



TRAINING SESSION 6:

Taking your GIS to the next level with web apps

User Guide

October 2023

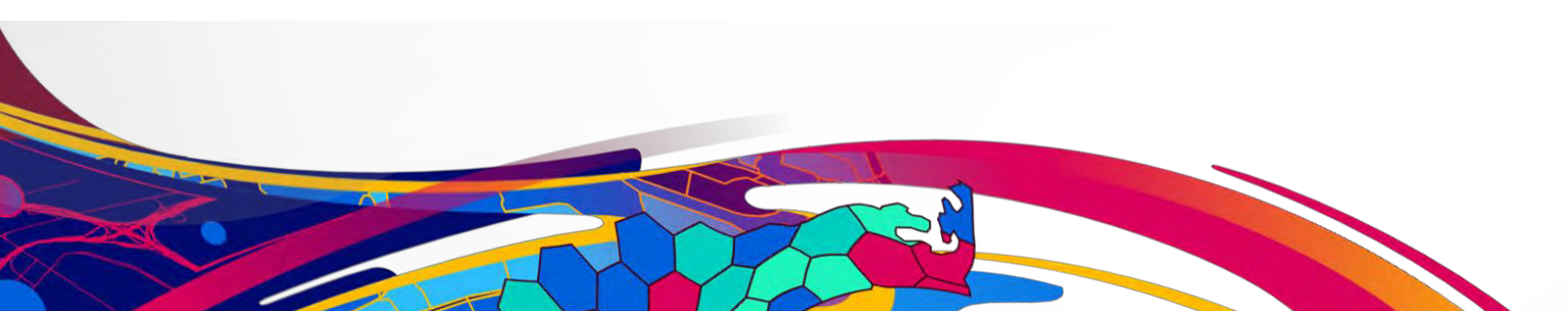




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TAKING YOUR GIS TO THE NEXT LEVEL WITH WEB APPS

1 Introduction

1.1 ArcGIS Experience Builder

Transform data into compelling web experiences.

- ArcGIS Experience Builder empowers anyone to create highly engaging web apps and web pages without writing a single line of code.
- Perform drag-and-drop operations to choose the tools you need from a rich set of widgets. Learn how to design your own templates, and interact with 2D and 3D content, all within one app.

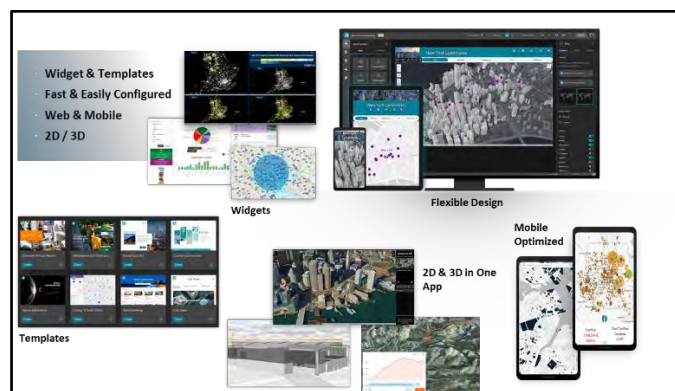


Figure 1: ArcGIS Experience Builder

1.2 ArcGIS Instant Apps

Templates That Transform Web Maps into Apps

- Instant Apps includes a home page with template selection guidance as well as two configuration experiences – express and all settings.
- The configuration experience provides speed and ease as well as deep capabilities when needed. Using the express setup, you can choose and configure an app within 5 minutes.

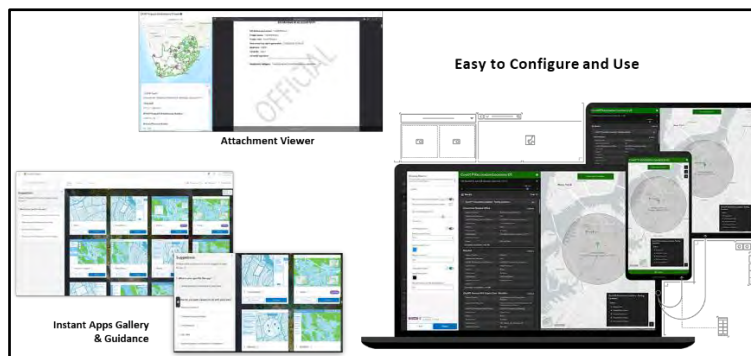


Figure 2: ArcGIS Instant Apps

2 Objectives

After completing this training session, you will be able to perform the following tasks:

- Overview of Experience Builder and Instants apps.
- Navigation of Experience Builder and Instants app Interface.
- Instant Apps vs Experience Builder.
- Author and create:
 - ArcGIS Experience Builder.
 - ArcGIS Instants App.
- Use ArcGIS Experience Builder.
- Use ArcGIS Instants App.
- Present ArcGIS Experience Builder and ArcGIS Instants App.

3 Training Services Account Credentials

Use the login credentials given by the instructor.

Record the information below:

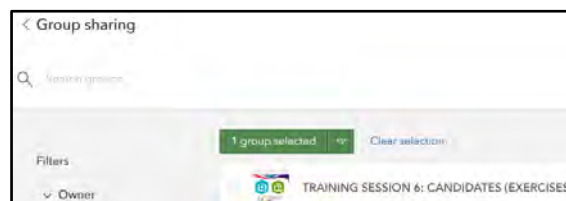
Username:

Password:

Log in on ArcGIS Portal

- Portal Link: <https://ucws.esri-southafrica.com/portal>
- Create a Folder on your contents and name it “TRAINING SESSION 6”

Note: ensure that you share your application to the “TRAINING SESSION 6: CANDIDATES (EXERCISES)”



4 Section 01: ArcGIS Experience Builder

4.1 Overview of Experience Builder

Training Notes:

- No code = configuration
- The training session objective is to showcase how we can build without code.

4.2 Lecture on Building Blocks

Training Notes:

- Core components of Experience Builder:
 - Templates
 - Widgets
 - Data Sources/Views
 - Responsive Design Ability
 - Data Interaction

5 Section 02: Exercise: ArcGIS Experience Builder

5.1 Navigation of Experience Builder Interface

Exercise 1

 (15 minutes)

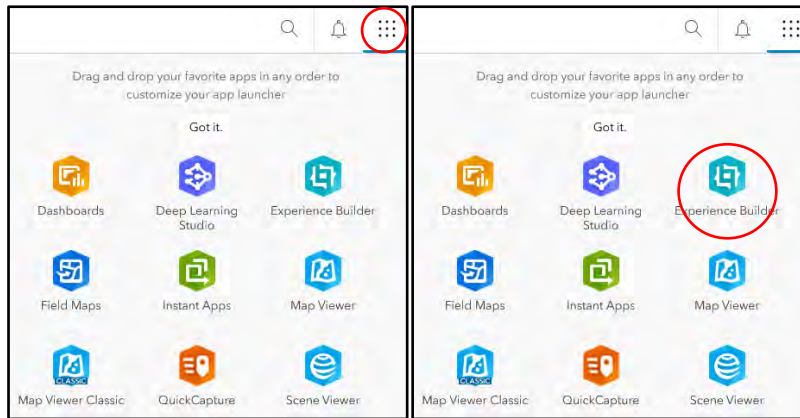
In this exercise, you will perform the following tasks.

- Open an existing Experience Builder App by selecting a pre-configured app:
- Users will view configurations for:
 - Widgets
 - Templates
 - Pages
 - Styles
 - Actions

Experience Builder Application Link: <https://ucws.esri-southafrica.com/portal/apps/experiencebuilder/experience/?id=113d6055856144fe8933f00ba9671082&draft=true>

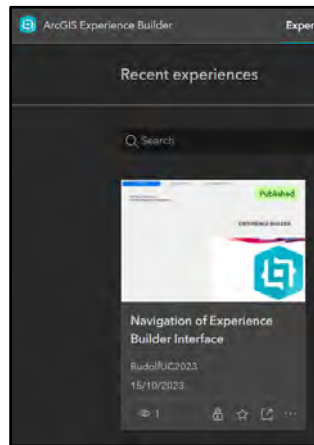
5.1.1 Open Experience Builder

- Ensure you logged in on portal with given credentials.
- Click the app launcher.
The app launcher will open and see an array of applications.
- Click the Experience Builder.

