

Guided Exercise

Author a Web Map and Publish a Geo App

Section 1 Exercise 2

08/2017



Author a Web Map and Publish a Geo App

Time to complete

Approximately 20 minutes.

Introduction

In this exercise, you will add data to a web map from the Map Viewer in ArcGIS Online, configure a layer's pop-up, and publish a geo app that highlights amenities within a certain distance from a location using the Local Perspective configurable app template.

Throughout this exercise, and the rest of the course, try to keep in mind the three principles Ian mentioned in his lecture: purpose, functionality, and aesthetics. Web map authoring and geo app configuration are often iterative processes, meaning you will need to experiment and try multiple things in your web maps and geo apps before you settle on how you want to present information and how users will interact with your map. We will show you one pathway to app creation in this exercise, but feel free to experiment along the way! Let's get started!

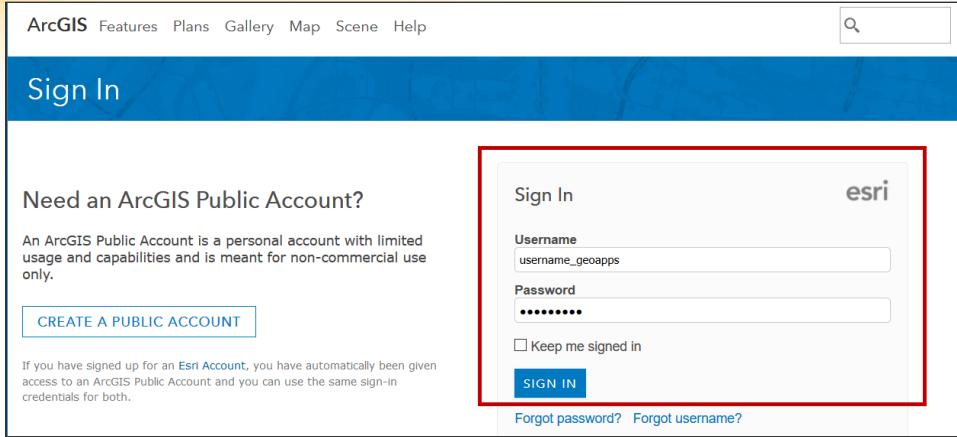
Step 1: Sign in to an ArcGIS Online organizational account

In this step, you'll sign in to an ArcGIS Online organizational account and create a new web map.

- a Open a new Internet browser tab or window.
- b Go to www.arcgis.com and sign in to ArcGIS Online using the credentials explained at the start of this course.

Note: The Section 1 Exercise 1 PDF explains how to determine your ArcGIS Online credentials (username and password) for this course. If you have trouble signing in, email gistraining@esri.com for assistance.

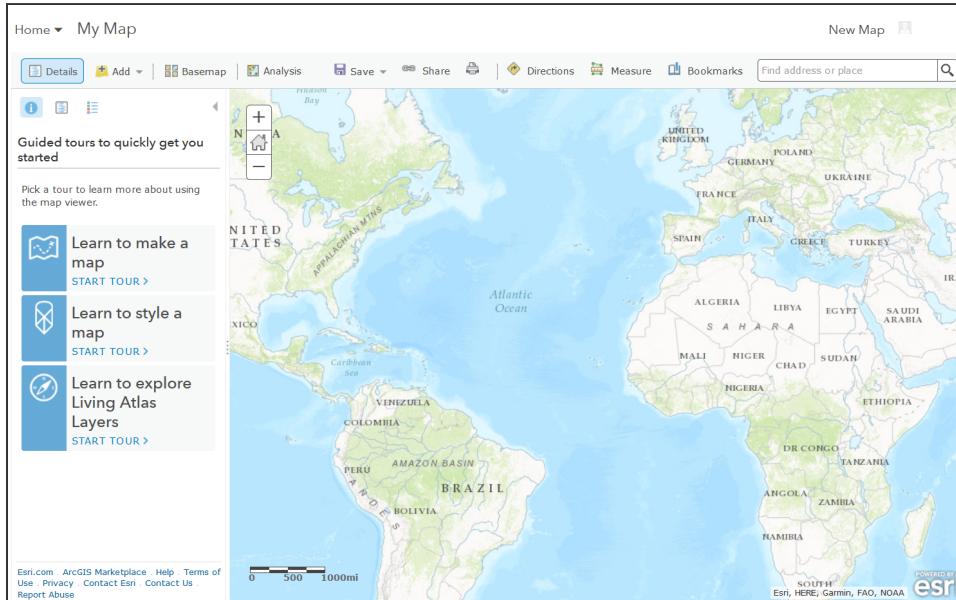
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The screenshot shows the ArcGIS Online sign-in page. At the top, there's a navigation bar with links for ArcGIS, Features, Plans, Gallery, Map, Scene, Help, and a search bar. Below the navigation is a blue header bar with the text "Sign In". To the left, there's a sidebar with the heading "Need an ArcGIS Public Account?" and a link to "CREATE A PUBLIC ACCOUNT". The main area contains a "Sign In" form with fields for "Username" (containing "username_geapps") and "Password" (containing "*****"). There's also a "Keep me signed in" checkbox and a "SIGN IN" button. Below the form are links for "Forgot password?" and "Forgot username?". A red box highlights the "Sign In" form.

- c From the ribbon at the top of the ArcGIS Online window, click Map to start creating a new map.

Note: If a web map that you were working on outside of this exercise loads, save it, and then click New Map and, from the drop-down list, click Create New Map.



