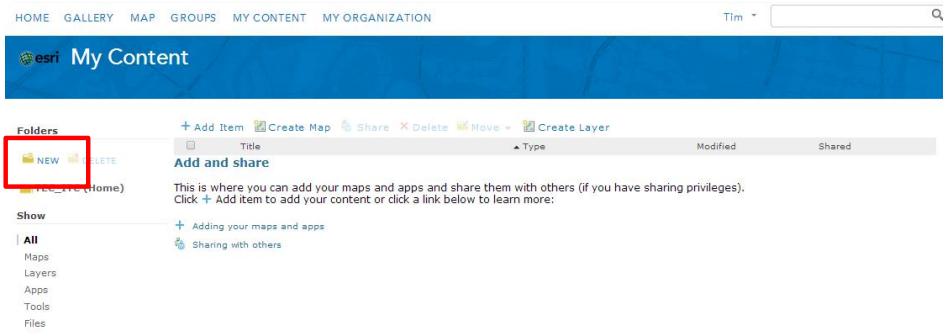


Introduction to Web GIS

In this exercise, you'll explore adding content to ArcGIS Online. First you'll register an existing web service, and then you'll publish a new hosted service. You'll also learn how to edit an item's details.

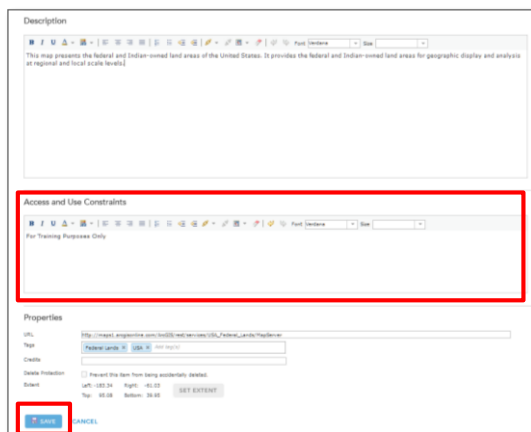
Register ArcGIS Server Map Service

1. In your browser (preferably Firefox or Chrome), go <http://www.arcgis.com/home>.
2. Click **Sign In** in the top right corner, and log in with your ArcGIS Online credentials for your organization.
3. If not there already there, go to **My Content**. Use the button at the top of the panel on the left to create a new folder called "**CEU ArcGIS Workshop**".



4. After you create it, click the folder once to look at its contents (it's empty right now so you won't see anything). Click the **Add Item** button at the top of the main panel. In the dialog that appears, click the first dropdown to see the options ('From my computer', 'From the web', 'An application'). Click each one to see how the dialog changes.
5. Click the option for **'From the web'**. For the URL, type: http://gisportal.iom.int/arcgis/rest/services/MFE/MFE_Countries/MapServer. This is a layer from IOM of countries that are on the migration route into Europe. There is also a file named C:\ArcGIS_Online_Workshop\Documents\CopyPaste.txt that you can use to copy/paste the string into the open dialog. Click outside of the URL box to search for the layer.
6. The **Title** field should automatically fill. In **Tags** enter (**IOM, Migration**). Before you finish adding the item, **add "_" and your initials (e.g. _TEC)** to the title of the service (since everyone is registering the same thing). Click **Add Item** to finish.
7. You'll be taken to the **Details** page for this new item. Notice the description is automatically populated. If a service you're registering is not published with this information, you can add it after you register that service on ArcGIS Online.

- Click the **Edit** button next to the Description. This will let you make changes to the details for this item. Add ***"ArcGIS Online workshop for the CEU training"***. Notice the text formatting options for the description. Under the **Access and Use Constraints** section, type ***"For ArcGIS Online Workshop training purposes only."*** Click **Save** for both items.



- Go back to **My Content** by using the button at the top of the screen. In your ArcGIS Workshop folder, you'll now see the map service listed as an item.