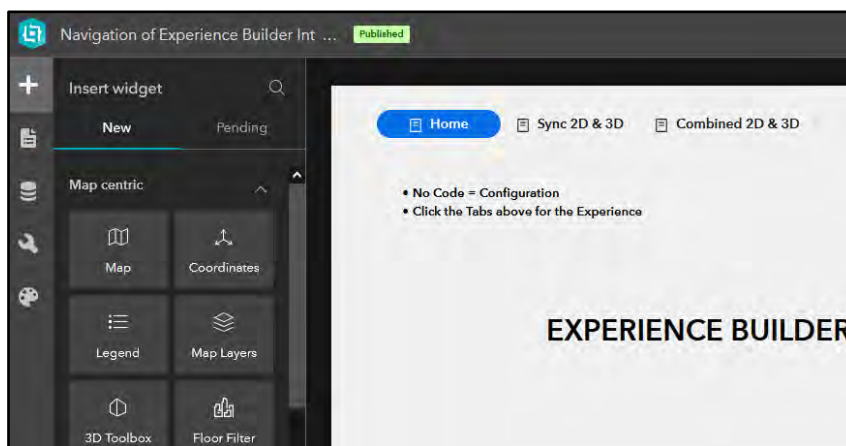


5.1.2 Edit Existing Experience Builder

- Open the “Navigation of Experience Builder Interface” pre-configured app.
- Ensure it opens in edit mode.

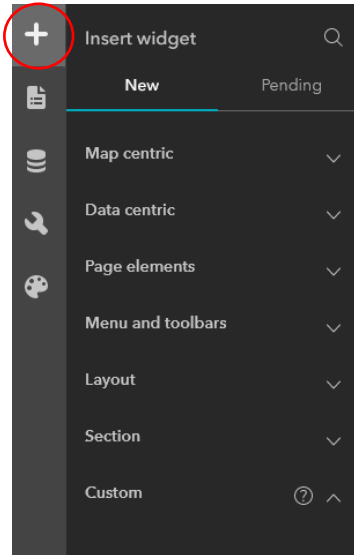


- The pre-configured app opens.



5.1.3 Widgets

- Select the insert widget button to explore widgets in the preconfigured app.



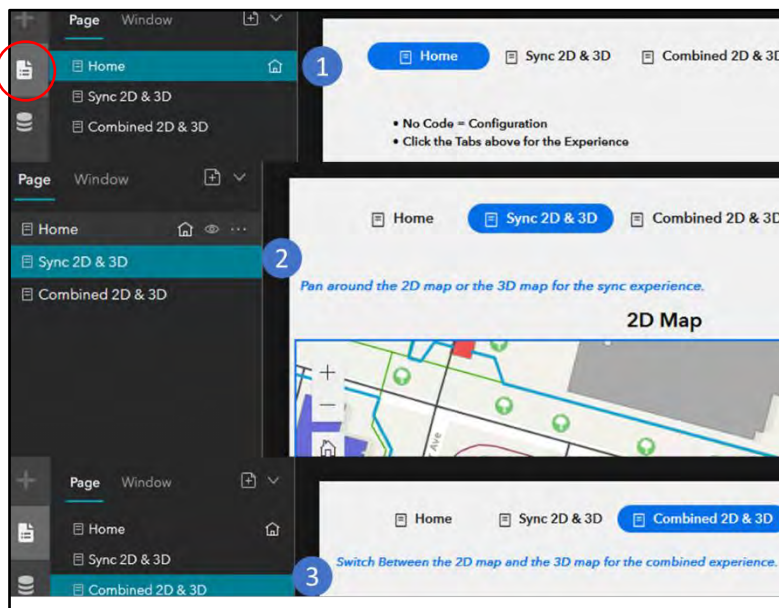
5.1.4 Pages & Views

- Pages

- Select the pages button.

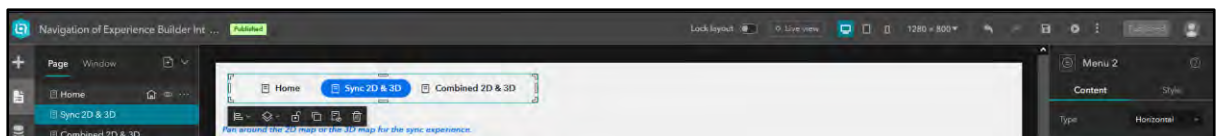
The pages are arranged in a tabbed menu method.

- 1: page one (Home)
- 2: page two (Sync 2D & 3D)
- 3: page three (Combined 2D & 3D)



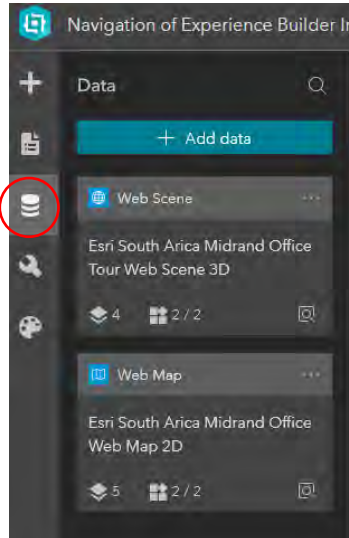
- Menu/views

- Click the menu at the top to further edit.
- View the menu pane on the right and explore the content tab and style to check the configured settings.

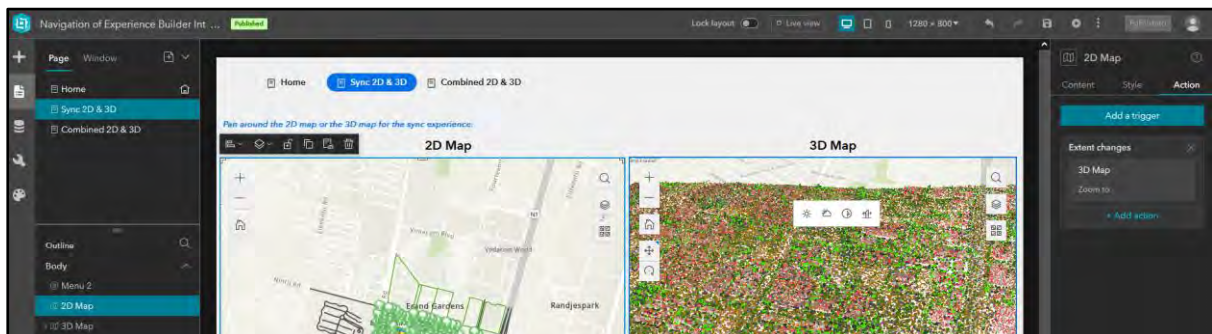


5.1.5 Data sources & Actions

- Click the data source button.
You can add new data sources or use the existing data.
- View the existing data sources.
There is a web map and a web scene as data sources.

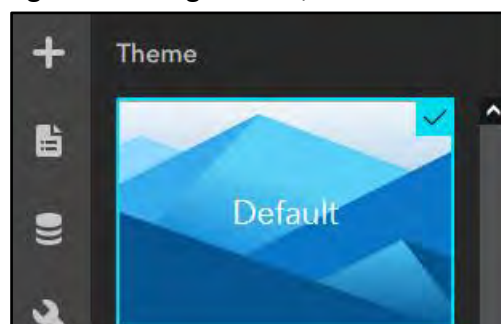


- Map widgets using data sources.
- Select page two (Sync 2D & 3D)
In alignment with the data sources, the two maps below use the data sources information to show the visual 2D map and a 3D map.



5.1.6 Styles

- Click the theme button.
You can change the overall theme of your experience builder app or use the style tab found in most of widgets to change colors, fonts e.t.c.



5.2 Users will build new Experience Builder Application

Exercise 2

 (60 minutes)

In this exercise, you will perform the following tasks.

- Basic application with data/maps already pre-published.
- Start a new build:
 - Select blank template
 - Add map
 - Add widgets
 - Configure interactions
 - Style
 - 2D and 3D
 - Page navigation
 - Linking of views

Note one: Remember to save your edits and changes to your experience builder.

Note two: The name of your application must be followed by your initials, lastly upon completing save it to the relevant group.