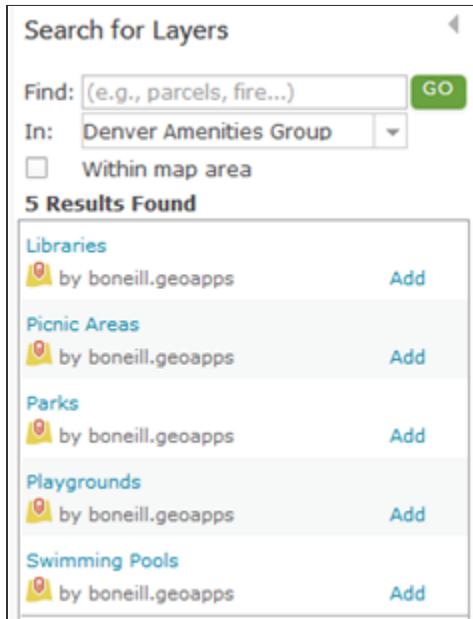
You should now have a blank web map and you are ready to begin adding data to it.

Step 2: Add data to a web map

You will add data to the map using the Search for Layers tool. The Search for Layers tool allows you to search for all public layers in ArcGIS Online, layers that are shared within your organization only, or private layers that you own or that were shared with you through a

group. You can search using keywords and use a spatial filter by limiting the results of your search to the map extent in the Map Viewer. You can also take advantage of ArcGIS Online groups to organize data layers and access them directly in the Map Viewer.

- a From the ribbon at the top of the Map Viewer, click Add and, from the drop-down list, select Search for Layers.
- b For In, from the drop-down list, select Denver Amenities Group.
Note: If you do not see the Denver Amenities group listed, ensure that you are signed in to ArcGIS Online using the credentials for this course (where your username ends with _geoapps).
- c Uncheck the Within map area checkbox.
- d Click Add next to each of the five layers (Picnic Areas, Parks, Libraries, Swimming Pools, and Playgrounds), and then click Done Adding Layers.



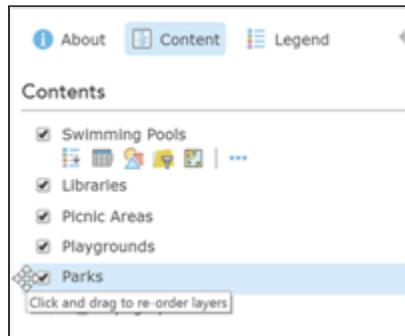
Once you have added your layers in the Map Viewer you can drag them around and re-order how they are drawn to your preferences. **Layers are rendered from the bottom up** in the Contents pane.

Step 3: Reorder map layers

In our map, we don't want the Parks or Playgrounds polygons obscuring the other amenity point features so we will move them.

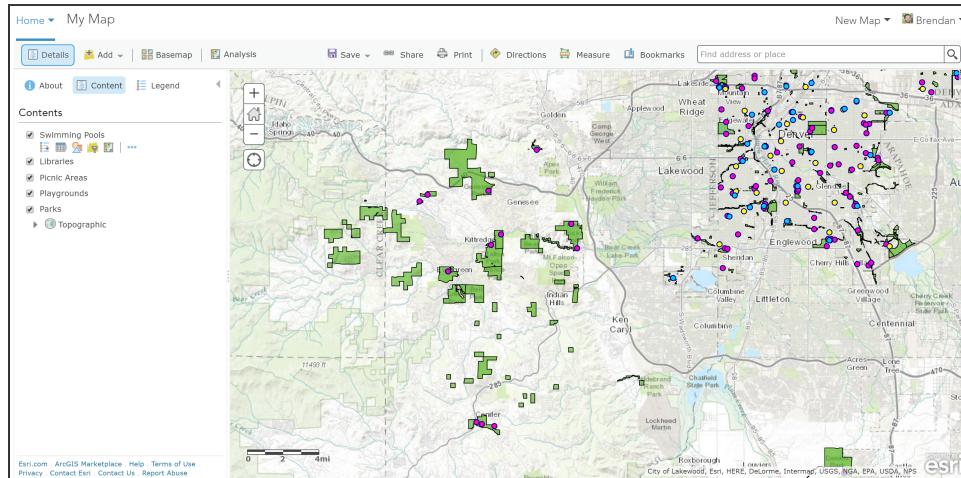
- a In the Contents pane, drag the Parks layer to the bottom of the list.

Note: Hover your pointer to the left of the Parks layer in the Contents pane until your pointer changes to a four-arrow plus sign and the layer name is highlighted with a blue box. You can then click and drag the layer to its new location. A blue dashed line will display to indicate the location where the layer will be dropped. When you see the blue dashed line, release your mouse button to drop the layer into place.



- b Drag the Playgrounds layer just above the Parks layer.
- c If needed, drag other layers so that the order of layers listed in the Contents pane matches the following order: Swimming Pools, Libraries, Picnic Areas, Playgrounds, and Parks.

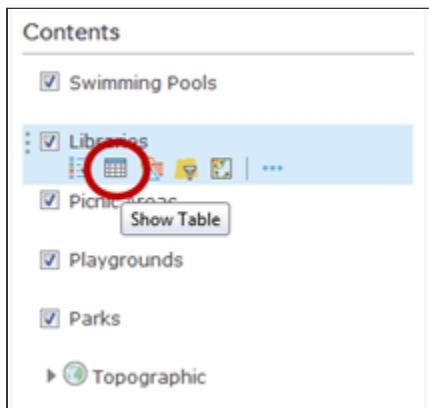
Your Map Viewer should look something like the following screenshot:



It is easy to see the different geometries for the layers you've added to the map, but if you want to look at the data fields associated with those geometries, you must explore their attribute tables.

Step 4: Examine layer attribute tables

- a In the Contents pane, hover your pointer over the name of the Libraries layer and click the Show Table button to open the layer's attribute table.