Publish a Hosted Service

- Click **Add Item** again. This time, we'll add a shapefile that's on our machine. Choose the **'From my computer'** option, and click the **Browse** button. Browse to your class data directory and select the **C:\Esri\ArcGIS_Online\Text Files\Greece Camps April21.csv** file. This .csv file is a tabular text format; the data is from the UNHCR 'Site profiles 21 April 2016' report. Aside from text files like this, other data like shapefiles and file geodatabases can also be used.
- In the *Item from my Computer* dialog, notice the option to **'Publish this file as a hosted layer'** is checked by default. Also notice that the Latitude and Longitude columns were identified.
- Change the title to **"Greece Camps April 21 <your initials>"**. For tags, just enter **"UNHCR, migration"**.
- Click **Add Item**. As with the map service you just registered, you'll be taken to the **Details** page for the new hosted service. In place of the thumbnail, you'll see a spinning wheel indicating that the service is still being started. After the service is started, a default thumbnail is created.

Item from my computer

Add an item from your computer.

File: Greece Camps April 21.csv

Title: Greece Camps April 21 3LT

Tags:

Publish this file as a hosted layer
(Adds a hosted layer item with the same name.)

Use: Latitude/Longitude Address Table

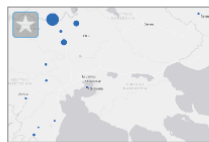
Review the field types and location fields. Click on a cell to change it.

Field Name	Field Type	Location Fields
Site Name	String	Not used
Latitude	Double	Latitude
Longitude	Double	Longitude
Update	Date	Not used

14. Since this service wasn't authored in Desktop, there was no description, credits, etc. prepopulated for you. Click the **Edit** button to edit the item's details. For the **Summary**, type **"Site status as provided by UNHCR"**, for the **Description**, type **"Site status as provided by UNHCR. Includes estimated capacity & population and breakdown by gender & national origin."**. For **Access and Use Constraints**, enter **"For training purposes only"**. In the **Credits** section, type: **UNHCR, 2016**. Click **Save below**.
15. Now that the Feature Layer for Greece Camps April 21 has been created, click the Edit button on the Details page once more. Scroll to the bottom of the page - note the options to enable editing of this data over the web. Also note that we can allow other users to download from this service. Enable the ability to download by clicking on the **checkbox** next to "Allow others to export to different formats."
16. Before saving, click the thumbnail to change it. Browse to your workshop's Images folder, and choose the **sites.png** file. Click **OK**, then Click **Save**.
17. Go back to **My Content**. Notice that now you have three items in your workshop folder: the map image you registered (Type = Map Image Layer), the uploaded csv file (Type = CSV), and the hosted feature services (Type = Feature Layer).
18. In the search bar at the top right of the screen, type "migration" and hit Enter. You should see the items from your content and others from your organization. To expand the search, **uncheck** the box on the left next to **"Only search in"**. Now you'll see results from any ArcGIS Online user that has shared information publicly.

Commented [ME1]: Was not present in the zip file.

Greece Camps April 21 JLT



Site status as provided by UNHCR
Feature Layer (Hosted) by jtedrick
Source: Feature Service
Last Modified: April 27, 2016
★★★★★ (0 ratings, 3 views)

OPEN SHARE EDIT DELETE PUBLISH MOVE CHANGE OWNER EXPORT

Description

Site status as provided by UNHCR. Includes estimated capacity & population and breakdown by gender & national origin.

Access and Use Constraints

For training purposes only

Layers

Greece Camps April 21

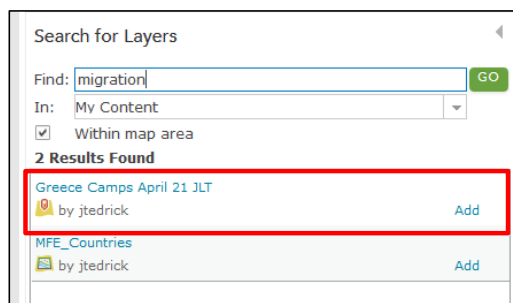
Properties

Shared with	The item is not shared.
Tags	UNHCR, migration
Credits	UNHCR, 2016
Size	4 KB
Delete Protection	Disabled
Extent	Left: 20.6 Right: 24.41 Top: 41.17 Bottom: 37.7
Editing	Disabled
Export Data	Allow others to export to different formats.

