if the **QRcode** is not empty, we will filter based on the **Product Code**.



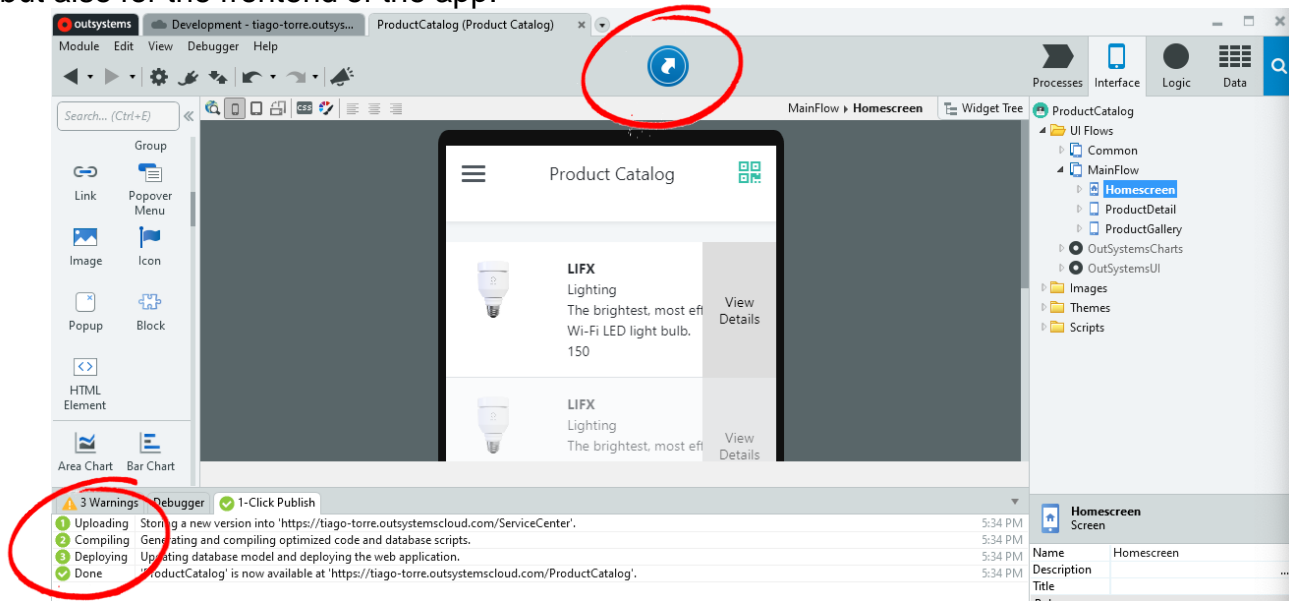
Publish Application



The screenshot shows the Telerik Studio IDE interface. The top menu bar includes 'Module', 'Edit', 'View', 'Debugger', and 'Help'. The toolbar contains various icons for navigation and development. A red circle highlights the 'Publish' button, which is a green circle with a white '1' inside. The main workspace displays a mobile application preview titled 'Product Catalog' with three product listings for 'LIFX Lighting'. The right-hand side shows the 'Widget Tree' and 'Properties' panels. The 'Properties' panel for the 'Homescreen Screen' shows fields for Name, Description, Title, Roles, Anonymous, and Registered.

Test Mobile Application

1. While deploying the system will **generate standard code (.NET , HTML5, CSS3, React, JS, SQL,...)**, not only for the backend but also for the frontend of the app.





Test QR Codes

Start scanning the product QR Codes




Test your Mobile App

QR codes

Inside your app, tap the QR Code icon to scan the QR codes in the following slides.

Amazon Echo



 iOS device?

Below iOS 13.4, due to a bug in iOS, the scanning of barcodes will work best directly in Safari (as opposed to standalone PWA mode)

[More info](#)

Philips Hue



FitBit Blaze



iHealth Blood Pressure Monitor





Congratulations

You have successfully built a mobile app!



Jumpstart training

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