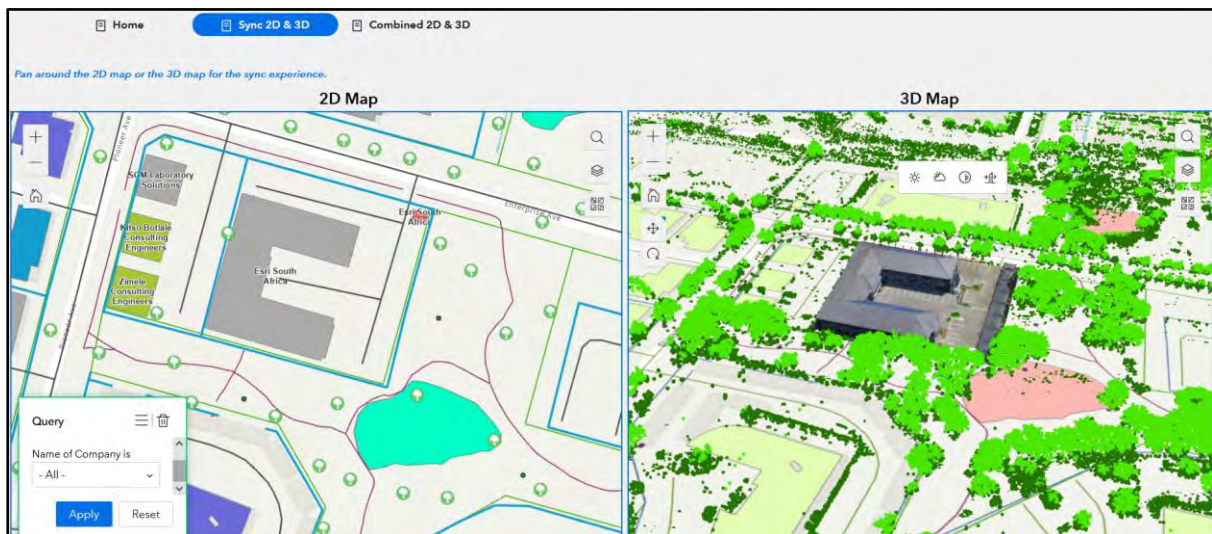
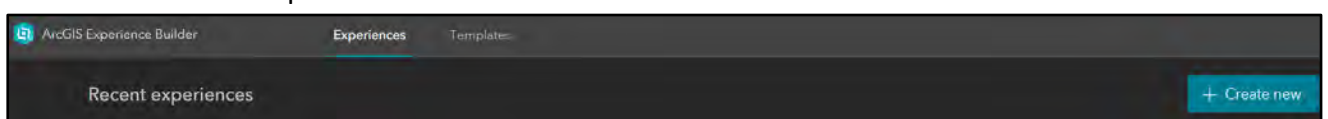


Figure 3: Completed Experience Builder Application Example

5.2.1 Open & Create Experience Builder

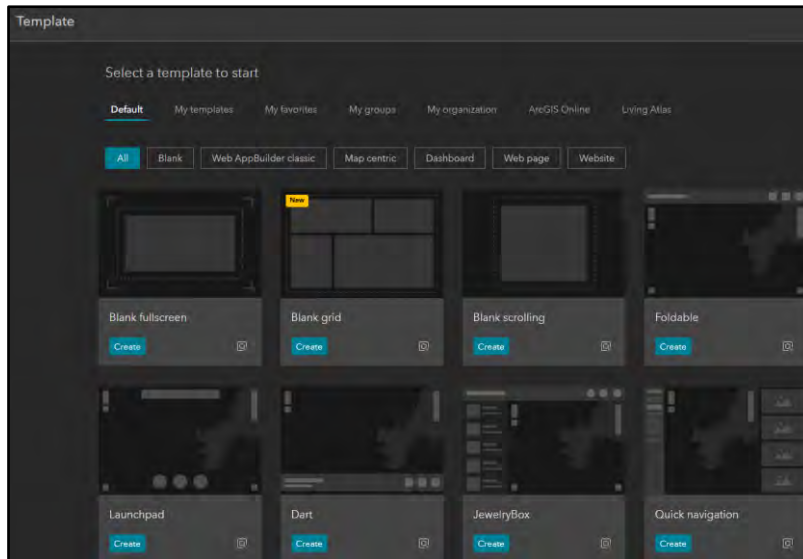
Go to the open launcher as done in the previous exercise, and open experience builder.

- Create new Experience Builder

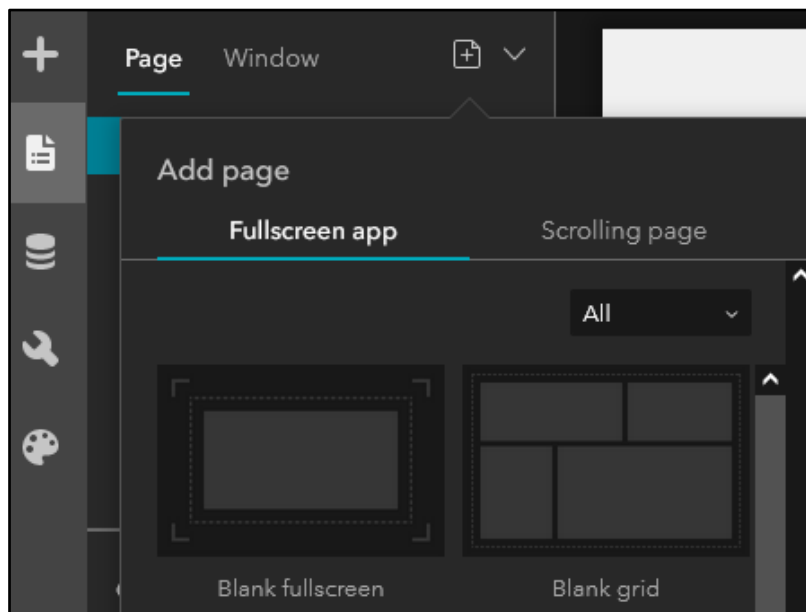


5.2.2 Select blank template

- Select the “Blank fullscreen” and click the create button.



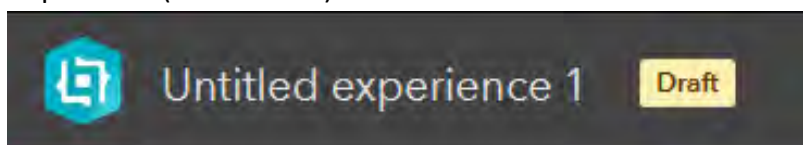
- A page gets added automatically for you.
- You can rename it to your liking or Add a page (See screenshot below).



5.2.3 Name the application

- Give title of the application

Name: 2D &3D Experience (Your initials)



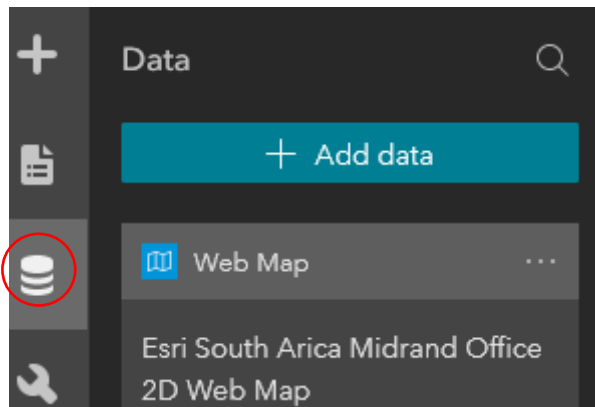
5.2.4 Add data and selected map

You will add the following preconfigured maps to the experience builder.

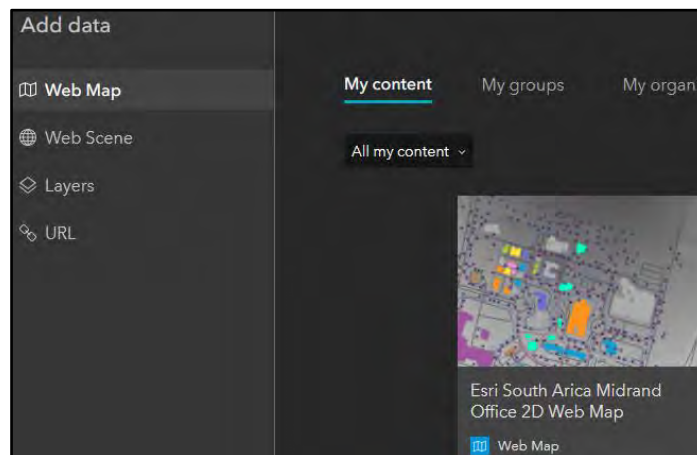
1. Esri South Arica Midrand Office 2D Web Map
2. Esri South Arica Midrand Office Tour 3D Web Scene

- Add data

- Ensure that the data tab is selected.
- Click the add data button.