Creating a Map with the Service

In this section, you'll use ArcGIS Online to create a web map. You'll add layers of information from different sources, configure symbology and pop-ups, and save the map to your content.

1. Click the **Map** button at the top of the page to go to the ArcGIS Online mapping interface. If you already had another map open already, click **New Map** near the top right corner, then select *Create New Map*.
2. The default basemap may not be appropriate for the map you're building, so click the **Basemap** button near the top left to bring up the Basemap Gallery. Click on **Light Gray Canvas** to switch to that basemap.
3. Click the **Add** button at the top left and select **Search for Layers**.
4. From the **In:** dropdown, choose **My Content**. In the **Find:** box, enter "migration". Uncheck the *Within map area* check box. You should see the service you registered at the beginning of this exercise listed in the results. Find **Greece Camps 21 April <your initials>**, click **Add** to add it to the map.



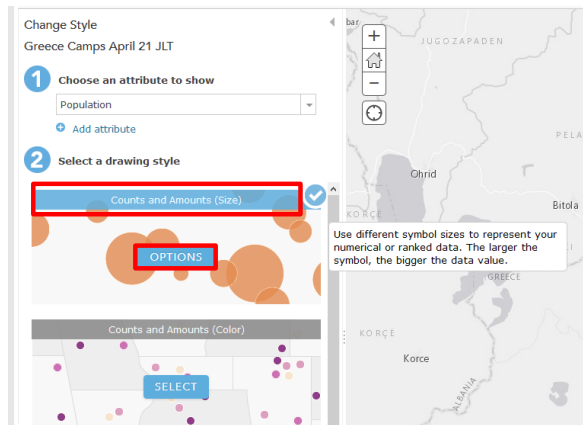
5. Click **Done Adding Layers** at the bottom of the Search panel. You're now in the Contents panel, and you'll see that layer listed above the basemap.

Configure Layer Style & Pop-ups

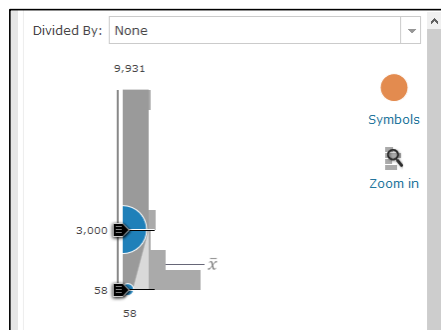
1. Click on the **Change Style** button for the **Greece Camps 21 April <your initials>** layer



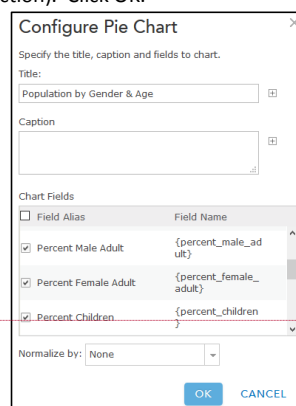
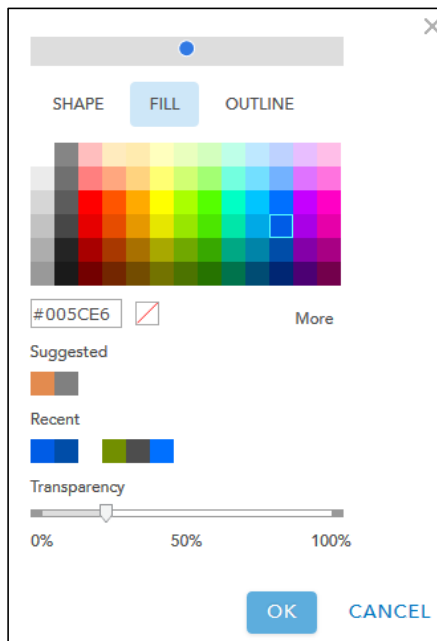
2. Click on the 'Attribute to show' dropdown and select 'Population', then click on **Options** for **Counts and Amounts (Size)**.