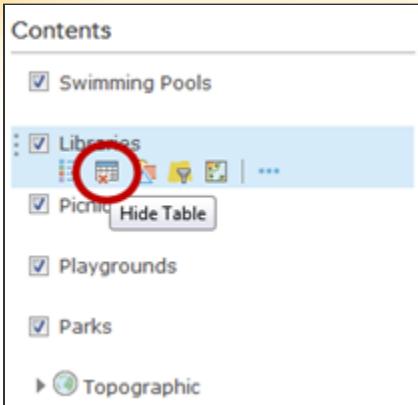


The attribute table displays all of the data associated with the features in your layer. In the Map Viewer, using Options, you can work with your data by filtering it, choosing which columns to show, and even adding new fields to the table.

Note: If you do not own the layer or have editing privileges for it, you will not have the option to add a new field.

Libraries (Features: 26, Selected: 0)						
LIBRARY_NAME	BRANCH_CODE	ADDRESS_ID	ADDRESS_LINE1	ADDRESS_LINE2	CITY	
Byers	BYR	69,509.00	675 N Santa Fe Dr		Denver	Show Selected Records
Ross-Barnum	BAR	77,271.00	3570 W 1ST Ave		Denver	Center on Selection
Smiley	SMI	27,605.00	4501 W 46TH Ave		Denver	Clear Selection
Woodbury	WDB	46,116.00	3265 N Federal Blvd		Denver	Show/Hide Columns
					Denver	Filter
					CO	

- b Close the attribute table by clicking the Hide Table button.

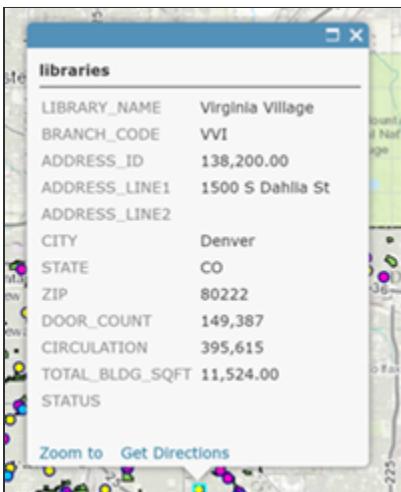


- c If you own the layer or have editing privileges for it, you can work with its data directly in the [ArcGIS Online Item Details page](#) under the Data tab or directly in the attribute table. You also have the ability to work with a layer's data in the Map Viewer through a feature's pop-up.

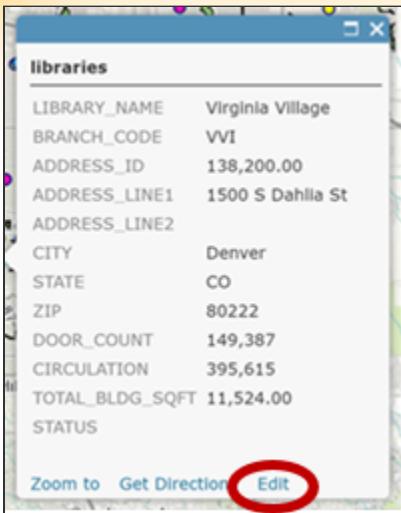
Step 5: Configure pop-ups

- a Click on a feature in the Map Viewer to open a pop-up window.

You'll notice when you explore your feature pop-ups, like in the image below, that you don't have the ability to edit the data through the pop ups of the layers you just added. This is because **you do not own the layer and editing has not been enabled for it.**

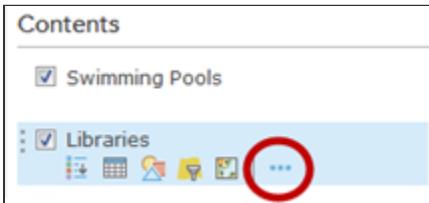


If you owned the item and editing were enabled, your pop up would look something like the one below, and you would be able to change the data values associated with that feature.

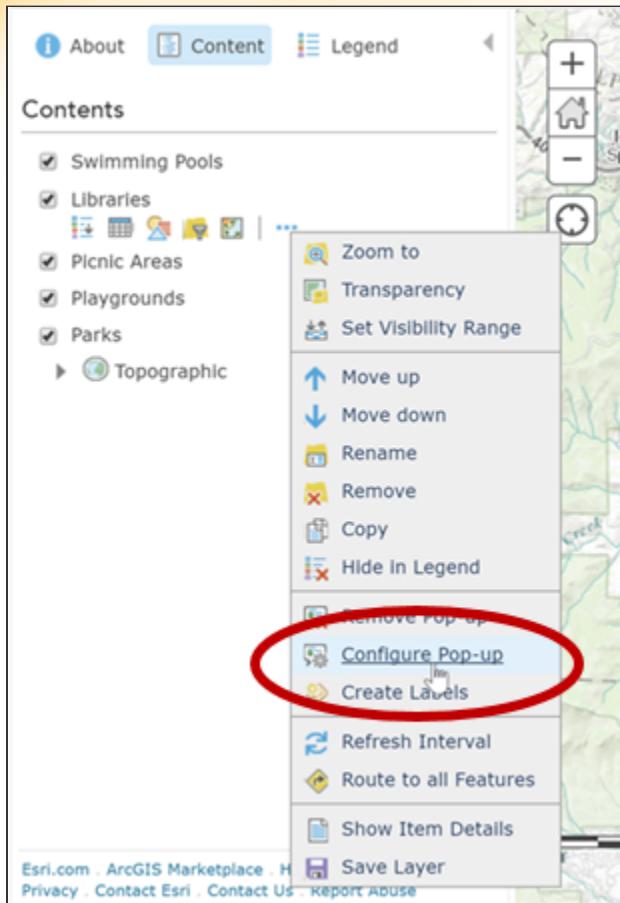


Pop-ups are for more than just editing in the Map Viewer, they are how users receive information from your map. It is especially important for this course to remember that the **pop-up configuration for the layers in your web map influence how the geo apps you publish behave.**

- b Close the information pop-up.
- c In the Contents pane, hover your pointer over the name of the Libraries layer and click the More Options button.