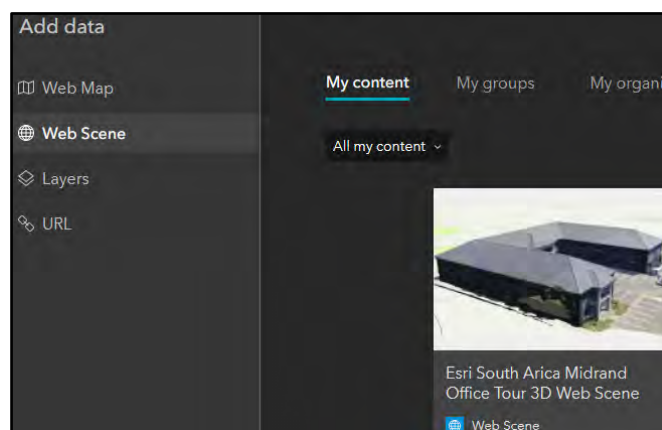


- Add a 2D Map
 - Under add data the default selection is the web map icon.
 - Select the “Esri South Arica Midrand Office 2D Web Map” and click done.



- Add a 3D Map
 - Under add data select the Web Scene icon.
 - Select the “Esri South Arica Midrand Office Tour 3D Web Scene” and click done.

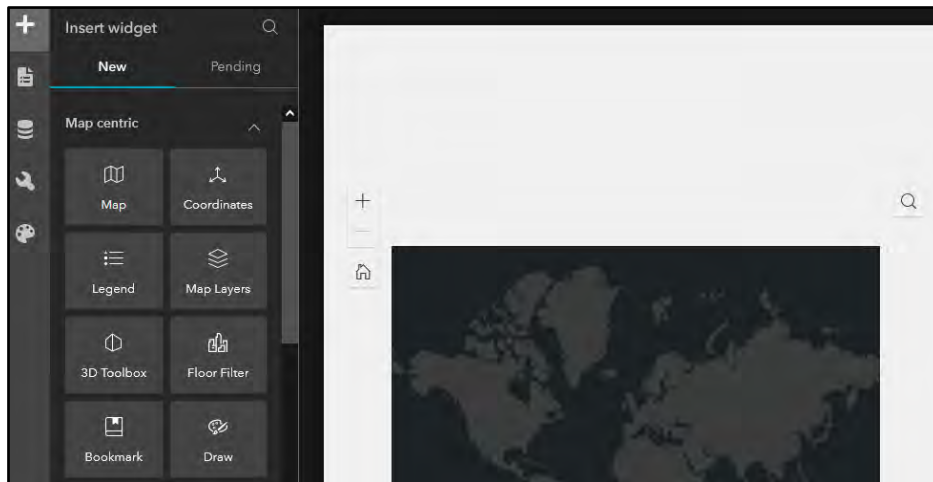
You have now added two data sources to your map, that you will use to continue with the rest of the exercise.



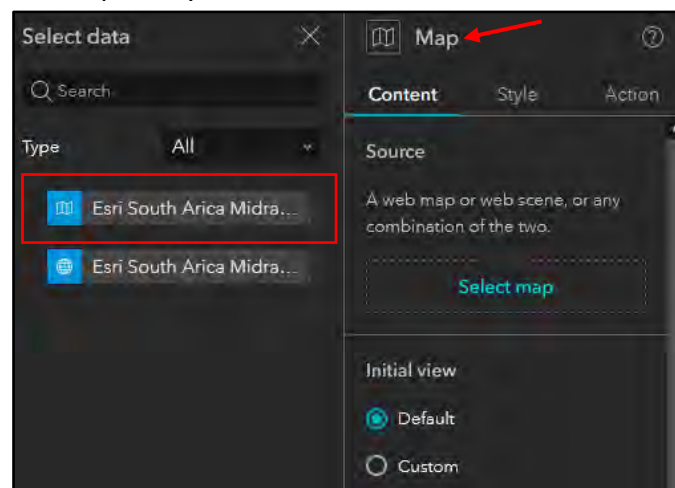
5.2.5 Add widgets

- Ensure add widget is selected.
- Drag and drop the map widget under the map centric widget on the blank canvas.
- Resize and move it around, align it to the left side of the canvas.

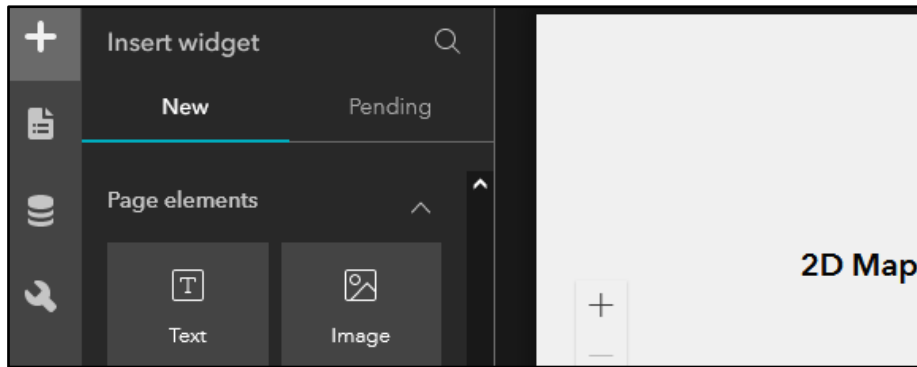
The map widget has been added to the canvas and linked to no data sources yet.



- Select a map 2D
 - Ensure the map widget you added to the canvas is selected.
 - Click the select map button.
 - Choose the web map data source.
 - On the right configure pane rename the map to 2D Map.
- The web map that you have selected is in 2D.



- Text Widget (Page elements)
 - Under page elements widgets, drag and drop the text widget.
 - Double click to edit or add text.
 - Insert your text “2D Map”, you can change the font, colors and size.

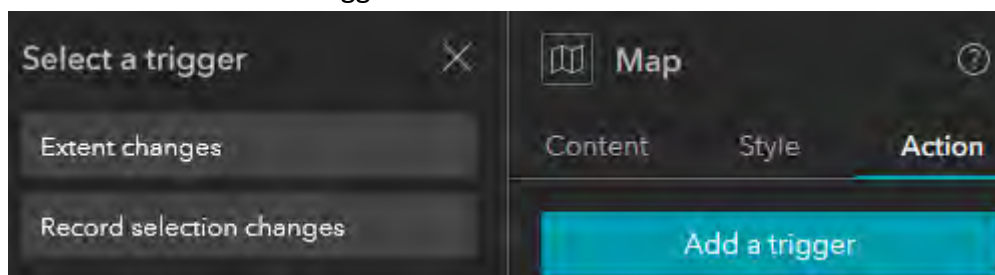


- Add the second map widget
 - Follow the same steps above and add a second map on the same page and canvas.
 - Ensure the map widget is aligned to the right.
 - Select the web scene data source.
 - Lastly add the text widget and give it the name “3D Map”.



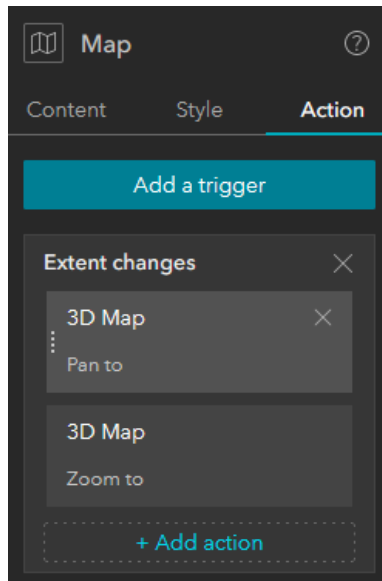
5.2.6 Configure interactions

- Add a trigger.
 - Select the 2D map.
 - Click action tab.
 - Click the “Add a trigger” button.



- Select the extent changes trigger.
- Add the following triggers.
 - Under select a target ensure you click the 3D Map widget.
 - Click Pan to.

- Click “+ add action” button to add the second action trigger.
- Under select a target ensure you click the 3D Map widget
 - Click Zoom to.