3. Click on Options leads us to the configuration of the style. The slider enables you to set the size threshold - which value has the minimum symbol, which value as the maximum symbol. In looking at the bars to the right of the slider, we see that the maximum value is an outlier - it's the only value above 4,000 people. Let's set the maximum. Set the maximum size cutoff to 3,000 to better reflect the distribution of the data. You can do this by either dragging the slider down to about 3000 or by clicking on the slider value and typing '3000'



- Next, click on the Symbols icon to open the Symbol editor dialog window. You will see tabs for symbol type and color options for both the **Fill** and the **Outline**. Set the Fill Color to a dark blue (either the 4th or 5th blue color work well) and set the transparency to something around 25% (halfway between 0 and 50).
- Click **OK** (twice) and **Done** to finish the color ramp settings.
- Now, let's configure the pop-up for the layer. Click on the '...' button that appears below the Greece Camps 21 April name. Then click on the 'Configure Pop-up' item.
- There are 3 components to the pop-up: Title, Contents, and Media. The default entry for the title is the layer name and site name, which is in braces ({}), because it will read the value of the field for a given location. Edit it to be **{Site_Name} {{Update_}}**. You can use the + sign on the right. The Update_ field has the day the site info was last updated.
- The default display for the content is a table-like listing of the attribute values. We don't want to see several attributes, so click on 'Configure Attributes' and uncheck the following attributes: Site_name, latitude, longitude, update_, percent_male_adult, percent_female_adult, percent_children, percent_covered_food, meal_frequency, percent_syrian, percent_afghan, percent_other_origin (we'll use some of these in the media section). Click OK.
- Now we'll add 2 charts in the pop-up media section: one that shows a breakdown of site residents by gender/age and a chart that shows national origin. Click on **Add** in the media section and select **Pie Chart**. For a title, use **Site Population by Gender & Age** and check the **Percent Male Adult**, **Percent Female Adult**, **Percent Children** fields. Click OK save the chart.
- After creating the first chart, create a second Pie Chart titled **Migrants by Nationality** and use the **Percent Syrian**, **Percent Afghan**, and **Percent Other Origin** fields.
- Click 'Ok' to save the changes.



Commented [ME2]: That is funny... I can only see the Percent Afghan field.

Configure Pop-up

Greece Camps April 21 JLT

Pop-ups display information about features in the layer. Define the pop-up below.

Pop-up Title

Pop-up Contents

Display: A list of field attributes

These field attributes will display:

- Opened {opened}
- Capacity {capacity}
- Population {population}
- Manager {manager}

[Configure Attributes](#)

Pop-up Media

Display images and charts in the pop-up:

ADD

- Population by Gender & Age
- Migrants by Nationality

SAVE POP-UP CANCEL

The map shows Greece with several blue circular markers representing camps. A pop-up window is open over the 'Katsika Ioanninon' camp, displaying the following information:

Opened	March 16, 2016
Capacity	1,500
Population	1,075
Manager	Hellenic Army
Number Toilets	20
Water taps	28

Below the table is a pie chart titled 'Population by Gender & Age' with three segments: a large green segment, a smaller red segment, and a very small blue segment.

At the bottom of the pop-up are two buttons: 'Zoom to' and 'Get Directions'.

The map background shows major cities like Sofia, Skopje, Blagoevgrad, and Athens, and geographical features like the Aegean Sea and the Peloponnese peninsula.