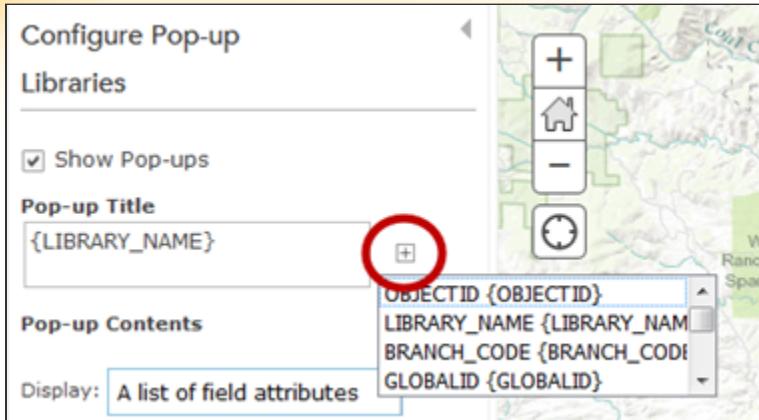


- d From the drop-down list, select Configure Pop-up.

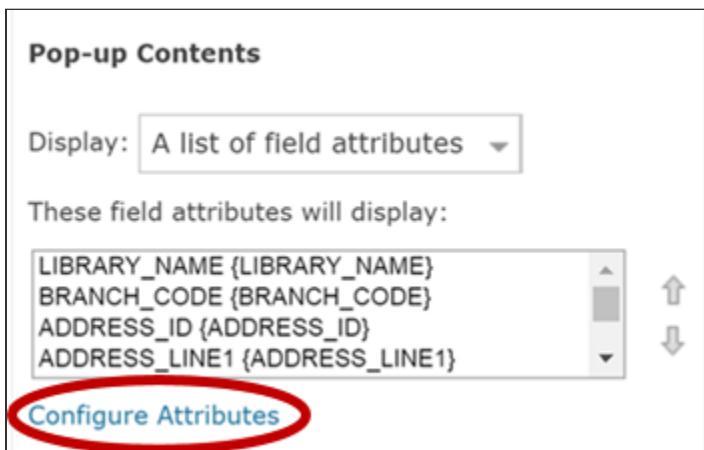


Here you can use the layers attribute data to control what information is shown when a feature is selected in the map and how certain geo app components behave. We will demonstrate this later. For now, let's configure the Libraries layer pop-up.

- e In the Configure Pop-up pane, delete any values in the Pop-up Title field.
- f Click the Plus sign to the right of the Pop-up Title field and, from the drop-down list, select the {LIBRARY_NAME} field to populate the title of the pop-up like below.



- g In the Pop-up Contents section, click Configure Attributes.



Here you can choose the fields to display in your pop-up.

- h In the Configure Attributes window, uncheck all of the display attributes except ADDRESS_LINE1 and CIRCULATION.

You can rename the fields using a field alias to describe your data better.

- i Click the Field Alias for the {ADDRESS_LINE1} field name and type **Address**.
- j Click the Field Alias for the {CIRCULATION} field name and type **Circulation**.
- k When you are finished modifying the aliases, click OK.

Configure Attributes

Check the fields you want to display. Select a field to change its alias, order it, and format it.

Display	Field Name	Field Alias
<input type="checkbox"/>	{ADDRESS_ID}	ADDRESS_ID
<input checked="" type="checkbox"/>	{ADDRESS_LINE1}	Address
<input type="checkbox"/>	{ADDRESS_LINE2}	ADDRESS_LINE2
<input type="checkbox"/>	{CITY}	CITY
<input type="checkbox"/>	{STATE}	STATE
<input type="checkbox"/>	{ZIP}	ZIP
<input type="checkbox"/>	{DOOR_COUNT}	DOOR_COUNT
<input checked="" type="checkbox"/>	{CIRCULATION}	Circulation