- Add a trigger
 - Select the 3D map.
 - Follow the same steps for in 5.2.6 for setting actions for 2D map.
 - Click the “Add a trigger” button.
 - Set the extent exchange to pan and zoom to 2D Map.

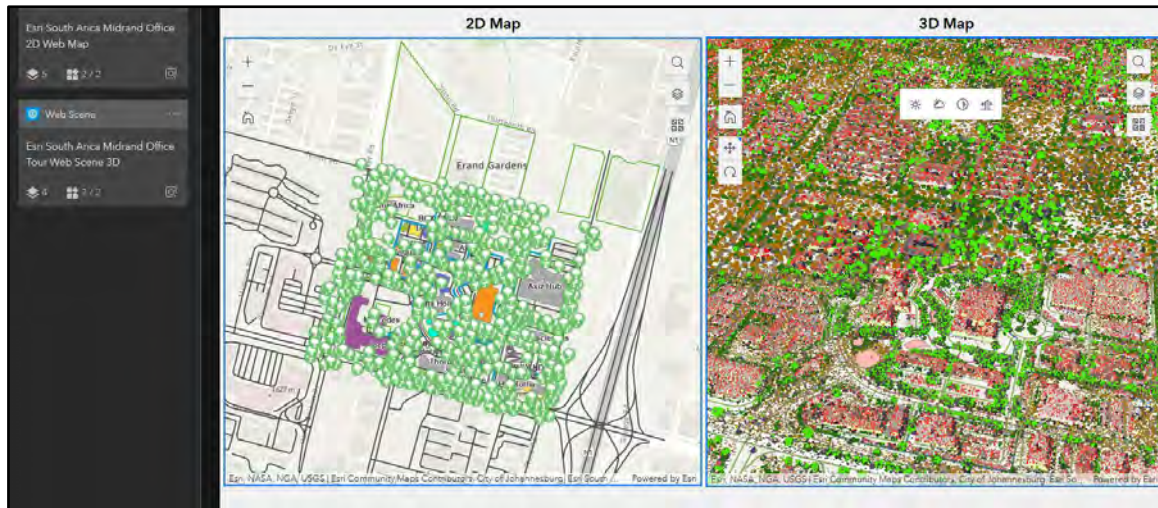
5.2.7 2D and 3D Sync

- Click Live View

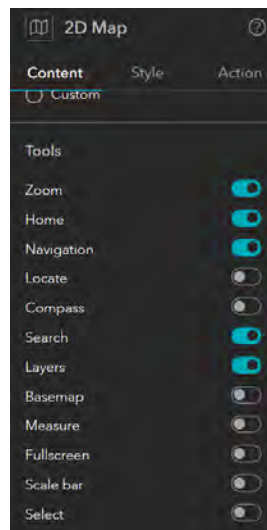
The Live View button lets you test and experience the functionality of the app you just created before publishing and sharing it to other users.



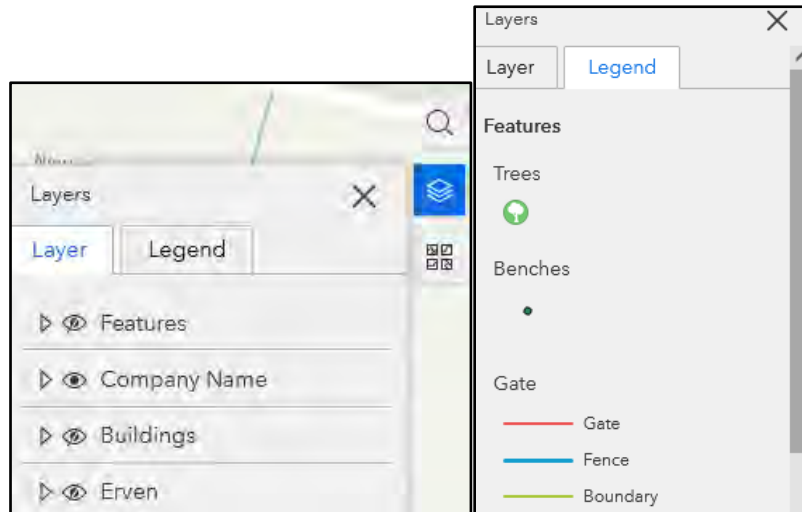
- Live view
 - Select the 2D map, zoom in and out.
 - Notice that the extent of the 3D map changes to the location you zoom in to.
 - Select the 3D map, zoom in and out.
 - Notice that the extent of the 2D map changes to the location you zoom in to



- Explore the 2D web map.
- Ensure its on edit mode.
- Click the 2D Map, under the contents tab on the right turn on the following map tools toggles.
 - a) Search.
 - b) Operational layers.
 - c) Basemap.
 - d) Zoom
 - e) Navigation
 - f) Home



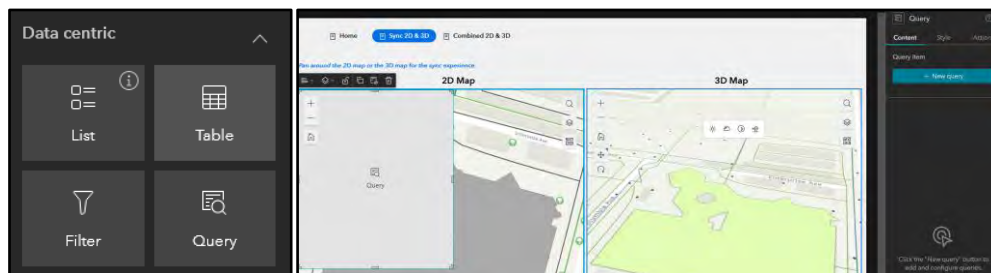
- Switch to live mode
- Click the layers icon on the top right map tools.
- Select the legend tab to view.



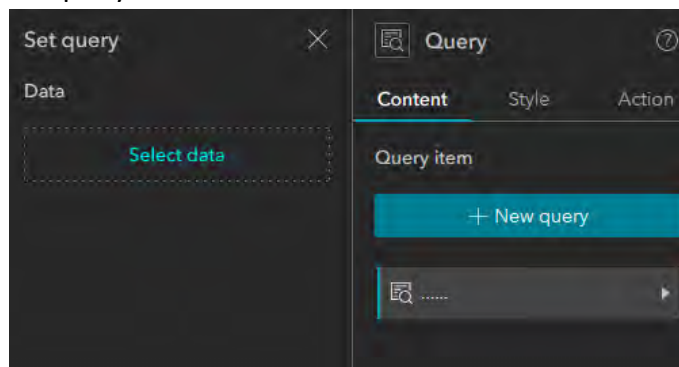
- Do the same above steps for the 3D map.

5.2.8 Add Query Widget

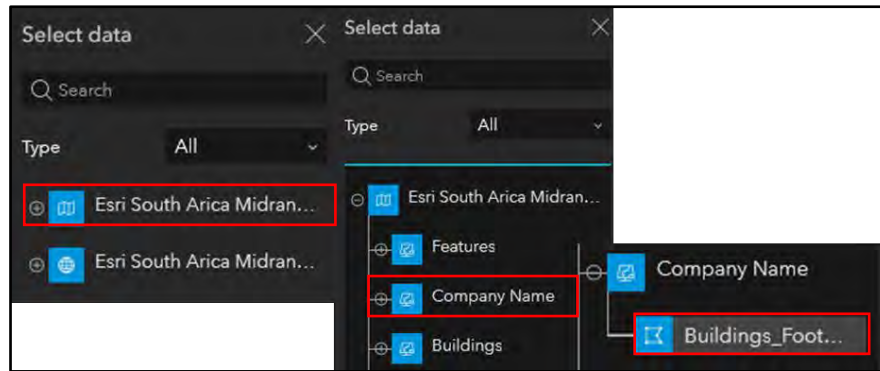
- Ensure you are in edit mode.
- Drag and add a query widget on the 2D Web map.



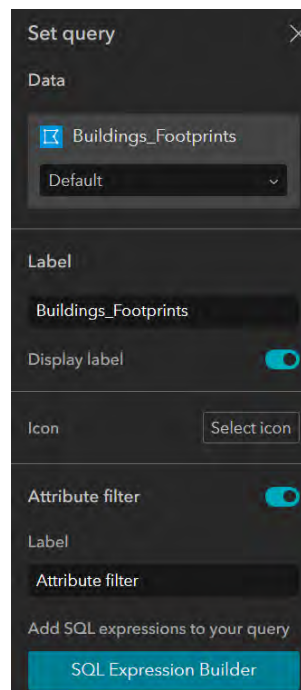
- Select the add new query button.