Add Additional Layers to your Map

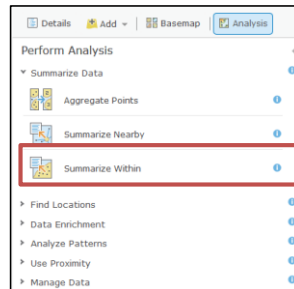
1. In Add Data, select Search for Layers.
2. Search In: My Content, Find: migration (same as the last search). Find the “MFE Countries” that you previously registered and select Add to add the Layer. Click **Done Adding Layers**.
3. Because this is a map service, we can’t modify the symbology (The author of the map service can optionally enable re-styling on the service). Instead, we can change the transparency of the layer to highlight the affected countries while also allowing the basemap to be visible. Click on the ‘...’ button that appears below ‘MFE Countries’ and then hover over transparency. Set the slider that appears to approximately 75%.


Analysis – Migrants by Region

1. Add a layer by searching for ‘Greece’ in the Portal. Use for In: “My Organization” (if online, search for “Greece owner:jtedrick_aid”). You should find the ‘GreeceDemolInfo’ layer, which has demographic information for the regions of Greece. We’ll use the geography of this layer to run a simple analysis on the sites- aggregating the population and capacity to the region level. Once you’ve added the layer, drag it down in the contents listing until it’s under the camp layer.
2. Click on the **Analysis** menu button.
3. Expand the **Summarize Data** section and select the **Summarize Within** action.
4. The analysis pane should have loaded the appropriate layers as the defaults. Check to make sure the following are set for items 1 and 2:
 1. GreeceDemolInfo
 2. Greece Camps April 21 <Initials>
5. We need to add the statistics we’re summarizing in item 3. This is done by selecting first the field we want to summarize and then the statistic we’re summarizing. Set the following statistics:

Capacity	Sum
Population	Sum
Percent Syrian	Average
Percent Afghan	Average
Percent Other Origin	Average

6. We aren’t further grouping the sites by an attribute, so ignore step 4. For Step 5 enter **Site Information by Region <Your Initials>**.
7. Click on **Run Analysis** (at the bottom of the steps, it may be hidden). The analysis should take about a minute or so. After the analysis completes, restyle the new layer based on **Sum Population using Counts and Amounts (Color)**. Select an appropriate color ramp. Drag the layer below the site camps so the points are on top.




Summarize Within
i ◀

1 Choose area layer to summarize other features within its boundaries i

GreeceDemoInfo

2 Choose layer to summarize i

Greece Camps April 21 JLT

3 Add statistics from the layer to summarize i

Count of points

Capacity	Sum	✕
Population	Sum	✕
Percent Syrian	Average	✕
Percent Afghan	Average	✕
Percent Other Or...	Average	✕
Field	Statistic	

4 Choose field to group by (optional) i

Field

Add minority, majority i

Add percentages i

5 Result layer name i

Site Information by Region JLT

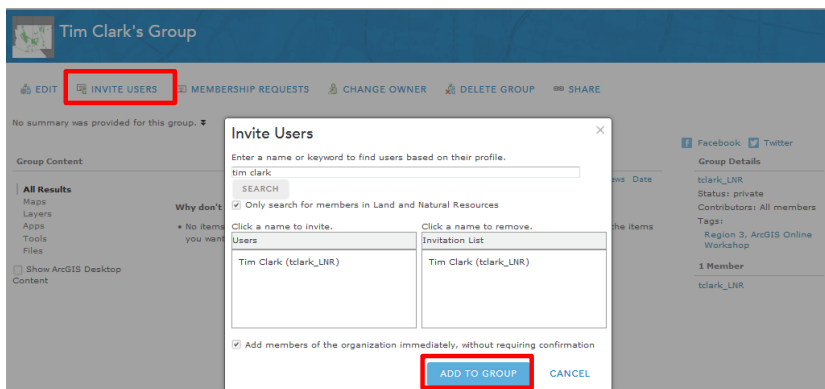
Save result in jtedrick

Save your map

1. Click the dropdown arrow next to **Save** and select **Save As** to save your map.
2. In the Save Map dialog:
Enter title: ***Migrant Sites in Greece, 21 April 2016 <your Initials>***
Enter Tags: ***ArcGIS Online Workshop***
Enter Summary: ***Site status and regional aggregation***
Save in Folder: ***CEU ArcGIS Workshop***
3. Click **Save Map**.
4. Click **Home > My Content** to return to your Contents page.