Format

Use 1000 Separator

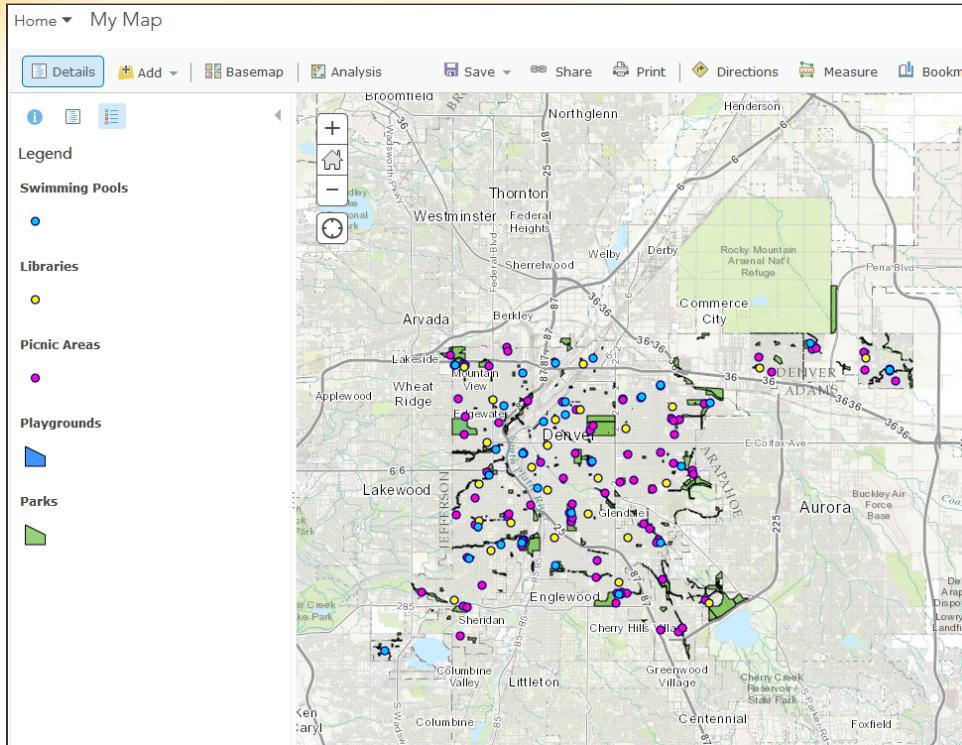
OK CANCEL

- 1 In the Configure Pop-up pane, click OK.

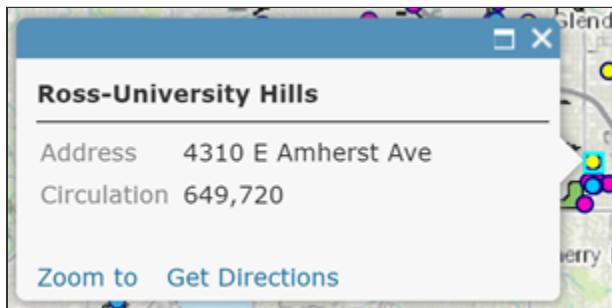
Let's take a look at the result.

- m Click a library feature in the map.

Hint: Use the map legend to determine which features are libraries.



The pop-up for the feature should resemble what you see in the screenshot below:



Notice that because you do not own the Libraries layer, you cannot edit it, but you do have the ability to control the information delivered to someone who views your web map or geo app by saving the pop-up configuration in your web map.

Step 6: Save your map

- From the ribbon at the top of the Map Viewer, click Save and, from the drop-down list, select Save.

- b In the Save Map dialog box, in the Title field, type **Denver Amenities**. Add a hyphen and your first and last names so the map has a unique name.

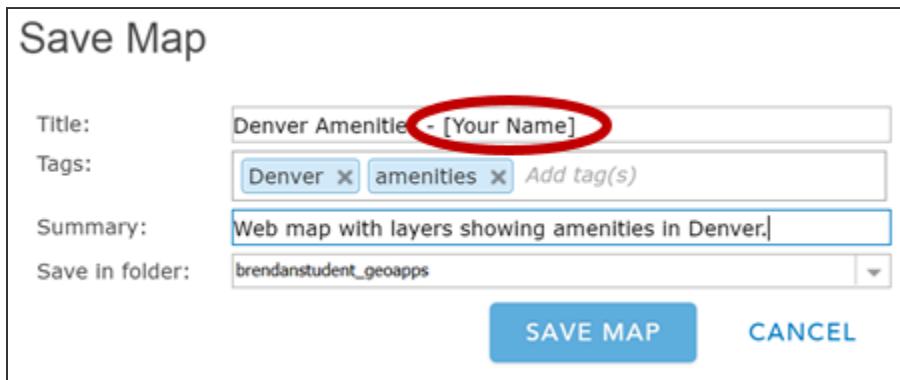
Note: Because there are many other students creating a similar map, adding your first and last name will ensure that you can later find your map.

It is also a good idea to add tags and other identifying information about the data, or metadata, to your items. This information will help you and others find this map, either in your organization or the general public, depending on how you want it shared. Tags also help group different types of items together, such as maps, map layers, or applications, so they can easily be searched.

- c In the Tags field, type **Denver, amenities**, and any additional tags you would like.

Note: Press Enter after each tag to save it in the Tags field.

- d If you like, you can add a summary description of your map in the next field. For example, type **Web map with layers showing amenities in Denver** in the Summary field.



- e Click Save Map.

Note: ArcGIS Online is a web-based platform; therefore, it is recommended to periodically save your map as you are working.

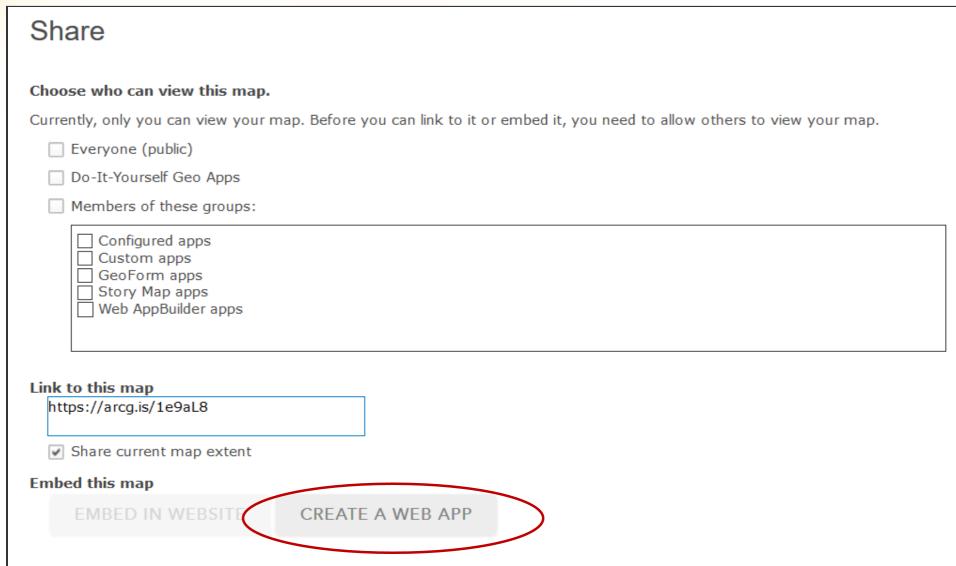
The map will be saved to your **My Content** collection, which contains all the content you have created in ArcGIS Online. You can access your My Content collection at any time.