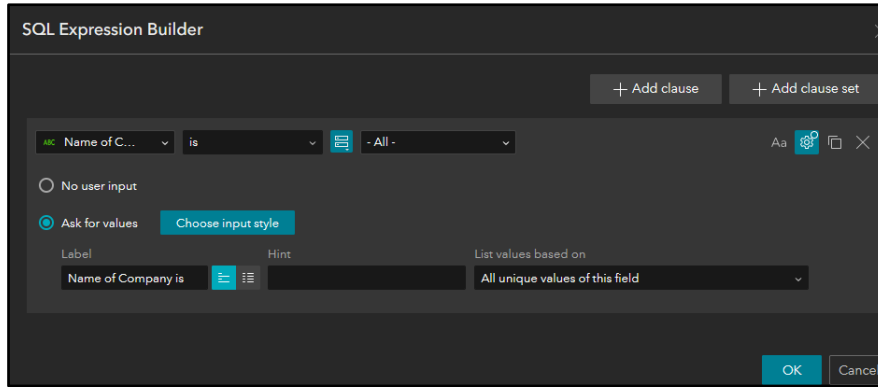
- Select data
 - Click the expand button on the 2D map layer.
 - Expand company name button and then select Building footprints layer.



- Build SQL Expression Builder
 - The set Query pane opens.
 - Click the SQL Expression Builder.



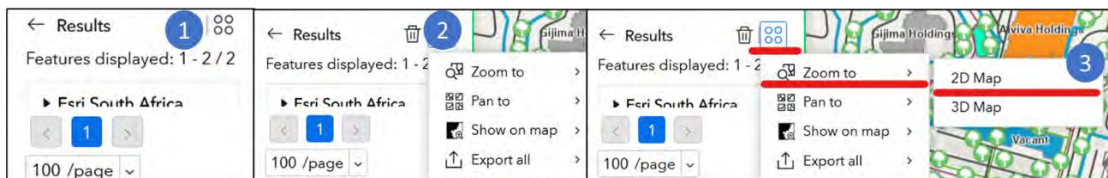
- Click the “+add clause” button on the pane that appeared.
 - The clause is:
 - Name of Company is all unique values.
 - Field name: Select “Name of Company”.
 - Operation: Select “is”.
 - Source type: Select “Unique”.
- Now click the more input setting on the far top right corner.
- Then click the ask for values.
- Click Ok.
- On the set query pane change the label “building_footprints” to Query and “attribute filter” to filter.
- Save your experience builder.
- You can move it around, resize and change the style to your liking.



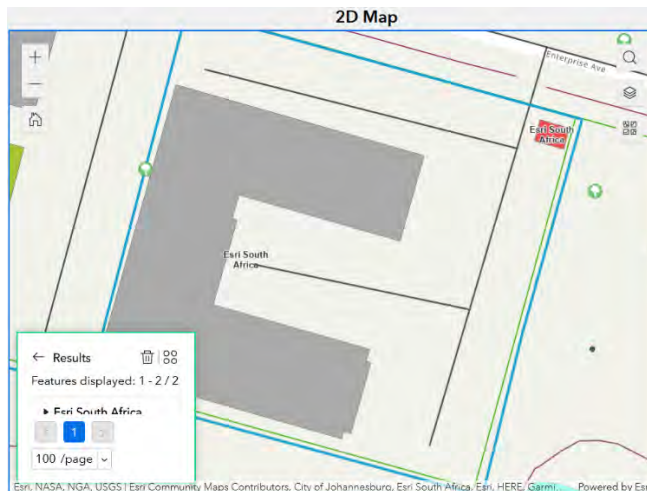
- Results



- Use the Query
 - Click the live button.
 - Now select any choice from the drop-down menu e.g., “Esri South Africa”.
 - Click apply.
 - Click the actions button.
 - Now zoom to and select either 2D map or 3D map.



- View Results



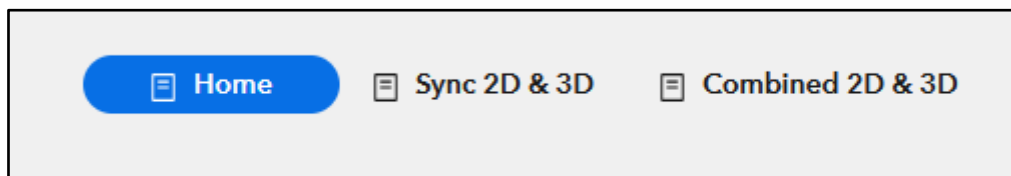
5.2.9 Page navigation

- Menu widget

The Menu widget is the simplest way to let users navigate between your app's pages. The widget pulls directly from your app's page outline, meaning all pages that you add appear in the Menu widget.

- Add the menu widget.
- On the menu pane on the right, on the contents pane under appearance select pills option.

Your results might differ from the below image, the more pages you have the menu will expand.

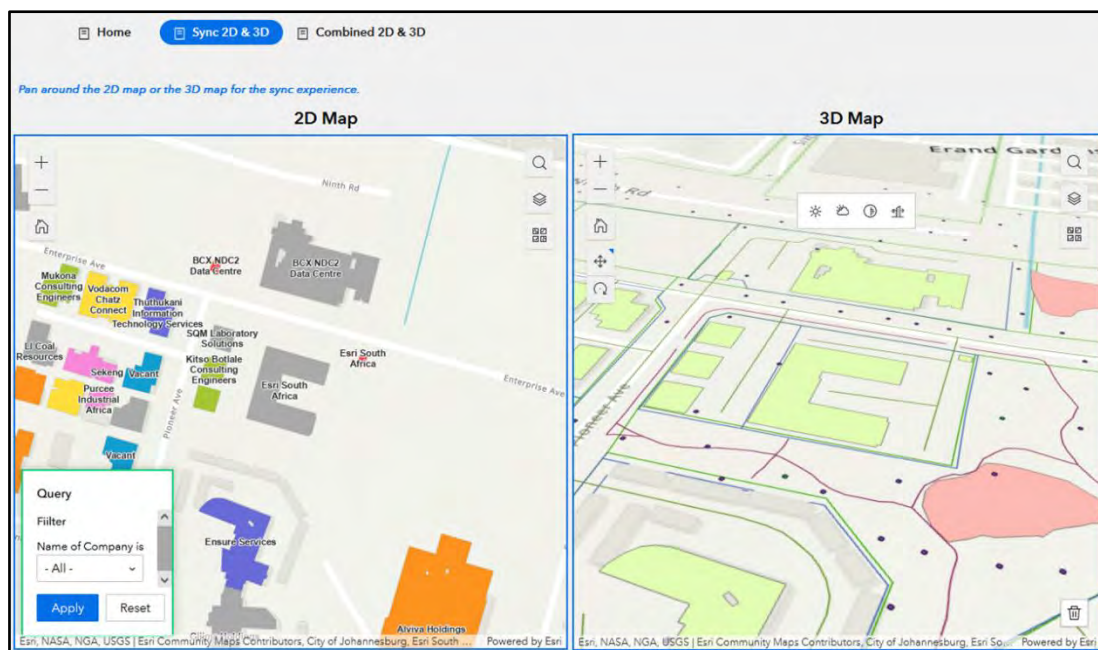


5.2.10 Publish & use app

- Publish the application.