Create a Group

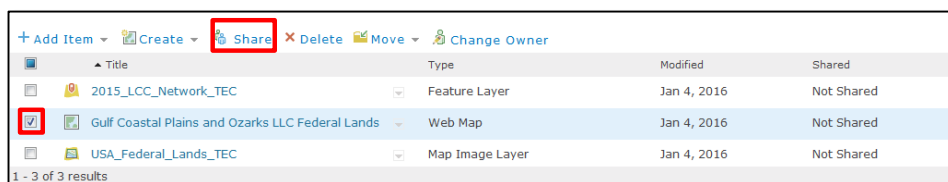
1. Click the **Groups** button at the top of the page to access your groups. Currently, you aren't a member of any groups. Let's fix that by creating a group.
2. Click the **Create a Group** button. For the name, enter "*<Your Name>'s Group*". Enter some summary and description text if you like. Below that, choose the option to make your group **Private**. Only members of the group (and administrators) will be able to access its content. For tags, enter ***ArcGIS Online Workshop***, and ***CEU***. Click the default thumbnail image to change it (browse to the Images folder in the workshop folder and select GlobalResponse.png). Click **OK**, then click **Save**. If you need to go back and modify these properties, just click the Edit button on the group page.
3. Click the **Invite Users** button near the top left. Enter the name or login name of the person sitting near you to search for them. Be sure to un-check the box next to **'Only search for members in your Organization'** if you are inviting someone from a different ArcGIS Online subscription. Click the name in the results to add it to the invitation list. Click **Send Invitation**. Make sure to also check **Add members of the organization immediately, without requiring confirmation**, this only works for members of the same organization.



- Go back to your groups by clicking the **Groups** button at the top of the page. If your neighbor has invited you to their group, you will have a new invitation, or you will immediately see their group. Accept it to join their private group.

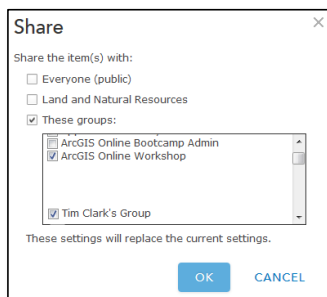
Share Content with Groups

- Go to **My Content** and look at the contents of your workshop folder. Check the box next to the **Migrant Sites in Greece, 21 April 2016** in the My Content list, this will select the Web Map. Click the **Share** button to share the Web Map.



Commented [ME3]: What to choose? 'Access' or 'Access and update capabilities'?

- For now, just share your items with *your* private group as well as the **ArcGIS Online Workshop** group by checking the boxes next to those groups and clicking **OK**. *Note: Sharing for a single item can also be controlled from that item's **Details** page.*

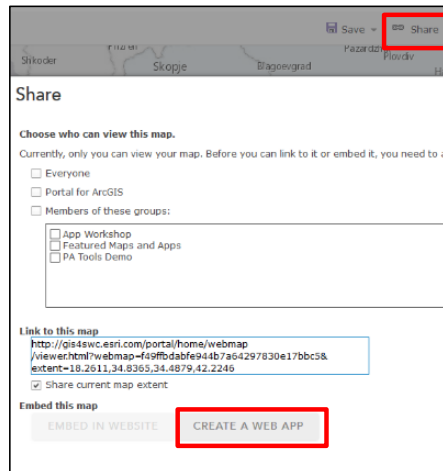


- Ask your neighbor to confirm that they can now see your content by accessing it through your private group. Click on **Groups** at the top of the page, click on the **ArcGIS Online Workshop** group. You should start to see content from others in your organization being added to this group as they complete step 2 in this section.