Now that the pop-up configuration is stored in the web map, let's see how it influences the behavior of a geo app.

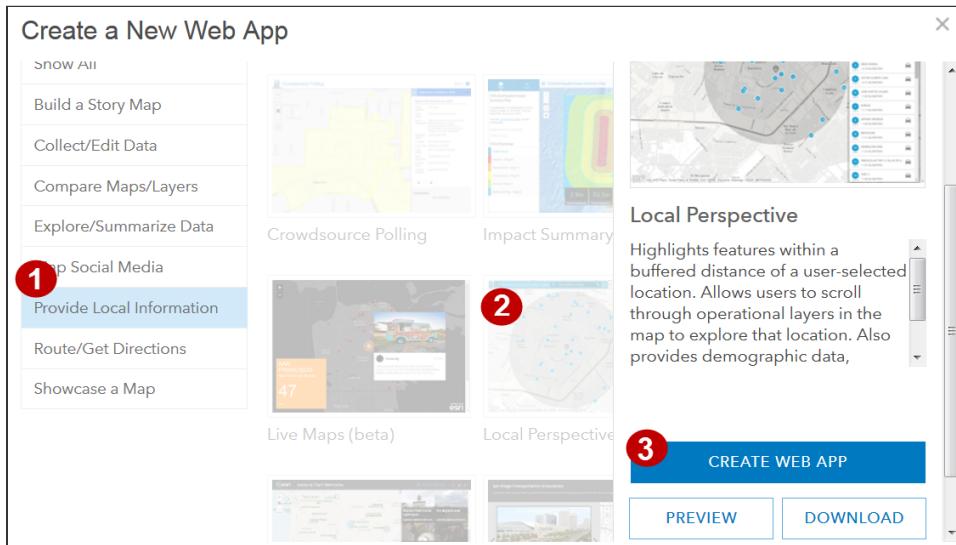
Step 7: Create a web app

- a From the ribbon at the top of the Map Viewer, click Share.

- b In the Share window, click Create a Web App.



- c In the Create a New Web App window, from the list of configurable apps, select Provide Local Information. Then select the **Local Perspective** configurable app and click Create Web App.

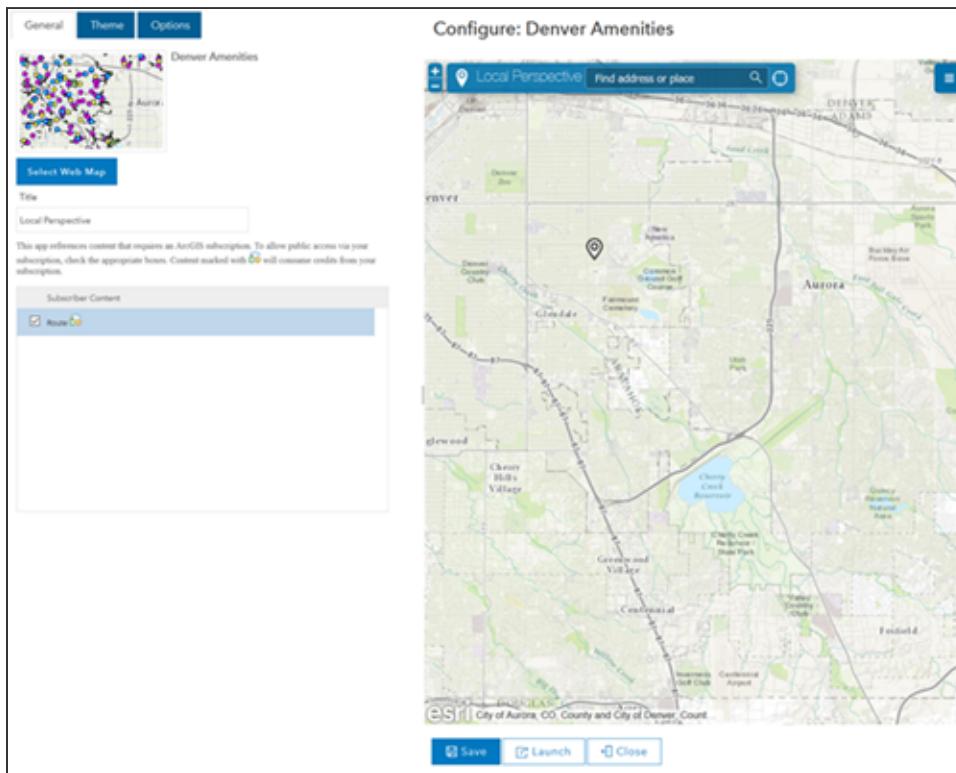


- d In the Create a New Web App window, the Title and Tags from your web map display. Be sure your name is included in the title for the web app.
- e In the Summary field, type **Local Perspective application highlighting amenities in Denver, CO** and then click Done.