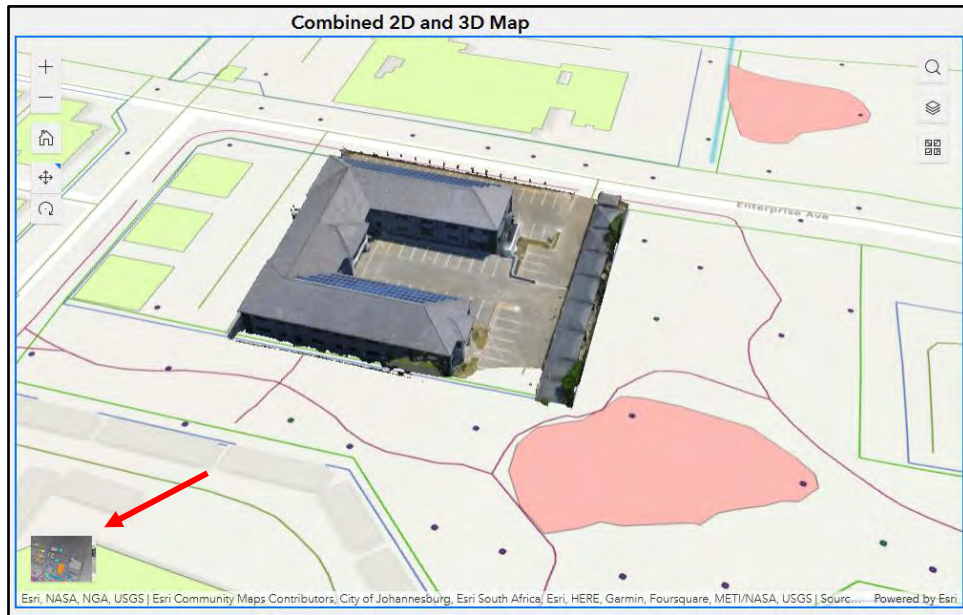
Live Link: <https://ucws.esri-southafrica.com/portal/apps/experiencebuilder/experience/?id=c537060fdbb14a83ac450e86546c4256&page=Combined-2D-%26-3D->



5.2.11 Optional

- Add a new page.
- Name it 2D & 3D combination.
- Add a map widget.
- Add both the 2D map and 3D map.
- Set the Action trigger to zoom to either 2D or 3D exchange.
- The bottom left corner of the map is the button you can switch between the two maps.

When you pan or zoom in either 2D or 3D web scene, the extent will also change.



6 Section 03: ArcGIS Instants App vs Experience Builder

Training Notes:

- Outline core differences.
- Basic matrix on when to use which application.

7 Section 04: Exercise: ArcGIS Instants App

Exercise

 (15 minutes)

In this exercise, you will perform the following tasks.

- Creation of a basic instant application.
 - Attachment viewer application with layers/information already pre-published ahead of session.
- Where to find instant apps, configuration, templates, etc.

7.1 Preparation

- Log in on ArcGIS Portal
 - Portal Link: <https://ucws.esri-southafrica.com/portal>
- Use the Log in credentials given to you by your instructor.

7.1.1 Use the DDM Project map

- Continuing from the previous step.
- The first step is to build a map.

Note: The map has already been created for you, you won't need to create.

- Open the already existing map if you haven't opened it.
 - Web Map Link: <https://ucws.esri-southafrica.com/portal/home/webmap/viewer.html?webmap=890d03568a58475ebc85c7c9e32fdcc7>

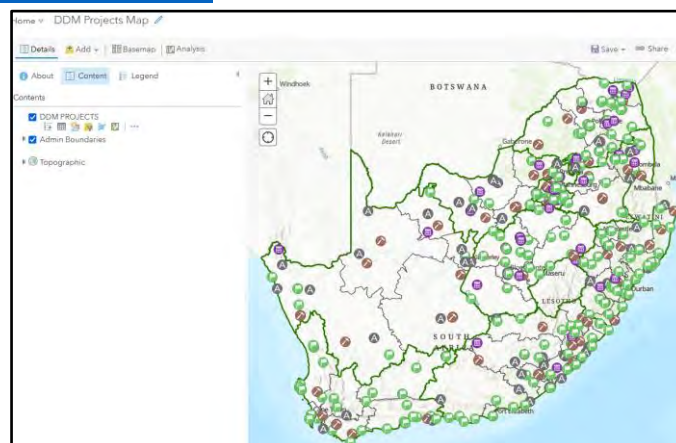
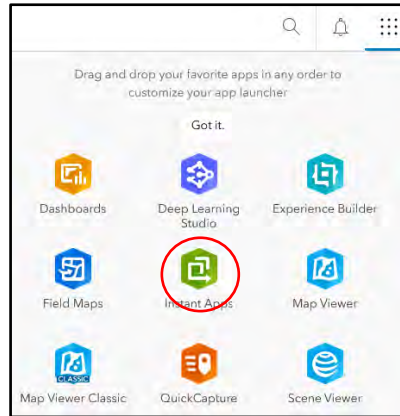


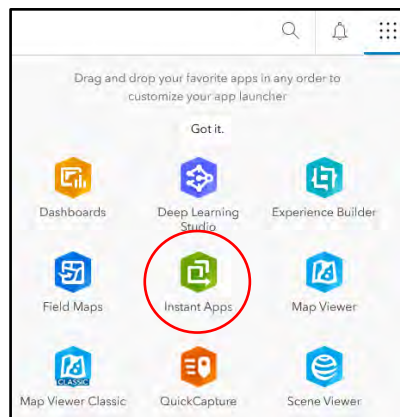
Figure 4: Attachment Instant Web Map Screenshot

7.1.2 Open Instants app

- Click the app launcher.
 - The app launcher will open and see an array of applications.



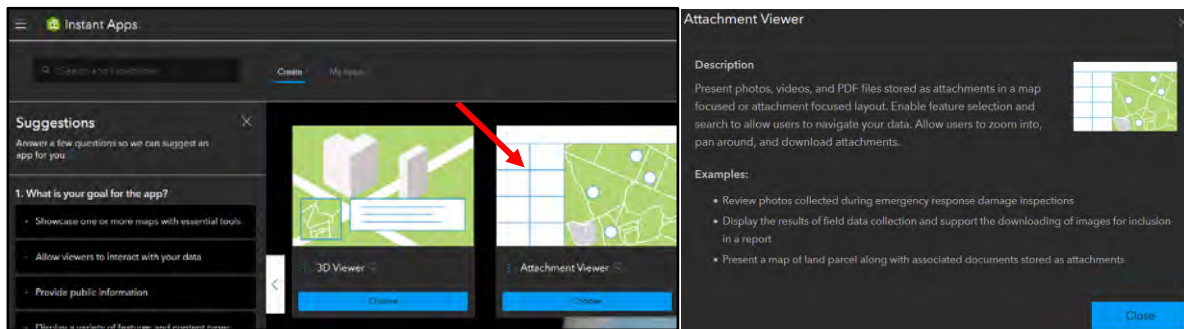
- Select the Instants Apps
Open the Instants Apps.



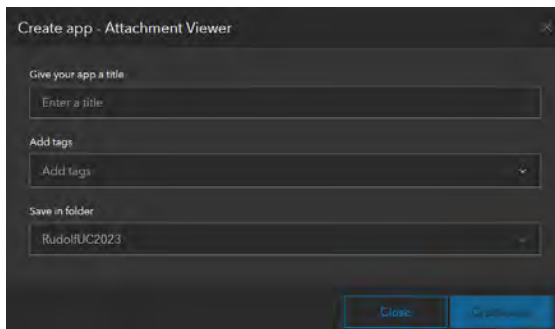
7.1.3 Select a template

The Instants Apps gallery will open with multiple templates.

- Select the Attachment Viewer template.

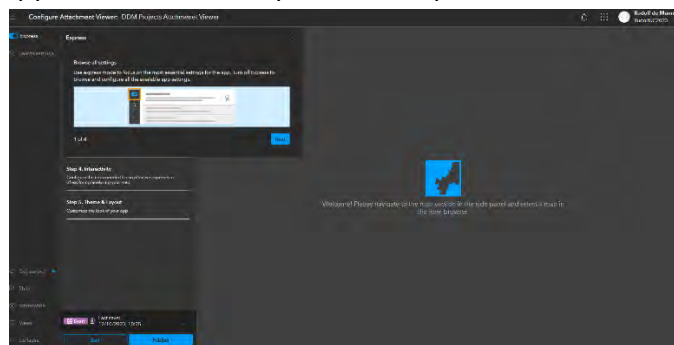


- Click the choose button to open to configure it.
- Fill in the below information:
 - Title: DDM Projects Attachment Viewer (*And your Initials*)
 - Save in folder: TRAINING SESSION 6 or root folder.