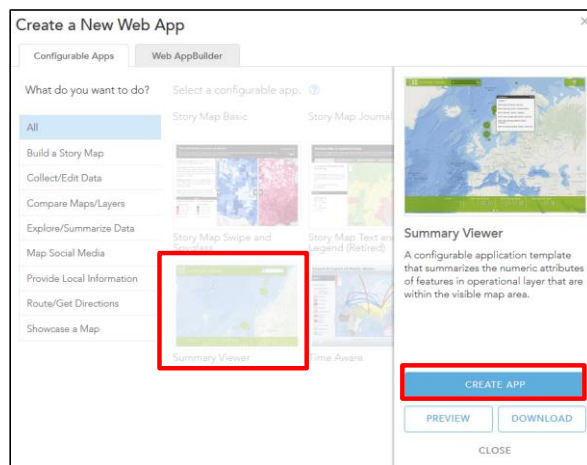
Share your map as an application

In this section, we're going to share this map as a web application that summarizes the data values.

1. Open the Migrant Sites in Greece, 21 April map that you created in the map viewer.
2. Click on the **Share** button. Select Create Web App.



3. Now we choose the type application we're going to create. In this case, we are going to use the **Summary Viewer** application. Scroll down the list of applications until you get to the Summary Viewer, click on it, and then click on **Create App**.



4. You'll be asked for a name for your application. The default is the same as the web map. Set the folder to the ArcGIS Workshop folder and click **Done**. This will create the item and take you to the application configuration page.

5. **There** are several settings we can configure the application with. Some are cosmetic - the color of the header and other items in the application. Other settings affect the data that is being shown. We'll start with the title and color.

- Title: Migrant Camps in Greece
- Color: A dark blue (~4th blue color)
- We would also normally place a logo. For this, let's borrow the OCHA CCCM icon: http://mw1.google.com/crisisresponse/icons/un-ocha/cluster_CCCM_64px_icon.png

6. The Summary layer should be set to the Greece Camps Layer. If it isn't do so.

7. Now let's set the variables to display. This is done by the type of statistic displayed. Hold down the Ctrl button and click on the fields for multiple selections that aren't consecutive

- Summary Fields:
 - i. Capacity
 - ii. Population
 - iii. Number of toilets
 - iv. Water taps
- Average Fields:
 - i. Percent_male_adult
 - ii. Percent_female_adult
 - iii. Percent_children
 - iv. Percent_syrian
 - v. Percent_afghan
 - vi. Percent_other_origin

8. Finally, there are some display options at the bottom (may be hidden). Set those as you would like. For my version, I only have 'Hide type of summary' on. Click **SAVE** to save the settings and **DONE** to exit the configuration. You can then view the app live! **Use View Application.**

General Settings

Currently displaying Migrant Sites in Greece, 21 April 2016 JLT web map. Use the Select a map button to choose a different web map.

SELECT WEB MAP

Title:

Logo URL:

Color

#005CE6 More

Summary layer:

Field to filter features

Select field...

site_name

latitude

longitude

Summary fields

longitude

capacity

population

percent_male_adult

Average fields

water_taps

percent_syrian

percent_afghan

percent_other_origin

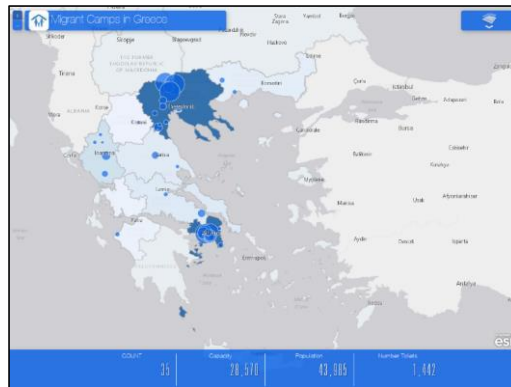
Minimum fields

Select field...

latitude

longitude

SAVE **RESET** **DONE**



END of Exercise