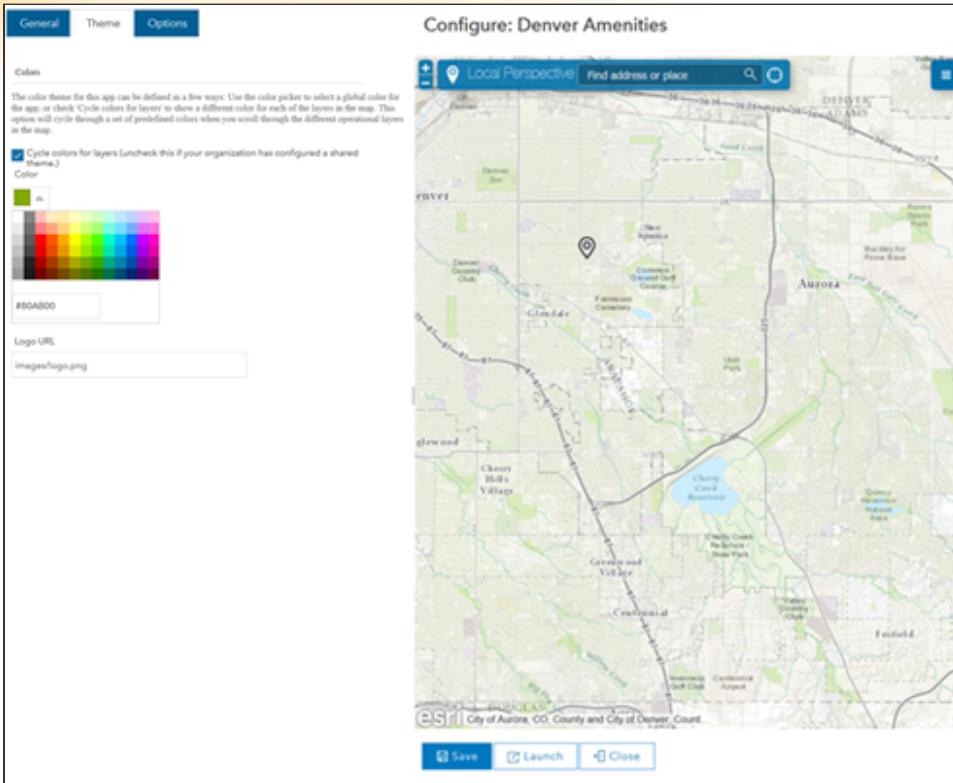
Step 8: Configure your web app

You can use the Map, General, and Options tabs along the top of the app configuration window to configure your app. As we began our app creation process from the Map Viewer, the web map is already selected in the configuration settings. All you need to decide in the Map panel is whether you want to allow users to access ArcGIS Online's routing service. We want our users to be able to get directions to the amenities that interest them, so we will enable access to this service.

- a On the General tab, in the Subscriber Content section, check the box next to Route to enable the routing service, and then click on the Theme tab.

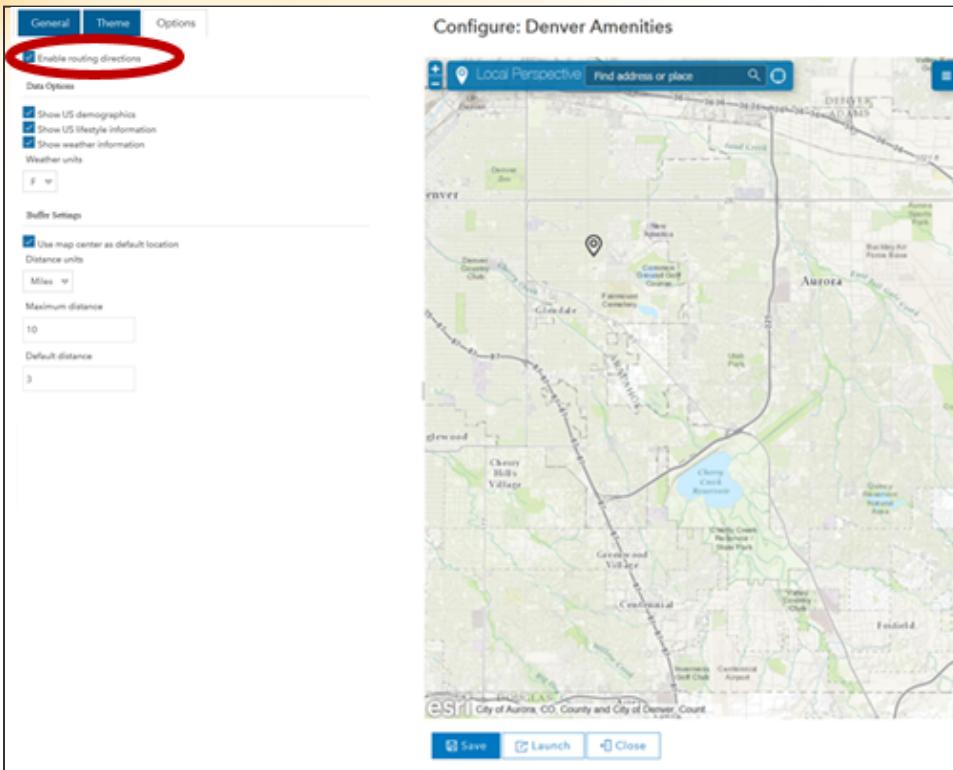


The Theme settings are where you decide how your app will look. You have the option to select a color that will remain constant as you cycle through the different amenity layers, or you can choose the default, which is to cycle through different colors for each of the layers in the map. Feel free to experiment with these different options. Click Save to preview your changes.



- b Click the Options tab.

Again, you have some freedom to experiment with the information you want to provide users of your application. We encourage you to explore these options. Be sure the option to **Enable Routing Directions** is selected before you save your app though.



- c When you have finished configuring your web app, click Save and then click Close. The Item Details page for your web app will display. Now let's take a look at the web app.