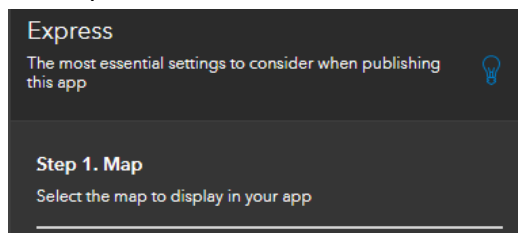


7.1.4 Configure

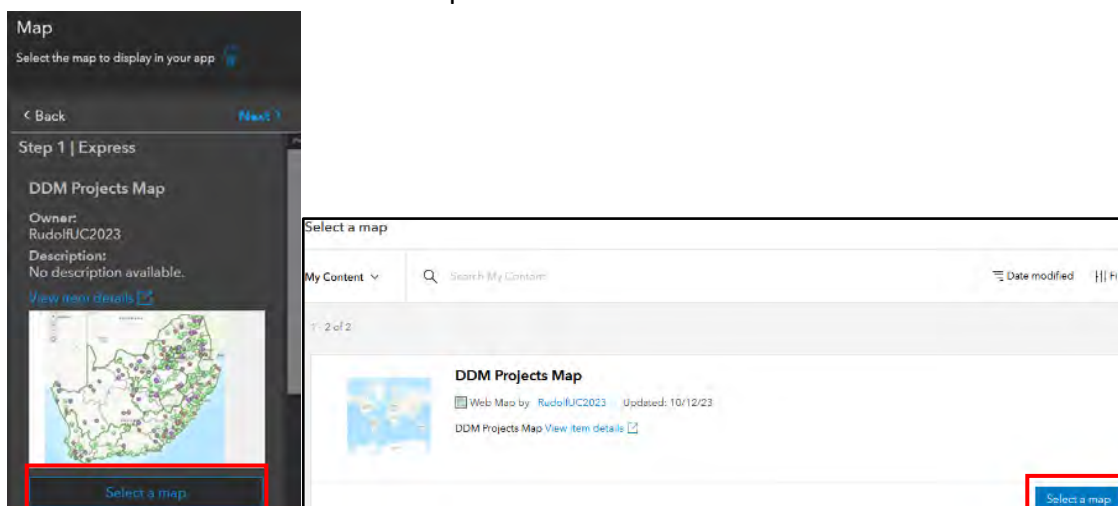
- Click the create app button from the previous step.



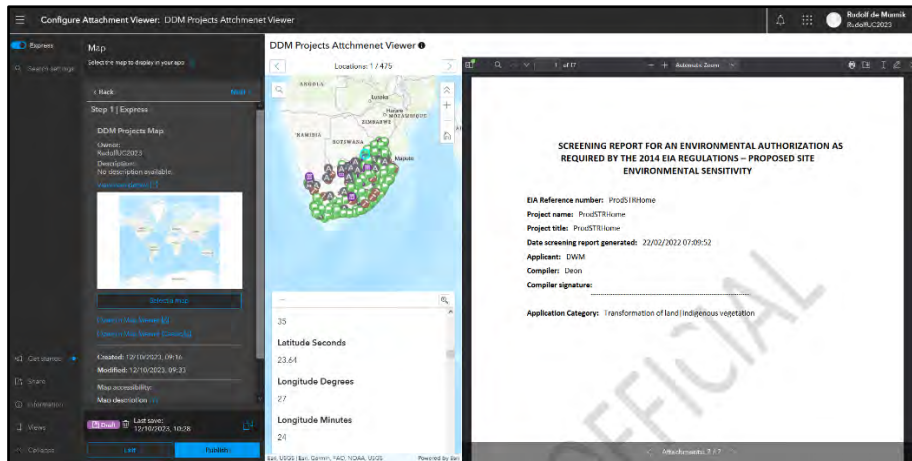
- Select **Step 1. Map** on the Express tab



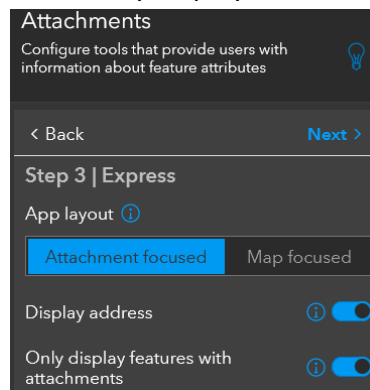
- Choose DDM Web Map



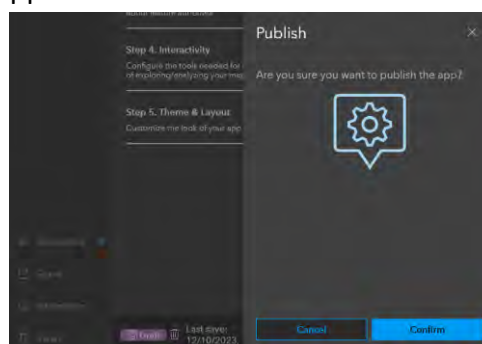
- Results



- Select **Step 3. Attachments** on the Express tab
 - Select the back button.
 - Select Step 3. Attachments on the Express tab.
 - Ensure on the App layout that it is “Attachment focused”.
 - Turn the toggle on for “only display features with attachments”.



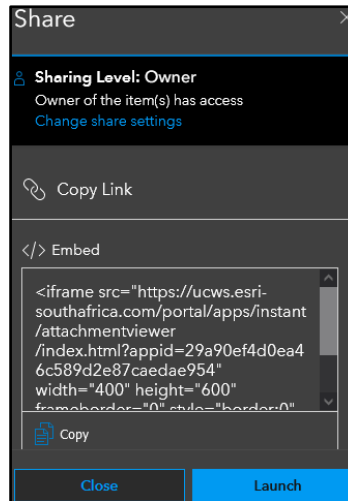
- Publish App
 - Publish the app and click confirm.



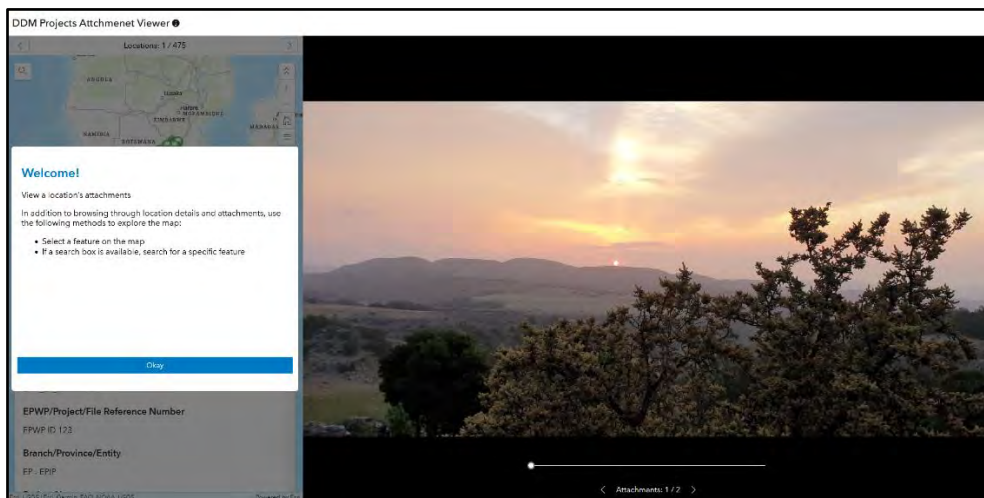
7.1.5 Share

You are now ready to share the app results for use.

- Select Launch button.



- Use the Instants Apps



7.1.6 Optional

- Map Focused Instant apps.
- Select **Step 3. Attachments** on the Express tab
 - Select Step 3. Attachments on the Express tab.
 - Ensure on the App layout that it is “Map focused”.



8 Esri resources

Take advantage of these resources to develop ArcGIS software skills, discover applications of geospatial technology, and tap into the experience and knowledge of the ArcGIS community.

Instructor-led and e-Learning resources

Esri instructor-led courses and e-Learning resources help you develop and apply ArcGIS skills, recommended workflows, and best practices. View all training options at esri.com/training/catalog/search.

GIS bibliography

A comprehensive index of journals, conference proceedings, books, and reports related to GIS, including references and full-text materials. gis.library.esri.com

ArcGIS documentation and tutorials

In-depth information, tutorials, and documentation for ArcGIS products.

ArcGIS Online: arcgis.com

ArcGIS Desktop: desktop.arcgis.com

ArcGIS Enterprise: enterprise.arcgis.com

GeoNet

Join the online community of GIS users and experts. community.esri.com

Esri events

Esri conferences and user group meetings offer a great way to network and learn how to achieve results with ArcGIS. esri.com/events

Esri Videos

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