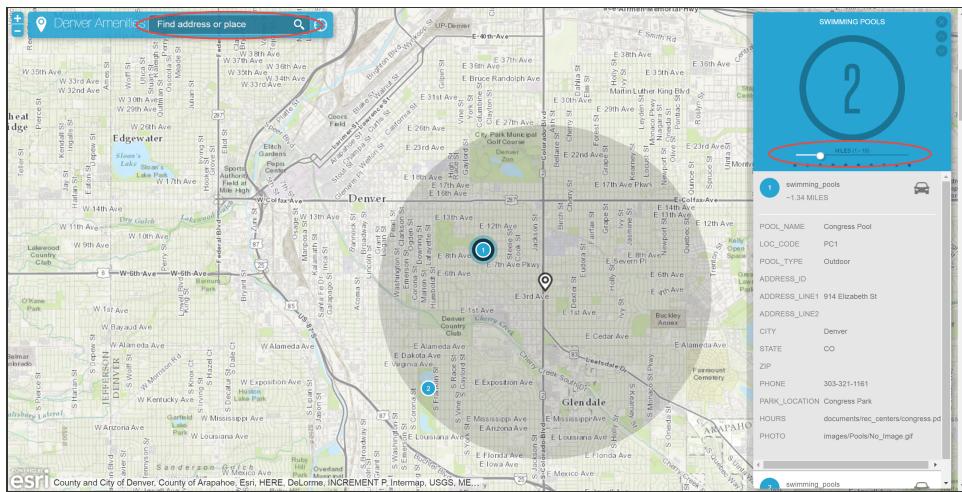
Step 9: View the configured web app

- a On the Item Details page for the web app you just created, click View Application.

Local Perspective geo apps have a lot of functionality without much configuration. You can change the center of the amenities search zone by clicking the map or entering an address,

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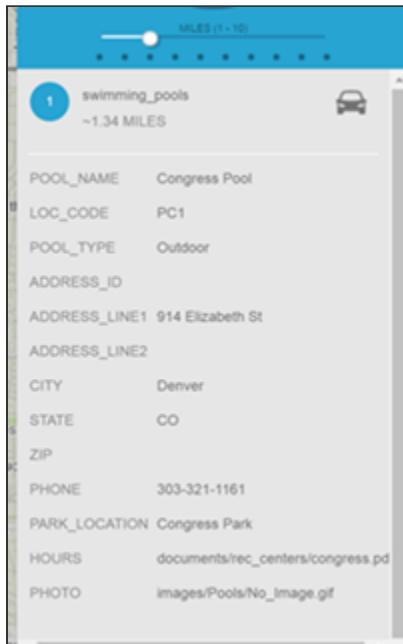
adjust the distance of the search zone, and get information about returned features through the side panel. All of this functionality supports the web app's purpose of providing information about amenities close to a given location. Notice how the points are rendered on the map, even the map cartography is taken care of with this template!



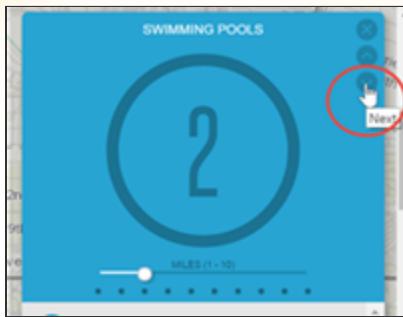
- b Click a feature on the map or select a feature from the list in the side panel.

Note: You can click on the map to move the center point and view more features.

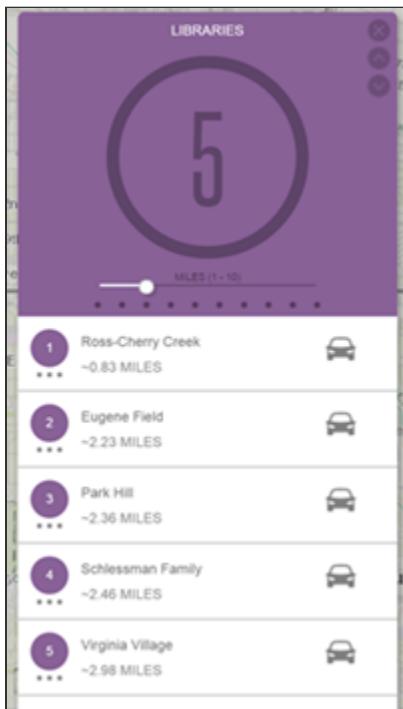
The information presented is the same as the information you can access through the layer attribute table or the information pop-up that we explored earlier.



- c Click the Next button in the side panel to Scroll to the next layer.

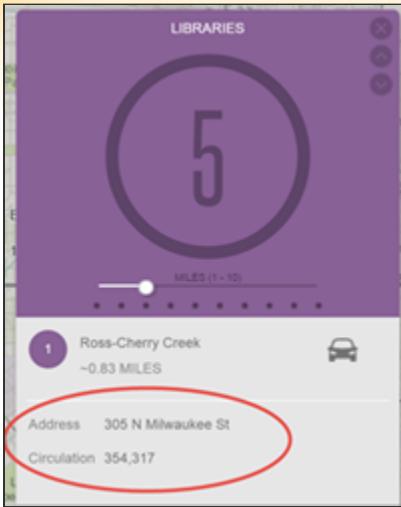


This will display the Libraries layer. Do you notice anything different about the side panel when the Libraries layer is displayed? The library names are shown rather than the layer name in the amenity list.



- d Select one of the libraries from the list.

The information returned is very different from that we just saw in the Swimming Pools layer. This is because the pop-up configuration we saved in the web map is used by the Local Perspective template to decide what information is presented to the user.



Now that you know how the web map's pop-up configuration controls the Local Perspective app's behavior, go back to your original web map and experiment with the other layers' pop-up configurations.

Conclusion

Congratulations! You have created your first geo app that provides information to app users about amenities around a given location in Denver, Colorado. We hope you learned that it is relatively easy to create visually appealing geo apps that provide relevant functionality using configured app templates in ArcGIS Online. We look forward to seeing the other apps you create in this course!